

AXA Plenary Session: Climate Change and Extreme Weather

How do we protect communities at risk?

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The evidence suggests that climate change is clearly identifiable and can only be caused by human action (Professor Martin Siegert, Imperial College London). IPCC scenarios, of the potential rates of CO₂ emissions under various energy-production scenarios, and the accompanying effects on climate risks, show that serious action needs to be taken to move, urgently, towards a low-carbon economy.

Climate change is leading to a variety of environmental impacts, in particular an increase in the occurrence and severity of extreme weather events. These will have an impact on risk exposure, and thus the insurability of communities. Some of these impacts are measurable - for example rising sea levels has noticeably increased in pace in recent years, leading to higher rates of flooding in low-lying coastal areas. However, there is currently a general global resilience deficit in terms of planning and mitigation of flood risks as one particular area, with figures estimating that between 1980 and 2004 around \$1.4tr in uninsured losses have occurred world-wide as a result of flood-related damage (Professor Paul Bates, University of Bristol).

However, many environmental factors are less easy to measure. The variability of rainfall, for example, can change over small geographic areas, compared to temperatures that are far more consistent. This makes flood risks harder to calculate. There is also the risk of systemic impacts such as the effect of higher CO₂ levels on the biosphere. In this instance, CO₂ may increase the carbon fertilization effect on crops, theoretically leading to higher yields, but this may be offset by crop loss due to an increase in adverse weather conditions (Professor Colin Prentice, Imperial College London).

Some specific examples of where stakeholders are combatting the effects of climate change include Thames Water, who are actively planning around increased water demand linked both to population growth and climate change (Richard Aylard, Thames Water). They are seeking to ensure the resilience of water supply, both for their own business security and to support the resilience of the customers they serve. Measures include investing in new water resources, enhancing demand management practises and taking action on broader sustainability issues in areas like energy use.

Improved weather and flood forecasting technologies is also helping (Professor Hannah Cloke, University of Reading). The European Flood Awareness system, for example, can now predict catastrophic weather events up to two weeks in advance. This means that we can increase the time available to respond to impending weather events, like managing the Thames barrier adequately. Thermal health hazard early warning systems are now at a stage where they can start to be harnessed by organisations for planning where action will be needed - directing of medical resources, food supplies and other necessities needed as a result of heat or drought.

ClimateWise Summary

There is a clear need for greater resilience as a general trend, but with greater urgency considering the evidence that it will quickly become even more important as climate change takes effect. This highlights the need for the insurance industry to start exploring real, concrete way that it can start to manage societal exposure to climate risk, using the extensive data at its disposal, and, in so doing, secure its long term sustainability.

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