

# **Building community resilience to natural hazards: Lessons from Katrina**

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## **Introduction**

This short case study has been produced in order to contribute to the NCR's aim of supporting community resilience. The intention is that some insights into the lessons from hurricane Katrina and the emergency response to it, have merit for Scotland, and for ongoing efforts to increase community resilience to natural hazards. This brief document is designed to support Government in thinking about the adequacy of current policy as it relates to resilience and to support local agencies and communities to consider how they might operate and the adequacy of their operation were they to be adversely affected by a similarly devastating natural event.

## **Hurricane Katrina**

On the 29<sup>th</sup> August 2005, Hurricane Katrina made landfall on the Gulf of Mexico (Rodriguez, Trainor, & Quarantelli, 2006), culminating in a set of disastrous conditions across several cities of the United States (US), but particularly in New Orleans. The destruction took the form of a storm surge and the generation of flood waters that led to the subsequent failure of protective flood gates and levees. Katrina, known to be one of the five deadliest storms in the History of US (Blake, Rappaport, Jarrell, Landsea, & Center, 2007), killed several hundred people (Sharkey, 2007), caused damage worth billions of dollars (Burby, 2006), and left more than one million people homeless (T. E. Davis, Grills-Taquechel, & Ollendick, 2010). There was also widespread travel disruption and damage to communication infrastructures that

inhibited the response effort and generated problems around situational awareness of unfolding events at the Federal level (Colten, Kates, & Laska, 2008; Comfort & Haase, 2006). Local emergency management agencies were, therefore, left to address the issues without the immediate Federal assistance that would normally be expected.

A decade later, President Barack Obama, said that:

*“what started out as a natural disaster became a man-made disaster - a failure of government to look out for its own citizens”* (McCarthy, 2015).

What was clear in the case of Katrina was that the scale of the disaster overwhelmed local response capabilities, highlighted the false assumptions that had been built into mitigation strategies (especially in terms of the levees), and pointed to the problems that local communities, and especially communities in areas of high deprivation, faced when trying to respond to the task demands of such an event. Those who had the means to escape and move to safer areas were able to do so, leaving many of the poorest people in society to have to fend for themselves. It is this that underpinned President Obama’s comments about the failure of government; in effect, the events served to further embed and exacerbate existing inequalities in society and to make the vulnerable yet more vulnerable.

Enquiries into the Katrina disaster uncovered a number of shortcomings in America’s emergency planning and response effort. Some of the prevailing conditions were that levee protections around affected cities were not built for the most severe hurricanes; authorities overlooked the scale of the potential event via weather warnings; there was late or ineffective execution of the national response plans; and many officials lacked appropriate training or large-scale disaster management experience. Other factors included the impact of

management silos (and the associated organisational attitudes) around responsibility – departments/agencies considered only their particular role and not the integration of roles and collective responsibilities. This approach hindered the response effort, problems occurred around poor media handling due to the fragmented intervention of responsible agencies, and ineffective coordination plans led to under-resourced and insufficient medical care and evacuation efforts in the aftermath of the disaster. There were also clear weaknesses in Federal Emergency Management Agency (FEMA) procedures for requesting federal assistance (Cooper & Block, 2007; Gheyntanchi et al., 2007). Investigations also pointed to the emphasis on security concerns over safety concerns (notably, but not exclusively, in relation to the protection of property) (Cooper & Block, 2007; Farazmand, 2007; Gheyntanchi et al., 2007). For example, of the \$1.2 billion funds allocated to emergencies, \$1.1 billion was spent on counter-terrorism to the neglect of other threats including those from natural hazards (Cooper & Block, 2007).

### **Fitness for Purpose**

America's disaster preparedness, response, and relief was led by FEMA, the federal agency with responsibility for responding to such extreme events (Edwards, 2014). With FEMA being responsible, one might reasonably assume that rules, processes, structures and responsibilities were in place for disaster response. The actual response to the disaster suggested that this was not the case, despite government attempts to bolster the area. Several years prior to Katrina, the US Government had invested in the country's emergency planning and contingency management through establishing a new national response plan, creating the department of homeland security, and developing a national incident management system. In addition, billions of funds were allocated to the different tiers of governments for emergency planning (Cooper & Block, 2007). A year prior to Katrina, government agencies had

performed a simulation exercise known as “Hurricane Pam” for similar strength of Hurricane in New Orleans. This exercise showed that the US government recognized the potential occurrence of a category four or five hurricane striking New Orleans and surrounding states.

Despite this preparation, and as the US congress report on Katrina (2006) suggested, the *“implementation of lessons learned from Hurricane Pam was incomplete”* (p2), meaning that the US government failed to learn important lessons from the Hurricane Pam and the then gap between planning and implementation in organizational practices. Whilst some would point to the lack of time between Exercise Pam and Katrina as a justification for the lack of effective implementation of the lessons learned, there remains a wider issue about the speed at which government agencies respond to policy developments for catastrophic events.

Evidence from the enquiries into Katrina suggested that decision-making was largely curtailed by the uncertainty of emerging conditions and yet such uncertainty is likely to be a feature of any natural hazard. Problems with the decision making were subsequently heightened by the delays and limitations arising from bureaucratic rules and responsibilities.(T. Davis, 2006). This could be seen as typical of top-down approaches to disaster management. For example, FEMA was criticized for its slow and risk-averse culture and its submissiveness to politics (Edwards, 2014), although this is a challenge that faces a number of government agencies worldwide. Such a top down approach to disaster management, especially when combined with prioritization of security concerns over safety concerns, could be seen to generate an ineffective Government response in the recovery processes around Katrina.

### **An Alternative Approach: Considerations for Scotland**

An alternative strategy for disaster management could be seen to involve a more strategic investment in a bottom up approach – by empowering local first responders and providing sufficient funding and support for local communities. There is an obvious logic in the delivery of such an approach. By definition, local emergency responders are managed locally and understand the localities affected by a disaster. This situational awareness could be seen as important in shaping more effective decision making and performance (Edwards, 2014). In the case of Katrina for instance, private and third sector organizations were swift in their response and in the provision of relief to those affected in the immediate aftermath of the disaster. For example, Red Cross had 239 shelters ready to house tens of thousands of evacuees on the day Katrina made landfall, accommodating up to 146,000 evacuees at the peak of the evacuation (Edwards, 2014). Similarly, Walmart contributed around \$20 million in cash, material and food relief and promised a job for all its displaced workers (Forrer, Kee, & Boyer, 2014; Perry, 2017). As such, any national and local relief efforts and plans, should take account of the motivation and capacity of a range of organizations who can play a role in immediate relief and longer-term relief where that is required. This suggest that a combination of top-down and bottom-top approaches to responding to emergencies could potentially be one way forward. However, this is not without its challenges especially with the lingering ambiguity around the notion resilience, and the confusion that comes with this in operationalising community resilience in practice. These challenges are discussed in an upcoming paper by the authors of this report.

### **Key Messages for National Policy-makers and Resilience Practitioners**

1. Lessons from Katrina show that **having structures and plans in place does not guarantee effective implementation of the emergency plans**. For this to be effective, **it would require closer coordination of plans and communication at all**

**stages of disaster management** and between the different emergency and public agencies, public and private organisations and the different communities who are deemed to be at risk.

2. There is the need to **ensure that risk and resilience policies are not just focusing on the impact of risk, but also taking into consideration the likelihood of that occurring**. At present, a lot of funding is being channelled towards counter-terrorism at the different governance levels. While this is important considering the fear and public outrage associated with such events, we need to ensure that other areas of safety concerns are not neglected as this could have implications for resilience planning and developments. Policy makers need to ensure a fair and balanced allocation of resources to the different domains of risk as identified in the local risk register.
3. Learning and identifying gaps in current resilience and response practices is key to building community resilience (before an event) and in organizing an effective response strategy; we do not need to reinvent the wheel. Consequently, resilience practitioners should consider **developing and taking forward a framework for learning** from prior events and simulation exercises (such as Hurricane Pam). This will **enable them assess their practices but also organize improvement efforts into existing processes and practices**.
4. **A much stronger ‘can do’ attitude is needed amongst government agencies and resilience practitioners** to take forward lessons learned and to support the development of appropriate and timely policies where required. This is important if

we are to avoid the incomplete implementation of lesson learned as seen in the case of Katrina.

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