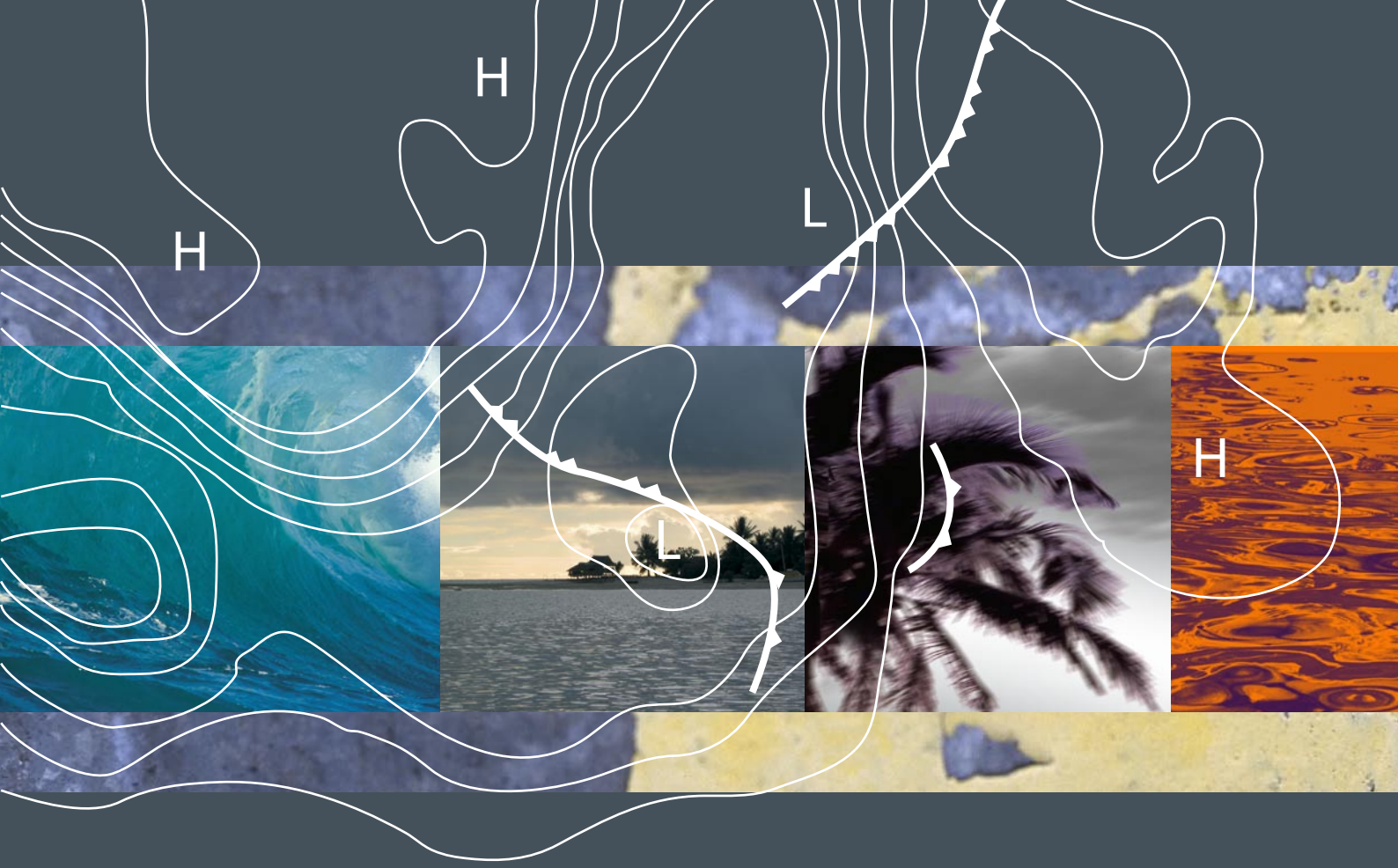

Not if but *when*

Adapting to natural hazards in the Pacific Islands Region

Executive Summary

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One of the most vulnerable regions in the world

Pacific Island countries rank among the most vulnerable in the world to natural disasters. Since 1950, natural disasters have directly affected more than 3.4 million people and led to more than 1,700 reported deaths in the region (outside of PNG). In the 1990s alone, reported natural disasters cost the Pacific Islands region US$2.8 billion in real 2004 value.

Between 1950 and 2004, extreme natural disasters, such as cyclones, droughts and tsunamis, accounted for 65 percent of the total economic impact from disasters on the region's economies. Ten of the 15 most extreme events reported over the past half a century occurred in the last 15 years.

There has been a substantial increase in the number of reported natural disasters in the region since the 1950s, with a growing human impact per event. While this may be due to improved reporting, higher populations and increasing environmental degradation, there is no doubt that disasters in the region are becoming more intense and probably more frequent. Certainly, the number of hurricane-strength cyclones has increased in the southwest Pacific in the past 50 years, with an average of four events now occurring each year. Significant wave heights of recent cyclones have exceeded even climate change model projections.

With the climate trend for the Pacific pointing to more extreme conditions and increased climate variability in future, Pacific Island countries have little choice but to develop comprehensive risk management plans for the natural hazards they face.

When risk management of natural hazards works

In 1991, cyclone Val hit Samoa with maximum wind speeds of 140 knots causing massive damage – equivalent to 230 per cent of the country's real 2004 GDP. By contrast, the impact of cyclone Heta in 2004 (with wind speeds of up to 170 knots) translated to just 9 per cent of Samoa's GDP. While the two cyclones were not directly comparable, having different tracks and duration, the effects of cyclone Heta would have been far worse if the country had not invested in risk management for natural hazards through the 1990s. Shoreline protection systems designed to cyclone standards performed well and sustained minor damage compared to adjacent areas with sub-standard coastal protection systems.

Some lessons

Lessons from countries elsewhere exposed to similar natural hazard risks indicate that:

- Efforts to prevent or minimize damage from natural hazards pay off in the long run.
- Risk management efforts have proven far more cost effective than waiting for the impact and then repairing the damage.
- Risk management is most cost effective when it is introduced early in the planning of key investments.
- Adopting 'no regrets' measures, such as planting mangroves to stabilize coastal land and climate-proofing key investments, can go a long way towards reducing vulnerability.

The constraints

Despite growing interest from development partners in financing 'adaptation' initiatives in the Pacific and an increasing awareness in the region of the need for preventive action, three major constraints have limited the adoption of natural hazard risk management:

1. Perverse incentives:

- For many Pacific Island governments, it is a rational decision not to reduce risks as long as donors respond generously to disasters, whether or not preventive efforts have been taken.
- The benefits of prevention may not become visible for years, and may unfavourably compete with other short-term domestic priorities.
- Donors face strong public pressure to respond rapidly to disasters and often mobilize funds outside their normal budgets for this, whereas funding for preventive action is often constrained.

2. Poor institutional arrangements

- Risk management of natural hazards (RMNH) has not been adequately mainstreamed into national economic planning.
- Many RMNH efforts have been undermined because they are located in junior or weak ministries that have proven ineffective in influencing key ministries such as public works, finance or health.

3. Instruments

- There is inadequate emphasis on awareness raising, behavioural change and enforcement – all of which are as important as physical investments.
- There is inadequate support for instruments such as vulnerability mapping which can help communities and government come to agreement on ways to minimize public and private asset risks.
- There is inadequate exposure of people working on national risk management of natural hazards efforts to international mentoring.

Steps towards a safer future

Disasters are essentially a development problem. The appropriate scale for adaptation in the Pacific extends from community (bottom-up) to national (top-down) levels. As risk management of natural hazards is so closely linked to macro-economic planning and it involves multiple sectors — finance, environment, fisheries, agriculture, public works, health — it requires a long-term, programmatic, whole-of-government approach.

This is a long-term process that ideally involves five interactive steps:

1. Enhancing the enabling environment through appropriate initiatives across macro-economic policy, national development planning and institutional strengthening
2. Providing decision support through public awareness raising, targeted information and training
3. Mainstreaming natural hazard risk management into economic and social planning processes
4. Ensuring risk management options are implemented by strengthening regulations, climate-proofing infrastructure, and making informed policy choices, such as where to establish growth centres
5. Incorporating monitoring and evaluation measures into pilot projects and applying lessons learned at the program level.

No single institutional structure will fit all Pacific Island countries. Governments should identify the most appropriate actions to take, as well as who is best equipped to implement them. This requires strong leadership and coordination from an influential central ministry.

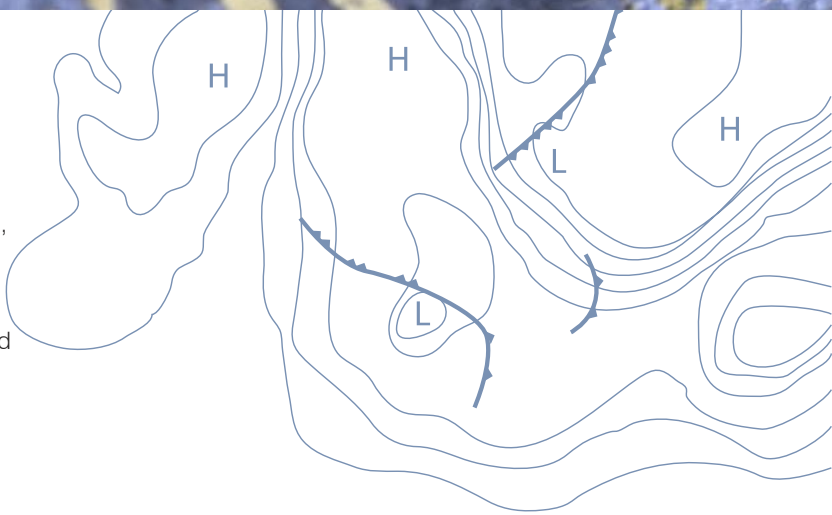
Support provided by regional Pacific agencies must reflect current and emerging national needs and be led, preferably, by a single regional agency. Risk management and adaptation should also be merged and form an integral component of the Pacific Plan.

The use of risk transfer options — including disaster insurance — needs to be further explored, although a regional insurance program is hampered by the ready availability of donor-funded disaster relief.

A way forward for the Pacific

We suggest to Pacific Island leaders, communities, and their development partners that:

- The traditional approach of 'wait and mitigate' is a far worse strategy than proactively managing risks. There is no benefit in waiting to see if global warming will affect the region. Natural hazards already take an annual toll that destroys valuable property, threatens and takes lives and disrupts national economies. Any additional disasters arising from climate change will only make matters worse.
- Managing the risks associated with natural hazards is affordable and does not need to depend on donor generosity. The cost of reconstructing damaged infrastructure after a natural disaster often approaches 20–40 percent of the original infrastructure cost, much more than taking preventive measures at the design stage.
- Decision-makers in government and donor agencies need to address the three 'I's': Incentives, Institutions, and Instruments. Current incentives make it rational to wait for a disaster and allow others to pay for the recovery and rehabilitation. Institutions are neither well prepared nor sufficiently accountable and there is a lack of support for instruments that could help countries to better prepare for and adapt to natural hazards.
- Responding to disasters is highly visible and widely praised, but preventive actions are generally small, low-key steps. Donors, often responsible for much of the development budget of Pacific Island countries, need to factor risk management of natural hazards into development funding and reward countries taking proactive action.
- Risk management of natural hazards is neither an environmental nor a disaster response function. Rather, it is a cross-cutting process that demands leadership and coordination at the highest levels of government. The coordinating agency needs a mandate to influence key sectoral ministries.
- While many institutions in the Pacific do not have an adequate enabling environment for a comprehensive risk management approach to natural hazards, they can still begin the process. Even small steps can begin within institutions prepared to take a leadership role. Civil society organizations prepared to work with responsive governments can take a lead at the community level and the private sector can demonstrate leadership by adapting high profile investments to natural hazards.
- Experience shows that top-down and bottom-up approaches are needed and must coincide. Community participation is a traditional strength in the Pacific that can form the foundation for hazard risk management. For example, communities can agree to set back houses from high water levels without waiting for governments to impose zoning restrictions. The private sector can also play a part by ensuring that structures along coastlines demonstrate effective risk management practices.



- The most effective instruments for risk management of natural hazards are those that address current risks. The adverse consequences of storm surges, king tides, tsunamis and cyclones need to be addressed now through hazard mapping, vulnerability assessments and assets-at-risk inventories. Coastal assets and infrastructure can be protected now rather than repaired after damage from extreme events.
- Mainstreaming risk management into policies, plans, programs and projects is of the highest priority. Governments, donors and other stakeholders can ensure that all major development activities take risk management of natural hazards into account.

Adaptation is not surrender. It is wise, pragmatic leadership which needs to be implemented urgently and effectively.

Addressing the three constraints of RMNH – Incentives, Institutions, and Instruments

	Incentives	Institutions	Instruments
Local level	Resist the perverse incentives that allow others to shift their risks onto local communities or future generations. Facilitate greater choice over where to live and when to accept risky occupations by eliminating poverty.	Re-invigorate ancestral institutional arrangements that enabled previous generations to effectively adapt to natural hazards.	Adopt improved building codes. Develop and practice evacuation plans. Relocate critical infrastructure, such as hospitals and schools away from the most vulnerable locations.
National level	Shift donor development assistance to incorporation of risk management measures and away from continual disaster relief. Prioritize 'survival first' among competing short-term resource allocation choices. Abandon the belief that accepting adaptation now risks future compensation for climate change.	Coordinate RMNH at the highest level of government, as an economic and social 'survival' issue, rather than an environmental problem.	Mainstream RMNH into national sustainable development and economic planning. Allocate national budgets to RMNH rather than relying on donor funding of the 'development budget.' Promote no-regrets adaptation measures through preferential tax policies, subsidies, or adjusted insurance premiums.
Regional level	Provide accurate information on natural hazards and risk management in a form that national decision makers can use, without political risk.	Review emerging institutional arrangements in other small island developing states and promote best practices in PICTs.	Review the state of readiness of PICTs to address potential disasters and strengthen regional multi-hazard early warning systems.
Donor level	Make donor assistance conditional on risk reduction behaviour and impose risk management standards. Reward proactive governments. Adopt a longer time frame and broader scope for development financing.	Accept the cross-cutting nature of RMNH and deal with the complexities of inter-sectoral coordination, implementation and maintenance.	Use high visibility projects to demonstrate that RMNH strategies are cost-effective.

For the full report, go to **www.worldbank.org/pi** or call the World Bank's Pacific Islands office in Sydney, Australia: **61-2-9223 7773**.