Quality and Performance in Construction workshops

Building sustainably

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Trusted expertise for the property sector
Resilience & Sustainability in Post Disaster Reconstruction – Methods and Tools
Yetunde Abdul

Building a better world together

Photo credit Y Abdul
Overview

– Impacts of Natural Disasters
– Sustainability and Resilience in Shelter Solutions
– Shelter and Settlement Sustainability and Resilience tools - QSAND
– Get Involved
– Q&A
– Close
Community resilience is key to the successful recovery and stability of a disaster affected community.

The importance of community resilience increases as the frequency and severity of natural disasters grows.
Typhoon Haiyan which hit the city of Tachloban in the Philippines in 2013
(before and after images of a section of Tachloban city).
Embedding Disaster Risk Reduction in Shelter Solutions

Drives include:

UNISDR Sendai Framework for Disaster Risk Reduction 2015-2030

- Priority actions
  1. Understanding disaster risk
  2. Strengthening disaster risk governance to manage disaster risk
  3. Investing in disaster risk reduction for resilience
  4. Enhancing disaster preparedness for effective response and to “Build Back Better” in recovery, rehabilitation and reconstruction

- Shelter solutions need to consider and embed long term sustainability and resilience

- Solutions selected to meet this vary depending on a number of factors including climate, culture, shelter types, disaster frequency and much more

- IDDR 2017 slogan: Home Safe Home
Examples of Shelter Solutions

- CRS (Catholic Relief Services) and BRE (Building Research Establishment) have collaborated on a Humanitarian Demonstration Shelter, displaying the importance of shelter as one of the first crucial components of disaster relief and resilience.

- Aims to raise awareness and promote innovative thinking in embedding sustainability and resilience in shelter supporting disaster risk reduction.

Image credit CRS
The shelter is 17.5m$^2$ and is designed to occupy a family of five.

This is a size typical of the usual minimum space allocation of shelter around the world with 3.5m$^2$/person as the minimum humanitarian space standard (according to SPHERE standards).
Humanitarian Demonstration Shelter: Sustainability and Resilience

- Amalgamation of various techniques and materials, showing how various vernacular materials such as timber, bamboo, concrete corrugated iron roof sheets can be used in different parts of the world.

- Demonstrates how homes can be rebuilt sustainably and can be built back better after a natural disaster.

- Different exhibits are being displayed to show sustainable amenities such as latrines.
“Recovery after extreme weather events such as Hurricane Irma may take many years, which often requires some kind of transitional shelter. This exhibition shows how organisations can collaborate to build safer, stronger shelters and better to meet the challenges of a changing climate and environment. The shelter design addresses the physical environment but also the processes that need to accompany this, allowing people to live normal lives in safety, good health and with dignity.”

Jamie Richardson, CRS Shelter and Settlements Technical Advisor
Promoting Sustainability and Resilience

– As the Humanitarian Demonstration Shelter displays, shelters need to be built for resilience.

– After a disaster resilience and sustainability is often not the most important issue during immediate recovery or reconstruction so a standard or tool which promotes sustainability in the long term is very beneficial.

– Tools to promote resilience and sustainability in the aftermath of a disaster helpful
What is QSAND?

A shelter and settlement focused sustainability self-assessment tool designed for;

Quantifying Sustainability in the Aftermath of Natural Disasters

Developed to;
- Fill a perceived gap in the humanitarian sector for a comprehensive tool
- Benchmark performance
- Support improved delivery for beneficiaries
- Consider holistic integration of sustainability principles
Project Board (project partners)
– BRE Global & IFRC

Project Consultation Group
– Norwegian Refugee Council
– Habitat for Humanity
– WWF US
– UNHABITAT
– OXFAM GB

- Three year develop project (2011 – 2014)
- Consultation throughout

Peer Review Group
– Including; RedR UK, Practical Action, SKAT, Architects sans Frontieres and many others
– World’s largest humanitarian organisation
– Promoting humanitarian values
– Disaster response deployment
– Disaster preparedness
– Health & Community care
– Non-discrimination

“To inspire, encourage, facilitate and promote at all times all forms of humanitarian activities by National Societies, with a view to preventing and alleviating human suffering, and thereby contributing to the maintenance and promotion of human dignity and peace in the world.”
BRE: Project Partner & Funder
BRE Group: **Building a Better World, Together**

Research, innovation, consultancy, testing, certification, training

QSAND builds on the features of BREEAM®
What is QSAND?

Aim

- To promote and facilitate sustainable approaches to relief, recovery and reconstruction in the shelter and settlement operations after a natural disaster (so helping to ensure economic, social, and health benefits to the community in the short and longer term whilst supporting and protecting the natural environment).

Key objectives

- To guide and inform the decision-making process affecting a disaster-affected community, promoting more sustainable approaches to shelter and settlement activities.

- To provide a coordinated framework for identifying and, where relevant, comparing the sustainability of options/solutions in the relief, recovery and reconstruction of disaster-affected communities.
Scope and Applicability

Situation;
- Community / areas severely affected by a natural disaster
- Partial or total reconstruction is required

Wide range of contexts;
- Various geographic and climatic regions
- Rural and urban locations
- Various settlement sizes
- Various settlement types and building types
  - e.g., housing, public/social, livelihood-supporting
Structure – Two Parts

**Key difference:** The PAT is designed to inform early decision-making minimising the risk of unintended barriers being created at this stage, whereas the CAT is designed to positively influence the long term reconstruction of an affected community and enhance understanding and skills.
Users

**District/Province/Field level**
- Individuals/teams working in the field
- e.g., Field delegates

**National/Regional/Headquarter level**
- Desk based users
- e.g., Desk officer, technical advisors, programme managers

**Global/International Stakeholder/Donor level**
- Monitoring performance of programmes
- e.g., Funding bodies, Donors, Governments
Shelter and Community

– Reinforces the importance of consideration of the general Health and Wellbeing needs of the community and marginalised groups in the built environment including community sensitive design, privacy and internal environment

Settlement

– Considers the planning, layout, community cohesion and tenure issues. Site selection and associated Infrastructure specification are essential considerations in supporting disaster reduction long term.

Natural Environment

– Human relationships to ecosystem services and ecological protection, rehabilitation and restoration are not only important considerations for disaster reduction but also recovery and longer term resilience also community and economic.
Categories: Sustainability and Resilience

Materials and Waste
- Encourages selection of material resilient to weathering, wear and tear etc. and consideration and ideally selection of materials taking into consideration climate, culture, durability, local supply and environmental impact and be sustainable sourcing.

Energy
- Focuses on planning for and meeting the energy demands of the community ensuring they can be sustainably met in the future through off grid solutions which do not rely on a centralised energy infrastructure.

Water and Sanitation
- Focusing on assessing and providing for long term demand through resilience infrastructure covering a range of topics including water quality palatability and hygiene
Cross cutting issues

– Participation
– Capability and Skills
– Security and Safety
– Economic Viability
– Community Ownership and Sustainable Management
– Livelihoods
– Resilience
– Access and Non Discrimination
Examples of Application

Nepal

- QSAND being applied in Gorkha, supporting the reconstruction after the 2015 Gorkha earthquake.
- Focus areas include:
  - Shelter and Community,
  - Materials and Waste
  - Cross Cutting issues.

Photo credit Y Abdul
Get Involved
Raising Awareness: Humanitarian Demonstration Shelter

– The demonstration shelter is based at BRE’s Innovation Park in Watford, UK.

– It is free to access and will be used in part as an educational tool for those interested in learning more about the practical side of creating sustainable resilient shelters.

– The shelter aims to demonstrate materials and construction techniques and also be the focal point for a research and demonstration programme on process and non-technical issues.
Learn, Use, Collaborate

- Many ways to learn more about QSAND and get involved:
  - Applying the tool: *Support and training available*
  - Tailors support for projects / organisations:
    - email,
    - phone,
    - video meetings
  - Partnerships and collaborations:
    - education,
    - outreach,
    - research
  - Sponsorship opportunities
  - Practitioner training courses (run internationally)
  - E-learning tutorial (online)
There are a number of ways you can support us in this and our mission to build a better world together

- **Pro Bono work and Gifts in Kind:** Giving your time and skills
- **Become a member of one of our advisory and / or technical working groups**
- **Fundraise for us:** an event or partake in one, we are interested!
- **Corporate Giving:** Sponsorships and partnerships
- **Donate:** large or small every little helps
For more information…

– A more in-depth look - the QSAND information brochure

– A more in depth information – see the tool itself

– Both available at www.QSAND.org

– Or contact us at QSAND@bre.co.uk
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