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Ophiyandri, T., Amaratunga, Dilanthi and Pathirage, Chaminda

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Project risk management for community-based post-disaster housing reconstruction project

T. Ophiyandri,
Centre for Disaster Resilience, University of Salford, United Kingdom

D. Amaratunga, D.,
Centre for Disaster Resilience, University of Salford, United Kingdom,
(Email: r.d.g.amaratunga@salford.ac.uk)

Pathirage, C.,
Centre for Disaster Resilience, University of Salford, United Kingdom,
(Email: c.p.pathirage@salford.ac.uk)

Abstract

Indonesia is a highly disaster prone country, particularly to earthquakes. In the last decade, Indonesia has been hit by three large earthquakes; Aceh in December 2004, Yogyakarta in May 2006, and West Sumatra in September 2009. These earthquakes have created considerable losses to Indonesian communities, lead to 130,000 fatalities, US\$10.3 billions economic losses, and 500,000 of heavily damaged houses. The massive housing reconstruction has been found to be the most problematic sector of housing reconstruction programme. Although community-based post-disaster housing reconstruction project (CPHRP) has been implemented, nevertheless the outcome was still overshadowed by the delay in delivery, cost escalation, unexpected quality, and community dissatisfaction. The implementation of good practice of project risk management in construction industry is expected to enhance the success of CPHRP. Accordingly, this study aims to develop a risk management model for community-based post-disaster housing reconstruction approach.

In order to achieve the aim and objective of the research, multiple case studies is selected as research strategies. This study implements the sequential mixed method application, started with semi-structure interview and followed by questionnaire survey as the primary method. Content analysis was used to analyse qualitative data, whilst descriptive and inferential statistics were deployed to analyse quantitative data.

This study reveals the importance of the understanding on community-based approach in post-disaster housing reconstruction. Four highly significant advantages of CPHRP have been discovered, with 'create sense of ownership' of beneficiaries to the project as the most significant advantage. It was also found that the psychological advantage of CPHRP is more dominant compare to the construction advantage. Further, the risk assessment has discovered some high risk events during the pre-construction stage of CPHRP. The most affected project objective by them is project time completion. Risk response document has also been proposed. Moreover, this study found twelve critical success factors (CSFs) of CPHRP, with the highest CSFs is 'transparency and accountability'. With careful attention on the above findings, it is expected the success of the implementation of CPHRP can be increased.

Keywords: project risk management, community-based, housing reconstruction