

HOME TRUTHS

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THINK OF SUSTAINABLE HOUSING DESIGN, AND YOU PROBABLY THINK OF RAINWATER TANKS AND ALTERNATIVE ENERGY.

But when your home and community have been destroyed by disaster, a truly sustainable rebuilding project involves much more than eco-friendliness.

The devastation left by major earthquakes and tsunamis in New Zealand, Japan and now the Philippines have driven home the importance of emergency shelter, food and medical care. But what happens when the aid teams pull out?

“When it comes to housing, the designs used for emergency shelter are very seldom appropriate for the community’s longer term needs,” says RMIT architect, Associate Professor Esther Charlesworth. “Reconstruction efforts in countries already rendered vulnerable through economic or social disadvantage tend to be spearheaded by aid teams that come in from outside.”

This creates what Charlesworth calls the “triple disaster phenomenon”. After the initial disaster subsides, there’s a political disaster, because the government is ill-equipped to deal with the situation.

Then comes the reconstruction disaster. Typically, Western organisations go into vulnerable communities, build prefabricated or culturally inappropriate housing, and leave. There’s little consultation or consideration of sustainability.

“I’ve seen deserted prefab houses littered all over post-tsunami Sri Lanka and in remote Australian Indigenous communities,” says Charlesworth, “because they were built for nuclear families, in communities where multi-generational living was the norm.”

What’s more, post-disaster housing is often climatically inappropriate and unsustainable. “Design and construction requirements are quite different for desert areas compared with the wet tropics, for example, but too often there’s a one-size-fits-all approach.”

Charlesworth also contends that most housing in vulnerable communities fails the economic sustainability test. Builders often use imported materials and labour – depriving local communities of employment. And it’s not just post-disaster zones that suffer. Communities experiencing longstanding social marginalisation also bear the brunt.



Esther Charlesworth in Sri Lanka (above), soon after the 2004 tsunami. RMIT Vietnam students (below) working on housing designs for marginalised communities (below right).



To begin addressing some of these issues, Charlesworth is undertaking a four-year study titled “Architecture on The Edge: Designing Sustainable Housing Systems for Vulnerable Communities”.

With the help of a \$A600,000 Australian Research Council (ARC) grant, her team is looking at both the emergence of the field of “humanitarian architecture” and also learning from housing case studies in communities experiencing vulnerability: Vietnam and Bangladesh (climate change), New Orleans (natural disaster), Sri Lanka (civil war and natural disaster) and Australia (natural disaster).

Collaborating with community representatives, funding agencies and not-for-profit housing design organisations, the team is identifying how success stories could help other communities and agencies deal with disasters and marginalisation.

In Vietnam, students from RMIT’s campus in Ho Chi Minh City are participating in the research. “Vietnam is highly vulnerable to climate change,” says Charlesworth, “but as yet there’s little evidence of sustainable housing solutions.”

The work is informing the planning by RMIT of an innovative international Master in Design, Disaster and Development (MODDD), in collaboration with RMIT Europe and the International Federation of the Red Cross.

Charlesworth hopes her ARC project and the potential MODDD program will make a lasting difference. “Architects are trained to diagnose problems and find real solutions,” she says.

“When post-disaster or marginalised communities see a physical model or spatial representation of their new future city, they feel enormous hope that, despite their trauma, they can view a tangible future.”

Associate Professor Esther Charlesworth is an Australian Research Council Future Fellow, founding Director of Architects without Frontiers (Australia), and Director of RMIT’s Humanitarian Architecture Research Bureau.

Publication Highlights

Humanitarian Architecture: 15 stories of architects working after natural disaster, Routledge Press (2014).

Live Projects, Designing For People, RMIT Press (2012), with Dodd, M. and Harrison, F.

Full list: www.rmit.com/makingconnections