Swiss Re Institute

Press release

Flood risk: protective measures up to ten times more cost-effective than rebuilding

- **Flood risk is set to increase due to climate change and urban sprawl**
- **Economic benefits of flood adaptation measures can be up to ten times the costs of post-disaster rebuilding**
- **Dykes can reduce flood damage by 60-90%, especially in densely populated regions**

Zurich, 11 November 2024 – Economic losses caused by natural catastrophes reached an estimated USD 280 billion in 2023, with USD 51.6 billion due to floods, according to Swiss Re Institute. Losses are likely to increase as climate change intensifies extreme weather events while rapid urban sprawl has increased asset values in high-risk areas. Protective measures such as dykes, dams and flood gates come at a price, but their financial benefits can exceed costs for rebuilding after a disaster by up to ten times, a Swiss Re Institute study shows.

Veronica Scotti, Chairperson Public Sector Solutions at Swiss Re said: "Investments in climate adaptation, such as flood preparedness, not only promote economic stability and create jobs, but also help keep people safe. Yet there is chronic underfunding. It is therefore crucial to create the conditions for private capital to flow into climate adaptation projects and at the same time optimise the use of public funds. Quantifying the benefits of adaptation measures is a key step towards facilitating public-private investment and ultimately closing the huge financing gap."

To determine how effective investments in flood adaptation measures can be, it is important to quantify their financial benefits. Swiss Re Institute has carried out a study comparing economic benefits and cost ratios of selected flood adaptation measures. This value can serve as a guideline for investment decisions and help identify the best flood adaptation methods to ensure a community's economic stability, safety and resilience.

Benefit-to-cost ratio can vary significantly depending on the region. Swiss Re Institute research shows that grey infrastructure, such as dykes and levees, is highly effective in reducing coastal flood damage. Globally, their benefits can outweigh costs by two to seven times, and even up to

Media Relations
Zurich
Telephone +41 43285 7171

New York
Telephone +1 914 828 6511

Singapore
Telephone +65 6232 3302

Investor Relations
Telephone +41 43 285 4444

Swiss Re Ltd
Mythenquai 50/60
CH-8022 Zurich
Telephone +41 43 285 2121

www.swissre.com
@SwissRe

Contact
Group Media Relations
Media_Relations@swissre.com
+41 43 285 71 71

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ten times in flood-prone areas. Built to optimal standards, these structures can reduce flood damage by 60-90%, especially in densely populated regions. In less populated areas, nature-based solutions such as barrier island restoration or foreshore vegetation can be equally effective.

Similarly, policy interventions, such as land use restrictions, can enhance the value of flood prevention, particularly in emerging economies. Flood defences and, zoning restrictions are found to be almost twice as effective and feasible than accommodative measures, such as dry proofing for both coastal and river floods.

All flood interventions, especially when upgraded and maintained, can benefit both insurers and policyholders. The public and private sectors can work together in facilitating and accelerating risk adaptation: by focusing on preventing and reducing future flood losses, the public sector can shift the remaining risks to the re/insurance industry and support economic stability after disasters. By being involved in the early stages of planning protection measures, the re/insurance industry can help mitigate risks and provide financial protection.

Download study

"Resilience or rebuild? The costs and benefits of climate adaptation measures for flood" can be downloaded **here**

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About Swiss Re

The Swiss Re Group is one of the world's leading providers of reinsurance, insurance and other forms of insurance-based risk transfer, working to make the world more resilient. It anticipates and manages risk – from natural catastrophes to climate change, from ageing populations to cyber crime. The aim of the Swiss Re Group is to enable society to thrive and progress, creating new opportunities and solutions for its clients. Headquartered in Zurich, Switzerland, where it was founded in 1863, the Swiss Re Group operates through a network of around 80 offices globally.