2017

Promoting Safer Building

Multidisciplinary Conference Report

PROMOTING SAFER BUILDING AND SUPPORTING SELF-RECOVERY

This report presents a summary of the activities that took place during the Promoting Safer Building Multidisciplinary Conference delivered at the Education Centre, Royal Geographical Society on the 13th of July 2017.

Acknowledgements

In order to write this report the PSB team counted on the note-taking support of:

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Introduction

The [Promoting Safer Building Programme](#) is a multidisciplinary research study being carried out by an alliance between *CARE International UK (CARE UK), Overseas Development Institute (ODI), University College London-EPICentre (EPICentre)* and the *British Geological Survey (BGS).*

The objectives of this pilot study are to better understand how individuals, households and communities can be supported to rebuild in the aftermath of a disaster in a more resilient way and achieve homes that are safer, resist hazards, and avoid injury, death and economic losses.

The pilot research took place in the Philippines between the 4th and the 18th of March 2017 & Nepal, between the 18th of April and the 01st of May 2017. These comparative case studies will inform the development of a working paper on supporting self-recovery in post-disaster emergencies and the development of future research. The research was brought together and presented at this conference on the 13th of July 2017.

Why did we hold a multidisciplinary conference?

Recent discussions within the humanitarian shelter sector have underlined a series of gaps in the working knowledge and literature on 'self-recovery', reconstruction and resilience building. Furthermore, it is apparent that the protagonist voices of these post-disaster recovery experiences are missing. Thus shelter responses and post-disaster recovery programmes more broadly are currently being planned, designed and implemented without the substantial input of (1) those who benefit from them and (2) those who don't benefit from them and are left to recover using their own means.

One aim of this research project is to highlight the importance of a multidisciplinary understanding of recovery processes. For this reason it is important that the research outcomes are presented to, scrutinised by and engage with an audience that is itself multidisciplinary.

This conference was also important to situate the project in the wider context of humanitarian action, disaster risk reduction, disaster response, resilience building and recovery. It sought to highlight the key role that science and engineering play in each of the above processes, as well as the challenges and opportunities that all stakeholders face in communicating and articulating these different forms of knowledge to ensure better informed, more rigorous and effective humanitarian practice. At the centre of these debates lies the question: is supporting self-recovery a new direction for humanitarian action? If so, what are the strengths, opportunities, challenges and risks? How do we respond to these?

Expected outcomes
- Present research outputs and outcomes of the project
- Open up opportunities for feedback from partners and collaborators
- Presentations from invited speakers on their experiences working in disaster response and self-recovery
- Discussion and engagement on the role of self-recovery in the current climate of DRR, disaster response, humanitarian and development policy
- Developing the project's future direction

Outline of the day

The day began with a welcome and introduction to the PSB team[1] by the project's principal investigator **John Twigg.** This was followed by an introduction to the project and discussion of initial findings. The day was then split into three main parts, each shaped by a panel discussion. The first two panel discussions focused on a specific topic where invited speakers and some team members presented. The third panel discussion took the shape of a 'Question Time' panel where representatives of different actors involved in the recovery and disaster management cycle were invited to answer questions prepared throughout the day by conference participants and PSB team members. The conference drew to a close with a summary of the day and a short discussion on the possible future avenues for the project also presented by John Twigg.

Presentation on the project, the methodology and the initial findings

Luisa Miranda Morel and **Bill Flinn** presented the background to the project, the methodology and the initial reflections on the implications of the findings for practice. This morning session was concluded by an overview of the milestones and outputs that have been achieved by the team so far.

Background

The research stems from the understanding that after a disaster, those affected are always the first to respond. However, we know very little about this large part of the population and how they respond in the immediate aftermath of a disaster, as most information that we have and use comes from evaluations and reports and is therefore only focused on what happens once interventions begin. We know little about what happens when there is no intervention, when people are recovering using their own resources, when they are self-recovering. Furthermore, we know little about how these processes of self-recovery and assisted-recovery are articulated within a socially, environmentally, politically and economically complex context.

Methodology

Each institution wrote a 2-page proposal stating their interests, questions and contributions to the research. All four proposals were brought together and overlapping themes were drawn out to shape the main research questions (see figure 1).

Figure 1 Research Questions
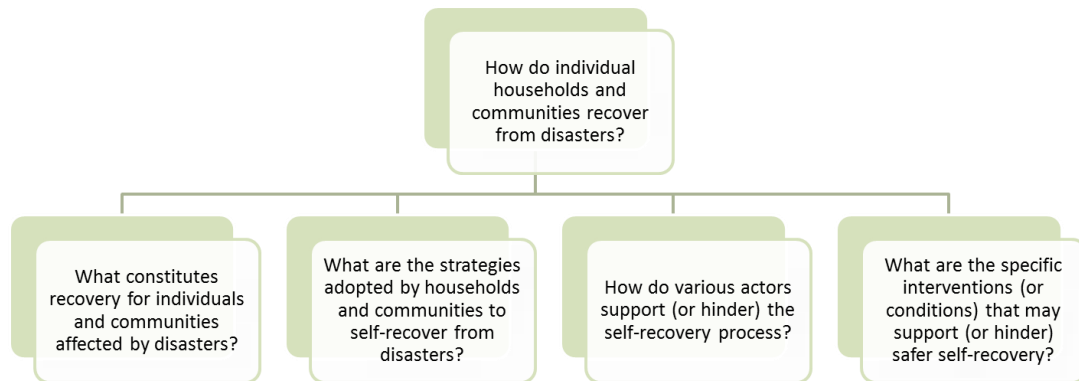
The research was carried out in two regions in the Philippines (see figure 2). The first region was on the island of Leyte affected by Typhoon Haiyan (Yolanda) in 2013 and the second was on the northern part of the island of Luzon affected by Typhoon Haima (Lawin) in 2016. In Nepal the research was carried out in Dhading District (see figure 3) one of the hardest hit districts by the 7.8 earthquake in 2015 and its multiple aftershocks. These research locations varied in geography, climate and social characteristics.

Figure 2 Pathways of the two typhoons marked in red
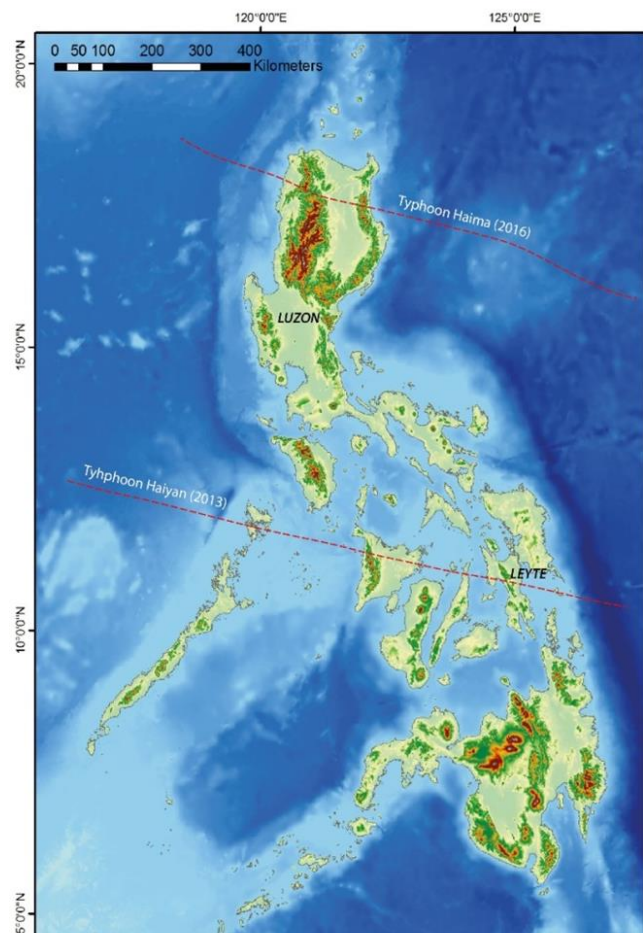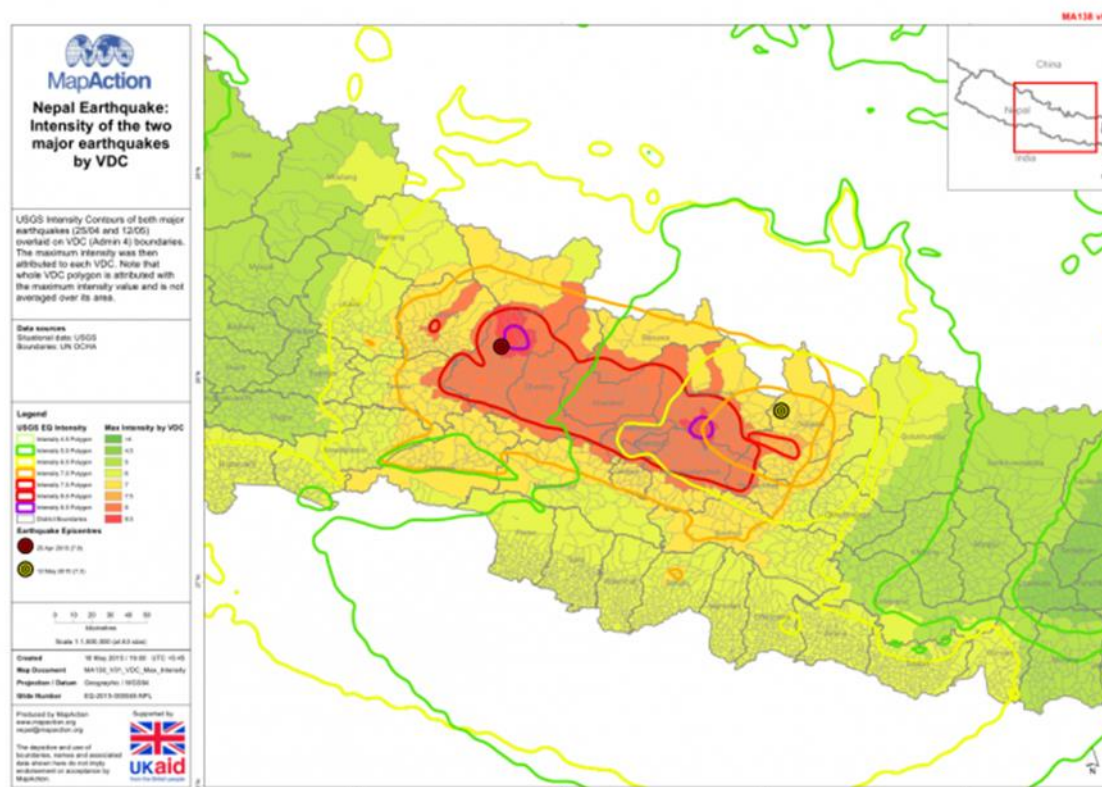
Source: BGS, 2017

Figure 3 Section of Nepal showing strength of shaking

Source: On map

Although the methods used followed a generic structure, they had to be adapted to the geographical contexts and according to the material and time resources that were available at the time. Generally, the teams tried to carry out at least one transect walk, interview, participatory focus group discussion and several building survey forms in each of the communities. These mixed methods proved useful but also challenging for maintaining a multidisciplinary methodology[2].

Additionally, at the end of both field trips, roundtables were organised with local practitioners, government, academic and scientific institutions to generate feedback and discussion on the research, identify the gaps and possible opportunities for future research and reflect on their experiences and lessons learnt throughout the responses in the respective countries (see figure 4).

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[2] You can read more about the challenges and opportunities of working with a multidisciplinary methodology in our upcoming working paper.

Figure 4 Roundtable with local practitioners, academics, scientists and other institutions in Kathmandu, Nepal

Findings

In searching to answer the four initial research questions and engaging with roundtable participants throughout the research, the team has developed a series of suggested findings on the implications of a humanitarian response approach that seeks to support self-recovery in the aftermath of a disaster. Four key implications have been identified so far that focus on the following elements of recovery interventions[3]:

(1) Ownership, choice and empowerment
(2) Context, needs and recovery pathways
(3) Re-defining 'better', understanding building 'safer'
(4) Knowledge exchange, building and communication

Milestones and outputs

Aside from the two field trips that are important milestones in the development of the project, the team has contributed to existing discussions on 'self-recovery' and tried to look at it beyond the lens of shelter practice. Further to this, the team is currently writing a working paper that will consolidate the findings from each of the disciplines and conceptualise the relevance of each of these for a movement toward supporting self-recovery in the aftermath of disasters.

- Resilience Scan: January – March 2017 (2017). Authors: Pandora Batra, Emma Lovell, Hani Morsi, Holly Schofield, Thomas Tanner, John Twigg and Lena Weingartner
- The case for Self-Recovery (2017). Authors: Bill Flinn, Holly Schofield & Luisa Miranda Morel
- Whose Recovery? Power, roles and ownership in humanitarian shelter assistance (2017).

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[3] These themes and their implications will be further developed in our upcoming working paper.

Authors: Holly Schofield & Luisa Miranda Morel
- Mapping (self-) recovery: reflections on people's trajectories, perceptions and aspirations of recovery in the Philippines (2017)**.** Author: Luisa Miranda Morel
- Stories of Recovery (2016)**.** Authors: Bill Flinn & Marta Llorens Echegaray

In addition to the above, the PSB team and CARE Country partners have participated in several high profile conferences around the world:

- UNISDR Conference, Cancun, Mexico, 22/04/2017 - 24/04.2017
- Urban Sustainability and Resilience Conference, UCL London 13/06/2017 - 14/06/2017
- i-Rec Conference ,Toronto 01/06/2017 - 02/06/2017
- GFDRR 3rd World Reconstruction Conference, Brussels 06/06/2017 - 08/06/2017
- Inter Action Shelter and Settlements conference, Washington DC 15/06/2017 - 16/06/2017

The project has also carried out its own smaller events and been adopted by the Global Shelter Cluster as a working group and activity.

Overall, the network of the project has grown from fewer than 20 members to one of just under 400 members who have exchanged and actively engaged with the project in one way or another. These members are from a mixed background of humanitarian and development organisations (including grassroots organisations), government and policy institutions, academic and scientific institutions, the private sector and other independent individuals.

Future work

In future the project seeks to return to the same locations to build on existing research, developing a longitudinal understanding of the process of self-recovery. This approach is also of interest to the project in order to develop a comparative study between rural and urban contexts within the same countries. The project also seeks to develop tools and guidelines for supporting self-recovery after disasters. Furthermore, recognising that self-recovery also takes place in contexts of post-conflict displacement and protracted crises, these are also areas of interest for the research team. Finally, the focus is to seek to understand how those that receive little to no assistance recover from disasters and other forms of crisis as well as those that do. The future of the project will therefore push further toward seeking to understand how those who receive no assistance are recovering.

Figure 5 Bill Flinn presenting implications for practice

Caption on photograph: *"Recovery to me means to start again. To get strength. To be able to repair damaged houses. To be encouraged to get up and start again"*

Panel Presentation and Discussion: *The role of science and engineering in disaster response and disaster risk reduction*

Dr. Tom A. Dijkstra opened the panel with a welcome to the first invited speaker to present, **Dr. Cees van Westen**, Associate Professor, Faculty of Geo-Information Science and Earth Observation, University of Twente, The Netherlands. Other speakers on this panel were: **Pablo Medina**, Senior Officer, Shelter Cluster Coordination, International Federation of the Red Cross; **Dr.Tiziana Rosetto**, Professor in Earthquake Engineering and Director of EPICentre; **Dr. Victoria Stephenson,** Researcher, EPICentre; and **Dr. Susanne Sargeant**, Seismologist and Increasing Resilience to Natural Hazards Knowledge Exchange, British Geological Survey**.**

Where to build back safer?

Dr. Cees van Westen focused on situating the role of science and engineering by complementing the question of 'how to build back better?' with that of '*where* to build back better?' Drawing on examples from China and Nepal, he highlighted the opportunity of using post-hazard modelling to understand contexts and risks of the locations in which reconstruction is taking place. This information can first of all, identify hazards by type and provide knowledge on where they are located (spatially how they are different), how often they occur, how severe, how much area (intensity, footprint) they cover and how long they usually last. In order for this information to be useful it then must be assessed and translated locally. This can then allow us to measure how a

village might be affected by a particular hazard if and when it occurs. While there is great value in this form of modelling, Cees also drew on the many challenges of using such methods, including working in multi-hazard contexts, working with new hazards that cannot be predicted, working in areas where there is no historical data and where there is a lack of capacity to gather, analyse and manage the data. Challenges that often characterise the locations where humanitarian assistance is often most needed.

Multi-hazard contexts are particularly challenging. There are many different relationships between disasters. Sometimes events can be 'coupled' within the same area, for example earthquakes and floods, flash floods and forest fires. There are also disasters that lead to domino events, triggering the next disaster. These are very difficult to assess. An example is Wenchuan Earthquake in 2008. 95% of village was destroyed after the earthquake. 6 months later temporary houses housed 2 million people 350km away from original location. There was then a landslide that hit the area.

Cees therefore underlined that the connections between hazards and between hazards and the contexts in which they take place make it crucial for local expertise and knowledge to inform response. However, there needs to be more data to make a decision on where a community is relocated. Further analysis needs to be done to determine where to relocate when building back safer.

Figure 6 Dr. Cees van Westen demonstrating the connections between hazards in multi-hazard China
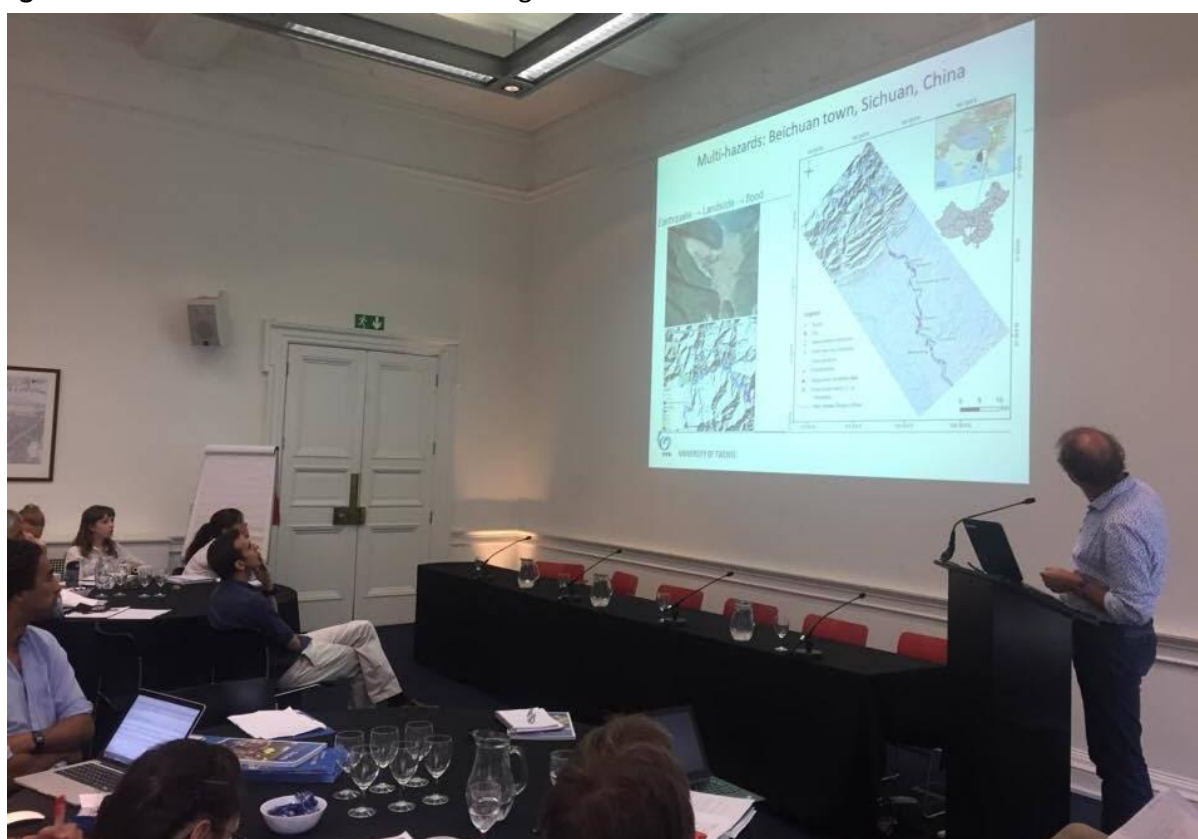
Role of science and engineering, a humanitarian perspective

Pablo Medina initiated a presentation with a discussion on the differences between humanitarians and scientists.

> "Humanitarian action is the opposite of science. Scientists make conclusions when they have complete data. We make conclusions and decisions without complete data. There is therefore a high tolerance of ambiguity"

Pablo highlighted the challenges of working within humanitarian emergency contexts discussing the pressure of time on decision-making processes and emphasising that most problems faced by humanitarian actors are economic and political. Pablo drew on a 20-page document of feedback received from a network of practitioners that had responded to the questions:

- What examples are there where science and engineering have contributed to or engaged with disaster response and disaster risk reduction?
- What are the existing gaps where science and engineering could contribute to more effective disaster response and disaster risk reduction?
- Any key points or ideas that you think are important to get across to a mixed audience of humanitarian practitioners, scientists, architects and engineers?

The following are the key messages presented by Pablo, complemented with annotations from the document, which was shared after the conference.

Disaster Risk Reduction: Pablo reflected on the importance of DRR and the desire to move towards mitigation of future risks where science and engineering have an important role to play.

An important element of DRR is for example 'building back safer' and developing engineering principles for non-engineered solutions, which have the potential to promote behavior change and more effective communication with communities. These kinds of knowledge are crucial for DRR and require the use of both the hard and soft sciences; although, Pablo pointed out, the soft sciences are often underrepresented in these processes.

Furthermore, having more scientific information about the contexts where humanitarians work can enable projection and longer-term planning. With reference to DRR, a humanitarian giving feedback discussed:

"Many humanitarian actions could be implemented in the window between a forecast and a disaster. We need to get better at using science to decide on the "action worth taking"

However, building on Dr. Cees reflections, gathering this information is not only necessary and crucial, but also understanding how to manage it and having the local capacities to do so. Something reflected on by Pablo in his call for humanitarians to reflect on how science can be more helpful but also from other practitioners that gave feedback on the challenges of accessing and handling this information when in the field.

"After working in the most remote regions, most people in developed countries cannot perceive that you simply can't do a google search"

"It's not enough to know the science, we must know how to facilitate a discussion that leads communities to understand the hazards and frequency events and have a broader understanding of risks."

Diplomacy: "All humanitarians need it" - An important role for scientists and engineers is that of diplomacy and advocacy. Drawing on a previous reflection, Pablo pointed out that often an issue is the politics behind decision-making processes. Scientists and engineers have the capacity to push for more rigorous and evidence based policy-making, as well as supporting decisions that humanitarians have to make on the ground. This was echoed in the feedback document where practitioners expressed that stronger advocacy from academia - toward both government and humanitarian actors - during early response has the potential to push for longer-term planning and less "neglect of major long term consequences from the early decision-making processes".

Technology: There are many examples of important contributions that science and engineering have made to humanitarian action, including the use of Geographic Information Systems (GIS), Drones, Forecast Based Financing and training using scenario simulation for example. However there is yet much more that can be done to help make responses faster and more evidence based.

Role of science and engineering, the engineers' perspective

Professor Tiziana Rossetto presented with **Dr. Victoria Stephenson**. They focused on bringing the concept of 'safer' into the discussion as an alternative to 'safe'. In doing so, they hoped to demonstrate how safety is very relative not only in relation to a disaster but also multiple hazards, contexts and existing, upcoming and new kinds of hazards. Within this discussion, engineers are understood to be responsible for looking at relations between events and levels of damage, performance, contexts and how these change over time, recurrence rates, the resistance and resilience of structures, and risk, what are acceptable risks and which are not.

However, highlights Dr. Tiziana - although often forgotten - not every engineer is the same and they each have vastly different types and levels of knowledge. In consequence, only a few experts know how to reconstruct in different post-disaster contexts and meet the needs of local people.

Building on Dr. Rossetto's reflections, Victoria presented the methodology used to analyse the building patterns in the Philippines post Typhoon Haiyan and Haima. The use of building survey forms, visual assessment and record-making enabled Victoria to pick up on key issues such as with building patterns, exposure to heat and sunlight, use of materials and existing vernacular practices. This information opened up further questions about how 'safe' –or rather where on a scale of safety – these building are in their current state but in relation to the past disaster; to a next disaster if it is stronger; and whether or not this analysis can be done without knowing the strength of even the kind of disaster that may occur in future.

Figure 7 Dr. Tiziana Rossetto discussing risk from an engineer's perspective and Dr. Victoria Stephenson sitting to her left

Role of science and engineering, the geoscientist's perspective

Dr. Susanne Sargeant initiated her presentation with a discussion on the preliminary findings from the research, having identified the key interests of BGS in the project: (1) understand the role of the environment in self-recovery; (2) understand how knowledge about the environment is used & (3) understand the role of scientific organisations and knowledge intermediaries in self-recovery.

In the Philippines, the teams observed a strong awareness of the environment by communities generally, and an understanding of hazards through first-hand experience with some evidence of the use of technical knowledge in the reconstruction of homes. Furthermore they observed that environmental changes were having an impact on people's sense of recovery. They also identified community engagement with hazard maps.

In Nepal, geoscientists observed strong awareness amongst people about their environment with limited understanding of science behind it. They also observed significant impact of disrupted roads and transport of materials on the reconstruction process. They identified the challenge that reconstruction focuses on seismic resistance but does not consider that communities continue to be exposed to a changing geo-hazard landscape. Furthermore, they observed that despite this exposure, there is little scientific input in self-recovery decisions.

In view of these findings, Dr. Sargeant discussed that science has a role to play in promoting communication of hazard information at community level and understanding what knowledge is needed, at this level, about the physical environment to support recovery processes. Furthermore, the relationship between science and political decision making is an opportunity to use information to act on hazards, bridge the knowledge gap with communities and create an enabling environment for self-recovery. Dr. Sargeant concluded her presentation by reminding us that a 'safer' house needs to be connected to community and environment.

Feedback, Q&A and Discussion

Question: How do we counter 'bad' information that is going out?

> Dr. Susanne Sargeant: Capacity in organisation to answer. Training needed within organisation for employees to know/have knowledge to counter thoughts.

> Dr. Cees van Westen: Need to collaborate within local organisations and actors. For example, they want within local university and have practical knowledge and communicate.

> Professor Tiziana Rossetto: Done work within behaviour change to convey messages. Not up to humanitarian to say what is good or bad messages. Messages and knowledge existed in medical field for a while. How change people's behaviour and relay messages.

> Pablo Medina: Trust takes time. Right now humanitarians stay for 3-5 months then we go away. That makes it hard to establish relationships.

Question: How do we bridge the gap between humanitarian and development sectors? What role does local government have? They have lots of knowledge of these communities and we need to draw on this. We need to build on the capacity of locals to build engineers. For example: Colombia urban landslide, local government had no capacity so federal took over. They are essential for breaching infrastructure, shelter etc.

> Dr Cees van Westen: For humanitarians, you need to usually be asked by local government to provide assistance.

> Dr. Tom A Dijkstra: In Nepal this is happening, humanitarians are working with local bodies and drawing on their knowledge and skills.

> Professor Tiziana Rossetto: Humanitarians are already doing this.

Question: How do we coordinate sectors?

> Professor Tiziana Rossetto: It comes down to not just talking to scientists and engineers. Need to bring everyone to the table. For example: anthropologists.

Question: How do we preach to non-converted. A lot of scientists have a 'we know better' attitude. How do we ensure we respect and recognise local knowledge?

Professor Tiziana Rossetto: Still is a top down approach. We need to be better at communication. We need to highlight good cases and draw on them. There is enormous opportunity but we need to research this further.

Pablo Medina: There is a big trend now to use cash. What happens when give cash? We need to look into assessing the needs. They should get a right to decide what to do. There are however issues with this relating to shelter outcomes.

Question: What is the role humanitarian aid has in bridging gaps in data.

Pablo Medina: Key outcome of world humanitarian summit- bridging divide but not a specific responsibility of humanitarians. Donor governments needs to do this, and it is the responsibility of development actors too. Humanitarians are doing this, the development side needs to also do its bit to bridge the gap. Funding preparedness is limited and need to do a lot more around this. There is so much we can be doing before disaster strikes.

Conclusion

Dr. Tom A Dijkstra closed the session by outlining the key points drawn from the discussion; identifying the value of multidisciplinary work; that although there are many challenges to working within multi-hazard contexts, this should not stop us from doing what we can; the value of understanding political and economic frameworks to see how these can be worked with in order to overcome challenges in humanitarian action; and finally the importance of recognising incremental changes in the ways in which we work and value them.

Panel Presentation and Discussion: *Towards supporting self-recovery in the current climate of disaster response, DRR, humanitarian and development policy*

Emma Lovell opened the panel with a welcome to the second invited speaker to present, **Dr. Ramesh Guragain,** Deputy Executive Director, National Society for Earthquake Technology (NSET), Nepal. Other speakers on this panel were: **Victoria Maynard**, Programme Research and Development, Habitat for Humanity, GB and **Lizzie Babister**, Associate Director of Strategic Support Disaster Risk Reduction and Response, Habitat for Humanity.

NSET's experience on promoting safer building and working with DRR

Dr. Guragain initiated the discussion by presenting the work of NSET, a Nepali NGO that started in 1993. Its role is to link policy to practice, thus linking governments and academia to communities through coordination and facilitation. NSET worked with USAID after the Gorkha earthquake in 2015 on the 'Baliyo Ghar' (Strong House) project, which addressed the reconstruction at three levels: national – through technical support on curricula and advocacy; district – through training of trainers and supporting project teams; and finally at local level through house to house technical support. The overall objective of the project was to support the Government's owner-driven model of housing reconstruction by promoting disaster resilient construction standards and design and building back safer in earthquake affected districts. A blanket approach was used to support every household with affordable, feasible and culturally acceptable technologies for reconstruction.

Throughout the discussion on NSET's work, Dr. Guragain highlighted three key underlying concepts that shaped the response and built comprehensive programming: awareness raising, capacity building and building a system that ensure the continuation of the work. Dr. Guragain presented these in the shape of a house to communicate the significance of each of these concepts (see figure 8).

Figure 8 Comprehensive programming, NSET
Source: NSET, 2017
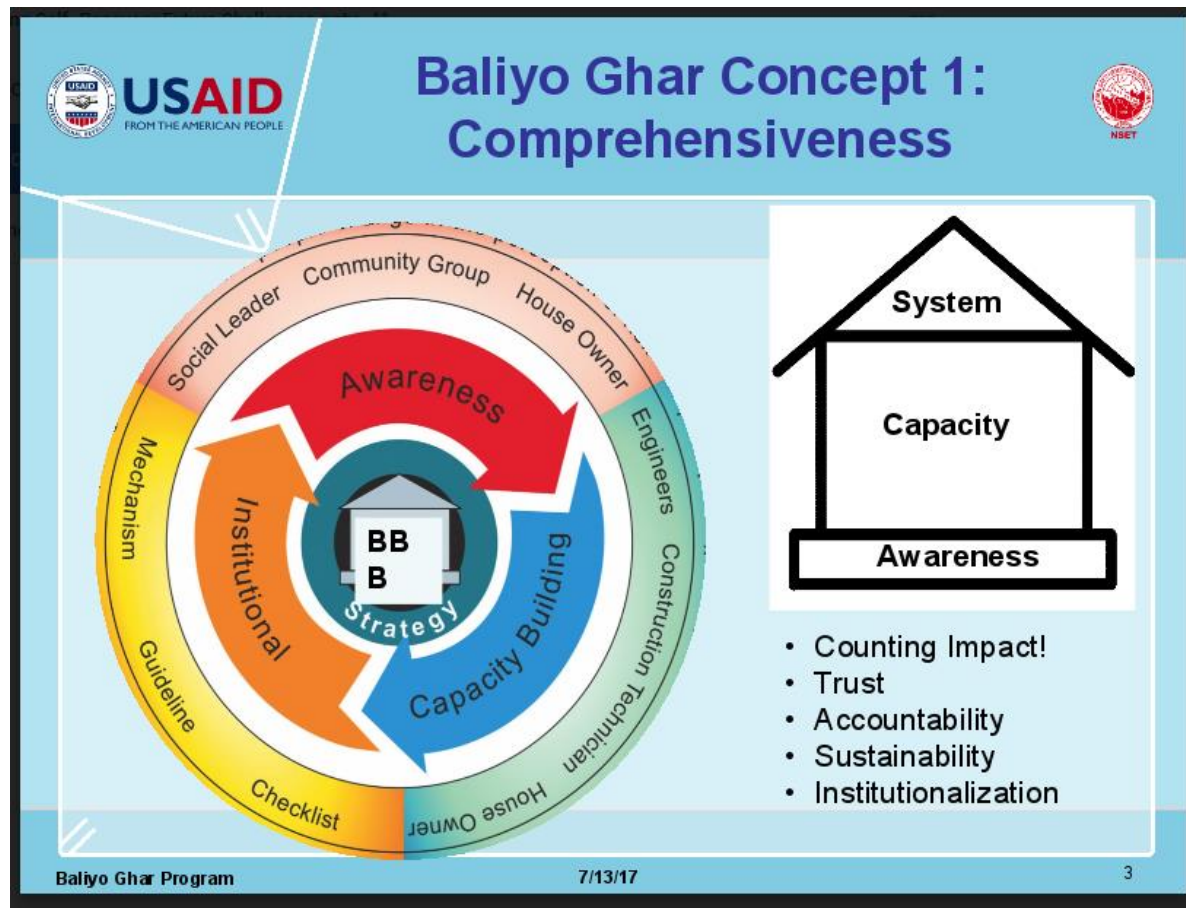
Thus building awareness has become the foundations on which you can build capacity to implement, and the system - much like the roof of a house – is what holds the process together.

From this experience, Dr. Guragain then shared the lessons learnt and challenges of the NSET experience.

Initial opposition to the project: However, technical assistance and using local champions helped to change perceptions of people that had originally opposed it. This was achieved after long-term comprehensive technical assistance in the form of short trainings, orientations, having a help-desk and door to door support.

Speed of inspection: There was a considerable time lag between the reconstruction of homes that quickly became ready for second instalment and the number of homes that had been inspected and approved for this second instalment.

Market facilitation: Materials needed for reconstruction were not always available and the cost was high. A survey conducted demonstrated that more than 80% of materials that people wanted to use were not readily available. Thus the promotion of certain reconstruction technology requires market facilitation so that this technology can be met.

Continuous support and follow-up: NSET observed that the door to door support helped build confidence of masons and increase compliance. Dr. Guragain pointed out that organizations that don't stay for a long time lose out on building confidence, which increases compliance.

Speed of reconstruction: Dr. Guragain pointed out that the speed of reconstruction was the same in areas that received assistance and those that didn't. He then posed the questions, *how do we increase reconstruction speed? But also, what rate of reconstruction is fast enough? Especially when communities are already doing ten times more than the usual, is it fair to say that they are slow?*

Impact on masons: Dr. Guragain questioned the investments made in training new masons, reflecting on the outcome of such investments in future. Whether masons will continue to work after training and after the reconstruction? Thus the lesson or suggestion is to facilitate the bringing of masons from other non-affected districts.

Delay in transferring technology: It was observed that the different use and availability of materials in the Himalayan part of Nepal required alternative reconstruction options. These areas would have benefitted from government approval of these alternative options.

Data collection and lesson sharing: A final reflection was that there was no uniform tool used by all organisations thus sharing information became very difficult across different systems. Not only would more facilitated information sharing have benefited the response but also the sharing of lessons learnt. Thus NSET expressed that the NRA should, in future, guide and facilitate for lesson sharing and data collection mechanisms. Building on this, Dr. Guragain also shared that NSET have run a number of tests and models for different types of buildings and found that background research helps to build confidence in introducing new building technologies to communities.

Lessons from Haiyan: Self-Recovery

Victoria Maynard presented her reflections on an extensive analysis of shelter self-recovery programmes, identifying certain aspects that pose important questions and challenges when considering approaches that support self-recovery.

Targeting: As households follow different pathways of recovery - some receiving assistance but would have recovered anyways, others that receive it and still need more support – the work of analysis on how targeting is currently done suggested that it could be improved with initial quick and cheap awareness and training during needs assessment, followed with a package of technical and financial assistance. In this respect, Victoria discussed the notion of 'graded targeting'.

Contribution of households: This was considered as a significant indicator on the success of programmes as it reveals how much households can contribute and how much risk they are willing to take on. However, this contribution must be understood within a wider context of multiple sources of contribution from governments, agencies and other networks as well as the fact that contributions change over time.

"The problem with shelter self-recovery programmes is that the contributions are assessed at the beginning of the programme, but the contributions change over time"

Thus the analysis demonstrates that the most successful programmes were those that could be adapted to changing needs. Programmes that didn't have the capacity to adapt left households to take on more risk and have to cover any gaps themselves. This is important to understand, considering that households are also sacrificing time and transportation costs to attend trainings. In view of this, the combination of material, financial, and technical support is important. Cash on its own does not cover everything, including protection.

Integration of sectors: Shelter self-recovery often relies on material or financial contributions from the household, which means there must be integration with livelihoods programmes. Furthermore, self-recovery in shelter can also mean self-recovery in WASH for example. The challenge is how to balance these needs and forms of assistance, for example, requiring attendance at shelter trainings and livelihoods trainings is a burden for households.

Monitoring: A final important message from these reflections is:

 "if we want to learn more about shelter self-recovery programmes, we need to be better about how we monitor them and measure outputs"

For example, measuring completed houses rather than shelter kits distributed to evaluate self-recovery.

Victoria concluded the presentation with two points that pose challenges for self-recovery relating to the measurement of success and the balancing act between challenges, which led on to the final presentation of the second panel.

Reflections on future challenges for Self-Recovery

Lizzie Babister drew on her own experience and other practical examples, as well as reflecting on the existing knowledge of self-recovery approaches to identify specific challenges that need to be considered in practice.

Government policy: Governments can make decisions that shift recovery pathways, for example, in the Sri Lanka Tsunami recovery in 2004, families reclaimed building materials and were ready to build and the government decided the area wasn't safe and everyone had to be relocated; during the Nepal earthquake recovery in 2015, agencies faced hurdles with registering with the government and having to wait for government policies to gain clarity on on what work they could do with affected communities. Finally an example from the Pakistan earthquake in 2005, where a building technique was endorsed by the government but many households couldn't afford to build to standard. With Pakistan, advocacy led to a broadening of the standard to become more feasible.

Transparency: Self-recovery is difficult to measure—this isn't a bad thing, but means more work, more monitoring and evaluation but also more sophisticated methods for it. Lizzie drew on an example from Ethiopia in 2013 where transitional shelters were brought in by agencies and adapted by families according to what they needed, the question was therefore how to measure what people needed and how these needs were met?

Safety: Reflecting on the previous discussions on the notion of 'safety', Lizzie drew on the example of school cyclone shelters built in Madagascar in 2008, which were handed over to families to continue building them on their own, but then the building stopped. Similarly, in Haiti after the earthquake in 2010, it has proven necessary to bring in engineers and technical experts—not everything can be done by the community. The challenge is therefore, understanding the degree of involvement from all parties and how to ensure safety but also promote the highest possible level of owner-control that the self-recovery approach seeks to promote.

Vulnerability: The self-recovery approach risks being built on certain assumptions such as community dynamics, for example in Mozambique following Cyclone Favio in 2007, the main support to the community was materials with some technical advice under the assumption that people would support each other. In this case, vulnerable people were left on their own without the ability to self-recover.

Self-recovery success spectrum: Communities are on a spectrum of capability, recovery is a spectrum of technical scale and/or complexity. The balance between these two can be either exacerbated or supported by policy and technical standards.

Lizzie concluded her presentation by opening up these challenges to further questioning from the participants in the room.

Figure 9 Lizzie Babister, self-recovery v.s. safety; on the far left, Victoria Maynard; in the middle, Ramesh Guragain.

Question (to Victoria and Ramesh): What is the role of local governments in your analysis or work?

> Victoria: Policies may be set by national government but it is local government that implements and tweaks the policy to fit needs. However in the case studies analysed, local governments were rarely mentioned.

> Ramesh: Local governments are at the front line in the community to promote new policies and drive understanding.

Question: We often measure inputs (like shelter kits distributed) because we aren't around for long enough to measure the outputs, and we have to have something to report to donors.

> Lizzie: This may be something to learn from other sectors: for example, how the education sector measure success, since learning is long-term.

Question: How can we ensure that organizations such as NSET are in the position to provide technical expertise in the event of emergency, and how can we tie emergency response to these organizations? How can we tie preparedness to these organizations?

> Ramesh: In our experience there is a difference between response and reconstruction in communities that have done preparedness work and those that haven't.
> Lizzie: Donors need to be pressured to invest in the times between emergencies, and agencies need to do work between emergencies.

Conclusion

Emma Lovell closed the session by summarising the discussion. Some key points to take away from the panel are: the challenge of community uptake of this approach and finding the balance between their greater contribution without risking 'safer' reconstruction; the issue of economic and political contexts and how these impact recovery pathways and decisions taken; longer-term recovery and the importance of monitoring and evaluation, measuring success and sharing lessons; the issue of targeting assistance and working with vulnerable groups; and finally, the issue of sector integration and the opportunity of cross-sector learning.

Panel Question Time: *What are the implications of a self-recovery approach for recovery more generally?*

The participants in this final panel were (see figure 10 – from left to right): **Dr. Cees van Westen**, Associate Professor, Faculty of Geo-Information Science and Earth Observation, University of Twente, The Netherlands; **Dr. Ramesh Guragain,** Deputy Executive Director, National Society for Earthquake Technology (NSET); **Pablo Medina**, Senior Officer, Shelter Cluster Coordination, International Federation of the Red Cross; **Cathrine Brun**, Director of Centre for Development and Emergency Practice (CENDEP), Department of Architecture, Oxford Brookes University; **Julien Mulliez**, Humanitarian Advisor, Conflict, Humanitarian and Security Department, Department for

International Development; and **Amelia Rule**, Shelter Advisor, CARE International UK. The session was moderated by **Charles Parrack**, Subject Coordinator, Shelter after Disaster, CENDEP (see figure 10).

Figure 10 Question-Time Panellists. From left to right, Dr. Cees van Westen, Dr. Ramesh Guragain, Pablo Medina, Cathrine Brun, Julien Mulliez, Amelia Rule and Charles Parrack

Throughout the day, participants in the workshop had been asked to collaborate, discuss and identify questions for this panel. These were written down on flipcharts throughout the room and drawn on by Charles Parrack, directing the questions accordingly.

Question: **Who else do we need to involve in this discussion? Where does self-recovery sit within the humanitarian continuum? How does this evolve working with donors?**

Roles and responsibilities in the self-recovery debate: The discussion reflected critically on the current role of INGOs, not that they are no longer necessary but that perhaps this role needs to change and more space needs to be left for local actors to take action as well as INGOs recognising when they have hindered a process of recovery - in some cases, by creating a need where there is none. Furthermore, it was discussed that a need for longer term 'slow research' and 'real time research' opens an opportunity for more work in encouraging PhD research by practice from academic institutions.

Question: **Transfer of risk from the NGO to the family. Does this raise ethical issues and if so, what are they?**

The ethics of 'transferring' risk: This discussion inevitably drew on the existing drive toward cash-transfer programming. An observation was made about self-recovery approaches being a good opportunity to be more involved in the cash debate. However, cash does not cover everything and evidence shows that in certain cases where conditional cash has been provided, families have not been able to complete their houses. However, an example drawn on from the Philippines where conditions were set by affected communities after a process of knowledge exchange, proved a positive experience from risk transfer.

Beyond the cash discussion, it was also highlighted that the risk/benefit decision is complex, touching not only on the risk that the family takes on but also what the risk is of 'doing nothing'. The control over risk was discussed with reference to the use of materials in shelter programming, where in some cases agencies are uncomfortable with giving control to communities over certain materials.

In view of this discussion, an important observation was made about the ownership of risk: why is it that in the room we were talking about 'transferring risk'? At what point was the risk 'given to the INGOs'? What about the role of local governments in handling risk? In response to this, a panellist explained that from DFIDs perspective is with the building. Making decisions that have an impact within the wider community then impacts what DFID can support. People have always managed their own risk.

A final conclusion on the ethical impact of risk transfer came from Bill Flinn: generally speaking, we're referring to how risk gets passed to the house owner, and who actually shoulders the risk? The family and the next generation do. However, when considering, for example, schools in earthquake zones, then the duty of care returns to the implementer and INGO.

Question: **How can we make an argument to donors that it makes sense to lift the standards from low to medium rather than from low to high – drawing on the safer rather than safe debate?**

Gathering evidence: This discussion opened with further questions on the notion of 'safe'; safe in terms of what? What risk? What are the parameters and who sets them? What happens when the donors are setting the parameters – whose risk is it then? Where does the accountability fall? These questions tie back to perception of risk and what are acceptable levels of safety and risk. Amelia made reference to CARE's experience in Madagascar:

> In 2012, CARE received funding to rebuilding houses for $140 per house. This was not enough to build as durable houses as it had done in the past with $2000 – so what are the minimum levels of safety? CARE chose one or two key messages and traditional practices that are already known to be combined into safer options. As well as supporting preparedness: Before a cyclone, people take the roof off their houses and then shelter under it as it is closer to the ground. They take down panels and leave the frame so the wind passes through. Then they can just add the parts back together after the cyclone. CARE therefore focused on the strength of the frame. This enabled them to maintain their own preparedness approach, thus supporting existing coping mechanisms and working with them to minimise impact thereby allowing them to bounce back faster.

This approach can only be possible when the knowledge and evidence for such practices exists and can be worked with to design an approach. Thus the interest in this question is that it refers to how we build evidence and what evidence we are looking for. Moving beyond the example provided from Madagascar, it was also highlighted that cost-benefit analyses are helpful but that they are not easily done. Interventions cannot be isolated from each other. For example, out of five interventions, the first three might work best, but the fifth may not have worked unless the first three were already there.

Furthermore, gathering evidence with which donors can make decisions - in complex contexts for example those with mixed typologies of disasters - is also not easy. Two views were expressed at this point: The first being that rapid context analyses in these cases are not possible unless the evidence is already in place and there are existing levels of experiences, expertise and knowledge exchange with people from the context as well as political will – it is rare that none of these are missing in a context. A second point of view expressed that the former is the point of view of a scientist, whilst a practitioner will do 'the best possible' with whatever evidence is available. You have to come up with a strategy within 72 hours of a disaster and this is going to involve a risk analysis. It will be based on the context before the disaster. You have to come to accept that if you don't do it, you will become paralysed. If the INGOs have it in the first place, then those who transfer the money to the INGOs – i.e. the donors - have it too.

Question: **In a self-recovery programme, what do you think success looks like? How should we measure it and should we try?**

Measuring success, if at all: This discussion drew on the different elements that should be measured in recovery, starting with safety of buildings and location, considering however that there is no guarantee that the same type of hazard will strike twice in the same location and cause similar disasters. From NSET, Ramesh explained that the number of buildings constructed is important, but the surrounding area needs to be looked at as well to understand self-recovery. We don't know where the next disaster will be. Further to this, Ramesh clarified that measures of safety depend on the country, the system and culture and success is not only about the level of safety reached but also about the strength of the system that is in place to reach such a level. Building on this reflection about systems, it's also important to consider how such a system set up at one point in time will affect and change the lives of people further down the line. Success has a time scale.

A different example proposed to measure success was CRS's experience in Nepal whereby one community drew on another community's training experience and picked up certain aspects about the training, adapted them and used them in their own housing improvements.

Question: **So the beneficiary owns and adapts the skill. How can technical specialists help to communicate technical guidance to the most vulnerable? What's the role of different stakeholders to ensure there is access to appropriate knowledge?**

Knowledge intermediaries: It was highlighted that physical models and representations of techniques have proved most useful from the experience of NSET, videos have been less helpful. Furthermore, the 'demystification of science and its theory' was another recommendation from the experience in Nepal to emphasise that the most up-to-date technology is absolutely necessary to develop the information needed in communicating technical guidance.

However, as Pablo highlighted, there is an assumption in the second question that implies there is a knowledge gap within the community. This is incorrect and therefore the question should be, how can communities transfer their knowledge to the internationals to support their intervention? It's about coming up with the right questions. The knowledge transfer goes in both directions. Different forms of knowledge are present in the memories of different actors involved in recovery, for example, the level of knowledge in the communities often depends on the regularity of the event;

whereas, the level of knowledge or awareness of the power relations, political decision-making processes and land regulations may be different amongst different individuals and communities as well as humanitarian practitioners. These different forms of knowledge are held by different actors that should engage in knowledge exchange.

Question: **If we want to implement between the forecast and the disaster, how do we persuade the donor? & how can we ensure that post disaster interventions are as timely as possible?**

Forecast based financing and preparedness: it was highlighted that the only way to reduce the time between a disaster and a response and the time taken to make decisions on funding is to be prepared. Not only as INGOs that respond to disasters but also investing in preparedness as a whole. The latter however becomes a greater challenge when engaging with donors that are less inclined to fund development approaches at such an extent as is currently being done for emergency responses.

Question: **Is self-recovery gendered?**

Gender: Yes. Looking at the difference between vulnerabilities and capacities, different family structure and rates of recovery, all aspects are gendered. This nuance is currently missing in the discussion and research. In view of this, it was highlighted that very often the gender composition of the international teams has an impact on this. All male teams may not be able to speak to women. However, although difficult, it is clear that gender considerations are essential. If the gender angle is not present, the response is not good enough.

Question: **Why are we avoiding 'resilience'?**

'Resilience' and 'innovation' were both rarely mentioned – if at all – throughout the day. This observation drew the discussion to a close, concluding that the overlaps between self-recovery and resilience should be further researched and analysed.

Figure 11 Question-time: opening the discussion to the public

Conclusion

John Twigg led the formal closing of the conference by thanking the team and those who had helped organise and note-take throughout the day, as well as those who had presented, participated and flown in from various other countries. John highlighted that nine months ago, this pilot project began as a step into the unknown. There were lots of questions and no answers. Today we are still in the unknown and open to further questions throughout. The team hopes to make these findings and reflections into more solid evidence-based discussion and conclusions so that they can be shared building on the initial objective which was to create a collective endeavour amongst a wide range of people; not quite a Community of Practice but one of debate and discussion.

Addressing the future of the project, the team would like to take the work further into other contexts of interest, for example self-recovery within urban environments. There is a need for serious long term studies of recovery and the missing majority. This research has been approached through shelter but there is a need for more integrated research. Post-disaster transition is the least well researched of all areas of study. This is therefore a big opportunity to make a serious contribution to practice.

The Promoting Safer Building team would like to thank everyone who attended the conference and contributed their knowledge, ideas and experiences to the discussion. It was an enriching and enlivening event and we hope you enjoyed it as much as we did.