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STRENGTHENING RESILIENCE

PREPARATION IS THE FIRST STEP TO RESILIENCE

Weather-driven disasters such as floods and bushfires are costing the country billions of dollars. It's time to start investing in resilience measures says sustainability expert **Will Symons**.

Better preparation is needed to protect infrastructure from climate shocks, but an inability to look beyond asset classes and organisational boundaries in scoping risk too often leads to suboptimal investments and less effective mitigation. Increased risk of catastrophic failures, longer recovery times and unnecessary suffering is the result.

Damage from bushfires and floods costs the Australian economy billions of dollars every year. According to Katrina Ell of Moody's Analytics, the cost of the bushfires that recently devastated Australia's eastern seaboard is likely to exceed the record AUD$4.4bn set by 2009's Black Saturday blazes.

Ms Ell's view was supported by 2017's Building resilience to natural disasters in our states and territories report, which forecast the total cost of natural disasters in Australia to more than double from AUD$18.2 billion per year to AUD$39 billion per year by 2050 (in present value terms), even without considering the impact of climate change.

The report, prepared by Deloitte Access Economics on behalf of the Australian Business Roundtable for Disaster Resilience and Safer Communities, also suggests that investing in 'pre-recovery' delivers a "double dividend", firstly through the avoided impacts of disasters when they occur, and secondly in the broader co-benefits that accrue in the absence of disaster, such as lower insurance premiums, more reliable services, and more connected communities.

Reading between the lines then, it's possible that investment in pre-recovery could help reduce government expenditure on post-disaster recovery by 50 per cent in the period to 2050.

Following a 2019 survey of 38 large banks, insurers and super funds, APRA, which regulates the insurance industry, said the best way to mitigate the impacts of climate change and associated weather-driven disasters was to spend ahead of time to mitigate their impact. In a speech, APRA's head of insurance Geoff Summerhayes said, "The world is rapidly transitioning to a low carbon economy, driven principally by the decisions of governments, business leaders, investors and consumers. Companies that fail to respond to these forces risk being left behind." →

The numbers don't lie. In 2014, the Productivity Commission inquiry into disaster funding found that in total, Australian governments spent AUD$13.4 billion on post-disaster recovery and clean-up in the ten years to 2012–13. Government investment in mitigation, by comparison, was "insignificant compared to post-disaster expenditure, accounting for only 3 per cent of what it spent post-disaster in recent years". Based on our experience in developing resilience strategies for infrastructure assets across Australia's hazard prone areas, this balance of funding is unlikely to have significantly changed since the release of the Productivity Commission's 2014 report.

Shared risks

The spatial nature of natural hazards means that all assets are impacted in a geographic location and are highly interdependent — telecommunications and water infrastructure require power and road access to operate, whilst first responders need uninterrupted access to communications infrastructure to operate safely.

Given this interdependency, actions to enhance asset resilience, such as flood levees, improved warning systems or smart power back-up, are likely to reduce the risk exposure of multiple assets and enable faster recovery. Currently, public and private asset owners identify mitigation measures based on their own risk profile, rather than identifying all risks within the hazard area and collaborating to fund measures with the highest possible return on invested capital. This inward approach to risk management increases the risk of uncontrolled, cascading faults and failure across, and between, asset classes.

Asset owners share the risk of being in the hazard zone so significant value can be gained by sharing the cost of risk reduction strategies. When pre-recovery is executed well, it will enhance the resilience of all assets and the communities they support.

Shared value

The first challenge in realising this shared value is establishing each asset owner's current and future risk profile. This requires a collaborative process to estimate the cost of inaction or avoided future costs for each organisation based on agreed likely scenarios. It should also be done in a way that enables comparison and collaboration between asset owners, must consider the changing climate and should clearly identify interdependencies within and between asset classes.

Public sector organisations need to consider broader factors than simple return on investment, such as protecting regional jobs or avoiding social disruption following hazard events.

Such regional resilience plans should guide pre-disaster resilience investment, focusing on the assets that are most critical for surrounding communities, and that are at most risk from multiple hazards. AECOM used this combination of asset criticality and hazard exposure to support Public Transport Victoria to identify the assets it should prioritise for adaptation investment.

These collaborative plans establish agreed cost sharing arrangements between different asset owners, based on robust analysis of avoided cost, provide long-term certainty and involve the regulators and insurers of critical infrastructure assets.

Such an agreed framework must be supported by all significant public and private asset owners. This approach would, for the first time, provide clear focus on these shared risks and identify the shared value in resilience investment. It would provide a market for resilience investment to reduce the impact of hazard events, shorten the recovery process for all stakeholders, and optimise post-event resource allocation.

A collaborative, value-driven pre-recovery approach to strategic planning would provide the framework for a culture and habit of collective resilience that should benefit the majority of asset owners and, in doing so, protect critical services when the impacted community needs them most.

We should invest now, to avoid paying later. WL