

## UNISDR Scientific and Technical Advisory Group Case Studies - 2014 Integrating preventive strengthening of shelter to resist typhoons and floods, Vietnam

### The problem

Vietnam's economic reforms in 1986 (Đổi Mới - renovation) that saw the creation of a market driven economy<sup>1</sup>, also contributed to a shift by the rural poor in Central Vietnam from using locally gathered short life span building materials (bamboo, rice thatch, etc.), to the use of more costly materials that helped the poor and semi poor in moving to what they often erroneously believed would be more durable housing. The changes in building techniques and materials were gradual but by 2004 more than 70% of rural housing in Central Vietnam had been replaced. However, commune surveys showed that 70% of new houses were weak or semi solid<sup>2</sup>, unable to resist the impact of repeated typhoons and floods. When floods and storms struck these houses were easily damaged, and the recovery cost went from zero (gathered materials) to hundreds of dollars (purchased materials or ingredients). The poor and nearly poor, still more than 20% of the population in 2010<sup>3</sup>, could not support these repeated losses. Each disaster event increased poverty of poor families. Since there is more to lose than there was 25 years ago, safer houses are key to fighting poverty. In turn, reducing poverty reduces vulnerability<sup>4</sup>.

### The science

To address the issue the NGO Development Workshop France (DWF)<sup>5</sup> began, in 1989, to promote ten key principles of flood and storm resistant construction that can be applied to both new and existing housing and to many different construction forms and methods (Mimar 37<sup>5</sup>)<sup>b</sup>. These principles are not building regulations, but safe construction 'targets', concepts of what to achieve, for example "make sure that



Existing houses reinforced for typhoon resistance in Quang Binh province in 2014, (©DWF)

all parts of the roof frame are connected", "firmly attach the roof covering to the frame", and "make sure that doors and shutters can be firmly closed". There are various ways to achieve these safety targets such as considering the shape of the building, the placing of openings, and the choice, if possible, of the site.

The goal has been to demonstrate that the homes of the poor can be made safe.

The applied promotion of the principles includes:

- rapid 1,5 day theory and practice training for all builders in vulnerable communities;
- demonstration of the safe construction principles on the houses of thousands of beneficiary families (and small public buildings like schools);

- development of skills, collaboration networks and awareness amongst local authorities, technicians and builders so that they can provide advice to the population.

To facilitate access to money for safety, DWF initiated new affordable loans available through the Vietnamese Bank for Social Policy, which specifically target borrowing for house strengthening and this continues successfully.<sup>6</sup>

Developing awareness and knowledge is central to this 25 year effort. DWF's has matched the technical and financial actions with public information and awareness raising campaigns using both popular old and new media, ranging from puppetry, school plays ("the stubborn builder") to TV and radio to get the key message across: 'take preventive action'.<sup>7,8</sup> Face to face contact is as important as ever and walks side by side with internet platforms.

### The application to policy and practice

Based on proven experience over many years in Vietnam, in 2011 DWF published the "Atlas of housing vulnerability and measures for safe housing in Vietnam" (DWF/JANI); Then in 2013 DWF supported the production by provincial Departments of Construction of twelve provincial guideline documents for each province called the "Atlas of housing vulnerability and measures for safe housing".<sup>c</sup> These took account of local risks, realities and practice. Technicians and policy makers considered for the first time what people do to reduce their housing vulnerability as well as the lessons of the DWF programme. This has narrowed the gap between official strategy and local action.

As a result, in 2013, the Vietnamese Ministry of Construction recognised that the national standards for house construction did not take account of local risks, and requested DWF to participate in the revision of the standards for low rise buildings in storm and flood areas" currently being drafted for approval in 2015. DWF actions are supported by various donors, including the EU Humanitarian Aid and Civil Protection Department, (ECHO), branches of the Red Cross, the Ford Foundation and significant local contributions.

### Did it make a difference?

The 2010 impact study of DWF actions commissioned by the Building and Social Housing Foundation concludes that DWF's work has had an important impact; "Few households have any savings [...] but this is nevertheless a main reason driving local decisions to adopt the DWF strategy to build or reinforce houses so that they are safe. Doing so saves money."<sup>10</sup> The impact study confirmed that over 90% of participating households families believe that the actions have made a big difference in their capacity to prepare for typhoons and for the floods that follow. To date, DWF has directly assisted over 5000 families in achieving safer housing. This in turn is shaping national policy and action.

Built on community and local authority engagement over many years, the recognition in 2012 and 2013 by the Ministry of Construction of the value of the DWF safer housing strategy has opened the way for a much greater influence in the exposed coastal regions of Vietnam. Instead of working with hundreds of families each year it is now possible to work with many thousands and to have a real positive impact on the safety of the poor in coastal Vietnam. Collaboration with MoC for implementing a Housing Programme in flood and storm areas



One of many posters for the TEN KEY PRINCIPLES OF SAFER CONSTRUCTION; the original poster was a poem of ten key points and has been sung. (©DWF)

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means that by 2016 some 30 000 households will be living in safer conditions, benefitting from loans specifically to achieve this greater safety and a reduction in losses.

### **References**

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### **Notes:**

- a) [dwf@dwf.org](mailto:dwf@dwf.org)
- b) Techniques developed and tested DW and partner NGO GRET, under UNCSH/UNDP project VIE/85/019 in central Vietnam
- c) Atlas published in Vietnamese for the provinces of Thanh Hoa, Ha Tinh, Nghe An, Quang Binh, Quang Nam, Quang Tri, Quang Ngai, Phu Yen, Binh Dinh, Khanh Hoa, Ninh Thuan, Binh Thuan,