INFF | Integrated National Financing Frameworks

BUILDING BLOCK 1.3

Assessment and diagnostics: Risk

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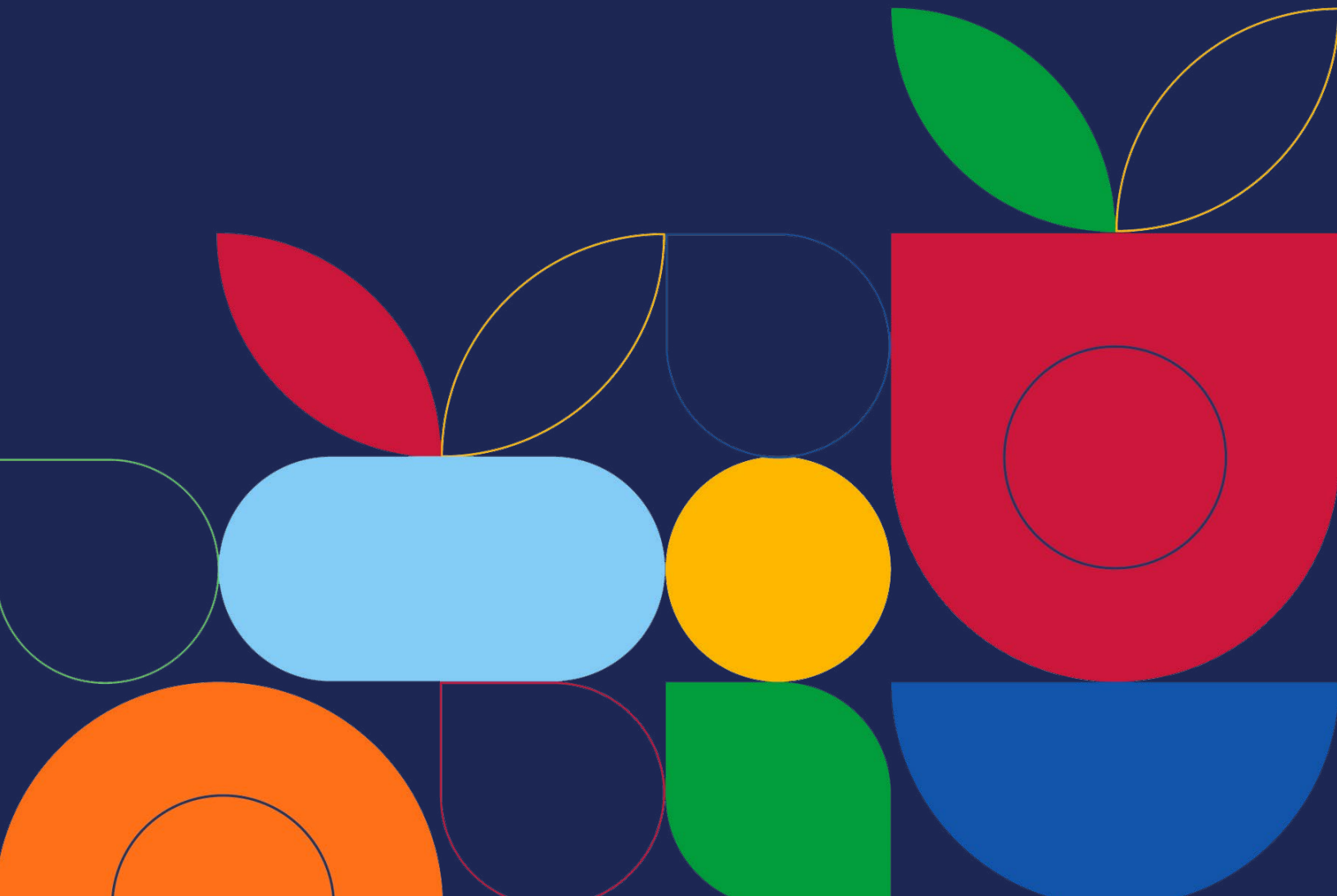

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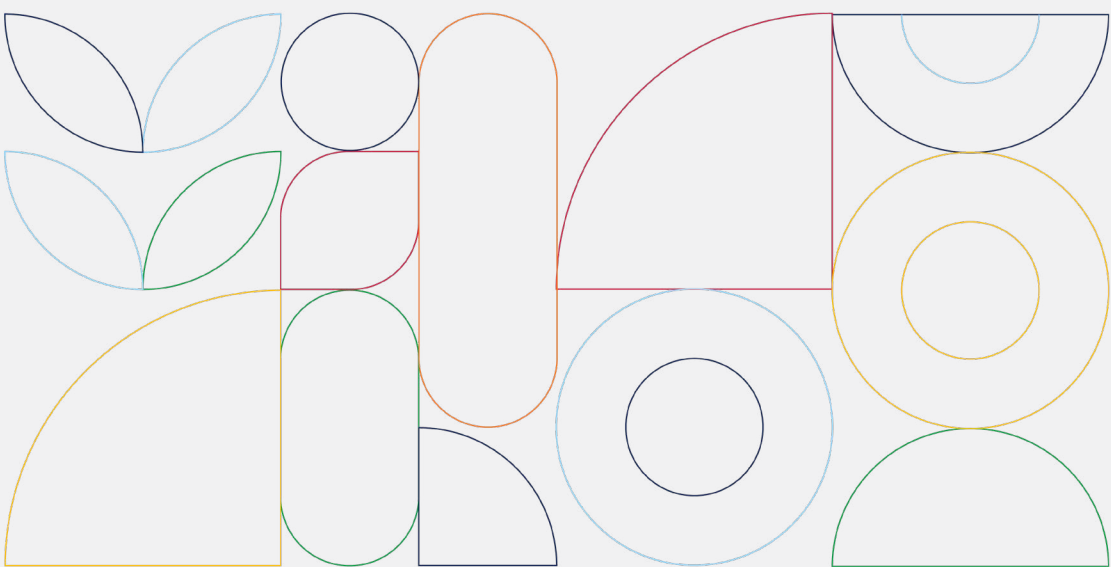


1. Brief overview

The COVID-19 pandemic has underscored that development must be risk-informed to be sustainable. The initial public health shock and the cascading socio-economic effects triggered by the pandemic are undermining and reversing previous development gains. As shocks, disasters and crises are becoming more frequent, intense, and interconnected, a thorough understanding of a country's risk landscape is an indispensable element of sustainable development efforts.

In the context of INFFs, such risk assessments aim to bring a risk-informed perspective to financing policy decision-making, with a view to help policy makers better understand, manage and address risks to a country's ability to sustainably finance, and ultimately achieve, national development objectives[1]. The 'system at risk' is made up of the institutions, mechanisms and actors that mobilise, allocate, spend or invest financial resources. They are affected by a range of shocks that cause risks to materialize: economic and non-economic shocks, such as fiscal and financial shocks, climate, environmental, biological and technological (including cyber) hazards (e.g. COVID-19 and the global recession it triggered, or slow onset hazards such as droughts or sea-level rise[2]). Risks can also emanate from within the 'system at risk', e.g. political and institutional risks, or from specific financing instruments or policy choices.

COVID-19, ecosystem collapse, and the climate crisis also demonstrate the increasing complexity of the risk landscape, with shocks interconnected, cascading effects, and the systemic nature of risks. The accumulation of risk within environmental, social, political, and economic systems threaten countries' ability to finance sustainable development, and ultimately to achieve the SDGs. Such systemic risks must be part of the INFF risk assessment.

When these risks materialize, they can destabilise part or all of the 'system at risk' and have a disproportionate impact on vulnerable people, increasing inequalities. To be sustainable, financing strategies must thus be risk-informed: able to finance the reduction of existing risk, ensure future investments do not create new risk, and providing instruments to cover the remaining residual risk and build resilience. The COVID-19 pandemic may have increased governments' appetite for developing such strategies, and may help to reverse the tendency of underinvestment in prevention and preparedness.

This module presents approaches and tools to assess major risks to sustainable financing, with a view to identify policy actions that can prevent and reduce risk and improve the system's resilience, including by assessing their feasibility and cost-effectiveness. It should pave the way for a risk-informed and risk-sensitive approach to financing for sustainable development in the context of INFF design and implementation.

1 Risk is defined here as the probability of an event (or hazard) occurring and its negative consequences, and a shock is the manifestation of such event. In the context of disaster risk in particular (see Report of the open-ended intergovernmental expert working group on indicators and terminology relating to disaster risk reduction (71/276)), this is spelled out as the potential loss of life, injury, or destroyed or damaged assets which could occur to a system, society or a community in a specific period of time, determined probabilistically as a function of hazard, exposure, vulnerability and capacity. Exposure is the situation of people, infrastructure, housing, production capacities and other tangible human assets located in hazard prone areas. Vulnerability refers to the conditions determined by physical, social, economic and environmental factors or processes which increase the susceptibility of an individual, a community, assets or systems to the impacts of shocks and hazards. Resilience is the ability of a system, community or society exposed to shocks and hazards to resist, absorb, accommodate, adapt to, transform and recover from their effects in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions through risk management.

2 The *Hazard Definition and Classification Review Technical Report* (2020) provides a list of hazards that an INFF risk assessment should take into consideration as it relates to disasters.

2. The value of risk assessments

A regular and comprehensive risk assessment within an INFF helps governments strengthen and safeguard their ability to finance sustainable development outcomes over time, in the presence of increasing interdependencies, systemic risk, uncertainty and shocks.

More specifically, risk assessments help policy makers:

- Identify the **biggest risks to the country's ability to finance sustainable development,** including systemic risks and related cascading effects;
- Identify the **drivers of risk,** and identify and prioritize measures and resources to address them;
- Understand the **transmission channels** through which different risks can impact the country's ability to finance sustainable development, including the **differentiated impacts** they may have on different segments of the population (e.g. given existing vulnerability and structural inequalities) and **financing implications;**
- Assess **existing capacity** to manage identified risks;
- Identify o**pportunities** for risk reduction policies and investments, enable innovation to prevent and reduce risks, enhance resilience and minimise the impact of shocks on the country's ability to finance sustainable development in the future;
- Internalize **externalities** within financial decision-making for realistic financing and investment and extend the time-horizon of financing strategies, by encouraging a forward-looking perspective;
- Enhance **coherence** and facilitate more effective alignment between investments and policy interventions today and sustainable development outcomes envisioned for the future.

Together with findings from the financing needs and financing landscape assessments as well as the binding constraints diagnostic, risk assessments can inform **strategic prioritisation of policy reforms** – focusing them not only on financing gaps today, but also on potential losses and future resilience.

3. Scope and limitations

In line with the broad understanding of 'financing for development' set out in the Addis Ababa Action Agenda, the 'system at risk' within an INFF includes the institutions, mechanisms and actors related to: public finance; private finance and the financial system; and the wider ability of the economy to grow in a way that is sustainable, inclusive and that avoids the creation of new risk while generating access to financing to meet development goals.

Both economic and non-economic shocks and disasters can affect the functioning of this system. **Economic or financial shocks**, such as an increase in global interest rates or a sudden change in commodity prices, have direct impacts on all aspects of financing sustainable development. **Non-economic shocks and hazards**[3] can also have a substantial impact on financing for sustainable development. It is critical to understand that non-economic risk creates economic risk and vice versa. Figure 1 provides an illustration of how a global public health crisis (the COVID-19 pandemic) can quickly become a multi-dimensional crisis, reaching far beyond the health sector and affecting need for, availability of, and access to, different types of finance – through both its direct effect on the health sector and its socio-economic consequences.

The nature of shocks and risks determines who is best placed to address them and the set of possible policy responses. Generally, the focus here is on public policy makers, as they have primary responsibility for financing sustainable development, and for creating an enabling environment for other actors, including the private sector.

For some shocks, considered **endogenous** to the 'system at risk' (e.g. those related to macroeconomic policy choices, political instability or institutional weaknesses), national policy makers can reduce (or even eliminate) likelihood of their occurrence, and mitigate their negative consequences (e.g. by improving the domestic enabling environment for investors or strengthening macroeconomic policies and regulation).

Many risk drivers and shocks, be they economic or non-economic in origin, are outside the sphere of control of domestic actors, or **exogenous** (e.g. a rise in global risk aversion, sudden changes in commodity prices, climate change), particularly in developing countries. In these cases, national governments can still invest in risk reduction and preparedness (e.g. by investing in resilient infrastructure) and manage residual risk. Reducing the likelihood of exogenous shocks on the other hand generally requires coordinated global action. When shocks are **idiosyncratic**, or not correlated to one another, national governments may be able to share residual risk (e.g. through insurance and hedging when markets are deep enough); some risks (such as currency risks) may be idiosyncratic from a global perspective and thus lend themselves to diversification by multilateral actors, such as regional or multilateral development banks.

In an increasingly interconnected world and complex global risk landscape, many risks are **systemic**, characterized by contagion and proliferation processes across domains, with the result that single events are able to cause system collapse. Unlike idiosyncratic risks, systemic risks are not diversifiable. In addition, there can be a high degree of uncertainty. Options to mitigate systemic risks or address uncertainty are more limited, calling for investments in the overall resilience of a system, and enhancing its ability to deal with different shocks and stresses (such as by strengthening social protection systems as further detailed in Box 4).

3 Further information on the interrelations between financial risk and non-economic risk can be found in the *2019 Global Risk Assessment Report.*

Risk assessments undertaken in the context of INFFs consider and assess all these possible shocks (see Table 1). They thus inform domestic policies to address risk. They can also inform asks of development partners and global policy processes, with a view to strengthen development cooperation and create a more enabling international environment for financing sustainable development.

FIGURE 1. IMPACT OF THE COVID-19 PANDEMIC ON DIFFERENT SOURCES OF FINANCE

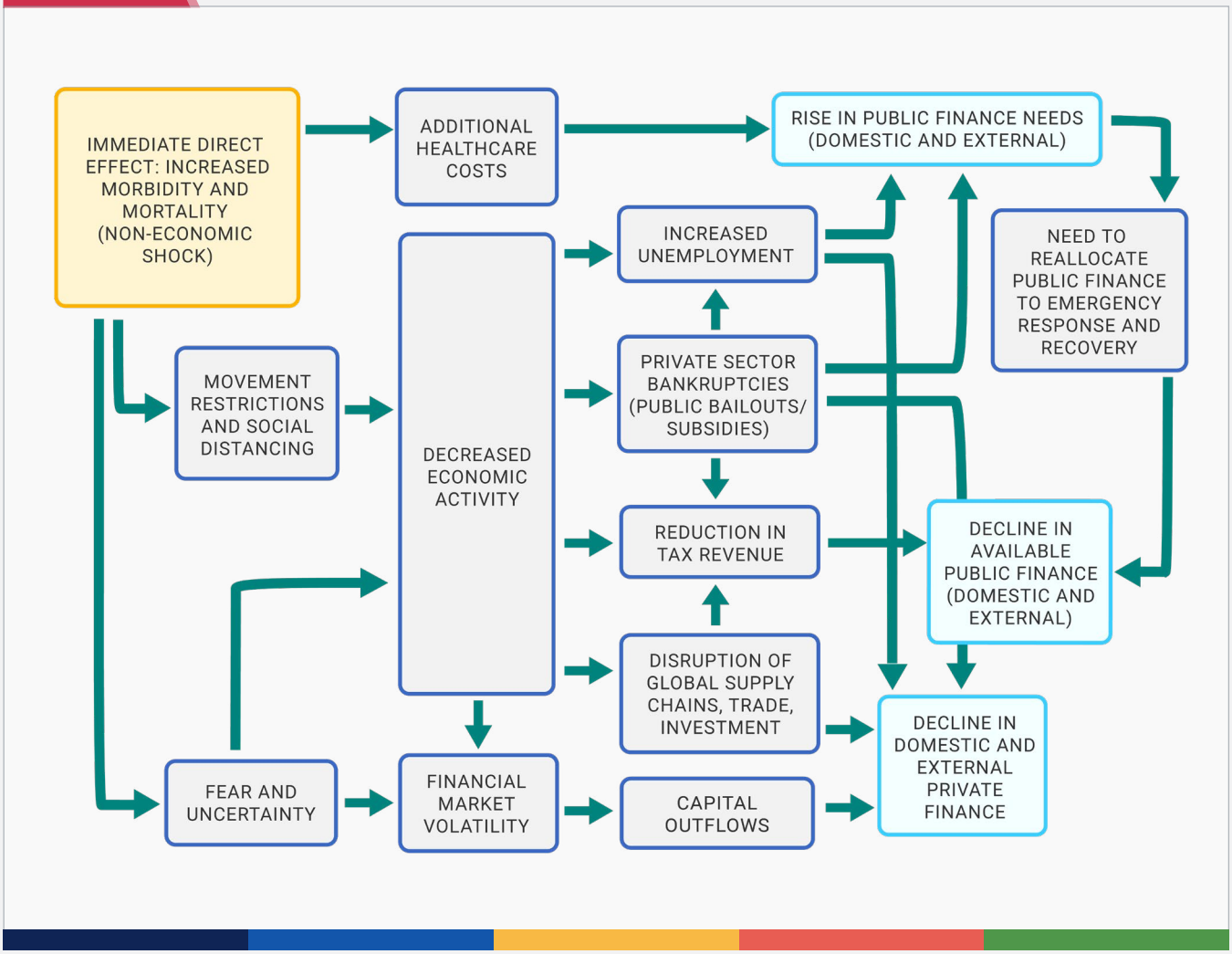


TABLE 1. ILLUSTRATIVE EXAMPLES OF THE DIFFERENT TYPES OF RISK THAT CAN AFFECT A COUNTRY'S ABILITY TO FINANCE SUSTAINABLE DEVELOPMENT PRIORITIES

TYPE OF RISK	EXAMPLES OF SHOCKS, HAZARDS, AND OTHER RISK EVENTS	EXAMPLES OF IMPACT ON FINANCING SYSTEM	EXAMPLES OF POLICY OPTIONS
Economic risks (fiscal, financial, real sector risks)	Increase in global interest rates *(exogenous shock)*	Rising refinancing costs for sovereign and private borrowers, shrinking fiscal space, growing risk of sovereign default	At country level: • Debt management strategies to manage trade-offs between expected costs and risks of foreign currency borrowing (preparedness) Globally: • Global coordination mechanism and principles (risk reduction) • International liquidity support; debt restructuring/ relief (response)
	Collapse in commodity prices *(exogenous shock)*	Deterioration in external balances (for commodity exporters)	At country level: • Economic diversification (risk reduction and prevention) • Risk-sharing financing instruments, e.g. state-contingent lending (risk transfer/ preparedness) Globally: • Global (macro) economic coordination (risk prevention/ reduction)
	Domestic banking crisis *(endogenous shock)*	Decreased access to loans/ growth capital for firms; contingent liabilities for sovereigns; possible reduction in savings and financing products available to individuals	At country level: • Banking regulations (risk prevention/ reduction) • Government support to affected firms, where suitable (response)
	Disputes over elements of PPP contracts such as fees *(endogenous)*	Higher than anticipated cost to the government/ increased calls on public finance	At country level: • Strong PPP regulatory framework/ capacity building to negotiate cost-effective PPP contracts/ increase transparency of PPP transactions (risk prevention/ reduction)

TYPE OF RISK	EXAMPLES OF SHOCKS, HAZARDS, AND OTHER RISK EVENTS	EXAMPLES OF IMPACT ON FINANCING SYSTEM	EXAMPLES OF POLICY OPTIONS
Non-economic risks (disaster, public health, demographic, technological, political, geopolitical, governance/ institutional, security risks)	Political instability *(endogenous)*	Decreased access to private and external financing (due to increased uncertainty); potential allocation of public finance away from sustainable development priorities	At country level: • Robust rule of law and government accountability mechanisms (risk prevention/ reduction)
	Earthquake *(exogenous)*	Increased need of public finance for reconstruction, rehabilitation, social assistance and livelihoods recovery; increased need for public finance for social safety nets; disruption of economic activity; disruption to supply chains; reduction in tax revenue; disruption to small and medium enterprises sometimes with long-term or permanent impacts; loss in productive assets	At country level: • Standards, regulations, legislation, and financing for risk-informed and resilient infrastructure and housing; regulations and legislation for risk assessment and disclosure in public and private investments *(risk reduction)* • Multi-hazard early warning systems and early/anticipatory action *(preparedness)* • Government support to affected individuals and firms *(response)* Globally: • Global standards to support disclosure of risks, integration of disaster and climate risk into financial accounting standards *(risk reduction)* • Technical and financial assistance to strengthen DRR capacity and financial preparedness at country level *(preparedness)* • Financial assistance in the form of development cooperation to support risk reduction, preparedness, reconstruction and building back better *(risk reduction, preparedness and response)*
	Pandemic, such as COVID-19 (see figure 1) *(exogenous/ globally systemic shock)*	Increased calls on public finance for immediate health service needs and for broader socio-economic repercussions, including unemployment, food insecurity, migration and decrease of remittance flows; decreased access to external and private finance (due to market volatility and general uncertainty)	At country level: • Strengthening and expanding coverage of social protection systems, improving shock-responsiveness/ adaptability *(risk reduction/ preparedness/ response)* • Setting up dedicated public reserve funds or savings pool *(preparedness/ response)* • Government support to affected individuals and firms *(response)* Globally: • International cooperation (technical and financial) and coordination *(prevention/ response)*

Depending on country circumstances, risk profiles and thus the focus and scope of risk assessments, will differ. Country-specific underlying factors – such as GDP composition, the level of openness of the economy, the size of the financial sector, levels of inequality such as gender inequality, the political context, institutional capacity to understand and manage risk, the socio-demographic situation (e.g. youth bulge, ageing society, urbanization trends), or geographical location – can increase exposure and vulnerability to shocks such as those illustrated in Table 1. Understanding these factors will help determine the drivers of risk and the type of policies that may be best suited to prevent, reduce and manage residual risks.

Independent of the context, a number of limitations can affect the depth and scope of risk assessments. They include:

- **Uncertainty.** Financing policy decisions are undertaken in a context of risk and uncertainty. Not all events can be anticipated, or their potential impact fully quantified. Technologies and instruments such as enhanced projections and early warning systems can help to close knowledge gaps and to better deal with inherent uncertainty, in addition to investing in system resilience more broadly.
- **Varying understanding of different types of risk.** Diagnostics tools may be more developed for some types of risks than others. There are also limited tools for understanding and addressing the systemic nature of risk or to explore interlinked, long-term effects. Improved coordination, common methodologies, terminologies and metrics for the analysis of risk data between sectors is much needed, including interoperability between systems to collect and analyse data across sectors, e.g. between climate transition risk, disaster risk, and financial risk assessments.
- **Limitations in risk information.** For example, large gaps in data and information on vulnerability (both social and environmental) are widely recognised as limiting factors in risk reduction as they prevent a thorough understanding of patterns of vulnerability and exposure to risk. Local stakeholders' experience and insight can often supplement available evidence and help fill gaps in relevant data and information.
- **Global systemic risks.** National risk assessments can guide domestic policy action, but they cannot reduce all risks faced by a national economy, nor reduce globally systemic risks. Risk assessments at the national level must be complemented by regional and global systemic risk assessments and measures, with an emphasis on the needs of the poorest and most vulnerable countries.

4. 'How to' – Risk assessments in practice

4.1. Suggested approach

The suggested approach mirrors principles and approaches developed in the disaster risk reduction, resilience and economic/financial risk communities. Figure 2 illustrates the steps that countries can take to undertake risk assessments to inform the design and implementation of INFFs. These steps recognize that different policymakers and experts may be aware of the range of risks that are relevant to their country and specific policy area contexts. Thus, in the first instance, the INFF risk assessment helps bring this knowledge together.[4] It then supports policy makers to identify those risks that are most relevant to the functioning of their country's financing system, and policy solutions that could be pursued as part of a forward-looking, risk-informed financing strategy (see building block 2). Box 1 provides an overview of principles emanating from the Sendai Framework for Disaster Risk Reduction and how they could guide effective consideration of risk in an INFF.

FIGURE 2. STEP-BY-STEP GUIDANCE

STEP 1 UNDERSTAND THE COUNTRY'S RISK LANDSCAPE

- *What risks is the country exposed and vulnerable to? Are some sub-national areas or populations groups disproportionately exposed or vulnerable to identified risks compared to others? How are these financed?*
- *What risk assessments are already being undertaken in the country? Are they sufficient to paint a full picture of the country's risk landscape, e.g. do they contain gender analysis?*
- *What are the underlying risk drivers influencing the country's exposure and vulnerability to risk?*
- *See Tables 4-6; Building Block 1.2 (financing landscape assessment)*

STEP 2 ASSESS THE POTENTIAL IMPACT OF IDENTIFIED RISKS ON THE COUNTRY'S FINANCING SYSTEM AND PRIORTIZE MOST 'COSTLY' ONES

- *How can identified risks affect the country's ability to finance sustainable development priorities? (focusing on high risk/ high probability risks where needed) How are key thematic priorities/ sectors/ sub-national locations resourced?*
- *What are the relevant transmission channels?*
- *What additional costs would they result in, including as a result of the different impact they may have on different segments of the population (e.g. women and other vulnerable groups)?*
- *What risks should be prioritized in terms of policy action?*
- *See Table 2*

STEP 3 IDENTIFY POSSIBLE POLICY SOLUTIONS

- *What is government's capacity to manage risk? For each of the risks prioritized in step 2, what measures are in place to reduce them and/or manage or transfer residual risk?*
- *What are the gaps in resilience in the country's financing system that can be addressed by domestic policy action?*
- *How feasible and cost-effective are identified policy solutions? Which ones should be taken forward as part of the formulation of the financing strategy?*
- *What is needed from the international community to complement domestic efforts and safeguard the country's ability to finance national sustainable development? Are there any capacity gaps that would benefit from international support?*
- *See Table 3; Building Block 2 (financing strategy)*

4 *Building Block 1 Assessments and Diagnostics Overview* provides a list of possible public and private institutions and actors that may be consulted and involved in INFF risk assessments to ensure comprehensive mapping of all relevant risks and a shared understanding of their interconnections and links to the financing system at risk.

BOX 1. RISK ASSESSMENT PRINCIPLES FROM THE SENDAI FRAMEWORK FOR DISASTER RISK REDUCTION AND THEIR RELEVANCE TO INFFS

The Sendai Framework for Disaster Risk Reduction 2015-2030 was adopted by UN Member States on 18 March 2015 at the Third UN World Conference on Disaster Risk Reduction. It aims to guide multi-hazard management and reduction of disaster risk in development at all levels and within and across all sectors. While the scope of risk assessments in the context of INFFs goes beyond disaster risk, several principles and notions put forward within the Sendai Framework can be used to inform effective incorporation of risk in INFF design and implementation. The most relevant ones include:

- **Development needs to be risk-informed to be sustainable.** Similarly, development financing policies and strategies must be risk-informed to be sustainable and effective in supporting the achievement of identified priority outcomes.
- **Risks must be periodically assessed in all their dimensions.** INFFs provide a framework to think about development financing in an integrated and holistic manner, they are not a one-time undertaking; their value is in facilitating a 'process approach' to the design and implementation of development financing policies and reforms. Regular assessment of the financing landscape and risk is a crucial aspect of this process including to facilitate consideration of emerging and new threats and anticipating the reduction of their impact.
- **The primary role to reduce disaster risk lies with the State but all stakeholders, including the private sector, have a responsibility to contribute.** INFFs are government-led, placing the primary responsibility for formulating necessary financing policies and reforms on the State; however, they can also be used to strengthen collaboration with non-state actors, encouraging a more risk-informed approach to development by all relevant stakeholders.
- **Risk reduction requires all-of-society engagement and partnership, paying special attention to people who may be disproportionately affected by shocks and disasters.** At the core of INFF risk assessments is the analysis of the potential impact that various shocks and disasters may have on a country's ability to finance sustainable development effectively over time. This requires a thorough understanding of the risk profiles of, and the disproportionate effects that shocks may have on different population groups, including women and other vulnerable groups – which in turn calls for participation of a wide range of stakeholders in the exercise.[5]
- **Underlying risk-factors should be addressed cost-effectively through investment in prevention and risk management, instead of relying primarily on post-disaster response and recovery.** INFFs encourage the long-term horizon thinking that is required to strengthen resilience and preserve sustainable development achievements overtime.
- **Support from developed countries and partners to developing countries needs to be tailored according to nationally identified needs and priorities.** INFFs can support countries to identify key needs and inform related policy asks of development partners and global policy processes.

Step 1: Understanding the country's risk landscape

The first step in an INFF risk assessment is to identify risks that the country is exposed and vulnerable to, and to understand the key underlying drivers. The aim is to look at the country's risk landscape in as comprehensive a manner as possible, by drawing on a wide range of existing risk assessments and knowledge – looking across the spectrum of different risk types, and considering how exposure and vulnerability differ across sub-national areas or population groups.

5 *Building Block 1 Assessment and Diagnostic Overview* includes a list of state and non-state actors, who should be involved or consulted to ensure all relevant voices are heard when mapping a country's risk landscape and when assessing the potential impact of shocks and crises, including their possible consequences on the need for and availability of public finance.

Identifying relevant risks

No single assessment methodology exists that comprehensively assesses all risks or captures exposure and vulnerability to the full range of relevant shocks and crises. But this is neither necessary nor desirable (e.g. due to the differences in methodologies and approaches used to analyse different risks[6]). Most countries regularly assess a variety of risks – e.g. in relation to public finances and debt sustainability, financial stability, disasters, or climate change related risks. To complement and support domestic efforts, the international community offers and applies a range of tools and approaches (see Section 4.2 for an overview of existing assessments of economic and non-economic risks, and cross-cutting assessments). These existing assessments, both domestic and international, provide a starting point and will ensure that already existing knowledge, systems and processes are utilised.

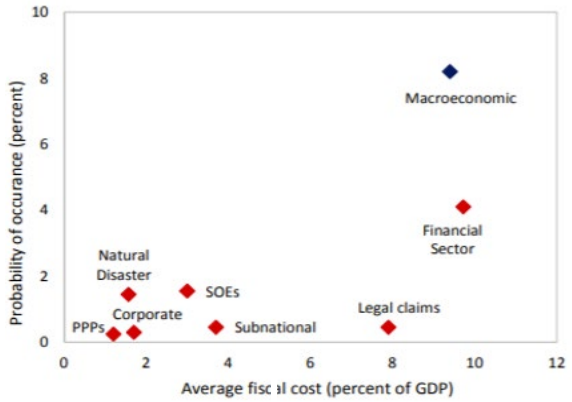
For example, the IMF fiscal risk toolkit[7] facilitates a comprehensive and integrated understanding of potential shocks to public finance, including their scale, sources, and likelihood. Figure 3 shows common sources of fiscal risk that are covered by the assessment. It also illustrates the systemic nature of many risks, by reporting the fiscal cost of non-fiscal shocks, such as financial sector shocks, disasters and PPPs. The toolkit provides policy makers with a holistic picture of risks to public finance, a core part of the 'system at risk' in an INFF (see also Step 2).

Country contexts will determine which tools will be most relevant and which stakeholders should be involved. *Building Block 1 Assessment and Diagnostics: Overview* provides a list of public, private and civil society actors that may be involved. Consulting with them will be crucial to ensure that the perspectives, needs and experiences of risk of all relevant stakeholders are considered and to arrive at a comprehensive and shared understanding of the country's risk landscape. It will also be helpful in assessing and understanding the links among findings from different types of risk assessments.

The financing landscape assessment (see building block 1.2 guidance) can also provide useful input. Analysis of the trends and distribution of current and potential financing can flag whether the country may be (or may become) exposed to particular types of economic risk. For example, dependency on specific types of external financing can flag exposure and potential vulnerability to volatility and external price shocks; low tax revenue capacity can flag vulnerability to endogenous fiscal risks; or low FDI may signal high perceived risk on behalf of investors resulting in low investment. Insight from financing landscape analysis can be used to identify whether additional tools (e.g. from those listed in Section 4.2) may be useful to complement existing knowledge.

FIGURE 3. COMMON SOURCES OF FISCAL RISK INCLUDE NON-FISCAL SHOCKS

Figure 1. Costs and Frequency of Fiscal Risk Realizations



Source: Bova and others (2016) and staff estimates.

Table 1. Contingent Liability Realizations

Contingent Liability	Number of Events	Events with Costs	Fiscal Cost (% of GDP)	
			Average	Maximum
Financial Sector	91	82	9.7	56.8
Legal	9	9	7.9	15.3
Subnational	13	9	3.7	12.0
SOEs	32	31	3.0	15.1
Natural Disaster	65	29	1.6	6.0
Corporate	7	6	1.7	4.5
PPPs	8	5	1.2	2.0
Other	5	3	1.4	2.5
Total	**230**	**174**	**6.1**	**56.8**

Source: Bova and others (2016).

Source: IMF (2016) Analysing and managing fiscal risks – Best Practices

6 The UNDRR National Disaster Risk Assessment guidelines (pp. 58-66) provide a detailed overview of different methodologies (with a specific emphasis on their application in relation to disaster risk)

7 This underpins the third pillar of IMF Fiscal Transparency Evaluations and is described in detail here.

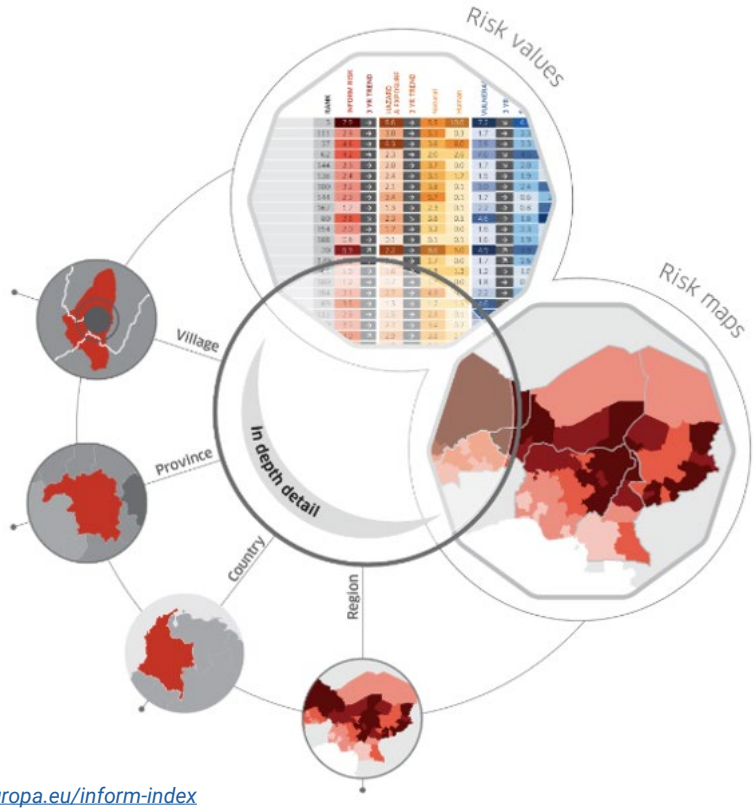
Subnational risks

Exposure as well as vulnerability to identified risks will likely not be homogenous across the country. Specific geographical locations and/or population groups may be more exposed and/or vulnerable than others. To the extent possible, understanding of the country's overall risk landscape should include an assessment of differentiated exposure and vulnerability levels, to leave no one behind. In the case of data limitations, consultations with relevant actors at the local and community level can provide relevant insight and should be encouraged (in line also with the principles set out in Box 1).

The INFORM index (a collaboration between the Inter-Agency Standing Committee Reference Group on Risk, Early Warning and Preparedness and the European Commission) provides sub-national pictures of exposure and vulnerability to disasters at the province and village levels (Figure 4). Tools such as the UNDESA-UNCDF handbook on infrastructure asset management for local and national governments, can also be used to deepen a government's understanding of the sub-national risk landscape of the country (see more detail in Section 4.2). While comparisons among sub-national areas may not always be possible, it can be used to assess exposure of critical assets and essential services to shocks and the vulnerability levels in municipalities where it is applied.

In addition, to leave no one behind, gender and other variables can be incorporated into risk analysis. Box 2 illustrates an example of how gender may be mainstreamed in disaster risk assessments.

FIGURE 4. SUB-NATIONAL LEVELS COVERED BY THE INFORM INDEX



Source: https://drmkc.jrc.ec.europa.eu/inform-index

BOX 2. MAINSTREAMING GENDER IN DISASTER RISK ASSESSMENTS: AN EXAMPLE FROM MYANMAR

Disasters impact men and women differently. Research shows that more women than men die from natural hazards and that this is mostly due to women's unequal socioeconomic status – meaning that disasters can widen existing gender inequalities. In specific sectors too (such as agriculture), the typical roles and responsibilities that men and women have affect their respective coping abilities and resilience levels. Exploring such differences in vulnerability is key in being able to fully understand a country's risk and vulnerability landscape and will result in more efficient and cost-effective policy action.

In Myanmar, an impact assessment of Cyclone Komen on agriculture and rural livelihoods was undertaken following a gender-responsive process. By exploring gender aspects in agriculture – such as the difference in roles, wages, access to credit and training, land ownership – the assessment was able to identify and explain the differences in the cyclone's impact on men and women. In so doing it supported more effective response and recovery interventions, as well as long-term resilience measures able to strengthen both men and women's capacity to cope with future disasters.

Sources: UNISDR, UNDP and IUCN (2009) Making Disaster Risk Reduction Gender Sensitive – Policy and Practical Guidelines; Myanmar Ministry of Agriculture and Irrigation, Ministry of Livestock, Fisheries and Rural Development, FAO and WFP (2015), Agriculture and Livelihood Flood Impact Assessment in Myanmar

Understanding underlying drivers of risk

Underlying risk drivers specific to a country can provide insight into the root causes of exposure and vulnerability to risk. Their identification can help pinpoint factors that may be increasing exposure and vulnerability across multiple risks.

Risk drivers include:

- Economic factors, such as GDP composition; levels of savings and investment; level of diversification of the economy; level of openness of the economy; exchange rate regime; size and composition of the financial sector (including the insurance sector); underinvestment in asset protection (including by private sector and households); digital inclusion; unemployment rates; infrastructure quality and availability.
- Geographical, climatological and environmental factors, such as physical location of the country; land use; urbanisation trends; climate change and variability; environmental degradation and biodiversity loss.
- Institutional factors, such as limited understanding of risk; limited capacity, resources and/or systems to address risk; non-risk informed policies that unintendedly create risk; gaps in risk governance (including lack of clear roles and responsibilities around who 'owns' different risks and who should share responsibility in managing them, corruption, non-accountable and non-inclusive decision-making process); limited information sharing between relevant agencies (e.g. between economic and disaster/environmental agencies); lack of incentives to 'reward' pro-active risk-related action (prior to shocks and disasters); or broader political factors, such as political stability, representation, and related issues.
- Social factors, such as demographic profile and trends (e.g. youth bulge, ageing population); health and education and literacy levels; participation of civil society; e-participation; protection of civil and political rights; levels of poverty, discrimination and inequality (e.g. in relation to income, gender, ethnicity, race, disability).

Some of the tools listed in Section 4.2 include guidance on how these underlying factors can be identified. For example, credit rating agency reports usually consider structural features that affect sovereign creditworthiness, such as governance and political capacity and GDP levels, and show how external investors view risk in a country. The Intergovernmental Panel on Climate Change (IPCC) has published guidance related to factors that can increase countries' exposure and vulnerability to climate change hazards in particular. The UN Common Country Analysis (CCA) guidance includes steps that can be used to identify economic, environmental and institutional factors that can influence exposure to a wide range of risks.

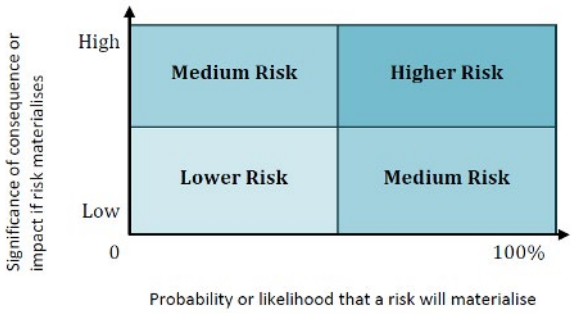
Step 2: Assessing the potential impact of identified risks on the country's financing system and prioritization

Understanding the potential impact of identified risks on the financing system is at the core of INFF risk assessments. It enables policy makers to avoid or reduce future disruptions to their ability to finance sustainable development.

Assessing the potential impact on financing of all risks identified in Step 1 will likely not be possible. In these cases, focus may be placed on high probability and/or high impact risks.

FIGURE 5. EXAMPLES OF RISK MATRICES

Example of risk matrix used in risk assessments related to money laundering and terrorism financing



Source: FAFT Guidance, National Money Laundering and Terrorist Financing Risk Assessment

Example of risk matrix used in disaster risk assessments

	CONSEQUENCE LEVEL				
LIKELIHOOD	INSIGNIFICANT	MINOR	MODERATE	MAJOR	CATASTROPHIC
ALMOST CERTAIN	Medium	Medium	High	Extreme	Extreme
LIKELY	Low	Medium	High	Extreme	Extreme
UNLIKELY	Low	Low	Medium	High	Extreme
RARE	Very low	Low	Medium	High	High
VERY RARE	Very low	Very low	Low	Medium	High
EXTREMELY RARE	Very low	Very low	Low	Medium	High

Source: Australian Institute for Disaster Resilience, National Emergency Risk Assessment Guidelines

Identifying high probability/ high impact risks

Risk matrices. Risk or hazard matrices can support comparison across risk assessments and identification of the highest likelihood/ highest impact risks (Figure 5). Such matrices classify risks by likelihood and impact and are common in both economic (e.g. IMF Art IV consultations or FATF national IFF risk assessments) and non-economic (e.g. UN DRR national disaster risk assessments) risk assessments.

Risk indices. Where direct comparisons between risks are possible, index-based approaches can also be used to support prioritisation (being mindful of the methodologies used, including in relation to the weights assigned to different indicators). The INFORM risk management index, for example, can be used to assess exposure, vulnerability and coping capacity related to a range of natural and man-made disasters, such as earthquakes, floods, tsunamis and tropical cyclones. UNCTAD's Financial Conditions Indicators Index provides insight on key aspects of financial stability, by bringing together information on different financial and macroeconomic indicators, such as prices, volatility, foreign exchange rates, debt service ratios and capital flows, in a single assessment.

Having established a more limited number of major risks, the analysis of the potential impact on the country's financing system can be narrowed down accordingly.

Linking risks to their potential impact on the country's financing system

While some risks are already incorporated into existing economic and financial assessments, others will require additional analysis. For **economic risks**, impact on financing should be straightforward to infer and may be explicit in existing assessments. For example, risk matrices included in IMF Article IV Consultation reports highlight links to fiscal and financial sustainability. Risk assessments related to the use of specific financing instruments, such as PPPs, tend to focus on their potential fiscal implications. Countries also apply a range of approaches to quantify contingent liabilities related to fiscal risks, including assessments of historical data, where available, market information, and stochastic simulations or option pricing models.[8]

For **non-economic risks,** dedicated risk assessment tools and approaches often employ a broader lens and focus on the potential impact of shocks and hazards on sustainable development outcomes at large, which then need to be incorporated into economic and financial analyses. However, examples exist of how the economic impact of non-economic shocks and hazards may be assessed, especially in relation to disaster risk. For example, damage and loss databases (such as DesInventar Sendai) can provide useful insight into the monetary impact of past disasters. In 2015, the Global Assessment Report on Disaster Risk Reduction outlined an approach to assess the macro-economic and public finance repercussions of disasters, via the use of models that take into account major interlinked transmission channels (such as the decline of production capacity due to capital loss on the supply side, the decline in income and asset value on the demand side, the increased need for public expenditure in response, recovery and reconstruction combined with decreasing public revenues due to reduced taxes and fees, and the resulting worsening of the fiscal balance which in turn can further negatively impact the macro-economy via for example increasing debt).

To bring together analysis of different types of risk and support prioritisation, information can be compiled in a simple format such as that proposed in Table 2.[9] Identifying the most relevant transmission channels (through which different shocks may impact the financing system) will encourage consideration of interlinkages between risks and the additional costs to the state, including through their differentiated impact on different segments of the population.[10] The higher such costs, the stronger the case to invest in policies to address the risk.

8 See for example Box 4 in IMF (2016) Analysing and managing fiscal risks – Best Practices.
9 For a similar approach in asset management, see Chapter 6 of UN (2021) Managing Infrastructure Assets for Sustainable Development: A handbook for local and national governments.
10 For disaster risk specifically, disaster loss databases, including those related to monitoring of the Sendai Framework, can be consulted to estimate the scale of potential loss as well as the economic and financial impact of disasters.

TABLE 2. TEMPLATE FOR MAPPING THE POTENTIAL IMPACT OF IDENTIFIED RISKS ON A COUNTRY'S FINANCING SYSTEM

RELEVANT RISK	IMPACT ON COUNTRY'S FINANCING SYSTEM	
	IMMEDIATE IMPACT	SECONDARY IMPACT
List high probability/ high impact risks identified above (and for each identify impact, based on questions set out in columns to the right)	Describe elements of the financing system impacted directly by the shock/ risk event – e.g. • Would the shock result in immediate calls for public finance to deal with the response? • Would different population groups be differently affected by the shock, e.g. women and men? • Would specific segments of the population require additional government support? If so, which ones? • Would the shock result in immediate restrictions and/or increased cost to access private or external sources of finance? • Which actors would be particularly hit by the shock? (e.g. private businesses/ banks/ households/ etc.)	Describe elements of the financing system impacted indirectly by the shock/ risk event, or as a result of its cascading effects – e.g. • Would the shock result in (additional) fiscal and/or financial shocks? • Would the shock result in a need for subsidies by the state/ fiscal transfers/ tax reductions, additional to the cost of initial emergency responses and recovery support? • Would such need be exacerbated by different exposure and vulnerability levels of different segments of the population?

Step 3: Identifying possible policy solutions

Some risks can be prevented, some reduced. Residual risks may be transferred or may have to be managed and absorbed once they are realized. In some cases, this can be accomplished by discrete policy interventions (for clearly identified risks with no systemic impact), in other cases it will require more complex approaches, focused on enhancing overall resilience of a country's financing system.

A mapping of existing policies to deal with risk in all sectors may have been undertaken as part of the initial scoping exercise within the INFF inception phase; if so, it should be referenced here, especially in relation to policies and measures related to the risks prioritised in step 2. Table 3 provides an illustration of relevant policy measures, but not all will be relevant or feasible in all contexts. They include policies related to the use of specific financing instruments as well as broader risk-related policies, such as investing in resilient infrastructure and setting up strong, risk-informed, adaptable and shock-responsive social protection systems (see also Box 3).

Measures are grouped in three broad categories:

- Preventing or reducing the **likelihood** of shocks occurring and of hazards turning into disasters, such as measures that address underlying risk drivers and that help avoid the creation of new risk;
- Reducing the negative and cascading **consequences** of shocks and hazards when they occur, such as preparedness measures that support countries to more effectively anticipate, respond and recover from shocks, crises or disasters;
- Managing or transferring **residual risk,** such as measures that ensure the system retains critical abilities during a shock, crisis or disaster and can recover afterward

TABLE 3. EXAMPLES OF MEASURES THAT CAN STRENGTHEN THE RESILIENCE OF FINANCING FOR SUSTAINABLE DEVELOPMENT SYSTEMS AT THE COUNTRY-LEVEL

RISK REDUCTION MEASURES		RESIDUAL RISK MANAGEMENT OR TRANSFER MEASURES
REDUCING THE LIKELIHOOD OF SHOCKS/ RISK EVENTS OCCURRING (INCLUDING PREVENTION)	**REDUCING THE IMPACT/ COST OF SHOCKS/ RISK EVENTS WHEN THEY OCCUR (INCLUDING PREPAREDNESS)**	**ENSURING THE SYSTEM RETAINS CRITICAL ABILITIES DURING A SHOCK/ RISK EVENT, AND CAN RECOVER AFTERWARD**
For economic shocks: • Put in place a strong macroeconomic policy framework • Establish and impose minimum lending standards for banks • Ensure certainty around policies • Strengthen institutions (e.g. ensuring independence of regulators, auditors and anti-corruption commissions) • Capital account management, including prudential regulation of capital flows • Accelerate economic and structural reforms to support diversification of the economy and of import/export channels	*For all shocks:* • Increase the collection and sharing of risk information, including impact on vulnerable groups, by taking advantage of big data and by triangulating information with information from the community level, private sector, development partners and web-based sources • Improve understanding of risk management capabilities at national level, through stress testing and capacity assessments • Invest in multi-hazard early warning systems • Implement a framework that determines who 'owns' different risks and who is responsible for sharing management of them, including clarity on accountability and liability for damages • Set up strong, risk-informed, adaptable, scalable and shock-responsive social protection system (see Box 3) • Establish dedicated reserve funds or stabilization funds *For economic shocks:* • Develop debt management strategies	*For economic shocks:* • Monetary policy and/or foreign exchange interventions • Make use of hedging and risk-sharing/transfer financing instruments[11] • Make use of contingency budget lines or funds

11 Table 3 in 'IMF (2016) Analysing and managing fiscal risks – Best Practices' provides examples of risk transfer instruments specifically related to fiscal risk, along with other measures to mitigate, provide for and accommodate fiscal risk.

RISK REDUCTION MEASURES		RESIDUAL RISK MANAGEMENT OR TRANSFER MEASURES
REDUCING THE LIKELIHOOD OF SHOCKS/ RISK EVENTS OCCURRING (INCLUDING PREVENTION)	**REDUCING THE IMPACT/ COST OF SHOCKS/ RISK EVENTS WHEN THEY OCCUR (INCLUDING PREPAREDNESS)**	**ENSURING THE SYSTEM RETAINS CRITICAL ABILITIES DURING A SHOCK/ RISK EVENT, AND CAN RECOVER AFTERWARD**
For non-economic shocks: • Invest in climate mitigation • Tap into the cost efficiencies and broader benefits of natural or nature-simulating assets, e.g. wetlands and green roofs • Enact legislation to appropriately price all risks, including through internalizing external risks such as from natural and man-made hazards into the financial and economic system • Enact legislation to support adequate resourcing of pro-active risk reduction and prevention efforts[12] • Align incentives, subsidizing the good and taxing the bad	Set up provisions for expected costs of guarantee calls in the budget or a guarantee fund to meet these costs *For non-economic shocks:* • Invest in climate adaptation, including resilient infrastructure and physical defense measures – e.g. sea walls • Wherever possible identify and implement non-capital interventions e.g. preventative/ proactive maintenance and better policies promoting climate resilience, which often cost less than capital investments • Strengthen health systems by: building operational readiness, e.g. simulating high-stress scenarios; overseeing a full portfolio of assets, not limited to just emergency medical services but also schools and other community facilities; coordinating timely and risk-informed response measures to minimize immediate and cascading impacts • Strengthen risk knowledge through mapping of assets' exposure, risk prone areas • Support business resilience, public and private sector continuity planning	*For non-economic shocks:* • Make use of existing insurance mechanisms, including through mandatory coverage requirements imposed on businesses and individuals, or develop roadmaps for further development of the insurance industry at the national level • Make use of capital market instruments, such as catastrophe bonds • Make use of dedicated reserve fund/ disaster risk fund/ dedicated pool of savings or reserves • Make use of contingent credit facilities for natural disaster emergencies[13]

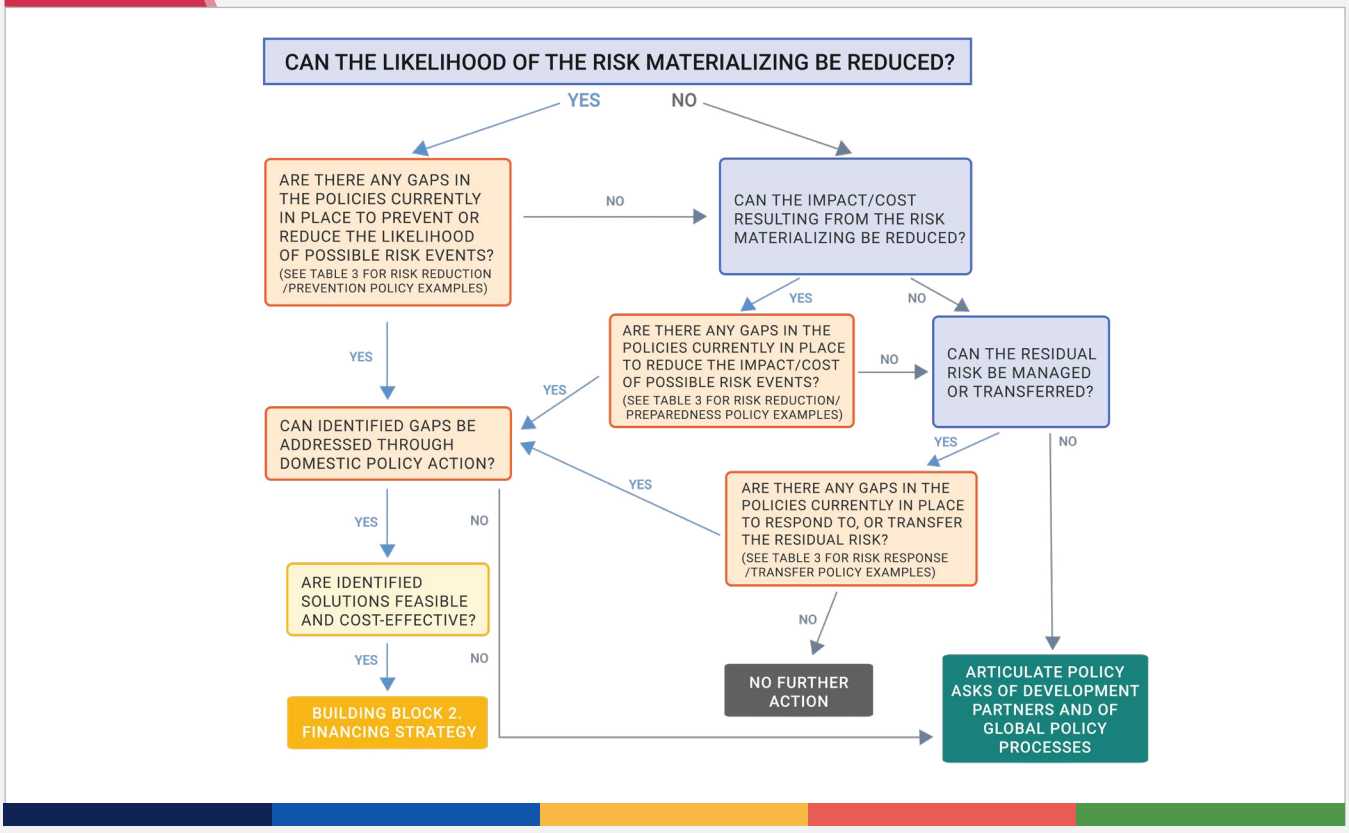
12 For example, the Philippines Disaster Risk Reduction and Management Act of 2010 was enacted to develop a framework and allocate resources that would enable national and local government as well as other stakeholders to build communities that can survive disasters..
13 For example, the Inter-American Development Bank's Contingent Credit Facility for Natural Disaster Emergencies.

A decision tree (see Figure 6 for an illustration) can guide the identification of gaps in existing capacity to deal with risk, and to determine policy options and requests for support. Priority should be given to risk prevention and reduction measures, especially those that address the underlying drivers of risk specific to the country context (in line with principles in Box 1). Gaps in both institutional capacity and policy gaps should be considered when assessing the system's current resilience.

In identifying possible solutions, countries will have to determine the feasibility and cost-effectiveness of their implementation. It will depend on available resources and capacity, and societal risk aversion/ appetite. Eliminating all risk will be neither possible nor desirable, and trade-offs must be considered; for example, very high levels of deposit insurance and capital requirements may stifle credit creation and growth.

Assessments of likely costs and benefits (e.g. cost-benefit analysis) allows for evidence-based policy decisions. Such analysis typically involves: i) setting out alternatives (including comparing action and no action); ii) estimating benefits (transmission channels identified in step 2 could be a starting point for estimation of benefits, which can be defined as avoided damages, losses or extra costs); iii) calculating benefit to cost ratios; iv) carrying out a sensitivity analysis to account for uncertainties; and v) measuring impact on society (distributional or stakeholder analysis). In the disaster risk community, cost-benefit analyses have been applied in several cases to help choose among different disaster risk reduction measures.[14]

FIGURE 6. DECISION TREE TO GUIDE THE IDENTIFICATION OF POSSIBLE POLICY SOLUTIONS



14 See more detail and examples in Annex 3 of the 2015 Global Assessment Report on Disaster Risk Reduction (section 4.5).

Policy makers may also identify policy solutions that do not require substantial financial resources to implement, bearing in mind these may incur non-financial costs to specific actors and thus still require time and political capital to be pursued (e.g. changes to regulatory frameworks). As part of the financing strategy (buildling block 2), consideration may be given to how additional financing may be mobilised or made available to support expanded risk measures.[15]

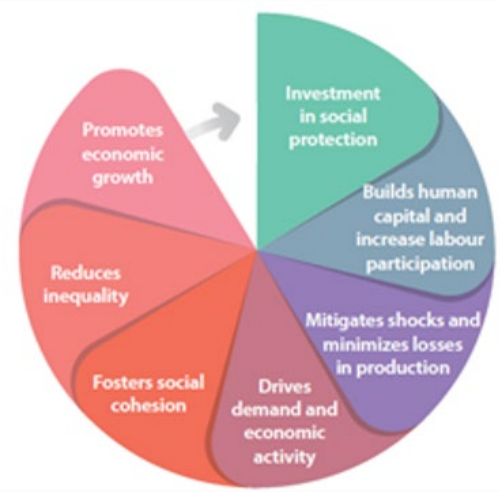
BOX 3. THE ROLE OF SOCIAL PROTECTION IN RISK PREVENTION, REDUCTION AND MANAGEMENT[16]

The fundamental role of social protection in achieving sustainable development outcomes is particularly evident when it comes to risk. A robust social protection system can enable countries to address underlying drivers of risk, such as poverty and inequality (risk prevention); reduce the negative impact of potential shocks, especially on the poorest and most vulnerable segments of the population (risk reduction); and facilitate a timely emergency response when a shock hits (residual risk management) due to the institutional mechanisms already in place that can be utilised in times of crisis too (e.g. cash transfer systems).

For example, during the COVID-19 pandemic, countries with social protection programmes in place were able to use them as channels for their response measures instead of having to establish new systems from scratch in a time of crisis. Chinese local governments were instructed to increase the benefit amounts of the national social assistance scheme; in Indonesia the same was done in relation to benefit amounts already in place to support adequate food consumption; in Ecuador, the channels of already existing social assistance programmes were used to disburse a contingency benefit that the government put in place to support workers in the informal economy.

Ultimately, social protection programmes increase resilience to shocks – of households, of economies and of countries' ability to finance sustainable development priorities. Strengthening the interface between ministries of finance, social protection mechanisms, and forecast-based financing instruments can support resilient livelihoods pre-shock and minimize negative coping strategies in the event of a shock. By reducing the negative impact of shocks on households, social protection programmes ensure that the effect on national demand and productivity is curtailed and that recovery costs are minimised. Figure 7 illustrates the virtuous cycle of investing in social protection.

Figure 7. The virtual cycle of investing in social protection



Source: UN ESCAP 2018, 'Why We Need Social Protection', Social Development Policy Guides

15 For example, 'ILO (2019) Fiscal Space for Social Protection: A Handbook for Assessing Financing Options' provides an overview of eight financing options for extending social protection coverage and benefits even in the poorest countries.

16 Country examples included in Box 3 were taken from ILO brief, May 2020, Social Protection Spotlight, 'Social protection responses to the COVID-19 pandemic in developing countries: strengthening resilience by building universal social protection'.

4.2 Existing tools

Tables 4-6 provide an overview of existing risk assessment tools and approaches from the international community. For ease of reference, they are grouped according to risk areas they cover (economic risks, non-economic risks, and cross-cutting).

TABLE 4. EXAMPLES OF EXISTING ECONOMIC RISK ASSESSMENT TOOLS

NAME OF TOOL	RISKS COVERED	BRIEF DESCRIPTION	LINK
IMF Country Risk Assessment Approaches	Fiscal, Financial, Real, External, and Contagion (latter includes exposure through trade channels and cross-border financial sector exposure)	Risk assessments for emerging markets (EM) and low-income countries (LIC) are based on a common signal extraction approach, which assesses vulnerability to a crisis by establishing thresholds for key indicators and aggregating the indicators that exceed their thresholds. Depending on the country context different models are used. For example, for EM, a sudden stop model is used, which defines crises in terms of capital flows and emphasizes external indicators; for some LICs the food decline vulnerability index is used which examines natural events paired with declines in food production, food-dependence and governance indicators.	Here
IMF Fiscal Affairs Department (FAD) Fiscal Risk Handbook	Fiscal (including at the instrument level in relation to guarantees and PPPs)	Includes tools and diagnostics for the assessment and management of risks for SOEs, public guarantees, quasi-fiscal activity, and public-private partnerships.	Here
IMF Fiscal Transparency Evaluations (FTE)	Fiscal	Includes a pillar focused on fiscal risk analysis, management and disclosure, which provides ratings across 12 areas of fiscal risk management, including subnational risks for natural disasters, and is also used as basis for targeted, country level fiscal risk assessments by the IMF Fiscal Affairs Department.	Here (see Chapter 4)
Joint World Bank-IMF Debt Sustainability Framework (DSF) for Low-Income Countries	Fiscal, External	Tool to guide borrowing decisions in LICs so that financing needs are considered alongside current and prospective repayment ability. Under the DSF, DSAs (see below) must be conducted regularly. The DSF analyses both external and public sector debt, focusing on the present value of debt obligations. Countries are classified into one of three debt-carrying capacity categories (strong, medium, weak) depending on their respective policy and institutional strengths, macroeconomic performance and buffers to absorb shocks. Indicators used draw on historical performance and outlook for real growth, international reserve coverage, remittance inflows, state of the global environment, and the World Bank's Country Policy and Institutional Assessment (CPIA) index. Depending on the debt-carrying capacity different thresholds are used to establish level of risk.	Here

NAME OF TOOL	RISKS COVERED	BRIEF DESCRIPTION	LINK
IMF Debt Sustainability Analysis (DSA)	Fiscal, External	Includes: i) an analysis of a country's projected debt burden over the medium-term (5 years), and its vulnerability to economic and policy shocks, based on stress test scenarios; ii) an assessment of the risk of external and overall public debt distress, based on indicative debt burden thresholds and benchmarks that depend on the country's macroeconomic framework and other country-specific information.	Here
Credit Ratings Agency Reports on Sovereigns	Fiscal, Financial	Provide insight on default probabilities/ creditworthiness and assess future capacity and willingness to honour debt obligations, by looking at indicators of macroeconomic performance, public and external finances, as well as underlying structural factors that affect the country's vulnerability and resilience to shocks, including political risk and governance factors.	Here
IMF Financial Sector Assessment Program (FSAP)	Financial	Comprehensive and in-depth analysis of a country's financial sector (IMF and WB jointly responsible in developing and emerging economies; IMF alone in advanced economies). The analysis involves assessing the resilience of the banking and non-banking financial sectors; conducting stress tests and analysing systemic risks; examining micro and macro-prudential frameworks; reviewing the quality of supervision and financial market infrastructure oversight; and assessing development aspects such as inclusiveness, competitiveness, the quality of legal framework and of payment and settlement systems, and the financial sector's contribution to economic growth and development.	Here
IMF External Balance Assessment (EBA) Model	External	Estimates the average current account balance of an economy and compares it with a current account norm (derived by including desired, instead of actual, policies into the EBA model and refined to include country-specific factors not captured in the model). The difference between the actual and the norm, represents everything that drives an economy's external balance away from its appropriate level – from inadequate macroeconomic policies to domestic distortions. If it's greater than +/- 1% of GDP then the country's external position is considered not to be in line with fundamentals.	Here
IMF Art IV Consultations especially the Risk Assessment Matrix (RAM)	Fiscal, Financial, Real, External (depending on context not all may be covered)	Article IV consultations provide an overview of key external and financial vulnerability indicators and include a risk assessment matrix (RAM) showing events that would materially alter the baseline path (which is the scenario most likely to materialize according to IMF staff). The RAM covers global and country-specific risks and includes an assessment of their likelihood and impact (low-medium-high) as well as related policy responses.	Here

NAME OF TOOL	RISKS COVERED	BRIEF DESCRIPTION	LINK
IMF-FSB Early Warning Exercise (EWE)	Systemic tail risks	Assesses low-probability but high-impact risks to the global economy and identifies policies to mitigate them, including those that would require international cooperation. Draws on a range of quantitative tools and expert consultations. While the scope is global, vulnerability indicators that assess individual country risks to macro, financial, fiscal and external crises are monitored, and findings can also inform the design of national level mitigation policies.	Here and here
UNCTAD Financial Conditions Indicators	Financial	Data on leading indicators of financial stress that allows policymakers to assess financial stability in real time before financial shocks are transmitted to the real economy. Can provide early warning of financial turmoil and inform a better understanding of likely and country-specific causes of financial shocks.	Here
IMF-World Bank Public Private Partnerships Fiscal Risk Assessment Module (PFRAM)	Fiscal risks related to use of PPPs	Assesses the costs and risks arising from PPP projects, with a particular emphasis on the medium- to long-term fiscal implications.	Here
Financial Action Task Force (FATF) guidance on national risk assessments for anti-money laundering/ countering the financing of terrorism	Financial	Sets out approaches and guidance for assessing risks related to money laundering (ML) and terrorism financing (TF). Organised around three steps: i) identification of threats and vulnerabilities that may be the causes, sources or drivers of ML/TF risks; ii) analysis of nature, sources, likelihood and consequences of identified risk factors; iii) evaluation to determine priorities/ strategies around prevention or avoidance, mitigation or reduction, acceptance/ contingency (for lower risks).	Here
World Bank ML/TF Risk Assessment Tool	Financial	Methodological tool that enables countries to identify the main drivers of ML/TF risks. It can support both diagnostics and decision-making around policy design, including through scenario analysis. It comprises several interrelated modules, built around input variables which can relate to threats or vulnerabilities, at a sector or national level.	Here
Tax Justice Network Illicit Financial Flows Vulnerability Tracker	Financial	Online tool that can support understanding of a country's vulnerability to illicit financial flows and of the channels responsible for such vulnerability (including imports, exports, banking deposits, direct investment, and portfolio investment). Enables comparisons across countries and over time.	Here and here

TABLE 5. EXAMPLES OF EXISTING NON-ECONOMIC RISK ASSESSMENT TOOLS

NAME OF TOOL	RISKS COVERED	BRIEF DESCRIPTION	LINK
UNDRR/ISC Technical Report on Sendai Hazards Definitions and Classifications	Systemic risks, natural and man-made hazards	Overview of hazards to be taken into account for comprehensive risk management and reduction, including risk assessments, scenario building, stress testing and policy, legal and regulatory frameworks.	Here
UNDRR Global Risk Assessment Framework (GRAF)	Systemic risks, natural and man-made hazards, climate change	The Global Risk Assessment Framework (GRAF) is a network for integrated assessment of systemic risk and to facilitate partnerships for the generation and sharing of data across disciplines and geographies as a basis for the development of policies and actions. GRAF provides a coordinated and integrated approach to address systemic risks through multi-hazard and multidisciplinary assessment and understanding of risk. It supports the achievement of global targets across post-2015 agreements (including the Sendai Framework, 2030 Agenda, Paris Agreement, New Urban Agenda) and informs and focuses action at the local, national, regional and global levels, within and across sectors and geographies.	Here
UNDRR National Disaster Risk Assessment	Systemic risks, natural and man-made hazards, climate change	Supports a holistic assessment of the different dimensions of disaster risk (hazards, exposures, vulnerabilities, capacities); the direct and indirect impacts of disaster (physical, social, economic, environmental, institutional); and the underlying drivers of risk (climate change, poverty, inequality, weak governance, unchecked urban expansion). It includes guidance on the various methodologies that can be used to aggregate and compare risk from all hazards.	Here
CCORAL Risk Management Tool	Climate change related disasters	Online support system for climate resilient decision-making. It supports policy makers to better understand how to manage the impacts of climate (through legislation, strategies, policy, planning and budgeting) and how to apply a climate risk management process in their specific country context. The CCORAL toolbox includes a variety of tools including vulnerability and risk assessments which users can choose from depending on their specific objectives.	Here
UNDESA-UNCDF Managing Infrastructure Assets for Sustainable Development: A handbook for local and national governments	Climate change and public health	Provides guidance for local and national governments to undertake vulnerability and risk assessments related to the impact that climate shocks and/or infectious disease outbreaks may have on critical assets and related essential services. Dedicated climate chapter outlines a methodology for developing risk-informed adaptation and mitigation strategies based on the unique exposure, adaptive capacity, risk tolerance and risk appetite of the local landscape. Specific health chapter focuses on how to create and implement an “Emergency Response Asset Management Action Plan” by enhancing existing precautions and protocols with affected service delivery from critical assets in mind. Entire handbook emphasizes the value of risk assessments in maximizing sustainability of public infrastructure investments for current and future generations.	Here

NAME OF TOOL	RISKS COVERED	BRIEF DESCRIPTION	LINK
INFORM Index for Risk Management	Disaster	Global, open-source risk assessment for humanitarian crises and disasters. Ranks countries according to three dimensions of risk: hazard and exposure (natural and man-made, e.g. earthquakes, floods, conflict); vulnerability (socio-economic and of particular groups); and lack of coping capacity (institutional and infrastructure).	Here
WFP Integrated Context Analysis (ICA)	Disaster and climate change (mainly droughts and floods)	Used to look at the intersection of food security and natural shock risk. Resulting analysis can contribute to identifying strategies for resilience building, disaster risk reduction and social protection, with a particular focus on the most vulnerable and food insecure populations.	Here
Africa RiskView Model	Disaster (drought)	Software used to estimate the number of people affected by a drought event during a rainfall season and the financing necessary to respond and support affected people in a timely manner. Combines crop monitoring and early warning, vulnerability assessment and mapping, operational response, and financial planning and risk management disciplines.	Here and here
Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI)	Disaster; climate change	Aims to provide Pacific Island Countries with disaster risk modelling and assessment tools and to facilitate dialogue on financial solutions for the reduction of their financial vulnerability to natural disasters and climate change. Specific tools include probabilistic hazard models; a risk information system; risk-based framework to direct resources of countries and development partners; and financing solutions related to fiscal risk exposure, financial disaster risk management and regional risk pooling.	Here
Secretariat of the Pacific Regional Environment Project (SPREP) community-based climate change vulnerability assessment	Disaster; climate change	A bottom-up, 'learning-by-doing' vulnerability assessment approach. Focuses on current vulnerability to climate and non-climate related factors and on current adaptive capacity, and combines this with an evaluation of future climate related risks to support the formulation of strengthened adaptation policies.	Here
Central American Probabilistic Risk Assessment (CAPRA) Platform	Disaster (earthquakes, tsunamis, cyclones, floods, landslides, volcanic hazards)	Free-to-access software for probabilistic risk analysis. The platform calculates risk based on multi-hazard mapping exposure and physical vulnerability data; it makes use of cost-benefit analysis tools to support pro-active risk management and the design of risk-financing strategies.	Here

NAME OF TOOL	RISKS COVERED	BRIEF DESCRIPTION	LINK
Insurance Development Forum CatRiskTools catalogue	Disaster	An online searchable catalogue of catastrophe risk assessment tools.	Here
International Institute for Applied Systems Analysis (IIASA) Catastrophe Simulation (CATSIM) model	Disaster	Interactive simulation model consisting of five modules: i) direct risk assessment; ii) fiscal resilience assessment; iii) fiscal and economic vulnerability; iv) economic impact assessment; v) risk management/ reduction option assessment. Support policy makers estimate and reduce public sector financial vulnerability in the face of catastrophes, and evaluate possible risk management options.	Here
UNDG Conflict and Development Analysis (CDA)	Political stability	Assists with analysing a specific context and developing strategies for reducing or eliminating the impact and consequences of violent conflict. Provides a deeper understanding of the driving factors of conflict and the dynamics that can promote peace.	Here

TABLE 6. EXAMPLES OF EXISTING CROSS-CUTTING RISK ASSESSMENT TOOLS

NAME OF TOOL	RISKS COVERED	BRIEF DESCRIPTION	LINK
UN Common Country Analysis (CCA)	Most relevant to external economic risks; environment and climate change; and political stability/ governance risks	The UN CCA represents the UN's independent, collective, integrated, forward-looking and evidence-based analysis of the development context at the country level. While broader in scope compared to INFFs and while not exclusively a risk assessment tool, the new generation of CCAs are based on multidimensional risk analysis and methodologies and approaches can be used to inform analysis of particular country-level risks and vulnerabilities – namely those arising from: • The structure of the economy (part of the political economy analysis approach); • The environment (with a focus on environmental pressures and their drivers, health of marine and terrestrial ecosystems and biodiversity, and their respective linkages to climate change and environmental degradation) • Governance and institutional structure (including areas related to perceived credibility of electoral systems; perceived legitimacy of the government; transparency levels; independence and inclusiveness of state institutions and administration – all of which can provide valuable insight into political stability and governance risk factors)	
OECD Resilience Systems Analysis (RSA)	Economic, Disaster, Political, Environment/ Climate Change	Takes a multi-hazard, multi-stakeholder approach to address the complexity and interlinkages between different risks (e.g. how disasters can also trigger economic shocks); ensures resilience is vertically integrated at national, subnational, community and household layers; and promotes cross-sectoral approaches. The typical process involves: • Understanding the risk landscape in the particular context • Looking at how identified risks affect society's systems (national, provincial, community, household, individual) • Determining how resilient these systems are and what needs to be done to boost resilience.	Here

5. Risk assessments in different country contexts

Sections 3 and 4 above already reflect on how the scope and focus of risk assessments will be influenced by specific country characteristics. In addition, the approach suggested in section 4 may need to be adapted depending on the following factors:

- **Range and depth of risk assessment tools and systems already in use.** In some countries, governments will have risk reduction processes and systems in place and will be familiar with the risk assessment tools and approaches listed in Section 4.2. In others, the range of existing insight on risk may be insufficient or limited to particular types of shocks – in these cases, governments can seek support from development partners, such as the IMF and UN agencies, to undertake additional multi-sectoral and multi-hazard assessments that could help facilitate a more holistic understanding of all relevant threats to their financing system and related vulnerabilities.
- **Capacity and resource availability.** Undertaking comprehensive risk assessments requires technical expertise, time and financial resources, both for the initial exercise when first designing an INFF and for ensuring continuous revisions to findings, as risk drivers, national capacity, and contextual factors change. In light of this, and in the face of potential limitations in capacity and resources that government may face, the scope of the exercise could be narrowed to focus on the most critical shocks and hazards, identified in consultation with experts familiar with the country's context and financing system. However, in doing so, caution should be taken not to be reductive and overlook how risk changes over time, how economic, environmental, social, and political risks interact, and what new risks may emerge in future for which a country has no past experience. As above, development partners' support may be sought to undertake the exercise.

6. Lessons learned

Key lessons from implementing comprehensive national risk assessments highlight the need for:

- High level political support and government leadership to ensure the assessment exercise is sufficiently scoped (including time scale and range of different scenarios to be considered), adequately resourced (e.g. through guaranteed commitments of expertise, staff, time), and that findings can be translated into action (overcoming issues related to short-termism);
- Coordination and engagement with national entities from as early as possible in the process to strengthen buy-in and ensure support for resulting policy actions;
- Coordination with development partners to avoid siloed assessments;
- A robust planning phase, including a review of learning from previous risk assessments, to ensure past experiences on what worked and what did not may be taken into account, and mistakes not repeated.

Country experience also shows that the process of bringing together information related to different types of risk can raise awareness of the links between them, increase collaboration across sectors (including within government), and promote new forms of cooperation (e.g. between policy makers and experts). It can encourage more effective and integrated planning at the sector level and support particular stakeholders (e.g. private sector actors) to take action for improved overall resilience.

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