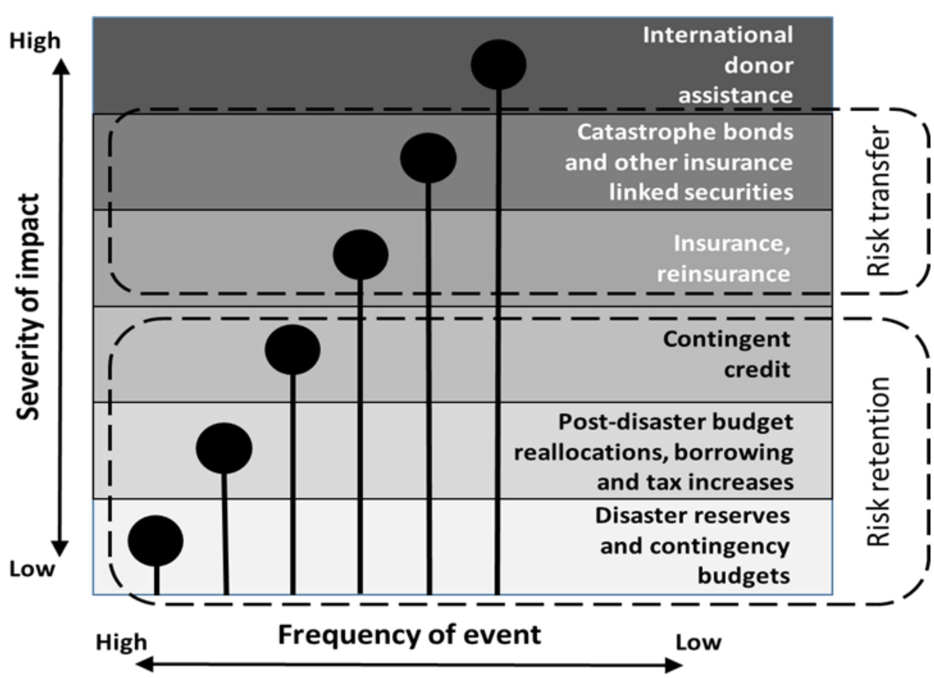
DISASTER RISK FINANCING ARRANGEMENTS

1. Over the past 10-15 years, there has been an increasing emphasis on the need to strengthen fiscal resilience against disasters. Resilience begins with risk reduction, taking actions to reduce levels of loss in the event of natural hazards. However, disaster risk cannot be eliminated entirely, and so governments and development partners are working to enhance financial planning for possible disasters as well, seeking to ensure that sufficient financing is available to support timely relief, early recovery and reconstruction efforts.

2. There is an array of instruments that a government can draw on to support enhanced financial preparedness. These instruments are ideally applied using a risk layering approach, breaking disaster risk down according to the frequency of occurrence of different types of hazard event of varying severity and associated levels of loss and designing bundles of instruments targeting differentiated layers of risk. Governments should seek to select the most appropriate instruments for each layer of loss based on a range of factors including the scale of funding needed, the speed with which disbursement is required, and the relative cost-effectiveness of alternative instruments for specific layers of risk.

3. They begin with risk retention instruments for more frequent, less damaging events (Figure 1). These include annual contingency budget allocations, disaster reserves, and contingent credit arrangements, all of which are put in place before disasters strike. In the aftermath of a disaster, governments can also re-allocate budgets, increase borrowing, and raise taxes to provide additional resources. Market-based risk transfer solutions are a more cost-efficient source of financing for medium-level risks, which generate higher levels of loss but less frequently. These includes insurance and insurance-linked securities, such as catastrophe bonds, and are taken out in anticipation of potential disasters. In the event of major disasters, governments also appeal to the international community for assistance.

Figure 1. Layered approach to disaster risk financing



4. Disaster risk financing is highlighted in the Sendai Framework for Disaster Risk Reduction 2016-2030, which encourages implementation of mechanisms for disaster risk transfer and insurance, risk-sharing and retention. The Framework for Resilient Development in the Pacific 2017-2030 also promotes the establishment of a regional facility to assist governments in disaster and climate change risk financing, and encourages finance and planning institutions to pursue all opportunities for climate change and disaster risk financing.

5. The developing member countries (DMCs) participating in the Pacific Disaster Resilience Program – Samoa, Tonga, and Tuvalu – have put some disaster risk financing arrangements in place, but recognize the need for further strengthening. Table 1 indicates the existing instruments used by each country, indicating the utilization of both ex ante and ex post mechanisms by all countries. The Program is intended to address a gap in financing between government resources available through contingent budgets, reserves, and post-disaster reallocations and, for those countries that have it, disaster insurance.

Table 1: Existing instruments used by the participating countries

	Samoa	Tonga	Tuvalu
Ex-ante Financing			
Disaster reserves	✘	✔	✔
Annual budget contingency lines	✔	✔	✘
Sub-national disaster/general contingency government resources	✘	✘	✘
Existing contingent credit	✔*	✔*	✘
Sovereign catastrophe risk insurance (PCRAFI)	✔	✔	✘
Ex-post Financing			
Post-disaster reallocations and investment budget realignments	✔	✔	✔
International development partner support for recent major disasters	✔	✔	✔
Average annual loss ($ million)	9.9	15.5	0.2
Probable maximum loss ($ million) 1-in-10-year event 1-in-50 year event	 20.0 109.8	 28 140.2	 0.6 2.8

$ refers to US Dollars; PCRAFI = Pacific Catastrophe Risk Assessment and Financing Initiative Source: Average annual loss and probable maximum loss is drawn from World Bank et al. 2015. *Advancing Disaster Risk Financing and Insurance in the Pacific: Regional Summary Note and Options for Consideration.* Washington, DC. The estimated include only tropical cyclones, earthquakes and tsunamis.
* Contingent financing to Samoa and Tonga is limited, at $0.5 million.

6. **Disaster reserves and budget contingency lines.** All three countries have some form of annual budget contingency line, including for disasters, or a disaster reserve. The disaster budget contingency lines typically allow shifting of funds in the budget to reach the contingency amount required post-disaster. Tonga has also established a National Emergency Fund, for natural hazard and other emergencies; and the Tuvalu Survival Fund was created in 2015 after Cyclone Pam. All countries have typically relied more on post-disaster budget reallocation during past disasters.

7. **Disaster risk insurance.** Two of the countries also have some limited access to contingent credit through the World Bank's Pacific Resilience Program (PREP),[1] amounting to $0.5 million for Tonga and $0.5 million for Samoa, and they also participate in the Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI) Insurance Program.[2] PCRAFI was originally established in 2007 as a joint initiative of the Secretariat of the Pacific Community, the World Bank, and ADB. A disaster insurance pilot was launched as part of this initiative in 2012. Phase II of the PCRAFI program began in 2016, supported by the PCRAFI Multi-Donor Trust Fund with the World Bank as trustee. Phase II has two core components: the establishment of a PCRAFI Facility as an insurance captive to provide Pacific Island countries with catastrophe risk insurance coverage on competitive terms and a TA program to support capacity building on disaster risk financing and the public financial management of disasters. Germany, Japan, the United Kingdom, and the United States have provided grant funding toward the establishment of the PCRAFI Facility. The insurance currently provides the governments insurance cover against tropical cyclones, earthquakes, and/or tsunamis. Payouts are determined based on modelled loss.

8. In the fifth round of PCRAFI Insurance, insurance policies were issued to the Cook Islands, Marshall Islands, Tonga, Samoa and Vanuatu. The Solomon Islands participated in the first two seasons of the insurance pilot but chose to discontinue this insurance in the third season. This decision was influenced by the fact that neither the Santa Cruz earthquake in 2013 nor the flash floods of early 2014 generated a payout under the terms of the insurance. There have been two payouts to date, $1.27 million to Tonga following Cyclone Ian, and $1.90 million to Vanuatu following Cyclone Pam.

9. Samoa and Tonga are also expected to participate in the sixth round of PCRAFI insurance. Premium payments for both countries are currently supported through the PREP. The estimated cost of the annual premium for each of the four Phase I countries (also including Marshall Islands and Vanuatu) was $0.5 million for three years from November 2015 to October 2018, according to the World Bank at the time of the PREP's approval in 2015. The participating governments provide counterpart funding to partially finance the premium, set at a minimum of $40,000 for the year commencing November 2015, $50,000 for the year commencing November 2016, and $60,000 for the year commencing November 2017. Other donors have also supported the establishment and operation of the program.

10. The structure of the PCRAFI Facility includes a Foundation with a special purpose vehicle in the form of a captive insurance company. The Pacific Catastrophe Risk Insurance Company (PCRIC) was established as a legally independent entity in the Cook Islands to manage the PCRAFI Insurance Program. A captive insurance company, while a legally independent entity, only exists to serve the insurance needs of its members, and Cook Islands was found to have the strongest regulatory framework within the region for hosting such a company. The Pacific Catastrophe Risk Insurance Foundation (PCRIF) and the PCRIC were established by legal statute creating two separate legal entities in 2016.

11. The Program will assess options for, and potential costs and benefits from, a collaborative multi-country mechanism to provide contingent financing in the event of disasters triggered by natural hazards, in close collaboration with the PCRAFI Facility.

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[1] World Bank. 2015. *Pacific Resilience Program*. Washington, DC.

[2] World Bank. 2017. *PCRAFI: Furthering Disaster Risk Financing in the Pacific Project.* Washington, DC.