
Risk Transfer for Disasters



**Disaster Risk Financing
& Insurance Program**

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DEFINITION OF RISK TRANSFER

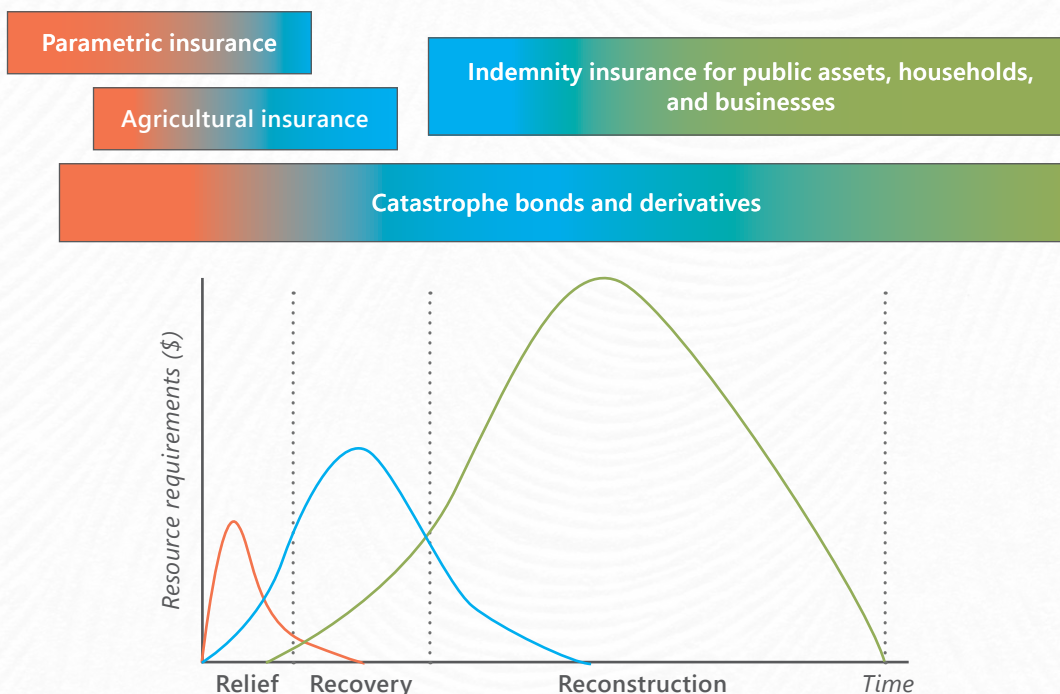
Risk transfer is the process of formally or informally shifting the financial consequences of particular risks from one party to another. The first party, which may be a household, community, organization, or national or local government, receives a financial payout from the other party after a qualifying event occurs (such as a disaster), in exchange for a fixed and specified payment.¹



TYPES OF RISK TRANSFER

The best-known form of risk transfer is **insurance**, which involves a company (or the state) providing a guarantee of compensation for specified loss, damage, illness, or death in return for a specified payment, known as the insurance premium. Other forms of risk transfer include **reinsurance** (insurance for insurance companies) and alternative risk transfer (ART), which includes **catastrophe bonds** and derivative contracts such as **catastrophe swaps**. Each of the various types of risk transfer serves a different purpose within a comprehensive financing strategy for all stages of post-disaster response. As indicated in the diagram below, instruments such as parametric insurance and some forms of agricultural insurance provide rapid payouts to support financing requirements for disaster relief and early recovery, whereas indemnity insurance is better suited to providing a greater level of finance needed for longer-term reconstruction.

FIGURE 1: USE OF DIFFERENT RISK TRANSFER INSTRUMENTS ACROSS STAGES OF POST-DISASTER RESPONSE



Source: Adapted from F. Ghesquiere and O. Mahul, "Financial Protection of the State against Natural Disasters: A Primer," Policy Research Working Paper 5429, World Bank, Washington, DC, <http://hdl.handle.net/10986/3912>

1 - Adapted from United Nations Office for Disaster Risk Reduction (UNDRR), "Terminology," <https://www.undrr.org/terminology/risk-transfer>



KEY PRINCIPLES OF RISK TRANSFER

Insurance law dictates that any risk transfer contract must be for an **insurable interest**, which means the policyholder would otherwise suffer a loss should the insured event occur (for example a disaster).

To cover operating costs and profit margins, the **cost of risk transfer** is calculated such that the premium will always be higher than what the insurer (or risk carrier) expects to pay out on average. If the insured event does not occur, there will be no payout; however, after a severe disaster, the payout could be significantly higher than the premium paid. Insurance is therefore aimed at providing payouts for extreme events rather than covering the cost of average events.



PROVIDERS OF RISK TRANSFER



Domestic insurance companies within a country are likely to be providers of indemnity insurance for households and businesses, and potential providers of agricultural insurance and insurance for public assets. However, for high levels of coverage (e.g., catastrophe risk), local insurers are likely to require reinsurance protection either in the domestic or international market



Domestic and international reinsurance companies offer insurance to insurance companies to transfer catastrophic risk. International reinsurance companies are used extensively in crisis risk financing, as they also offer policies to directly country governments.



Sovereign risk pools can offer coverage to individual countries, retain some of the risks through joint reserves and capital, and transfer excess risk to the reinsurance and capital markets. The use of risk pools allows some countries to access coverage against disasters that they might otherwise not be able to afford



Capital markets offer coverage for disasters through catastrophe bonds and other kinds of derivatives.

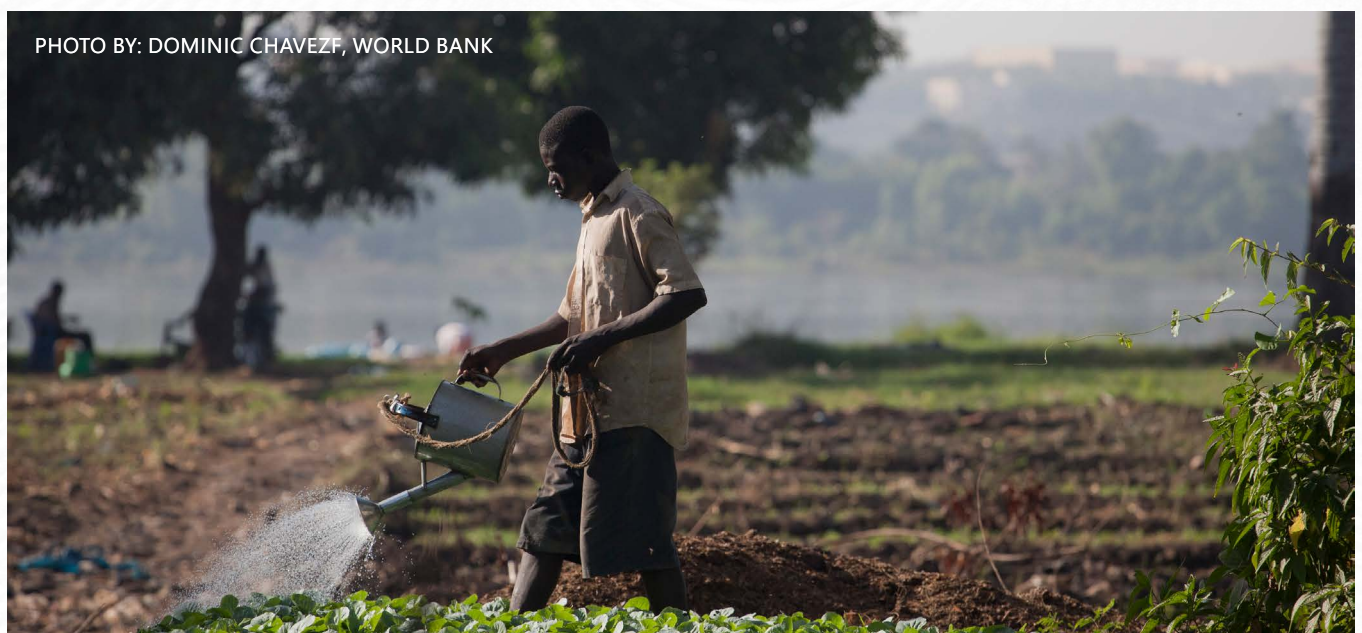


PHOTO BY: DOMINIC CHAVEZF, WORLD BANK

Table 1: Benefits and drawbacks of risk transfer

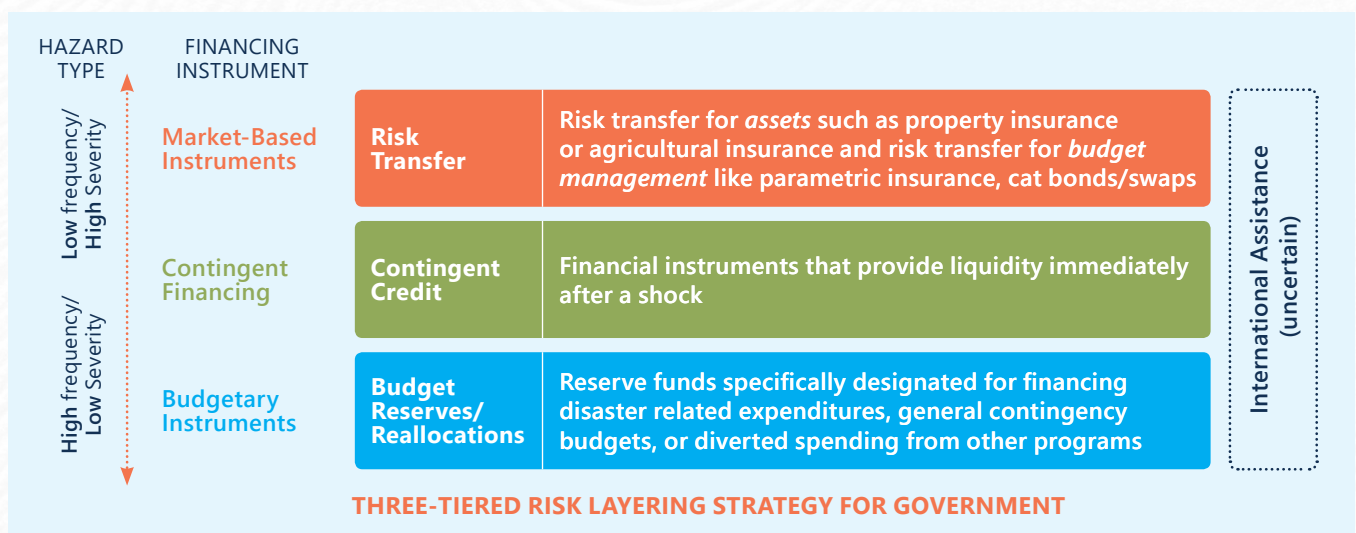
Advantages	Disadvantages
<ul style="list-style-type: none"> ◆ Can be cost-effective for high-severity / low-frequency risks ◆ Offers fast payouts for some types of risk transfer (parametric insurance, catastrophe bonds and derivatives, and some agricultural insurance policies) ◆ Allows for better financial planning due to greater predictability and reduced volatility of expenditures ◆ Supports fiscal discipline ◆ Provides payouts with no restriction on how the payout is used (for some types of insurance) ◆ Allows the insured party to set the amount of premium it is willing to pay (for some types of insurance, e.g. parametric insurance) 	<ul style="list-style-type: none"> ◆ Is likely to be very expensive for low-severity / high-frequency risks ◆ Can be vulnerable to criticism if an event occurs and no payout is provided under the contract terms ◆ May provide payouts that do not meet the needs of the insured (for some types of insurance) ◆ Requires expertise in risk transfer products to ensure policy wording is appropriate for needs May entail high transaction costs for some kinds of risk transfer ◆ Entails trade-off between the cost of premiums and the frequency or scale of payout ◆ May have fluctuating cost, since cost also depends on risk appetite from providers and market status, which can change over time



USE OF DIFFERENT INSTRUMENTS TO ADDRESS DIFFERENT RISK WITH A THREE-TIERED RISK-LAYERING STRATEGY

As indicated in the graphic below, a comprehensive disaster risk finance strategy utilizes different financing instruments for different types of risks. Risk transfer is best suited to high-severity / low-frequency events occurring less than every 10–50 years, such as severe floods, droughts, cyclones, or earthquakes. In the case of more frequent risks, paying an insurance premium to cover these costs is inefficient, and other disaster risk financing instruments such as contingent credit or budget reserves/reallocations should be used.

FIGURE 2: RISK LAYERING STRATEGY FOR GOVERNMENTS



Source: Adapted from World Bank, "Fundamentals of Disaster Risk Finance," World Bank

Financial Protection of Public Assets through Public Asset Registry and Risk Transfer



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INTRODUCTION TO INSTRUMENTS

Disasters can damage publicly owned buildings and infrastructure assets, disrupting their services and impeding the smooth functioning of economies and societies. In addition to physical damages of the infrastructure assets, the disruption to public infrastructure services—such as for energy, water, transport, health, and education—lead to greater knock-on impacts on the broader economy and livelihoods.

Many assets are publicly owned, and governments are responsible for their operation. After a disaster, governments often assume a significant proportion of the recovery and reconstruction costs for infrastructure, particularly for uninsured publicly owned assets; these costs that are incurred in the event of a disaster are contingent liabilities. Governments also face reduced revenues when economic activities are disrupted, including activities of their own revenue-generating public assets. This reduction can create a significantly adverse fiscal impact, which leads to a slower recovery. Securing funding for the reconstruction of damaged assets after a disaster to enable service recovery is therefore of great importance to governments.



USES / ADVANTAGES / DISADVANTAGES

Financial protection strategies can help countries manage the impact of disasters on infrastructure and so protect service delivery to the population. Strategies should aim to ensure that rapid, reliable, and cost-efficient finance is available so it can speed recovery and reconstruction; strategies should also aim to support plans and systems that will quickly restore service delivery to the population. Risk transfer (most commonly achieved through insurance) transfers some of the financial burden for reconstruction away from government and assists the timely reinstatement of services.

Financial protection of public assets (including through risk transfer) is informed and supported by a public asset registry. This is a (digital) database that assists effective whole-of-government business planning by providing a single source of information about all nonfinancial government assets, including their geolocations, physical characteristics, asset value, and asset life. A public asset registry can support the development of an insurance program by informing the risk assessment and the risk transfer strategy. In addition, by providing insurance companies with evidence of appropriate (improved) asset management, it can secure more competitive pricing for insurance.



MECHANICS

Insurance is a means of spreading risk over time (i.e., incurring a known annual expense to avoid a larger cost at an unknown time in the future). Insurance companies pool the risks of a large customer base and use the premiums collected to pay for individual claims when they occur.

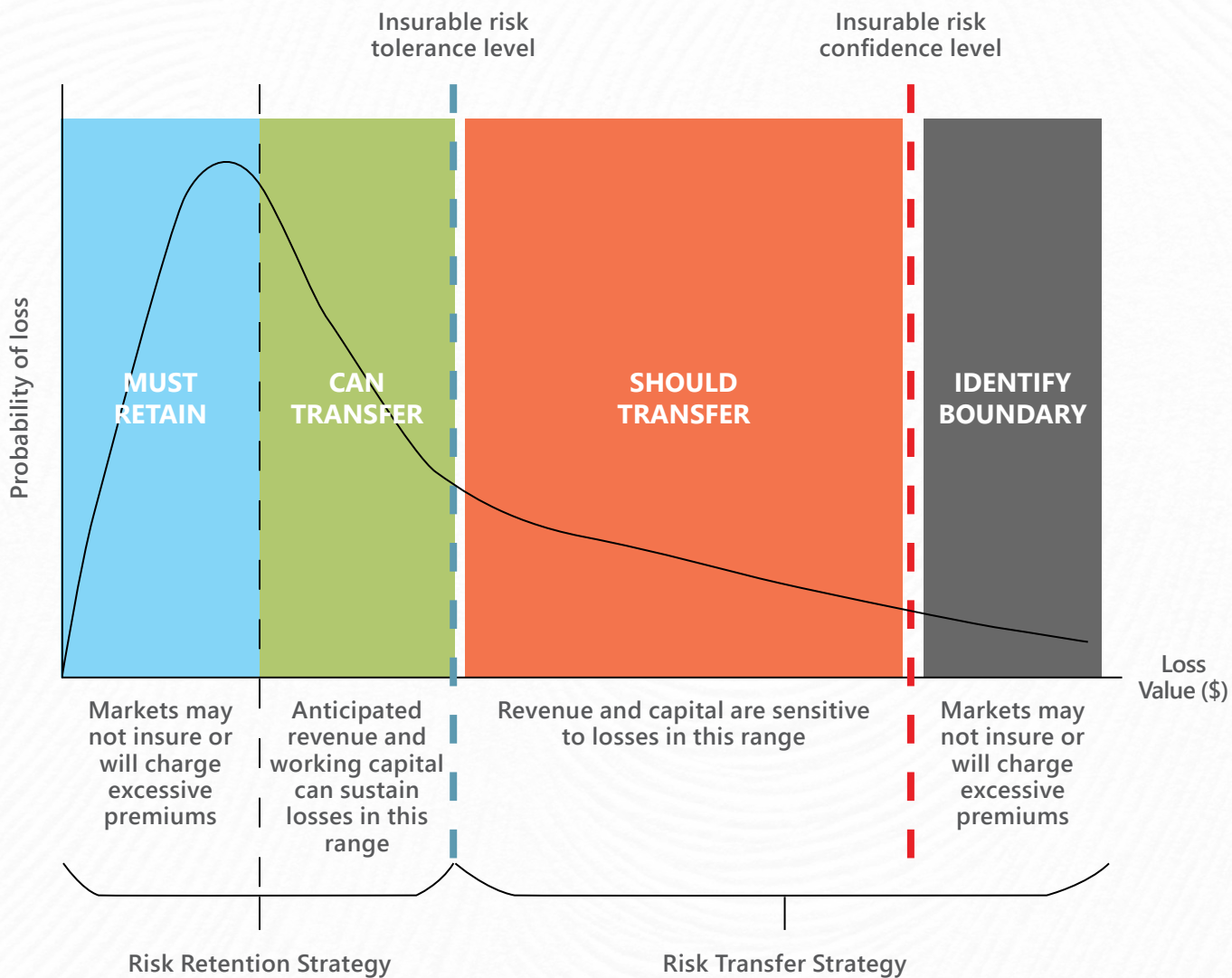
Different insurance products may be appropriate at different points in time, for example depending on a country's access to data. Parametric coverage might be used if detailed data on exposure of individual assets are lacking, but the coverage could transition toward an indemnity structure as more asset-level information becomes available. When structuring a risk transfer strategy, governments could consult neutral risk advisors such as brokers, who are well-placed to provide a broad perspective on different forms of risk capital and can clarify which forms best match the risk profile and local context of the government. In addition to making use of commercial risk transfer, a government can set up its own insurance structure, such as a captive, an entity, or a state-owned insurer and use that structure to transfer some risk to the reinsurance market, just as insurance companies do.

This arrangement may give access to more financial capacity, more forms of risk transfer, and specialist expertise. The following figures illustrate considerations in establishing a financial protection program, the stages in implementing such a program, and the components of an asset registry.

The implementation of a public asset registry is likely to be phased in gradually, first covering the most critical assets, those with the best data availability, and those owned or managed by supportive stakeholders. A successful registry relies on more than technology and data alone; it must address the wider challenges involved in establishing the correct policies, governance, and skills, as well as the concepts and principles for basic asset management, including asset information management.



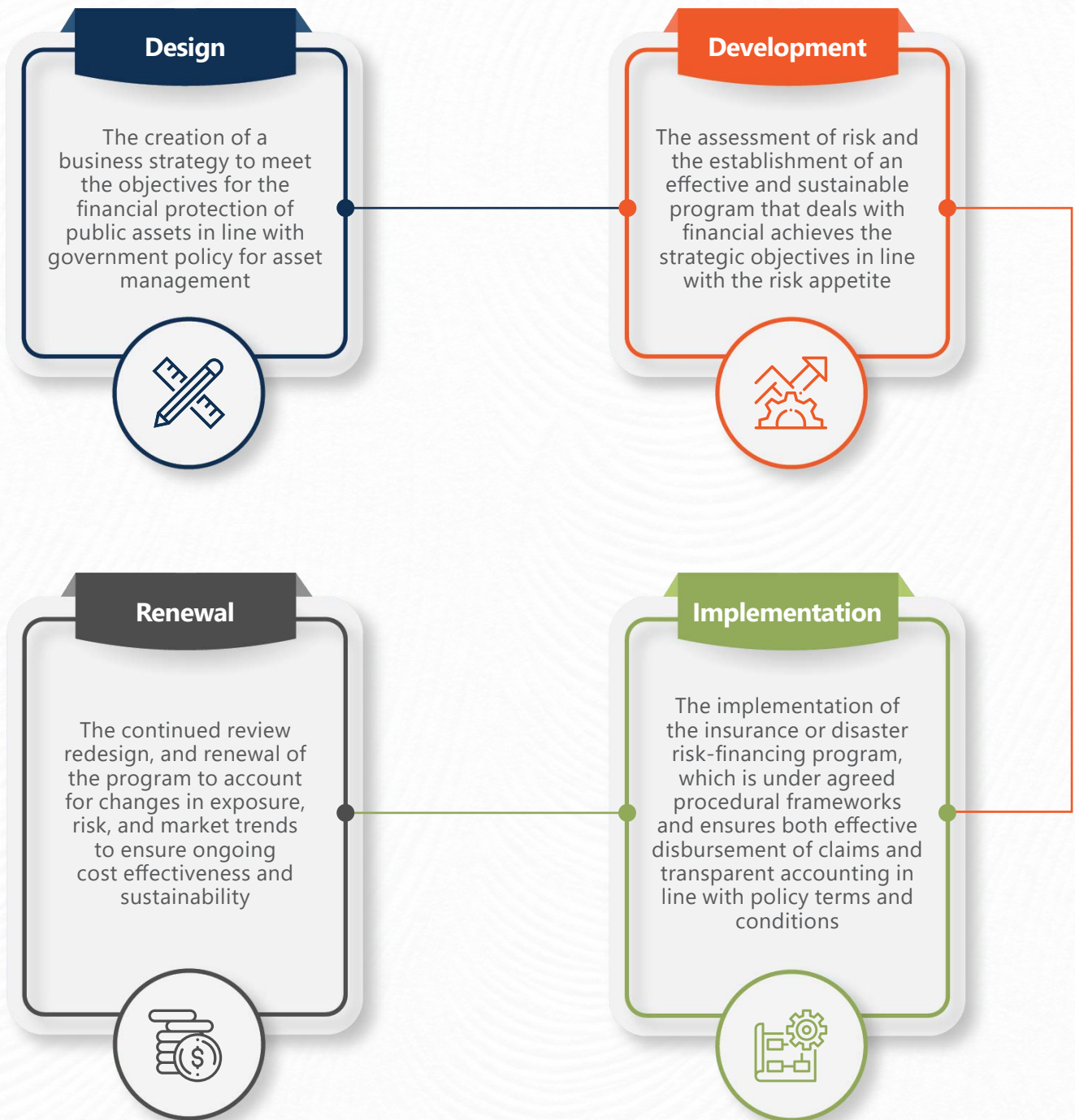
FIGURE 1: CONSIDERATIONS IN THE ESTABLISHMENT OF AN INSURANCE PROGRAM



Source: World Bank, Financial Protection of Public Assets - A Practitioner's Guide for Public Officials

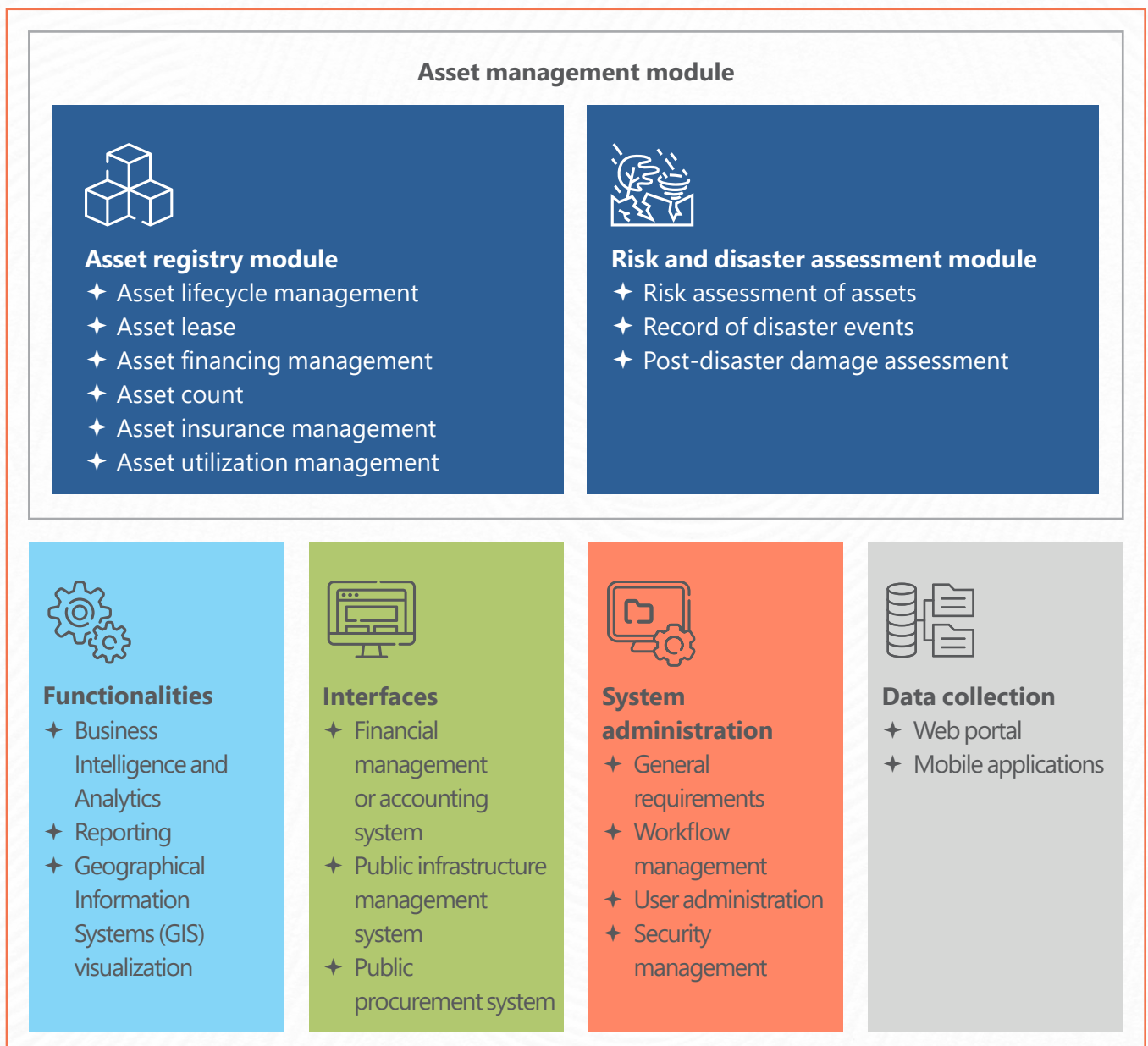


FIGURE 2: STAGES IN THE IMPLEMENTATION OF A FINANCIAL PROTECTION STRATEGY FOR PUBLIC ASSETS



Source: World Bank, Financial Protection of Public Assets - A Practitioner's Guide for Public Officials

FIGURE 3: CONCEPTUAL DESIGN OF A PUBLIC ASSET REGISTRY SYSTEM



Source: World Bank, Financial Protection of Public Assets - A Practitioner's Guide for Public Officials



PHOTO BY: PEXELS



EXAMPLES



Public asset insurance: The Ministry of Finance of Indonesia launched a program for the insurance of state assets in 2019, transferring risk of damage to public buildings to a consortium of domestic insurance companies. By 2021, this program had grown to cover 5,272 buildings of 73 ministries and agencies, with a total sum insured of US\$2.5 billion. The government is working to expand coverage to buildings from all government ministries and agencies by end 2022 (89 ministries and agencies with combined estimated assets of IDR 4,000 trillion, or over U\$283 billion).



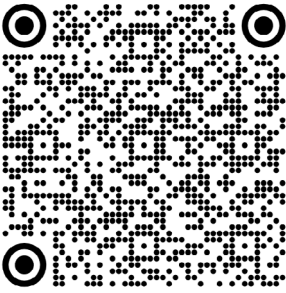
Public asset registry: The Government of the Philippines adopted the first ever Philippine Government Asset Management Policy in September 2020. It also established the first comprehensive public asset registry, the National Asset Registry System (NARS), which has already brought together information on over 500,000 assets.



PHOTO BY: HARALD FELGNER

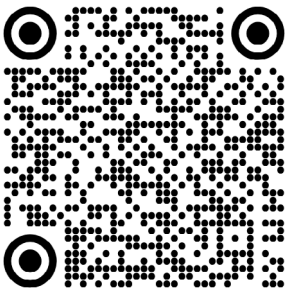


MORE INFORMATION



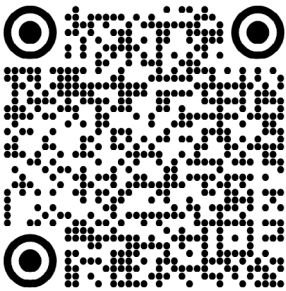
FINANCIAL PROTECTION OF PUBLIC ASSETS PRACTITIONERS GUIDE FOR PUBLIC OFFICIALS

[HTTPS://WWW.FINANCIALPROTECTIONFORUM.ORG/PUBLICATION/FINANCIAL-PROTECTION-OF-PUBLIC-ASSETS-A-PRACTITIONERS-GUIDE-FOR-PUBLIC-OFFICIALS](https://www.financialprotectionforum.org/publication/financial-protection-of-public-assets-a-practitioners-guide-for-public-officials)



SEADRIF KNOWLEDGE SERIES - FINANCIAL PROTECTION OF PUBLIC ASSETS

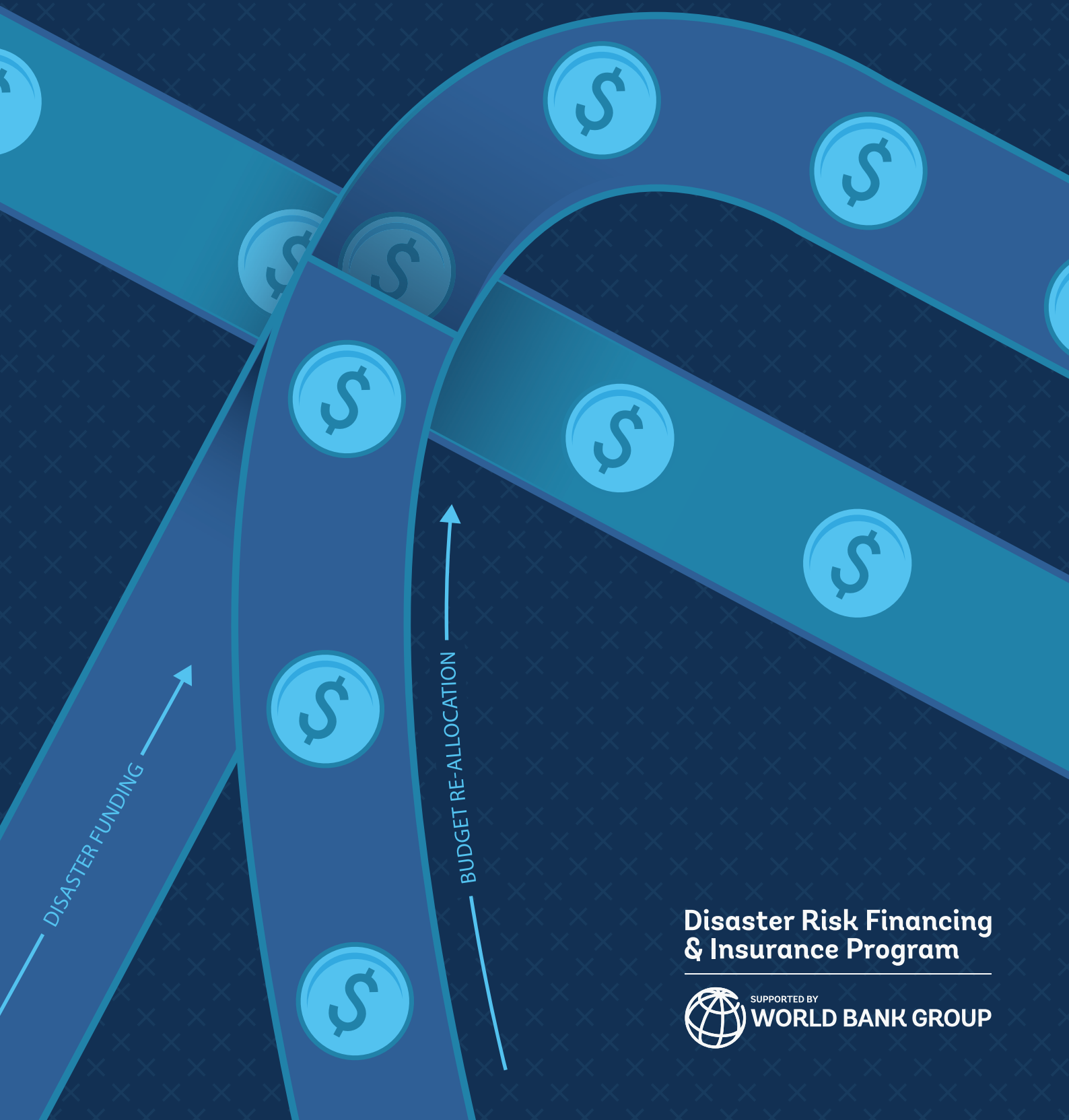
[HTTPS://WWW.FINANCIALPROTECTIONFORUM.ORG/SEADRIF-KNOWLEDGE-SERIES-FINANCIAL-PROTECTION-OF-PUBLIC-ASSETS](https://www.financialprotectionforum.org/seadrif-knowledge-series-financial-protection-of-public-assets)



PRACTICAL GUIDE TO INSURING PUBLIC ASSETS

[HTTP://WWW.INSDEVFORUM.ORG/WP-CONTENT/UPLOADS/2020/08/PRACTICAL-GUIDE-TO-INSURING-PUBLIC-ASSETS.PDF](http://www.insdevforum.org/wp-content/uploads/2020/08/practical-guide-to-insuring-public-assets.pdf)

Budget Reallocations



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INTRODUCTION TO INSTRUMENT

To meet post-disaster costs for recovery and reconstruction, government agencies can request budget allocations through the regular budget process, use some of their existing budget lines, use savings, or modify the issued allocations. While reallocation will likely be the first funding available to government agencies (and in many cases the only funding available), it can have a very negative impact on planned development priorities.

When considering the use of the regular budget for disaster response, the government should also pay particular attention to the necessary budget management, reporting, and control mechanisms to ensure efficient use of funds even during a crisis period.



USES / ADVANTAGES / DISADVANTAGES

When disasters strike, governments have to act expeditiously to provide relief for affected populations and restore services. To do so, they often draw first on the available budget. This approach, however, reduces the spending planned for normal development priorities. For example, the government may not be able to build new schools that had been planned, or routine maintenance may suffer as maintenance funding is used for rehabilitation instead.

The opportunity cost of post-emergency budget reallocations is widely acknowledged but rarely quantified because of the challenges involved in tracking disaster-driven reallocations. Such reallocations tend to be poorly documented and cannot always be determined ex post through a review of routine budget data. This is because budget data are usually recorded at a high level, so that reallocations occurring at the more granular project level may be hidden. Because decisions to reallocate budgets after disasters are not recorded, it is difficult to distinguish between reallocations resulting from the disaster and others that were made for different reasons.



MECHANICS

The urgency of disaster response gives rise to additional considerations to ensure effective controls and accountability. To ensure disaster response and recovery funds are allocated fairly and support people most in need, transparency is particularly important. Expedited spending should take place within control mechanisms that can be adapted and streamlined to ensure timeliness without compromising safeguards. For example, no single individual or small group should be able to initiate, approve, undertake, and review the same action. Separation of functions to reduce the risk of fraud or misappropriation is under ordinary circumstances one of the most important features of an internal control plan; it is equally important when a disaster strikes.

A country's readiness to reallocate budget after a disaster depends on whether its laws and regulations facilitate adjustments in budgets in response to disasters. Readiness can be assessed by answering the following questions:



Does the budget include programs and/or activities for disaster response and recovery that can be activated as needs arise?



Does the central finance agency have authority to reallocate funds without approval of the legislature?



Do spending agencies have the authority to reallocate funds without the authorization of the central finance agency, or is authorization required?



Is there access to contingency, reserve, stabilization, and disaster funds for disaster response?



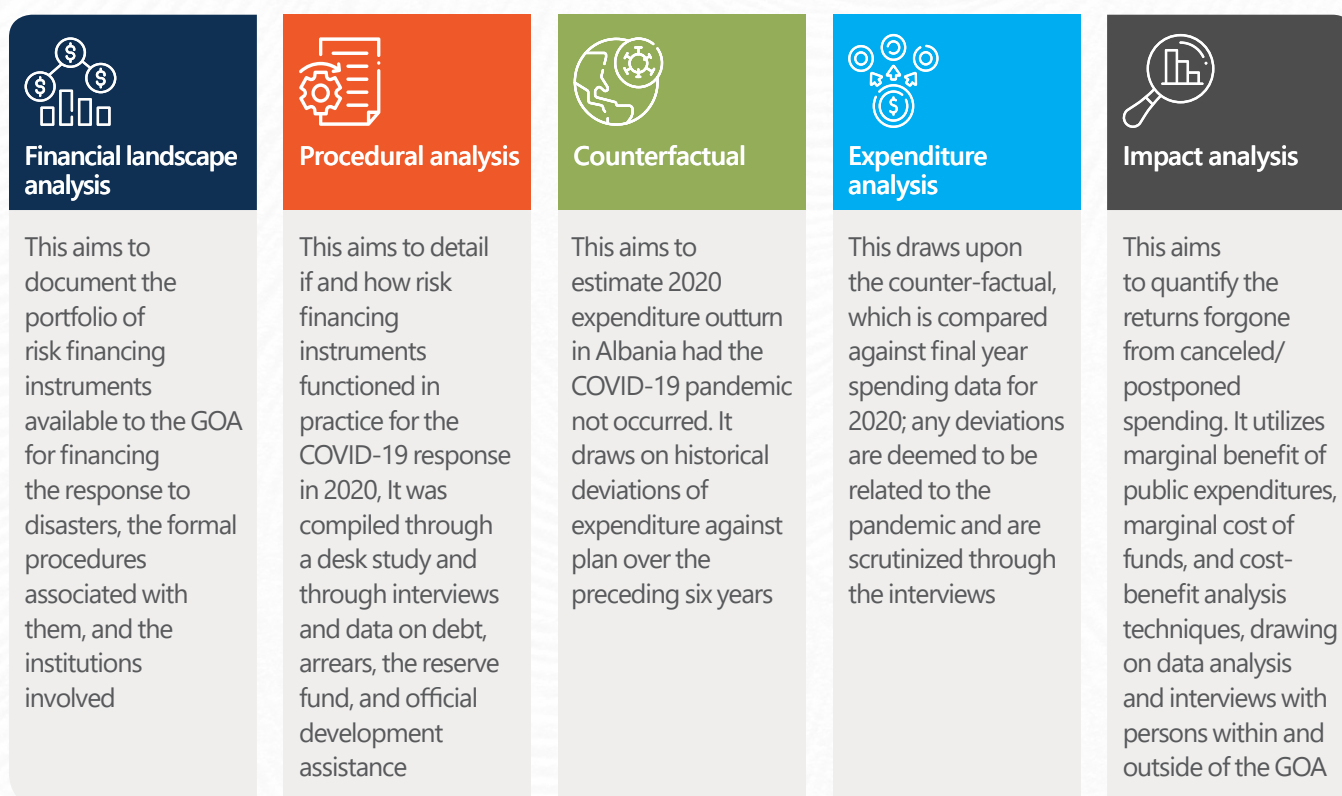
Are there escape clauses for fiscal rules in the event of disasters?



Do loans and external financing agreements allow for deferment of servicing, accelerated drawdown, and/or adjustments in the application of funds following a disaster?

The following figure provides a brief overview of five steps to assess the use of budget reallocation in response to COVID-19 in Albania. This is one example of how such an approach can be evaluated.

FIGURE 1: FIVE PILLARS FOR ANALYZING PUBLIC FINANCE RESPONSE TO COVID-19 IN ALBANIA



Source: World Bank, "The Impact of COVID-19-Related Budget Reallocations in Albania," World Bank, Washington, DC, 2021, <https://www.financialprotectionforum.org/publication/the-impact-of-covid-19-related-budget-reallocations>

Note: GOA = Government of Albania.



EXAMPLE

Use of agency-specific budgets for disaster response in the Philippines: In exceptional circumstances, National Government Agencies are allowed to either modify the issued allotment or use savings to augment deficient appropriations.¹ These actions require additional levels of approval; modifications between different budget lines and the use of savings must be approved by the Department of Budget and Management (DBM) and/or the Office of the President. Savings can be used to augment other sources of funds. For instance, Php 16.4 billion in augmentation to the National Disaster Risk Reduction and Management Fund in FY2016–FY2018 came from savings by the Department of Public Works and Highways and was used by other agencies. The use of savings can be permitted in the period after a disaster with a special issuance by the president, which allows agencies to immediately tap into their savings. The head of an agency also has the discretion to reallocate budgets within an allotment class. Any other changes require DBM approval.



MORE INFORMATION

Qian, Rong, Benedikt Lukas Signer, Tatiana Skalon, and Zidni Marohombsar. 2020. "Public Expenditure Review: Disaster Response and Rehabilitation in the Philippines." World Bank, Washington, DC. <https://openknowledge.worldbank.org/handle/10986/35064>

World Bank. 2021. "The Impact of COVID-19-Related Budget Reallocations in Albania." World Bank, Washington, DC. <https://www.financialprotectionforum.org/publication/the-impact-of-covid-19-related-budget-reallocations>

World Bank. 2022. Disaster Resilient and Responsive Public Financial Management: An Assessment Tool. Washington, DC: World Bank. <https://openknowledge.worldbank.org/handle/10986/37033>

1 - The General Appropriations Act and the National Budget Circular on the Guidelines on the Release of Funds include rules on modifying allotments issued and the use of savings.

Parametric Insurance for Disaster Response



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DEFINITION OF PARAMETRIC INSURANCE

Parametric insurance (also called index-based insurance) is a type of insurance that pays out when an event of a certain agreed-on severity takes place – that is, it does not pay out based on the actual damage or losses sustained. The objective measure that determines a payout is often known as the parametric “trigger.”

Table 1: Advantages of parametric insurance over traditional indemnity insurance

	Traditional indemnity insurance	Parametric insurance
 <p>Speed of payout</p>	Payouts can be very slow (take several weeks or months) because the value of the loss must be assessed (in a process known as claims adjustment).	Rapid payouts (taking less than two weeks) are possible, as no claims adjustment process necessary.
 <p>Claims handling cost</p>	Cost is higher due to expense of the claims adjustment process.	Cost is lower due to absence of a claims adjustment process.
 <p>Claims transparency</p>	Claim amounts can be contested, as they depend on the claims adjustment process and applicability of any policy terms / exclusions. The loss adjustment process is also imperfect and may not be well understood.	Claim amounts are predefined with a transparent calculation process (although expert knowledge may be required to understand calculation).
 <p>Use of payout</p>	Payout is usually used to repair the damage or loss incurred.	Payout can be very flexible and used as budget support with few or no restrictions.
 <p>Customization of policy</p>	Products and contract wordings are standardized, with some customization such as excesses; and No Claims Bonuses (NCBs), which influence the premium amount.	The product is highly customized, with many parameters selected by the policyholder, including the premium amount; there is a high level of structuring flexibility.

Source: Adapted from Singapore Reinsurers' Association, "Parametric Risk Transfer: A Solution to Narrow Asia's Protection Gap," <https://mvvsp1.5gcdn.net/7d840e3d78914a3d8c3e9270889c7020>

The advantages and disadvantages of parametric over traditional indemnity insurance are always context-specific and depend on the objectives of the insured in securing financial protection.



PARAMETRIC TRIGGERS

In the context of parametric insurance for disasters, payout triggers are usually related to the intensity of an event and can take one of two forms:



Pure parametric trigger

With this type of trigger, the payout is based on physical characteristics of an event, such as the wind speed of a cyclone, magnitude of an earthquake, or amount of rainfall occurring in a particular location.



Modeled loss trigger

With this type of trigger, the payout is based on estimated losses for a given event from a catastrophe model.

It is possible for parametric policies to have multiple triggers, which can result in different levels of payouts. The main requirements for a parametric trigger are (i) that the measure is objective and can be modeled; (ii) that the measure is independently verifiable by a third party immediately after a disaster; and (iii) that the measure is correlated with the actual losses incurred following a disaster. Neither the insured nor the risk taker should be able to influence the trigger (or its calculation or reporting).



KEY CONSIDERATION: BASIS RISK¹

The main drawback of parametric insurance is that it entails basis risk, which can be defined as the risk that any payout under the policy may deviate from the actual losses sustained from an eligible event. Such a deviation can occur in either direction—that is, calculated payouts can be below the sustained losses to the insured (negative basis risk) or above them (positive basis risk).

Parametric insurance includes some residual basis risk because any index or parameter used as the basis for a payout is an imperfect proxy for the actual financial loss sustained. In structuring a parametric product, the aim is to ensure that resulting payouts correlate as closely as possible with the actual loss sustained, thereby minimizing basis risk. The best way to achieve this close correlation is by tailoring parametric insurance to the risk profile and needs of the prospective policyholder, through proper choice of the underlying index and payout schemes, and possibly the inclusion of multiple trigger conditions. Recent advances in data analytics, more granular reporting, improved modeling techniques, and innovations in parameters are collectively leading to a reduction in basis risk. However, some basis risk will always remain, because no index can perfectly foresee and match how actual losses unfold after an event.

¹ - World Bank, "Lessons Learned: The Philippines Parametric Catastrophe Risk Insurance Program Pilot," World Bank Group, Washington, DC, 2020, <https://openknowledge.worldbank.org/bitstream/handle/10986/36013/The-Philippines-Parametric-Catastrophe-Risk-Insurance-program-Pilot-Lessons-Learned.pdf>



KEY TAKEAWAY

The advantages of parametric insurance make it highly appropriate for financing immediate disaster relief and early recovery activities. Parametric insurance typically covers only a relatively small proportion of losses incurred after a disaster, but it can provide a rapid payout within two weeks of a disaster and places few restrictions on how payouts are used. However, the payout from parametric insurance is usually a fixed amount and does not cover the main losses from a disaster related to rebuilding of damaged assets.



EXAMPLE

In July 2017, the Government of the Philippines placed on the international financial markets a portfolio of catastrophe risk that transferred typhoon and earthquake risk from the Philippines through the World Bank to the international reinsurance market in local currency. In 2018, the government purchased a second insurance policy, doubling the amount of coverage. These policies were parametric and provided rapid payouts to support disaster response in affected Local Government Units and National Government Agencies.¹ There were three payouts to the government over the two years when the program was in place (two payouts from typhoons and one from an earthquake).

PHOTO BY: WU ZHIYI, WORLD BANK



Catastrophe Bonds



DEFINITION OF CATASTROPHE BOND

A catastrophe bond (also called a CAT bond) is a type of alternative risk transfer instrument that transfers risk from a sponsor to an investor. Catastrophe bonds are typically used by insurers (acting as the sponsor) as an alternative to traditional catastrophe reinsurance, although sovereign governments can also be sponsors of catastrophe bonds to secure financial protection against disaster risk. Catastrophe bonds are issued by the capital markets (i.e., investors), which offer an alternative to traditional insurance and reinsurance markets.

From the perspective of the sponsor (e.g., sovereign government), a catastrophe bond functions like insurance: a premium is paid, and a payout is received if a disaster event meets certain preagreed criteria. The investor can receive an interest rate over the life of the bond that is greater than that of most fixed-income securities, but some or all of the principles may be lost if a disaster occurs.

Most catastrophe bonds are parametric in nature, with the triggers taking the same form as in parametric insurance.

PHOTO BY: SARAH FARHAT, WORLD BANK



Table 2: Advantages and disadvantages of catastrophe bonds for sovereign governments

Advantages	Disadvantages
<ul style="list-style-type: none"> ◆ Additional capacity from capital market investors provides a way of securing higher levels of coverage than is offered by international reinsurers ◆ CAT bonds can secure coverage for multiple years ◆ For high levels of coverage, pricing can be favorable compared to reinsurance ◆ The benefits of parametric insurance also apply to catastrophe bonds (rapid payout, no loss adjustment process, transparent calculation of payout, and predetermined payout amounts) 	<ul style="list-style-type: none"> ◆ Transaction costs are usually higher than for parametric insurance ◆ Complicated structure is more difficult to understand than insurance, despite serving essentially the same purpose ◆ Typically CAT bonds take longer to prepare and place than parametric insurance ◆ The main drawback of parametric insurance (basis risk) also applies to catastrophe bonds



KEY TAKEAWAY

Catastrophe bonds are best suited to extreme-severity / low-frequency risks, and in particular where a high level of coverage is being sought (typically greater than US\$100 million) over multiple years. While transaction costs are high, catastrophe bonds can offer an alternative way of securing high levels of coverage and can provide price savings for multiyear contracts.



EXAMPLE

In 2019 the World Bank issued two tranches of CAT bonds to provide the Government of the Philippines with three years of financial protection of up to US\$75 million for losses from earthquakes and US\$150 million for losses from tropical cyclones. The bonds were issued under the IBRD (International Bank for Reconstruction and Development) Capital at Risk Notes program, which allows developing countries to transfer natural disasters and other risks to the capital markets.²



2 - World Bank, "World Bank Catastrophe Bond Transaction Insures the Republic of Philippines against Natural Disaster-Related Losses Up to US\$225 Million," press release, November 24, 2019
<https://www.worldbank.org/en/news/press-release/2019/11/25/world-bankcatastrophe-bond-transaction-insures-the-republic-of-philippines-against-natural-disaster-related-losses-up-to-usd225-million>

Sovereign Risk Pools



DEFINITION OF SOVEREIGN RISK POOLS

Sovereign risk pools are entities that provide disaster insurance to countries, typically within a single region; pooling the risk from multiple countries creates economies of scale and diversifies risk, which results in lower premiums.

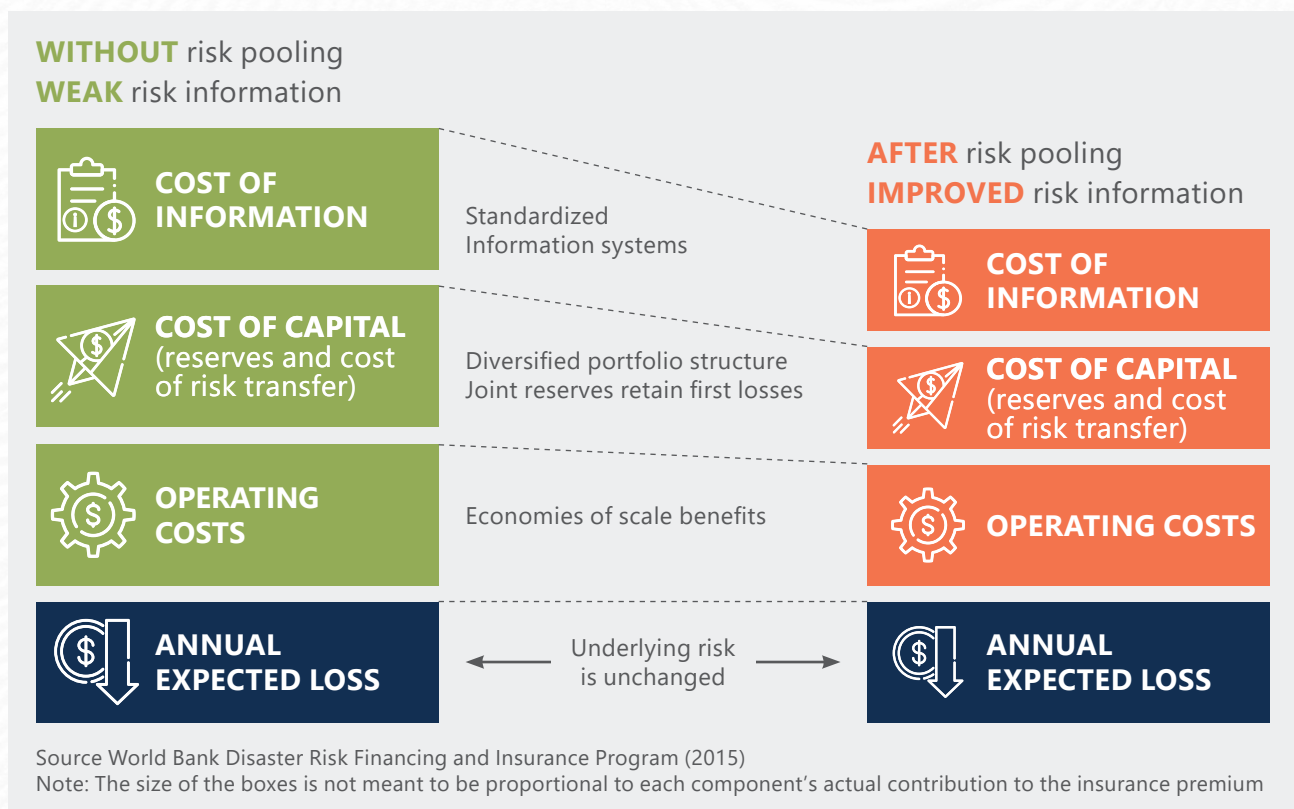
Sovereign risk pools currently exist in the Caribbean and Central America (Caribbean Catastrophe Risk Insurance Facility Segregated Portfolio Company, CCRIF SPC), Africa (African Risk Capacity, ARC), the Pacific (Pacific Catastrophe Risk Insurance Company, PCRIC), and Southeast Asia (Southeast Asia Disaster Risk Insurance Facility, SEADRIF).



HOW SOVEREIGN RISK POOLS REDUCE INSURANCE PREMIUMS

Sovereign risk pools leverage economies of scale in areas such as operating costs, the cost of capital and administrative functions such as having standardized information systems and analytics. This leads to a reduction in the insurance premiums charged to member countries.

FIGURE 1: WITHOUT RISK POOLING



Source: World Bank Group, "Sovereign Climate and Disaster Risk Pooling," World Bank Technical Contribution to the G20," 2017, <https://openknowledge.worldbank.org/handle/10986/28311>

Donor funding is often provided to sovereign risk pools for premium subsidies, start-up costs, ongoing operating costs, and seed capital, thus further reducing the costs of insurance to member countries.

Although risk pools have traditionally provided **parametric insurance** to help countries respond quickly to disasters, some pools are now starting to expand their range of products to other kinds of insurance, and to offer policies at levels other than just the sovereign level (e.g., subnational level or for specific sectors). Sovereign risk pools have helped countries work together to enhance their financial protection against disasters. Risk pools do more than reduce the costs of insurance; for some countries, they are the only means of accessing disaster insurance.

Table 3: Advantages and disadvantages of sovereign risk pools

Advantages	Disadvantages
<ul style="list-style-type: none"> ◆ May be the only way that some countries can purchase sovereign insurance ◆ Can offer pricing benefits compared to direct purchase of insurance by individual countries due to greater diversification, economies of scale, and access to donor financing ◆ Can provide additional services beyond insurance policies such as technical capacity building 	<ul style="list-style-type: none"> ◆ Usually, a very lengthy process to set up ◆ Full benefits of a risk pool can be realized only if multiple countries purchase policies



EXAMPLE

In February 2021, as its first product, the SEADRIF Insurance Company launched a regional catastrophe risk insurance product—the first regional product in Asia—that provides cover against flood risks in the Lao People’s Democratic Republic. This can be expanded to additional countries in the future.³

3 - SEADRIF, “The SEADRIF Insurance Company: Providing Catastrophe Risk Insurance Coverage,” <https://seadrif.org/the-seadrif-insurancecompany/>

Disaster Reserve Funds



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INTRODUCTION TO INSTRUMENT

Disaster reserve funds are an important part of an efficient risk-layering approach. They allow governments to retain risk as part of their budget but still set resources aside in advance to facilitate rapid response in case of a shock, with clear prearranged processes and procedures for how the funds can be used.

A fund can be established in different ways. In some countries the reserve fund is just a contingency allocation in the budget with specific rules for how these funds will be used. In other countries, a disaster fund is established as a dedicated institution, either a government agency or a de facto semi-independent service agency. In both cases, a disaster fund aims to improve disaster outcomes by (i) ensuring effective access to sufficient resources for disaster response; and (ii) streamlining execution and transparency of spending.



USES / ADVANTAGES / DISADVANTAGES

Disaster reserve funds have multiple uses:



They fulfill key policy objectives by strengthening financial resilience and improving the financial management of disasters



They provide the government with readily available resources for post-disaster expenditure to enable emergency relief and response as well as long-term recovery, including rehabilitation and reconstruction



They serve as a center for promoting knowledge and building capacity on disaster risk financing within government, and they facilitate effective risk transfer through the purchase of (re)insurance



They can complement other disaster risk financing approaches / instruments as part of the government's financial protection strategy, including to promote research and risk assessment



They act in alignment with key processes and systems that enable the flow of funds to get to the point of need for effective recovery

Advantages	Disadvantages
<ul style="list-style-type: none"> ◆ Make funds immediately available for disbursement to enable faster recovery and minimize longer-term impact of disasters ◆ Improve transparency concerning who is responsible for various risks ◆ Improve timeliness of response (allocation of funds) and reduce administrative delays ◆ Improve transparency and accountability regarding public expenditures ◆ Provide either an alternative or complementary offering to insurance ◆ Reduce dependency on debt financing following disaster ◆ Enable inter-agency coordination for readiness, recovery, and risk transfer 	<ul style="list-style-type: none"> ◆ Involve opportunity cost of reserves retained in good years between disaster events ◆ Involve time delays while accumulating an appropriate level of reserves to cover disaster risks and following any depletion of funds ◆ Require careful fiscal management and modeling to ensure funds and/or risk transfer capacity match exposure liability ◆ Require processes, systems, and resource capability to ensure funds are distributed efficiently and transparently to the intended beneficiaries ◆ Can be mismanaged as reserves build up



MECHANICS

Establishment of a disaster fund requires actions to complete the legal and operational setup, allocate resources, develop a risk financing strategy, and strengthen the fund's operational performance and transparency. The specific steps will differ depending on the policy, legal, and institutional form of the country's specific disaster fund.

The key steps to implementing a disaster fund are these:



Coordination for establishment, policy design, and legal basis. Establishing a disaster fund is complex and requires strong coordination across national government ministries. Actors should agree on which ministry is responsible for the fund, identify the fund's specific objectives as part of the government's overall disaster risk finance strategy, and establish the fund through a legal mandate



Fund design (decisions on how the fund will meet its policy objectives). Choices need to be made about what the fund will finance and how (the products to be offered), participants and beneficiaries, timing of participation, fund obligations, fund powers, and fund and product governance and setup (i.e., fund activities and staffing)



Financial design (decisions on how the fund will be funded). Choices need to be made about the fund's financial risk appetite and risk management strategy, the extent of risk transfer, accumulation levels, funding ratios, financial structure, and investment options



Regulatory (legislative) design. Choices need to be made about how the fund (and its products) will be created and monitored (i.e., about the regulatory instruments and tools used)



Ongoing review and fine-tuning. The fund's operation must be proactively monitored and adjustments made to ensure the overall mandate is achieved



EXAMPLE

To strengthen Indonesia's fiscal and financial resilience to natural disasters, the government is establishing a Pooling Fund for Disasters (Pooling Fund untuk Bencana, PFB) and is strengthening systems for the transparent flow of these disaster funds. This is the key reform of the country's National Disaster Risk Finance and Insurance Strategy, adopted in 2018. The objectives are to (i) reduce fragmented funding by providing a mechanism through which post-disaster financing can flow from different sources and actors; (ii) ensure reliable and predictable prearranged funding; (iii) streamline disbursement channels for quick and efficient flow of funds from the PFB to implementing agencies; and (iv) leverage domestic and international financial markets. This effort is being supported by the World Bank through a US\$500 million loan. The PFB will leverage domestic and international insurance and reinsurance markets to support more efficient disaster response by providing financial capacity to backstop the fund and by drawing on expertise and technology for managing payouts.



MORE INFORMATION

<https://www.worldbank.org/en/news/press-release/2021/01/21/strengthening-indonesias-fiscal-resilience-to-natural-disasters-and-health-related-shocks>

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**Disaster Risk Financing
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