

CATASTROPHES, CLIMATE CHANGE AND COVERAGE

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By the year 2100 sea levels are expected to rise beyond critical levels in several regions, particularly at times of high tides, or coastal storms which often produce surges of seawater. As the same time there will be a change in rainfall profile, to one where heavy, short downpours are more common, separated by longer dry periods. Ironically, therefore, this may mean more damage from flash-floods as well as more frequent subsidence, drought and woodland fires.

Analyses of the polar ice-caps indicate that natural climate change can occur very rapidly, switching to and from glacial conditions within just decades. Such a sensitive system argues for caution. The Canadian ices storm in 1998 and Malaysian "haze" problem provide recent illustrations of unexpected and costly climatic events, which may foreshadow the future. In addition, scientists are concerned about a possible link between Global Warming and the severity of the natural El Nino effect.

The property insurance industry is likely to be directly affected by climate change, since it is already vulnerable to variability in extreme weather events. Damage can increase rapidly beyond certain thresholds (e.g. increasing the wind gust speed of a 200km/h storm by 10% increases the damage by about 150%). The cost of weather related disasters to insurers has risen rapidly since 1960. For example, the annual insured cost of major windstorms world-wide increased progressively from \$0.5 billion in the 1960s, to over \$11 billion (constant 1990 dollars) in the early 1990s.

Other factors exacerbate this trend of course. Developed countries have become wealthier. Personal goods and business processes are generally more vulnerable to water damage. Many more people now live in coastal areas with costly infrastructures. The built environment also contributes through inappropriate or incorrect design and construction. And the insurance industry has often extended the basis of cover.

The underwriting of property risk prone to natural hazards such as flood or windstorm, is based on the concept of "return periods", based on observed events and claims. Rapidly changing climatic conditions will lead to difficulties in matching premiums to risks, with greater volatility in profitability. (Nor is this problem restricted to insurers. It affects any activity with significant lead times, such as the water industry.)

Flood hazard is particularly difficult because of various "background" trends. The UK insurance market provides some interesting examples, being one of the few countries where flood insurance is available commercially. Tectonic tilt, where South East Britain is slowly sinking and Scotland is rising, means that the coastal flood problem is altering

significantly. In an area like East Anglia, this is compounded by agricultural land-use (drainage and tillage), so that since 1840 some locations which were 2 metres above sea level, are now nearly 5 metres below. In Scotland, a period of heavy snowfall in January 1993 was followed within days by a rapid thaw, giving the worst floods for 200 years, reflecting a recent pattern of increasingly mild but wet winters.

Significant climate impacts will bring political intervention. At a practical level, the insurance industry has much to gain from a proactive stance. By taking the initiative in proposing measures to tackle the potential property damage from Global Warming, it can create a positive image and at the same time protect its own interests through a rational, efficient approach.

There are important advantages in involving the private insurance sector in planning for disaster mitigation. Collaboration on the control of land use, particularly in flood plains and coastal zones, is essential to prevent values at risk increasing. Hazard maps can be shared, and appropriate physical protections put in place. Necessary improvements to construction design and processes can be identified and incorporated into new building, and if possible, also retrofitted.

Where it is not possible to provide private insurance, the industry can still assist with disaster recovery services. This generally will prove to be a very efficient method compared to other *ad hoc* approaches. After disaster a fast return to normality is obviously required. The authorities are likely to be concerned with the restoration of public services, maintaining order, and preserving life. The insurance industry can supplement this by helping property-owners to restore their status, with minimal public involvement. Insurers can mobilise resources working with adjusters to appoint competent contractors to commence recovery work and prevent deterioration at major sites, and for the numerous smaller properties using the media and telephone to provide advice on recovery. With appropriate scientific forecasting, these actions can all be prepared, ready to go as soon as the event has finished. The emotional distress caused by disasters is considerable, especially for elderly people. Prompt attention to physical requirements, and restoring of their status quo, is one of the most effective ways to reduce the human problems, through emergency payments e.g. to replace food and clothes and prevent damage to exposed interior property. Policies often extend to cover alternative accommodation while restoration is proceeding, and businesses may insure for the profit lost by interrupted operations. The cost of business interruption from disruption of utilities is a growing problem.

Clearly public policy can alleviate natural disasters by ensuring that society adopts a responsible attitude, that appropriate knowledge is acquired, and that resources are used to best effect. Some broad areas can be identified – scientific research, physical risk protection, control of acceptances, and establishment of funds. More knowledge is urgently required about historic and potential natural disasters. Because of its general application, such research should be publicly funded, with the results and data available

for other researchers freely. In defining their areas of research, scientists should have regard to the impact on property, as well as the “bio-aspects”. Initiatives on practical protection can already start between insurers, planners and designers. This may initially require government sponsorship. Without an established forum it is difficult to generate a healthy flow of communication between those providing the built environment and those maintaining it. Useful areas to study are already apparent – construction standards, particularly roofing; coastal defences – where the perils of storm and flood combine; and tree management - owing to the damage caused by windthrow.

Increasingly we will see the insurance industry moving from its traditional inactive stance regarding damage, through a reactive mode, and towards a proactive stance of co-operative anticipation (see diagram Appendix I)

Recognising that this problem requires a new approach to open up dialogue between politicians and insurers, a number of insurance and reinsurance companies have joined together under the banner of the United Nations Environment Programme (UNEP), to form an Association to tackle global warming and other major international environmental problems. Its aims are embodied in a Statement of Environmental Commitment, which

- Declares the importance of sustainable development (sustainable development means meeting the needs of the present without compromising the ability of future generations to meet their own needs).
- Confirms the need to integrate environmental concerns into management, internal operations, underwriting and investment.
- Supports a comprehensive process of research and communication.

Specifically on Climate Change, the Association has issued position papers which call for early cuts in greenhouse gas emissions, further research on the potential impacts, better mechanisms to discuss the issues, recognition of insurers’ valid interest and valuable input, and the need to reconcile emissions control with development for less developed countries. The Insurance Association has also researched and promoted the concept of a Global Warming Indicator (GWI), so that investment portfolios can be managed based on accurate and relevant information.

At present the “rules of the game” for the Kyoto mechanisms on emissions control are not well enough defined to judge whether insurance has a significant part to play, and so the Association is focussing on the importance of risk management in dealing with the changing pattern of natural hazards by educating stake-holders in the property market; from developer and planning authorities, through to financiers and home-owners. It is essential that decision-makers at all levels understand the issue so that the market functions efficiently in the short and long term. Trade and professional bodies are beginning to tackle this, but many countries are well behind, and there is a natural conservatism towards new strategies when scientists are still unsure about the detail of future developments.