

# Restoring and Improving Livelihoods in Resettlement Sites Through Housing Transformation: Evidence from Gopalganj, Bangladesh

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**Abstract** Development-induced displacement and resettlement have triggered the risk of impoverishing and threatening the livelihood of affected people all over the world. Although the explicit objectives of the resettlement policies of international agencies are the restoration and improvement of livelihood, in most cases these aspects are seriously neglected. When resettlement is carried out improperly and without any provision of livelihood restoration, relocatees struggle to cope with the negative consequences of resettlement. In addition to this, the resettlement housing is sometimes perceived as a completed product where the actual needs, norms, culture, and way of life of the relocatees are not taken into account. Therefore, relocatees are compelled to incrementally modify, transform, and rearrange their spaces as a coping strategy and these housing transformations assist them to restore their livelihood. This exploratory research adapts a resettlement case from Bangladesh and explains how incremental housing transformation contributes to social and financial capital and helps relocatees to restore their livelihoods. This research aims to highlight the significance of incremental housing transformation by identifying livelihood outcomes derived from these housing transformations. The article will first present an overview of the literature on development-induced displacement and resettlement, incremental housing transformation, and its importance for livelihoods and then it will zoom into the specific case. The result of this study suggests that for restoring livelihoods, the scope for the transformation of housing should be considered in the planning and design as then housing can become a productive resource for the low-income relocatees.

**Keywords:** *Development-induced displacement and resettlement (DIDR), Housing transformation, Livelihood restoration, Social capital, financial capital, Gopalganj (Bangladesh)*

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## 1. Introduction

### 1.1. Development-induced Displacement and Resettlement and its Scale

In recent decades development-induced displacement and resettlement (DIDR) has grown in scale and impact because of rapid urbanization, population growth and a boom in infrastructure development [1,2]. In 2018 Cernea and Maldonado reported a conservative estimate of around 20 million per year or 200 million displaced between 2011-2020 were affected by DIDR, with two-thirds of the impacted people living in Asia [3]. In Bangladesh, every year around 0.5 million people are displaced for the construction of large infrastructure projects [4] and the

number is increasing day by day. Apart from DIDR, climate change increasingly leads to displacement and resettlement of people. The patterns emerging from the analysis of recent DIDR studies are in line with the growing body of evidence on resettlement-related risks such as the rights of affected people, particularly the non-titled; the adequacy and timing of compensation payments; livelihoods and community rebuilding in post-relocation period [5].

As the trend for resettlement is increasingly going towards the fringe of urban areas, the negative impact is likely to increase [6]. In India affected communities from different localities are often moved into these sorts of apartment complexes with a lack of access to services, employment, infrastructure and transportation, and it also has an impact on their social assets [7,8]. These sites tend to (re-)produce poverty, crime, and the stigmatisation of

vulnerable groups [8,9]. One of the problems of these sites where relocatees are moved into apartments is that they do not have the possibility to incrementally transform their housing to fit their housing needs and create space that helps them to generate income, such as commercial or productive activities. This study will show the importance of incremental transformation of housing.

## 1.2. The Impact of DIDR on the Livelihoods of Affected Communities

What is crucial to realize with regard to DIDR is that although development projects may be intended for the greater good, those displaced may have their rights violated. The impoverishment of displaced people is the fundamental risk in development-induced population resettlement [10]. It causes stress and trauma physically, economically, and socio-culturally but also leads to what Cernea famously referred to as 'impoverishment risks' [11,12]. It leads to a wide variety of negative impacts from which it takes people years to recover [1]. To counter this central risk, protecting and reconstructing displaced peoples' livelihoods is the central requirement for equitable resettlement programs [9].

With regards to the impact of resettlement on financial assets, many urban poor depend on informal sector employment and economic networks with people outside their communities. Moving usually ruptures those networks, leading to the loss of jobs and clientele. Most particularly, informal sector jobs for women, which are essential for the survival of poor families, decrease. Relocated people face declining real incomes at the same time as their expenses mount [13]. The major issue in urban resettlement projects is that livelihood restoration has been ignored in practice, even though its importance has been recognized in theory [13]. In part, this is because "restoring the livelihoods of people displaced in urban areas is one of the most complex tasks in resettlement" [14].

With regards to the impact of resettlement on social assets resettlement also disrupts the social networks of resettled populations and results in difficulty accessing mutual assistance in the community. Moreover, those who are resettled end up being separated from ties with previous neighbors who did not move [15]. Besides, the impact of displacement and resettlement is not homogeneous. With regards to gender, women, and children suffer more from it than men [16,17,18,19,20]. Unfortunately, despite empirical evidence of the differential impacts, most resettlement projects suffer from 'gender-blindness' [21].

The role that incremental transformation of housing plays in the restoration of livelihoods, and particularly the social and financial assets of the poor after resettlement is an area that has been neglected in previous studies.

## 1.3. Incremental Housing Transformation

Incremental housing transformation is a process through which owner-builders gradually append or improve components of their buildings and their associated infrastructure in a step-by-step approach as funding, time and materials become available [22].

According to Aduwo, Ibem, and Opoko [23], housing transformation is the changing of an original arrangement, in form and especially the configuration of dwelling units by households to satisfy their need and expectation. It has proven to be a sustainable inclusive housing solution for the poor in the global south [24]. Adjusting housing to suit people's needs, culture and lifestyle is a coping strategy of households [23], that can be adopted to prevent the further erosion of assets or create new ones [23].

The case study that has been analyzed in this article of 'plotted resettlement' represents an approach that was especially popular in many developing countries between the 1970s and 1990s [25]. In the 1990s housing programs of this nature were declared as unsuccessful and therefore given up by many governments and aid agencies. However, agencies such as the World Bank recently called for more in-depth insights regarding the long-term developments of these specific resettlement schemes [26]. Recent research has shown that these plotted resettlement sites have developed into socio-economic diverse neighborhoods which offer a broad range of housing in terms of quality and forms of tenure due to the incremental housing transformations which have taken place over longer periods [27].

## 1.4. Relationships Between Housing Transformation and Livelihood of Relocatees

Tipple [28] defines specific types of transformation which include: additions of rooms by reducing the original size of rooms, the addition of services such as toilets, kitchens, and bathrooms; fencing of walls, the addition of rooms out of the core unit, extension of kitchens and the construction of shops and rental opportunities for income generation, creation of space for running home-based businesses. The reasons for housing transformation that Tipple [28] identified are: to create space for relatives, opportunities to generate rental income, increased privacy from outsiders, increased privacy within the dwelling, increased services, shortage of accommodation, ownership, and stability of residence and income.

The sustainable livelihood theory states that livelihood opportunities and strategies contribute to livelihood outcomes and housing transformation is such a strategy that helps a household to derive livelihood outcomes [29]. Housing is a productive physical asset when people use this asset to create livelihood opportunities [30] Hence, the transformation of housing generates diverse livelihood opportunities from which the poor may achieve their livelihood outcomes. When resettlement does not consider livelihood restoration, relocatees struggle to cope with inadequate service provision and lack of access to jobs. In these sorts of cases, they react in different ways: adaptation, transformation, and mobility [23].

This article will present evidence of the importance of incremental development opportunities for restoring livelihoods and creating assets by settled communities. It will therefore zoom into a resettlement case from Bangladesh where research was conducted in 2014 and 2017-2018.

## 1.5. Introduction to Mandartola, in Gopalganj

The Mandartola resettlement site is located at the periphery of Gopalganj City and 10 Kilometres away from the city center. The relocatees came from a slum in Gopalganj Nagar where 387 households, comprising of 1,935 people, had lived. In 2009, the district administration decided to reclaim the land on which those slum dwellers were living illegally for over 35 years. For aesthetic improvement and infrastructure development, the slum dwellers were evicted, and their settlement was demolished in October 2009 [31]. After the eviction some households went back to their villages, and some moved to other slums in Gopalganj. Others made temporary flimsy shelters with their salvaged materials in the street or some other places nearby [32].

On 9 November 2009, the United Nations Development Programme (UNDP) issued an official statement where they expressed their deep concern over the legitimacy of the eviction and requested the district administration's support. As a result, in 2010, the Ministry of Land allocated 4.16 acres of land on a 99-Years lease to Gopalganj Pourashavain to resettle the evicted people.

Five years after the eviction, only 138 households were resettled in the Mandartola resettlement project. The size of every housing unit is 35 square meters with the facilities of one bedroom, a dining room, a kitchen, one toilet, and an open veranda. Every building block has two separate units, constructed on a raised concrete platform with brick walls and corrugated iron sheet roofing (*Figure 1*) Relocatees have been living in this settlement with a lack of service provision such as electricity, water supply, and drainage systems as the project had not been completed yet [32]. In 2017 services were still not functioning properly, only electricity was fully installed.



Figure 1. Resettlement house of two units (Source: Author)

## 2. Research Methodology and Data Collection Methods

In Mandartola, 50 households were randomly selected as a sample from 138 households. The families were all evicted from the slum in Gopalganj Nagar and relocated to Mandartola at the same time, and they were all allocated a similar housing unit. A comparative analysis was conducted on the livelihood outcomes of households who

had transformed their space with those who had not. Both groups were selected through simple random sampling.

A close-ended questionnaire was used to collect data from households. Data on factors influencing housing transformation and types of livelihood outcomes that arose from housing transformation were collected. Literature has shown that resettlement affects men and women differently. To measure the impact of resettlement on social and financial capital, data was collected from men and women separately regarding their previous and present social and financial conditions. For this purpose, respondents were carefully selected from the sample by ensuring equal percentages. Apart from the survey, two focus group discussions were conducted with the women's group and a savings group. Focus group discussions covered qualitative data about social and financial capital. It also gathered data about the opinion and attitudes of households regarding housing transformations. Photographs of the initial housing provision in 2014 were compared with photographs of the transformation of the original housing in 2017-2018 were also used to increase validity and reliability. Quantitative analysis was conducted using SPSS, and qualitative analysis using Atlas-Ti.

### 2.1. General Characteristics of the Sample

Of the 50 respondents, 26 (52%) were male and 24 (48%) were female. Thirty-four percent of respondents were between 31 - 40 years.

The project characterized the households as 'poor' and 'extremely poor'. Data showed that 44% of the respondents fell in a monthly income range of between 10,000 - 15,000 Bangladeshi Taka (BDT), and 36% of the respondent's monthly income was less than 10,000 BDT. Most of the respondents worked in the informal sector. The respondents and their families had various sorts of jobs, which included: daily laborers, rickshaw pullers, small business owners, domestic workers, housewives, carpenters, bus drivers, and some had formal jobs. Other sources of small income include old age pensions and receiving financial support from children. Most female respondents were not involved in formal employment, while 16% were working as domestic workers. Most of the respondents had a large family. The average household size was 5.2 persons per household.

## 3. Finding and Analysis

### 3.1. Economic and Social Impact of Displacement and Resettlement

As the slum dwellers in Gopalganj Nagar were evicted in 2009 without access to resettlement or receiving any compensation, there was no other option for them than to start squatting somewhere else. Most of them continued squatting in the close vicinity of Gopalganj Nagar so that they were able to continue with their occupations without additional travel costs. But after 5 years, the community was resettled to Mandartola, which was located 10 Kilometres away from Gopalganj. Many people lost

access to their livelihoods, due to the distance and the extra costs and time required to travel there.

Loss of location affected their financial capital in terms of losing jobs, increased living expenditure, and increased daily commuting costs. Around 56% of the respondents became unemployed, losing their source of income. Among them, about 43% were men and 57% were women. After four years of resettlement, 46% of the people who lost their job were still jobless and 77% of them were women.

Before the resettlement, in many families, both the husband and the wife worked and contributed to the household income. Many women worked for two or three families as domestic workers, but after the resettlement, they had to bring down the number of households where they worked due to the remoteness of the resettlement site and its distance to the city. As a result, the household's monthly income of 62% of respondents decreased. In addition to this, some households had earned money by partially renting their house in their previous settlement which is not possible in the resettlement site. As one resettled man said:

“In our previous settlement, I had a big house with three bedrooms, and I rented out part of my house and earned 500 Taka monthly.”

Involvement in savings groups also decreased due to the loss of income. After resettlement, only 54% of the households were still involved in savings groups, whereas in their previous settlement, it was 78%. In addition to this, displacement and resettlement increased their daily commuting costs due to the increased distance to social amenities like the bazar, hospitals, and schools. Compared to their previous settlement about 70% of respondents did not spend any money for daily commuting, after resettlement about 60% of respondents had to spend between 35 - 50 BDT for daily commuting (*Figure 2*). As a result, households fell into further impoverishment.

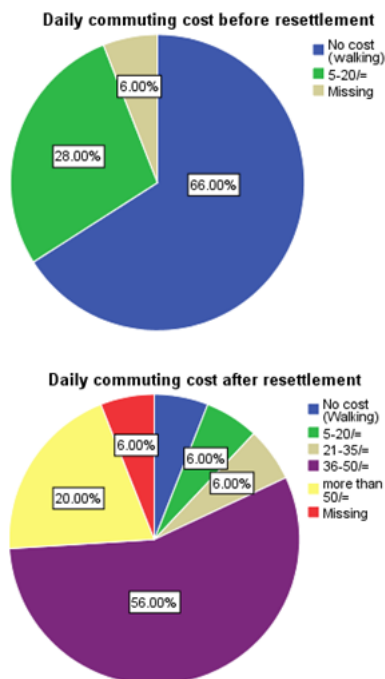


Figure 2. Daily commuting cost before and after resettlement

The social impact of resettlement in Mandartola was less as compared to the economic impact because many of the households (62%) were resettled together as a group. But for those who did not resettle together with their neighbors, their social ties were fragmented. In their previous settlement, most of the people had relatives and friends nearby to their settlement from whom they could receive help like lending money or caring for children. But due to the isolated nature of Mandartola, 56% of respondents did not have relatives and or friends nearby anymore. For instance, one woman said:

“My brother-in-law and one of my sisters lived near our previous settlement. I and my children frequently visited them, and they also visited us. Now we meet very rarely, only during the Eid.”

Moreover, people became more marginalized in terms of lower socio-economic status due to being unemployed and having decreased incomes. As many more women (76.9%) lost their job opportunities than men (23.1%), their socio-economic status was weakened which negatively affected their power/role to make family decisions.

As one resettled woman said:

“Earlier, I had power and money, my husband gave importance to me and my decision. I worked in two houses in the morning and evening as ‘chutabua’ (part-time servant). After three hours working in the morning, I came back to my house and did my household work. Then, in the evening, I worked in another house. Now I am jobless, and I cannot contribute to my family. It is very tough for my husband to manage our livelihoods, and sometimes he behaves very cruel to me...”

### 3.2. Economic motivations for housing transformation

As many relocatees became unemployed and the monthly household income decreased after resettlement, they transformed their housing unit either for generating some extra income through home-based economic activities or for reducing household expenditure. Among the respondent households, about 55% were involved in additional home-based income activities. Home-based economic activities ranged from making paper packets, sewing, and operating retail shops in their houses (*Figure 3*) For these purposes relocatees modified their housing units, and 36% of respondents transformed their verandas into income-generating spaces like retail shops or working spaces for sewing or preparing paper packets (*Figure 4*) Women were the main actors in these home-based economic activities.



Figure 3. Veranda transformed into retail shop (Source: Author)



**Figure 4.** Veranda transformed into income generating space (Source: Author)

To discover the relationship between housing transformation and livelihood, a cross-tabulation (Table 1 below) showed that respondents who transformed their housing were able to generate additional income due to home-based activities.

**Table 1. Additional home-based income with housing transformation and without housing transformation Crosstabulation**

		With and without housing transformation		Total
		With housing transformation	Without housing transformation	
Additional home-based income	yes	23 (92.0%)	4 (16.0%)	27 (54%)
	no	2 (8.0%)	21 (84.0%)	23 (46%)
Total		25 (100.0%)	25 (100.0%)	50 (100.0%)

In addition to this, the Pearson correlations (Table 2) suggest that there was a statistically significant relationship between the variables ‘additional home-based income’ and ‘with and without housing transformation’ groups (n=50, r=0.762, p=0.000<0.05). There was also a statistically significant correlation between the ‘amount of additional home-based income’ and the ‘with and without housing transformation’ group (n=27, r=0.502, p=0.008<0.05). It means that additional home-based income is related to housing-transformation.

**Table 2. Summary of Pearson’s correlations between ‘with and without housing transformation’, ‘having additional home-based income, and ‘amount of additional home-based income’**

	‘Having additional home-based income’ with ‘with and without housing transformation’	‘Amount of additional home-based income’ with ‘with and without housing transformation’
Pearson correlations (r)	0.762**	0.502**
Sig.(2-tailed) (p)	0.000	.008
N	50	27
**. Correlation is significant at the 0.01 level (2-tailed).		

**Table 3. Cross-tabulation involvement in expenditure reduction activities \* with housing transformation and without housing transformation**

		With housing transformation	Without housing transformation	Total
Involvement in expenditure reduction activities	yes	25	8	33
	no	0	17	17
Total		25	25	50

Also, 66% of households had transformed their housing to reduce their monthly expenditure. Those transformations included the construction of an outdoor kitchen (42%) to reduce cooking expenditures as they were able to reduce the costs of gas cylinders and cook on leaves, fallen tree branches, and cow dung; the construction of cattle sheds to produce milk (36%), and the growing vegetables for consumption (42%). Those transformations contributed less to the monthly income but reduced their expenditures, 38% of the households were able to reduce their monthly expenditures between 500 - 1,000 BDT by growing vegetables. A cross-tabulation between the variables ‘involvement with expenditure reduction activities’ and ‘with and without housing transformation’ proved that households who transformed their house were more involved in expenditure reduction activities (Table 3 below).

A correlation analysis between those two variables also shows that there is a statistically significant relation between those two variables because of the p-value or sig. (2 tailed) is less than 0.05. (n=50, r=0.718, p=0.000<0.05), (Table 4).

**Table 4: Correlation between Involvement in ‘with expenditure reduction activities’ and ‘with housing transformation and without housing transformation**

	correlation
	‘Involvement in expenditure reduction activities’ and ‘with housing transformation and without housing transformation’
Pearson correlations (r)	.718**
Sig.(2-tailed) (p)	0.000
N	50
**. Correlation is significant at the 0.01 level (2-tailed).	

### 3.3. Social motivations for housing transformation

The housing units in Mandartola had no provision for extensions and relocates were not even allowed to do that. However, households’ needs accelerated the transformation of housing. Many households found their dwelling units incompatible with their current needs and lifestyle which motivated them to transform the physical design of the housing. Statistical data from the survey

showed that 44% of the respondents constructed additional rooms in their housing units, and 36% constructed an additional kitchen (Figure 5). Sixty percent changed the interior design of their housing units; of whom 43% changed their living room into a bedroom, 60% changed their kitchen into a bedroom, and 13% changed the veranda into a bedroom. Initial housing units only had one bedroom, but 58% increased the number of rooms by constructing additional rooms or converting kitchens or verandas into bedrooms to meet the household needs.



Figure 5. Additional Kitchen (Source: Author)

People also collectively made transformations at the settlement level. The construction of mosques, temples, schools, and tube wells for drinking water are examples of these collective initiatives in Mandartola. People maximized the benefits of public and semi-public space by using it in multiple ways according to their needs. Public space was for instance used for household domestic work such as the drying of laundry, the drying of spices, a communal space for sitting and chatting, and areas for children to play and for the organization of social events like marriages, religious festivals, funerals, and Kulkhani. These transformations at the settlement level and in the public space help relocatees to rebuild their social capital.

### 3.4. Livelihood outcomes derived from housing transformation

In Mandartola, augmenting the household monthly income and savings were the two major livelihood outcomes that were generated from the housing transformation which contributed to financial capital. Some households were able to partially minimize their income loss. A comparative analysis between the income status of the period right after resettlement in 2014 and 2017 showed that the monthly income of 24% of households increased and many of them (83.3%) were ‘housing transformers’. After four years, the percentages decreased from 56% to 32% in the lowest income group ‘less than 10,000 BDT and the percentages of other income group increased which indicates that the monthly households’ income has increased. As a result, households from lower-income groups shifted to upper-income groups. About 14% of the households improved their income and shifted to the income group of 10,000 - 15,000 BDT (Table 5).

Table 5: Summary of income status of two different periods

	Monthly income in 2014		Monthly income in 2017		Changes in the income group
	Frequency	Percent	Frequency	Percent	Percent
Less than 10,000 BDT	28	56	16	32	(-) 24
10,000 - 15,000 BDT	17	34	24	48	(+) 14
15,001 - 20,000 BDT	4	8	7	14	(+) 6
20,001 - 25,000 BDT	1	2	2	4	(+) 2
more than 25,000 BDT	0	0	1	2	(+) 2
Total	50	100	50	100	

In addition, these savings had another livelihood outcome. In Mandartola, about 54% of households were involved in the saving groups and a majority (36%) were housing transformers. A chi-square test between the variables ‘with and without house transformation’ and ‘the involvement with saving groups’ shows that there was a significant relationship between involvement in the saving group and housing transformation because the significant level was less than 0.05 (Table 6).

Table 6. Chi-Square tests between housing transformation and involvement with the saving group

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	6.522 <sup>a</sup>	1	.011		
Continuity Correction <sup>b</sup>	5.153	1	.023		
Likelihood Ratio	6.676	1	.010		
Fisher's Exact Test				.022	.011
Linear-by-Linear Association	6.391	1	.011		
N of Valid Cases	50				
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 11.50.					
b. Computed only for a 2x2 table					

## 4. Conclusions

The study on Mandartola focused on the social and financial impact of displacement and resettlement and revealed the contribution of housing transformation to livelihood restoration. The findings of this study indicate that displacement and resettlement negatively affected women than men and women were more affected in terms of financial loss. Before the resettlement, in many families, both husband and wife worked and contributed to the household's monthly income. After the resettlement, income was decreased, therefore many relocatees tried to minimize their income loss by home-based economic activities and many of them tried to reduce their monthly expenditure so that they were able to cope with their new environment. Based on their assets, relocatees developed some strategies to achieve livelihood outcomes, housing transformation was one of them that contributed both to provide additional income and to reduce monthly expenditures. Some transformation took place at the dwelling unit level such as converting the veranda into an income-generating space which directly contributed to their monthly income. Some transformations also took place at the settlement level like building cattle sheds, growing their own food, and having outdoor kitchens that helped them to reduce their expenditure.

To minimize the impact of displacement and resettlement livelihood restoration is crucial in every resettlement project. Resettlement site should be selected very near to the social amenities so that daily commuting cost can be reduced. Provision of incremental development should be ensured. Resettlement housing should provide additional home-based income generating opportunities. The overall layout of housing units should be flexible so that resettler can arrange their needs. Freedom of dwelling unit extension and alteration should be address in the planning and design process. For restoring livelihood, the scope of the transformation of housing should be considered in planning and design then housing will become a productive resource for the low-income resettler to achieve livelihood outcome.

The case presented in this article has shown that relocatees are very creative in adjusting their house and public space to their needs. Either through moving away whenever there is no other way possible, or, adjusting their housing and public space with the little means they have to restore some of their lost income. It shows the importance of providing opportunities for relocatees to incrementally adjust their housing to their needs and the stage of their lives. This might be through extensions, readjustments of internal designs, or by adding extra floors and verandas. This way resettlement can provide them with the opportunity to adjust and invest in their house, thereby creating financial assets that in the end can provide poor relocatees with the opportunity to move out of poverty.

The plotted resettlement schemes should be recognized by policymakers as valuable assets as they provide housing options that are in high demand and provide opportunities for the poor to incrementally develop over time and thereby increase their assets. This model should be revisited as an alternative to the current trend of

moving relocatees into high-rise apartments where incremental development is not a possibility.

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