

UCL POLICY BRIEFING – SEPTEMBER 2013

KEYWORDS

Disaster response and recovery, engineering research, data, decision-making, humanitarian needs, vulnerability to hazards

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Data, decision-making and disasters: the effective use of engineering re- search and consultancy in disaster response and recovery

Introduction

In the aftermath of a disaster vast resources are deployed in the assessment and mapping of damage, humanitarian needs and vulnerability to hazards. With gaps in data, social and technical assessments that are conducted separately and a lack of time to analyse and synthesise, there is a risk that this work has no impact or tangible value in critical decisions and that strategic opportunities are missed to enable faster, more effective and larger scale recovery of safer housing.

Key conclusions

- There is a substantial body of evidence on disaster response and recovery, much of which could be used to improve decision-making

Findings

There is a substantial body of evidence that could be used to improve decision-making in disaster response. Disaster assessment should:

- inform and influence technical ministries;
- broaden the palette of tools used in the humanitarian shelter response; and
- enable people affected by the disaster to adopt, reject or critique this advice.

However, such evidence is not effectively communicated or disseminated, or fails to reach the individuals and institutions that could benefit most.

Unless work is published and disseminated during its window of usefulness, it will have little or no impact, even when it may contain important conclusions. Many useful fragments of information that could genuinely enrich the analysis of the context in decisions and planning are lost in long consultancy reports, not incorporated alongside information that is relevant to immediate priorities, mixed in with generic advice, or only synthesised long after it might have supported humanitarian shelter decisions.

Three particular risks in effective exploitation of disaster assessment, together with recommendations to address them, are explored below.

Gaps in analysis

The sector uses case studies and evaluations for learning. However,

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There is a spectrum between broad brush estimates of housing units destroyed and the minutiae of humanitarian needs assessments concerned with the situations of individual families. However, there is currently a failure to combine high-level and detailed insights. Such synthesis of insights would offer opportunities to add value during the humanitarian response, particularly in the interpretation of shelter and settlement standards, and in implementing support that follows on intelligently from the housing and shelter processes that people relied upon before the disaster.

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- The development and implementation of techniques to synthesise and interpret technical evidence are needed. This is a key element of the sound contextual analysis needed to ensure that humanitarian responses are based on evidence and achieve value for money and impact
- These techniques should build on and innovate beyond the tools currently used such as map-making, secondments, retaining surge capacity, the Shelter Cluster's Strategic Advisory Groups (SAGs) and

Background

This policy briefing summarises the findings of a consortium, comprising leaders from UCL, ARUP and CARE International, which reviewed 90 examples of advice and analysis from three recent earthquakes. The consortium assessed the documents for their length, timeliness and focus. We also explored whether they helped to shed light on humanitarian priorities or the shelter processes specific to the context. This work was possible thanks to a small grant from the Humanitarian Innovation Fund.