



# Flirting with Natural Disasters

*Why Companies Risk It All*





## About This Report

This research report was commissioned and sponsored in 2010 by FM Global, one of the world's largest commercial property insurers and providers of engineering solutions to protect businesses from fire, natural disasters and other types of property risk. The project sought to examine the reasons why some organizations prepare for the risk of natural disasters and why others do not. The objective was to determine the human perceptions and behavioral barriers that obstruct organizations from addressing their vulnerabilities to natural disasters. In learning these impediments, more organizations may take appropriate action to strengthen their physical risk management practices.

In preparing the report, interviews were conducted with the following individuals, whose assistance proved vital to the project:

**Ruud H. Bosman**, *vice chairman, FM Global*

**Louis Gritz**, *Ph.D., vice president and manager of research, FM Global*

**Howard Kunreuther**, *Ph.D. (Economics), professor of decision sciences and public policy, The Wharton School of the University of Pennsylvania*

**Deborah Pretty**, *Ph.D. (Statistics), principal, Oxford Metrica*

**Steve Timmons**, *Ph.D. (Psychology and Management), founder and president, Solutions for Organizational Survival*

**Michael Topf**, *president and CEO, Topf Initiatives*

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Insured losses from natural disasters have exploded annually from, on average, less than US\$10 billion to more than US\$100 billion in recent years.

— Swiss Re

## Executive Summary

Despite great media attention given to the ongoing spate of natural disasters worldwide and their high financial and human costs, many individuals and businesses do little to address their vulnerability to these hazards, let alone other property-related perils, through physical risk management practices.

The research accumulated in this report indicates that the psychology of human behavior plays a significant role in natural disaster preparedness. Key behaviors like denial—the process by which individuals pretend that they or their businesses will be undisturbed by a disaster or otherwise protected from its effects—affect organizational decision-making. Even with scientific data arguing a significant threat of risk, certain people and organizations shrug off the possibility. When a natural or man-made disaster strikes and leaves a company unharmed, the thinking is the worst has passed, although the risk of a more severe event has not changed.

Multiple theories are presented about the significance and impact of human psychology on natural disaster preparedness. Based on these hypotheses and on FM Global's 175 years of knowledge and experience, several remedies persuading a greater appreciation for natural disaster risks are presented.

These perspectives are put forth to inspire a healthy debate on the subject, ultimately guiding a change in organizational decision-making behavior with regard to natural disaster preparedness. A key objective is to prompt business leaders, policymakers and regulatory bodies to become more aware of the psychological factors that affect business decision-making, and to take action today to prevent or reduce the physical, human and business toll of natural disasters tomorrow.

While an organization cannot prevent a natural disaster from occurring, it can prevent or reduce the risk of damage and possibly eliminate it altogether, by leveraging proven engineering solutions based on scientific research and product testing that help to ensure business continuity. The consequences of inaction—business disruption, a loss of competitiveness, reduced shareholder value and market share, and poor reputation—demand greater understanding of the perceived impediments to natural disaster preparedness.

In China, two-thirds of the economic activity and 50 percent of the population are located in provinces along its east coast.

— Chinese Statistical Yearbook 2009

## Courting Catastrophe

Natural disasters are on the rise. According to Swiss Re's annual research on natural catastrophes and man-made disasters, the number of significant events, on average, nearly tripled since the early 1980s. Concurrently, insured losses have exploded annually from, on average, less than US\$10 billion to more than US\$100 billion in recent years. There is a geographic diversity in losses as well, with nearly half of the events originating in Asia.

Warned by such statistics, one might expect organizations in natural disaster-prone areas of the world to immediately respond by making physical risk improvements to their key business facilities, and to those of their critical suppliers, to prevent or reduce the possibility of property damage and to ensure business continuity. Yet the opposite—doing little or nothing—often is the case.

The emotional and financial devastation of events like Hurricane Katrina in the United States, the most expensive hurricane to date at a cost of US\$81.2 billion, is still resonant in the minds of many business leaders, investors and property owners. Moreover, in any given year, there are dozens of typhoons, hurricanes and tropical storms worldwide, which have the potential to threaten major areas of

commerce and industry. So why isn't more attention paid to preparing for natural disasters?

Europe has seen its share of extreme weather events. In recent years, floods have affected Austria, the Czech Republic, Hungary, Poland, Romania and Slovakia, causing billions of euros in damage. The United Kingdom and Ireland have suffered the effects of windstorms that have brought heavy rain and gale-force winds. Devastating winter storms with winds of hurricane strength have ripped paths of destruction through Portugal, Spain, France, Belgium and Germany. The public also has been privy to intense media coverage of extraordinary flooding in Nashville, Tenn., USA, and in Brazil; a giant volcanic ash cloud disrupting European air travel; and moderate to severe earthquakes in Haiti, Chile, Turkey and Italy, among others. And the list goes on.

Likewise, the past decade has borne witness to a numbing series of man-made disasters, from the terrorist attacks of 2001 to the oil spill in the U.S. Gulf of Mexico.

Certainly, more natural disasters are in the offing. Southeast Asia is a region at great risk of earthquakes, floods and typhoons. Australia confronts the threat of wildfires, extreme heat and drought, as continental Europe braces

for windstorms, China for snowstorms and the United Kingdom and South America for flooding. Across the globe, urbanization and consequent population surges have occurred near the coastlines or adjacent to rivers, regardless of the higher risk of windstorms and floods.

Despite the heartbreaking tally of global human suffering from natural disasters, many people fail to consider how they may be personally at risk. Ninety-one percent of Americans now live in places at a moderate to high risk of earthquakes, volcanoes, wildfires, hurricanes, flooding and other disasters, according to a study by the Hazards and Vulnerability Research Institute. The Institute also notes one-half of Americans reported that they had personally experienced a disaster or public emergency during the course of their lives.<sup>1</sup> According to the United Nations, more than 50 percent of the world's population now lives in urban areas and this trend will continue to increase in the foreseeable future. By 2030, the number will rise to nearly 60 percent—some 3.9 billion people.<sup>2</sup> Most urban areas are near a major body of water. In China, for example, two-thirds of the economic activity and 50 percent of the population are located in provinces along its east coast.<sup>3</sup>

Ninety-six percent of financial executives surveyed said their companies have operations that are exposed to natural catastrophes like hurricanes, floods and earthquakes, yet fewer than 20 percent said their organizations were “very concerned” about such disasters negatively affecting their bottom line.

— FM Global’s 2008 Natural Disaster Business Risk Study

### Risky Business

Findings from FM Global’s 2008 Natural Disaster Business Risk Study indicate that many businesses also fail to heed the risk of natural disasters. Ninety-six percent of financial executives surveyed said their companies have operations that are exposed to natural catastrophes like hurricanes, floods and earthquakes, yet fewer than 20 percent said their organizations were “very concerned” about such disasters negatively affecting their bottom line. Additionally, although 80 percent of companies have operations located in regions exposed to hurricanes, nearly 50 percent reported that they are not well-prepared for a hurricane.

Other findings within the study point to a similar lack of preparedness for the risk of floods and earthquakes. While 90 percent of companies in the study have operations located in regions exposed to floods, more than 60 percent of the respondents indicated their organizations are not well-prepared for a flood. And although 80 percent of companies have operations located in regions exposed to earthquakes, more than 70 percent of the respondents said their organizations are not well-prepared for an earthquake.

“The findings reveal a surprising and concerning gap between the levels of natural catastrophe exposure and the level of preparedness,” comments

Ruud H. Bosman, FM Global vice chairman. “They [financial executives] either underestimate the extent to which a natural catastrophe exposes them to risk, or overestimate their level of preparedness.”

Insurance companies absorbing the costs of many natural disasters certainly don’t underestimate the risk. For example, private insurance companies largely pass on the opportunity to market and sell flood insurance, deeming the risk of a flood close to near certainty in many regions of the country. Yet, only 20 percent of American homes at risk for floods are covered by government-provided flood insurance.<sup>4</sup>



“In this era of lean inventories, any breakdown in the supply chain can spell disaster for a company’s business continuity. Although risk management is in its infancy in many emerging economies, these losses are largely preventable. Companies that realize this can gain a competitive edge.”

— **Ruud H. Bosman**, vice chairman, FM Global

Bosman notes that a natural disaster affects an organization beyond just property damage and loss. Companies experience disruption in the normal flow of business that has far-reaching implications, affecting customer service and their relations with vendors and buyers in the global supply chain. Many organizations have outsourced the manufacture of various components within their products to lower-cost suppliers around the globe, which, in turn, do much of the same. Were a typhoon to shut down the supply of goods from Taiwan or a flood to disrupt the manufacture of computer components in China, the reverberations would extend well beyond the suppliers in these regions. “In this era

of lean inventories, any breakdown in the supply chain can spell disaster for a company’s business continuity,” says Bosman. “Although risk management is in its infancy in many emerging economies, these losses are largely preventable. Companies that realize this can gain a competitive edge.”

Dr. Howard Kunreuther has studied the effect of human psychology on natural disaster decision-making as the Cecilia Yen Koo Professor of Decision Sciences and Public Policy at The Wharton School of the University of Pennsylvania (USA), where he is co-director of the risk management and decision processes center. He has a longstanding

interest in the ways that society can better manage low-probability, high-consequence events related to man-made and natural hazards.

“If one considers the 25 most-costly insured catastrophes anywhere in the world between 1970 and 2008, all of them occurred after 1987 and two-thirds of them occurred since 2001,” Kunreuther notes. “Yet, a survey of 1,100 adults living along the [U.S.] Atlantic and Gulf Coasts in 2006—one year after Hurricane Katrina—revealed that only 17 percent of the respondents had taken steps to fortify their homes. And just three years after Katrina, many residents of the Bolivar Peninsula in Texas [USA] refused to heed urgent evacuation warnings as Hurricane Ike approached—a reluctance that led to the deaths of more than 100 people. Why is this happening? What drives this behavior?”<sup>5</sup>

And what if these attitudes about natural disaster-related risk are brought into the workplace and affect business decision-making?

Other questions abound. Why aren’t more businesses protecting their facilities to withstand the expected financial loss scenarios of a natural disaster? Was the true extent of risk not adequately communicated? Do current methods of describing risk fail to tell this story compellingly?



“Not spending the money today to mitigate the effects of a probable disaster in the future will backfire financially when the disaster finally occurs.”

— **Michael Topf**, president and CEO, Topf Initiatives

Why do some individuals, businesses and communities seem so reluctant to invest in disaster preparedness and purely accept the risk when the long-term benefits are so obvious and significant? Are companies taking the threat of natural disasters seriously? Why do some organizations prepare for risk while others do not? Shouldn't more companies elevate the importance of physical risk management?

In the next section, we provide some possible answers to these questions.

## Psychology and Decisions

Human psychology, in terms of its manifestation in behavior, appears to be a foremost factor in why people underestimate the risk of a natural disaster, despite scientific evidence. “A fundamental tenet of human nature is deniability, the belief that bad things will not happen to me,” says Dr. Steve Timmons, founder and president of Solutions for Organizational Survival, a Santa Fe, N.M., USA-based crisis management consulting firm. Timmons has worked for the last 30 years applying his Ph.D.s in psychology and management to research in crisis management and response.

He is not alone in this view. Michael Topf has devoted his 30-year career to safety, health and environmental training, as president and CEO of Topf Initiatives in Wayne, Pa., USA. Topf says there are three elements of human psychology compelling a failure to take action in advance of a disaster:

1. The bad thing is not going to happen.
2. If the bad thing does occur, it will affect others and not me.
3. If the bad thing does affect me, the effects will be minimal.

“People are creatures of habit,” Topf explains. “The more time that slips by without a predicted disaster, the greater a person’s deniability. When disaster does strike and miraculously avoids or does little damage to a person’s business facility or home, he or she becomes prone to feelings of invincibility, making his or her behavior even riskier.”

Topf provides the example of an automobile driver who drives through a yellow light signal at a traffic intersection. The more times the driver successfully runs the light, the more he or she will accept as truth the lack of a risk of collision when, in fact, this threat has not diminished. “Then, there is the curious human behavior

that often follows a disaster that does occur and actually causes damage or loss—the wrongheaded opinion that since it has now happened, it won't happen again, at least not for a long time,” he says.

Topf is referring to what some psychologists call the “Gambler’s Fallacy” (also known as the “Monte Carlo Fallacy”)—the misconception that what has recently occurred will affect what will occur next, even if the two events are independent. An example is a coin toss that repeatedly comes up “heads.” A gambler may bet on “tails” coming up next, even though the chance of this has not increased; the odds still remain 50-50.

In the context of a natural disaster, once a catastrophe occurs, many people believe the chance of its repeat is remote. Thus, they may be less inclined to prepare for the event. An example of this form of irrational behavior is post-Hurricane Katrina New Orleans, USA. Despite the disaster’s human and financial carnage, the city still remains ill prepared to withstand the devastation of another major hurricane. The U.S. Federal Emergency Management Agency’s (FEMA) new building rules require that some houses be built 3 feet (1 meter) off the ground, even though Hurricane Katrina flooded up to 20 feet (6 meters) in some areas.<sup>6</sup>

“Many property owners focus on what they consider to be high upfront costs associated with loss prevention, and fail to consider that these investments can provide financial value over a very long period of time.”

— **Dr. Howard Kunreuther**, professor of decision sciences and public policy, The Wharton School

“Despite public outcry to improve building codes and the levees, the costs are deemed excessive to truly and adequately protect the city from a 1-in-100-year hurricane,” Topf says. “People think 100 years is a long time away, not realizing that another hurricane the magnitude of Katrina could happen tomorrow. Human denial is very powerful.”

Timmons concurs. “The Gambler’s Fallacy is simply another soothing, convenient excuse or justification for not having to deal with reality,” he says.

Kunreuther provides a reason why people tend toward irrational observations and biases when scientific data supports the converse. “There are only so many things people can worry about at any point in time, and we often use decision rules that suggest if the likelihood of a devastating event is perceived low enough, then we prefer not to think about it,” he says. “It is psychologically bothersome to pay attention to the possibility of suffering emotionally and financially from a natural catastrophe. Someone living in an area where earthquakes or hurricanes are frequent would rather consider the beauty of the mountains or the coastline.”

There may be a medical cause underlying this pleasure-pain principle. In a study of brain responses and individual biases, Drew Westen, a

professor of psychology and psychiatry at Emory University in Atlanta, Ga., USA, gave test subjects a series of self-contradictory quotes by George W. Bush and John Kerry, each then vying for the U.S. presidency. The test subjects were hooked up to instrumentation to measure their brain responses. Each group of test subjects tended to explain away the apparent self-contradictory quotes in a manner biased to favor their candidate of choice. Areas of the brain responsible for emotions activated during test subjects’ explanations, while the areas of the brain responsible for reasoning did not respond.<sup>7</sup>

Timmons says the study has importance for the decisions companies make about disaster preparedness. “Most people deny what they know to be true because they are more concerned about short-term pleasures than long-term consequences that might be painful,” he explains. “This is evident in a public company, which makes decisions to maximize short-term gains for its shareholders, as opposed to decisions that are geared to long-term strategic value. The organization may scrimp on preparing for a natural disaster or investing in other forms of physical site risk management and loss prevention, believing it financially costly in the current quarter. The organization refuses to accept that the long-term costs of the disaster occurring will be far costlier, in terms of its bottom line, share price and reputation.”

Topf agrees, citing the late Philip B. Crosby’s pioneering Price of Non-Conformance (PONC) theories as corroborating evidence. An author and businessman, Crosby originated the concept of “Zero Defects.”

“Crosby points out the real costs associated with poor quality products or services,” Topf says. “Although predicated on saving a few [U.S.] dollars, the poor quality will eventually catch up to a company and result in far greater financial cost—the price of this non-conformance.”

A case in point, he says, is the U.S. automobile industry in the 1970s. “American automakers manufactured inferior quality cars compared with Japanese automakers, which eventually captured tremendous market share,” Topf adds. “The same theory applies to natural disaster preparedness. Not spending the money today to mitigate the effects of a probable disaster in the future will backfire financially when the disaster finally occurs. It’s ‘penny-wise, pound-foolish’ behavior, a shortcut leading to one destination—trouble.”

Timmons believes many companies emphasize disaster recovery and business continuity when instead, they should be focused on proactive loss prevention and risk mitigation, rendering those concerns obsolete. An obstacle, he cites, is the perceived cost of such tactics, compelling busi-

“The key to our emergency preparedness is getting ready for events you pray will never occur.”

— **Pete Fahrenthold**, managing director of risk management, Continental Airlines

ness leaders to postpone the needed action. Kunreuther agrees, calling this behavior the “not-in-my-term-of-office” phenomenon. “Many property owners focus on what they consider to be high upfront costs associated with loss prevention, and fail to consider that these investments can provide financial value over a very long period of time,” he says.

Yet, as Topf notes, “Much of the loss from natural disasters is preventable. Many people think that the risks and resulting loss are beyond their control, which can lead to a fatalistic attitude and inaction. While you can’t stop a windstorm from occurring, you can implement loss prevention strategies

to reduce the risk and prevent or lessen the severity of resulting losses.”

“Companies don’t have to be victims,” says Bosman. “They can control their destinies to a large degree. Sound loss prevention engineering solutions, based on scientific research and product testing, exist and have been proven to work. Organizations can either accept the risk and take a fatalistic approach or do something about it—the deterministic approach.”

Other possible factors explaining why many people fail to reduce their exposure to a natural disaster include the mistaken belief that insurance will make them whole in the event of loss.

But companies like regional railroad RailAmerica know that insurance will cover only so much. The company stated in its 2010 annual financial report (10-K) that its “operations may be affected from time to time by natural disasters such as earthquakes, volcanoes, floods, hurricanes or other storms,” which “could have a material adverse effect” on its operations and financial condition. The Risk Factors section of the report indicates that “even with insurance, if any catastrophic interruption of service occurs, we may not be able to restore service without a significant interruption to operations, which could have an adverse effect on our financial condition.”



The so-called herd mentality may be another reason why people do not adequately prepare for disaster. In his book, *Influence: How and Why People Agree to Things*, Robert Cialdini, retired professor of psychology at Arizona State University in Tempe, Ariz., USA, states, “In an attempt to avoid the hard work of thinking, people follow the herd off the cliff, blindly assuming where everyone else is going must be safe.” He estimates that 95 percent of people are followers and only 5 percent of people are leaders.<sup>8</sup>

Kunreuther also sees the herd mentality affecting people’s decisions. “Not everyone is affected equally by a natural disaster, and one would rather imagine his or her experience will tend toward those who escape harm,” he explains. “This is a failure of learning. People do not seem to learn from the past experiences of disasters. Once they experience a disaster, they have some short-term regard for the risk. But, as time elapses, they tend to hold onto overly optimistic thoughts that a disaster will not occur to them, despite evidence indicating otherwise.”

With regard to insurance, Kunreuther believes that people psychologically may be willing to accept risk in the belief that an insurance policy absolves the need for concern. Bosman concurs, noting that insurance does not cover loss of market share or damaged reputation. “Organizations would do better to devote more of their attention to preventing and controlling disaster risks than transferring them to an insurance company,” he says. “Identifying and protecting the organization against property risks ensures that, should a loss occur, it will be a minor distraction rather than a major devastation.”



“Companies pursuing best practices in managing their property risks produced earnings, on average, that were 40 percent less volatile than companies with less advanced physical risk management.”

— **Dr. Deborah Pretty**, principal, Oxford Metrica

Kunreuther and his colleagues at Wharton have identified 11 psychological and situational barriers to how individuals make decisions about natural disaster risk. Among those theories are:

- *Risk underestimation*—even when residents are aware of the risks, they believe that the future disaster will not happen to them.
- *Procrastination*—the natural tendency to postpone taking actions that require investments in time and money.
- *Short-term focus*—the difficulties computing the cost-benefit tradeoffs of investing in natural disaster preparedness.
- *Hyperbolic discounting*—individuals put too much weight on immediate considerations, rather than the long-term benefits of investing in mitigation measures that promise to prevent or reduce losses many years hence.

“There seems to be this prevailing attitude that bad things literally aren’t going to happen to me, and it is folly to think so,” Kunreuther says. “And yet, it is folly, of course, to think otherwise.”

Bosman offers similar perspective, stating that natural disaster risks are “real and will happen. They are not probabilities, thresholds, models or likelihoods.”

He adds that senior officers and board directors of companies should anticipate the worst and prepare for it in advance. Says Bosman, “The wrong discussion is one around whether it will ever happen, because it will.”

When natural disasters do strike and cause financial loss, the impact can extend beyond the bottom line. Bosman points to an FM Global-commissioned study that unearthed a high statistical correlation between a company’s physical risk management practices and its earnings volatility.<sup>9</sup> Conducted by the U.K.-based Oxford Metrica, an independent research and analytics organization specializing in corporate reputation and international investments, the study “indicates both empirically and quantitatively that there is a strong correlation between physical risk management and earnings stability,” says Dr. Deborah Pretty, the Oxford Metrica principal who headed the research effort and author of *Risk Financing Strategies: The Impact on Shareholder Value*.

“Companies pursuing best practices in managing their property risks produced earnings, on average, that were 40 percent less volatile than companies with less advanced physical risk management,” Dr. Pretty adds. “The research findings indicate that resources allocated to control property risks are well-spent, given the demonstrable improvement in earnings stability, a key driver of shareholder value.”

Bosman sees other values in risk preparedness. “The most significant consequence of poor disaster risk management is loss of competitiveness,” he says. “By implementing an effective risk management program, companies protect their ability to compete. Nothing is more fundamental to business success.”

Given the financial and other benefits in preparing for the risk of a natural disaster, irrational human behavior arguably must be controlled.

In the next section, we provide some possible methodologies to change behavior and encourage organizations to take action now.

“Informing the CEO there is a 26-percent chance of a major flood or a windstorm over the life of a building is a more compelling way to describe the risk than by saying it’s a 1-in-100-year event.”

— **Dr. Louis Gritzo**, vice president and manager of research, FM Global

## The Power of Truth

“Pretending that there is no risk of a natural disaster striking will not make it go away,” Timmons states. But, are there ways to overcome the tendency to avoid scientific facts and take appropriate action accordingly?

Several suggestions are provided. One is to alter the current method of describing the risk of a disaster. Dr. Louis Gritzo, vice president and manager of research at FM Global, believes the traditional mathematical model defining this risk—the customary 1-in-100-year or some other ratio—may be inadequate. “In essence, what you are doing is

creating the illusion that the chance of the disaster is so far in the future, it does not warrant attention right now,” Gritzo says. “Then, when the disaster strikes, it creates another illusion that since it has already occurred, another one will not happen for 100 years, which is erroneous thinking. The human brain did not evolve in a way that allows people to easily grasp statistics and large numbers or, more specifically, to be motivated by them.”

Gritzo explains that the actual probability of a 1-in-100-year event occurring one or more times over a 30-year time horizon is 26 percent, which may represent a more telling way to define the threat of the risk. “Informing the

CEO there is a 26-percent chance of a major flood or a windstorm over the life of a building is a more compelling way to describe the risk than by saying it’s a 1-in-100-year event,” he says.

Another way to communicate the probability of a natural disaster is through the transfer of actual knowledge—presenting the experiences of individuals who have suffered and survived low-frequency, high-severity disasters. Gritzo contends such firsthand accounts can make a difference in how people and business leaders gauge their prospective disaster risks.

Showing people the physical damage caused by a natural disaster also can



“What separates the people who do prepare for disasters from those who don’t is a mental acceptance of the fact that crisis could, indeed, occur. Such people tend to have a high degree of ethical behavior, integrity and, most importantly, the courage to face reality and deal with it.”

— **Dr. Steve Timmons**, founder and president, Solutions for Organizational Survival

deeply affect behavior. Gritz points to the reactions of business people attending FM Global’s US\$125 million Research Campus in West Gloucester, R.I., USA, the world’s largest center for property loss prevention research and education. There, on a daily basis, scientists and engineers create such perils as full-scale fires, explosions and natural disasters to develop solutions that help businesses better protect their operations from property risk and related business disruptions. More than 2,000 people visit the Research Campus each year. “Many people come back from their visit with a different interpretation of disaster risks and related controls once they see a warehouse-size fire replicated or typhoon-force winds rip the roof off a building in our laboratories,” he says.

Timmons agrees that current statistical models for describing natural disaster risks have their shortcomings. “The greatest motivator to act upon the risk of a natural disaster is experience,” he says. “Once you experience a disaster, you’re less apt to downplay the risk in the future. Next to that, I would say, a personal connection with someone who has experienced a disaster offers hope for changing behavior. Then, there is the power of storytelling—people are more likely to be motivated by stories of first-hand accounts than by statistics and probabilities.”

Why do some people and organizations take action while others fail to? Timmons responds, “What separates the people who do prepare for disasters from those who don’t is a mental acceptance of the fact that crisis could, indeed, occur. Such people tend to have a high degree of ethical behavior, integrity and, most importantly, the courage to face reality and deal with it. They do not choose to ignore the fact they are vulnerable to a certain event that could jeopardize their business and people.”

Take, for example, Continental Airlines, which, in 2008, was well-prepared when Hurricane Ike struck its headquarters in Houston, Texas, USA, as a strong Category 2 storm. The storm, the third costliest hurricane ever to make landfall in the United States, forced the airline to shut down the hub of its worldwide systems operations for two days. The high wind and eye wall passed directly through the city. However, two years earlier, the company had the foresight to establish a backup emergency operations center 50 miles (80 kilometers) away. As a result, the airline’s proactive risk management efforts kept its systems running globally throughout the storm.

“The key to our emergency preparedness is getting ready for events you pray will never occur,” says Pete Fahrenthold, managing director of risk management for Continental Airlines.

“We know Houston is in a hurricane corridor, so we felt—particularly when we digested Katrina’s impact on New Orleans—we had to develop a business continuity plan that would let us operate no matter what the weather brought us. We honestly hoped we’d never have to use this facility, but we knew that if disaster struck, we’d be ready.”

After the storm passed, Continental’s Houston headquarters building was unscathed.

Bosman offers several suggestions for companies to become more prepared for the risk of natural disaster. “Boards should request that the companies they oversee put a process in place to manage physical site risks,” he says. “Companies with strong risk management practices have automatic protection systems like fire sprinklers, carefully conceived processes for dealing with hazardous situations, safe construction practices and robust human element programs to prevent or minimize human errors. The problem is that safety practices and standards are not uniform around the world, and that presents a big exposure for many companies. The challenge for boards of directors is to make sure there are equally high standards around the globe.”



Kunreuther agrees. “We need better building codes and improved enforcement of these codes,” he says. “I’ve recommended that properties protected against future disasters be given a seal of approval they can display on the building. This would increase the value of the property for sales purposes, and send a strong message that the building’s owner is at the forefront of disaster mitigation. I’d also like to see city, state and federal governments provide tax credits for the owners that receive the seals of approval.”

Bosman acknowledges that changing human behavior is difficult, but the rewards are worth the effort. “The clients FM Global works with make risk improvement an objective, but it is not an easy task,” he says. “If more organizations considered the impact of psychological behaviors on their disaster risk preparedness, the world would be a much safer place.”

He concludes that fortunately, the majority of all property loss is preventable. “Companies should consider physical risks a future reality rather than a probability,” Bosman says. “And risk improvement through loss engineering can help ensure that, if Mother Nature strikes, a company won’t have to explain the business impact in its annual report.”

### Considerations

There are some key lessons to be learned from the data and perspectives outlined in this report. In particular, natural disaster risk is not temporal; it exists everywhere and it can be mostly controlled if the appropriate resources to address it are employed. These lessons may lead a company to begin to address the following questions:

1. Does your organization assess risk in the proper context, both with its own facilities and its supply chains?
2. Does your organization’s operating philosophy heavily rely on accepting that insurance will address the risk? Does it adequately address the longer-term consequences of potential loss of reputation and competitiveness?
3. Does your organization look at prevention and preparedness as a long-term investment or a short-term expense?

Raising these questions is the critical starting point to looking at risk in an objective context, removing any temporal human biases.

## Sources

- <sup>1</sup> *The Unthinkable: Who Survives When Disaster Strikes and Why*, Amanda Ripley, Three Rivers Press, 2009
- <sup>2</sup> *State of the World Population 2007*, United Nations Populations Fund
- <sup>3</sup> *Chinese Statistical Yearbook 2009*
- <sup>4</sup> “Why We Don’t Prepare for Disaster,” *Time* magazine, Aug. 20, 2006
- <sup>5</sup> “Overcoming Decision Biases to Reduce Losses from Natural Catastrophes,” Howard Kunreuther, Robert Meyer and Erwann Michel-Kerjan, The Wharton School
- <sup>6</sup> “Why We Don’t Prepare for Disaster,” *Time* magazine, Aug. 20, 2006
- <sup>7</sup> [www.thepoliticalbrain.com/videos.php](http://www.thepoliticalbrain.com/videos.php)
- <sup>8</sup> *Influence: How and Why People Agree to Things*, Robert Cialdini, Quill, 1985
- <sup>9</sup> “The Risk/Earnings Ratio: New Perspectives for Achieving Bottom Line Stability,” Ruud Bosman, FM Global, 2010

## About FM Global

For 175 years, many of the world’s largest organizations have worked with FM Global ([www.fmglobal.com](http://www.fmglobal.com)) to develop cost-effective property insurance and engineering solutions to protect their business operations from fire, natural disasters and other types of property risk. With clients in more than 130 countries, FM Global ranks 545 among *Fortune* magazine’s largest companies in America, and is rated A+ (Superior) by A.M. Best and AA (Very Strong) by Fitch Ratings. The company has been named “Best Property Insurer in the World” by *Euromoney* magazine and “Best Global Property Insurer” by *Global Finance* magazine.

For additional information, please contact:  
**Steven Douvas**, assistant vice president, market research  
FM Global  
270 Central Avenue  
Johnston, RI 02919 USA  
+1 (1)401 415 1889



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