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Community integration and participation to improve the built environment of the Post-Disaster Involuntary Relocations

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Abstract: Disasters sometimes alter the topography of the land and make them unsuitable for human habitation. Consequently, the communities who live in those lands need to be relocated in favour of or against their will by the government or relevant authorities in order to safeguard them against future risks. Generally, involuntary relocations aim at improving the lives of the people. However, it may affect people in a negative way, even though their physical assets have been totally recompensed.

Consequences of involuntary relocations have an effect on both displaced community and host community. These consequences can be approached through different standpoints, such as economic, social, cultural, and psychological consequences. This paper aims at addressing this issue in the perspective of built environment and identifying different boundary objects that could communicate among different parties to improve community participation and collaboration. This study was conducted through a comprehensive literature review to investigate the built environment related challenges and obstacles faced by the communities during involuntary relocations.

Number of studies provide evidence to the effect that the incompatible integration of communities that have been built upon different social settings and physical aspects could act as stressors in the recovery process. For example, physical infrastructure will be shared by the new community with the host community which was not actually planned to serve two communities. In addition to this, quality of housing, availability of communal space, location, and resources related issues also could slow the process of recovery. Therefore, these aspects need to be drawn upon in planning and implementation of involuntary relocation projects.

Keywords: Built environment, displaced community, Host community, involuntary relocations, Recovery

1. Introduction

Disasters destroy people's lives in different ways. In addition to the loss of loved ones and properties, affected population mainly goes through the loss of houses [1]. Therefore, housing reconstruction is one of the key stages of the post disaster recovery, particularly, in developing countries [2]. However, occasionally, some lands become unsuitable for human habitation because of disasters, and restrict reconstruction. In this case, government or relevant authorities need to provide assistance for the people, those who are in a position to relocate. There are different housing reconstruction approaches a government could provide, including providing financial assistance for reconstruction, purchasing suitable land and allow the owners to build the houses, providing technical assistance to build the houses, and building new houses to the affected population [1].

Sri Lanka is a country that has experienced both natural and manmade disasters, and consequent internal displacements [3]. Resettlement housing programmes, where households are relocated in new locations, are rather common in Sri Lanka. Government executes involuntary relocations often after a careful analysis of all the possible alternatives. However, involuntary relocation projects rarely succeed in Sri Lanka, because issues such as limited time, labour, and financial resources do not allow the government for a fully planned execution [4]. Also, it is hard to satisfy the affected population as it has been relocated involuntarily, even though, all their physical assets have been recompensed [5].

The results of internal displacement not only affect the people who are displaced. It also has an impact on the government, local authorities, and the host community in whose neighbourhood the displaced people are

relocated [6, 7]. This raises the interest in how people would adjust to an entirely new environment and what are the obstacles and challenges faced by the host and displaced communities during and after involuntary relocation. This issue can be looked in different perspectives. However, this paper aims at looking this issue in the perspective of built environment.

2. Research Method

This paper is written based on a comprehensive literature review. The literature search has been conducted across various different sources such as; peer reviewed journals, conference proceedings, books, official reports and official websites. Among these 38 articles are selected to identify the obstacles and challenges faced by the communities. Table 1 shows the journal types from which the articles are selected. Collected information were organised and synthesised to draw conclusions.

Table 1: Journals publishing selected articles

Journals	No
International journal of disaster resilience in the built environment	3
Journal of housing and built environment	1
Disasters	1
Social science and medicine	1
Journal of refugee studies	2
Habitat international	1
Global environmental change	1
Sri Lanka journal of social sciences	1
American journal of preventive medicine	1
Asian journal of environment and disaster management	1
International journal of project management	1
Society and natural resources	1
International journal of water resources management	2
International journal of disaster risk reduction	1
Sri Lankan journal of real estate	1
Journal of development studies	1
Journal of economic studies	1

3. Relocation and the new built environment

Community is a system which has been built upon several subsystems [8]. Built environment of the community, in which it has inhabited, is one of those subsystems. Relocation redraws this and changes the structure of a community. It not only affects the displaced community; it also redraws the host community's (in whose neighbourhood the new community is relocated) structure as well. Consequently, these two communities go through several challenges and obstacles to adopt to the new built environment, which also act as a barrier for recovery.

Built environment can be defined as a manmade surrounding that encompasses patterns of human activities and comprises land use, urban design and transportation systems [9]. In another view, built environment can be looked as a physical result of environment, economic, and social aspects of a system [10]. Hence, it is a multidimensional concept which has a complex relationship with all the other social elements. Figure 1 illustrate the complex relationships of the built environment.

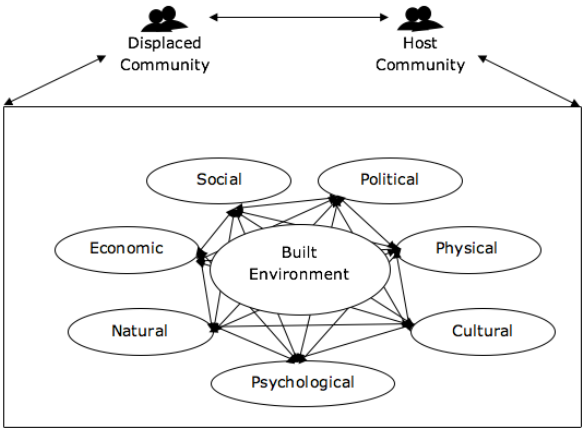


Figure 1: Built environment and its interlinks

As the built environment is connected to many different elements of a system, combining two different communities (in this case, host and the displaced communities) is quite complicated. Because of the sudden changes in the system these communities struggle to adopt the new environment. Different studies have been conducted by researchers to identify the barriers and obstacles faced by the communities in adopting to the new built environment. Table 1 shows a summary of those obstacles and challenges.

Table 2: Built environment related obstacles and challenges faced by the communities after relocation

Main Factors	Sub Factors	Authors
Housing	Local climate	[7]

	adoptability of the houses	
	Incompatible housing design (Functionality, socially and culturally inappropriate)	[1, 2, 7, 11-13]
	Inadequate quality of houses (Durability, space availability)	[2, 12, 13]
	Communal space availability	[1]
	Inability to maintain, expand, and upgrade the structure	[14]
Infrastructure	Inadequate sanitation	[6]
	Access to physical infrastructure (Drinking water, electricity, roads, common buildings, schools, etc.)	[1, 11, 15, 16]
	Reduction of community resources (Medical, educational, etc.)	[17-22]
	Lack of transportation network	[23, 24]
Location	Resettlement in unfamiliar and inhospitable locations	[1, 25]
	Vulnerability to environmental changes	[19]
	Changes in land use patterns	[26]
	Distance from the previous location/livelihood	[11, 21, 27, 28]
	Land ownership/ title issues	[7, 11, 14, 29, 30]

Incompatible houses are one of the key reasons for the refusal of relocation, particularly in developing countries. Ahmed [2] states that, the inappropriateness in terms of size, style, space around the house, and choice of materials, can be largely observed in housing reconstructions developing countries. A study conducted by Barenstein [7] in the post-earthquake Gujarat, India shows that, almost 90% of the people were dissatisfied with their new houses owing to cultural inappropriateness. Giving financial assistance to the affected people to build their own houses could be an easy way of eliminating these issues. However, international or local donor-driven housing reconstructions are crucial for the developing countries to make use of the scared resources as they are not economically stable [1].

Access to adequate physical resources is another problem as the relocated population loss access to their water bodies, forest lands, and grazing lands [18]. Therefore, the available resources in the host environment will be overwhelmed due to excessive use. Providing alternative resources, providing access to resources outside the area, and/or obtaining public/private partnerships to provide alternate resources are some of the ways to manage this problem [31].

Distance to the previous location also has an effect on the success of the relocation. A traditional migration theory compares the migration with Newton's gravity theory. Newton's law of universal gravitation states that 'any two bodies in the universe attract each other with a force that is directly proportional to the product of their masses and inversely proportional to the square of the distance between them'. Similarly, places attract migrants directly proportional to the population size and inversely proportional to the distance [32]. Which means, places that have large population with similar culture and economy of migrants, and places that are in shorter distance attract migrants. This statement is true if the livelihood of the affected population, climate of the new location, and/or pattern of the land use is different from those of host community [27]. For example, affected community may need to travel to their old places, if the livelihood of the affected community is different from the host community.

No. 9 of 1950 Land acquisition Act [33] and its amendments give the power to the resettlement authority to acquire, hold, lease, hire, mortgage, and sell any movable and immovable for the purpose of resettlement. Even though, the choice of the land is limited. Therefore, considering all these aspects is almost impossible.

Researches provide variety of reasons for the issues faced by the communities from the planners' side. It includes lack of community participation during relocation decision making, inadequate site selection, socio-culturally inappropriate settlement layouts, and corruptions [34, 35]. Even though, these issues are attributed as the planning mistakes, it is not always possible for the planners to consider all of these.

Government of Sri Lanka made several legislations and policies to execute the relocations legally and effectively. Some of the Sri Lankan laws and policies that govern involuntary relocations are as follows;

i. No. 09 of 2007, Resettlement Authority Act
ii. No. 29 of 1987, Rehabilitation of Persons, Properties and Industries Authority Act
iii. No. 13 of 2005, The Sri Lankan Disaster Management Act
iv. No. 16 of 2005, The Tsunami Act (Special)
v. No. 24 of 2002, Welfare Benefits Act
vi. No. 09 of 1950, Land Acquisition Act and its amendments
vii. No. 56 of 1988, National Environment Act
viii. National Involuntary Resettlement Policy (NIRP)

These legislations and policies include provisions for better implementation such as community participatory approaches that could be included during the planning and implementation phases of relocation. For example, No. 09 of 2007, Resettlement Authority Act [36], Section 14(a) emphasises that, forging a better understanding between the internal displaced persons and host communities, as one of the functions of the authority. Also, Section 14(k) states that, the authority may receive representations of the displaced on their needs to find solutions. Similarly, National Involuntary Resettlement Policy (NIRP) of Sri Lanka includes the following principles; 'Participatory measures should be designed and implemented to assists affected persons to economically and socially integrate with host communities' [29]. Even though, the importance of community consultation is recommended by the acts and policies, it is true that, the scale of implementation of these specifications is still in its surface level owing to the practical difficulties.

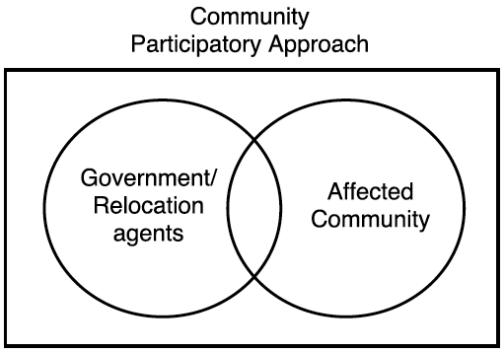
International Federation of Red Cross and Red Crescent Societies [31] specifies some constrains for the planners including; cost, time, material availability, capacity to implement, construction skills, and equity with host population. Therefore, a balance between community's expectation and government's capacity to implement need to be maintained, and a middle ground should be identified for a successful implementation.

4. Discussion

As defined in the previous section, built environment is the pattern of human interaction with the physically constructed surroundings. It is also true that, the built environments need to constantly evolve to accommodate people's changing needs [7]. However, sudden changes in this pattern would initially create an imbalance in the society. Disaster-induced relocation is one of the reasons that changes this pattern. Generally, affected community is relocated in existing facilities, or in new developments among the host community. Consequently, existing built environment and its components will become overwhelmed unless it is not adequately supported.

Based on the literature, different issues have been identified within three categories, namely, housing, infrastructure, and location. In order to keep these issues at a minimum level, a balanced approach needed to be followed. As discussed above a complete community-participatory approach is often not practical owing to several constrains. Therefore, the common practice is, executing relocation plans after a centralised decision.

A mechanism that could act as a boundary object to communicate among different parties, who involved in the relocation process would reduce these issues and consequent refusal of new location. Figure 2 to 4 shows illustrations



different boundary objects that could be established.

Figure 2: Community participatory approach

This approach shows that, the government or the relocation agency involve the affected community in the relocation decision making process. This method has been widely discussed in several studies.

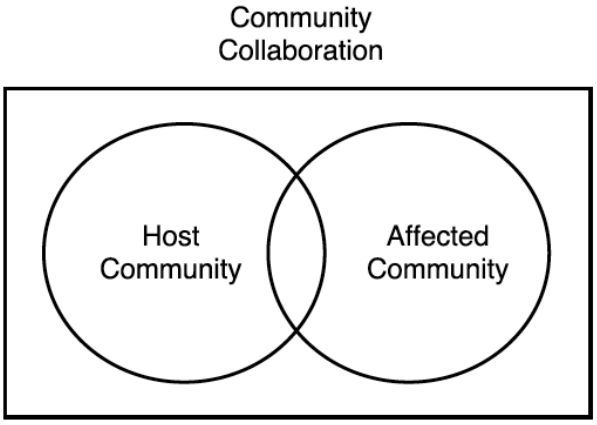


Figure 3: Community collaboration

This approach shows that, community collaboration mechanisms among host community and the affected community for effective relocation implementation.

However, available literatures are lacking on addressing the combination of these three parties as shown in Figure 4.

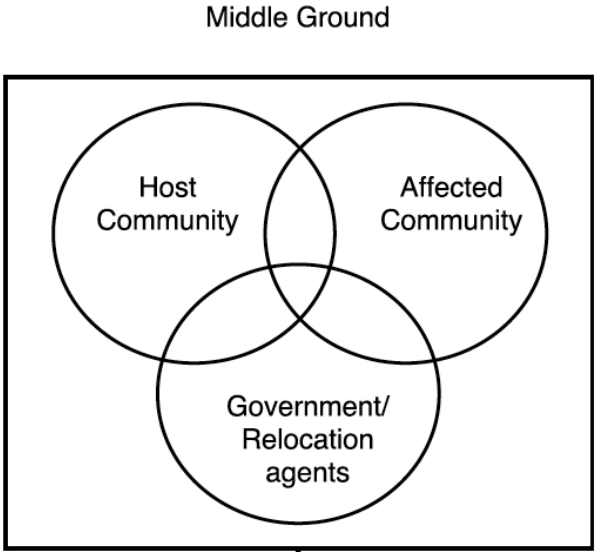


Figure 4: Middle ground

Above arguments show that, there is a need to establish a communication and collaboration mechanism among these three parties, in order to implement a successful relocation.

5. Conclusions

Disasters sometimes make lands unfit for human habitation and forces its residents to move away. It is often government's responsibility to relocate the trapped population to another safe environment. Disaster-induced involuntary relocations are rather common in Sri Lanka. However, they are rarely successful [3, 21, 37, 38]. Because, displaced and host communities face many problems related to the new built environment and its complex interlinks. Governments/relocation agencies adopt a top down approach by following certain procedures considering the laws, regulations, and expectations from the communities. Whereas, the ideal approach is the bottom up in which communities engaged in the decision-making. Following the ideal approach is often not practical as the government is given only limited time and resources. Therefore, finding a middle ground by connecting both the mechanisms is necessary to reduce relocation failures and to enhance quick recovery.

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