

The Built Environment Professional's Contribution to Major Disaster Management

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SUMMARY

The RICS President's Commission on Major Disaster Management was born out of the Indian Ocean tsunami, which so deeply affected people worldwide. The RICS identified a broad range of skill sets that would be of value to the long-term relief effort following a major disaster. Feedback from front-line humanitarian relief agencies and NGO's has identified three points of intervention in the disaster cycle where these skills would add value: at the planning stage (disaster risk reduction); in the immediate aftermath phase (advice on short-medium term shelter); and in particular for the long-term reconstruction effort. The 'Mind the Gap' Report, published in June 2006 has been widely accepted by the Humanitarian Relief Community, including the UN and World Bank. Its main conclusions are:

- The world needs a better system and needs to be better prepared for dealing with major disasters.
- International (aid) agencies are geared to an efficient and fast response in terms of humanitarian relief. However, the same agencies and NGOs are not versed in the requirements of the reconstruction process. The paradox is that a major disaster is all too often a *development* issue
- The international community has no strategy for dealing with these longer-term development issues.

The RICS, through its Commission, is seeking to bring together an international coalition representing all the built environment skills. Already this coalition is coming together as a 'coalition of thought' but the drive is to set up an effective coalition of action to address the gaps.

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1. INTRODUCTION

When discussing major disasters, one will frequently think of the 2004 Indian Ocean tsunami, which killed nearly 250,000 people (Christian Aid, 2005), affected the lives of many more, and will be known as one of the worst disasters in living memory (UN-ISDR, 2006). However, less well-publicised disasters, both natural and man-made, continue to affect lives worldwide. In 2006 alone there were 395 natural disasters affecting 134.5 million people worldwide, causing \$19 million worth of damage (CRED 2007).

Although disasters affect many developed countries, it is developing countries where more fatalities and destruction occur, and where there is less capacity for re-development: 98% of those killed and affected by natural disasters are from developing countries (Tearfund, 2005).

The RICS President's Commission on Major Disaster Management (MDMC) was convened after the 2004 Indian Ocean tsunami in response to members concerns on what they and the RICS could do to help. Since then the Commission, made up of members of the RICS and other built environment professionals, has explored the strategic and practical ways it could bring the skills of RICS members and others involved in the built environment to provide help in the return to normality for those affected by disasters each year.

The MDMC's work has been driven by the recognised gap between relief and reconstruction (Lloyd-Jones 2006), addressing man-made as well as natural disasters. Whilst the emergency response to disasters swings into action with a relatively efficient process for immediate relief, the longer term need for shelter and reconstruction of homes and infrastructure is slower to be addressed. The tsunami is an example of a highly funded disaster, where the lack of adequate reconstruction remains an issue two years after the event: an example is that 70% of tsunami-affected people in India are still living in temporary shelter (Oxfam International, 2006). Long-term reconstruction is "constrained by the lack of planning, co-ordinated management and targeted funding of the response in the post-disaster recovery phase." (Lloyd-Jones 2006)

Within the construction process after a disaster, there is an opportunity to "build back better", ensuring risk reduction, resilience, sustainability and community input are designed into redevelopment. Work by FIG Working Group 8.4 (FIG 2006) has highlighted the contribution of the surveyor as a geodetic engineer in disaster risk management, and the MDMC seeks to utilize the wider contribution of various surveying disciplines, and the built environment professions generally.

2. PROBLEMS IDENTIFIED WITH THE RECONSTRUCTION PROCESS

2.1 Why are communities becoming more vulnerable?

An average of 354 disasters of natural origin occurred a year in the period 1991 to 1999, yet from 2000 to 2004 this rose to an average of 728 a year (IFRC, 2005). There are a number of reasons why people are becoming more at risk of disasters. Whilst some disasters are due to natural causes, the affects are often actually “man-made” in that vulnerability to natural disasters is increased by human land use patterns, and use of natural resources.

Climate change is predicted to cause more extreme weather events, with more rain and hurricanes, and more dry spells. The world is already experiencing this change - while “the number of geophysical disasters – earthquakes, tsunamis and volcanic eruptions – has remained steady... the number of hydro-meteorological (weather-related) events – including droughts, windstorms and floods – has more than doubled since 1996.” (Christian Aid, 2005).

Nearly three billion people (almost half the world’s population) live in coastal zones. People were far less affected by the Indian Ocean tsunami where the ecosystems were intact - forests and plantations protected coastal villages from the wave (UN-ISDR, 2006). Overuse and damage of such natural resources have left people vulnerable where they once had protection.

Millions of people live in areas vulnerable to natural disasters due to rapid urban growth (Tipple, 2007). More of the urban population is living in poverty, so increased urbanisation has led to more people being vulnerable due to insecure land rights, poorly built housing, and unstable informal settlements (ibid).

Whilst initiatives such as the Hyogo Framework for Disaster Risk Reduction (UN-ISDR, 2005) have put into place policies for risk reduction, tools and processes are required for implementing these policies (Lloyd-Jones, 2006).

2.2 Mind the Gap

The MDMC hypothesised that there was a “gap” between immediate humanitarian relief and long term reconstruction. In June 2006 it published its report “Mind the Gap!”, produced by the Max Locke Centre of the University of Westminster, UK, which identified this gap and the reasons it may exist.

These reasons include institutional constraints, gaps in communication, lack of access to appropriate use of professional skills and knowledge to support the local effort, and failures in management and planning. It was also found that the funding of recovery from disasters is inflexible and short term-focused, which made it difficult to plan and create a smooth and rapid transition to long-term reconstruction.

Local government capacity to plan and implement recovery strategies is usually very limited and often incapacitated as a result of the disaster – local and international NGOs, working with local communities, are needed to supplement government rehabilitation efforts.

Land tenure issues are also a block to reconstruction as establishing and asserting property rights is a major issue.

The international organisations involved in disaster relief are often geared towards providing immediate relief and exiting the situation once short-term relief has been provided. On the other hand, with the Indian Ocean Tsunami there was enormous pressure to be visibly seen to spend the huge amounts of public donations that were made. However, NGO's acknowledged that they were not reconstruction experts – "a report commissioned by the IFRC, evaluating its response during the first few weeks after the tsunami, concluded that the organisation had so much money that it entered areas – like house-building on a massive scale – that were outside its usual mandate and poorly handled" (Lloyd-Jones, 2006).

Despite the difficulties highlighted, "Mind the Gap" identified the feasibility of a framework to bridge this gap, using experiences from past disasters.

2.3 What the RICS can bring

The RICS supported the creation and continued work of its MDMC as part of its Royal Charter remit to work in the public interest. The MDMC can provide the humanitarian relief community with access to the built environment profession across the world through its members, and through connections with other built environment organizations. Following the Mind the Gap report, the MDMC has commissioned work on providing a framework to bridge this gap.

The expertise and experience of RICS members can provide creative and long-lasting solutions to problems with risk reduction and reconstruction in a disaster scenario.

2.4 Discussions with the humanitarian relief community and needs identified

Meeting with those already involved in disaster relief and recovery has been crucial to the MDMC's approach in seeking ways to bridge the gap. From the discussions had with the humanitarian relief community (such as UN organisations, NGOs, professional bodies, the World Bank, the World Economics Forum) the following were key issues raised:

- the RICS is a key missing link to the built environment private sector;
- the NGO and humanitarian sector does not have expertise in the built environment;
- there is a need for immediate professional advice at the scene of a disaster, and during the recovery phase;
 - the international community is beginning to look at disaster relief in terms of risk reduction and preparedness, so the work of the Commissions should address this area.
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3. HOW THE BUILT ENVIRONMENT PROFESSIONS CAN CONTRIBUTE

3.1 Surveyors skills set

The Mind the Gap report (Lloyd-Jones, 2006) identified the skills that surveyors could bring to disaster risk management and reconstruction:

- Assessing disaster-related damage;
- Land surveying, GIS and rapid mapping of disaster impacts and risks;
- Monitoring funding;
- Valuation, cost planning and spending priorities; development finance;
- Procurement and project management;
- Sourcing construction materials and equipment;
- Building quality audits pre- and post-disaster, particularly resistance to disaster risks;
- Aiding logistical planning;
- Aiding local government land administration, cadastral mapping;
- Knowledge of land and property legislation, providing support on land rights and claims;
- Knowledge of local regulatory frameworks and ways they could be improved;
- Training and knowledge transfer;
- Disaster risk assessment;
- Links with other built environment professions; inter-disciplinary and team working;
- Contacts with local business and industry;
- Knowledge of appropriate forms of disaster-resistant construction and engineering.

It is important that those involved in disaster risk reduction and management are aware of the diversity of skills offered by the built environment community, and one of the aims of the RICS has been to raise awareness of these skills.

3.2 Raising awareness of surveyor skills

Discussions with NGOs and the humanitarian relief community indicated lack of awareness of what surveyors did. There are also many agencies who do not know who to call for built environment advice when they are called to a disaster, and monitoring and evaluation of reconstruction efforts is being carried out without professional help. A guide to the built environment profession for aid workers has been proposed by the MDMC to help overcome this lack of knowledge and ground agencies in the basics of the range of skills that can be offered. In this respect the MDMC will be working with other built environment professions in the UK: the RTPI, ICE and RIBA of the UK, and with charities such as Architects for Aid, RedR-IHE and MapAction, who provide assistance around the world where professional help is needed.

3.3 Bringing together a coalition of thought on the reconstruction process and providing assistance to this coalition

The meetings that have been had with the humanitarian relief community have brought together a “coalition of thought” seeking the best way forward in implementing disaster reduction strategies. It has been recognized that it is important to bring together the relief and development communities to ensure a smooth transition from relief to reconstruction (Lloyd-Jones, 2006). Stakeholder engagement is crucial to the work of the MDMC in bridging the gap. Those with experience in disaster zones can provide valuable feedback on the development of a framework to bridge the gap, and are also requesting help from the MDMC for projects which require surveyor expertise.

An examples of this is work with a major charity to aid the monitoring and evaluation of partner construction projects. The MDMC have also been asked to advise on international risk assessment work.

This coalition of thought is beginning to develop an understanding of how the built environment profession can add value to work that needs to be done in disaster risk reduction and reconstruction.

3.4 Bridging the gap

The MDMC has commissioned the University of Salford, a six star research institute in the UK, to develop a framework to bridge the identified gap. Research has already been carried on “designing” the bridge, looking at a framework for disaster management and reconstruction, engaging with stakeholders to the framework, and identifying funding sources to develop and implement the framework.

The Process Protocol is a high level process map, with two sub levels, which outlines construction best practice from the very start of the process right through to handover. The Protocol is already widely used in the UK construction industry. Research has identified that the Process Protocol could be adapted for the disaster scenario to act as a tool for those working in reconstruction after a major disaster. This tool could be used by local, and national government, the humanitarian relief, and development communities.

As the work of the MDMC will address man-made and natural disasters, the MDMC is working to validate the Protocol in both scenarios. When this work has been carried out this summer, further work will be commissioned to consult with the future users of the Protocol to ensure that it is practical and usable by stakeholders.

3.5 Lobbying for build back better and other risk reduction measures

Another area where the MDMC can bring its skills is in lobbying national and local governments to plan for and implement risk reduction measures, and ensure funding is made available for permanent reconstruction. Currently, attention is drawn to areas after a disaster,

yet risk reduction is inadequately addressed in the development process. This has been identified to be due to lack of understanding and ownership, competition with competing issues, and lack of political will, despite the fact that risk reduction measures can cost less than post-disaster recovery (Tearfund, 2005). From discussions with agencies attempting to implement the Hyogo Framework, local and national governments appear to be slow to incorporate risk reduction policies, with some being better than others.

As well as policies for risk reduction at a national and local level, there is also a gap in knowledge around risk. Whilst 86 disaster hot spots (Dilley et al, 2005) have been identified, based on areas with more than 30% GDP, which are at risk of two or more hazards, information on condition of buildings, and their vulnerability to various disasters is not accessible in one location. The UN-ISDR aims to compile this information, and have asked the MDMC to advise on this.

4 ISSUES FOR THE FUTURE

The issues raised by agencies involved in humanitarian relief and disaster risk reduction emphasise the need for a seamless as possible process from disaster recovery to development. The MDMC hope to be able to provide ways to bridge this gap, by the work outlined above. The MDMC will also be working on a practical level to aid NGOs, for example in advising on tendering bids for reconstruction work and methodology on risk assessment surveys, monitoring and evaluating reconstruction projects commissioned by NGOs, bringing the private sector to the discussion, and being the conduit for them to provide pro bono advice and guidance.

In the meantime, the MDMC will continue to bring together actors on the built environment and disaster management stage. It is important to remember that reconstruction is not a linear process – by “building back better”, homes and infrastructure become more resilient to the next disaster, and fit for purpose for the communities they are provided for.

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BIOGRAPHICAL NOTES

Dr David Owen MSc PhD FRICS

Executive Chairman, RICS President's Commission on Major Disaster Management

Fellow of the Royal Institute of Chartered Surveyors (RICS), a chartered building surveyor with 35 years' experience of working in the built environment sector, being based mainly in London as well as Hong Kong.

- District Surveyor for the Colonial Government in Hong Kong, gaining first hand experience of the effects of typhoons, landslides, mudslides and dangerous building structures.
- 1979 – 1993 Chesterton International covering most aspects of the life-cycle of buildings, which ranged from whole towns to large commercial centres. Main focus was on project management on behalf of funding institutions.
- Worked at director level for FM², Primary management Limited (a Sodexo company) and Allen-Owen Ltd.

Currently a Visiting Professor at the Centre for Disaster Management in the six star-rated Research Department of the School of the Built Environment at the University of Salford, Greater Manchester, U.K.

He was principal author and founding course director of the highly successful international Facilities Management MSc./PGDip. course run by the College of Estate Management at Reading University, U.K.

Past President of the Building Surveyors' Division of the RICS and was inaugural Chairman of the Bureau of European Building Consultants and Experts, the then European building trade association of building surveyors and building engineers.

Inaugural Chairman of the RICS Facilities Management Panel 1993-1997, which developed into the RICS Facilities Management Faculty that now has 32,000 members.

PhD in Business Resource Decision-Making
Masters in Management and Building Maintenance Management.

Dr Diane Dumashie

Commissioner, RICS President's Commission on Major Disaster Management

Fellow of the Royal Institute of Chartered Surveyors (RICS), being chartered in 1986, Diane has led many large-and complex development projects working in the public, private commercial and NGO sectors.

Working at senior Property Director level, operating across a wide range of urban business sectors, coastal industry (land and marine based) and housing gaining an in-depth and diverse knowledge of commerce with expertise across all property types.

Diane then undertook a Phd at the University of Wales before setting up her own consultancy practice. She is responsible for managing and delivering urban and rural based economic and regeneration projects within the UK and Overseas, including USA and Africa.

As well as having extensive project experience overseas, Diane is committed to assisting third world regeneration and was over the period 2004-06 Chairperson for Commission 8 (Spatial Planning and Development) for the International Federation of Surveyors (FIG).

Diane currently holds the position of chairman on the UK RICS delegation to FIG, as well as a working group chairman on Informal settlements.

Throughout her career, Diane has recognised the importance of member involvement in her professional association. She has maintained involvement in a range of policy market Panels as well as skills panel, and working parties. This is continued at all levels of interaction, including a member of the Environment faculty board, a member of the RICS South West Regional Board and Local association, responsible for delivering CPD to professional in the Wessex area.

Diane is also an external examiner at Portsmouth University monitoring and evaluating the postgraduate degrees in Property Development and Coastal Resource management.

As a member of the RICS President's Commission on Major Disaster Management, Diane is a key link between RICS actives and FIG aspirations in this area.

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