A BURNING ISSUE FOR SHELTER PROGRAMMING

Reducing fire risk through better shelter program design and implementation

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As many as 180,000 deaths per year result from burns, many associated with fire.[1] Informal settlements and the settlements of displaced communities are particularly susceptible to fires due to the combustible nature of commonly used shelter materials; the methods and fuels used in cooking, heating, and lighting; and the densely built nature of many sites, among other factors.

Small fires can quickly evolve into large conflagrations causing significant losses of life and property, injuries, and subsequent exacerbation of the vulnerabilities of displaced persons. Fires that destroy shelters, camps or supporting facilities such as warehouses with humanitarian supplies have wider impacts on humanitarian agencies' ability to provide assistance to affected populations and on their reputation. Many humanitarian agencies do not have the financial resilience to bear this burden nor insurance against fire losses. Options remaining are to recoup them from donors or to reduce program targets.

The 22nd March 2021 fire in Cox's Bazar killed at least eleven people, injured another 560 and displaced 45,000 people. It was perhaps the largest and the most high-profile fire ever in a humanitarian settlement, but by no means an isolated incident. At the time of writing, there had been 70 further fire incidents across the adjoining camps. A major fire in Susan's Bay, informal settlement in Freetown, Sierra Leone also made it into the headlines, but many other fires do not. The lack of data on prevalence hampers efforts to prevent recurrent fires.

1 RICS (2020), Developing a global standard for fire reporting

Improving fire safety is a matter of protection and of accountability to affected populations. Fire disproportionately affects vulnerable people, both in terms of death and injury, but also in loss of assets and livelihoods.

While the impacts of recorded fires are clear, there are no global statistics for fires in humanitarian settings, and coordination for data collection and sharing is severely lacking. Furthermore, fire safety has fallen through the cracks of the Cluster Approach. It is so cross-cutting that it is everyone's (and therefore no-one's) responsibility. There is a lack of data illustrating the scale of this risk and lack of ownership by any cluster, sector or agency. As a cross-cutting issue, it is rarely referenced meaningfully. Coordination between agencies, clusters, affected communities and local governments is urgently needed to develop an effective approach.

Between September 8-10, 2020, fires broke out in Moria Reception and Identification Centre on Lesvos Island in Greece, resulting with the displacement of more than 12,000 migrants and refugees. Reports indicate the fires in Moria were caused by arson. Some may therefore say this disaster was not preventable because ignition was intentional. But the scale of this disaster was preventable. The physical conditions in the camp and its layout are what enabled the fire to spread so rapidly and across the entire camp.

As many major fires are caused by arson, addressing fire risk also entails addressing root causes of discontent, but can also involve deeper issues such as the underlying conflict that has caused the displacement.

Devastation after the 22nd March 2021 fire in Cox's Bazar, Bangladesh. The fire's consequences went far beyond the deaths, injuries, and physical damages, as it impacted affected populations' mental health and psychological well-being, relationships between refugees and host communities, agencies' ability to provide immediate and long-term assistance, and more.

Affected community fighting fire in Dadaab, Kenya. Communities are almost always the first responders to fires in informal settlements and the settlements of displaced communities. Where the host country's fire services do respond, their response if often not timely or effective due to delays in communication, limited fire response infrastructure (roads, water, etc.), and other factors

SHELTER AND SETTLEMENTS

The Shelter and Settlements sector has a particularly important role to play in fire safety. Fire risks often emerge through settlement planning, shelter construction materials and methods, NFI distributions, fuel and appliances for cooking, heating and lighting. Conversely, strategic decisions can lead to significantly reduced fire risks. Awareness needs to be raised and good practices shared, to go beyond just firebreaks and systematically incorporate site-planning elements which enable evacuation, access for firefighters and emergency vehicles, and the containment of fires themselves. The network of roads and paths in standard models of site plans and shelter cluster layouts may need to be reviewed; for instance, to ensure that each shelter has access to at least two separate remote assembly points, via two separate and clearly marked escape routes.

Methods for reducing risk require careful context-sensitive selection. Not all of them are appropriate for every context. For example, while communal cooking areas may reduce fire risk across the shelter blocks of a camp, they are only likely to do so if the communal cooking areas are large enough and accessible to everyone, and if communal cooking is culturally appropriate in the given context. The imposition of communal cooking areas without taking these issues into consideration may result in many households simply building their own private cooking areas informally, hidden, and without the support of humanitarian agencies, and thus in the end increasing the risk which they were meant to reduce. Similarly, the use of plastic sheeting with fire retardants may contribute to an overall reduction of risk – but only if it is part of a comprehensive fire-safety plan and with sufficient attention to other approaches, such as fire safety education and safer site planning.

Critically affected people need to be effectively engaged in fire safety activities, from maintenance of fire breaks to knowing what to do in case of the outbreak of a fire. In camp settings this requires active work by CCCM (Camp Coordination and Camp Management).

A gendered and child friendly approach to fire safety is critical. Here a shelter practitioner in Beqaa Valley, Lebanon provides fire extinguisher training to a Syrian refugee family.

When developing a fire risk reduction strategy, the selection of (context-specific) risk mitigations should address the following 5 key principles:[2]

- **Prevention:** Safeguarding against the outbreak of fire and/or limiting its effects.
- **Detection and Communication:** Rapid identification of a fire followed by informing residents, trained response teams and, where available, the fire service.
- **Occupant Protection:** Facilitating residents' escape from the effects of fire.
- **Containment:** Limiting fire and all of its consequences to as small an area as possible.
- **Extinguishment:** Suppressing fire and protecting the surrounding environment.

2 IFSSC (2020), International Fire Safety Standards: Common Principles

Fire safety education is critical for fire prevention and preparedness, which should include locally appropriate Information, Education, and Communication (IEC) materials, classroom based training, and practical fire response training (incipient firefighting, fire drills for evacuation, etc.). Here fire officers from the Bangladesh Fire Services and Civil Defense provide fire safety training for men and women Rohingya refugees living in camps in Cox's Bazar.

In 2017, a UK-based fire safety NGO carried out a detailed fire risk assessment and analysis of displaced Syrian populations and host communities in Lebanon. This work led to the establishment of an Inter-Agency Coordination Working Group for Fire Prevention, Preparedness and Response. This working group focuses not only on physical changes to shelter and settlements, but it also provides firefighting training and equipment, and fire safety training for men, women, and children; and it delivers community fire preparedness activities (e.g. evacuation drills). The working group's facilitation of coordination between UN agencies, NGOs, INGOs, host and refugee populations, and the Lebanese National Government and Civil Defence has been fundamental for this work. While a project evaluation is not yet complete, anecdotal evidence suggests first responses by refugees have been improved and pilot interventions to slow fire spread between dwellings has had a positive impact.

GOOD PRACTICES FOR FIRE SAFETY?

Humanitarian actors in Shelter and other sectors are in a position to reduce fire risks, but are the resources available to them sufficient? The short answer is, 'not yet'.

There is helpful, if disparate, advice on fire safety peppered throughout a range of materials, but only a limited amount is geared towards the humanitarian context, with the notable exception of the Camp Management Toolkit. Fire-safety considerations are not well integrated into assessment tools used by Shelter & Settlement specialists. While fire risk assessments are invoked as a requisite for site planning in Sphere these are, anecdotally at least, rarely undertaken. There are no dedicated resources to support humanitarian actors in carrying out fire risk assessments.

In a few cases, like the Lebanon example referenced above, international fire safety experts have been flown in to carry out fire risk assessments and provide recommendations for fire risk reduction. This only happens when fire is identified as a significant issue, usually after a large fire, and where resources and timelines allow. While this approach can be very beneficial, the outcomes are highly reliant on the expert judgment of the fire specialists and this can lead to unrealistic recommendations if standards of developed countries are applied to extremely low resource settings as are often seen in displacement contexts. Their level of understanding of the local context and what is (and what is not) appropriate and achievable in humanitarian settings is critical. There are very few people with the relevant knowledge and expertise globally. The authors are only aware of six such assessments having been carried out – in Kenya, Thailand, Lebanon, South Sudan, and Bangladesh, all with variable results, so this is not considered to be a scalable solution. There is, then, a critical need to develop expert-informed, scalable tools to reduce deaths, injuries and losses from fire in humanitarian contexts through wider guidance and delivered through inter-agency and inter-cluster coordination.

THE GROWING URGENCY FOR MAINSTREAMING FIRE RISK REDUCTION

The resources and approaches that currently exist are either too vague, too lax, too context-specific and/or too specific to the Global North. Greater attention to evidence gathering, prioritization by donors, funding, and a recognition of the likely increasing risks associated with climate change (given increased displacement and migration but also drier ecosystems) are required to address the problem.

A number of academic institutions, engineers, fire fighters, fire risk-specific NGOs, forensic investigators, global cluster coordination teams, major donors, satellite data analysts and shelter practitioners have committed to study, develop and share best practices to reduce deaths, injuries and losses from fires in humanitarian settings. These disparate stakeholders' commitment, while laudable, will count for little without a wider, more concerted and coordinated effort. It is currently only an embryonic movement – but one whose urgency is repeatedly underscored by a steadily growing number of tragedies.

Shelter and NFIs often contain significant amounts of plastics, which burn quickly and emit toxic black smoke that affects people and the environment, as shown in this 2017 fire spreading through an informal tented settlement established by Syrian refugee in Lebanon..

Fire damage from a February 2019 fire at Monguno Camp in Borno State, Nigeria, where multi-fatality fires have frequently harmed affected populations, destroyed IDP camps and undermined humanitarian assistance.