Focus on Asia Pacific Risks

Flood Risk Challenges in Asia

Flood is one of the most significant natural catastrophe perils, globally accounting for nearly 40 percent of all catastrophe events. In 2017, floods accounted for nearly half of the natural catastrophe events and 65 percent of natural catastrophe deaths in the world – two thirds of the deaths occurring in Asia. According to the Lloyd’s City Risk Index, which examines flood risk as a percentage of GDP, nine of the top 10 cities at risk are located in Asia, according to Mark Weatherhead, Head of Model Development – International, Guy Carpenter.

“The Asia region is particularly prone to flooding because of a combination of three factors: hydrology, population density and mitigation,” Weatherhead says. “Much of Asia, especially southern Asia, is subject to extreme seasonal rainfall from monsoons and typhoons. Secondly, Asian cities are much denser than their European counterparts, with increasingly concentrated urban areas built around rivers and in coastal areas. Finally, investment in flood mitigation measures has not accelerated at the same pace as population growth.”

Climate change projections from the Intergovernmental Panel on Climate Change point to greater extremes in both the intensity of rainfall events and droughts – this is especially true for Asia, which is expected to suffer significant increases in flood frequency over the entire region. “In addition to the increases in extreme precipitation, changes in sea levels will threaten densely populated coastal areas. Initial projections for economic loss for the region are in the range of USD 1.5 trillion and USD 14.3 trillion by 2100, depending on the warming scenario and extent of sea level rise,” he explains.

“The combination of population growth and flood hazard will force societal changes to cope with the rising risk,” he adds. “A significant investment in adaptive measures such as flood defenses is required over the next 20-30 years in order to maintain even the current level of flood risk. Nations will need to take active measures such as improvements to storm drains and physical defenses, and more passive approaches around improving urban planning, halting wetland encroachment and implementing better building standards.

While flood is a main driver of economic loss, the majority of flood risk in Asia is not insured. Absent insurance cover, event recovery is dependent on government outlays that may not materialize quickly and are often limited in scale. Insurance protection brings more rapid payouts and more complete coverage (at a price), significantly shortening recovery time and reducing the longer-term financial burden for individuals and governments,” he says.

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The challenge for the private insurance industry is to close the protection gap in ways that are practical and affordable for the region. In many cases this will require new products and approaches. As they develop new insurance products, insurers must overcome a lack of full understanding of the extent of flood risk.

“Positively, new data products, such as flood hazard maps, have become more readily available in the past few years, from both private- and public-sector sources and have helped the insurance industry estimate flood hazard.” Weatherhead continues, “However, to improve loss assessments, hazard data should be combined with other data types, such as probabilistic event sets and defense information. The products used by the insurance industry can also be used by governments to help with urban development planning and preparation for event response; to define and quantify the need for flood defenses; and to inform citizens and businesses of their flood risk.”

Guy Carpenter has made a significant investment in data and technology to help our clients improve their understanding of flood risk. He concludes, “The investment includes both upgrading existing flood models and developing new models on a global scale. The new models are being released and we will make more detailed announcements as they become available.”

About Guy Carpenter

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