

## **Beneficiaries Perception on the Effectiveness of Reconstruction Strategies**

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### **Abstract**

There is an observable increase in the frequency of floods in recent times and the appalling nature of destruction emanating from floods on housing has become a global concern and is putting stakeholders on the quest to develop a strategy that will enhance the efficiency and effectiveness of post-disaster undertakings. Housing reconstruction, which is supposed to give succour to the disaster-affected people often fail due to some issues. This paper, which is a part of an ongoing study considered the major issues that are peculiar to the post-disaster housing reconstruction settings in the study area since each setting is confronted with different impediments. This was done through a self-administration of structured questionnaires to 257 flood victims directly or indirectly involved in the reconstruction projects. Findings indicated massive corruption, unethical conducts of professionals, and non-engagement of beneficiaries during reconstruction. Therefore, offering beneficiaries the opportunity to meaningfully contribute to reconstruction affairs that are to shape their lives in terms of housing and livelihoods, will in no small level minimise problems experienced in PDHR projects. This is expected to deliver a more sustainable and resilient PDHR development where satisfaction and acceptability of the project will be evident, and the donor will have value for his money.

**Keywords:** Floods impact, PDHR projects, Beneficiaries, Sustainable strategy

## Introduction

Developing countries tend to endure the pain of the impact of disasters, with the poor in these countries often being the most severely affected (Schilderman, 2004). Developing countries also experienced the highest figures of deaths and people affected by the flooding disasters (Ahmed, 2011). Predominantly in developing countries, the effect of disasters on the built environment is much greater compared to developed countries, estimated at more than 20 times in magnitude (Barakat, 2003; Goswami et al., 2018). Housing is usually viewed to be the most valuable asset for people in developing countries. In any flooding, houses are principally the component that is most extensively damaged, and repeatedly represent the greatest portion of the loss in the overall impact of a disaster on the national economy (Lyons, 2009). For example, Roosli et al. (2015) reported that during 2014, flooding in Malaysia, housing was the sector that experienced extreme damage. In an attempt to describe the precise scenario of the 2014 floods in Malaysia, Mohamed et al. (2017) expressed that it is not out of place for one to say that the speed of the flood water in the affected regions flowed so fast with vitality equivalent to that of Tsunami, displacing anything that obstructs its channel of flow including buildings (residential and non-residential houses) and other infrastructures.

Similarly, Richard et al. (2017) and Jinadu (2015) reported that Nigeria is not excluded from the flood devastation on housing. In October 2012, a flood devastated some States in Nigeria that included Kogi. The flood of 2012 is considered as the worst since Nigeria became independent in 1960. The discoveries of the Post-Disaster Needs Assessment (PDNA) conducted immediately after the floods showed that 11 States were ravaged by the floods (see **Table 1**). The experience of the 2012 floods cannot be forgotten in a hurry since the effects are overwhelming and always fresh in the minds of the victims as well as the Federal government of Nigeria. In Kogi State alone, more than 500 thousand people were displaced; nine out of the 21 local government areas were affected by the flood, including Lokoja the State headquarters.

**Table 1.** *Number of Totally and Partially Destroyed Houses by 2012 Floods in the Most Affected*

States	Traditional buildings			Modern/Sandcrete buildings			Total number affected
	Number totally destroyed	Number partially damaged	Total number affected	Number totally destroyed	Number partially damaged	Total number affected	
Adamawa	117,829	36,134	153,963	-	23,401	23,401	177,364
Anambra	16,186	6,719	22,905	-	95,394	95,394	118,299
Bayelsa	79,730	26,577	106,307	-	26,577	26,577	132,884
Delta	79,834	4,465	89,299	-	-	-	89,299
Edo	13,153	14,249	27,402	-	-	-	27,402
Jigawa	11,623	5,230	16,853	-	282	282	17,135
Kebbi	103,048	52,555	155,603	-	-	-	155,603
<b>Kogi</b>	<b>124,085</b>	<b>3,102</b>	<b>127,187</b>	<b>-</b>	<b>16,259</b>	<b>16,259</b>	<b>143,446</b>
Nasarawa	16,326	136,049	152,375	-	5,759	5,759	158,134
Rivers	36,999	4,111	41,110	10,121	192,290	202,411	243,521
Taraba	81,688	32,675	114,363	-	-	-	114,363
<b>Total</b>	<b>685,501</b>	<b>321,866</b>	<b>1,007,367</b>	<b>10,121</b>	<b>359,962</b>	<b>370,083</b>	<b>1,377,450</b>

States in Nigeria (NEMA, 2013)

**Table 1** above, indicates that Nigeria, in general, and Kogi State, in particular, may be on the watch list of natural disaster-prone settlements. It further reveals the vulnerability of Kogi State poorer residents to disasters as a result of the lesser capacity and fewer resources to prepare and recover. The life-threatening physical and socio-economic shocks of 2012 floods became a crucial matter of interest among stakeholders in disaster management where safe actions on victims' rehabilitation, recovery and risk vulnerability reduction were swiftly taken to mitigate flooding impacts in the future. However, the implementation of some of the resolutions was incompetently done due to corruption manifesting through the diversion of resources for personal interests (Jinadu, 2015). The consequences of poor implementation are leaving the affected population vulnerable to the menace of flooding now and in the future. This record among others supports the justification for conducting this research with the year 2012 flood as a central focus to bring long term respite to the residents by developing strategies that will offer a disaster resilience community in the study area and other similar communities. Housing reconstruction is a crucial element of post-disaster recovery initiatives in developing countries, and thus, the need arises to recognise what approach makes it effective or achievable in the aftermath of disasters.

Post-disaster housing reconstruction (PDHR) are obviously multifaceted, undefined, multi-stage and affect multiple actors and agencies (Darabi, Zafari and Milani Nia, 2013). The process is multifaceted because it requires different talents, qualities and stages. It involves several separate stages which require different strategies for successful achievement. The facets in PDHR like the cost of reconstructions, psychological problems and need for social and economic recovery are important. To this end, this paper reported PDHR in Lokoja from the

perspective of the flood victims in those areas because Sadiqi, Coffey and Trigunarsyah (2012) established that most of the time, emergency relief efforts are usually seen as being successful, but the same cannot be said of PDHR projects because they often fail to meet the set objectives. Hence answer was sought to the following research question: What are the major issues experienced in PDHR in the study area?

To successfully solve these problems, community participation is progressively being sought. The contribution of disaster-affected communities in housing reconstruction is serious to the accomplishment of the proposal or programme (Lawther, 2009) and cannot be overemphasised. Ophiyandri et al. (2013) stressed that it is the community who understands what they need and at the same time, tell what is best for the community. Hence, the contribution of the community in post-disaster housing projects must be guaranteed (Hayles, 2010). It is in this light that the current study is making the proposition of community involvement in practicality to accomplish post-disaster housing reconstruction goals as well as safeguard its sustainability.

## **Literature Review**

The global occurrences of natural disasters are greater than before causing damage, loss and disturbance to lives, built and social assets, and economy. Disasters usually destroy houses and claim many human lives; the lucky survivors in a disaster-affected location often opt not to leave their residences or home region (Baldry & Thurairajah, 2010). Hence, the requisite for reconstruction arises and may possibly provide the opportunity to build back better (Labadie, 2008; Mannakkara & Wilkinson, 2013). Because of the peculiarities attached to PDHR as being more complex, dynamic and unpredictable, there is a need for stakeholders to focus more interest on development. Davis (2014) indicated that the 21st Century is emerging to be more

stakeholder focussed. Quite several research work have recognised the importance of effective stakeholder engagement in reconstruction project (Yang et al., 2009; Shafique & Warren, 2015).

One of the most intricate responsibilities being faced by recovery managers in the aftermath of disaster regardless of the form is to decide on and execute the correct approaches to housing reconstruction. Jha et al. (2010) opined different methods through which PDHR can be achieved in terms of a household's degree of control over the reconstruction procedures. The selection of an appropriate reconstruction delivery approach depends on several influences including resource availability, speed, efficiency, capacities and experience, technological and socioeconomic views (Barenstein, 2006; Davidson et al., 2007; Hayles, 2010; Chang et al., 2011). International Recovery Platform (2007) and Jha et al. (2010) advised that the choice of reconstruction approaches to be engaged should be based on context. It should also give attention to many fundamental factors such as; broader political environment and operational criteria, cultural background, cost of reconstruction, improvement in housing and community safety, reinstatement of livelihoods, hopes and priorities of the most affected individuals.

Experience shows that planners and developers of PDHR projects tend to reposition and resettle disaster-affected communities (Sadiqi et al., 2017). Housing reconstruction projects constructed by donors (international/ national NGOs or governments), predominantly those that demand relocating affected communities, are usually decided by an inflexible top-bottom approach, which is symbolized by complete absence of community consultation and community involvement in planning and the physical execution of reconstruction developments (Andrew et al., 2013). Besides the intrinsic contests such as rigid short time limit, organizing broadly dispersed affected communities, fiscal constrictions as well as validating housing quality (Roseberry, 2008; Olshansky, 2006), reconstruction projects are susceptible to swindle and corruption that can lead to massive losses of project funding (Lyons, 2009; Alexander, 2013).

In a post-disaster situation, Smirl (2008) notifies that donors (governments as well as NGO staffers) can potentially become prone to swindle and corruption specifically when rushed disbursement of bulky sums of recovery funding and dispersal of relief assistance was poorly coordinated and unsatisfactorily supervised. Furthermore, Tas, Tas & Cosgun, (2011) reported that quick disaster recovery led to hurried design where sensitive elements such as the local climate and environment, socio-cultural aspects and user's identity were being ignored alongside construction scheduling and output were also affected due to inappropriate selection of materials, ineffective engagement of labour, poor workmanship and administration. All of these factors compromised the quality of the reconstructed houses.

PDHR that is not appropriately planned and instigated has the potentials to create more exposures in the disaster-stricken community. In the aftermath of a large scale catastrophe, susceptibility of housing reconstruction projects to various resourcing restrictions embedded in post-disaster scenarios, such as price increase (Nazara & Resosudarmo, 2007), resource insufficiencies (Steinberg, 2007), and interference in the supply chain (Zuo et al., 2009), in no small measure obstruct the reconstruction procedure in communities affected by disaster.

According to Chang (2012), the resource mobilisation level and the potential for procuring crucial resources for reconstruction are determined by the transformed statuses in the aftermath of a disaster. The prospective factors that have the tendency to interrupt the mobilisation of resources in post-disaster reconstruction can be grouped in five classes namely:

factors linked to transportation, factors linked to the construction market, factors linked to project stakeholders, factors linked to the reconstruction project, and factors linked to the project operational surroundings.

The preceding review showed that issues inhibiting PDHR cut across four sensitive sections, namely; reconstruction approaches, stakeholders consultation, resilience strategies, and resource mobilisation strategy. These identified factors capable of affecting resource mobilisation in PDHR settings and other factors prevailing in the PDHR situation can affect the overall intentions and objectives of reconstruction and recovery efforts in the study area. However, housing reconstruction is not the same as traditional construction due to the plethora of issues that people will have to contend with at the same time (Davidson et al., 2007; Siriwardena, Haigh & Ingirige, 2009). This study will consider the major issues that are peculiar to the PDHR settings in the study area since each setting is confronted with different impediments and recommend the one factor that can influence the identified issues to enhance the satisfaction of beneficiaries and sustainability of the PDHR projects.

## Study Area

Lokoja is a historical city which serves as the administrative capital of Kogi State and also a local government area was chosen as an ideal study area because Lokoja was severely affected by the 2012 floods and has since benefited from latest housing reconstruction and community recovery projects. Lokoja has been the capital of Kogi State since 1991, the town and its suburbs constitute Kogi Local Government Area (LGA). Lokoja shares a land boundary with 3 LGAs (Ajaokuta, Adavi and Koton-Karfi) respectively. It lies on latitude 7<sup>0</sup>49' N and longitude 6<sup>0</sup>44' E at an altitude of 45-125m, on the western bank of the Niger River, close to its confluence with the Benue River. The annual rainfall is about 1150 mm, which usually begins in March and reaches its peak between June and September, while the dry season begins at about November (Richard et al., 2017). Being the State capital and LGA headquarter, the majority of residents are civil servants serving at various levels of government (Federal, State and Local).

## Methods

The paper adopted a quantitative approach. The survey tool used was a structured questionnaire that was designed drawing on the factors derived from the literature. The respondents of this study were the 2012 flood victims in Lokoja who the authors believed would have been involved in the reconstruction projects as well as possessed the required experience that will guarantee reliable information for the study. As such, this category constitutes the population of the study. A total of 400 questionnaires were self-administered to these flood victims on a 5-point Likert scale from 1 to 5, where 1 symbolises 'very Less' and 5 represents 'very high'. A total of 301 was returned and 257 used for the analyses as shown in **Table 2**. The reliability of the questionnaire scales for this study was tested using Cronbach's Alpha. A reliable Cronbach's alpha of more than .70 was achieved in the construct. Therefore, the questionnaire scale is proven to be highly reliable and could help measure what it is purposed for. The data obtained were analysed using mean scores and ranked, which formed the basis for the conclusion reached and the recommendations made.

## Results and Discussion

**Table 2** reveals the profiles of respondents with 257 numbers of cases presented after data screening. Gender distribution indicated that about 63% of the respondents were males, and 37%

were females. As the family heads were mostly males in the Nigerian context, the margin of difference between males and female is justifiable. The result also showed that more than 88% of the respondents were aged between 26 years to 65years hence, giving confidence to reliable information. In addition to this, more than 52% attended a higher education level with equivalent to the first degree and above, while about 48% have attended at least primary school. This is an indication that the majority of the respondents have requisite qualification and training for efficient delivery of responsibilities. Also, they are in a better position to offer helpful information with regards to the major issues experienced in the study area. Even though all the respondents were civil servants, about 24% reported to have spent less than 6 years in civil service, about 63% have spent between 6 years to 25 years in civil service, and about 14% indicated being in civil service for over 26 years. Data further showed that about 63% of the respondents are low-income earners (less than N40, 000), while about 37% are high-income earners (more than N40, 000). This is an attempt to know the capacity of the respondent with regards to finances, which supports the stand that the poorer in a developing nation suffer the impact of disaster the most.

**Table 2.** *Profile of Respondents*

	<b>Attributes</b>	<b>Frequency</b>	<b>Percentage (%)</b>
<b>QUESTIONNAIRE ADMINISTRATION</b>			
1	Questionnaires Administered	400	-
2	Questionnaires collected	301	75
3	Questionnaires screened	257	64
<b>GENDER</b>			
1	Male	162	63.0
2	Female	95	37.0
<b>AGE</b>			
1	Under 26	16	6.2
2	Between 26 to 35	62	24.1
3	Between 36 to 45	76	29.6
4	Between 46 to 55	64	24.9
5	Between 56 to 65	25	9.7
6	66 years and above	14	5.4
<b>EDUCATIONAL QUALIFICATION</b>			
1	Living certificate	33	12.8
2	Secondary certificate	28	10.9
3	ND/NCE	61	23.7
4	B.Sc./HND	105	40.9
5	Masters and above	30	11.7
<b>SERVICE PERIOD</b>			
1	under 6 years	61	23.7
2	Between 6 to 10 years	71	27.6
3	Between 11 and 15 years	35	13.6
4	Between 16 to 20 years	34	13.2
5	Between 21 to 25 years	21	8.2
6	26 years and above	35	13.6
<b>INCOME</b>			
1	Under N11,000	8	3.1
2	Between N11,000 to N20,000	61	23.7
3	Between N21,000 to N30,000	53	20.6
4	Between N31,000 to N40,000	38	14.8
5	Above N40,000	94	36.6

***The Major Issues Experienced with the Reconstruction Strategies Used.***

A mean ranking was conducted on the major issues experienced as observed from the PDHR by the respondents in the study area. The ranking order for the observed factors was done from top to bottom (highest to lowest) using the mean and standard deviation possessed by an individual factor, as shown in **Table 3**.

**Table 3.** *Major issues experienced*

SN	Variables	Mean	Std. Deviation	Rank
1	Problems with stockpiling of supplies	4.09	.928	1
2	Problems with the distribution of basic provisions such as water, food, clothing, shelter, medical care	3.94	1.075	2
3	Problems with evacuation techniques used	3.86	1.000	3
4	Problems with the rescue of survivors	3.79	.919	4
5	Problems with transportation networks	3.61	1.496	5
6	Problems with political pressure for quicker reconstruction	3.47	1.330	6
7	Problems with the restoration of urban infrastructures and services	3.42	1.236	7
8	Problems with compromises on essential elements of the reconstruction programme	3.39	1.141	8
9	Problems with unethical conducts of professionals during reconstruction	3.29	1.131	9
10	Problems with victims rebuilding on their own ways	3.25	1.343	10
11	Problems with insufficient workforce across local organisations	3.20	1.293	11
12	Problems with the removal of debris	3.19	1.243	12
13	Problems with speed of reconstruction	3.14	1.231	13
14	Problems with return of the evacuees	3.13	1.184	14
15	Problems with bureaucracy during reconstruction	2.97	1.256	15
16	Prevalent emotions such as abuses to reconstruction workers	2.82	1.250	16

PDHR is multifaceted with complex activities to be carried out by multiple like-minds in different disciplines who are expected to brainstorm on the achievability of the targeted goals. As revealed in **Table 3**, there is mean rank of “4” revealing the high capacity of stockpiling of supplies meant for reconstruction by the donor’s agencies, distribution of basic amenities like water, food, shelter, evacuation techniques, transportation networks and political pressure for quicker reconstruction were faulted. These problems can be classified under logistic and chain supply issues which have always been an attribute of humanitarian operations. Housing reconstruction programmes count on the ability to acquire, transport and receive supplies at the point of need and inadequate provision of resources for PDHR, significantly borders the prospects for successful implementation of the reconstruction works. This might be a contributing factor to the reasons why the intervention is yet completed as identified in the introduction section. This finding is in absolute reconciliation with earlier researches (Chang et al., 2010; Ahmed, 2011; Lyons, 2009; Malalgoda et al., 2011; Alexander, 2013). It is obvious that there was massive corruption as the top-ranked hindrance experienced during PDHR in the study area.

Furthermore, the reconstruction model adopted was inappropriate due to non-recognition and non- involvement of the affected community. Sadiqi et al. (2017) reported that

from the large proportion of PDHR interventions already implemented, unsuccessfulness can be traced to non-engagement of, or hitches with, community participation. This is affirmed in the findings on past PDHR projects that such projects are highly susceptible to failure without the active involvement of the affected community (Johnson et al., 2006; Lemanski, 2008; Galtung & Tisné, 2009; Hayles, 2010; Ophiyandri et al., 2010). Several authors have faulted ill-coordinated approach to reconstruction of post-disaster housing. According to Shaw & Ahmed (2010), reconstruction is habitually delivered in such a manner that essentially addresses the implementer's requirements rather than the affected population requirements and this makes these projects often insatiable because community desires are swallowed up by the constructors' bigger benefits such as speed and project costs (Lloyd-Jones, 2006; Brun & Lund, 2008; Alam, 2010).

PDHR projects that are void of community participation often result in ugly outcomes. As illustrated by Nadiruzzaman & Paul (2013), that negative impacts were prominent and obvious on the affected communities in Bangladesh over the reconstruction approach initiated by the government of Bangladesh because of non-recognition for community participation. Community active engagement has been accepted as imperative for reconstruction projects but does not make it a panacea for PDHR projects. As Mafukidze & Hoosen (2009) expressed that if the fundamental ethics of community participation are overlooked, it can create long term undesirable effects on community development. As such requires putting the right people in the right shape so that the intended objectives can be achieved.

The effectiveness of PDHR also depends on effective resource supplies hence the need for the engagement of procurement experts and local community members to assess and identify resource requirements, locally available resources and local markets and transportation alternatives. It was in the light of this kind of event that a clarion call was made in Aceh reconstruction programme to ensure adequate supplies of materials to site as at and when they are needed because material demand for housing reconstruction is unpredictable and a high level of logistic and supply cycle is imperative (Kovács & Spens, 2007; Ophiyandri et al., 2010). Despite the revealing truths, there are sections where unnoticeable issues were encountered in the direction of institutional arrangement and attitudinal behaviour between the displaced populace and the reconstruction employees. There is less issue connected to the speed of reconstruction and bureaucracy during reconstruction, as presented in **Table 3**. Perhaps, because the affected community were not or actively involved in the reconstruction activities.

## Conclusion

There is an observable increase in the frequency of natural disasters (floods) in recent times and the effect of these disasters on the built environment is much higher in developing countries compared to developed countries, with the poor and poorer residing in the developing countries being the worst affected by these unpleasant and unstoppable events named "disasters". The appalling nature of destruction emanating from natural disasters has become a global concern and is putting stakeholders on the quest to develop a strategy that will enhance the efficiency and effectiveness of post-disaster undertakings. Shafique & Warren (2016) confirmed that researches had taken a new dimension from laying emphasis only to restore normal life in disaster-affected areas but stepped further to address the development as an opportunity to offer a safer, sustainable and resilient built environment. Affected community's influence on any decision relating to the disaster relief measures provided is crucial to impartial or unbiased and positive results producing post-disaster recovery. This gained unalloyed supports from scholars in sustainability and resilience who are making impacts in the built

environment and have agreed that involvement of beneficiaries is imperative for the achievability of PDHR targets or delightful intents (Davis, 2014; Bornstein et al., 2013; Guarnacci, 2012; Shafique & Warren, 2016). This is valuable because each PDHR has special goals to be achieved, and only those with background knowledge can be of reliable help and guide. Hence, offering beneficiaries the opportunity to meaningfully contribute to reconstruction affairs that are to shape their lives in terms of housing and livelihood, will in no small level minimise problems experienced in PDHR projects. This is expected to deliver a more sustainable and resilient PDHR development where satisfaction and acceptability of the project will be evident, and the donor will have value for his money.

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