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DRAFT

Disaster Risk Finance Country Diagnostic Note: Cambodia

Disaster Risk Financing & Insurance Program

SUPPORTED BY WORLD BANK GROUP

THE ROCKEFELLER FOUNDATION

GFDRR Global Facility for Disaster Reduction and Recovery

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Acknowledgements

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Table of Contents

FIGURES

TABLES

ABBREVIATIONS

ASEAN	Association of Southeast Asian Nations
Cat DDO	Catastrophe Deferred Drawdown Option
CFRS	Cambodia Food Reserve System
DRF	disaster risk finance
DRM	disaster risk management
GDP	gross domestic product
JICA	Japan International Cooperation Agency
MFI	microfinance institution
NGO	nongovernmental organization

CURRENCY EQUIVALENTS

(Exchange rate used as of May 2017)
Currency Unit = KHR (Cambodia Riel)
US$1 = KHR 4000
Fiscal Year = January 1 - December 31

Executive Summary

The 2016 World Risk Index ranks Cambodia the ninth-most disaster-prone country in the world. Floods, storms, and droughts are the most prevalent hazards in the country, and they are expected to become more pronounced and severe under the influence of climate change. Typhoon Ketsana in 2009 and floods in 2011 and 2014 caused damages and losses of US$132 million, US$625 million, and US$357 million, respectively. Cambodia is also affected by the El Niño climatic pattern, which brought severe drought to the country in 2015–16 and affected sectors dependent on water resources.

Disasters in Cambodia drain government resources. Cambodia does not currently have a strategy or policy to manage the financial impacts of natural disasters. These impacts are greater than currently available resources, meaning there is a significant short-term funding gap. A preliminary financial risk assessment estimated high annual economic losses for Cambodia due to natural disasters—equivalent to 0.7 percent of gross domestic product.[1] An analysis based on historical data carried out for this note indicates that every year Cambodia faces average costs of US$54 million for emergency response to floods alone.

Strengthening disaster risk finance (DRF) would help Cambodia systematically manage the financial impact of disasters and improve its post-disaster response financing capacity. Cambodia has limited financial capacity to respond to disaster events. A general contingency budget—approximately US$115 million over the past five years—is held by the Office of the Council of Ministers and can be used to finance unforeseen expenditure, including post-disaster expenditure. The Ministry of Economy and Finance estimates that less than 10 percent of this budget is used annually for disasters. Emergency response costs, particularly for floods, can cause significant short-term funding gaps and divert the use of public funds. Given the government's limited ability to access domestic and international credit sources or insurance markets, or to raise tax revenue after disasters, recovery and reconstruction costs of past disasters have been partially met through budget reallocation by line agencies and through donor assistance, which is often unpredictable or reallocated from existing projects. This approach causes delays in government response and affects financing of development priorities. When major disaster costs remain unaddressed, they are absorbed by the affected populations, making the most vulnerable worse off.

A number of options to support ongoing DRF improvements and strengthen financial resilience in Cambodia are presented in this note for the government's consideration:

- Conduct a more in-depth assessment of public financial management of disasters.
- Establish and define policy priorities for DRF.
- Establish additional access to quick post-disaster resources for emergency response, especially for vulnerable and rural populations.
- For rapid liquidity that can sustain emergency response, explore ways to develop a contingent financing mechanism to complement budgetary resources.
- Explore public asset insurance.

1. See World Bank and GFDRR (2012). The annual expected fiscal burden for the government of Cambodia due to natural disasters is estimated at 0.5 percent of total public expenditure. In the event of a 1-in-200-year disaster, Cambodia could face bills totaling 18 percent or more of total public expenditure.

1. Introduction

This Disaster Risk Finance Country Note for Cambodia provides an overview of the current disaster risk financing instruments available to the government of Cambodia. It is based on initial information available from existing publications on current post-disaster budget mobilization and execution procedures.

The impact of floods and droughts is a major concern for Cambodia. Approximately 80 percent of Cambodia's territory lies within the Mekong River and Tonle Sap basins, where the water levels are known to fluctuate widely between the dry and wet seasons. Around 30 tropical storms have affected Cambodia between 1999 and 2013, with the severity of events increasing in recent years. Floods can affect large swaths of the country; for example, floods in 2013 affected more than 1.8 million people in 20 provinces.

Estimates show that there is an increasing overlap between poor populations and those exposed to and affected by natural hazards in Cambodia. Rural vulnerability is a particular concern, given that nearly 80 percent of the population reside in rural areas, and that their subsistence-agriculture-based livelihoods are increasingly subject to floods and droughts. The national poverty rate is 17.7 percent (2012), with almost 3 million people below the poverty line and more than 8.1 million considered near-poor. These segments of the population, most of whom (around 90 percent) live in rural areas, are highly vulnerable to natural disasters.

Agriculture is among the sectors most affected by disaster. For example, the damage and loss in the agriculture sectors during the 2013 floods was estimated to be US$152 million. Smallholder farmers in Cambodia are particularly vulnerable to natural hazard impacts, which often result in only one rice crop per year instead of the usual two. The high hazard exposure coupled with low production levels threatens the livelihood security of thousands of smallholder farmers.

Risk reduction measures are not keeping pace with rapid urbanization. Cities and towns in the Mekong floodplain of Cambodia continue to grow, often without appropriate land use planning. The result is increasing urban risk and regular urban flooding and waterlogging.

2. Economic and Fiscal Impact of Natural Disasters

2.1. Economic impact: Statistical analysis of historical losses

A preliminary financial risk assessment for Cambodia, conducted by the World Bank in 2011, estimated expected annual economic losses of US$74.2 million due to natural disasters, equivalent to 0.7 percent of gross domestic product (GDP) (World Bank and GFDRR (2012). Floods are the predominant risk in the country, accounting for 55 percent of total annual economic losses; droughts are the second-largest risk, accounting for 28 percent of total losses. Storms and earthquakes represent 4 percent and 3 percent of total losses, respectively.

Less frequent but more severe disaster events could cause higher economic losses; for example, losses for a 1-in-20-year event could be more than US$405 million, equivalent to 3.6 percent of GDP. Losses could even exceed US$825 million, equivalent to 7.3 percent of GDP, in a 100-year period. This is the second-highest loss relative to GDP among Association of Southeast Asian Nations (ASEAN) countries. Table 1 provides figures for the number of people affected by and the cost of damage for recent major disasters in Cambodia. The annual expected fiscal burden arising from natural disasters is estimated to be 1 percent of annual government expenditure, which is the third-greatest as a percentage of annual government expenditure among ASEAN countries. The expected fiscal burden from a 1-in-200-year event is estimated to be 18 percent of annual government expenditure (World Bank and GFDRR 2012).

Table 1. Number of people affected and total damage caused by major disasters in Cambodia, by disaster type (1991–2013)

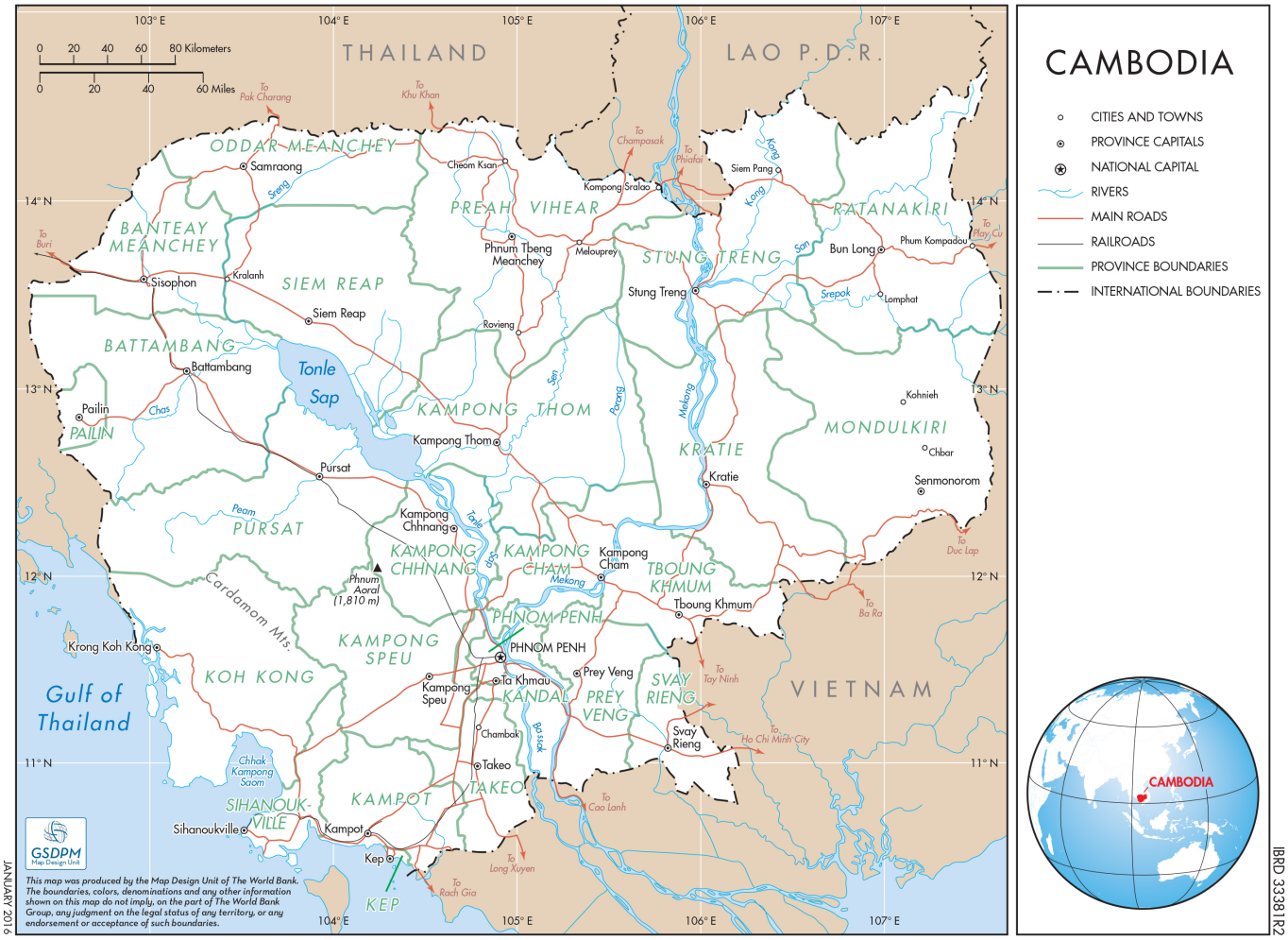
Disaster type	Time period	Number of events	Total number of people affected	Total damage (US$ million)
Drought	1991–2005	3	6,250,000	138
Flood	1991–2013	10	11,927,258	1,419

Source: D. Guha-Sapir, R. Below, and Ph. Hoyois, EM-DAT: The CRED/OFDA International Disaster Database, Université Catholique de Louvain, Brussels, www.emdat.be.
Note: Data for Typhoon Ketsana are not included.
Data are unscaled (not adjusted for GDP growth or population growth)

2.2. Fiscal impact

Typhoon Ketsana was partly responsible for a widening of Cambodia's fiscal year 2009 fiscal deficit. It inflicted an estimated loss of US$17 million in GDP, primarily through its detrimental impact on rice crops. The loss in rice production represented a reduction of economic growth of 0.2 percentage points for 2009, reducing the expected 2009 growth rate of 2.1 percent to 1.9 percent (GoC 2010).

It was expected that this additional gap would be met through increased domestic and external borrowing, and also that further borrowing would be necessary in subsequent years for reconstruction purposes (GoC 2010).



2.2.1. Contingent Liability

The government pays a significant portion of post-disaster response costs. The expenditures shouldered by the government in response to disasters can be seen as a contingent liability. Unlike direct liabilities, which are predictable obligations, contingent liabilities are obligations that may or may not materialize, depending on whether particular events occur. Very few countries currently measure and assess contingent liabilities related to natural disasters, and more work needs to be carried out with the government of Cambodia to assess the legal and institutional framework that determines the government's explicit and implicit liabilities to natural disasters.

Explicit contingent liability

Explicit liabilities are specific obligations created by law or contract that governments must settle. Explicit contingent liabilities are legal obligations that arise for governments only if particular events occur, e.g., a natural disaster. Because most governments do not measure or report on contingent liabilities, their fiscal cost is invisible until they come due. Thus they can represent unplanned expenditure spikes and a drain on future government finances, complicating fiscal analysis and management.

Two important types of explicit contingent liability, reconstruction of public assets and social protection programs, are discussed below.

Limited information is currently available on the total exposure of Cambodia's **public assets**. Estimates of the damages to assets from the 2009 tropical cyclone and the floods of 2011 and 2013 are included below. The cost of reconstruction or replacement of public assets after insurance (which is currently limited) is a contingent liability of government that should be assessed.

Tropical cyclones are not a common hazard in Cambodia, but Typhoon Ketsana caused widespread flooding in 2009, resulting in damages of US$58 million. The costs of damages were split as follows: costs for infrastructure were US$17 million, for the social sector US$40 million, and for the productive sector US$1 million. Total recovery and reconstruction requirements were estimated at US$191 million (GoC 2010). Figure 1 illustrates the provinces affected by Ketsana.

Flooding is a typical hazard event in Cambodia, and the country experienced severe flood events in 2011 and 2013. Each caused damages of over US$0.5 billion and affected more than 1.5 million people.

Social protection systems are another explicit contingent liability. In Cambodia, no social protection program is currently directly linked to disaster response or used to provide disaster relief directly to the most vulnerable populations. The high impact of disasters on the poorest can have long-lasting consequences for human development. Thus quick post-shock assistance to vulnerable households is essential to protecting their welfare. Scalable social protection helps governments strengthen the resilience of the poorest and most vulnerable to the debilitating effects of natural disasters, while risk financing mechanisms used in conjunction with established social protection systems can help governments reach poor and vulnerable populations rapidly following disaster shocks.

Existing social protection systems in Cambodia can be reviewed to determine if they may be suitable mechanisms for transferring cash to affected populations after a disaster as a way to minimize the negative impact on welfare.

The National Social Protection Strategy for Cambodia was endorsed by the Council of Ministers in December 2011 and includes the following objectives related to existing and future social protection programs:

- Basic needs of the population in situations of emergency and crisis
- Poverty and vulnerability of children and mothers
- Seasonal unemployment and underemployment, and livelihood opportunities
- Affordable health care for the poor

As outlined in a recent adaptive social protection strategy paper (UNDP 2015), social protection assistance is provided by the government of Cambodia through different line ministries, mainly the Ministry of Social Welfare, Veterans and Youth Rehabilitation, which provides support to orphans, the disabled, the elderly, and the poor. Other entities involved in social protection include the Ministry of Education, Youth and Sport, which runs a scholarship program to support poor students; the National Committee for Disaster Management, which coordinates provision of emergency food assistance; and the Ministry of Labour and Vocational Training, which provides job training.

Social protection benefits are also provided under donor-funded programs, including the World Food Programme school feeding program and the Health Equity Fund. Other interventions include public works programs implemented under the Rural Investment and Local Governance Project and the Asian Development Bank–funded Emergency Food Assistance Project. The World Bank is also implementing a cash transfer pilot program in Cambodia, which aims to support human capital development by providing cash to poor pregnant women and mothers of young children, and by improving child nutrition and development.

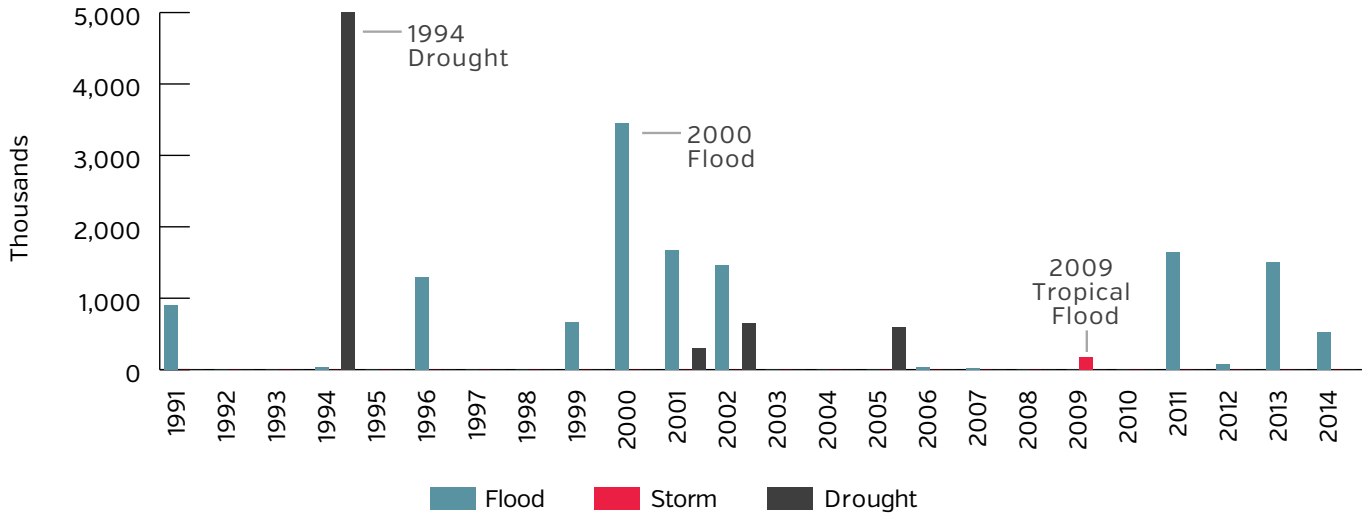
Overall, social protection programs accounted for 5.5 percent of GDP in Cambodia in 2010. Public expenditure contributions were 1.79 percent of GDP in 2011, with the remaining contribution from donors (ILO 2012).

Implicit Contingent Liability

Implicit contingent liabilities represent moral obligations or burdens that, although not legally binding, are likely to be borne by governments because of public expectations or political pressures. For example, the government may pay for emergency response such as search and rescue, emergency shelter, or food assistance. In some cases it may also pay for reconstruction of houses damaged or destroyed by a disaster. While a government usually has clear budget allocations for emergency services, the total expenditures incurred for all but small localized disasters usually far exceed these funds set aside.

Immediately after Typhoon Ketsana, the government of Cambodia mobilized the national and local administrations, armed forces, and volunteer groups to rescue stranded

Figure 1. Number of people affected annually by natural disasters in Cambodia (1991–2014)



Source: EM-DAT: The CRED/OFDA InternationalDisaster Database, Université Catholique de Louvain, Brussels, www.emdat.be.
Note: Data are unscaled.

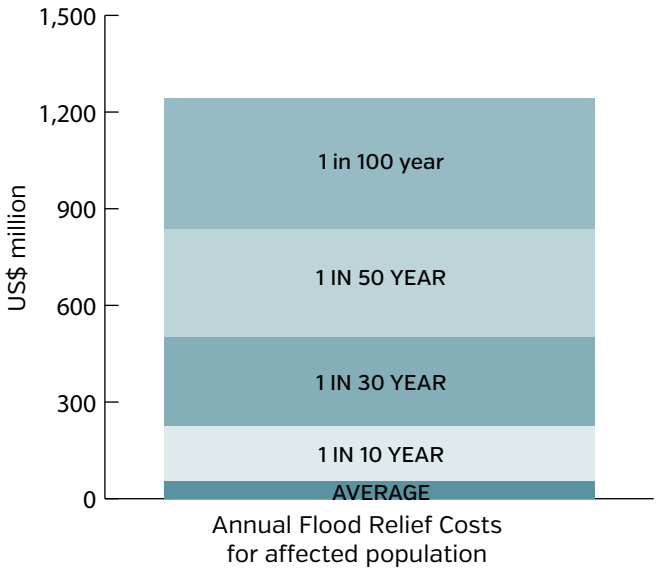
people and provide immediate relief, including temporary shelter, medicine, and food (GoC 2010).

2.2.2. Quantitative analysis

An analysis of historical data from EM-DAT was undertaken to determine Cambodia's short-term emergency and early response and recovery needs. The analysis showed that 15 floods, four droughts, and one tropical cyclone impacted the population of Cambodia during the period 1991–2014 (see figure 1). Floods were by far the most frequent event, affecting approximately 3.5 million people in 2000.

A preliminary analysis of historical data estimates emergency response costs to floods that the government could have to meet. The analysis looks at the number of people affected by floods historically and assumes that (i) all affected people receive emergency relief, and (ii) the total emergency response cost is US$80 per person (this is an initial estimate that will be further discussed with the government). Figure 2 shows that Cambodia could face annual average costs for emergency response of US$54 million; there is a 3.3 percent probability (corresponding to a 1-in-30-year event) that the annual cost of emergency response could exceed US$278 million.[2]

Figure 2. Estimated post-flood emergency response and recovery needs



2. This preliminary assessment of emergency response and recovery needs is based on historical data for the total number of people affected by flood events since 1991 as reported in the EM-DAT database. While history is a good starting point for understanding the future, patterns do not always remain the same, so the emergency response and recovery needs estimated here should be interpreted with some caution.

3. Legal and Institutional Arrangements for Disaster Risk Management and Finance

3.1. National law on disaster risk management and finance

The Law on Disaster Management, enacted by the Cambodian National Assembly in 2015, specifies that the government "shall have the appropriate reserve budget and resource to be ensured for the disaster management" (Section 7, Article 39), including disaster preparedness, response, and recovery. But it remains unclear how much of the government budget has to be set aside for disaster management in general and for immediate disaster response and long-term recovery in particular.

Local governments typically have very limited revenue-raising capabilities of their own and are dependent on the transfer of public resources from central government, both for reconstruction and other spending purposes. However, allocations of central government resources in the form of block grants often fail to take disaster-related needs of local administrations into account. For example, the annual Commune Sangkat Fund allocation (the primary mechanism for fiscal transfers from central to commune level for both administrative and development purposes in Cambodia) included no additional supplement in 2010 for communities affected by Typhoon Ketsana (GoC 2010).

3.2. Institutional setup for disaster risk management and finance

Recognizing the links between development, sustainability, and resilience, Cambodia has started to incorporate disaster and climate resilience priorities into its national strategies, but the implementation remains a challenge. The National Action Plan for Disaster Risk Reduction 2014–18 indicates that the government's priority is to "build a resilient nation and local communities to pursue sustainable development." Along with the Law on Disaster Management, the plan outlines the main responsibilities of the National Committee for Disaster Management in coordinating disaster preparedness and response. A number of factors hamper implementation of these plans, including weak capacity, lack of resources, insufficient analytics, and a focus on disaster response. In addition, mainstreaming of resilient principles across sectors is not systematized but rather conducted in an ad hoc manner, constrained by limited technical knowledge and budget allocations for disaster risk management (DRM).

The role of the Ministry of Economy and Finance in DRM is still limited, but global experience suggests that high-level government agencies need to play a critical role in increasing resilience. The ministry's contribution and leadership is currently marginal in critical areas such as convening line ministries, creating DRM awareness, prioritizing strategic risk reduction investments, allocating necessary resources for DRM, and promoting disaster risk finance tools to secure access to immediate funding for disaster response and recovery. In particular, two areas require increased capacity building to tackle increasing disaster and climate risks: (i) mainstreaming resilience into investment planning, and (ii) strengthening disaster risk financing.

4. Public Financial Management of Natural Disasters

4.1. Mapping of disaster risk financing instruments

International experience has shown that governments ideally combine different instruments to protect against events of different frequency and severity. This approach is known as *risk layering* and ensures that cheaper sources of money are used first (i.e., government reserves and contingency funds) for high-frequency, low-severity events, and more expensive financial instruments (i.e., sovereign risk transfer or insurance) are used only in exceptional circumstances for low-frequency, high-impact events. Regional disaster risk insurance funds have enabled countries in other regions (including the Pacific and Caribbean) to access market-based risk transfer for severe disasters through parametric insurance (i.e., insurance whose payouts are made based on the occurrence of a pre-agreed triggering event). This enables governments to secure immediate liquidity for response and early recovery following high-severity disasters. Insurance can provide cover against such extreme events through payouts, but this approach is not appropriate to protect against low-intensity events that recur regularly, since the higher insurance premiums would make it more costly. Instead, governments can consider using a dedicated contingency fund to retain this lowest layer of risk.

Cambodia does not currently have a strategy or policy to manage the financial impact of natural disasters. The government has established the Cambodia Food Reserve System (CFRS), but does not have any other disaster fund or dedicated risk retention mechanism.

Cambodia largely relies on its overall contingency budget to provide financing in case of unexpected shocks, but the contingency budget is not exclusively for post-disaster expenditure. Given the limited ability of the government to access domestic and international credit sources, access insurance markets, or raise tax revenue after disasters, any disaster recovery and reconstruction costs that are financed by the government are largely funded through the contingency budget and through budget reallocation by government line agencies. In the past, any remaining disaster costs were partly financed by donor assistance, which is often unpredictable and which has been declining in recent years, or reallocated from existing projects. Significant costs from disasters have also been absorbed by affected populations, resulting in the population being worse off.

Table 2 provides a summary estimate of total resources available to the government for financing disaster response, recovery, and reconstruction. Further information on available instruments is provided below.

4.2. Ex ante disaster risk financing tools

Ex ante instruments are sources of finance the government has established in advance, which can be quickly disbursed following an event so that critical relief and response work can commence.

4.2.1. Contingency budget

Cambodia's general contingency budget (unallocated budget)—amounting to approximately US$115 million over the past five years—is held by the Office of the Council of Ministers and can be used to finance unforeseen expenditure, including post-disaster expenditure. It is estimated that less than 10 percent of this contingency budget is earmarked and used every year for disasters. The extent to which the unallocated budget can be used for disaster recovery and reconstruction purposes, rather than for financing other budget items, is uncertain and depends on many factors. Hence limited budgetary provisions are made relative to the budget needed for disaster-related expenditures in Cambodia.

4.2.2. Reserve funds (multi-year)

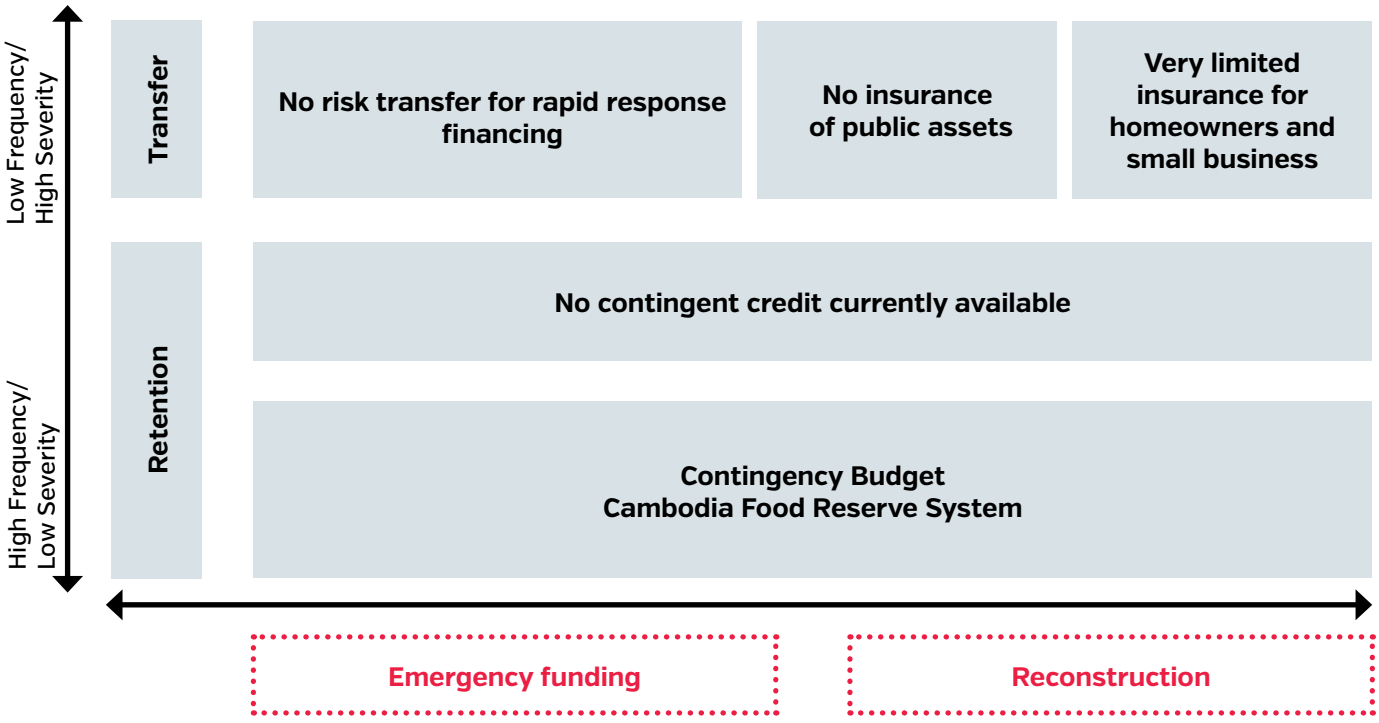
In 2012, the government set up the CFRS with Subdecree No. 145 on the Establishment of the Cambodia Food Reserve System. The CFRS is a permanent mechanism that assists people affected by disaster or crisis through the establishment of food (rice) and seed (rice and vegetable) emergency reserves. According to the subdecree, the total stock of the food reserves is to be 16,000 tonnes of rice, of which 10,000 tonnes (62.5 percent) is kept as a physical stock and 6,000 tonnes (37.5 percent) is kept as cash reserves. The total amount of seed stock is to include 3,000 tonnes of rice seed and 50 tonnes of vegetable and other crop seeds. The prime minister leads the CFRS and has supreme authority over the use and distribution of stocks.

The government does not currently have any other disaster funds or other dedicated risk retention mechanisms.

4.2.3. Contingent credit

Cambodia does not currently have a contingent credit facility available for accessing additional funds in the event of a disaster. International partners—such as the World Bank and Japan International Cooperation Agency (JICA)—as well as private creditors offer contingent credit for disaster recovery and reconstruction purposes. This tool facilitates more rapid access to potentially significant financing sources. Contingent credit can act as a bridge funding facility for post-disaster rapid recovery to suit a country's specific budgetary needs. The facility can

Figure 3. Three-tiered risk-layering strategy available to the government of Cambodia



be accessed with triggers set by the government (e.g., declaration of disaster) to allow the government to rapidly access short-term liquidity as a loan following a disaster (especially when a disaster occurs at the end of budget revision cycle).

The World Bank's contingent credit line, Catastrophe Deferred Drawdown Option (Cat DDO), will become available to low-income countries, including Cambodia, in July 2017.

4.2.4. Sovereign risk transfer solutions and insurance of public assets

Cambodia does not currently utilize any insurance instruments that protect its budget against disaster impacts. This includes risk transfer through parametric insurance accessed via the international financial markets.

Insurance of public assets is optional for individual government agencies and often depends on budget availability. Agencies can procure insurance in the domestic insurance market. The government does not provide standardized policies or collect information on insured assets; in any case, the number of insured assets is likely to be very low.

4.3. Ex post disaster risk financing tools

Ex post financial instruments are sources of finance that are identified or become available during or following a disaster. The forms of ex post disaster financing used in Cambodia include budget reallocation, external debt, and donor assistance.

It is highly uncertain and unpredictable how much financing can be raised through ex post financing instruments, and accessing this finance may also entail substantial delays. Still, significant levels of financing may be accessed with these instruments following major events.

4.3.1. Budget reallocation

A number of government line agencies routinely draw on their regular line agency budgetary funding, particularly maintenance budgets, to finance relatively small-scale disaster-related repairs, including minor damage from more severe events. Line agencies use part of their maintenance budgets in this way on a near-annual basis. This practice conforms to Cambodian government policy, which states that agencies should use available resources through budget reallocation before requesting additional funding (World Bank and GFDRR 2012). It is unclear how much

Table 2. Amount of funds available for disaster response

Disaster risks	Financing source available	Amount of funds available
High-risk layer (e.g., major floods, major typhoons)	Donor assistance	Unpredictable and unreliable; e.g., 2010 total commitment of US$26 million (often in kind)
	Tax policy	Not currently used
	Sovereign risk transfer solutions	Not currently used
	External debt	Unclear
Medium-risk layer(e.g., regional floods)	Contingent credit	Not currently available
Low-risk layer (e.g., localized floods, landslides)	Budget reallocation	Unclear
	Contingency budget	US$115 million (maximum, not reserved for disasters)
	Reserve funds	Cambodia Food Reserves System: 16,000 tonnes of rice (10,000 stock, 6,000 cash) + 3,000 tonnes of seed

Source: World Bank based on information from government of Cambodia

is being reallocated within the budget for disaster-related expenditures, but government officials have noted that it is very difficult to move money between budget lines.

Post-disaster budget reallocations can result in significant opportunity costs from foregone planned expenditures and derail progress toward national and sector development goals and objectives. Budget reallocations can also create uncertainty over annual resources available for government agencies as set out in the national budget.

4.3.2. External debt

Typhoon Ketsana was partly responsible for a widening of Cambodia's fiscal year 2009 fiscal deficit. It was expected that this additional gap would be met through increased domestic and external borrowing and also that further borrowing would be necessary in subsequent years for reconstruction purposes (GoC 2010).

4.3.3. Tax policy

There has been no reported use of tax policy in Cambodia as an instrument to raise additional revenue following disasters, or to offer tax deductions as an incentive for donations, in order to assist with financing the cost of disasters. The feasibility of using tax policy as an instrument to raise ex post disaster financing will depend on the current strength of the tax base and tax compliance levels.

4.3.4. Donor assistance

Between 1990 and 2010, donor assistance commitments to Cambodia for disaster financing totaled US$785 million, although annual commitments have fallen rapidly from 2005 onward.[3] Of this aggregate amount, 55 percent was for emergency response and recovery, 35 percent for reconstruction and rehabilitation, and 10 percent for preparedness and prevention activities. The principal donors over this time period include the World Bank (25 percent), European Community (12 percent), Asian Development Fund (10 percent), Japan (9 percent), the Netherlands (8 percent), Australia (8 percent), and Sweden (6 percent).

Following Typhoon Ketsana, Cambodia's development partners provided aid in kind and in cash during the emergency response phase, working with the local authorities in the distribution of aid. Nongovernmental organizations (NGOs) provided relief materials in their respective project areas. The European Commission through its Humanitarian Aid department contributed €2 million for Cambodia, Lao People's Democratic Republic, and Vietnam. UNICEF provided US$143,000, and the World Food Programme provided US$875,000; other organizations reported emergency relief assistance to Ketsana-affected areas through their ongoing programs (GoC 2010). Further donor support was provided for post-disaster reconstruction, but there is estimated to be a significant funding gap relative to the total estimated recovery and reconstruction cost of US$191 million.

Disaster assistance to the ASEAN region overall is likely to decline in the future as member states become increasingly economically prosperous. While Cambodia retains low-income-country status in the region (along with Lao PDR and Myanmar) and can likely continue to look to donor support in the event of a major catastrophe, this financing will become increasingly scarce. Donor assistance also tends not to support the government's response to less catastrophic but frequently recurring events. In addition, donor financing is highly unpredictable and does not allow the government to plan for a fast disaster response.

3. Global Facility for Disaster Reduction and Recovery [GFDRR], Disaster Aid Tracking database, http://gfdrr.aiddata.org/dashboard.

5. Domestic Disaster Risk Insurance Markets

The domestic catastrophe risk insurance market is relatively undeveloped in Cambodia, with no or minimal coverage for public assets, private property, or agricultural production.

Neither standard homeowners insurance nor commercial and industrial property insurance includes flood cover; flood insurance must be added as an endorsement to the standard policy. An additional premium is applied for the cover extension, and underwriters routinely refuse to underwrite risks in areas particularly vulnerable to flood. Non-life insurance penetration in Cambodia is 0.16 percent of GDP (AXCO Insurance Market Reports), the second-lowest among ASEAN markets after Myanmar. Catastrophe risk insurance penetration is thus extremely low—and is even lower than it might be because catastrophic perils are not included in standard policies.

Microfinance institutions (MFIs) are one of the leading providers of formal financial services to Cambodia's poor and are taking the first steps to provide microinsurance, many in conjunction with partner NGOs. Microinsurance is still relatively new in Cambodia. The piloting of health microinsurance was initiated in 2009 by three licensed MFIs. Most microinsurance programs have originated from NGOs with the support of international development partners. Based on seven microinsurance schemes available in 2013, total outreach was estimated to be around 640,000 insured (UNDP 2013).

In order to attract more interest from Cambodia-based MFIs, and to address the need for a broadened, competitive, but practically sound financial system, the government has issued a regulatory framework for microinsurance (World Bank and GFDRR 2012). It also formulated the Financial Sector Development Plan for 2001–10 and the Financial Sector Development Strategy 2006–2015, a long-term strategy intended to develop Cambodia's financial sector.

6. Funding Gap Analysis

6.1. Short-term emergency response and recovery funding gap

An assessment of the short-term emergency response and recovery funding gap has been completed by the World Bank Disaster Risk Financing and Insurance Program based on the assessment of the post-flood emergency response and recovery needs (as set out in section 2.2.2). This analysis shows that the emergency response cost of floods is greater than currently available resources, meaning there is a significant short-term funding gap.

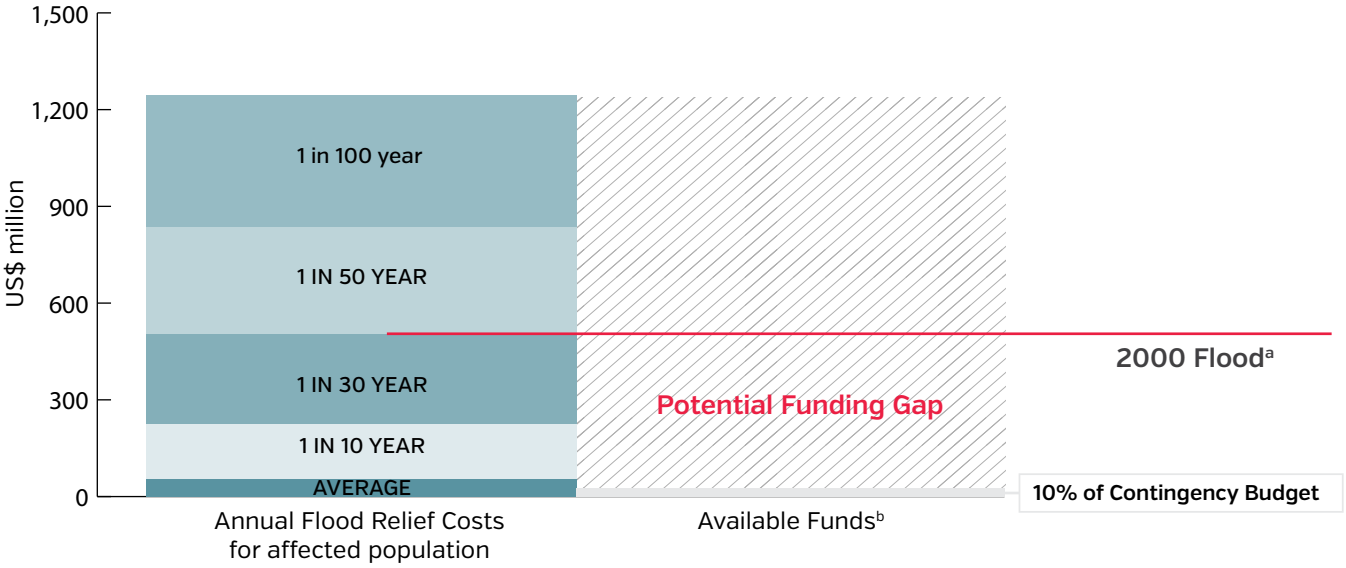
Figure 4 compares estimated emergency relief costs for flood events of various severities with currently available financial resources. This comparison shows a significant funding gap for more extreme events. But even for less frequent events, the funding gap may be substantial if not all resources from the contingency budget are available for disaster response.

6.2. Long-term reconstruction funding gap

Limited information is available on the total exposure of public assets in Cambodia, and therefore the reconstruction gap is not currently available. Estimates of the reconstruction costs from the 2009 tropical cyclone and the 2011 and 2013 floods are included in section 2.

When the current estimates of financing available through DRF instruments (given in table 2) are compared with the estimated damage costs of up to US$0.5 billion for disasters in 2011 and 2013, a significant fiscal resources gap for financing the costs of disasters is apparent. It is important that all levels of government understand the current financing requirements and take the appropriate fiscal preparedness measures.

Figure 4. Funding gap for estimated short-term emergency response and recovery needs



a. Estimated emergency relief costs for the 2000 flood are US$276 million (based on 3.5 million people affected), resulting in an estimated funding gap of US$218 million.
b. A US$115 million contingency budget is available, although this is not solely reserved for disasters; this analysis assumes that 10 percent of this budget is available for emergency response.

7. Options for Consideration

Based on information compiled in this diagnostic note and on consultations with all relevant stakeholders, the government may want to elaborate its priorities in strengthening financial resilience in a comprehensive disaster risk finance strategy. This initial assessment identifies the following key gaps:

- It is unclear how much of the government budget has to be set aside for disaster management in general, and for immediate disaster response and long-term recovery in particular.
- Current disaster funds seem insufficient to cover even recurrent losses, and the government remains exposed to more extreme events, relying heavily on international donor assistance for response, relief, and recovery.
- The World Bank has been able to obtain only limited information on the total exposure of public assets, and information available to the government is also likely incomplete. Thus a probabilistic assessment of the reconstruction gap is currently not available.

The government may want to consider the following options, based on the above findings, in drafting its DRF strategy:

- **Conduct a more in-depth assessment of public financial management of disasters.** A particular focus could be on post-disaster budget allocation and information about post-disaster budget spending. This assessment could also identify problems with efficiency, transparency, and transfer of money to the target beneficiaries.
- **Establish policy priorities for disaster risk financing and insurance.** This step will help the government develop a DRF policy note and determine next steps toward implementing an optimal combination of DRF instruments, using a risk-layering strategy.
- **Establish additional access to quick post-disaster resources for emergency response, especially for vulnerable and rural populations.** Determine if quick access to cash for emergency response can be achieved with existing DRF instruments, and if existing social protection systems can be used as networks for distributing cash to affected communities.
- **For rapid liquidity to sustain emergency response, explore ways to develop a contingent financing mechanism to complement budgetary resources.** This mechanism could be established as a regional facility, with support from donors, to reduce uncertainty of post-disaster financing and enable the government to better plan ahead.
- **Explore public asset insurance.** The government could consider developing a program for insuring public assets such as public buildings, roads, and bridges. This step could also encourage the government to invest in better risk information and risk reduction to reduce losses and lower the cost of insurance.

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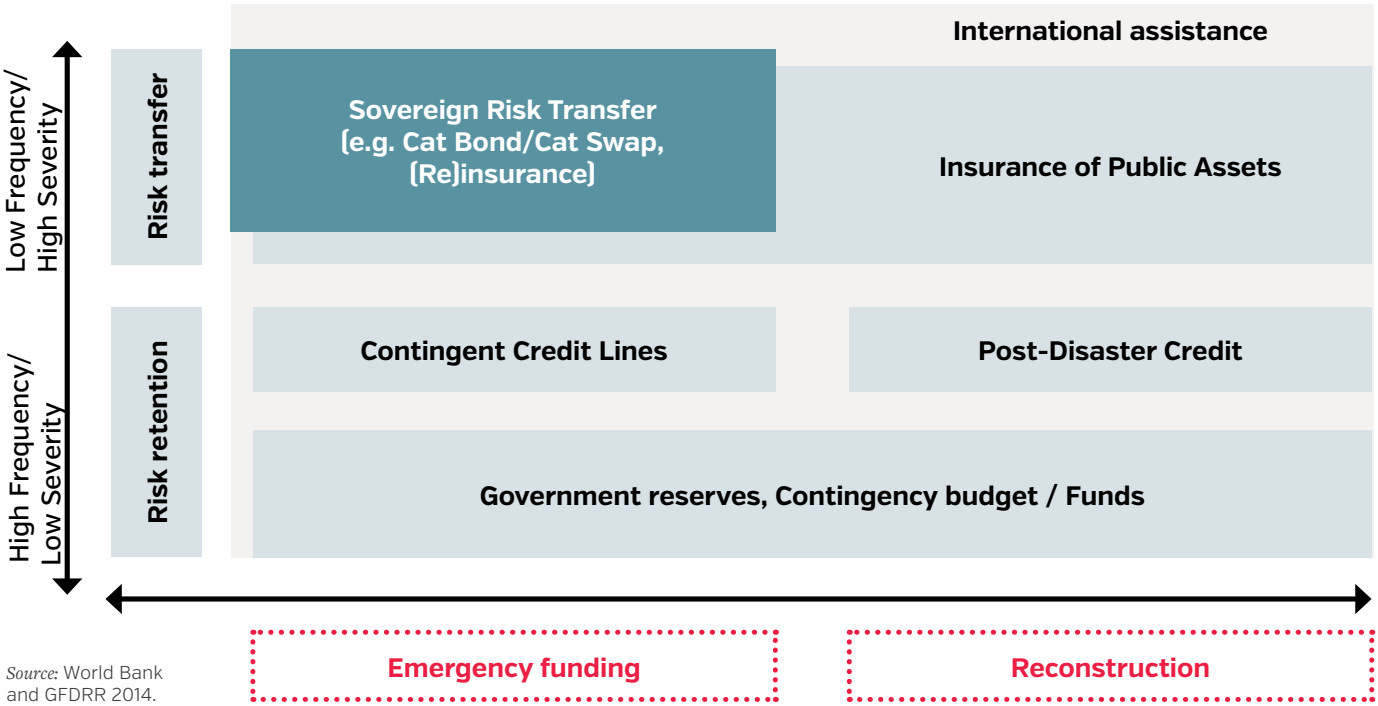
Annex 1. Risk-Layering Approach

International experience has shown that governments ideally combine different instruments to protect against events of different frequency and severity. Such *risk layering* ensures that cheaper sources of money are used first, with the most expensive instruments used only in exceptional circumstances. For example, insurance can provide cover against extreme events, but is not appropriate to protect against low-intensity events that recur regularly. For these latter events, the government could consider setting up a dedicated contingency fund to retain this lowest layer of risk.

A comprehensive financial protection strategy for the government generally brings together pre-and post-disaster financing instruments. As shown in figure A1.1, such instruments address the evolving needs for funds—from emergency response to long-term reconstruction—and are appropriate to the relative probability of events. For example, a government could decide to purchase more expensive risk transfer instruments—such as catastrophe bonds—to ensure immediate liquidity for emergency response to extreme events. However, it may raise the much larger amounts needed for reconstruction through budget reallocations and borrowing. Governments can also reduce the overall cost of disasters by having comprehensive DRM strategies in place to complement DRF strategies. DRM strategies can include (for example) mitigating the risk of disasters by investing in flood risk management infrastructure, strengthening existing infrastructure, and enhancing early warning systems.

Figure A1.1. Three-tiered risk-layering strategy for governments



Source: World Bank and GFDRR 2014.

Annex 2. DRF Framework

The World Bank Disaster Risk Financing and Insurance Program's experience of working with many countries around the world has informed the development of an operational framework for public financial management of natural disasters. The framework is a practical and comprehensive resource on good practices for governments seeking to establish and improve disaster risk financing and insurance activities (World Bank and GFDRR 2014).

The operational framework is a practical guide to support decision makers who look to strengthen their nation's financial resilience to natural disasters. Some short-term steps may address urgent problems while decision makers consider long-term and more comprehensive financial protection policies. For example, for a ministry of finance to use risk transfer, it may be necessary to change existing law, a step that may take several years to accomplish. Over time, a long-term strategy developed around various ongoing activities can help the government build a comprehensive approach to the financial management of disasters.

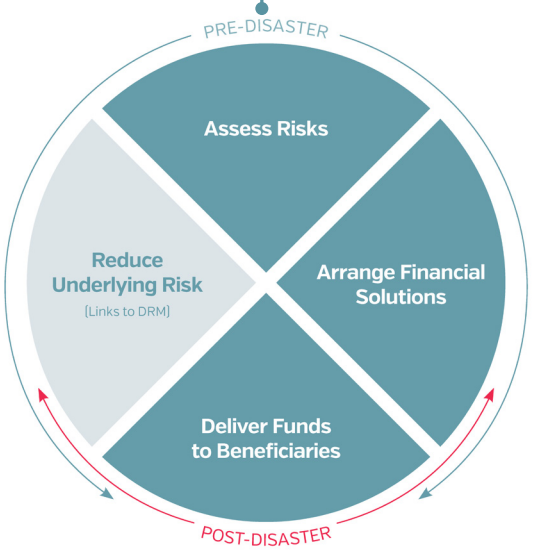
When implementing financial protection solutions, a government has to understand the risks it faces, consider where resources may be obtained following a disaster, and identify appropriate channels to ensure that those resources reach the intended beneficiaries without delay. Figure A2.1 shows core technical steps a government needs to take when implementing financial protection solution.

Figure A2.1. Operational disaster risk financing and insurance framework: Core technical steps

Risk assessments for financial protection quantify potential disaster impacts based on historical and simulated data. This often requires investments in the necessary underlying hazard, exposure, and vulnerability data. This also includes building an effective interface between the policy maker and underlying technical models.

Sustainable financial protection requires reducing underlying drivers of this risk.

It complements risk reduction by managing residual risk which is not feasible or not cost effective to mitigate. It also creates incentives to invest in risk reduction and prevention by putting a price on risk and clarifying risk ownership.



Effective post disaster response and recovery relies on access to sufficient and timely resources following a disaster.

This includes:

[i] Arranging the required financial resources for the government to meet its contingent liabilities

[ii] Developing catastrophe risk and agricultural insurance markets, building on Public-Private Partnerships

[iii] Develop rules and arrange financing instruments for scalable social protection

Resources should reach beneficiaries in a timely, transparent, and accountable fashion. This requires effective administrative and legal systems for the appropriation and execution of funds for the government budget, insurance distribution and settlement [often through private channels], as well as social protection programs.

Source: World Bank and GFDRR 2014.