

## Abstract

To address increasing flood risks, a combination of structural and non-structural flood risk mitigation measures is considered as a promising adaptation strategy, since they take into account that flood defence systems may fail, and prepare for such unexpected crisis situations. However, information is still scarce about factors that motivate people to undertake private mitigation measures and the spread of different non-structural measures in different countries. This study investigates the situation in Dresden, Germany during the 2002 flood and in Can Tho, Vietnam during the 2011 flood.



Fig. 1. Flood risk mitigation measures: Water barriers applied in Can Tho and Dresden

### Dresden (Germany)

Many households (97%) and businesses (89%) in the flooded areas in Dresden (Fig. 2.), had no flood experience before the August 2002 flood. Thus, preparedness was low: just 46% of households and 52% of businesses had undertaken any private mitigation measure including the pure collection of information (Tab. 1.).

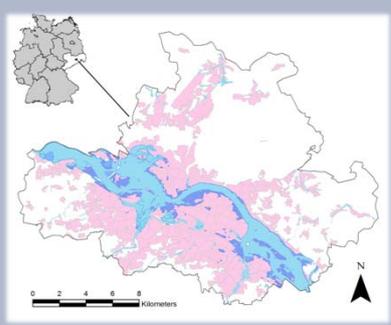


Fig. 2. The 2002 flood in Dresden

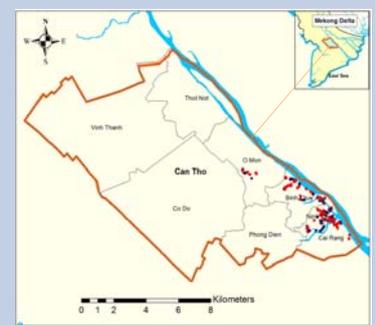
Tab. 1. Percentages of affected households and businesses, which undertook measure of precaution before or after the flood 2002 or which do not intend to undertake measures

Dresden	household	business
before 2002	46,3	52,1
after 2002	28,8	47,1
no intention	24,9	0,8

### Can Tho (Vietnam)

The last extreme flood in the Mekong Delta before 2011 was in 2002, however, there is a flooding season every year. Thus, preparedness was high: 90% of households and 89% of businesses had undertaken any private mitigation measure including the pure collection of information (Tab. 2.).

Fig. 3. Can Tho city in the Mekong Delta, Vietnam



Tab. 2. Percentages of affected households and businesses, which undertook measure of precaution before or after the flood 2011 or which do not intend to undertake measures

Can Tho	household	business
before 2011	89,9	88,6
after 2011	9,8	10,8
no intention	0,3	0,6

measures of precaution in household

measures of precaution in business

measures of precaution in household

measures of precaution in business

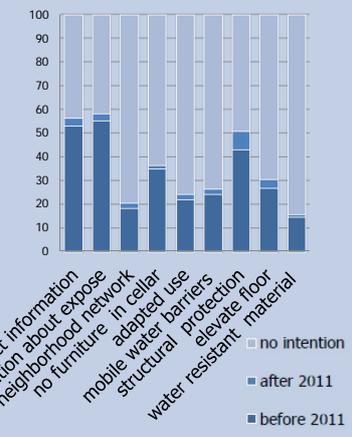
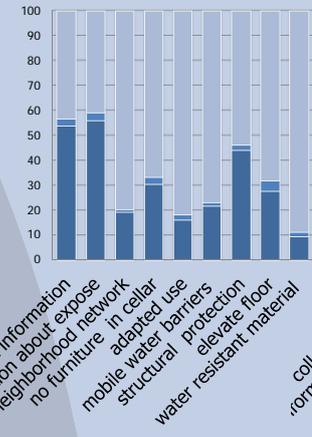
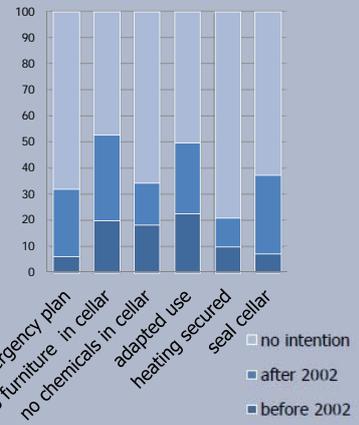
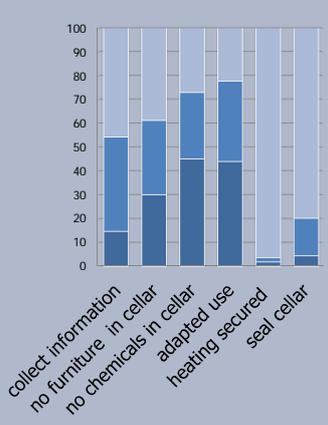


Fig. 3. Proportion of affected households and businesses, which undertook specific measures of precaution before, or after the flood 2002, or which do not intend to undertake the measure

Fig. 4. Proportion of affected households and businesses, which undertook specific measure of precaution before, or after the flood 2011, or which do not intend to undertake the measure

## CONCLUSION

Even though the contribution of private households and businesses to flood risk reduction by means of mitigation measures has become an integral component of contemporary flood risk management in Germany and Vietnam, operational application of such measures still needs to be improved. One important factor influencing the motivation to undertake private measures is flood experience.

Thus, in areas with no regular flooding, one should make better use of past flood experience. To keep the awareness over time, it is recommended e.g. to install or extend historical flood marks right after an event, to implement flood commemoration days and to carry out regular information gatherings. More efficient risk communication is necessary.

## References

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