ENABLING POST-DISASTER SHELTER RECOVERY
Changing our standard approaches to risk and success
By Kate Crawford, Tom Newby and Robyn Baron

Shelter programmes which tend to prioritize structural safety over other objectives run the risk of missing or exacerbating other risks, such as loss of livelihoods, social exclusion or exploitation. Addressing structural concerns in isolation will not ensure that vulnerable people are safer than before the disaster.

For shelter practitioners in international organizations, working in natural disaster responses, there are strong pressures and incentives to build back "better" (or "smarter", or "safer"), and subsequently, to interpret "better" as a question of structural safety[1]. This often leads to hastily agreed approaches, isolated from host government and affected populations, that define and assess "risk" in terms of structural robustness, rather than other factors relevant to people's safety, dignity and wellbeing.

Structural safety is important: the collapse of unreinforced masonry and reinforced concrete structures, built without following building codes, has been the main cause of death in the major earthquakes of the last 60 years[2]. In contexts where housing of these types proliferates, the shelter sector should be asking deep questions about its role, the underlying systems which produce these homes, and where and how vulnerable people live in these systems.

Despite this, shelter programmes which disproportionately prioritize structural safety potentially miss or exacerbate risks which are more relevant to affected men, women, girls and boys, such as losing access to livelihoods, social exclusion or exploitation. Structural solutions in isolation will be insufficient to ensure vulnerable people are safer than they were pre-disaster. This is particularly true for marginalized groups, who do not have decision-making power (or ownership) over shelter structures, or fewer choices on where they are able to settle. Often, this applies disproportionately to women.

While there are notable examples of non-structural risks being addressed by shelter programming, such as the more fre-

quent inclusion of housing, land and property rights interventions in programmes and increasingly integrated approaches, the measures of success of shelter programmes often continue to remain focused on the quality of buildings, rather than the quality of lives.

This article argues that, to address this, shelter practitioners need to rethink their role in defining what is "better", by revising how the shelter sector currently assesses "risk" and "success", in ways that transfer decision-making power in the hands of affected people, instead of largely being kept in the hands of professional shelter practitioners.

"RISK" AND "SUCCESS" IN THE SHELTER SECTOR

WHY PRIORITIZE SAFETY?

There are many factors which lead practitioners to prioritize structural strength in the delivery of shelter projects.

- **Shelter practitioners often bring assumptions** about (other people's) safety from their own countries and backgrounds, and do not understand or give sufficient importance to the risks and problems disaster-affected people live with.

- **Shelter funding draws scrutiny** because housing is often a private rather than a public good[3], so mechanisms for subsidizing and guaranteeing housing recovery are politically and economically controversial.

- **Shelter-related responsibilities are unclear**, because responsibilities for land, infrastructure and housing are often split across institutions. Structural strength is (often wrongly) perceived to be simpler and more easily con-

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[1] Build Back Better analysis includes re-affirming post-disaster settlement and shelter principles of *Shelter After Disaster* (UNDRO, 1982).
[2] Spence, R., 2007. Saving lives in earthquakes: successes and failures in seismic protection since 1960. Bulletin of Earthquake Engineering 5, 139–251.

[3] Disaster Recovery Framework Guidance, http://bit.ly/2cIHF6Q.

trolled by INGOs, in comparison with other shelter-related vulnerabilities.

- **Resources involved in shelter construction per household are significant**, and agencies and donors prioritizing value-for-money want to ensure their investment will last.

- **Shelter structures, and failure of those structures, are highly visible.** Structural failure is also more easily linked to implementing agencies than, say, the inability of a household to pay rent or access essential services. For this reason, and the great focus implementing organizations put on the risk of brand damage and liability, they concentrate disproportionately on structural safety.

- **Shelter after a disaster is newsworthy,** understandably creating a window of opportunity and pressure to improve building practices[4], as indeed stated in Principle 8 of *Shelter After Disaster*[5].

Visibility, scrutiny, cost, misperceptions of risk and responsibility and the invisibility and complexity of other factors drive the international humanitarian system to expend great time and expertise addressing the structural strength of shelters, rather than other risks that might matter more to marginalized people.

MORE THAN JUST "STRUCTURAL SAFETY"

Often, "better" is interpreted as "safer" – i.e. buildings that better resist collapse. Measuring success on these narrow terms can be problematic, because the definition of "safer" is unclear or hard to check, but we could instead use broader criteria, such as:

- **Quantity, Speed and Coverage:** the sector's typical indicator is a count of the number and rate of shelters built by international organizations, with no perspective on shelters being built by other actors, or the rate of household formation and shelter construction before the disaster. Factors such as occupancy rate, post-occupancy satisfaction, maintainability and other longer-term outcomes, are rarely measured.

- **Choice and Quality:** after the 2005 earthquake in Pakistan[6], knowledge was cascaded through government structures and district engineers, and improvements in structural safety were, in part, achieved by recognizing and drawing on existing, local practices. Structural safety was prioritized, but in the context of what could realistically be achieved and was culturally appropriate.

- **Sustainability, Liveability and Longer Term:** a longitudinal study of reconstruction projects following the 2001 Gujarat earthquake[7] suggested that measures of "success" encompass the preferences and engagement of the people who will occupy the shelter. Where projects prioritized structural safety to the detriment of other requirements, and/or had neglected social capital and "longer-term considerations of comfort, adaptability and the environment", the results were a mixture of outcomes, ranging from vibrant communities to abandoned villages. Such findings were echoed in more extensive studies of
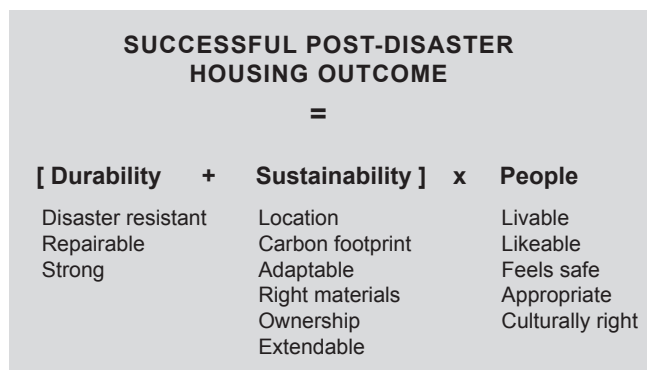
projects in India over the last two decades[8]. Early evaluations of the shelter response of one organization after Typhoon Haiyan suggest high satisfaction with the liveability, likeability and appropriateness of the houses, but only incremental improvement in structural safety, compared to the pre-disaster housing[9].

WHAT SHELTER ACTORS OFTEN DON'T KNOW

Overall, the shelter sector risks doing harm, unless affected people play a central role in shelter-related decision-making. If "building back better" is to respond to community members' safety, dignity and survival needs, we need to acknowledge how poorly we understand the following:

- What the affected people do to make their homes meet their needs, outside the scope and timescales of our projects.

- Whether those who live in the building would feel and, indeed are, safer, just because a building is more structurally robust, or because they have recovered secure access to housing that is affordable, maintainable and close to social and economic networks.

- Whether we overall collectively act to increase risk by setting safety standards for individual buildings that are in reality slow, fiddly, costly, impossible to control and check and, if done badly, more dangerous than business-as-usual.

- Why projects work well in some contexts and not in others.

[8] Post-disaster shelter in India: A study of the long-term outcomes of post-disaster shelter projects, CARE India, 2015, http://bit.ly/213Mk3H.
[9] CARE Haiyan shelter project evaluation, http://bit.ly/2msDLpH.

SUCCESSFUL POST-DISASTER HOUSING OUTCOME =

[Durability +	Sustainability] x	People
Disaster resistant	Location	Livable
Repairable	Carbon footprint	Likeable
Strong	Adaptable	Feels safe
	Right materials	Appropriate
	Ownership	Culturally right
	Extendable	

"Hypothesis" from David Sanderson & Anshu Sharma's study of Gujarat Project.

The shelter sector risks doing more harm than good, unless affected people are more involved in the decision-making process.

[4] Collapse of unreinforced masonry and non-engineered reinforced concrete buildings has been the primary cause of death in major earthquakes of the last 60 years. Spence (2007), http://bit.ly/2lUjybp.
[5] Shelter After Disaster, 2nd Edition, Davis et al, http://bit.ly/1KZcAcj.
[6] See case studies B.09-B.11 in *Shelter Projects 2008*.
[7] Sanderson et al (2012), NGO permanent housing 10 years after the Gujarat earthquake, http://bit.ly/2mq32QS.

"RISK" AND "SUCCESS" IN OTHER SECTORS

It is often argued that prioritizing structural safety should not apply lower standards for those already marginalized and at -risk, and we should not deny access to global scientific and engineering evidence on resisting hazards to those groups. However, shelter practitioners need to take a broader view of evidence and have a deeper understanding of standards.

Other sectors that seek to use technical expertise to systematically define "risk", make related programmatic decisions and assess "success", provide lessons the shelter sector can learn from. For example:

- **Role of evidence in standards:** Setting standards is a deliberation, not a calculation. In "health technology assessments" in the United Kingdom, there is a vast evidence base to support decisions on how to achieve the highest number of quantity and quality "human life years"[10] for a given budget, though the investment threshold itself is not based on "empirical research", but on the collective judgment of experts. "There is no known piece of work which tells you what the threshold should be"[11].

- **System standards:** The World Health Organization, amid fierce internal arguments about the potential injustice of lowering standards for the poor, shifted away from the objective of setting high, global, water-quality standards. Instead, a systemic approach was taken: to build community capacity to assess, find and fix the worst risks in their own water systems[12].

CONCLUSION

In practice, building and sharing technical evidence is valuable, but threshold-setting by technical experts often brings biases and arbitrary time horizons to the table, when defining "risks" and assessing needs in programme planning[13]. Structural engineers, for example, have a professional duty to follow rules[14] – set by others – so are compelled to focus on what is compliant, rather than what is deemed "safe enough".

Shelter practitioners designing and implementing "better" shelter responses, often interpret "safer" as compliant, mod-

el, shelter. This leaves them in danger of overlooking other, less evident, risks facing disaster-affected populations. While structural safety must not be neglected, the focus on other risks in shelter programmes must be re-balanced.

Shelter practice in recent years has made positive changes in the way it addresses broader safety issues, with a stronger integration of gender, HLP, GBV and other considerations, with settlements approaches, and with improved community engagement and accountability. However, there is a way still to go, as these are not always measured (or reported on) in ways that contribute to larger sectoral improvements.

Ultimately, shelter practitioners working in natural disaster response and recovery must **re-define measures of success, to support affected people in defining and prioritizing the risks that matter most to them**, supporting their safety, survival and resilience. Success must be measured in outcomes for disaster-affected people, not in outputs of shelters in compliance with externally set standards.

In existing debates about "duty of care" vs "informed choices", the former is often narrowly defined to be about structural safety. It is easy to fall into the trap of thinking that, if only people have sufficient understanding of structural design, it will change their understanding and prioritization of the risks they face. Rather than prioritizing and seeking to fully control risks that lie within their professional competence (to the detriment of recognizing other risks), shelter practitioners must enable informed choice, by providing affected people with the tools and knowledge they lack. Shelter practitioners must also learn **to trust the informed choices that people make, even if they do not understand or cannot relate to them.**

In Corail, Haiti, a camp was built to engineering standards, though largely ignoring the surrounding area. Soon, it was accompanied by a massive, unmanaged, urban expansion on the adjacent land (see A.9 in Shelter Projects 2010).

[10] Such that a new drug or procedure costing less than a threshold of about GBP 25,000 per "life year" is approved.

[11] See Affordability and rationing, in *Select Committee on Health* – First Report, http://bit.ly/2n2PdoF.

[12] WHO (1997), Guidelines for Drinking Water Quality, 2nd Edition, Volume 3, Surveillance and control of community supplies.

[13] For example, arbitrary thresholds include: colour coding of hazardous zones on a map or decision points of the opening algorithm in Shelter After Disasters dictating the appropriate intervention for each technical "classification".

[14] The Institution of Structural Engineers, Code of Conduct and Guidance Notes, http://bit.ly/2mTQ242.

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