

## Commentary

# The Levee Risk: If All Players Understood the Hazard, We Would See More Action

Clive Goodwin

*FM Global, Johnston, RI*

Reading the technical articles that accompany this issue, you may arrive at three conclusions: (1) there are many issues surrounding the aging condition of many U.S. levees, (2) there are potential risks such systems may pose to those located behind them, and (3) there are many varied and sound solutions available to reduce the risk of flooding.

Sixteen years ago, following the 1993 U.S. Midwest floods, there was a loud call for action to improve levees and flood plain management (Interagency Floodplain Management Review Committee 1994). Since then, similar studies have followed in the aftermath of many floods, with the most publicized ones coming in the wake of Hurricane Katrina (Interagency Performance Evaluation Task Force 2008). How can such little progress have been made to address very similar flood-related recommendations? Perhaps it is because the majority of studies focus primarily on identifying problems and developing solutions. Influential key government players and decision makers are all too often presented with the solutions and associated costs which then become the primary focus. Decisions cannot easily be made without truly understanding the risk and consequences. This translates across the nation into a widespread lack of demand for action. If the consequences were better understood, the outcome could have been quite different.

For example, once a business owner truly comprehends that there is a real possibility that one day his or her factory could be three-feet deep in

muddy, contaminated flood waters, and concludes that the potential business impact is unacceptable, that person is more likely to ask “What solutions are there to reduce the potential impact of a flood that strikes my facility?” In effect, the business owner, by understanding the risk first hand, is much more motivated to find a solution, even before he knew what the precise solution or associated cost might be. How many of us know we “should” exercise more but we only do it when it becomes a “must” – such as after receiving a dire diagnosis about our health condition from a physician.

The flood risk management community must become more effective at ensuring that the residual flood risk behind levees is explained in an effective manner (i.e., so that people can visualize the scenario if a levee is overtopped or fails and easily picture the impact to the livelihood of those relying on its protection). If business owners, community leaders and emergency managers understand the consequences, they are more likely to support the need for adequate funding for levee maintenance and keeping emergency action plans up-to-date. Engaging key decision makers in developing a consensus on the consequences of foreseeable flood events, including levee overtopping or failure, is the key to starting a movement of change.

Hurricane Katrina provided a clear example of what happens when people do not understand the risk or potential impact of a levee overtopping or failing. Three years later, the New Orleans’ flooding, due to levee failure, is primarily seen as a unique and local problem, when, in fact, levee-

related risks are systemic across the nation. In an interconnected world, where information is more easily available than ever before, it is unacceptable that anyone not be aware of, understand or be exposed to levee-related risks.

Existing national flood plain management policy continues to lead to commercial and residential development in areas located on the fringes of flood zones and behind levees, because these locales are considered, according to present-day flood maps, to be outside of high hazard flood zones (i.e., special hazard flood areas). Without policy changes, financial and operational risk may continue to escalate.

The good news is, as a result of the emerging National Levee Safety Program (National Committee on Levee Safety 2009), the public will, in the future, be able to more easily identify areas at risk of levee failure on future flood maps. This is an excellent first step. However, in isolation this alone will not result in the change needed to address the levee risk across the nation.

The momentum of change will increase rapidly if all flood risk management professionals collectively focus their efforts on ensuring that people understand the risk and personalize the consequences.

Now is the time to work together to make this happen. If we don't, shame on us.

## Author Bio and Contact Information

**Clive Goodwin** is assistant vice president and manager, flood and wind peril underwriting, for FM Global ([www.fmglobal.com](http://www.fmglobal.com)), one of the world's largest business property insurers. In this position, Goodwin manages worldwide underwriting of wind, flood and collapse perils. Prior to his current appointment in 2007, Goodwin served as assistant vice president and manager of natural hazards engineering. Goodwin has held several engineering positions, in the U.K., the Netherlands and the USA, since joining FM Global in 1988 as a field engineer. He has been the leader of FM Global's efforts to collaborate with the U.S. Army Corps of Engineers, Federal Emergency Management Agency (FEMA) and other agencies to highlight the concerns regarding the aging inventory of levees while supporting their efforts to change U.S. national policy concerning the levee risk. He can be reached at [clive.goodwin@fmglobal.com](mailto:clive.goodwin@fmglobal.com).

## References

- Interagency Floodplain Management Review Committee. 1994. *Sharing the Challenge: Floodplain Management into the 21st Century*. Report of the Interagency Floodplain Management Review Committee to the Administration Floodplain Management Task Force. Washington, D.C.: U.S. Government Printing Office.
- Interagency Performance Evaluation Task Force. 2008. Final Draft Volume I – Executive Summary and Final Draft Volume VIII, Risk and Reliability Report. Available at <https://ipet.wes.army.mil>.
- National Committee on Levee Safety. 2009. *Draft Report to Congress on Recommendations for a National Levee Safety Program*. Washington: US Army Corps of Engineers. Available at [http://www.iwr.usace.army.mil/ncls/docs/NCLS-Recommendation-Report\\_012009\\_DRAFT.pdf](http://www.iwr.usace.army.mil/ncls/docs/NCLS-Recommendation-Report_012009_DRAFT.pdf).