Hurricane Sandy must remind us that tomorrow's risk is today's problem

Dr Nicola Ranger argues that to tackle the unique challenges of climate change and growth, we also need to change the way that we design our risk management systems today. Ignoring the risks until a disaster strikes will be tremendously costly.

Hurricane Sandy will undoubtedly reawaken the debate on the role of climate change in driving recent increases in damages from extreme weather. The fact that such disruption and human cost can occur in one of the world's richest countries, should force us all to re-evaluate our preparedness to cope with the risks ahead.

The storm is estimated to have caused at least 40 fatalities in the US and 69 fatalities across the Caribbean. Total losses could be as high as $30 – 50 billion USD in the US alone. The New York Stock Exchange was closed for a historic two days and parts of Manhattan remain without power and services. The impacts on communities will continue for months to come, particularly in the poorest affected country, Haiti.

It is impossible to say whether Hurricane Sandy is due to climate change or not. Sandy reached 'category 2' status in the Caribbean, not unusually strong, but the large 'superstorm' it became as it hit the US mid-Atlantic coast was unusual. Scientists believe that the US is experiencing the impact of a 'freak' combination of events, including high tides, a high pressure system in the North Atlantic pushing the storm into the coast, and cold winds from the northwest fuelling the storm.

However, there are indications that we could expect to see more intense hurricanes in the future and higher storm surges due to sea level rise. Indeed, basic physics tells us that in a warmer world globally, on average, we will see more intense extremes.

Our society is already highly exposed to extreme weather. The Global Reinsurer, Munich Re, reported that in 2011 alone, there were more than 10,000 fatalities and total losses of $150bn USD in weather catastrophes worldwide. Research by Eric Neumayer and Fabian Barthel at the LSE reveals that, since 1980, economic losses from all natural hazards have risen at a rate of $34 billion per decade in real terms.

The main driver of this trend is the on-going growth and concentration of wealth and people in the world's major cities, which are often sited next to rivers and seas. A recent OECD study estimated that over the next fifty years or so, continued growth and urbanisation alone will lead to more than a doubling of the number of people exposed to storm surges, and an eight-fold increase in the value of economic assets exposed, in the world's largest cities.

Upward trends in losses and fatalities from extreme weather are observed across the world. But a recent study by Munich Re concluded that *"Nowhere in the world is the rising number of natural catastrophes more evident than in North America".* The study shows a nearly quintupled number of weather-related loss events in North America for the past three decades, compared with an increase factor of 4 in Asia, 2.5 in Africa, 2 in Europe and 1.5 in South America. It is clear that even in the wealthiest countries, investments in disaster risk management have largely failed to keep pace with the rapid increases in exposure.

Climate change will put further stress on our risk management systems. Where risk is rising, there is an even greater rationale to invest now to improve our resilience to extreme weather. But, new research at the *Grantham Research Institute on Climate Change and the Environment* at the LSE concludes that, to tackle the unique challenges of climate change and growth, we also need to change the way that we

design our risk management systems today.

Firstly, we need to shift toward a more forward-looking, long-term approach. Climate-related risks are and will continue to change. If we don't take account of this in our decisions today, people, businesses and society as a whole will become more and more vulnerable to climate.

Focussing only on today could also commit us to a more vulnerable path in the long-term. We need to look ahead. The OECD study demonstrates that action now, to ensure urban development planning is resilient to natural hazards and climate change, will have long-term benefits, potentially saving many thousands of lives over the coming decades. In addition, for long-lived decisions, like infrastructure and planning, it is often cheaper and easier to take account of long-term risks upfront today rather than making costly retrofits later. If we don't do this, the useful lifetime and value for money of many of our long-lived investments will decline.

Secondly, the speed and scale of the expected impacts of climate change mean that we need to get much better at acting ahead of time. To date, much of our risk management has been reactionary. For example, the Thames Barrier in London was built only after more than 300 people lost their lives in the 1953 floods. Where risk is increasing, the consequences of not acting ahead of time are much greater. We can no longer afford to ignore the risks until a disaster strikes.

Finally, we don't know how risks will evolve in the future and this means that we must design strategies that are more robust to uncertainty. If we do not account for this uncertainty in decisions today, it can lead us to make the wrong choices, leading to greater costs and wasted investments. Uncertainty cannot, and need not, be an excuse for inaction. It does mean that risk management can no longer be a one-off. It must be flexible and progressive and able to respond as we learn more.

Practically, what do we need to do? A priority must be to better manage today's risks. Improved risk management can bring tangible, cost-effective benefits. But we can't ignore the long-term risks. The decisions we make today will have implications for the risks we face for many decades to come. The Pitt Review reported that 11% of new homes built in the UK since 2000 were located on flood plains; and over the next few years, the Government plans to invest over £250 billion in infrastructure that will last decades. Climate change must be factored into these decisions now. The stakes are too high to fail. If we don't act now, we will leave ourselves in a situation that is difficult to reverse later. Tomorrow's risk is today's problem.

For the communities affected by Hurricane Sandy, the focus now will correctly be on recovery and reconstruction, but at the same time, there is an opportunity to rebuild better, to reduce the impacts of the 'freak' storms to come.

Note: This article gives the views of the author, and not the position of the British Politics and Policy blog, nor of the London School of Economics. Please read our comments policy before posting.

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