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## Research methodology for the development of a framework for managing post-disaster housing reconstruction

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### Abstract

Following the increasing occurrence of large-scale disasters, several permanent housing reconstruction programmes have been initiated particularly in developing countries. However, stakeholders within the international development and humanitarian sector have identified permanent housing intervention as ineffective and *one of the least successful sectoral intervention* particularly in terms of implementation. As a result, stakeholders have increasingly demand for evidence-based studies that will provide insights and guidance to policy makers and practitioners on the measures that could be applied in achieving effective implementation of permanent housing reconstruction programmes. The paper presents the methodical framework including the epistemological foundation and selection of research methodology for which a PhD research that focus on developing a framework for effective management of permanent housing reconstruction programmes was conducted. The article seeks to enhance research methodology knowledge base especially within the disaster resilience - (re)construction management - field that would yield research output to enhance policy-making and practice on the management of housing reconstruction programmes.

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*Keywords:* framework development; post-disaster housing reconstruction; research methodology; research philosophies

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### 1. Background

In the aftermath of major disasters, permanent housing reconstruction (PHR) programmes are initiated to reduce loss impact, mitigate disaster risk, facilitate long-term sustainable recovery of affected communities and to recreate a

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more robust and resilient built environment. However, reconstruction after disasters have been a significant body of research [1] and PHR is a key component of most post-disaster reconstruction initiatives [2]. Nevertheless, some stakeholders' have found PHR to be one of the least successful humanitarian sectoral intervention in terms of implementation [3]. Besides, several authors have identified most PHR interventions particularly in developing countries to be ineffective due to the interventions failure to achieve stakeholders expectation owing to poor implementation [4, 5].

Considering the need to reduce vulnerability to natural hazard, loss impact, build resilience to disasters and to provide meaningful return for stakeholders investment, key stakeholders have emphasized the need for evidence-based studies that provides insights and guidance for policy makers and practitioners towards achieving effective implementation of PHR programmes [5]. The provision of measures for strategic and operational management will enable PHR in developing countries to achieve expected outcomes. The study therefore seeks to develop a framework for effective management of PHR programmes in developing countries.

Against this backdrop, there was the need to determine a research methodology through which the study can be appropriately conducted to achieve the study aim and objectives. However, authors were confronted by the challenge of designing or adopting a research methodology appropriate for data collection, synthesis and analysis towards finding valid and reliable results to a complex research problem that concerns the management of permanent housing implementation founded within a complex organizational, social, political and dispersed geographical contexts and involving different stakeholders. Besides, the research was also constrained by resources and time which limited the authors possibilities of exploring other possible alternatives in achieving the study outcomes. As a result, a pragmatic "what works" epistemological position was adopted in order to achieve the study aim and objectives.

## 2. Research methodological considerations

Research methodology is the theory and analysis of undertaking a research [6]. It justifies for the procedural framework applied in producing research data and analyses towards knowledge creation [7]. Different research models have been used in different disciplines, for the built environment discipline the procedural frameworks mostly utilized conducting research has been is the research onion considering the detailed information it provides to guide researchers [8], see [6] for details. However, the research methodology and design for conducting a research should be guided by the research questions, study aims and objectives. This study aims at developing a framework for effective management of permanent housing reconstruction programmes. See Table 1.

Table 1. Research questions and objectives

S/N	Research Questions	Research objectives
1	What are the management issues that affect post-disaster housing reconstruction effectiveness	To identify the issues affecting effective management of Post-disaster housing reconstruction;
1.1	What are the impacts of disasters on affected communities?	To assess the impact of disasters on built environment of affected communities;
1.2	What are the responses of stakeholders towards effective housing reconstruction and recovery of affected communities?	To evaluate stakeholders response towards effective Post-disaster housing reconstruction and community recovery;
2	What are the measures to be applied to manage identified issues affecting permanent housing reconstruction programmes effectiveness.	To identify the measures for effective management of PDHR and;  To develop a framework for effective management of Post-disaster housing reconstruction programmes

### 2.1. Research Philosophy

Research philosophy concerns the source, nature and knowledge development [9]. It helps to determine the appropriate method by which a research can be conducted [10]. According to Amaratunga and Baldry [11], a research should be founded on philosophical view-point without which the study quality can be determined. The researcher's

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