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**Thesis**

Title: Coping with Development-induced displacement and  
resettlement: An analysis of spatial transformation of restoring  
livelihood in a case of Gopalganj resettlement project in Bangladesh

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**Coping with Development-induced displacement and resettlement:  
An analysis of spatial transformation of restoring livelihood in a case of Gopalganj  
resettlement project in Bangladesh**

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## Summary

Development-induced displacement and resettlement have triggered the risk of impoverishing and threatening the livelihood of affected people over the world. In Bangladesh, evictions and displacement are very common phenomena. Although there are the policies to resettle the evicted people in a new location but these are hardly been followed. A few resettlement projects were implemented without addressing the actual housing need, norms, culture and lifestyle of the affected people. Gopalganj resettlement project is one of them. The project mainly focused to compensate the physical assets by providing them housing unit and less focused in restoring livelihood. When resettlement were done poorly without considering livelihood restoration, resettlers had to struggle to cope with inadequate service provision. For a time period of living in a place, people modified, transform, rearrange their spaces and those strategies help them to cope with the settlement as well as to restore their livelihood.

The main objective of this research was- to examine spatial transformation that contributes in social and financial capital to restore the livelihood of the re-settlers of Gopalganj Resettlement Project in Bangladesh. This research is an exploratory research. To find out the contribution of spatial transformation of housing in livelihood restoration, a comparative analysis of livelihood outcome was needed between the households who transform their dwelling units and surrounding space and who do not. Therefore, the case study was adopted as a research strategy to compare findings. Qualitative and quantitative methods were combined to find the answer. In this research, a close-ended questionnaire survey and focus group discussion and visual observation method were used for collecting data from households.

In Gopalganj Resettlement, due to eviction and displacement, people become more impoverished in terms of economic and social impact. Displacement and resettlement negatively affected women than men, women are more victimised in terms of income loss. Household monthly income was decreased. The social network of resettled people are destroyed by the displacement and resettlement because of a far and isolated location at the periphery of the city. Moreover, People become more marginalized in terms of lower socio-economic status in the new location due to joblessness and income loss. spatial transformation of housing is a coping strategy that contributes to minimize those impact. The level of transformations are ranging from internal transformation at the dwelling unit level to external transformation at settlement level. Transformation at dwelling unit level like veranda into income generating space contribute in their monthly income. Some transformations at settlement level help them to reduce their financial expenditure. Social needs like need for the extra and separated room for growing children, higher occupancy ratio motivated resettler to make addition or alteration with their housing units. Culture and lifestyle have also an influence to change the atmosphere of their spaces in settlement level. Transformation at settlement level is the result of some visible output of social capital.

To minimize the impact of displacement and resettlement project should pay attention in livelihood restoration. Freedom of dwelling unit extension and alteration should be address in planning and design process. For restoring livelihood, the scope of transformation of housing should be considered in the planning and design then housing will become a productive resource for the low-income resettler.

## Keywords

Development-induced displacement, Resettlement, Spatial transformation of housing, Livelihood capital, Household need

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## **Abbreviations**

ACCA	Asian Coalition for Community Action
ACHR	Asian Coalition for Housing Rights
CDC	Community Development Committee
COHRE	Centre on Housing Rights and Evictions
DFID	Department for International Development
DIDR	Development-Induced Displacement and Resettlement
GLTN	Global Land Tool Network
IRR	Impoverishment Risk and Reconstruction
LAO	Land Acquisition Ordinance
OECD	Organisation for Economic Co-operation and Development
UNCHS	United Nations Centre for Human Settlements
UNDP	United Nations Development Program
UPPR	Urban Partnerships for Poverty Reduction

## **Terms**

1 Euro = 100 BDT (Bangladeshi Taka)

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# Chapter 1: Introduction

## 1.1 Background

It is estimated that, every year about 15 million people are directly affected by development-induced displacement over the world (Robinson, 2013). In scientific literature Development-induced displacement and resettlement first appeared in nineties when a large number of people were displaced due to mega project for example dam construction. The consequence of the displacement introduced the debate because the term ‘development’ perceived as positive but at the same time due to this kind of development project a large number of people displaced from their original habitat. Some development comes with the tears of eviction without any compensation or guarantees and sometimes with a process of resettlement. A vast literature show that development-induced displacement and resettlement triggered the risk of impoverishment and directly affect the livelihood of displaced people. Although, livelihood restoration and improvement are the explicit objectives of the international resettlement policy but most of the cases those aspect are seriously neglected. As a result, majority of people who are displaced by development project, had to sustain their livelihood without project assistance (Perera, 2014). In some case resettlement are treated as burden rather than a part of development project. The study is influenced by the Moser (1998) analysis of how people cope with new settlement in her book ‘Ordinary families, extraordinary lives’. In resettlement case, where adequate livelihood restoration opportunities are not available, people had to cope up with the new place. When resettlement done poorly without considering livelihood restoration, resettlers had to struggle to cope with inadequate service provision. Most of the cases, the housing provided by government or project, perceived as a finished product without considering the actual need, norms, culture and lifestyle of resettler (Tipple, 2000). People react with those housing in three basic ways: adaptation, transformation and mobility. For a time period of living in a place, people modified, transform, rearrange their spaces and those strategies help them to cope with the settlement as well as to restore their livelihood. So it is interesting to look and analyse how people cope with new settlement and environment because the study on ‘coping strategy in a relation with livelihood restoration’ may help policy maker as well as planner to develop appropriate policy and strategies for dealing with development induced displacement and resettlement (DIDR).

## 1.2 Problem statement

Development-induced displacement and resettlement has triggered the risk of impoverishing and threatening the livelihood of affected people over the world. In Bangladesh, evictions and displacement are very common phenomena. Since from the independence of the country, development of large infrastructure project led to the displacement of about 0.5 million people annually (Khatun, 2009). Recent statistics shows that, 115 forced eviction took place all over the country from 1996-2004 and around 300,000 people were displaced from their existing settlement (UNDP-2017).

The constitution of Bangladesh acknowledges the right to shelter. The National Housing policy -1993 address the provision of housing for the poor and encourage in-situ upgradation with emphasising tenure security. The policy also elaborate that if there is a need to be cleared the slum and squatter settlement for the greater public interest or from the land which is not suitable for living due to hazardous location and environment risk then the government needs to relocate or resettle the affected people. But in reality, slum dwellers still face the forced evictions and are being rooted out from their existing settlement and most of the cases without any resettlement program. Although there are the policies to resettle the evicted people in a new location, firstly these are hardly been followed. On the other hand a few resettlement project

(1. Dattapara in Tongi, 2. Chanpara in Demra, and 3. Bhashantek in Mirpur) (Mohit, 2012) were implemented without addressing the actual housing need of the affected people. Moreover, the government of Bangladesh does not have any mechanism to enable affected people to overcome displacement-led impoverishment (Khatun, 2009). Author Hari Mohan Mathur point out that, the key consequences of displacement and resettlement is the loss of livelihood and it forces the displaced people to find out a new ways of making a living (Mathur, 2006). As a result, resettlers has to cope with newly built settlement in terms of social, economic and environmental adaptations.

In Bangladesh, for public interest, land is acquired under the Land Acquisition Ordinance (LAO) without any provision of resettlement and rehabilitation (Khatun, 2009). It provides only monetary compensation to the title land owner but most of the slum dwellers does not have any title document. Whereas, eviction carried a considerable shock for slum dwellers in terms of livelihood (Hackenbroch et al., 2008). According to DFID, livelihood include the capability, assets and activities which are required for a means of living. It also address human capital, natural capital, social capital, financial capital and physical capital as a livelihood assets. The compensation calculate only the physical assets and thus slum dwellers facing problems to restore their livelihood even if they are resettled somewhere else.

In recent year, Bangladesh government has taken some initiatives to resettle the evicted people with the associations of international donor agencies like World Bank, UNDP, ACHR, Asian Development Bank; Gopalganj resettlement project is one of them. This project resettled people who were evicted by the government for the construction of a national stadium in 2009. Around 387 households were evicted and in 2014 half of them were resettled in this newly constructed settlement. The project mainly focused to compensate the physical assets of the affected people by providing them housing unit with tenure security and less focused to restore their livelihood. As a result, some allocated housing units are still vacant and who have no other option try to cope up with new built environment by transforming their spatial arrangement according to their need and try to restore their livelihood by themselves. Some households are still struggle to cope with new settlement and fall in to deep impoverishment due to less focus on livelihood restoration. It is because the gap between households actual need and planner thinking about their need. If the planner address the actual households need of the resettler in planning and design process, it will be supportive for the displaced people to cope with the new settlement.

### **1.3 Research objectives**

The main objective of this research is- to examine spatial transformation that contribute in social and financial capital to restore the livelihood of the re-settlers of Gopalganj Resettlement Project in Bangladesh.

### **1.4 Research question**

The main research question is –

How does spatial transformation of housing contribute in social and financial capital to restore livelihood of the re-settlers of Gopalganj Resettlement Project in Bangladesh?

And following are the sub question of this research –

1. What is the impact of displacement and resettlement on social and financial capital of evicted and resettled slum dwellers in Gopalganj, Bangladesh?
2. What are the factors that influence spatial transformation of housing to restore social and financial capital?

3. What are the livelihood outcomes that are derived from the spatial transformation of housing?

## **1.5 Significance of the study**

Resettlement is a planning and implementing process of livelihood restoration. This study focused on spatial arrangement housing according to household need through the socio-economic lens. 'Gopalganj Resettlement Project' is a pilot project done by UNDP under UPPR project which focused mainly tenure security. This study will illustrate the relation of space and livelihood. Addressing the household actual need on the basis of culture and context and examining the provision of such space which contribute in social and financial capital, this study may help in housing design and resettlement planning. The study also help to realise the gap between what are the actual need of people and what the provider think (top down) about their need.

## **1.6 Scope and limitations**

The scope of this thesis is to study the socio-economic aspects of the re-settler in a relation with housing transformation and livelihood restoration. In terms of livelihood restoration this study mainly focused on the social and financial capital. As the project, which analysed in this study as a case, has no initiatives to develop the human skill (Human capital), so the previous human capital is constant. And also the community were resettle in a new place and a new natural setting, natural capital is considered as constant. Finally the housing unit provided by project perceived as physical assets. Study assumed that, based on all these three assets or capital (natural, human, physical) people or re-settlers redevelop their social and financial capital, which is one of the limitation. Different scientific literature suggest that people restore their livelihood by various way but this study focused only spatial transformation of housing as a livelihood strategy.

# **Chapter 2: Literature Review / Theory**

## **2.1 Introduction**

The major objective of this chapter is to discuss the relevant theories and concepts for the conceptualization of the study. First it illustrates different concepts relevant to the topic like resettlement, livelihood, spatial transformation of housing based on scientific literature. The impoverishment risk theory related to resettlement and housing adjustment theory are used to guide the study. This chapter also discusses causes, consequences and challenges of development-induced displacement and resettlement and analyses different approaches; finally, the link with the spatial transformation of housing with livelihood restoration considering social and economic aspects will be discussed. Based on the understanding of literature at the end of this chapter, a conceptual framework for the further study will be presented.

## **2.2 Concept of Resettlement, Livelihood and Spatial transformation of housing**

The term 'resettlement' frequently used by many scholars in the field of internal displacement and it is also interchangeably used with relocation and rehabilitation. The author Terminski (2013) illustrates resettlement under the theory of human spatial mobility and considers 'resettlement' as "the process by which individuals or a group of people leave spontaneously or un-spontaneously their original settlement sites to resettle in new areas where they can begin new trends of life by adapting themselves to the biophysical, social and administrative systems of the new environment." (Terminski, 2013; p 14). This definition focused on the adaption to

the new environment in terms of biophysical, social and administrative aspects. Vanclay (2017) defines 'resettlement' with the consideration of the planning and implementing process. Like Terminski (2013), Vanclay also emphasises on the social aspect. According to him "Resettlement can be defined as the comprehensive process of planning for and implementing the relocation of people, households and communities from one place to another for some specific reason, together with all associated activities, including: (a) the provision of compensation for lost assets, resources and inconvenience; and (b) the provision of support for livelihood restoration and enhancement, re-establishment of social networks, and for restoring or improving the social functioning of the community, social activities and essential public services" (Vanclay, 2017; Pp 5-6). GLTN (Global Land Tool Network, 2010) defines relocation and resettlement separately but did not distinguish them. According to GLTN "relocation is the physical transfer of individuals or groups of people from their usual home (place of origin) to another location (place of relocation)". And "Resettlement is the provision of shelter, basic services and infrastructure, livelihood opportunities and security of tenure to displaced households in the place of relocation, or, on return, in their places of origin" (GLTN, 2010; p 50). Bartolome et al., (2000) used the term 'displacement' instead of relocation and consider resettlement as the consequence of displacement (Bartolome et al., 2000). Relocation or displacement can happen voluntary or involuntary (Goyal, 1996; GLTN, 2010; Perera, 2014; Terminski, 2013). Thus resettlement can be classified into voluntary and involuntary resettlement. In voluntary resettlement people move spontaneously for example in search for jobs and in involuntary resettlement people forcibly get displaced due to the result of a natural disaster or conflict (GLTN, 2010) and also for the development project (Terminski, 2013). Statistics suggests that, approximately 10 million people displaced per year throughout the world (Cernea, 2000) and the number are increasing. As resettler lose their location, assets, work place and relationship, Goyal (1996) defines resettlement as a process which includes a monetary and non-monetary form of compensation (Goyal, 1996). Perera (2014) elaborates further on the non-monetary compensation. By considering the loss of livelihood, loss of access to common land, community disintegration, loss of income source, he defines involuntary resettlement as a process by which displaced persons are assisted in terms of land, housing and accessibility such as access to resources, access to infrastructure and services so that they can improve and restore their socio-economic and cultural conditions (Perera, 2014).

Displacement is not only a physical relocation, it also affects the livelihood of displaced people. Therefore a clear understanding about livelihoods is essential for resettlement planning. A livelihood is not only just income, it includes income, both cash and in kind, social institutions, property rights, gender relations, social kinship and networks. A livelihood also includes access to public and social services that provided by the government such as education, health services, water supply and other infrastructure (Ellis, 1998). According to Ellis a livelihood is "the process by which rural families construct a diverse portfolio of activities and social support capabilities in their struggle for survival and in order to improve their standards of living" (Ellis, 1998; p 04). But this definition only focused on the rural context whereas, livelihood strategies of urban poor are more complex (Patel et al, 2015; Sharma, 2010). According to DFID "A livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base." (DFID, 1999; p 1). Sustainability of livelihoods can be reached through the access to a series of livelihood resources like natural, human, economic and social capital which are combined with different livelihood strategies (Scoones, 1998). DFID used physical and financial capital instead of economic capital (DFID, 1999). The capability to develop different livelihood strategies is depend on the basic livelihood assets. Asset can be ranged from material to social

or tangible to intangible form that people have in their control. Department For International Development (1999) define different livelihood assets or capital by following:

- Natural capital – It includes all kind of natural resource and environmental services from which people derived their livelihood.
- Financial capital: It includes cash, credit or debt, savings, and other economic assets like production equipment and technologies.
- Physical capital: It includes basic infrastructure and producer goods that are desired to generate livelihoods. The infrastructure refers to the physical environment such as shelter and buildings, accessibility to transport, access to utility services and infrastructure. Producer goods refer to those tools which are used for increasing productivity.
- Human capital: It includes the skills, knowledge, health and physical capability and ability to labour. Human capital helps people to make different livelihood strategies successfully.
- Social capital: It includes the social resources such as social networks, relationship, social associations, social claims, affiliations, associations through which people develop their different livelihood strategies.

Though, all these capitals are supportive and interlinked with each other for example based on human capital, economic capital can be generated, on the other hand economic capital can be transformed into physical capital. Based on these capitals, people make their livelihood strategies to achieve livelihood outcomes. On the other hand livelihood outcomes contribute to regenerate livelihood assets (Annex 01). Livelihood strategies are the combination of activities and choices such as productive activities, investment strategies, reproductive choices which are made by people to achieve their livelihood goals (DFID, 1999).

Housing transformation is one kind of livelihood strategy which can be adopted by household (Aduwo et al, 2013). Tipple (1991) defines housing transformation as “alterations or extensions involving construction activity and using materials and technology in use in the locality” (Tipple, 1991; p 04). Housing transformation involves local material and technology. According to Aduwo et al. (2013) housing transformation is the changing of the original arrangement, form and special configuration of dwelling units by household to satisfy their need and expectation (Aduwo et al., 2013). The term transformation means complete or partial changes of something with an improvement or spoiled appearance or usefulness. The synonymous words of transformation is alteration, adjustment, modification, improvement and changes. Popkin et al. (2012) describe housing transformation ranging from internal rearrangement to do addition or demolition of part of housing or changing the actual function or activity (Popkin et al., 2012)

In this thesis spatial transformation of housing will be perceived as a livelihood strategy which includes any kind of alteration, adjustment, modification, improvement or changes of functional activity by households or community ranging from the individual dwelling unit to change at the neighbourhood level.

### **2.3 Development-induced displacement and resettlement: causes and scale**

The term development-induced displacement is derived from the concept of internal displacement of human spatial mobility. Internal displacement can be classified into four types- conflict-induced displacement, environmentally-induced displacement, disaster-induced displacement and development-induced displacement (Terminski, 2013). The main concern of this thesis is development induced displacement and resettlement (DIDR). The term DIDR first appeared in scientific literature in the nineties when in developing countries a large number of

the population was displaced due to mega infrastructure project such as dam mega projects implemented in China (Three Gorges Dam) and India (Sardar Sarovar Complex on the Narmada River). The trend to study in DIDR emerged from the debate of social consequence of these mega projects. According to Terminski (2013) displacement can be understood in two different ways. The first one is to evict people from their habitual home and land without adequate compensation, guarantees and the second one is with a process of physical relocation of people or resettlement with sufficient project assistance. The terms resettlement thus refers to a pre-planned physical relocation assisted with appropriate social and economic support mechanism in the new location. DIDR process has two main features 1) a movement of population or displacement due to development projects and 2) an element of planning control or resettlement. Terminski (2013) defines resettlement as a process through which a group of people displaced and relocated from their original place and economic activities to another place and rebuild their activities, facilities and social life. This definition indicates that resettlement combined with physical relocation (displacement) and necessary initiatives that restore livelihood of the resettlers.

DIDR is one kind of internal displacement caused by the consequence of rapid economic development over the world. There are a variety and diversity of development projects that lead

to involuntary displacement such as urban relocation, from slum clearance and renovation to the installation of infrastructure for water projects, roads, and rail (Koenig, 2001). Also there are a variety of reasons under which local or national government often decide to move people from their existing homestead. For example to clear land for redevelopment, to provide a safer place for living, to improve living conditions, to create livelihood opportunities, or to enable people to return home after a disaster or conflict. Causes of development-induced displacement may include the following: construction of dams, development of transportation, construction of roads, urbanization, re-urbanization and transformation of urban space, mining and transportation of resources, deforestation and expansion of agricultural areas, population redistribution schemes. Other causes can include the construction of specific things within a large surface area for example airports, stadium (Terminski, 2013; Robinson, 2003). According to COHRE (Center on Housing Rights and Evictions), the main causes of development induced displacement and resettlement are land tenure insecurity, top-down approaches of planning, large scale development projects, arrangement of large scale international events (like conference, sport events), urban development and beautification and market forces (COHRE 2009).

However, the scale of displacement due to development project is large. It is estimated that every year about 15 million people are directly affected by DIDR over the world (Robinson, 2003). Nearly 60 million people have been displaced worldwide due to the reservoirs created by large dams (Bartolomé et al., 2000). Transportation related infrastructure projects displaced over 6 million people each year (Robinson, 2003). According to Cernea, it will be around 200 million for next 20 years (Cernea, 2000). 'Displacement' itself brings a lot of suffering when there is no planned resettlement and in some worst case development project starts with the evictions (Vanclay, 2017). Most of the people who are forcefully relocated, often fall into a worse condition than before (Mathur, 2006).

To promote national, regional and local development, the number of people displaced by developmental projects and program are considerable. But in many cases, resettlement and rehabilitation project are more treated as burden rather than a part of the main project with lack of adequate resource allocation and poor implementation.

### 2.3.1 Risk of impoverishment in a link with DIDR

While development projects bring enormous benefits to the society on the other hand these projects also impose social cost for the poorest and marginalized population. According to Mahmood and Keast (2016), though large scale infrastructure bring some positive economic benefit and social impact at the same time these projects generate some negative impact to the project affected parson's live and livelihood due to involuntary displacement (Mahmood & Keast, 2016). This section describes the degree of impoverishment risk in a link with DIDR based on scientific literature.

Impoverishment as defined by Cernea (2000) which is cited by Patel and Mandhyan (2014) as “Impoverishment refers to situations in which people’s welfare and livelihood worsen as a result of a specific intervention. Risk is defined as the possibility embedded in a certain course of social action to trigger adverse effects such as losses, destruction, functionally counterproductive impacts, deprivations of future generations, etc.” (Patel & Mandhyan, 2014; p 105) The consequence of displacement is the result of loss of livelihood, social network and access to amenities. Impoverishment and disempowerment become the harsh consequence for project affected people, especially women and children. Internal displaced persons can be uprooted by conflict, human rights, violations, natural and human made disasters and displaced by development (Patel & Mandhyan, 2014). The meaning of the development is generally considered as something positive as it is assumed that development is improving people’s health and livelihood, expanding educational and employment opportunities or building infrastructure, but it does not always benefit everyone equally. According to Robinson (2013), “development does not benefit everyone equally and for some—indeed, for millions of people around the world— development has cost them their homes, their livelihoods, their health, and even their very lives” (Robinson, 2013; p 01). Due to developmental projects, people are affected in terms of losing their assets such as homes, societies, productive lands; resources for example forest, fishing area or significant cultural site; commercial and rental properties, occupations, earning opportunities, social networks and activities (World Bank, 2012).

In 2000 Cernea provided a model called Impoverishment Risk and Reconstruction model (IRR) model, which was not only outlined the process of the impoverishment but also predicts the cumulative impact of displacement and provides a guideline to address them. To mitigate impoverishment risk, these guidelines make the problems more visible and show the ways in which they can be reduced. The different forms of impoverishment risks outlined by Cernea are landlessness, Joblessness, Homelessness, marginalization, food Insecurity, Increased morbidity and mortality.

1. Landlessness: Landlessness means the loss of whole or part of previously occupied land. It also includes lack of access to common property and resources. Through landlessness people loss their economic productivity, commercial activities and livelihood.
2. Joblessness: Due to displacement, joblessness experienced by both rural and urban populations. In rural area, joblessness is the primary consequence of the loss of land. In urban area displaced people face grate difficulty to continue their previous job or in finding a new job. Unemployment and underemployment problems are being continued after the long period of the physical relocation.
3. Homelessness – In every displacement people loss their houses and shelters or other physical assets. People become deprived because homelessness uprooted people from their community and cultural space. It affects whole families.
4. Marginalization: Displaced people experience economic, social, and psychological marginalization. People lose their economic power and many people cannot be able to use their



skills in the new locations. Marginalization include drop in social status, less confidence and psychological destructions.

5. Increased morbidity and mortality: Displaced people faced several health risks due to lack of access to the water supply, inadequate sanitation and malnutrition. Unsafe sewerage, inadequate sanitation and water supply may increase the possibility of illness and diseases.

6. Food insecurity: Food insecurity can be happened due less accessibility in common natural resources and for landlessness. Particularly displaced women and children are suffered by food insecurity and malnutrition.

7. Loss of access to common property: For many communities, shared properties like forest land, water bodies, grazing lands act as resources through which people make some economic strategies. People carry out many economic activities by using these resources such as fishing, firewood collecting grazing cattle, collecting fruits. Displaced people lose their access to these natural resources as a result, their income and livelihoods are deteriorated.

8. Social disarticulation: Displacement destroy the social network, social organizations, interpersonal relationship and divide the community. Formal and informal network, local organizations are also disrupted due to displacement.

Patel et al., (2015) analyse the consequences of displacement and resettlement of mega-urban renewal and infrastructure projects in Ahmedabad, India and conclude that displaced households have been fallen into further impoverishment due to the limited attention to the risks of impoverishment both in policy and in local government practices. The findings indicate that lack of understanding of displaced people's needs by the state and the resettlement process triggered the impoverishment risk after the settlement. However, for analysing the impact of DIDR, many authors used the IRR model as developed by Cernea (2000). For example Patel et al., (2015) used the IRR model and their findings indicated that the presence of these forms of impoverishment lead to the chances of falling deeper into poverty and increased vulnerability.

Critics of DIDR demonstrate that displacement exposes resettler to multiple impoverishments such as social, economic and cultural consequences and they raise issues of social justice and equity (Patel et al., 2015). Displacement is a multidimensional phenomenon and physical relocation is only one of the most significant outcomes. Resettlement programs have predominantly focused on the process of relocation rather than economic and social development.

## **2.4 Approaches that deal with DIDR**

Most of the displacement is involuntary and ensure a very little effective involvement of displaced people in the process of planning and implementation of resettlement and rehabilitation programs. Resettlement process are often delayed due to an uncoordinated displacement and resettlement approach. As result displaced people face a traumatic problems to restore their livelihood. Most resettlement program frequently underestimate the actual number of directly and indirectly affected people. In addition to this, inadequate understanding about the exact nature and negative effects of displacement results the failure of resettlement program.

When resettlement is done poorly without considering livelihood restoration, especially when the risk of impoverishment occurs, people are not able to cope well in the new settlement. As a result, economic development and community reformation of the resettlers do not happen and the community remains dependent on the government support and struggles to cope with inadequate service provision (Vanclay, 2017). Vanclay describes that development projects

create various impact such as gentrification, local inflation and forced people to move. Resettlement has a stultifying effect on peoples live and negatively impact on their wellbeing. With the consideration of participation and negotiation throughout the process, author Vanclay (2017) recommended the following overlapping and iterative key stages - 1. Scoping and initial planning 2. Profiling and baseline data collection 3. Identifying community infrastructure and common property resources; the socio-economic situation of the affected community (including their health, education, skills, etc.) 4. Implementation & handover 5. Livelihood restoration and enhancement.

Displacement disrupts people lives and livelihood and by its harsh consequences, people suffer sometimes for a long period of time, especially when there is not enough livelihood restoration program and income generating opportunities for the resettlers. Vanclay (2017) illustrates a four phase model for the stress and settlement process based on the experience of the people who were resettled. Those four phases are: 1. Planning and recruitment 2. Coping and adjustment 3. Community reformation and economic development 4. Handing over and incorporation.

There were a variety of ways in which both potential and actual relocation affected negatively access to resources. It is essential to understand the process of resettlement so that the continuing problems can be identified and avoided; and also for the mitigation of impoverishment of displaced people and help them to re-establish productive new livelihood and communities. (Koenig 2001). Chambers proposed a three-stage model of resettlement processes for both involuntary and voluntary resettlement: 1. Recruitment, selection process to resettle displaced people; 2. Transition, adaptation period to the new site; 3. Potential development, period in which resettlers start to invest. Later, Scudder and Colson (1982) added another which is stage 4. Handing over and incorporation, which concerned the integration of relocated settlers into more effective political units, including an ability to get along with hosts (Koenig 2001).

The Scudder and Colson model was criticized because it was insufficiently comprehensive and confounding problems rising from voluntary and involuntary resettlement. In 2000 Cernea provided a model called impoverishment risk and resettlement (IRR) as previously described which was not only outline the process of impoverishment, but also predict the cumulative impacts of displacement and provide a practical guide to address them.

## **2.5 livelihood restoration**

### **2.5.1 Challenges of livelihood restoration**

The intensity of involuntary displacement is growing due to public interest under industrial or infrastructural development by the government that affects a group of people which started challenging the eminent domain and questioned the developmentalism when the process does not restoring the sources of livelihood of the affected people. A vast literature with numerous case studies presents the challenges of forced displacement which leads to the risk of impoverishment and marginalization, deprivation and exclusion. Many of these analyse the consequences of rural displacement for example large scale acquisition of agricultural lands for industrial projects. Some authors also analyse the consequence in urban area (Patel et al, 2015; Sharma, 2010; Rao, 2013). The evidence from literature suggests that people who were displaced by urban development project become more impoverished due to insufficient attention in livelihood restoration by the project.

Restoring livelihoods of displaced people in urban area is one of the most complex tasks in the resettlement process because in contrast to rural resettlement project, it requires more attention due to diverse income strategies of urban poor. Where, in rural area resettlement projects

provide new land and agricultural extension for the displaced persons, it is difficult to offer standardized income earning packages to the urban displaced persons. So resettlement in urban areas need to pay particular attention to 1. Social class and assets available to households 2. Formal and informal income earning sector and 3. The occupations which produce goods or provide services. Therefore pre-settlement studies will need to obtain significant information on people's livelihood strategies and a portfolio of livelihood restoration options (Perera, 2014). In DIDR, the planning process involves diversified issues such as social, cultural, biophysical issues; whereas, integration of social issues in the planning process is difficult because it requires involvement of multiple stakeholders from different backgrounds and knowledge base (Mahmood & Keast, 2016). Poor households can draw different forms of resources for survival or sustenance or as a means of livelihood. But displacement changed the existing social fabric, disbands and fragments the community, dismantles the pattern of social organization and interpersonal ties; scatters the kinship. Cernea's IRR model suggested a series of transition procedures for resettlement and rehabilitation such as landlessness to land-based resettlement, joblessness to re-employment, food insecurity to safe nutrition, homelessness to house reconstruction, increased morbidity and mortality to improved health and wellbeing. This transition form can be criticized for example landlessness to land-based resettlement is not the perfect solution because resettlement moving people to new place, often peripheral, locations creates new challenges (GLTN, 2010). Perera (2014) also analyses urban displacement and resettlement in the context of India and points out that urban displaced people become more impoverished because due to the locational factor associated with other factors, they cannot restore or improve their livelihood (Perera, 2014). Although livelihood restoration and improvement are the explicit objectives of international involuntary and resettlement policies, they are most often seriously neglected by urban resettlement projects. As a result, the majority of displaced people had to sustain their livelihood without project assistance. Perera (2014) revealed that in most of the resettlement cases, the relocation site is far from the town centre and the distance to the old jobs of displaced people increased the amount of time and money for travelling. In some cases people lost their jobs. Women, business owners and the unemployed were more affected by DIDR. For example according to Perera (2014) in Mumbai, India, many women who worked as domestic servant were able to earn adequate income by working for five or six different clients, and due to the resettlement they lost their jobs. Though a few efforts were visible for resettlement and rehabilitation in India, in most of the cases the affected people were not able to restore their sources of livelihood in a sustainable way (Perera, 2014). Sharma (2010) added another factor which is the institutional capacity, adequate resource and appropriate policy and a participatory approach which can mitigate the adverse effect of DIDR (Sharma, 2010).

Development projects raise the question of distributing the benefits of development when it comes with displacement. Many scholars argue that displaced suffer substantial risks of social, economic and cultural impoverishment and thus raise the issues of social justice and equity.

### **2.5.2 Social and economic aspects of livelihood restoration**

Forced displacement is always crisis prone and brings numerous socio-economic and cultural disruption for the affected persons. Robinson (2013) points out that DIDR dismantles existing production systems, disrupts social networks, causes impoverishment, threatens cultural identity and increases the risk of epidemics and health problems (Robinson, 2013). According to Koenig (2001) involuntary resettlement creates enormous injury to the economic status and social environment of the displaced communities. Though supplemental cash compensation is the norm of displacement, due to isolated community infrastructure resettlement projects are mostly not successful at all. The failure to provide infrastructure, housing, health, and educational resources undermines the efforts of social scientists to reconstitute livelihoods.

Apart from good intentions, in most cases planners took less considerations about people's lifestyle and did not pay sufficient attention to social aspects of the communities. Thus economic suffering, loss of resources, social stress and disintegration are concentrated and forced them to the risk of impoverishment. Moreover cash compensation often turn as 'wastage'. Because most of the people spent this money either on living expenses, to pay their debts or for marriage and religious purpose (Koenig 2001, Mathur, 2006). The end result was often near destitution. In urban areas, relocation is the meaning of economic deterioration for the relocates. If the relocation site is far from the town centre, the resettlers had to spend more time and money to go to work and daily commute. In addition to this it narrows the availability of informal work, especially for women (Koenig 2001).

Eight primary factors outlined Cernea's model are interlinked in three distinct ways. Firstly, every causes of impoverishment influence one another. Secondly, the risks and mitigating actions are related as well. Thirdly, mitigating actions for the different risks can work synergistically to reconstruct future livelihoods (Koenig 2001). These primary factor can be divided into three groups: economic, socio-cultural and socio-welfare issues. For this thesis economic and socio-cultural aspect of livelihood are illustrate bellow.

### **2.5.2.1 Economic issues**

The economic aspects of impoverishment risk and reconstruction of livelihoods concern with the loss of economic resources and the reconstruction of accessibility to those resources. It include resources that produce income generation opportunities for example land or common property and jobs. Land is important for housing and for production that's why landlessness create major impoverishment risk. Loss of common property which has an open access and from where people can gain their significant part of production is also important. Common property provides the primary or complementary productive resources for the households. Finally joblessness is another crucial reason for impoverishment which directly affect the economic status of those who lose employment due to displacement. It includes self-employed people who may lose their source of raw materials or their client group (Koenig 2001). The fact is that people especially the urban poor are rarely lived by one kind of resource. The poor are often used of divers productive resources to make their livelihood. Therefore, many displaced person face the risks of not only landlessness or joblessness or loss of common property rather all three combined. Therefore, a resettlement process need to be considered as a complex combinations of resource replacement in a changing environment. Finally replacement of economic resources is not only about the replacement of incomes, but also other assets. Therefore the reconstruction of productive resources has become the centre of livelihood restoration strategies.

### **2.5.2.2 Socio-cultural issues**

Humans are the part of social and cultural system which give the meaning to their lives. Displacement disrupts or dismantles social networks and life support mechanism as a result, local authority system collapses and communities lose their capacity to manage themselves.

The loss of social networks and social solidity are the result of powerlessness, dependence, and vulnerability (Cernea, 2000). When existing social groups are not resettled together, people become socially disarticulated. In the IRR model, marginalization is described as a more individualized process and happens when families or individuals lose socio-economic power and face downward mobility. Because most often they are not able to use their old skill in new location and find that their existing human capital is inoperative. Due to displacement and resettlement, people loss their control over physical space and environment as a result, existing knowledge and skill of individual or social group are being obsolete. Economic marginality

leads to social or psychological marginality like drop of social status, loss of political power or psychological destructions and health problems. According to Perera (2014), social network disruptions is one of the major consequence faced by displaced. If they have to move some distance from their existing settlement, their social networks will be disrupted. People whose access to work depends on social networks for example domestic servants, will have to find new living strategies. Social relationships inside the community, which are used for mutual support and for solidarity, are also be disturbed. Thus individual per capita income declined (Perera, 2014).

In post resettlement, for some groups who already have more power, there is a possibility to increase power and access to resources. Different opinions may arise and some people may be against the idea of restructuring communities as that does not align to their interest. Internal divisions among relocatees also affect the ability to determine and perform in their group interest. Homogeneity of interests that assume in participatory development strategies, do not work in this situation. Rather, reconstruction of social network and avoiding marginalization needs to be taken into account as the strategy to meet the diverse interests of relocatees (Koenig, 2001). It is not only when human capital such as individual knowledge and skills, and social capital like social knowledge lose their value due to changes in physical and political environment but also the loss of ability to organize efficiently and effectively to achieve common goals subsequently reinforce impoverishment risks. The attachment to existing notions and concepts of space and time is an integral part of human culture and the ways in which they are prioritized; societies often order themselves internally through their relationship to space but resettlement interrupts this order. Individuals or households create some meaningful identities through their relationships to space. They create the artefacts that used to define their space. These artefacts include both productive and social resources and turn into tangible evidence for group identity such as burial grounds, community and religious shrines and centres. Economic infrastructure such as periodic marketplace, bus station, crossroads are also included in these artefacts that creates local identity (Koenig, 2001).

Resettlement strategies of reconstructing the communities and social network are the key way to mitigate social disarticulation and marginalization. Resettling people as a community is vital because other ways of resettlement creates complexities to reconstitute social and cultural resources.

### **2.5.3 Gender relation with impoverishment risk and livelihood restoration**

It is already discussed that the displacement process forced people into more impoverishment because their income and livelihoods collapsed. The IRR model shows how displacement brings physical, social and economic exclusion. The IRR model aims to address the inequities of forced displacement and suggests resettlement on the basis of equity principles. But the impact of displacement are not same for men and women. Mehta (2011) argues that, displaced women and men have diverging and competing interests. Moreover, impoverishment risks are different from men to women and different groups experienced different form of impoverishment and respond differently. Also, the exclusion of risks for one group may increase the vulnerability and risks of another group (Mehta, 2011). Thus, the focus on impoverishment risks needs to be complemented by research and policy agendas that explicitly seek to protect and strengthen the rights of displaced people, especially women.

Though displacement is a traumatic experience for every displaced person, it affects woman differently. Most of the analysis on displacement and resettlement policies assumed the 'household' as the smallest unit of convergent interest where benefits and burdens are shared by all member, but there is evidence that the burden of changes is far greater for woman than men; even they have less access to the benefit of development. Most of the compensation and

rehabilitation is determined on the basis of ownership of land. But women have limited rights to adequate housing and insufficient security. According to Thukral, (1996) in many countries, women, both in rural and urban area, are deprived or excluded by law and customs to own, to inherit and to manage the property and precluded from access to credit. Exclusion from property ownership makes women forever dependent and lead them to a greater risk of impoverishment. The challenges like discrimination across all aspects of housing, exclusion from secure land tenure and home ownership due to cultural and traditional norms, unequal legal rights in policy frameworks are consequently arise. In addition to this, in the transition period, the time between the displacement and resettlement, woman suffer more. Community network, that act as an important support system to achieve livelihood outcome for women then man is also broken down by Dislocation and relocation process (Thukral, 1996). Sometimes displaced people faced difficulty to shift to the new site and thus have to maintain two homes. In this case the responsibility of women increase due to divided household activities. The compensation and other incentives (like employment opportunities, jobs, training) which are offered by resettlement programs are benefiting the male member of the family and thus women are deprived (Mehta, 2011). The solution of housing is not only the demand and supply of shelter units, it also includes issues like employment generation, gender needs, housing right and sustainable urban development (Ghafur, 2001).

Housing is largely a women's issue, as women are primarily responsible for sustaining and maintaining the home and the family (UN-Habitat, 2012) and thus contribute to livelihood restoration. Contribution in income and generation of assets are the part of livelihood restoration. Ghafur (2001) illustrates women's contribution in livelihood restoration in the context of slum improvement and examines home based income generation in a relation with specific gender needs by discussing different spatial and physical factors. He also argues that social networks, shelter provision and income generation impact on livelihoods, living environment and gender needs at the grassroot level. Income generation activities occur in a spatial settings such as within given dwelling unit and boarder physical context and controlled by woman (Ghafur, 2001). Social settings include settlement typology, infrastructure, household tenure, hierarchy and linkage of space, access and use of space and infrastructure, social interaction and composition. A study in India by Anand et al. in 2006 presents that the ability of women in contributing to improve their living standard and social status is hampered by their limited mobility and less accessibility to the transport system. Moreover, the process of relocation of low-income households from their habitable place to the periphery of the city, worsens even further the ability of women because of losing their livelihood opportunities (Anand et al, 2006).

Although the household is the key unit of analysis, there exists an unequal gender division of labour within the household. Various household activities are carried out by women and thus women are the predominant actors in home-based income generation as well as livelihood restoration.

## **2.6 Spatial transformation of housing and livelihood**

### **2.6.1 Housing transformation and livelihood restoration**

Very few academic literature addresses the housing transformation in the context of low-cost public housing and weakly relate with the livelihood restoration. Housing transformation is a strategy that addresses household needs according to household size, their lifestyle and culture. Housing transformation always related to physical design, structure and construction. Spatial transformation of housing include the transformation spaces both in dwelling and neighbourhood level.

Aduwo et al. (2013) explains housing transformation under the housing adjustment theory where he addresses settlements that are naturally designed and built to meet the needs, social norms and lifestyles of people and they generally judge their housing conditions based on specific family and cultural norms (Aduwo et al., 2013). This phenomenon leads a household to transform their dwelling and neighbourhood. According to Avogo et al. (2017) housing transformations are a common phenomenon among low-income households in most urban area of developing countries. He described housing transformation as “the form of alterations or extensions of dwelling for addressing pecuniary and livelihood challenges through home-based enterprises” (Avogo et al., 2017, pp 92). In practice, these transformations are visible particularly in urban areas where housing is provided by the state for government employees or in a resettlement of slum and low-income dwellers. People transform houses to meet their household need which emerged from the changes in family structure and composition, rapidly changing socio-income settings, lifestyle and culture of the residents (Avogo et al., 2017). But in most of the cases, government built houses are conceived as a finished products and users are often left out from the design process. Moreover, in some cases rules and regulation do not support the self-initiated efforts (Tipple, 2000). That's why, adjustments take place in different forms such as the revision or compromise with the actual need of space, transformation of housing to improve the living conditions or shifting to another place. It means that households react to government-built housing in three basic ways: adaptation, transformation and mobility (Avogo et al, 2017). So housing transformation is a livelihood strategy adopted by households. As earlier describe housing transformation is an alterations or extensions which involve construction activity and use of local material and technology (Tipple, 2000), extensions is the additions of spaces to the house form when a households face the mitch match between it actual needs and available housing (Avogo et al, 2017). The three options (adaption, transformation and mobility) to meet their needs, are influenced by weighing the cost and benefit which help households to make their decision and effort. Financial capability is the main factor that a household consider in housing investment and the transformation can be horizontal or vertical (Avogo et al, 2017). Tipple defines specific types of transformation which include: additions of rooms by reducing original size of rooms, addition of services such as toilets, kitchens and bathrooms; fencing of walls, 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 base businesses (Tipple, 2000). The livelihood model states that livelihood opportunities and strategies contribute in livelihood outcome and spatial transformation of housing is such a strategy which helps a household to derive livelihood outcomes. Moser (1998) points out housing as a productive physical asset for urban poor. She described housing as an asset based on econometric findings. By illustrating incremental house upgrading of Indio Guayas, she argued that, construction and repair is a way of life for the poor and low-income people (Moser, 1998). Housing is a productive physical asset when people use this asset to create livelihood opportunities. Hence, transformation of housing generates diverse livelihood opportunities from which the poor achieve their livelihood outcomes. Home based economic activities operating by household are a kind of livelihood outcome which is generated by spatial transformation of housing (Avogo et al, 2017). Sheuya indicates that transformations as a means for income generating activities is achieved through construction activities, home-based enterprises and renting (Sheuya, 2004). Income generating opportunities influence the outcomes of livelihood and the process of housing transformation provides these opportunities to develop their livelihood outcomes for low-income households (Avogo et al, 2017).

The level of transformation may range from living space to domestic space modification to create social gathering space as well as income generating opportunities. Aduwo et al., 2013 figure out that remodelling or modification or transformation of the housing is tangible and measurable, and thus has a scope in implications for policy and practice. But the motivating

factor of housing transformation and their implementation may differ from country to country according to household composition, lifestyle, cultural values and norms, housing quality, needs and ownership pattern. Thus the process, motivation and implication of housing transformation will differ from one country to another (Aduwo et al, 2013).

The reason behind this transformation are, when the current housing does not address the norm and lifestyle, changing needs of households over time, family lifecycle such as increase household size, changes in income structure (Tipple, 2000). Tipple also explains why low income households extend their dwellings and conclude that either because the dwelling is too small for the household when it was allocated or because the household has increased in size and need for space. Most of the households extending their property have gained at least some extra space for themselves, even where employment or renting seems to be the predominant use of new space. The reasons for housing transformation that Tipple identified are: space for relatives, rental income, increased privacy from outsiders, Increased privacy within the dwelling, increased services, shortage of accommodation, ownership, stability of residence and income.

### **2.6.2 Household needs and livelihood assets**

Household needs and available household assets trigger the transformation process of housing. According to Sheuya (2004) the major factors that affect housing transformation processes are household needs and assets. Low-income people have a collections of assets including physical, human, financial, social and natural assets which are used in various ways for making livelihood outcomes (Avogo et al, 2017).

#### **2.6.2.1 Household needs**

Household need is one of the major factor that influence people for housing transformation. Avogo et al. (2017) define housing transformation processes as a livelihood strategy from which low income people derived their livelihood outcomes according to their household need. Household needs can be determined by the number of persons per room, space per person (crowding), sharing of housing or multiple habitation, ability of landlords to raise rent advance and high rents for even poor quality housing (Tipple, 2000). UNCHS (1996) determines floor area per person as a suitable indicator to study crowding. The size of dwelling, need more space for separate rooms when children grow, for boy and girl or when new household are formed. The demand of extra spaces for the accommodation of expanding family member, economic activities, security purpose and need for internal services such as toilets kitchen, influences people to make housing transformation (Sheuya, 2004). According to household needs, households develop their initiatives and this kind of initiative is described as livelihood strategies and opportunities in the livelihood model (DFID, 1999).

#### **2.6.2.2 Household assets**

Social capital: Based on scientific literature author Navarra et al (2012) illustrate the social capital in a relation with involuntary resettlement where they defined social capital as the combination of actual and virtual resources accumulated by individual or group by virtue of possessing a durable network. According to them, Social capital includes:-

- Variety of different entities, consist of some aspects of social structure which facilitate individual action who are within this structure
- Outcomes of social organization such as social networks, social norms, trust. These outcomes reinforce in coordination and cooperation to achieve mutual benefit.
- Social resources derived from social concentration and network and turn in the form of tangible (for example house) and intangible (for example reputation) goods.



Social capital can also be analysed through the network view. Navarra et al. (2012) stresses the importance of vertical and horizontal ties, associations and relation between people within and with other entities such as community group, NGO, government agencies and firms. For example sharing of common space such as the street, outdoor patio, spaces in front of buildings or community centre which offer various activities for both kids and adults, helped positively to establish a connection among the people (Navarra et al,2012). There are two indicators in social capital: the structural indicator (network size) and the cognitive indicator (trust and norms).

Individuals, households, and communities can be grouped into independent variable and different dimension of social capital like individual qualities, household qualities, community qualities act as dependent variable for example trust can be measure in terms of lending and borrowing money.

## **2.7 International policies and guidelines**

### **2.7.1 The World Bank guidelines**

To avoid impoverishment risk international organizations have been produced guidelines and policies for the national government and World Bank was a leader. The first operational paper was published by Cernea in 1998 under World Bank and letter adopted by OECD and other international organization (Koenig, 2001). However, the World Bank guidelines are usually used to judge the adequacy of resettlement initiatives. The current guidelines provided by World Bank (2016) are-

1. Resettlement instrument: In case of involuntary resettlement it should be ensured, that the displaced persons are informed about the option and rights they possess. Moreover, they should be consulted on the alternatives they have for resettlement and provided full cost of replacement as compensation.
2. Land-for-land: Land-based resettlement is the strategy in which the livelihood of the displaced person is land based. In case of non-availability of sufficient land at a reasonable price, non-land based options should be adopted by providing the displaced person with employment or self-employment opportunity along with compensation in cash for the land and other assets lost.
3. Livelihoods restoration: In order to restore livelihood, the displaced persons should be offered support in form of development assistance, land preparation, credit and training or opportunity for job during the transition period.
4. Vulnerable groups: Special attention should be provided to the requirements of the vulnerable groups within the displaced community, especially those who are ethnic minorities, below poverty line, the landless, the elderly, women, children and local people.
5. Consultation and grievance redressal mechanism: It should be ensured that the displaced person is informed about appropriate and relevant facts, consulted on resettlement alternatives and offered prospects to participate in planning, implementation and monitoring of resettlement.

### 2.7.2 Resettlement planning, according OECD guidelines

- Involuntary displacement of population should be avoided or minimized and possible alternative designs should be explored.
- Displaced person should be provided with either a land-based or employment-based resettlement options; compensated by replacement cost for their losses; assisted to move and the transition period of resettlement; assisted to improve former living standard, earning capacity productivity or to restore them; encouraged for community participation in planning and implementation process including women participation.
- Planning process should involve the host population and they should be further supported to overcome socio-environmental consequences.
- Customary rights to the land or other resources of ethnic minorities, indigenous groups, pastoralists
- Project must be entitled to provide adequate land, infrastructure and other compensation to indigenous group, ethnic minority and pastoralists who possess an informal customary right of the project site
- Relocations should address preferences and specific needs and constraints of women.
- Resettlement process and implementation should be effectively supervised.

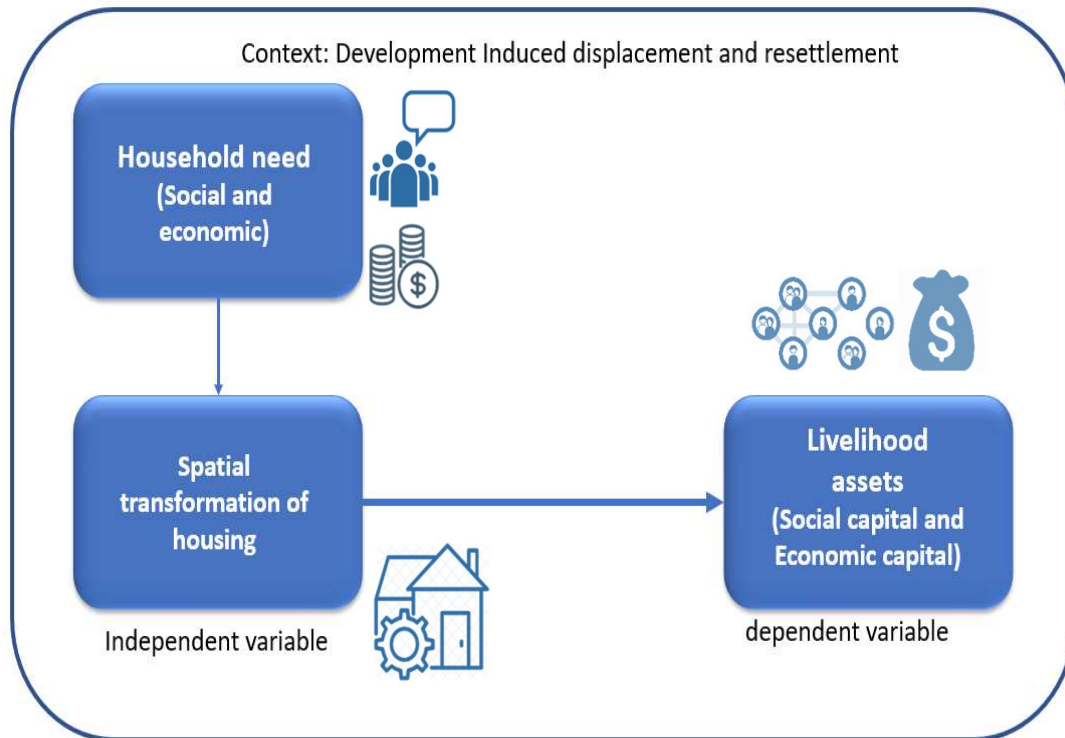
These guidelines have contributed in improvement of some outcomes of resettlement, yet displacement and resettlement continue to be problematic. Involuntary resettlement is so impoverishing because it not only takeaway the economic, social, and cultural resources but also takeaway political power to make a decision about where and how to live. A part of society who are already less powerful and economically marginalised becomes more powerless (Koenig, 2001). The local economic and sociocultural aspect of livelihood reconstruction by distribution of power is the most neglected issue. According to Koenig (2001) DIDR can be operationalized in the following ways:

- increasing the availability and utilization of economic resources
- ensuring sustainable environment, which implies equitable access across generations.
- respecting basic human rights
- increasing parity between the affected community and other national communities.
- increasing equity among the different groups within affected communities
- increasing local autonomy and control
- improving people's ability in developing their interactions with national institutions

## 2.8 Conceptual Framework

The figure 01 illustrates the conceptual framework of the study to analysis how spatial transformation of housing contribute in livelihood of resettlers. The major aim of this study is to analysis the spatial transformation of housing that contribute in livelihood assets of the resettler of Mandartola Resettlement Housing, Gopalganj Bangladesh. Study focus only social and financial assets that are generated by spatial transformation of housing. Therefore, it is essential to understand the impact of displacement and resettlement on social and financial capital of resettled people. From the literature, it is very clear that people's livelihood become more worsen due to displacement and resettlement process. In many developing country like Bangladesh, eviction and displacement become a common phenomenon, where displaced people, specially low-income people suffer a lot even if they are resettled. In new place, their coping strategies help them to achieve some livelihood outcome that contribute to restore their livelihood assets. This study analyse the spatial transformation of housing in a wider context of development induced displacement and resettlement of Gopalganj. In conceptual framework (Fig 01) livelihood asset (Financial and social assets) is dependent variable and spatial

transformation of housing is independent variable and shows that there is a major causal relation between these two variable. In conceptual framework housing need act as a preconditional variable for the independent variable ‘spatial transformation of housing’. From the literature household need influence people to do spatial transformation of housing. In this study household need includes social and financial need. So household social and financial need influence people to transform their space and this nature of transformation subsequently contribute in restoring social and financial livelihood assets.



**Figure 1: Conceptual framework**

Source: Author (2018)

## Chapter 3: Research Design and Methods

### 3.1 Introduction

This chapter describes the detailed methodology of the research that employed to collect valid data, focuses on research strategy, data collection methods and technique. For drawing conclusion and recommendation, this chapter also provides the explanations about how data will be analyzed. Firstly, it elaborates the operational definitions of different concepts and highlights the operational procedure of variables and indicators. Secondly, it elaborates the research strategy and sampling. It also outlines the data collection methods, which data will be collected and how. In the latter section, the data analysis methods will be presented.

### 3.2 Revised Research Question

The main objective of this research is to explain how spatial transformation of housing contributes in social and financial capital to restore the livelihood of the re-settlers of Gopalganj Resettlement Project in Bangladesh.

The main research question of this research is-

How does spatial transformation of housing contribute to social and financial capital to restore livelihood of the re-settlers of Gopalganj Resettlement Project in Bangladesh?

Sub-questions of this research are

1. What is the impact of displacement and resettlement on social and financial capital of evicted and resettled slum dwellers in Gopalganj, Bangladesh?
2. What are the factors that influence spatial transformation of housing to restore social and financial capital?
3. What are the livelihood outcomes that are derived from the spatial transformation of housing?

### 3.3 Operational Definition of Variables

**Spatial transformation of housing:** Spatial transformation of housing was perceived as livelihood strategies which include any kind of alteration, adjustment, modification, improvement or changes of functional activity by household or community ranging dwelling unit to neighbourhood level (Tipple, 1992; Popkin et al., 2012; Aduwo et al., 2013).

**Livelihood assets (Social and financial capital):** A livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living. Livelihood assets include Natural capital, Economic or financial capital, Physical capital, Human capital, Social capital, by which people especially poor people are able to undertake a range of livelihood strategies, activities and choices that determine their livelihood outcomes (DFID, 1999).

- **Financial capital:** It refers to the resources that people usually use in order to achieve livelihood objectives. Financial capital can be converted to other capitals and helps people to take any kind of livelihood strategy. It includes cash, credit or debt, savings, and other economic assets like basic infrastructure and production equipment and technologies, physical properties (DFID, 1999).
- **Social capital:** Social capital includes the social resources like social networks, social claims, social relations, affiliations, associations through which people develop their different livelihood strategies and draw in pursuit of their livelihood objectives (DFID, 1999).

**Livelihood outcomes:** Housing is one of the productive physical asset for the urban poor (Moser, 1998). Households' strategies create diverse livelihood opportunities from which the poor develop their livelihood outcomes. Livelihood outcomes are the achievements or outputs that generate by household strategies to create livelihood assets (DFID, 1999). This research is only considered the household strategy which is related to spatial transformation of housing.

**Household needs:** To satisfied individual household need, spatial transformation of housing is happened. Household needs include financial and social needs. Household needs are determined by size of dwelling, need more space for separate rooms, demand of extra spaces, need for additional home-based income generation opportunities, need for social cultural and religious space.

### 3.4 Variables and indicators

Concepts / variables	Sub- Variables	indicators	Methods	Source of information
Risk of impoverishment	Economic impact <ul style="list-style-type: none"> <li>Landlessness</li> </ul>	<ul style="list-style-type: none"> <li>Increased distance to social amenities, market place, job place, school</li> <li>Commuting cost</li> </ul>	Questionnaire survey	Individual resettlers
	<ul style="list-style-type: none"> <li>joblessness</li> </ul>	<ul style="list-style-type: none"> <li>Loss of jobs</li> <li>Change in occupation</li> <li>Additional financial burden</li> </ul>	Questionnaire survey	
	Social impact <ul style="list-style-type: none"> <li>Marginalization</li> </ul>	<ul style="list-style-type: none"> <li>Lower socio-economic status in new location</li> <li>Inappropriate skills</li> </ul>	Questionnaire survey & focus group discussion	
	<ul style="list-style-type: none"> <li>Social Disarticulation</li> </ul>	<ul style="list-style-type: none"> <li>Fragmentation of social networks</li> <li>Loss of community institutions</li> </ul>	Questionnaire survey & focus group discussion	
Household need	Economic need	<ul style="list-style-type: none"> <li>Additional income through home-based economic activities (vegetation, operating shops, paper packet making, cattle growing etc)</li> <li>Expenditure reduction activities</li> </ul>	Questionnaire survey and observation	Resettled Households
	Social need	<ul style="list-style-type: none"> <li>Room occupancy ratio</li> </ul>		
		<ul style="list-style-type: none"> <li>Demand for separate room</li> <li>Presence of Religious and community institutions</li> </ul>		
Spatial transformation of housing	<ul style="list-style-type: none"> <li>Extensions and alteration</li> </ul>	<ul style="list-style-type: none"> <li>Horizontal or vertical extensions</li> <li>Functional change and Visible alteration in house</li> <li>Change in number of room</li> </ul>	Questionnaire survey and observation	Resettled Households
	<ul style="list-style-type: none"> <li>Transformation of space in community level</li> </ul>	<ul style="list-style-type: none"> <li>Modification of public space</li> </ul>		
Household assets	Financial capital	<ul style="list-style-type: none"> <li>Monthly income</li> <li>Selling of domestic animals</li> <li>Selling or mortgage of jewellery and other product</li> <li>Savings</li> <li>Access to credit</li> </ul>	Questionnaire survey	Resettled Households
	Social capital	<ul style="list-style-type: none"> <li>Level of interaction with neighbour</li> <li>Support received from friend, family and relatives</li> <li>Community organisation</li> </ul>	Questionnaire survey	
Livelihood outcome due to spatial	<ul style="list-style-type: none"> <li>Economic outcome</li> </ul>	<ul style="list-style-type: none"> <li>Number of home based enterprises</li> <li>Types of home based enterprises</li> <li>Income generated from activities</li> </ul>	Questionnaire survey and	

transformation of housing	<ul style="list-style-type: none"> <li>• Social outcome</li> </ul>	<ul style="list-style-type: none"> <li>• Presence of saving organization</li> <li>• Presence of social gathering space</li> <li>• Sharing of common utilities</li> </ul>	observation	Resettled Households
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**Table 1: Variables and indicators**

Source: Author (2018)

### 3.5 Research Strategy

The research strategy is one of the central element of a research design. According to van Thiel, “The research strategy is the overall design or logical procedure that will be followed”(van Thiel, 2014; p 57). The choice of research strategy depends on the nature of the research question, number of variables, existing scientific knowledge and the aim of the research. This research intended to explain the process of restoring livelihood of resettlers of Gopalganj resettlement projects through spatial transformation of housing. Research needs to in-depth analysis to explain how spatial transformation of housing contributes in restoring livelihood.

In this research, the case study was adopted as a research strategy. A case study research is useful when the research aims to explain, explore or describe a problem. According to Van Thiel “The case study is a research strategy in which one or several cases of the subject of study are examined in an everyday, real-life setting” (van Thiel, 2014; p 86). This study was examined one single development-induced displacement and resettlement case of Bangladesh.

To find out the contribution of spatial transformation of housing for livelihood restoration, it is essential to make a comparative analysis of livelihood outcome between the households who transform their dwelling units and surrounding space and who do not. That’s why this research needs to compare findings in a single resettlement case. Case study research is also used when the number of research units is small and the number of variables is large. In this study, research units are the selected resettled households of the Gopalganj resettlement projects.

### 3.6 Sample Selection

In a research design, sample selection is vital because it is hardly possible to include all the population in the research due to the limited time period. Therefore a certain selection or sampling is mandatory. According to van Thiel (2014), sampling is the selection of possible study units for collecting data from the total population. In research, population refers to a group of people to which data can be collected. The part of the population that is selected for the investigation by the researchers acts as representative for the whole populations.

The total population of this research is 150 resettled households of Gopalganj Resettlement project who were evicted in 2009 for the construction of a national stadium. As the researcher aims to analyze spatial transformation of housing (both dwelling unit level and community level) that contribute to livelihood restoration, so the study units of this research are households. The sample size determined by the researcher is 50 households. It is planned to make a comparative analysis of livelihood outcome of households who transform their space and who are not. For this purpose total households were divided into two groups according to their level of transformation based on initial observation. Then 25 household were selected from each group. To select respondents for the study, simple random sampling was used because random sampling enables researchers to draw a conclusion that generalizes findings. In order to achieve the reliability and validity of the research, oversampling was ensured for the data collection. So, 60 households were considered as a sample of study units by keeping in mind that some respondent may not respond willingly or not provide a valid answer to the research question.

### **3.7 Data Collection Methods**

In this research, a close-ended questionnaire survey and focus group discussion were used for collecting data from households. Data on factors influencing spatial transformation of housing for livelihood outcomes and types of livelihood outcomes that generated from spatial transformation were collected. From the literature, it is clear that resettlement affects men and women differently. To measure the impact of resettlement on social capital and financial capital, data was collected from men and women separately about their previous and present social and financial condition. For this purpose, respondents were carefully selected from the sample households by ensuring equal percentages. So the respondent in the household survey was either husband or wife from whom all the data was collected. Close-ended questionnaire or structured questions were structured with three main parts (Annex 2: Questionnaire). The first part was comprised of questions about basic demographic characteristics such as sex, age, number of family member. Second part covered the questions about tenure status, ownership of the house, household income status, households need, present and previous occupation, reasons for housing transformation and level of transformation. The final part of the questionnaire survey contains the questions about livelihood outcome and livelihood assets.

Apart from the questionnaire survey, focus group discussions were conducted. Focus group discussions cover qualitative data about marginalization, social disarticulation and social capital. It also gathered data about the opinion and attitude of households in a relation with housing transformations. Two focus group discussions were conducted in the study area. One focus group discussion was conducted with the women's group where seven women participated. Another one was conducted with the saving group where both men and women participated (Annex 3: Guideline of focus group discussion). For conducting questionnaire and focus group discussion, the researcher was concerned about respondents willingness to participate, preferred time and language of interview. Focus group discussion is also suitable for the data required such as additional knowledge from households and for the detail explanations.

In addition to focus group discussion and close-ended questionnaire survey, observations methods were also applied to understand how transformations were taken place both households and community level. It was mainly visual observation. Photographs of housing transformation, both in dwelling level and community level, were taken during visual observation.

### **3.8 Data Analysis Methods**

To analyze the data, a structured question was reprocessed and thoroughly checked to ensure that all questionnaire and information are properly entered. All the responses were coded on the template and analysis by using SPSS to generalize results on the factor that influence housing transformation and the livelihood outcomes that generate from housing transformation.

To analyze the information from the focus group discussion, Atlas-ti was used. Data from the field was collected in text format and transcribed, edited and uploaded in separate files of Atlas-ti under primary documents. A set of code was used for coding every interview so that the research question can be answered. Findings were presented as chart, tables and graphs. In addition to this, photograph and sketches were used to support the observations to make research more reliable and valid.

## Chapter 4: Research Findings

### 4.1 Introduction

This chapter presents the research findings and analysis. These findings are based on primary data collected from the questionnaire survey, focus group discussions and observations during the field work. Firstly it gives a brief description of the case study area and the characteristics of the respondents. The findings are expected to answer the main research question. Therefore this chapter analyses the findings according to the sub research questions. Based on findings, analysis and conceptual framework a brief discussion is presented after the end of this chapter.

### 4.2 Description of the case

Since from the independence of Bangladesh, it is estimated that about 0.5 million people annually displaced due to development of large infrastructure projects (Khatun, 2009). To vacant illegally occupied land for the development project or simply for the beautification of the city, people are frequently evicted by the government of Bangladesh. Recent statistics show that about 115 forced eviction took place all over the country from 1996-2004 and around 300,000 people were displaced from their existing settlement (UNDP, 2017). The study area selected for this research is an example of such displacement where people were forcefully evicted from their settlement due to the development project in Gopalganj, Bangladesh.

The study area is a resettlement housing called ‘Mandartola Resettlement Housing, Gopalganj’. The resettlers of this settlement have come from a slum at Gopalganj Sadar where 1935 people in 387 households had lived. The slum was divided into two parts by the UPPR (Urban Partnerships for Poverty Reduction) project namely South Moulovi Para and Bank Para (Mostafa, 2015). CDC (Community Development Committee) was formed in this slum in February 2001 with the help of UPPR project. Through the CDC, UPPR project constructed latrines, tube-wells and drains and helped slum dwellers to improve their houses (UNDP, 2015).

It was the 21<sup>st</sup> October 2009. At the afternoon of this day, slum dwellers of South Moulovi Para and Bank Para heard an announcement by loudspeaker that, they were going to be evicted, their houses were to be destroyed tomorrow. They were told that the district administration had decided to reclaim the land on which these two communities were living more than 35 years illegally. In the name of aesthetic improvement and infrastructure development, the government decided to evict them and early the next morning demolition worker began to demolish their houses, latrines, tube-wells, drains and street (fig 02). As a result, 350 households with a population of 2000 become homeless (UNDP, 2015). People lost their physical assets, social network, access to work and services. Some people lost their job and source of income. Eviction destroyed all the things that took all most ten years to construct by UPPR project, all the efforts of urban poverty reduction were destroyed in just one day (UNDP, 2015). After the eviction some households went back to the villages from where they had migrated, some moved to other slums in Gopalganj. Some households made a temporary flimsy shelter with their undestroyed materials in the street or some other places nearby (Mostafa, 2015).

On 9 November 2009, UNDP with UPPR support issued an official statement expressing deep concern over the legitimacy of the eviction and requested the district administration’s support in assisting the evicted community. Resettlement of the evicted people in Mandartola would take place over 5 years through eight consecutive stages (annex 4). The evicted community along with stakeholders identified government vacant land in the Pourashava for the resettlement project (Mostafa, 2015).

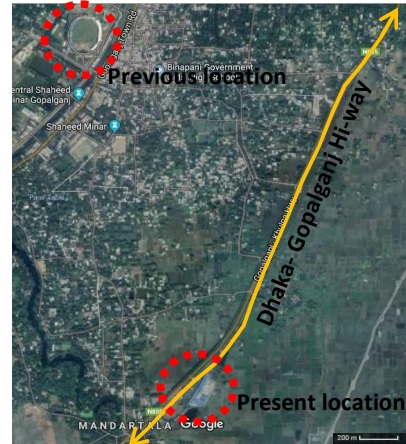


After holding negotiations, the Government through the Ministry of Land allocated 4.16 acres on a 99-year lease to the Gopalganj Pourashava in June 2010 for resettling the evicted people. The urban poor communities, in collaboration with the Pourashava and with the technical assistance of UPPR and ACCA/ACHR project, developed some models of the low-cost housing through consultative and participatory processes (UNDP, 2015).



**Figure 2: Eviction of Gopalganj slum, 2009**

Source: (Mostafa, 2015).



**Figure 3: Present and previous location**

Source: Google Earth

The site selected for resettlement is located at the periphery of the city and around 10 Km far from their previous settlement, physically isolated by Dhaka-Gopalganj highway from nearer settlements (Figure 3). A list of 350 evicted households has been prepared through a joint survey by CDCs, UPPR and Paurashava at the time of eviction. The households are mapped in terms of three categories i.e. extreme poor, poor and non-poor. UPPR, in consultation with the community, has developed a criteria list for selecting the beneficiary list for the housing support. Until now 138 housing units are completed in Mandartola (Figure 4).



**Figure 4: 1st phase of resettlement housing in Mandartola, Gopalganj.**

Source: Google Earth

In technical support stage, the overall layout was prepared with the help of the community. In 2014, 138 households were resettled in Mandartola housing according to beneficiary list. Every resettler is given a 379 Sqft (35 Sq m) housing unit with the facilities of one bedroom, one living/dining room, one kitchen, one toilet and an open veranda. Every building block has two separate units, constructed in a raised concrete platform with brick wall and CI sheet roofing within the plot size 21'7'' X 43'2'' (Figure 5). Utility services like supply water, the source of drinking water, electricity are not yet connected as the whole system is not yet constructed. It was promised by the project that rest of the project will be completed in 2015 and basic utility services will be provided then. But after the completion of the first phase, untill now no other development is happened in Mandertola resettlement housing due to the crisis of fund and lack of proper management.



**Figure 5: Resettlement House (2 units)**  
Source: Author (2014)

### 4.3 General Characteristics of Sample

In this section, the general characteristics of the respondents are described. The questionnaire survey was conducted to the households of Mandartola resettlement housing, Gopalganj, Bangladesh, where each family has faced the experiences of eviction, relocated to the same location, same time and owned the same housing unit. General characteristics of the respondents include respondent age, sex, profession, household monthly income, and family member. Though the respondent dwellers share the same interests but age, sex, profession, income, the family condition of the respondents may cause variation in perception about asked questions. Among the 50 number of respondents, 26 respondents were male and 24 respondents were female. The number and percentages are shown below in Table 2.

**Table 2: Number and percentages of male and female respondents**

Serial	Sex	Frequency	Percentage
1	Male	26	52%
2	Female	24	48%
	Total	50	100%

Another characteristics of the respondents are their household monthly income. In Gopalganj resettlement housing, resettled households are characterised as poor and extreme poor category by the project. Survey data shows that in their present situation, the maximum respondents (44%) are belonging to the income range 10,001-15,000 BDT (€ 100-€ 150). About 36% of

respondents have present monthly income less than 10,000 BDT (€ 100). The frequencies and percentages of households monthly income are shown below in Table 3.

**Table 3: Number and percentage of household average monthly income of respondents**

Serial	Monthly Income Range in BDT (€)	Frequency	Percentage	Categories
1	Less than 10,000 (€ 100)	18	36.0%	Extreme poor
2	10,001-15,000 (€ 101-€ 150)	22	44.0%	Extreme poor
3	15,001-20,000 (€ 151-€ 200)	7	14.0%	Poor
4	20,001-25,000 (€ 201-€ 250)	2	4.0%	Poor
5	More than 25,000 (€ 250)	1	2.0%	Non-poor
Total		50	100.0%	

After dividing the respondents into different age group in 10 years range, the result suggests that maximum 34.0% of respondents belong to 31-40 years range. The number and percentages of respondents age group are shown in Table 4.

**Table 4: Number and percentage of the different age group of respondents**

Serial	Age Group (years)	Frequency	Percentage
1	20-30	8	16.0%
2	31-40	17	34.0%
3	41-50	15	30.0%
4	51-60	5	10.0%
5	61-70	4	8.0%
6	71-80	1	2.0%
Total		50	100%

Different types of the profession are found like day labourer, rickshaw puller, small business, house servant, housewife, carpenter, bus driver, formal job and others. Others include pension and getting money from daughter. The frequencies and percentages are shown in Table 5.

**Table 5: Number and percentage of the different profession of respondents**

Serial	Profession	Frequency	Percentage
1	Day Labourer	11	22.0%
2	Rickshaw/ vaan Puller	6	12.0%
3	Small Business	7	14.0%
4	Domestic Servant	4	8.0%
5	Housewife	14	28%
6	Bus Driver	2	4.0%
7	Formal Job	2	4.0%
8	Carpenter	2	4.0%
9	Others	2	4.0%
Total		50	100%

Most of the respondents have a large number of family member. Maximum percentages of the respondents have family members 5 and 6 people. About 26% of respondents have family members 06. The frequency and percentages of the family member are shown in Table 6.

**Table 6: Number and percentage of family members of the respondents**

Serial	Number of Family Members	Frequency	Percent
2	2	1	2.0%
3	3	5	10.0%
4	4	10	20.0%
5	5	12	24.0%
6	6	13	26.0%
7	7	6	12.0%
8	8	3	6.0%
	Total	50	100.0%

The demographic data mentioned above ensure that the survey is conducted among the most possible different units.

## 4.4 Risk of impoverishment

The first research question was to analyse the impact of resettlement on social and financial capital of evicted and resettled slum dwellers of Gopalganj, Bangladesh. The findings are presented in this section on the basis of field survey which was conducted on only the resettled community in Mandartola Resettlement Housing. As this research aims to study on social and economic aspects, therefore economic and social impact are presented below.

### 4.4.1 Economic Impact

To identify the economic or financial impact, this study examines two sub-variables-landlessness and joblessness.

#### 4.4.1.1 Landlessness

In order to enable researcher conducting analysis, the first step is the homogeneity test of the respondents for each indicator under the variable. According to the Levene's test of SPSS, the significance level of each indicator is higher than 0.05 which means that data are statistically significant for further analysis (Table 7).

**Table 7: Test of Homogeneity of the Variances of indicator of landlessness**

	Levene Statistic	df1	df2	Sig.
Daily commuting	.027	1	48	.871
Daily commuting cost before resettlement	.309	1	45	.581
Daily commuting cost after resettlement	3.889	1	45	.055
increased distance to social amenities	3.810	1	44	.057

As slum-dwellers of Gopalganj were illegally occupied a government land which was located near the centre of Gopalganj Sadar and they had no title deeds so there is no issue of losing land, but resettled slum dwellers actually lost their location which was related to their livelihood. Loss of location affects their financial capital in terms of increasing daily commuting cost, increasing expenditure for children schooling and even losing the job. Due to the far location from the centre of the city, distance increased to social amenities such as the hospital, marketplace, job place, school as they resettled periphery of the city. All most all respondents perceived that distance is increased due to new location site. 84% of respondents strongly agree that distance is increased for market and bazar due to resettlement. 52% strongly

agree that distance is increased for job place and 64% strongly agree that distance is increased for the hospital. On the other hand, 54% of respondents agree that distance is increased for school and bus stops. It means that their daily commuting cost is increased. Table 8 shows the detail percentages of their opinion about the distance of social amenities after resettlement.

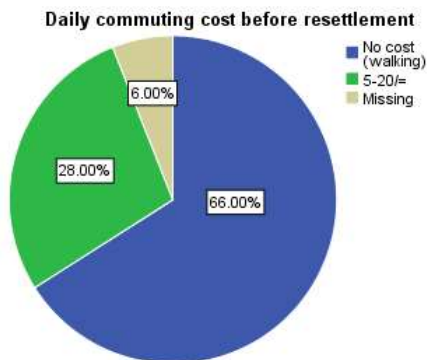
**Table 8: Respondents opinion for the distance of social amenities**

valid	Distance increased for Job place		Distance increased for Market / Bazar		Distance increased for Hospital		Distance increased for School		Distance increased for Bus stops	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Strongly agree	26	52%	42	84%	32	64%	17	34%	15	30%
Agree	22	44%	8	16%	18	36%	27	54%	27	54%
Disagree	1	2%	0	0%	0	0%	3	6%	8	16%
Missing	1	2%	0	0%	0	0%	3	6%	0	0%
Total	50	100%	50	100%	50	100%	50	100%	50	100%

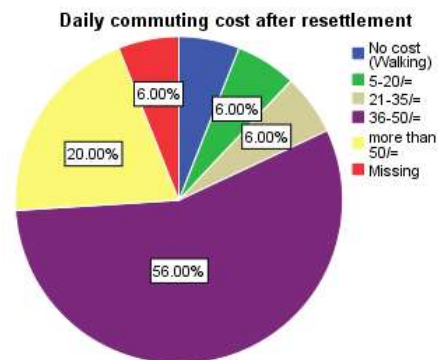
Due to the isolated and far location of the resettlement site, daily commuting cost of resettler is increased. Survey data shows that among the 50 respondents 46 people (92%) commute daily. As compared to their previous settlement (Table 9), 70.2% of respondents did not expend any money for their daily commuting in previous settlement whereas, after resettlement, about 59.6% of respondents have to expend 36-50 BDT (€0.36- € 0.50) for daily commuting. In figure 6 and 7, pie charts show the detail percentages of the daily commuting cost of before and after resettlement.

**Table 9: Comparing the commuting cost before and after resettlement**

	Daily commuting cost before resettlement			Daily commuting cost after resettlement		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
No cost (Walking)	33	66.0%	70.2%	3	6.0%	6.4%
36-50 BDT €0.36- € 0.50	0	0.0%	0.0%	28	56.0%	59.6%



**Figure 6: Daily commuting cost before resettlement**



**Figure 7: Daily commuting cost after resettlement**

#### 4.4.1.2 Joblessness

Another economic impact of resettlement can be determined by the variable joblessness. Joblessness can be measured by the indicator loss of job, change in occupations and by the comparison of household monthly income of before and after resettlement.

In order to enable researcher conducting analysis, the first step is the homogeneity test of the respondents for each indicator. According to the Levene's test of SPSS, the significance level of each indicator is higher than 0.05 (Table 10) which means that data are statistically significant for further analysis.

**Table 10: Test of Homogeneity of Variance of Landlessness**

	Levene Statistic	df1	df2	Sig.
loss of job after resettlement	2.627	1	48	.112
Get new job after resettlement	1.966	1	26	.173
Change occupation after resettlement	.727	1	13	.409
Average monthly income	2.336	1	48	.133
Previous monthly income	.029	1	47	.866

Among the 50 respondents, 56% lost their job due to the eviction and resettlement. People who lost their job, up to 53.6% get a new job but rest of the people about 46.4% are still jobless and they are mostly female. However, who got a new job, 73.3% of them changed their occupation. The summary of frequencies and percentages of loss of job, get new job and change in the occupation are shown in below Table 11.

**Table 11: Summary of frequencies and percentages of loss of job, get a new job, change in occupations**

	Loss of job			Get a new job			Change in occupation		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
yes	28	56.0	56.0	15	30.0	53.6	11	22.0	73.3
no	22	44.0	46.0	13	26.0	46.4	4	8.0	26.7
Total	54	100	100	28	-	100	15	-	100

Three different Crosstabulations analysis between gender and 'loss of job', 'get new job' and 'change in occupation after resettlement' was done. The first crosstabulation between 'loss of job after resettlement' and 'gender of the respondents' (Table 12) shows that respondents who lost their job, among them 57.1% are females and 42.9 % are males.

**Table 12: loss of job after resettlement and gender of the respondents Crosstabulation**

			gender		Total
			male	female	
loss of job after resettlement	yes	Count	12	16	28
		% within the loss of job after resettlement	42.9%	57.1%	100.0%
	no	Count	14	8	22
		% within the loss of job after resettlement	63.6%	36.4%	100.0%
Total	Count	26	24	50	
	% within the loss of job after resettlement	52.0%	48.0%	100.0%	

The second crosstabulation between ‘get a new job after resettlement’ and ‘gender of respondents’ (table 13) shows that respondents who did not get any job after resettlement, among them 76.9% are female and 23.1 % are male.

**Table 13: get a new job after resettlement and gender of the respondents Crosstabulation**

			gender		Total
			male	female	
get a new job after resettlement	yes	Count	9	6	15
		% within get a new job after resettlement	60.0%	40.0%	100.0%
resettlement	no	Count	3	10	13
		% within get a new job after resettlement	23.1%	76.9%	100.0%
Total		Count	12	16	28
		% within get a new job after resettlement	42.9%	57.1%	100.0%

However, people who got a new job, among them 73.3% changed their occupation as mention previously. A crosstabulation between ‘changed occupation after resettlement’ and ‘gender of respondents’ (table 14) shows that who changed their occupation after resettlement among them 63.6% are male and 36.4% are female. Percentage is lower in female respondents because it is difficult for women to change occupation due to limited options.

**Table 14: Change occupation after resettlement and gender of the respondents Crosstabulation**

			gender		Total
			male	female	
Change occupation after resettleme nt	yes	Count	7	4	11
		% within Change occupation after resettlement	63.6%	36.4%	100.0%
resettlement	no	Count	2	2	4
		% within Change occupation after resettlement	50.0%	50.0%	100.0%
Total		Count	9	6	15
		% within Change occupation after resettlement	60.0%	40.0%	100.0%

These three crosstabulations present that in the study area, women are more affected by displacement and resettlement than men in terms of economic impact. Women have become more jobless than men. The percentage is high in female respondents who lost their job. Also, the number is high in female respondents who did not get any job after the resettlement.

The economic impact of resettlement also be understood by the changes in the monthly income of before and right after resettlement. Households monthly income of 62% of respondents was decreased as compared to their previous income due to displacement and resettlement whereas, monthly income of 38% of respondents remained the same (figure 8).

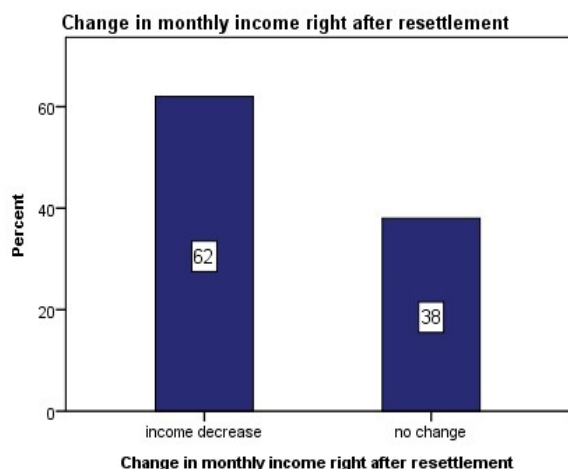


Figure 8: Change in monthly income right after resettlement

## 4.4.2 Social Impact

Eviction and resettlement not only affect the financial capital but also affect the social capital of the displaced people. To determine the social impact, this study examines two sub-variables such as marginalization and social disarticulation. Along with the questionnaire survey, focus group discussion was conducted to analyse the social impact.

### 4.4.2.1 Marginalization

In general, Eviction and resettlement process force displaced people into marginalization. From the literature, displaced people are marginalized in terms of lower socio-economic status and inappropriate skills in the new location.

According to the focus group discussion, the host populations are quite friendly and sympathetic. Though the resettlement site is isolated by a highway and located in rural setup, surrounded by paddy field but when they met with the people of nearer settlement they found positive attitude from them. One described her first experience-

*“When we come here, there was no tube-well... I went to them (host population) for drinking water.. one lady showed me the tube-well and we talk more than half an hour... she asked about my family and about the eviction... now she is my friend and sometimes visits my house...”*

Another woman in focus group discussion said below statement and other agreed with her

*Our children play with their (host population) children and sometimes visit their houses to see the TV program... they are friendly and helpful...*

Another social impact can be determined by the situation of the socio-economic status of the resettler. In Mandertola, many people lost their job and income sources due to eviction and resettlement. As mentioned previously, 46.4% resettlers are still jobless, among them 76.9% are women. Their monthly income was also decreased during the period right after resettlement. Its indicates that household socio-economic status is decreased due to displacement and resettlement. Many women’s worked as a house servant in the upper-class residential area which was very near to their previous settlement. That is not possible in new settlement due to the far and isolated location at the periphery of the city. As a result, women lose their social power and status due to unemployment. Many women worked in more than one house as part-time worker along with their won household work. These skills are inappropriate for this new settlement. As one woman described-



*“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 ‘chuta bua’ (part-time servant) ... after three hours working in the morning, I came back in my house and did my household work. Then in the evening, I worked another house.....Now I am workless ....cannot contribute in my family. It is very tough for my husband to manage livelihood....sometimes he behaves very cuddly to me. ”*

#### **4.4.2.2 Social Disarticulations:**

As the resettlement project is not completed yet, only 138 households out of 350 households were resettled in this new site. Therefore, all the resettler are not resettled together with their neighbour. From the survey data 62% household resettled in the new site with their neighbour. In their previous settlement, most of the people had relatives and friends nearby their settlement from whom they can get help. Due to the isolated location at the periphery of the city, 56% of respondents said that there is no relatives and friends nearby the resettlement site. One resettled woman briefed that-

*“..my brother in law (Husband’s brother) and one of my sister was lived near the Moulovi para.. I and my children frequently visit them and they also visit us.. now we meet very rear, only during the Eid. ”*

Loss of community organization is another indicator of social disarticulation. As described previously, resettlers of Mandartola resettlement housing come from two UPPR communities where most of the families were involved with CDC. According to the survey data about 78 % of households were involved with the CDC and its saving group in their previous settlement. Whereas, in their present situation about 84% of households are involved in CDC but only 54% of households are involved with the saving groups. In the case of Mandartola resettlement housing, resettlers do not loss their community institutions but the involvement in the saving group is decreased after resettlement.

After four years of resettlement, people still miss their previous settlement. Their previous settlement was located at the centre of the city and very near to a market/bazar. It was well connected with the social amenities and other infrastructure and services for example water and electricity. After the resettlement, the physical condition of settlement is improved but still, there is a lack of utility and services, for instance, the new settlement is not connected by electricity and drinking water supply. During the focus group discussion, one woman said-

*“..I was living in Moulovi Para. There I had a big house with three bedrooms and I rented part of my house. Though it was not made by permanent materials like this (resettlement) house, but it was connected with electricity. My children could read at night. ”*

In Mandartola resettlement housing, the majority of resettler still miss their infrastructure and services (30%), connectivity (26%) and living condition (22%) of their previous settlement rather than the relationship with the neighbour (16%) and friends and relatives (6%) (Table 15).

**Table 15: Feelings about the previous settlement**

	Frequency	Percent	Valid Percent
Valid	Living Condition	11	22.0
	Relationship with Neighbour	8	16.0
	Connectivity	13	26.0
	Infrastructure And Services	15	30.0
	Friends and relatives	3	6.0
	Total	50	100.0

The livelihood of many people was related to the informal activities in Bazar area. 68% of respondents think that Bazar or marketplace is the most important amenities for their community rather than a clinic or school because if their settlement were located at near to bazar, it will reduce their commuting cost and create income-generating opportunities for their families. In the focus group discussion one woman said,

*“ In my previous settlement, I provided water to the fish seller in the fish market and sometimes I processed fish for the rich men and I got money from them....I have no fridge, I cannot preserve food, that’s why I have to go to bazar daily and spend money on commuting. If there is a bazar near my this house even my children can buy for our family and I can earn extra money by working there. ”*

Like economic impact, social impact of displacement and resettlement also triggered the impoverishment risk. Due to social disarticulations and marginalization, the socio-economic status of the resettlers of Mandartola resettlement housing become more worsen.

## 4.5 Factors that influence spatial transformation of housing

This section illustrates the different factors that influence housing transformation. In the conceptual framework, household need is preconditional variable which influences spatial transformation of housing. This section first presents the spatial transformation of housing in Mandartola resettlement then state the relation between housing transformation and household needs.

### 4.5.1 Spatial transformation of housing in Mandartola Resettlement, Gopalganj:

The main objective of this study is to do a comparative analysis between the household who have spatial transformation of housing and who have not. On the basis of having any additional room, kitchen or other structure like cattle house, 25 households are selected who have housing transformation. Other 25 households are selected who have not those kinds of transformations. The survey found that there is some overlap, for example, there is some household who have all three types of transformation such as an additional room, additional kitchen, additional cattle house (Figure 9). But there is also some household who have one or two types of addition. It is because people transform their dwelling unit according to their need. Statistical data shows that respondents who belong to the group ‘with housing transformation’ 88% of them made additional room with their given housing units, 84% of them made an additional kitchen and 72% of them made cattle house (Table 16).

**Table 16: Summary of additional structure**

Valid	Additional room		Cattle house		Outdoor kitchen		
	Frequency	Valid Percent	Frequency	Valid Percent	Frequency	Valid Percent	
With housing transformation	yes	22	88.0	18	72.0	21	84.0
	no	3	12.0	7	28.0	4	16.0
Without housing transformation	-	25		25		25	
Total	50	100.0	50	100.0	50	100.0	



**Figure 9: Current scenario of additional structure**  
 Source: Survey 2018

In Mandartola resettlement housing, people are not resettled into a separate plot; every household have to share a single structure which was constructed without any provision of vertical extension, therefore resettler face problem to accommodate their household need. Also, they are not allowed for the reconstruction of their housing units which is against their freedom to build of dwelling unit extension. But household needs accelerate the transformation of housing. Adjusting with housing, to suit people need, culture and lifestyle is a coping strategy of households (Aduwo et al., 2013). Transformations are sometimes a strategy for complementing household income and reducing expenditure. Under these circumstances, in Mandartola Resettlement Housing, many households find their dwelling units incompatible

with their current need and lifestyle which motivated them to transform their physical set-up of the housing. Additional structures take place on public land; resettler used pocket spaces and leftover negative spaces of the settlement to make those additional structures according to their needs. These structures are very small in scale and temporary in nature. This is acceptable to other because they came from the same location, they have a clear understanding and good social relation with their neighbours. They are also familiar with such kind of informal activities in their previous slum. Poor and low-income people perceive their housing as a productive resource. They know whoever made those structure, they actually need those. They transform their housing spaces according to social and economic needs. Nobody said that there is social conflict over this issues. In focus group discussion, one woman said that-

*“I converted my kitchen into a bedroom for my daughter. Therefore, I made a kitchen outside my house.. sometimes my neighbour use my outdoor kitchen.. we talk and do our domestic work in front of our house.”*

Another indicator of spatial transformation of housing is the functional changes with their given houses. 60% of respondents functionally change their housing units. Functional change ranging from living to a bedroom, kitchen to a bedroom, veranda to a bedroom, veranda to income generating space like shop or working area (Figure 10). Within the respondents who functionally changed their housing units, among them about 43.3% changed their living into the bedroom, 60% changed kitchen into the bedroom, 13.3% changed veranda into the bedroom and 60% changed veranda into the working area (Table 17).



**Figure 10: Functional changes in resettlement housing**  
Source: Survey 2018

**Table 17: Summary of Functional changes**

Living to bedroom			Kitchen to bedroom			Veranda to bedroom			Veranda to income generating space		
Freq.	Per.(%)	Valid (%)	Freq.	Per.(%)	Valid (%)	Freq.	Per.(%)	Valid (%)	Freq.	Per.(%)	Valid (%)
13	26.0	43.3	18	36.0	60	4	8.0	13.3	18	36.0	60

In Mandartola resettlement housing, there is no designed space for children playing or a community centre for arranging an event or any space for recreation that can help people to develop their social capital.

The poor and low-income people use divers productive resources to make their livelihood. Open spaces within the settlement act as such kind of productive resource to make financial capital as well as social capital. Their diverse and multiple uses of a single space help them to cope up with the new settlement. People maximize the benefit of public and semi-public space by multiply using them according to their needs and these activities help them to reconstruct their social capital. Due to the shortage of a defined space for certain activity or purpose, they use their open spaces like street, public and semi-public spaces for their social activities. These social activities ranging from exchanging information, social interaction, children play area, household domestic work, or arranging an event like marriage or burial ceremony. These activities help them to restore their social capital (Figure 11). According to the survey data, 76% of respondents use their open space for social interaction, 64% for their children play area, 62% for household domestic work, 26% use as a space for arranging an event. Table 18 shows the detailed summary of percentages of open spaces uses.

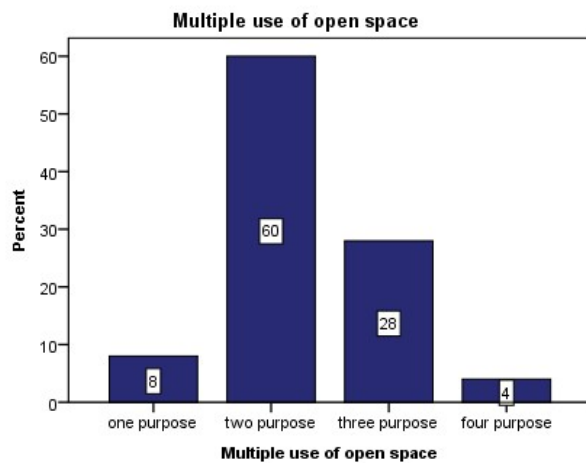
**Table 18: Summary of open space uses**

Valid	For social interaction with neighbour		For children play area		For household domestic work		For arranging event	
	Frequency	Valid Percent	Frequency	Valid Percent	Frequency	Valid Percent	Frequency	Valid Percent
yes	38	76.0	32	64.0	31	62	13	26.0
no	12	24.0	18	36.0	19	38	37	74.0
Total	50	100	50	100	50	100	50	100



**Figure 11: Different uses of open spaces**  
 Source: Survey 2018

There are some respondents who used open spaces not only for one single purpose rather than multiple purposes. In the below figure (Figure 12) the bar chart suggests that about 60% of respondents have been used their open space at least two different purposes and 28% of respondents used at least 3 different purposes.



**Figure 12: Multiple uses of open space**

Another indicator of housing transformation can be determined by the changes in their number of room. Their initial housing unit has only one bedroom but some of them increase their number of the room according to their need. By constructing additional room or converting other function like kitchen or veranda into a bedroom, resettlers increase their number of room. Total 58% of respondents increased their number of the bedroom. Household who increase their number of bedroom, out of them, 26% increase from the number one to two bedroom, 22% from one to three bedroom and 10% from one to four bedroom. Figure 13 shows the changes in the number of the bedroom.

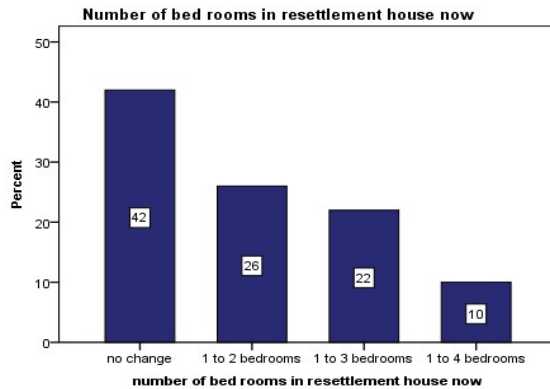


Figure 13: Changes in the number of room

In addition to this, the collective initiatives of resettled people of Mandartola resettlement housing create some social infrastructure within the settlement. These social infrastructures also contribute in social capital. In their available open space, they made the religious structure like mosque and temple, school for basic education, tube-well for drinking water. By collecting money from every household and with the help of UNDP and local authority, they made these social infrastructures which are maintained by them. (Figure 14)



Figure 14: Social infrastructures made by resettlers

Source: survey 2018

## 4.5.2 Household need

Literature suggests that household needs accelerate the housing transformation and housing transformation contribute in achieving livelihood outcome. Household needs are analysed here by two sub-variables- 1. Economic need 2. Social need

### 4.5.2.1 Economic need

Household economic need can be determined by the additional monthly income from home-based economic activities and the household monthly expenditure reduction activities.

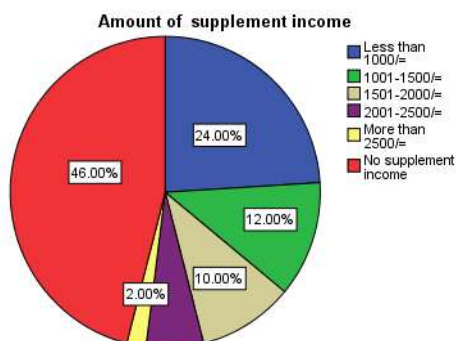
#### 4.5.2.1.1 Additional monthly income from home-based economic activities

Lower monthly income and income loss due to resettlement accelerate spatial transformation of housing and influence resettlers to involve with additional income from home-based economic activities. Among the respondent households, about 54.9% are involved with additional home-based income (table 19). Survey data also shows that in Mandartola resettlement housing, the amount of additional home-based income is very low. Maximum household (24%) earn less than 1000 BDT (€ 10) per month from home-based economic activities (figure 15).

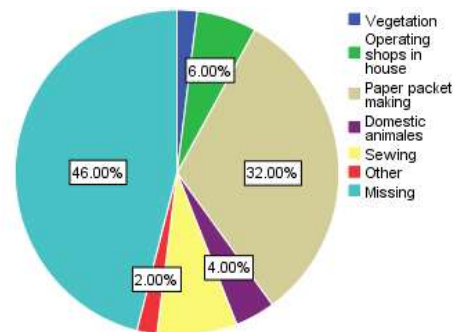
**Table 19: Having additional income from home-based economic activities**

	Frequency	Percent	Valid Percent
Valid	yes	27	54.0
	no	23	46.0
	Total	50	100.0

Home-based economic activities ranging from vegetation, paper packet making, sewing, domestic animals, operating shops in house. In Mandertola resettlement, women are mainly involved in home-based economic activities; they are the initiator of this economic purpose transformation because they lost their jobs and income sources more than men. Majority of household (32%) earn money as home-based additional income from paper packet making (Figure 16).



**Figure 15: Amount of additional home-based income**



**Figure 16: Types of additional home-based income**

This study assumed that additional monthly income from home-based economic activities contributes in restoring income loss after resettlement. To analyse the contribution of 'additional monthly income from home-based economic activities', it is essential to know the income status of 'before resettlement', 'right after the resettlement' and the 'present situation'. Two different comparative analysis was done by considering 'monthly income right after resettlement' as the baseline. To understand the income loss a comparative analysis was done between 'household monthly income before resettlement' and 'household monthly income right after resettlement'. The result shows that only 14% of households had previous monthly



income less than 10,000 BDT (€ 100) before the resettlement. Maximum households were belong to income group 10,001-15,000 BDT (€ 100-€ 150) (36%) and income group 15001-20,000 BDT (€ 150-€ 200) (40%) before the resettlement. But right after the resettlement percentages were increased in the income group ‘less than 10,00 BDT (€ 100) (56%). About 26% from the income group 15,001-20,000 BDT (€ 150-€ 200) and 16% from the income group 10,001-15000 BDT (€ 100-€ 150) were shifted into the income group less than 10,00 BDT (€ 100). About 10% from the income group 15,001-20,00 BDT (€ 150-€ 200) were shifted into the income group 10,001-15,000 BDT (€ 100-€ 150) (figure 17). It is because of joblessness. As mentioned before total 56% of respondents lost their jobs due to resettlement.

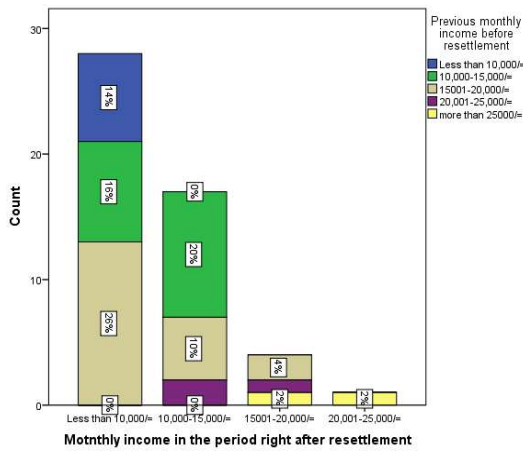


Figure 17: Changes of monthly income right after resettlement

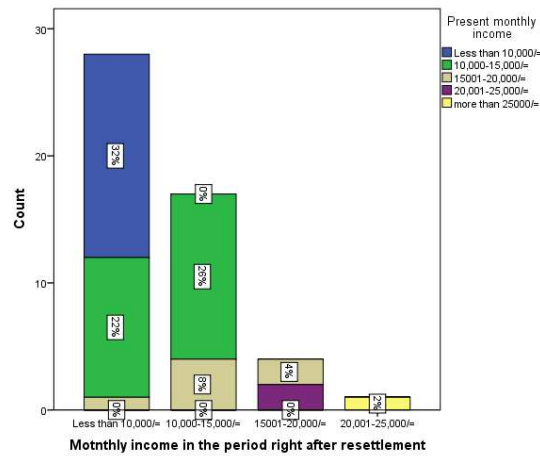


Figure 18: change in monthly income after 4 years of resettlement

On the other hand, after four years, some households able to minimize their income loss not fully but partially. The comparative analysis between ‘monthly income right after resettlement’ and ‘present monthly income’ shows that after four years percentages is decreased in the income group ‘less than 10,000 BDT (€ 100)’ from 56% to 32%. About 22% of this income group is shifted to the income group 10,001-15,000 BDT (€ 100-€ 150). About 8% from the income group ‘10,001-15,00 BDT (€ 100-€ 150)’ are shifted to income group ‘15,001-20,000 BDT (€ 150-€ 200)’(Figure 18). Table 20 shows the summary of income status for these three periods.

Table 20: Summary of income status of three different periods

	Monthly income before resettlement		Monthly income in the period right after resettlement		Present monthly income	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Less than 10,000/=	7	14.0	28	56.0	16	32.0
10,000-15,000/=	18	36.0	17	34.0	24	48.0
15001-20,000/=	20	40.0	4	8.0	7	14.0
20,001-25,000/=	3	6.0	1	2.0	2	4.0
more than 25000/=	2	4.0	0	0	1	2.0
Total	50	100.0	50	100.0	50	100.0

The improvement in income status is not only for the additional income from home-based economic activities because, in Mandertola, the amount come from home-based economic activities are very low as mentioned before. After four years of resettlement many people who lost their job already got a new job and able to minimize their income loss. But whoever got the new job most of the cases their income is decreased and home-based additional income contributes to minimizing their income loss. One female respondent said that-

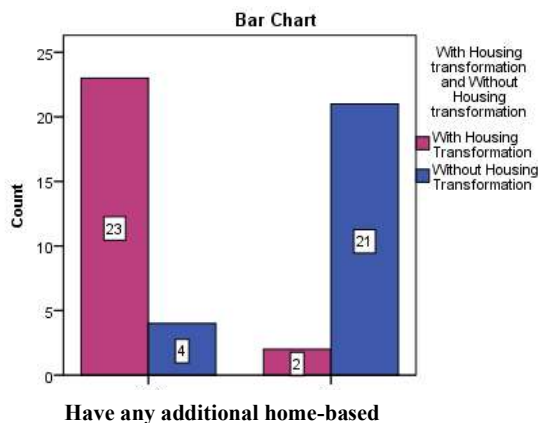
*“When we resettled in Mandertola, I lost my job. My husband and I earned around 18,000 BDT (€180) per month when we lived in South Moulovi Para. After losing my job our family income was 11,000BDT (€110). After eight months of resettlement, I got a new job but the salary is less than my previous job...I was not able to meet my household expenditure with our monthly income... Then I started to make paper packet to get some extra money.”*

But is there any relation between spatial transformation of housing and the involvement with home-based economic activities? Does spatial transformation influence people to involve in additional income or contribute in additional income? This study assumed a hypothesis that the household with housing transformation has additional home-based income, in other words; spatial transformation of housing contribute in additional home-based income.

A crosstabulation analysis shows that respondents who did housing transformation are more involved with additional home-based income. Table 21 and figure 19 shows that 92% of respondents of ‘with housing transformation group’ have additional home-based income whereas, only 16% of respondents in ‘without housing transformation group’ have additional home-based income. It means that households ‘with housing transformation’ are more involved with the additional home-based income. So the assumed hypothesis is granted. figure 20 shows the different home-based economic activities in Mandartola Resettlement Housing

**Table 21: have any additional home-based income \* with housing transformation and without housing transformation Crosstabulation**

		with housing transformation and without housing transformation		Total
		with housing transformation	Without housing transformation	
Have any 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%)



**Figure 19: Having additional home-based income and with and without housing transformation group**



**Figure 20: Home-based income generating activities**  
 Source: survey 20018

For the purpose of this study, two different Pearson’s correlations were conducted to find the relation between housing transformation and additional income. One of Pearson’s correlations was conducted between variables ‘having additional home-based income’ and ‘with and without housing transformation’. Another Pearson’s correlation was conducted between ‘amount of additional home-based income’ and ‘with and without housing transformation’.

Summary of those relations is shown in table 22. Correlation is done to check to what extent those variables are interrelated.

Pearson's correlations suggest that there is a statistically significant relation between the variables 'having additional home-based income' and 'with and without housing transformation' groups ( $n = 50, r = 0.762, p = 0.000 < 0.05$ ). There is also a statistically significant correlation between 'amount of additional home-based income' and '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 the spatial transformation of housing. The respondents who belong to 'with housing transformation' group, they transform their housing into income generating space, for example, they transform their veranda into the shop or use veranda to make paper packet and thus contribute in their income.

**Table 22: Summary of Pearson's correlations between 'with and without housing transformation', 'having additional home-based income' and 'additional home-based income amount'**

	'having additional home-based income' with 'with and without housing transformation'	'additional home-based income amount' 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).

In addition to this, a chi-square test between the variables 'having additional home-based income' and 'with and without housing transformation' group was done. Two hypothesis was assumed.

Null hypothesis: 'Spatial transformation of housing' have no influence in 'having an additional home-based income'.

Alternative hypothesis: 'Spatial transformation of housing' have an influence in 'having an additional home-based income'.

The result suggests that there is a statistically significant relation between those two variable because 't' value is  $0.000 < 0.05$ . (table 23). Thus null hypothesis is rejected. Hence 'spatial transformation of housing' has a significant relation with 'additional home-based income'.

**Table 23: Chi-square test between having an additional home-based income and with and without housing transformation**

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	29.066 <sup>a</sup>	1	.000		
Continuity Correction <sup>b</sup>	26.087	1	.000		
Likelihood Ratio	33.072	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	28.485	1	.000		
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

#### 4.5.2.1.2 Expenditure reduction activities

In Mandartola resettlement, Gopalganj, resettled people do some activities that do not contribute to their monthly household income but help them to reduce their monthly expenditure. Statistics data shows that about 66% of households are involved with such kind of activities that reduce their monthly expenditure. Those activities include having domestic animals (goat, hen, duck, pigeon), vegetation, collecting wood and leaf for cooking. In table 24 detail percentages of household involvement with expenditure reduction activities are described where 36% of households have domestic animals, 42% cultivate vegetables, 52% household collect wood and leaf for cooking. These monthly expenditure reduction activities lead to some housing transformation such as household who have domestic animals, they made cattle house in the settlement; households who collect leaf and wood majority of them made outdoor kitchen; households who have vegetation use open spaces around their house. To reduce the expenditure of cooking, people collect fallen leaf and branches from the roadside tree which is a government property. They also collect cow dung from the street. There is no conflict between the host population and the resettler because host population is quite solvent, they have no need to collect leaf and wood from the roadside.

**Table 24: Frequencies and percentages of expenditure reduction activities**

		Having Domestic animals		cultivate vegetable		collect wood/ leaf for cooking	
		Frequency	Percent	Frequency	Percent	Frequency	Percent
Valid	Yes	18	36.0	21	42.0	26	52.0
	No	32	64.0	29	58.0	24	48.0
	Total	50	100.0	50	100.0	50	100.0

Table 25 shows that 20% of households able to reduce their monthly expenditure around 500-1000 BDT (€ 5-€ 10) and 16% households around 1001-1500 BDT (€ 10-€ 15) by domestic animals. 38% household able to reduce their monthly expenditure around 500-1000 BDT (€ 5-€ 10) by vegetation. 38% household able to reduce their expenditure around 500-1000 BDT (€ 5-€ 10) by collecting wood.

**Table 25: Monthly household expenditure that reduced by household activities**

		expenditure reduced by domestic animal	expenditure reduced by vegetation	expenditure reduced by collecting wood
		Percent	Percent	Percent
Valid	500-1000/=	20.0	38.0	38
	1001-1500/=	16.0	8.0	16
	1501-2000/=	2.0	0	0
	Without activity	62.0	54.0	46
	Total	100.0	100	100.0

A hypothesis was assumed that households in ‘with housing transformation group’ are more involvement with expenditure reduction activities than ‘without housing transformation group’. To justify this hypothesis a correlation analysis between the variables ‘household involvement with expenditure reduction activities’ and ‘with and without housing transformation group’ was done. The result shown in below table 26 suggest that there is a statistically significant relation between those two variables because of the p-value or sig. (2tailed) is less than 0.05. ( $n = 50, r = 0.718, p = 0.000 < 0.05$ ).

**Table 26: Correlation: Involvement with expenditure reduction activities’ and ‘With Housing transformation and Without Housing transformation**

<b>correlation</b>	
‘Involvement with 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).

A crosstabulation analysis between the variables ‘involvement with expenditure reduction activities’ and ‘with and without housing transformation group’ also prove that households who did housing transformation are more involve with expenditure reduction activities. Because people who belong to ‘with housing transformation group’ they have additional kitchen and cattle house. On the other hand, few households in ‘without housing transformation group’ collect wood and able to reduce financial expenditure but they have no outdoor kitchen. Table 27 reveal that 25 households who did housing transformation can able to reduce monthly expenditure whereas, only 8 households who did not housing transformation can able to reduce monthly expenditure.

**Table 27: Involvement with expenditure reduction activities \* With Housing transformation and Without Housing transformation Crosstabulation**

		With Housing transformation and Without Housing transformation		Total
		With Housing Transformation	Without Housing Transformation	
Involvement with expenditure reduction activities	yes	25	8	33
	no	0	17	17
Total		25	25	50

#### 4.5.2.2 Social need

Another household needs that force people to do spatial transformation of housing is their social need. Social need can be determined by the indicators room occupancy ratio, demand of the separated room for privacy and additional structure for the cultural and religious purpose.

Room occupancy ratio can be measured by the number of person living in a single room. Resettlement project provided housing unit with one bedroom, a living cum dining room, kitchen, toilet and a veranda. To cope up with this type of housing units, resettled people either made additional structures or change/alter the function of their houses. This research assumed that households social need influence the housing transformation. In order to check this assumption, it was required to know the initial room occupancy ratio, when they started to live this settlement or before housing transformation. A dummy variable was created in SPSS dividing family member by the initial room number. It is assumed that they used both two rooms (bedroom and living room) as the bedroom. According to primary survey data, 34% household had room occupancy ratio 2; 48% household had room occupancy ratio 3 and 16% of respondents had room occupancy ratio 4 (Figure 21).

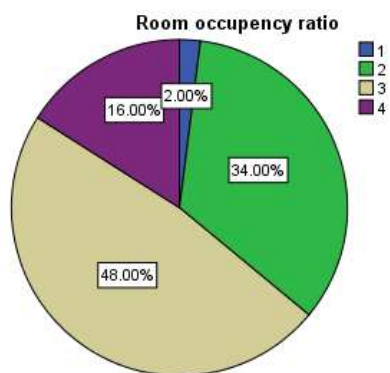


Figure 21: Room occupancy ratio

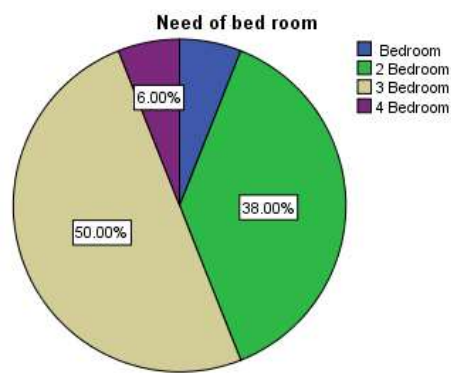


Figure 22: Need for extra bedroom

Another indicator of household social need that accelerates housing transformation is the actual need for the extra separated bedroom. As their children grow up, they need the separated bedroom. The extra room is also needed for the guest. Among the respondents, 50 % of households need a housing unit with three separate bedrooms and 38% of households need a housing unit with two separate bedrooms (Figure 22). One male respondent in focus group discussion said that-

*“My daughter got married when we were in our previous settlement. After resettled here, when she and her husband come to visit us, they cannot stay at night because there is no extra space for sleeping... I made an additional room so that when they come, they can stay.”*

Another male participant added with this-

*“I have two daughters and one son. As they are growing up, we need separated bedrooms for them..”*

A crosstabulation analysis between ‘room occupancy ratio’ and ‘need for extra bedroom’ suggest that where the room occupancy ratio is higher, there the need for more room is higher. For the households who had occupancy ratio 3, among them 62.5% of respondents need three bedrooms (Table 28). It means that households who have a large number of the family member they need the extra bedroom.

Table 28: Room occupancy ratio \* Need for bedroom Crosstabulation

% within Room occupancy ratio		The need for the extra bedroom				Total
		1	2	3	4	
Room occupancy ratio	1		100.0%			100.0%
	2	5.9%	58.8%	29.4%	5.9%	100.0%
	3	8.3%	25.0%	62.5%	4.2%	100.0%
	4		25.0%	62.5%	12.5%	100.0%
Total		6.0%	38.0%	50.0%	6.0%	100.0%

This need for extra room reinforced resettler to do addition or transformation with their provided housing units. They manage their such kind of need either transforming kitchen or veranda into a bedroom or making additional room.

Another correlation between ‘addition with resettlement house’ and ‘need for the extra room’ shows that where the need for the extra bedroom is higher, addition with resettlement house is also higher there. Households who need 3 bedrooms, they are more involved with the

transformation of housing units than the household who need 1 or 2 bedrooms. Figure 23 shows that households who need one bedroom they do not make any addition to their housing units. Household who need 2 bedrooms, 12% of them make the addition to their housing units. Household who need 3 bedrooms 38% of them make the addition to their housing units. The tendency to do addition with the resettlement housing unit is higher for the respondent who needs the extra bedroom. So higher occupancy ratio lead to the extra need for the bedroom and extra need for bedroom lead to the housing transformation.

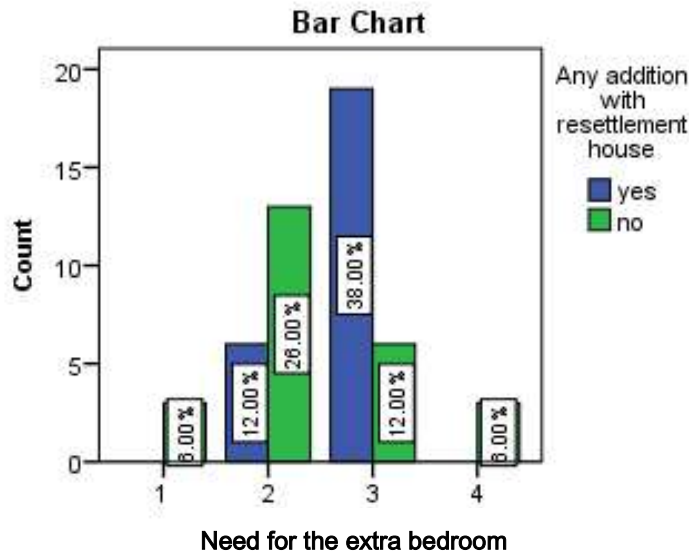


Figure 23: Relation between addition with house and need for the extra bedroom

To justify this relation an independent samples-T Test between the ‘room occupancy ratio’ (in number scale) and ‘additional structure with resettlement house’ (nominal scale) was done. Two hypothesises were assumed under this test.

Null hypothesis: Room occupancy ratio have no influence to make the addition in resettlement house.

Alternative hypothesis: Room occupancy ratio have the influence to make the addition in resettlement house.

In table 29, the result shows that there is a statistically significant relation between these two variable as p-value is less than 0.05 ( $t = 2.644$ ,  $p = 0.013$  i.e.  $p < 0.05$ ). So the null hypothesis is rejected and the alternative hypothesis is granted. Hence room occupancy ratio has a significant influence to make the addition in resettlement house.

Table 29: Independent Samples-T Test between room occupancy ratio and additional structure with resettlement house

Independent Samples Test									
	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper



Room occupancy ratio	Equal variances assumed	.137	.713	2.644	48	.011	.520	.197	.125	.915
	Equal variances not assumed			2.644	47.349	.011	.520	.197	.124	.916

Another Independent Samples-T Test between ‘need for extra bedroom’ and ‘additional structure with resettlement house’ was also done. Under this test, two hypothesis was assumed.

Null hypothesis: Need for extra room have no influence to make the addition in resettlement house.

Alternative hypothesis: Need for the extra room have the influence to make the addition in resettlement house.

The result in table 30 show that there is a significant relation between ‘need for extra bedroom’ and ‘additional structure with resettlement house’ because p is less than 0.05 ( $t = 2.074$ ,  $p = 0.043$  i.e.  $p < 0.05$ ). So the null hypothesis is rejected. Hence, the need for extra room has the influence to make the addition in resettlement house. From those two T-Tests, it can be concluded that higher occupancy ratio leads to the extra need for bedroom and the extra need for the bedroom lead to the housing transformation.

**Table 30: Independent Samples Test between Need for the separate room and additional structure**

		Independent Samples Test								
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Need for extra bedroom	Equal variances assumed	10.087	.003	2.074	48	.043	.400	.193	.012	.788
	Equal variances not assumed			2.074	35.562	.045	.400	.193	.009	.791

Along with this, resettled people collectively made some structure in their settlement according to their ritual and cultural need. In Gopalganj resettlement, there are two types of religious people-Muslim and Hindu. Among the respondents 84% are Muslim and 16% are Hindu. Both two types of people made their religious structure within the settlement which was a social need. As school is 5 km far from the new resettlement site, Children have to use rikshaw or van to go to school which create the extra financial burden. And as the resettlement site is located at the high way site, it is very risky to go to school for the primary level student. So primary school is also a social need for the resettler. This need influences them to make a school within the settlement. As mentioned previously half of the project was completed and rest of the land is still vacant. Those social infrastructures took place in this vacant land. It was promised by the project that the rest of the project and social infrastructure will be constructed by 2015. But due to lack of proper management and fund, rest of the project is not installed yet. On the other hand, those structures are their social need which influences people to use

vacant land. They used the temporary material for the construction like corrugated sheets, bamboo so that it can be easily shifted. Every resettler financially contributed to make those structure and they also raised fund from the local government. They made those structure as an incremental way for instance school has only the roof and one façade and will be developed further when they able to manage construction and material cost. The structure which was made during the construction period for the worker and for the material storage is converted into the mosque and further developed by the resettler. A very small temple was made by temporary material in between two clusters.

#### 4.6 Livelihood outcome that derived from spatial transformation of housing

In the conceptual framework, the independent variable spatial transformation of housing have a causal relation with livelihood assets. This research expected that housing transformation contributes in livelihood assets in terms of restoring social and financial capital. This section first illustrates household assets then analyse the livelihood outcome that derived from spatial transformation of housing.

##### 4.6.1 livelihood outcome of household assets

In this study, household assets include financial and social assets or capital. This study aims to make a comparative analysis between households who did spatial transformation and who did not. For the purpose of the study, every asset is described in a relation with livelihood outcome.

##### 4.6.1.1 Livelihood outcome in Financial assets

Financial assets are composed with household monthly income, savings, access to credit, selling or mortgage jewellery and other valuable product and the activities (or spatial transformation) that contribute in income or reduce household monthly expenditure. Income generating activities include small-scale home-based enterprise like shops, swing, paper packet making, having domestic animals, vegetation and collecting wood.

For each of the indicator under the variables financial capital, a homogeneity test has been executed to find out the comparability between the household group with housing transformation and without housing transformation. As shown in below table 31, the significance level is higher than 0.05 for every indicator. Which indicates that these indicators are similar and comparable for further analysis.

**Table 31: Table 4.10: Test of Homogeneity of Variance of Financial Capital**

	Levene Statistic	df1	df2	Sig.
Average monthly income	.461	1	48	.500
Access to loan from bank	.558	1	47	.459
Involvement with saving group	1.395	1	48	.243
sold or mortgaged jewellery or products	1.395	1	48	.243

##### 4.6.1.1 Average monthly income

Monthly income creates the ability of household for making the livelihood for the family by expending money according to family need. Statistics data shows that a large percentage about 36% of households have average monthly income less than 10,000 BDT (€ 100) and maximum percentages (44%) belongs to the range 10,000-15,000 BDT (€ 100-€ 150) (Figure 24). 47.92% of respondents are doing their job for less than 5 years (Figure 25).

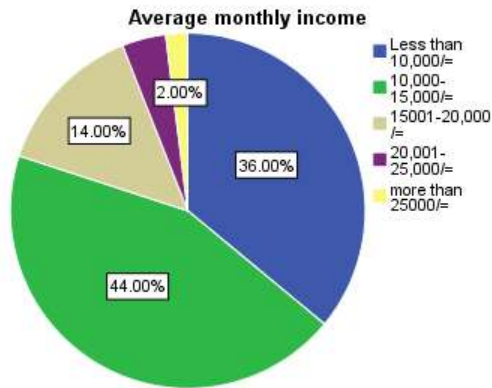


Figure 24: : Percentage of average monthly income

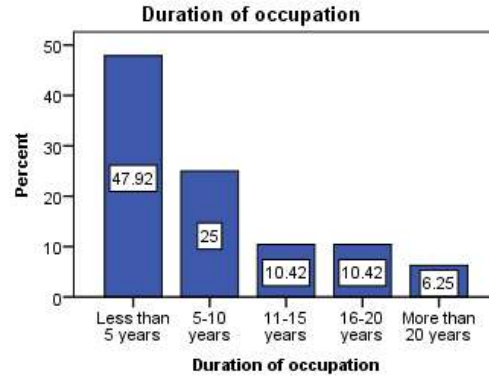


Figure 25: Duration of occupation

Another reason for low household income is the less number of earning member. 60 % of household have only one earning member. In figure 26 shows the detail percentages of households with their earning members.

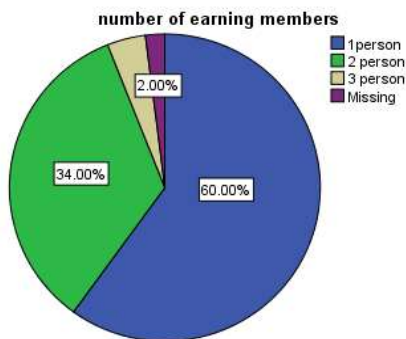


Figure 26: Percentages of earning members

To analysis the relation between households monthly income and housing transformation, it is essential to know which income group is more involved with housing transformation. Does lower income group are more involved with the housing transformations? A crosstabulation was done between the 'household income right after resettlement' and 'with and without housing transformation group'. The result (Table 32) suggest that certain percentages of households from every income group are involved with housing transformation but lower income group (50%) are more involved. On the other hand, households who belong to the same income group, some of them are involved with housing transformation and some of them are not. It is because households who able to meet their expenditure by their income are not involved with housing transformation. So it is not necessarily that less household income influence people to involve with housing transformation. Some household can able to meet their monthly expenditure with their less income due to a small number of family member.

Table 32 Monthly income in the period right after resettlement \* With Housing transformation and Without Housing transformation Crosstabulation

	With Housing transformation and Without Housing transformation		Total
	With Housing Transformation	Without Housing Transformation	
Less than 10,000/=	14 (50%)	14 (50%)	28 (100%)

Monthly income in the period right after resettlement	10,000-15,000/=	8 (47.1%)	9(52.9%)	17 (100%)
	15001-20,000/=	2 (50%)	2 (50%)	4 (100%)
	20,001-25,000/=	1(100%)	0 (0%)	1 (100%)
Total		25 (50%)	25 (50%)	50 (50%)

As described previously, housing transformation contributes to minimize income loss of displacement and resettlement. It is essential to look at the income status of before, the present and the period right after the resettlement of those two groups (with and without housing transformation). For this purpose, a comparative analysis was done between the result of three different cross tabulations. The cross-tabulation was done between ‘household monthly income before resettlement’ and ‘with and without housing transformation group’. Second one was done between ‘household monthly income in the period right after resettlement’ and ‘with and without housing transformation group’. And another crosstabulation analysis was done between ‘household present monthly income’ and ‘with and without housing transformation group’. The result shows that households who belong to ‘with housing transformation group’, they lost their income more than the group ‘without housing transformation’. This income loss influence resettler to transform their housing. After four years of resettlement, the income level of ‘with housing transformation group’ are more increased than ‘without housing transformation’ group (Figure 27).

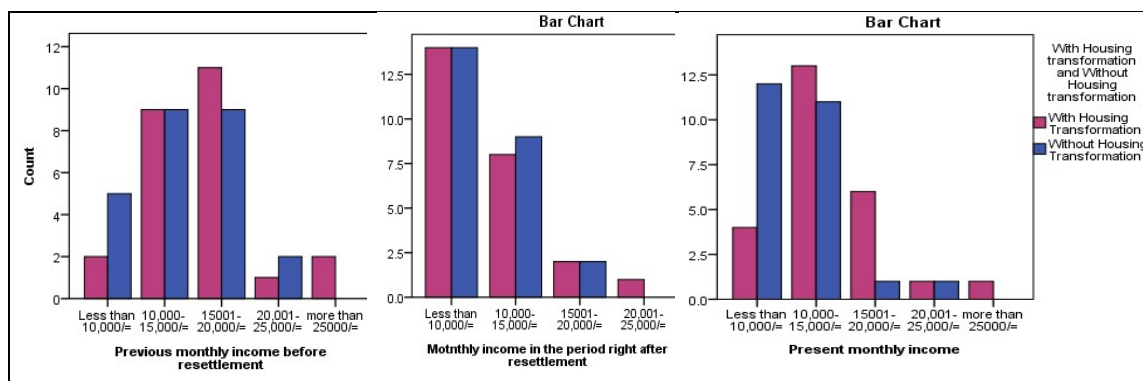


Figure 27 comparative analysis between monthly income and with and without housing transformation group

In addition to this, an Independent Samples T-Test between ‘with and without housing transformation group’ and ‘average monthly income was done’. Two hypothesis was assumed. Null hypothesis: Spatial transformation of housing has no contribution in monthly income.

Alternative hypothesis: Spatial transformation of housing has the contribution in monthly income.

The result (Table 33) demonstrates that there is a significant relation between spatial transformation of housing and monthly average income as the value of ‘p’ is less than 0.05 ( $t = 2.593, p = 0.013$  i.e.  $p < 0.05$ ) so null hypothesis is rejected. From the result, it can be assumed statistically significant that spatial transformation of housing has the contribution in monthly income.

**Table 33: T-Test between monthly income and spatial transformation**

Independent Samples Test (monthly income and spatial transformation)										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
average monthly income	Equal variances assumed	.461	.500	2.593	48	.013	.640	.247	.144	1.136
	Equal variances not assumed			2.593	45.505	.013	.640	.247	.143	1.137

#### 4.6.1.2 Savings

Savings is another indicator of financial capital. From the questionnaire survey, among the 50 households, 54% household are involved with the saving groups. But their saving amount is very small. Among the respondents who are involved with saving groups, 55.2% households can only able to save 100-500 BDT (€ 1-€ 5) per month. 27.6% can only save less than 100 BDT (€ 1) per month. Table 34 shows the summery of household involvement with the saving group and their monthly saving amount.

**Table 34: summary of household involvement with the saving group and their monthly saving amount**

Involvement in saving groups		Amount of savings per month			
		Valid percent			
yes	Valid percent	Less than 100 BDT (€ 1)	100-500 BDT (€ 1-€ 5)	501-1000 BDT (€ 5-€ 10)	1001-1500 BDT (€ 10-€ 15)
			54%	27.6%	55.2%
no	46%				

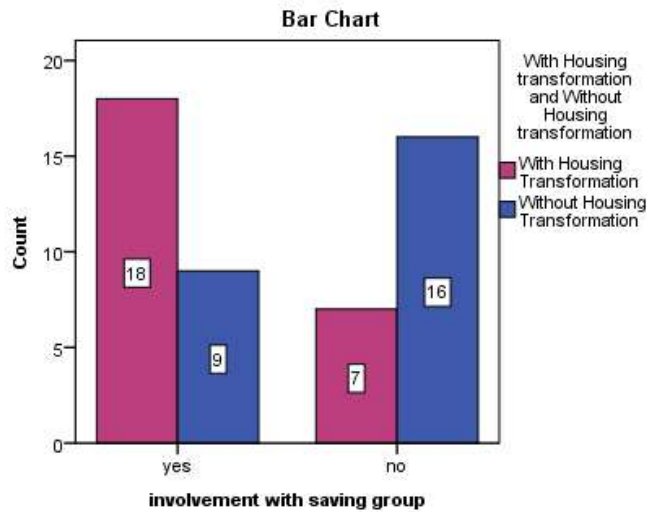
To support this study a hypothesis can be created like respondent who does housing transformation are more involved with the saving groups as their monthly income is higher than the respondent who does not housing transformation. To statistically justified this hypothesis a chi-square test was done between the variables ‘with and without housing transformation group’ and ‘the involvement with saving groups’. The result (table 31) suggest that there is a significant relation between involvement in saving group and housing transformation because the significant level is less than 0.05. Figure 28 also suggests that respondents of ‘with housing transformation group’ are more involve in the saving group than the respondents of ‘without housing transformation group’.

**Table 35: 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



**Figure 28: Involvement with saving group**

#### 4.6.1.2 Access to credit

Access to credit is also considered as financial assets. According to the respondents of Mandartola resettlement housing, access to formal credit system is not so easy for them. In their previous settlement, they illegally occupied the land, so they did not have any legal document that they can mortgage to get the loan from the bank, In their present settlement where they resettled they got the tenure security for 99 years. But still, they do not receive any title deed or proof document which they can mortgage. So getting the loan from the bank is still not possible for them. According to the opinion of the respondents, a bar chart (figure 29) shows that 30.6% of respondents strongly disagree and 36.7% disagree that it is very easy to get the loan from the bank.

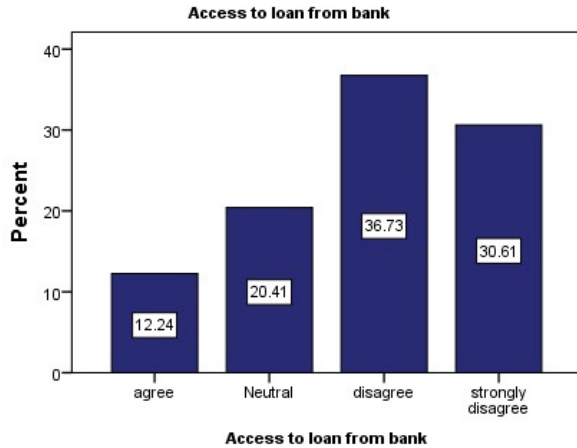


Figure 29: Easy to access loan from the bank

Other financial capital includes jewellery or other valuable product such as television or electronic product, domestic animals that help people to manage money in their crisis moment. From the survey data, 32% of respondent sold or mortgaged their jewellery and other product in their crisis moment like medical purpose, son/daughter marriage, investment in the business, making house after eviction. Though 36% households have domestic animals but selling domestic animals is very less (only 14%) because they have a very small number of domestic animals which can only help them to reduce their monthly household expenditure.

#### 4.6.1.2 Livelihood outcome in social assets

Social capital can be determined by the indicator like seeking help from the neighbour, involvement in community organization, relation with neighbours and the uses of space for interaction with neighbours. To do the further analysis a homogeneity test was done and the result suggests that there is a homogeneity in data for every indicator as the significance level is higher than 0.05 (table 36).

Table 36: Test of Homogeneity of Variances of social capital

	Levene Statistic	df1	df2	Sig.
Seeking help from relatives, friends or neighbours	.215	1	48	.645
Membership of CBO	.059	1	48	.810
Relatives & friends within the settlement	.219	1	48	.642
Relation with neighbour	1.665	1	48	.203

For the time being, living in new resettlement site, people have started to rebuild their social capital. 82% of respondents seek help from their relatives, friend and neighbour. Types of help ranging from financial help, childcare, getting a job, building house extensions, mental support, idea sharing and taking suggestions. Table 37 present a crosstabulation summery between types of help that resettlers seek and the frequency of seeking help. The result suggests that the majority of the respondents (48%) seek financial help from their neighbour and friend, 42% of respondents take help from their neighbour to take care of their children. Result also suggest that maximum respondents seek such kind of help frequently.

**Table 37: Types of help \* Frequency of seeking help Crosstabulation**

		The frequency of seeking help					Total	Percent %
		Frequently	Once a week	Once a month	Once a year	Others		
type of help	Financial	14	1	6	2	1	24	48%
	Building house extension	0	0	0	3	1	4	8%
	Childcare	5	0	0	0	2	7	14%
	Getting job	0	0	1	2	0	3	6%
	Others	2	0	1	0	0	3	6%
	Total	21	1	8	7	4	41	82%
Do not seek help		0	0	0	0	0	9	18%
Total		21	1	8	7	4	50	100%

Another indicator to measure social capital is the level of relationship with the neighbour. This level of relation with the neighbour leads them to use spaces for social interaction. On the other hand, the uses of spaces contribute to rebuild their social capital in new resettlement site. In Mandertola resettlement housing, respondents define their relationship with their neighbour mainly very good (38%) and good (60%) level. They use the different form of space for social interaction with their neighbour. For example Space in front of the house are used by 38% of respondents and street are used by 36% of respondents for social interaction. About 22% of respondents used their veranda for social interaction. A crosstabulations analysis (Table 38) showing the relationship between gender and space use for social interaction. The result shows that female respondents mainly use in front of their house and veranda whereas, male participants use the street for social interaction.

**Table 38: Relation of spaces and gender**

		gender		Total	Percent
		male	female		
spaces that used for social interaction	In front of house	7	12	19	38.0
	In street	16	2	18	36.0
	In shared kitchen	0	2	2	4.0
	In veranda	3	8	10	22.0
Total		26	24	50	100.0

Involvement with community organization also help resettled people to develop their social capital. In their present settlement, 84% of respondents are involved with the community-based organization and 76.2% of them are involved with CDC (community development committee). 21.4% are involved with other NGO based saving organization.

## Chapter 5: Conclusion and Recommendation

This chapter presents the concluding remarks of the study which reflects the literature review. It also presents the recommendation regarding spatial transformation of housing in a relation with livelihood outcome. In Mandartola resettlement housing, since 60% of the project is not



completed yet and as it was a pilot project of UPPR in Bangladesh, therefore it can be expected that findings will provide some directions about the nature of the resettlement for further development of similar kind of project in Bangladesh.

## **5.1 Conclusion**

The study was focused on the social and financial impact of displacement and resettlement of the resettler of Gopalganj, Bangladesh. The combination of qualitative and quantitative data by close-ended questionnaire survey and focus group discussions are used as a research data collection method. To understand the contribution of spatial transformation of housing in livelihood restoration, a comparative analysis is done between 'with housing transformation' and 'without housing transformation' groups.

### **5.1.1 Impact of displacement and resettlement**

From the literature, it is established that displacement triggered the impoverishment risk. People who displaced from their original settlement, their livelihood become more worsen due to limited attention in livelihood restoration both in policy and practice level. In the case of Mandartola Resettlement, due to eviction and displacement, people become more impoverished in terms of economic and social impact.

#### **5.1.1.1 Economic impact**

In the study area, around 56% of respondents became jobless and lost their income source due to displacement and resettlement. Among them, around 40% were men and 60% were women. After four years of resettlement, people who lost their job, about 54% of them are able to find another job and 46% are still jobless. In present situation people who are still now jobless, majority (77%) of them are women. So it is clear that, in the study area, displacement and resettlement negatively affected women than men, women are more victimised in terms of financial loss. However, respondents who got the new job after the resettlement around 74 % of them changed their occupation. Before the resettlement, in many families, both husband and wife worked and contributed in household monthly income. But due to loss of job, their household monthly income was decreased. Even who did not lose their job, monthly income of many of them were decreased because of the remote location and increasing distance. Many women worked for two or three families as house servant but now they can serve only one. As a result, households monthly income of 62% of respondents were decreased as compared to their previous income. In addition to this, displacement and resettlement increased their daily commuting cost by increasing the distance of social amenities like Bazar, hospital, school. As compared to their previous settlement about 70 % of respondents did not expend any money for their daily commuting in previous settlement whereas, after resettlement, about 60 % of respondents have to expend 36-50 BDT (€ 0.35-€ 0.50 ) for daily commuting. The additional financial burden like housing cost in the period of eviction and project implementation, children schooling cost are also added in their daily expenditure. As a result, households have been fallen into further impoverishment.

#### **5.1.1.2 Social impact**

The social impact of displacement and resettlement in Mandartola resettlement housing are less as compared to their economic impact. It is because, as many of them (62 %) were resettled together as a group, their social bonding and relationship with the neighbour are less affected. But for some resettler who did not resettle together with their neighbour, as the project is half completed, their social ties with their previous neighbour are still remaining fragmented. The social network of resettled people is destroyed by the displacement and resettlement because of the far and isolated location at the periphery of the city. In their previous settlement, most of the people have relatives and friends nearby their settlement from whom they can get help.

Due to the isolated location at the periphery of the city, 56% of respondents said that there is no relatives and friends nearby the resettlement site. Moreover, People become more marginalized in terms of lower socio-economic status in the new location due to joblessness and income loss. Women lost their job opportunities and income sources than men which weakening their socio-economic status and power. Though from the literature, displacement and resettlement destroyed social organization but in Mandartola resettlement case, involvement in community organization like CDC is increased. It is because, after the eviction, UPPR worked for them to reform their CDC and help them to resettle this site. But involvement in saving group is decreased due to income loss, only 54% households are involved with the saving groups whereas, in their previous settlement about 78% were involved with the saving organization.

### **5.1.2 Factors that influence spatial transformation of housing**

The overall scenario of housing transformation of Mandartola resettlement seems like people return back their informality in new resettlement housing, but actually, those transformations are their need. Housing transformation is a coping strategy that helps resettlers to achieve livelihood outcome and livelihood outcome contributes in restoring their livelihood. Their transformation both in household level and settlement level contribute to overcome from their social and economic impact of displacement and resettlement.

Housing that provided by the government, residents are usually not involved in the planning and designing process of those houses. As a result, there is a major imbalance in terms of form, space, structure and uses of spaces as well as economic aspiration and demographic characteristics of the residents (Aduwo et al., 2013). In the case of Mandartola resettlement housing, it was a good initiative to involve the community with the planning process in terms of selection of land and physical layout of the housing. But in reality, it was hardly possible to ensure full participation of all the evicted people, therefore project selected some representative from the community. Household needs vary from household to household, therefore the final output of the project is not reflectes the actual need of the household. Furthermore, the land was selected at the periphery of the city where the land is available. And the layout which was done by the community participation was not implemented due to the limitation of enough land and budget restriction (Mostafa, 2015). In Mandartola resettlement, people transformed their housing due to social and economic need. Level of transformation is ranging from internal transformation at the dwelling unit level to external transformation at settlement level.

#### **5.1.2.1 Spatial transformation of housing to meet economic need**

Economic need influences resettlers of Mandartola to transform their housing spaces both at dwelling unit level and settlement level. As after the resettlement, income was decreased, therefore resettler took some strategies to minimize their income loss. Additional income from home-based economic activities and expenditure reduction activities are such kind of strategies and spatial transformation of housing help them to make those strategies. Resettlers who did housing transformation are more involved with additional home-based economic activities and expenditure reduction activities. It is not necessarily that less household income influence people to involve with housing transformation, rather due to income loss people who are not able to meet their financial expenditure by monthly income are more involved with the economic purpose transformation of housing. Transformation at dwelling unit level like veranda into income generating space contribute in their monthly income. In Mandartola resettlement, 36% resettlers converted their veranda into income generating space such as retail shop, working area for paper packet making. On the other hand, to minimize income loss, some transformations took place in settlement level like cattle shed, vegetation, outdoor kitchen. Those transformations help them to reduce their expenditure so that they can meet their monthly expenditure by their income. About 66% of households are involved with such kind

of activities that reduce their monthly expenditure. Women of Mandertola resettlement housing are the actors of these home-based economic activities. As women were more victimised in terms of income loss, these activities help them to partially restore their livelihood. They make paper packet, operate retail shop, cultivate vegetables, collect wood and do small scale animal husbandry to complement in their household income.

### **5.1.2.2 Spatial transformation of housing to meet social need**

Like economic need, social need also influence resettlers to transform their housing spaces both at dwelling unit level and settlement level. Social need like the need for the extra and separated bedroom for growing children, higher occupancy ratio influenced resettler to make addition or alteration with their housing units. In Mandertola, where the occupancy ratio is higher, the need for extra room is also higher. This need for extra room leads to make addition or alteration to the housing unit. 44% resettler made additional room with their housing units. About 60% of respondents functionally changed their housing units. Functional changes ranging from living into the bedroom, kitchen into the bedroom, veranda into the bedroom.

Along with this, social need also influence people to make transformation at settlement level. Their collective initiatives are the output of some social institutions like mosque temple, school and tube-well. Culture and lifestyle have also an influence to change the atmosphere of their spaces in settlement level. Literature suggests that poor and low-income people use diverse productive resources to make their livelihood. Open spaces within the settlement are such kind of resource which contributes to make social capital. Diverse and multiple uses of a single space contributes to cope up with the new settlement. Resettlers used their outdoor space for household domestic work, idea sharing, children play area and for the arrangement of events.

However, in the study area, the housing unit that provided by the project was not addressed actual people's need, their culture and lifestyles. As household need vary from household to household, therefore, there must have some options in provided housing units so that resettled people can meet their housing need by spatial transformation of housing.

### **5.1.3 Livelihood outcome derived from housing transformation**

The majority of the respondents (92%) who belong to 'with housing transformation group' are more engaged in home-based economic activities to compliment in their monthly income and also as a survival strategy. The minimum monthly income generated from home-based economic activities is less than 1000 BDT (€ 100) and maximum additional home-based monthly income is 2001-2500 BDT (€ 200-€ 150). Only 11.1 % of resettlers are able to earn this maximum amount whereas, 44.4 % can able to earn less than 1000 BDT (€ 100). Though the average monthly income from home-based economic activities is very low in the study area, but it contributes to minimize their income loss of displacement and resettlement.

Spatial transformation of housing also contributes in social capital. The social outcome includes the presence of the saving organisation, the presence of social gathering space, sharing of common utilities. In the study area, 54% of respondents are involved with saving groups. As there is no designed space for social gathering, people use their open spaces for social gathering. Transformation at settlement level is the result of some visible output of social capital such as tube-well area for drinking water, the school for children, the mosque and the temple for the religious purpose. These spatial transformations of housing contribute to restore their social capital.

In the study area, Spatial transformation of housing is generally influenced by the household economic and social need. Household economic and social need like additional home-based income, reduction of expenditure, the need for extra family space for growing teens, relation and social interaction with the neighbour are the very strong motivation for housing

transformation. Livelihood outcomes are mostly achieved through construction activities, home-based economic activities, multiple uses of single space and functional changes of spaces.

## **5.2 Recommendation**

### **5.2.1 Recommendation for resettlement planning in Gopalganj**

To minimize the impact of displacement and resettlement, the project should pay attention to livelihood restoration. In Mandartola resettlement housing, the arrangement and size of internal spaces of the housing unit do not reflect the actual need for the dwellers, which is against of the last principle ‘acceptability’ of adequate housing. If the planning and design solutions are not addressed people need, culture and lifestyle, it will not be acceptable. The findings of this study suggest that there must be some options in housing design so that user can accommodate their need. Following specific recommendation for Mandertola resettlement housing are drawn from the findings-

- Provision of incremental development should be ensured. Gopalganj Resettlement should ensure the provision of vertical extensions so that horizontal extensions in public open spaces can be minimized. Housing units in Mandertola should have the flat roof to enable vertical extensions.
- The foundation of housing unit should be suitable for the construction of extra floors. Foundation should also be durable to carry the extra load of vertical extension.
- Gopalganj resettlement housing should provide additional home-based income generating spaces. Space for vegetation and cattle shed should be provided in the resettlement site in Gopalganj.
- Social institutions like the mosque, the temple, the school should be provided in the resettlement site of Gopalganj.
- Open spaces of Gopalganj resettlement should be designed in such a way that it can be used for different purpose.
- The overall layout of housing units should be flexible so that resettler can arrange their needs.
- For further resettlement in Gopalganj, resettlement site should be selected very near to the social amenities like bazar, school, hospital, bus-stops so that daily commuting cost can be reduced.

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.

### **5.2.2 Potentials for the further study**

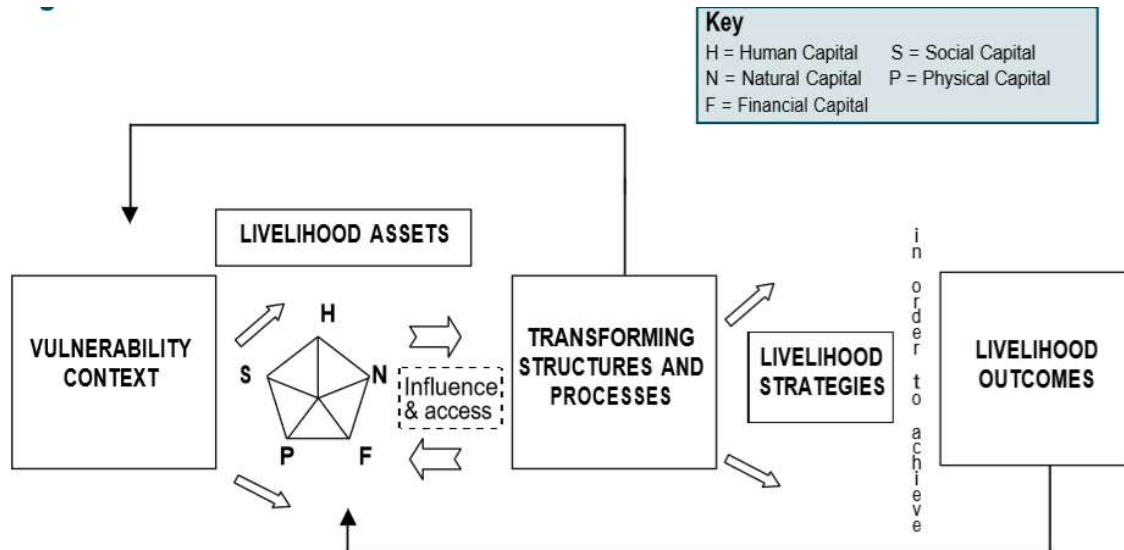
This study is very context specific and focused only one resettlement case of Bangladesh. Therefore, further research is needed for wider coverage with large samples of different resettlement cases of Bangladesh. The findings of this study are presented based on resettlers perspectives. Other stakeholders like the provider of housing, local government institution and their perspectives are not incorporated in this research. To introduce livelihood restoration in resettlement policy, it is essential to do a research on existing resettlement process in a relation with building rules and regulation, stakeholder collaboration and spatial transformation of housing.

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## Annex 1: Sustainable livelihoods framework



## Annex 2: Questionnaire

Institute for Housing and Urban Development Studies (IHS) Erasmus University, Rotterdam, Netherlands

This questionnaire is part of an academic. The information you provide will used solely for academic purposes. Thank you in advance for your cooperation.

### Household type:

With housing transformation  Without housing transformation

\*Please tick by your (the surveyor) initial observation

### General information:

Name of the respondent:

Age:

Gender:

Religion:

Number of family member:

tenure status:

Head of the house:

### Impact of displacement (social and economic)

1. Did you lost your job after resettlement?

Yes                       No

2. If yes, did you get new job after resettlement?

Yes                       No

3. If yes, did you change your occupation after resettlement?

Yes                       No

4. Is there any relatives living in or nearby the resettlement site?

Yes                       No

5. Did you resettled together with your neighbour?

Yes                       No

6. Did you involved with any community organization before resettlement?

Yes                       No

If yes, what kind of organization it was ?

CDC

Saving group

Women group

Community club

Others (specify)

7. Does resettlement interrupt your children schooling ?

Yes                       No

8. Distance has increased for the new settlement to-

a) Hospital

Strongly agree       Agree                       Disagree                       Strongly disagree

b) Market/ bazar



Strongly agree     Agree                       Disagree                       Strongly disagree

c) Job place

Strongly agree     Agree                       Disagree                       Strongly disagree

d) school

Strongly agree     Agree                       Disagree                       Strongly disagree

f) Bus stops/ transportation hub

Strongly agree     Agree                       Disagree                       Strongly disagree

9. Do you commute (if yes continue with question 10 and 11, if no go to question 12)

Yes                       No

10. How much money did you spend for daily commuting before resettlement?

No cost (walking)

5- 20/=

20-35/=

35-50/=

Mor than 50

11. How much money do you spend for daily commuting now?

No cost (walking)

5- 20/=

20-35/=

35-50/=

Mor than 50

12. How do you feel about the price of new house your resettlement site?

Quite cheap

affordable

a little bit high

not affordable

13. a) How many children you have? I have .....children

b) Do they already go to school

Yes

No

c) Do they go to school outside the site (if b and c are no, go to question 14)

Yes

No

d) what are the main transportation system for your children to go to school.

Walking

bicycle

Rikshaw/ Vaan

public transport

14. Did you receive any skill training by the resettlement project?

Yes

No

If yes, what type of training do you get?.....

15. As compared to previous settlement is it easier to reach work place?

Strongly agree

Agree

Disagree

Strongly disagree

16. After resettlement, what do you miss in your current life ?

Living Condition

Relationship with Neighbour

Connectivity

Infrastructure And Services

Friends and relatives

**Social and Financial capital:**

17. a) Do you seek help from relatives, friends or neighbours?

- Yes                       No

If yes, what kind of help?

- Financial  
 Building house extension  
 Childcare  
 Getting job  
 Others (specify)

17. b) How often do you seek such kind of help?

- Frequently  
 Once a week  
 Once a month  
 Once a year  
 Others (specify)

18. Are you a member of any community based organization (CBO) now?

- Yes                       No

If yes, what kind of organization it is ?

- CDC  
 Saving group  
 Women group  
 Community club  
 Others (specify)

19. How do you rate the safeness of your neighbourhood now days?

- Very safe

- Safe
- Not so safe
- Very unsafe

20. Do you have any relatives in neighbour?

- Yes
- No

21. How do you rate your relation with the neighbour?

- Very good
- Good
- Bad
- Very bad

22. If you have a good or very good relation then, where you pass your leisure time with the neighbour ?

- In front of house
- In street
- In shared kitchen
- In veranda
- Others (specify)

**Financial capital:**

23 a. what is your household average monthly income?

- Less than 10,000/=
- 10,000-15000/=
- 16,000-20000/=
- 21,000-25,000/=
- more than 25000/=

23 b. What was your household average monthly income before resettlement?

- Less than 10,000/=
- 10,000-15000/=

- 16,000-20000/=
- 21,000-25,000/=
- more than 25000/=

23 c. What was your household average monthly during the period right after resettlement?

- Less than 10,000/=
- 10,000-15000/=
- 16,000-20000/=
- 21,000-25,000/=
- more than 25000/=

24. What do you do for earning?

- Day labour
- Rikshaw/ Vaan puller
- Hawker
- Business
- Domestic servant
- House wife
- Formal job
- Carpenter
- Others (specify)

25. How long have been doing that job?

- Less than 5 years
- 5-10 years
- 11-15 years
- 16-20 years
- More than 20 years

26. How many household members are earning?

01

02

03

04

27. Do you involve any saving group?

Yes

No

If yes, how much money you able to save per month?

Less than 100

100-500

500-1000/=

1000-1500/=

More than 1500/=

28. It is very easy to get loan from bank?

Strongly agree

Agree

Neutral

Disagree

Strongly disagree

29. Did you ever sold or mortgaged your jewellery or other products for getting money in crisis moment?

Yes

No

If Yeas, When .....and why.....?

30. Have you any domestic animals?

Yes

No

If yes, do you sell your domestic animals for additional income?

Yes

No

Do you make any structure for your domestic animals?

Yes

No

How much household expenditure do you able to reduce monthly from your domestic animals?

- 500- 1000/=
- 1001-1500/=
- 1501-2000/=
- 2001-2500/=
- More than 2500/=

31. Do you cultivate any kind of vegetable in your homesteaded?

- Yes
- No

If yes, how much household expenditure do you able to reduce monthly from your vegetation?

- 500- 1000/=
- 1001-1500/=
- 1501-2000/=
- 2001-2500/=
- More than 2500/=

32. Do you collect wood/ leaf for cooking?

- Yes
- No

If yes, how much household expenditure do you able to reduce monthly from your wood and leaf collection?

- 100- 200/=
- 201-300/=
- 301-400/=
- 401-500/=
- More than 500/=

**Households need (social and economic)**

Social need

33. How many person live in a single room?

1                       2                       3                       4

34. How many separate bed room do you actually need ?

1                       2                       3                       4

35. Do you made any additional structure with your house for privacy, religious or cultural purpose?

Yes                       No

If yes, what are those?

Additional room

Bathroom

Prayer space

Outdoor kitchen

Other (specefy)

36. please rate below facilities from 1 to 5 that you think most important for your community.

Clinic

Bazar/shops

Mosque/ temple

School

Pharmacy

Restaurant

Other (specify)

37. Is there any common property owned or used by all residents of the community?

Yes                       No

If yes, what are those?

Pond

Forest

Lake



River

Other (specify)

**Economic need**

38. Does your family have any additional income?

Yes

No

If yes, what do you do for additional income?

Vegetation

Operating shops in house

Paper packet making

Domestic animals

Collecting wood

Fishing

Collecting re-cycling material

Sewing

Other (specific)

39. How much money do you earn monthly as additional income from home-based economic activities?

Less than 1000/=

1000-1500/=

1600-2000/=

2100-2500/=

More than 2500/=

40. Is there any designed space in your resettlement housing that support your additional income activities?

Yes

No

If no, how do you manage space for additional income?

Use space of my house

- Use space surrounding my house
- Use common space
- Changing arrangement of my house
- Use public space

**Spatial transformation of housing:**

41. How many bed rooms you have in your house now?

- 1                       2                       3                       4

42. Do you make any addition with your resettlement house?

- Yes                       No

If yes, what are those?

- Extra room/rooms
- Additional kitchen
- Additional veranda
- Vertical/ horizontal addition
- Additional toilet

43. Do you make any functional change with your given house?

- Yes                       No

If yes, what are those?

- Kitchen to bedroom
- Living to bedroom
- Veranda to bed room/ store
- Veranda to income generating space (shop, working area)
- Other (specify)

44. How do you use your open space?

- For social interaction

- Children play area
- For cooking or household work
- For vegetation
- For arranging events
- Other (specify)

45. (a) Do you made any structure within in your community?

- Yes                       No

If yes, (b) what are those?

- Mosque
- Temple
- Community club
- Space for bath
- Other (specify)

(c) Was this a community initiative or an individual initiative?

- community initiatives               individual initiatives

(d). How was this financed?

- By collecting money from every households
- Local government
- NGO
- Political leader
- Other (specify)

46. What are the building material do you use for the additional structure and transformation.

- Permanent material               Temporary material

47. list of material-used for transformation

### **Annex 3: Guideline of focus group discussion**

To find out the impact of resettlement on social capital following question will be asked to get in depth information from the respondents.

Question for semi-structured interview:

1. What was your first experience when you met you host population?
  
2. What is your feeling about your previous settlement?
  
3. Do you think you lead a better life in your previous settlement? Why?
  
4. As compared with your new settlement, do you think your family was economically stable than now? Why?
  
5. How did you get assistance from your previous settlement's community organization?
  
6. Do you have any connection with your previous neighbour who are not resettled yet?  
If yes how do you maintain the relation?
  
7. How did you get help from your neighbour in previous settlement?

## Annex 4: Eight stages process of Mandertola resettlement, Gopalganj

