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Maintaining Insurability through Adaptation: Policy Concepts and Evaluation of Options

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Today insurance plays an important role in helping societies to cope with extreme weather events, by providing a mechanism through which those affected receive financial compensation, support and assistance for their losses. In an ideal world, insurance would be provided for all people and property, but this is only possible when risks are known and kept limited. Climate change will potentially threaten the provision of insurance as a result of its affects on the frequency, intensity and geographical distribution of extreme weather events. This means that more people will need to rely on aid and assistance from governments and charities to cope with the resulting losses. However, insurability can be maintained if there is an effective response to climatic changes through adaptation that limits the vulnerability and exposure of populations to extreme weather-related hazards. In this presentation, we describe a unique approach for evaluating adaptation policy options and present findings from a number of recent studies.

Decision-makers in the public and private sector can explore different adaptation strategies with the help of catastrophe risk models. These are innovative computer models for estimating the probability of lives lost and financial damages resulting from extreme events, such as tropical cyclones and river floods, incorporating the methods and results from a wide range of scientific, engineering and economic/financial disciplines. This presentation will describe the development and use of 'climate-conditioned' catastrophe risk models to estimate how climate change will alter risks from extreme events over the next few decades and how different forms of adaptation, including physical barriers designed to protect communities, building codes and informed planning for property development, might mitigate risks and maintain insurability.

We present results from a recent study undertaken with Lloyd's of London to examine how the insurability of properties might be maintained in coastal communities in the face of rising flood hazard, through adaptation to climate change. The study involves model outputs for four cases: an undefended tropical island; an undefended coastal community; a defended coastal community; and an undefended city in a developing country. We will discuss the key findings of this study and the implications for public policy makers, individuals and the insurance industry.