

Affordable Housing and Economic Sustainability: The Case of the Poorest of the Poor Housing in Debre Markos City

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To cite this article:

Michael Menberu. Affordable Housing and Economic Sustainability: The Case of the Poorest of the Poor Housing in Debre Markos City. *Urban and Regional Planning*. Vol. 8, No. 1, 2023, pp. 1-10. doi: 10.11648/j.urp.20230801.11

Received: August 1, 2022; **Accepted:** February 9, 2023; **Published:** February 22, 2023

Abstract: Housing affordability is a crucial policy objective. Incorporating economic sustainability in affordable housing in the development of the poorest of the poor's housing programs has become a major concern. This paper examines the affordability and economic sustainability of the poorest of the poor affordable housing in Debre Markos city. To address this, this study uses both quantitative and qualitative methods, Using a questionnaire survey, Interviews, field observation, household survey, and Pearson correlation analysis. The findings show that households in the expansion area have lower monthly incomes than in the past, but they are satisfied with the housing quality, rental pricing, and tenure security of their homes. This demonstrates in providing affordable housing for the poorest of the poor the location of the houses must be considered in order to have affordable and economically sustainable development. The findings show that housing is not truly affordable if it is in an inaccessible place with a long commute to work, high transportation expenditures, and land use that is homogeneous. Increasing the supply of affordable housing in accessible locations helps the poorest of the poor achieve multiple planning objectives: it reduces transportation costs, improves incomes, provides infrastructure, and reduces the distance to the work area.

Keywords: Housing Affordability, Economic Sustainability, The Poorest of the Poor's Housing

1. Introduction

In many other countries around the world, affordable housing and economically sustainable development are currently major challenges. Concerns of sustainability and affordability are now frequently discussed and recognized as relevant to one another [7]. Specifically, affordable housing should be found in mixed-use sustainable communities, and sustainable communities must provide cheap housing goods.

As a result, it's critical to address both affordability and economic sustainability concerns at the same time [8]. Housing affordability, on the other hand, is typically defined and evaluated only in terms of economic viability. Other crucial considerations, such as sustainability, housing location, and quality, are sometimes disregarded [11]. The most popular technique to define and measure housing affordability internationally is to compare the

connection between housing spending and household income [9].

To address this issue, many governments have made affordable housing a priority in their efforts to improve the living conditions of low-income households [14]. Affordable housing is commonly defined as housing that is affordable to certain eligible households whose income is insufficient to allow them to access market-rate housing [5].

The major goal of affordable housing programs, which are based on government initiatives, is to enhance housing affordability, particularly for low-income households [10]. Despite the fact that numerous affordable housing programs have been established, there is a controversy about whether they are effective. The affordability of housing for low-income families has improved. For example, living in affordable housing might increase the spending on health care, energy bill, transportation and so on [2].

According to [1], increased spending on non-housing concerns has harmed housing affordability. This results in

poor demand and abandonment, resulting in a massive waste of resources. [4], for example, argue that economic viability is not the sole way to enhance housing affordability. Other sustainability considerations, such as house design, neighborhood environment, location, transportation routes, and job prospects, should be considered instead [6].

When it comes to tackling the housing deficit, especially in developing nations, sustainability considerations are frequently disregarded. Affordable housing schemes have drawn a lot of attention because of their economic viability [11]. In order to create effective housing, both affordability and sustainability challenges must be addressed concurrently. Households require decent quality cheap housing that is well located inside good quality settings that are clean, safe, and have adequate access to jobs, important services, and cohesion [15].

Resources available to the general population. As a result, a number of studies have attempted to address noneconomic issues related to affordable housing. Better public facilities and amenities can also help to foster a strong sense of belonging. As a result, in this study, it is critical to incorporate economic sustainability into affordable housing in order to increase housing affordability in the long run.

Debre Markos is a city in northwestern Ethiopia that serves as the capital of the east Gojjam zone political administration. It is 300 kilometers from Addis Ababa and provides low-income earners with affordable housing. The purpose of this poorest-of poor housing project was to ameliorate the housing situation of the poorest of the poor households. This kind of project is one of the affordable house development options for the poorest of the poor residents in Debre Markos, particularly in the Amhara region. The construction of low-cost housing for the poorest of the poor housing provides a key opportunity to include economic sustainability in Debre Markos city housing initiatives. Incorporating affordable housing not only improves housing affordability for the poorest of the poor's households, but it also indicates the program's long-term economic sustainability.

Despite great efforts by the Debre Markos city administration to ensure the success of affordable housing programs, the economic sustainability of affordable housing has received very little attention. Making housing more affordable for the urban poor is one of the key goals of affordable housing. The existing affordable houses for low incomes earners are not considered economic sustainability of affordable housing increases spending on health care, energy bill, transportation cost and, long commute to work. The poorest of the poor householders are allowed to spend more of their limited income on non-housing needs because of the location of the houses.

It is not enough to just build additional houses; a major focus on developing sustainable communities is also required [3]. "Places where people desire to live and work, now and in the future" is how sustainable communities are characterized. They should be active, inclusive, and safe, as

well as well run, environmentally conscious, well designed and constructed, well connected, prospering, well served, and equitable to everyone. Infrastructure can and has contributed to poor demand and abandonment in places.

The poorest of the poor housing schemes should meet the needs of the customers. Location, income, and employment status of residents are not considered in the housing strategy [16]. The housing types do not allow residents to work efficiently and earn money from their homes [12]. Community participation is not emphasized in affordable housing programs as it not only effectively improves social relationship but also doesn't satisfies the residents' needs of the current and the future. It does not pay attention to effective property maintenance and administration, which is critical for fostering a sense of belonging and community stability [13].

Residents residing in the poorest of the poor affordable housing lack durability, enough space, good water and sanitation, and infrastructure. While central and intermediate communities have far better access to utilities like water, sanitation, solid waste, and power, these services are still in short supply. Almost every family has access to drinking water from a public tap and can rent electricity from private individuals. Solid waste management is also a concern because it is regularly discarded in open areas, endangering public health. The construction material for the walls of all housing units is "wood and mud," commonly known as chikabet (wood/mud + straw-mortar house). "Soil" is the most widely used flooring material in housing units, indicating moderate-quality housing.

Given the preceding context, the study's major purpose is to look at the renters' current economic situation, as well as the prospects and challenges that inhabitants of the poorest of the poor affordable housing confront. As a result, the study's second portion offered a full summary of the research methodologies used. Section 3 of the paper also includes a statistical analysis of the survey responses as well as a discussion of the results. Finally, some concluding remarks are offered in Section 4.

The investigation is limited to the region surrounding the University Treatment Plant site in Kebele 07, which houses the poorest of the poor households. The study's scope is limited to an examination of the poorest of the poor in terms of affordable housing scheme economic sustainability.

2. Research Methodology

The members of the poorest of the poor houses are the focus of the study. The study focuses on collecting information from residents' reactions as well as professionals from the municipality and kebeles in order properly grasp and comprehend the research question. Because the researcher believes that the economic sustainability of affordable housing development programs issues cannot be fully characterized by utilizing only one type of research method, a hybrid research approach employs both qualitative and quantitative research methodologies.

The research takes place in Debre Markos City. The Debre Markos kebele 07-research area was chosen for a variety of criteria, including the site's location, residents' stay length, current job status, the number of households in the area, the site's location in terms of economic conditions, and infrastructure availability.

2.1. Source of Data

Primary and secondary data sources used in the investigation. Primary data sources included the Debre Markos municipal administration, kebele administrations, and on-site observation. Secondary data sources, literature, relevant statistical records published by various public and private organizations, past housing studies, maps/images from Google Maps, and Earth.

2.2. Sampling Techniques

To carry out this research, the most appropriate technique used to improve the accuracy of the research findings. Probability samplings were used to accomplish this, using clustered sampling from probability sampling. Individuals are not utilized as the sampling unit in a clustered sample; instead, subgroups of the population are used. Clusters of households are chosen at random to participate in the study and are separated into subgroups termed clusters.

As previously stated, the study area chosen from a single location. There are other locations throughout the city, and the researcher chose one near the university treatment plant. The location has 30 dwelling units, all of which chosen for data collection. The researcher noticed that cluster sampling is more accurate for this type of study from all of the sites in the city.

2.3. Method of Data Analysis

The majority of the data was acquired through interviews and outdoor observations. Data gathered through key person interviews, questionnaires, and physical observations. In addition, the study included some additional questionnaires. To begin, each targeted workplace and each resident given thorough open-ended and closed qualitative and quantitative interview questions to complete. Finally, using checklists and physical maps, the researcher conducts field observations to assess the present state of the study areas.

This study used numerous methods and data sources, necessitating a mixed data analysis strategy. The researcher try to attempt to grasp and appropriately interpret the contents of the data when doing quantitative and qualitative analysis based on empirical data. SPSS software used to perform some basic statistical analysis, such as producing frequencies and other statistical summaries, Pearson correlation as well as statistical tables of the data collected from the questionnaire survey. To create the maps needed for discussion and analysis, various internet data sources and different software's, such as Google Earth, GIS, and AutoCAD were employed.

3. Results and Discussion

3.1. The Poorest of the Poor Affordable House Program in Debre Markos City

The World Bank's Urban Institutional and Infrastructure Development Program and the Debre Markos city administration built and handed over to users the poorest of the poor housing projects in 13 locations over several years, mostly before eight years ago; a total of projects were built and handed over to users by the city municipality at various times.

These 13 sites projects comprise 56 blocks. Many of these projects are located in the city's outskirts and unoccupied spots within various kebeles. According to key insiders, the construction of houses began eight years ago. The goal of these initiatives was to offer cheap housing for the city's poorest residents by establishing various criteria to allow for housing supply. The majority of these housing initiatives are spread out around the city, in all directions.

3.2. Housing Conditions for the Poorest of the Poor

The physical state of homes, the type of dwellings, the tenure of the house, the surrounding environment, and the availability of utilities are all factors to consider when it comes to housing circumstances. Low levels of education, a lack of employment possibilities, a single-parent family, and poor living conditions are typically connected with the poorest of the poor in the city housing program.

Many of the poorest of the poor dwellings are in reasonably moderate condition, although they require extensive repairs and care. The foundation material of the dwellings is masonry stone and timber, while the floor material is earthen material, the wall material is mud and wooden material, and the roof material is corrugated iron sheet. The existing housing condition of the houses is derived from the general conditions of the material of the houses and the physical conditions of the houses after the researcher seen the materials of the houses. The municipality is responsible for the upkeep of these structures.

As a result, Housing conditions were concerned with the current house's physical state as well as the surrounding surroundings. In terms of the study area housing type, 30 respondents were living in attached dwellings. In terms of the physical state of their homes, all respondents cited the following issues: insufficient space for home-based activities, insufficient natural light, leaking windows, and a terrible floor material. The most troublesome scenarios they face in the surrounding environment include homogeneous land use with no activity from the adjacent site.

3.3. Housing Quality

The 93.3% of renters respond that the housing quality is good, and based on city housing conditions, the houses are in moderate condition as well. The data received from the municipality shows that the housing condition is in moderate condition.

The housing quality provides inhabitants with a good opportunity to live in a good condition, and they live in a

low-cost housing with a good living and sleeping space, as well as other amenities such as a private kitchen, private toilet, and a private garden area. These features enable them to dwell in a moderate-quality living environment.

Table 1. Housing quality.

	Frequency	Percent
Good	28	93.3
Moderate	2	6.7
Total	30	100.0

3.4. The Availability of Transportation Services

According to the respondents, due of the lack of a public transportation system, the majority of inhabitants travel by foot. However, 23.3% of respondents occasionally utilize taxis, which is contingent on the availability of money. Because of the distance between their home and their workplace, they must walk large distances on foot, which makes their job more difficult. They must also pay for a taxi to get to their workplace, resulting in a single cost for them. Because of their financial luck, the majority of locals rely on walking as a source of transportation.

Table 2. The availability of transportation services.

Transport mode they use	Frequency	Percent
On foot	23	76.7
Both taxi and on foot	7	23.3
Total	30	100

3.5. Availability of Basic Infrastructure

As can be seen in table 3, the availability of sewerage disposal is nearly non-existent; just four homes supply sewerage disposal on their own, and as indicated in table 3 that practically all renters have access to water by renting from others or having their own private water tap. The half of respondents indicated they drink spring water or fetch water from a long public transportation commute. When it comes to electricity, all of the respondents in their twenties rent electricity from their neighbors, while the tens of households do not have access to electricity due to financial constraints.

Table 5. Cross tabulation of respondents' employment and sex.

What do you do for a living		Civil servant	Petty business	Pension	Total
Sex	Male	2	3	3	8
	Female	2	18	2	22
Total		4	21	5	30
Employment (%)		13.3%	70%	16.7%	100%

The number of female heads of households is higher than male heads of households, owing to the fact that most respondents state that they do not learn and that they marry at a young age, after which their husbands divorce them and their lives become extremely difficult. This is one of the issues that they face, as they are the poorest of the poor. In addition, they try to start a little business to keep their lives going after everything that has happened, which is why the number of women in such programs is higher than the number of men.

Table 3. Availability of basic infrastructure.

availability of sewerage	Frequency	Percent
Yes	4	13.3
No	26	86.7
Total	30	100
availability of water		
Yes	15	50
No	12	40
Public tub	3	10
Total	30	100
availability of electricity		
Yes	20	66.7
No	10	33.3
Total	30	100

3.6. Education Status of the Residences

The 46% of responders is illiterate due to the literacy situation, and around eight of respondents attend primary schools and only seven households attend secondary school. This educational status tells us their living condition and level of economic condition, as well as the poorest of the poor urban households.

Table 4. Education status of the residences.

Educational level	Frequency	Percent
0	14	46.7
3	1	3.3
4	1	3.3
6	2	6.7
7	2	6.7
8	3	10.0
9	2	6.7
10	5	16.7
Total	30	100

3.7. Economic Activity of Employment and Sex

Table 5 shows the results of the petty business sector continues to be the most important, accounting for 70% of all jobs. While 13.3% of respondents work as civil servants and 16.7% are pensioners. In the petty business sector, there were more females than males.

3.7.1. Home Based Activities and Employment Status

16 households of the respondents do their home-based activities in their houses, with all of these respondents selling tela and tea. Meanwhile, seven households engage in a variety of activities, the majority of which are craftsmen who operate handcrafted goods, small kiosks, selling enjera and. Respondents do not conduct home-based activities in their homes; rather, they operate their businesses from there. If the

husbands run other small businesses, his wife may sell tela and tea, or if the husband is on pension, the woman may run various errands, while some of them may be civil servants.

3.7.2. Household Income and Expenditure

Residents' monthly income and expenditures the frequency analysis; per-person incomes and expenditures are better indices of relative and absolute poverty since they net out the number of individuals living in each residence. As a result of their limited monthly income, the household respondents

earned significantly less money, and their total monthly household non-housing spending was significantly lower. Based on the aforementioned income data, the residents are classified as the poorest of the poor households. As previously noted, the 70% of the tenants' primary source of income is small business, which they attempt to run from their houses, but they have been unable to locate consumers to provide their products and services owing to the house's inconvenient location.

Table 6. Cross tabulation of respondents' income and expenditure.

Average monthly expenditure						
		<500	500-1000	1001-2000	Total	Percent
Monthly income	<1000	5	6	0	11	36.7
	1001-3000	2	6	8	16	53.3
	3001-5000	0	0	1	1	3.3
	They have no idea how much it costs.	1	1	0	2	6.7
	Total HH	8	13	9	30	100
	Percent	26.7	43.3	30	100	

3.7.3. Early Household Income vs. Current Household Income

As shown in the table 7, cross-tabulations were used to examine the proportion of households' early income and present household. According to the residents' responses, their average monthly income has declined after moving to

this house and neighborhood. The location and recent work places have had a significant impact on their revenue generation. Because the site of these housing programs does not address the economic impact on the tenants of the houses, their income was good when compared to after they came to this new house.

Table 7. Cross tabulation of respondents' early income and current income.

		Current monthly income				
		<1000	1001-3000	3001-5000	They do not know how much is it	Total
Early monthly income	1501-2500	11	2	0	2	15
	2501-3500	0	11	0	0	11
	3501-4000	0	3	1	0	4
Total		11	16	1	2	30

3.7.4. Early Monthly Rent Price vs. Current Monthly Rent Price

As indicated in the table 8, the rent price of the previous properties of respondents is high due to the location of the houses and the fact that they rent from private house renters. After they relocated to the poorest of the poor housing program and their rent is now quite low. Furthermore, because the rent is fixed, all households pay only 10 birr. Because of the constant housing price, this makes their monthly rent price easier.

Table 8. Cross tabulation of respondents' early house rent prices and today's rent prices.

Current monthly rent price			
		10 birr	
Early monthly rent price	200 birr	2	
	300 birr	6	
	350 birr	2	
	400 birr	2	
	450 birr	2	
	500 birr	7	
	600 birr	5	
	650 birr	1	

Current monthly rent price	
	10 birr
700 birr	2
750 birr	1
800 birr	1
Total	30

3.8. The Location Effect on the Residents Work Environment and Their Income

The influence of the housing locations has a significant impact on the residents of these projects. 66.7%, of respondents say their home's location has a significant impact on their work environment, 26.7%, say, it has a moderate impact, and 6.7% say it has no impact. The location of the house has an impact on their ability to generate money. 66.7% of respondents say the location has a significant impact on their ability to earn revenue, 26.7%, say it has a moderate impact, and 6.7% say it has no impact on their ability to generate income.

4. The Pearson Correlation

At least three pieces of information are always present in

SPSS correlation table cells:

- 1) The amount of the correlation (the "r" statistic), which ranges from -1 (perfect negative correlation) to 1 (perfect positive correlation). If the correlation statistic does not have a minus in front of it, it is positive, meaning that high scores for both variables go together and low scores for both variables go together. If the correlation statistic had a - in front of it, it meant that as one variable's values increased, the other variable's values decreased (i.e., a negative or inverse correlation).
- 2) The correlation's level of significance (a level of .05 or smaller is considered "statistically significant"). The smaller the number is, the more zeros there are after the decimal point. As a result, the following levels of significance become smaller and hence statistically more significant: .05, .01, .005, and .001.

Because SPSS only displays three numbers after the decimal point, a significance level of .000 does not imply that the level of significance is zero. It simply indicates that the number must be less than .0004. If the value were higher, SPSS would round it up to .001 [12].

4.1. The Pearson Correlation Finding for the Entire Study Area's Variables

The distance to work and other variables exhibit a negative correlation as a result of the Pearson correlation analysis. Which means that as the distance increases, so does their monthly income. The location effect on their work and income generation, the change in their life after they move in, making home-based activities, neighborhood quality, and most other variables are inverse to the variable of distance to work. The Pearson test is more useful in determining the economic viability of such housing initiatives. The correlation value also determines the significance level. It corresponds with the remainder of the distance to work factors. As shown on table 9 the Pearson result from SPSS tells us that it is not enough to build houses for the urban poorest of the poor households; we need also consider the location of the houses we build. The distance of the house has a direct impact on the occupants from several angles. This study focuses on the economic component of affordable housing sustainability. There are varied implications from the sustainability aspect when the work location is far from their home.

Table 9. The Pearson correlation finding for the entire study area's variables.

		Monthly income	Distance to the workplace	location effect on work
Monthly income	Pearson Correlation	1	-0.218	0.308
	Sig. (2-tailed)		0.246	0.097
	N	30	30	30
Distance to the workplace	Pearson Correlation	-0.218	1	-0.051
	Sig. (2-tailed)	0.246		0.787
	N	30	30	30
location effect on work	Pearson Correlation	0.308	-0.051	1
	Sig. (2-tailed)	0.097	0.787	
	N	30	30	30
Housing quality	Pearson Correlation	.440*	0.014	.700**
	Sig. (2-tailed)	0.015	0.941	0
	N	30	30	30
Neighborhood quality	Pearson Correlation	0.036	-0.03	.808**
	Sig. (2-tailed)	0.848	0.876	0
	N	30	30	30
location effect on income generation	Pearson Correlation	0.308	-0.051	1.000**
	Sig. (2-tailed)	0.097	0.787	0
	N	30	30	30
How has it changed since you arrived here	Pearson Correlation	0.038	-.399*	.601**
	Sig. (2-tailed)	0.841	0.029	0
	N	30	30	30
What impact does the design of the house have on your ability to generate income	Pearson Correlation	0.241	-0.278	.586**
	Sig. (2-tailed)	0.2	0.137	0.001
	N	30	30	30
Do you make home-based activities in your house	Pearson Correlation	-0.131	-0.083	0.106
	Sig. (2-tailed)	0.491	0.664	0.577
	N	30	30	30

		Housing quality	Neighborhood quality	location effect on income generation
Monthly income	Pearson Correlation	.440*	0.036	0.308
	Sig. (2-tailed)	0.015	0.848	0.097
	N	30	30	30
Distance to the workplace	Pearson Correlation	0.014	-0.03	-0.051
	Sig. (2-tailed)	0.941	0.876	0.787
	N	30	30	30
location effect on work	Pearson Correlation	.700**	.808**	1.000**
	Sig. (2-tailed)	0	0	0

		Housing quality	Neighborhood quality	location effect on income generation
Housing quality	N	30	30	30
	Pearson Correlation	1	.531**	.700**
	Sig. (2-tailed)		0.003	0
Neighborhood quality	N	30	30	30
	Pearson Correlation	.531**	1	.808**
	Sig. (2-tailed)	0.003		0
location effect on income generation	N	30	30	30
	Pearson Correlation	.700**	.808**	1
	Sig. (2-tailed)	0	0	
How has it changed since you arrived here	N	30	30	30
	Pearson Correlation	0.187	.426*	.601**
	Sig. (2-tailed)	0.323	0.019	0
What impact does the design of the house have on your ability to generate income	N	30	30	30
	Pearson Correlation	0.239	.485**	.586**
	Sig. (2-tailed)	0.203	0.007	0.001
Do you make home-based activities in your house	N	30	30	30
	Pearson Correlation	0.097	0.044	0.106
	Sig. (2-tailed)	0.608	0.818	0.577
	N	30	30	30

		How has it changed since you arrived here	What impact does the design of the house have on your ability to generate income	Do you make home-based activities in your house
Monthly income	Pearson Correlation	0.038	0.241	-0.131
	Sig. (2-tailed)	0.841	0.2	0.491
	N	30	30	30
Distance to the workplace	Pearson Correlation	-.399*	-0.278	-0.083
	Sig. (2-tailed)	0.029	0.137	0.664
	N	30	30	30
location effect on work	Pearson Correlation	.601**	.586**	0.106
	Sig. (2-tailed)	0	0.001	0.577
	N	30	30	30
Housing quality	Pearson Correlation	0.187	0.239	0.097
	Sig. (2-tailed)	0.323	0.203	0.608
	N	30	30	30
Neighborhood quality	Pearson Correlation	.426*	.485**	0.044
	Sig. (2-tailed)	0.019	0.007	0.818
	N	30	30	30
location effect on income generation	Pearson Correlation	.601**	.586**	0.106
	Sig. (2-tailed)	0	0.001	0.577
	N	30	30	30
How has it changed since you arrived here	Pearson Correlation	1	.664**	0.17
	Sig. (2-tailed)		0	0.369
	N	30	30	30
What impact does the design of the house have on your ability to generate income	Pearson Correlation	.664**	1	-0.272
	Sig. (2-tailed)	0		0.146
	N	30	30	30
Do you make home-based activities in your house	Pearson Correlation	0.17	-0.272	1
	Sig. (2-tailed)	0.369	0.146	
	N	30	30	30

4.2. Current Tenants' Socioeconomic Profile

The tenants, according to the findings, are mostly from the poorest of the poor in society. In the research area, 36.7% of interviewed families earn less than 1000 birr per month, 53.3% earn 1000-3000 birr per month, only 3.3% say they make 3001-5000 birr per month, and 6.7% have no idea what their monthly income is.

The research area's tenants' additional characteristic 70% of respondents say they run petty business at home and outside the home, whereas 13.3% of respondents work for the government as a guard, cleaner, and 16.7% of

respondents are government retirees. And the literacy status of the residents is that the majority of them can read and write, which indicates that most of them have had a problem with access to education from the start, which has caused them to be poor from the start. Education can change their lives by allowing them to obtain jobs. Another factor is marital status, as the majority of respondents live alone due to divorce or widowhood.

This demonstrates that the tenants are poor families. In many countries, such publicly sponsored public homes are primarily offered for low-income households. In the case of this program, other characteristics were also examined in

order to determine the households' income.

Tenants are the poorest of the poor, according to the report. Young, female-headed families and persons with different priorities than housing are among those that are affected. According to the literature, many renters, even those renting private dwellings, are low-income people who can't afford to buy a house at market value. Tenants of the poorest of the poor dwellings are those who cannot afford to rent a quality home on the open market, making them the poorest of the poor.

4.3. The Challenges Faced by Inhabitants in the Case Study

4.3.1. Employment and Income

Due to divorce or the death of their husbands, women headed 73.3% of the families in the case study. Social entitlements to items and services, as well as self-employment, help households meet their basic needs. Construction laborers, daily laborers in various sectors, washing clothes, domestic workers, employees of unregistered minor businesses, and child laborers make up the majority of the residents of the poorest of the poor households, all of whom are subject to exploitation. In highly competitive labor markets, they may have little or no job security and few other options, or they may be financially 'tied' to their employers. They often have little chance of securing acceptable, let alone legal, working conditions or pay.

In general, after moving to this housing program, families find it difficult to work because of the long commute, so they try to do some home-based activities but lack the necessary insurance to be profitable. For example, if they sell tella and arekie (traditional alcohols), if they may not sell all of them in one day, in which case they lose the profit and the main cost of preparing for the next day's sales. All of this makes residents scarce, and they may not be able to continue.

4.3.2. The Disconnection between Jobs, Transportation, and Affordable Housing

Jobs, transportation, and housing all have a substantial impact on one another, and understanding and tackling affordability issues requires an awareness of these interrelationships. In practice, however, not only in the study area but also in the city of Debre Markos, most of the poorest of the poor housing schemes are often poorly connected. This divergence has huge economic, social, environmental, and health implications for tenants of the housing units, affecting their well-being and quality of life. For the poorest of the poor, the mismatch between jobs and housing makes life difficult.

The study area is situated on the city's outskirts. As previously stated, the majority of the site's residents work as construction laborers, daily laborers in various sectors, laundry workers, domestic workers, employees of unregistered tiny traders, and child laborers; all of these jobs are located in the city center, so their jobs are disconnected due to the lack of affordable transportation and the site's location.

4.3.3. Neighborhood Quality

The poorest of the poor households in the study area live in a neighborhood on the outskirts of town, which makes life difficult for the residents because they cannot do well with their income-generating activities, and when they try to sell and make homemade activities. They do not have a market to sell to, and working in the city center is difficult because it is so far away.

The land use pattern or arrangement has an impact on the urban poor; the research area is in a completely residential area with services on all sides, making the place peaceful. Furthermore, meaning that there are no dynamics within the neighborhood; as a result, the renters live in deplorable conditions because there are no jobs in their immediate vicinity and no active movement through them. [8].

4.3.4. Infrastructure Deficiency

Infrastructural provision in the studied area is inadequate. The majority of households rent basic utilities such as power and water, and they lack sewer pipes and ditches. This problem adds to their everyday challenges; it affects not only the structure of the houses for the urban poor, but also the additional expense of rent for these facilities, as well as their access to local streets with poor pavement conditions.

4.4. The Prospects of the Case Study Housing

4.4.1. The Housing Rental Price

As stated by the respondents, previous rental companies were tough to pay and they did not have the freedom to use various services such as the kitchen and bathroom; however, now they may utilize their own amenities at a reasonable rental charge. The rental fee has not been renewed for six years, despite the fact that their contract stipulates that they pay only ten birr per month. This represents significant savings for the residents.

4.4.2. The House Quality

As respondents convey their feelings, the individual dwellings provide enough space for living. The housing program has two designs. The first typology, which means the case study, has a total built-up area of 34 m², with a salon, bedroom, garden, kitchen, and toilet. The second typology has a total built-up area of 34 m². They can also build a five-meter fence on the front side, with a total lot area of roughly 60 m². They have ample room in front to sell their tela and arekie as well as perform various tasks. They have a garden area in the back where they put various vegetables to assist them to feed themselves from their garden.

According to the responses, the home quality is good for them in comparison to the previous living circumstances of the rental house price. It has sufficient space for their home-based activities; its main issue is with the location and infrastructure.

4.4.3. Housing Tenure Security

This type of rental occupation of a publicly owned dwelling program provides a high level of security by ensuring that the terms and conditions of occupation are met

for the poorest of the poor. Furthermore, this type of initiative creates opportunities for poor women confront significant challenges in obtaining homes because patriarchal tenure arrangements and societal practices hinder them from owning property. Despite current laws prohibiting discrimination, women's property rights are frequently overlooked when purchasing, selling, inheriting, leasing, or allotting land and homes, leaving them reliant on their fathers, husbands, or sons for tenure security. This type of discrimination goes against sound urban management and makes little economic sense, in addition to violating women's basic human rights.

When this project first began, women were the primary users of these types of housing because the majority of women in the study area were heads of households, which means they divorced their husbands or lost their husbands to death, all of which made it difficult for them to own a home. As a result, the project provided a solution for women. Women are always thought to be at a lower risk of defaulting on loans than men, and female-headed households account for a large part of a city's low-income population.

5. Conclusion

According to the findings of this study, many of the poorest of the poor houses are in reasonably moderate condition, despite the fact that they require considerable repairs and upkeep. The municipality is in charge of maintaining these structures. Furthermore, because of the lack of basic infrastructure and transportation, residents of the poorest of the poor affordable housing programs are subject to additional charges from their limited income. As a result, the distance between their house and their place of business has grown, complicating their duty.

The residents do their home-based activities in their homes but lack the essential insurance to be profitable, due to the disparity between jobs, and transportation. The site is in a quiet residential area with open space, implying that the neighborhood has no dynamics; as a result, the renters live in poor conditions because there is no job around their houses and no active movement through them, resulting in low neighborhood quality; as a result, their income was higher before they moved into this new house.

As the Pearson SPSS result demonstrates, it is not enough to create houses for the poorest of the poor in the city; from numerous perspectives, the house's distance has a direct impact on the inhabitants. The economic aspect of affordable housing sustainability is the subject of this research. The Pearson result shows that a variety of factors, not just housing costs and rental costs, have a role in establishing economically sustainable housing affordability.

After all, the respondents are glad to have these homes because they have private toilets and kitchens, as well as a garden area, and the housing is in relatively moderate condition. Because tenants' housing tenure is secure, they invest little in home improvements. Furthermore, the rental price has decreased, and they may now use their own

amenities for a reasonable rental fee. The home quality is good for them when compared to previous living circumstances of the rental house pricing. According to the research's findings, Poor women have a tough time getting housing due to patriarchal tenure laws and social attitudes that hinder them from owning property. Furthermore, this type of initiative offers possibilities for poor women who face significant barriers to property ownership that prevent them from doing so.

There are some strategies in this study. To begin, affordable housing efforts for the poorest of the poor should involve economic sustainability, taking into account the local context as well as economic situations. Second, as well as local community participation in program management and upkeep. Third, the government should consider the requirements of the poorest of the poor while creating affordable housing. Mixed land use, housing location, infrastructure, house management and maintenance, and incentives for women to own these houses are all factors to consider.

Acknowledgements

Without the wonderful help and advice that I received from various people, this thesis would not have been possible. Dr. Elias Yitbarek, my advisor, provided me with helpful advice and insightful views. I have greatly benefited from his mentoring during this process, and I am grateful for his continued support of all of my academic aspirations.

I would also like to express my gratitude to the people I spoke with for this thesis. In addition to the housing transfer and management team, I asked Mr. Kelemu and Miss. Banchu, who worked as a supervisor on the project's infrastructure development and house construction, helped me obtain a better knowledge of how the houses work.

Finally, I want to express my gratitude to my family for their unwavering support, hospitality, and encouragement.

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