The Impact Before Instruments series of technical discussion papers has been produced through a partnership of the Start Network, the Red Cross Red Crescent Climate Centre and the International Federation of Red Cross and Red Crescent Societies (IFRC). The series responds to the increasing interest in the use of disaster risk financing (DRF) systems and instruments by humanitarian actors. DRF, as originally conceived, aimed to strengthen the financial resilience of governments to respond to disasters. In recent years, donors, humanitarian actors and others have begun to explore the use of DRF approaches for earlier and more predictable humanitarian response. This series reflects on and discusses, what we, as a community of practice need to consider in order to make DRF work in the humanitarian context.

This series explores how evolving disaster risk financing approaches could indeed be a game changer, bringing a range of benefits:

- How “Humanitarian DRF” can incentivise enhanced pre-planned and coordinated disaster risk management systems for anticipation and effective disaster response
- How using objective risk information can aid decision-making, increasing the neutrality and impartiality of humanitarian decisions
- How it can bring in new, larger and more coordinated pre-arranged financing
- How using such a structured system allows for greater degrees of transparency and accountability. But, to achieve these benefits, impact must be placed before instruments in the system design. This series sets out practical challenges and potential ways to adjust traditional DRF approaches to bring about enhanced humanitarian impact, exploring what a new lens for humanitarian DRF might look like, and what it might need to consider.
The aim of the series is to spark the right conversations, build collaboration around the key technical challenges, and to find the fresh thinking and new approaches needed to release the potential of DRF for humanitarian action.

The following actions are likely to enable this:

**Donors**

- Try to avoid funding individual instruments (single instrument subsidies) and consider funding the development of DRF strategies and systems. This includes preparedness, system building and science and data development, creating a strong incentives structure for good system design – end to end.
- Through your funding strategies, encourage clarity on whose risks will be addressed and covered; by what kinds of measures; implemented by whom and at which points (when) within a disaster risk management cycle; and with what objective.
- Key donor requirements around good practice humanitarian response should be applied to support for wider DRF system building, including localisation, accountability, participation, gender and humanitarian-based targeting.
- Encourage discussion – between both donors and with implementing partners such as UN, Red Cross Red Crescent National Societies, World Bank, Start Network and NGOs – on how they should coordinate their various allocations within country-level systems.

**Humanitarians**

- Separating disaster risk financing, disaster risk reduction, early action (forecast-based financing, anticipation), preparedness and humanitarian response into organisational silos and policy spheres is not effective. A continuum of action is needed and new ways to articulate this.
- A broader perspective is needed on how a DRF strategy can contribute to the larger national disaster risk management strategy. NGOs, UN and Red Cross Red Crescent National Societies need to engage, not only with each other but with government, where possible, to develop joint national strategies on crisis financing and action.
- In order to enhance DRF humanitarian analytics, pre-planning for early action and effective response, humanitarian predictive impact modelling needs to mature, and make better use of the predictive quantification of risks.
- Humanitarians have extensive experience of response and local knowledge of vulnerability. This is an invaluable asset in these systems and its bedrock; it needs to be harnessed and integrated into the design of DRF systems.
Insurers and financial service providers

- Private-sector financial products and services could be invaluable for humanitarian financing, but they need to be channelled correctly to achieve the desired impact. It is important to recognise that adapting DRF instruments to the humanitarian sector is a long term process and will demand people-centred approaches.

- To set up sustainable DRF strategies, humanitarian actors must be well-informed and supported to become discerning clients, to understand how instruments and financial services can fit within the wider disaster risk management system.

- Issues in DRF systems such as basis risk, will have new implications in humanitarian action – model uncertainty and error will potentially translate into unmet risks and needs in a live crisis. It is important that financial service providers understand this different humanitarian context.

- Financial service providers and humanitarians need to innovate together, rethinking and redesigning instruments and funds to meet humanitarian ambitions to support, in the best possible way, people at risk of being affected by disasters.
Scientists and data modellers

- Scientists and data modellers have important operational roles to play in disaster risk management measures, working with humanitarian actors and governments in both DRF system design and operations.
- Support from climate, hazard and social data scientists is key to identifying the best forecast information and risk data to produce the strongest DRF models to serve humanitarian objectives.
- It is crucial to define what information practitioners need, when and, importantly, why. What is the action that can be enabled from the data at that time?
- It is very important to be clear and upfront about the limitations of forecasts and data skill and uncertainty, operationally it important to understand clearly and quantitatively how well the data can depict the risk (using data as a proxy). It is as important to understand what data and models cannot show us, as it is to know what they can.
- We need to develop better ways to communicate technical testing and results, and how they apply to operational situations, to non-scientists.

All actors need to:

- Ensure that disaster risk management is understood and programmed as a continuum. DRF is not different or separate from good disaster risk management; it provides a strong drive for robust data and delivery systems, and the ability to ensure predictability and speed with the resources available to deliver action.
- Focus on your objectives do not get hung up on the jargon. Inevitably, people will have different names for different elements of the disaster management cycle and crisis timeline. This is unlikely to harmonise any time soon! Try to get past this, and bring people into the discussion, by focusing on “what” you are doing, and the humanitarian impact you are aiming to have, not “the name of what” you are doing.
- Develop packages of work with which to approach donors that include: planning for action across actors when it’s needed; developing the science to trigger those actions and achieve impact; and the financing.
Disaster risk financing - redefining the design lens to meet humanitarian objectives

Traditionally, disaster risk financing (DRF) has been designed purely to release rapid, predictable financial liquidity to governments in the event of a disaster. This has been the key objective and design criteria of these systems, and in many cases the objective has been achieved well – the brief has been fulfilled.

In recent years however, understanding has emerged of the advantages DRF approaches might bring to humanitarian action – the potential for faster and more predictable funding, incentivising pre-planning and preparedness. However, for these humanitarian impacts to be achieved within different crisis timeframes, the design of DRF systems will need to be adjusted and looked at through a different lens. A more human-impact driven approach will need to be taken to risk financing, identifying those financial and operational needs from the ground up – and impact before instrument approach.

This short series of papers outlines why this new approach is needed; sets out the challenges of this new design lens for all humanitarian actors; and suggests ways in which change could potentially be implemented, building on the practical experience of the Start Network and IFRC which have already begun operationally engaging in this space.

Disaster Risk Financing is traditionally defined as an approach where financing arranged in advance of a crisis, triggered by data indicators, to support pre-planned, coordinated and speedy assistance to Governments so they can increase their financial response capacity in the aftermath of disasters and to reduce the economic and fiscal burden of disasters by transferring excess losses to the private capital and insurance markets.

Mahul, 2011

DRF systems can employ a range of instruments or financial services within the prepositioned financing pillar, which are often linked to government liquidity to provide financial support at times of crisis. The financial pillar is often the focus of these systems. The financial instruments can include budgetary mechanisms (contingency funds and reserves), insurance contracts, bonds and loan facilities.

DRF approaches are now being explored and developed by the humanitarian sector to enhance humanitarian action across windows within a crisis timeline (including early action, response and recovery – see Figure 1), with the aim of providing predictable, efficient and timely funding to reduce losses and respond to needs.

The right financing has the potential to enable much stronger and scaled preparedness, effective contingency planning, and efficient and coordinated implementation, and to incentivise the development of analytics to trigger that financing. DRF approaches have the potential to allow for the realisation of many of the commitments made under the Humanitarian Grand Bargain. However, to achieve this, much stronger humanitarian design criteria will be needed in the creation of these systems and applied to the quantification of humanitarian risk, the triggering, and the development of plans. The humanitarian lens will need to inform the overall requirements of the financing pillar – from the ground up, creating a line of sight from financing to people at risk or need. These technical design challenges have begun to be explored and are described in this series of papers.

Most existing DRF systems focus on monitoring risk or impact indicators to release financing within a post-impact response window. However, the potential exists when redesigning for humanitarian action, to extend the perspective back to the earlier stages of the crisis timeline, putting forecasted parametric triggers in place in early action windows. This would provide more predictable funding than is usually the case with traditional, risk-averse humanitarian funding. DRF instruments could enable the humanitarian system to act earlier, at scale, either before the shock has occurred to enable households to reduce risks, prepare and manage the consequences ("early action"), or very soon after the shock ("early" or "timely response") to limit disaster impacts and address humanitarian needs. Equally, recovery, reconstruction and rehabilitation financing can also be pre-positioned, ensuring sustained and reliable financing – from early action all the way through the crisis to a more resilient outcome.

Current innovative toolkits for disaster risk financing (e.g. World Bank, 2014) recommend “layered financing” approaches to address the financial costs of disasters – the use of separate but comple-

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2 D J Clarke and S Dercon (2016), Dull disasters? How planning ahead will make a difference Washington, DC: World Bank Group
mentary funding mechanisms to ensure timely, cost-effective financing is available at the appropriate scale for different types of events. An example of this is the use of insurance services for the most severe events to complement existing humanitarian and development funding channels, alongside budgetary mechanisms like contingency funds: that is, financing mechanisms are “layered”.

Many countries have struggled to implement a full layered approach, often leaving significant “holes” in the layers, for example, having a very small contingency budget and then a gap up to the point at which an insurance policy, bond or similar instrument comes into effect in the worst severity events. These “holes” are often the result of many factors, including the simple budgetary constraints of low-income countries. Smaller and more pervasive shocks (such as wildfires, heatwaves, and smaller scale localised flood events, etc.) also often go financially unaddressed, as result of these constraints. However, for DRF to work for humanitarian action, we need to look at how current humanitarian and development funding models could be better structured to create this layered approach to complement existing national efforts and to ensure the efficient use of humanitarian funds to meet increasing risks and needs. Both large-scale, and those ongoing medium and small-scale crises which take their continuing toll on development gains, will equally need financial solutions.
The current disaster risk financing space

**Sovereign DRF and risk pools**

DRF has arisen over the past decade with a number of national systems emerging and with regional risk pools being developed to enable developing countries to transfer catastrophic/disaster risk to international (re)insurance markets more cheaply than would otherwise be possible. Their goal is to ensure access to predictable and fast liquidity to governments in times of crisis. As stated, this fulfilled the design criteria applied. Individual national sovereign systems have also arisen in places such as Philippines and Mexico. These systems have been set up mainly to cover public assets and also act as a business continuity function within the treasury at times of disaster. Other specific exposure examples include national crop insurance mechanisms in India, national livelihood damage insurance in the Caribbean and a host of others.5

The current regional pools include the Caribbean Catastrophic Risk Insurance Facility (CCRIF), which covers Caribbean islands and countries of Central America; the Pacific Catastrophic Risk Assessment and Financing Initiative (PCRAFI), which covers several Pacific islands; and the African Risk Capacity (ARC), which covers countries across the African continent and has a more explicit humanitarian remit. In addition, several national facilities for disaster financing have been created that include risk-transfer programs; they include Mexico's National Natural Disaster Fund (FONDEN) and a recently launched parametric insurance pilot program in the Philippines.

Other pools and facilities are under development elsewhere, including in Southeast Asia Disaster Risk Insurance Facility (SEADRIF). After several years in existence, the insurance pools have delivered positive results in several respects. They have paid out over $180 million, usually in a matter of days, to governments at times of critical need. New mechanisms such as the Pandemic Emergency Financing Facility (PEF) and the Famine Action Mechanisms (FAM) are in development and looking to achieve a more explicit humanitarian impact.

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The early risk pools focussed on strengthening the financial resilience of a country. Disaster management objectives (i.e. directly strengthening response and recovery) were not a primary focus in their initial design, apart from recently, the African Risk Capacity (ARC). For example, ARC has an explicit mandate to strengthen disaster risk management (mandating contingency plans attached to contracts and pay-outs), and to reduce food security impacts on people at risk. Specifically, ARC Agency has a mandate to deliver services, including risk data and training, to African governments.

More can be done to strengthen the services provided by risk pools so that they deliver stronger risk management benefits, and so they support the creation of systems that are designed around the central objective of humanitarian impact. This will require a collaborative technical learning approach between the humanitarian sector and traditional DRF actors such as development banks, financial service providers.

**Humanitarian DRF**

Existing initiatives within the humanitarian sector that adopt the three same pillars as a DRF system include: the Red Cross Red Crescent Forecast-based Financing; the Start Fund anticipation window; DRF country pilots such as ARC replica; and work by World Food Programme and The Food and Agriculture Organization (FAO) of the UN.

While all include the three pillars, the processes, focus, effort, granularity and scale at which each is considered varies considerably. All are grappling to apply a DRF approach at scale but also to ensure humanitarian approaches and localisation are not lost.

Forecast-based Financing is in development in more than 22 countries and is focused on the early anticipatory window. FbF aims to support people who are likely to be impacted by a certain hazard, given existing vulnerabilities, by developing a trigger that informs when and where a disaster is likely to happen and who is likely to be affected. It releases automatic funding to implement pre-planned early actions in the anticipatory early action window. Although the approach started with a granular geographically local approach to planning and triggering (such as specific river basins), it is now focused on large-scale areas - entire at risk areas in a country. This poses challenges with regards to pillar one, given the complexities of developing triggers for large-scale areas, yet trying to understand changes in risk at all levels, which in turn places pressure on how action planning is developed to deliver at such large scale. While pillar three is relatively well-established to fund early action activation, in the case of the Disaster Relief Emergency Fund, there is still scope to develop more layered and nuanced funding strategies, and to fund the setup of such systems to achieve the ultimate goal of reaching the people most at risk in the window of time between a forecast and a shock.
The Start Fund operates in the first 45 days after a crisis for medium under-the-radar events and has mainstreamed in an operational anticipation window in the early action timeframe. While the anticipation window is not explicitly a DRF system, it has provided a funding pot to allow humanitarian actors to develop at-the-time risk data and plans to act early, ahead of the crisis. In this way, it essentially provides a small instrument under pillar three, which is used to incentivise humanitarians to develop pillars one and two. Since 2016, it has been activated over 140 times, generating significant operational learning. However, these funds are not predictable and still require a discretionary human decision-making system, and are still focused on the under the radar events. This has meant that investment in pillar one and two has been limited at a national level.

The WFP FbF programme focuses on working closely with governments to strengthen their anticipatory early action capacity, building on the work of the Food Secure programme which included both a community-based component and work with risk pools such as ARC within the early action window. The programme operates in more than seven countries, with a focus on pillar one and two, while pillar three focuses mostly on incentivising governments to set up the financial mechanisms to trigger early action. Much work has also been undertaken by FAO through their Early Warning Early Action programme, running a number of country pilots and also, at a global level, producing the Global Information and Early Warning System on Food and Agriculture (GIEWS), the Food Chain Crisis and Emergency Prevention System (FCC-EMPRES), and the Integrated Food Security Phase Classification (IPC).
The work on DRF within The Red Cross Red Crescent and WFP's FbF approach, Start Fund anticipation window, and FAO’s Early Warning and Early Action has evolved in response to the acknowledgement that decision-making based on science and risk analytics offers an opportunity to act early, ahead of a disaster, therefore enhancing humanitarian action. This has led to the development of strategies that fit under the umbrella of the DRF concept. Although the humanitarian sector’s early action anticipation agenda is creating a new space that did not exist before, there is still a need to apply the principles of pre-planning, predictable triggers and predictable/fast financing to the other windows of humanitarian action (response, recovery, reconstruction and rehabilitation) in a system-wide rethink. A DRF approach across all crisis windows of action is possible (and likely needed) to create a better managed and coordinated system. However, working alongside these more riskstructured funds, there will also always be the need for more flexible, unstructured, at-the-time funds to cover uncertainty, error, the unexpected, un-modelled and unquantified.

The Start Network’s Disaster Risk Financing programme has also been developing pilots over the past two years, but has a wider focus on providing a DRF system that covers all (or prioritised) windows - early action, response and recovery. This has included initial trial work on drought, the scale of which has been outside the remit of Start Fund. The work involved the uptake of an ARC replica policy in Senegal in partnership with the government. This has been triggered in 2019, releasing $10 million to Start NGO members for early action for drought-induced food crisis, the largest ever early action payment to humanitarian NGOs. However, the design criteria within the existing pools have not been overly orientated to a humanitarian approach; this has caused important challenges but also sparked much of the thinking and innovation in this paper.

The programme also included national system development and prototyping in Pakistan, Zimbabwe and Madagascar, as well as piloting a new trigger-based fund. These more explicitly DRF pilot systems look at much wider coverage both geographically as well as across event scenarios and funding volumes. The aim is also for all of these systems to link to a broader set of funding instruments within a Start Financing Facility being developed.

All these anticipatory approaches have created the catalyst and opportunity for reflection on the future of DRF in the humanitarian system. Bringing these approaches under the umbrella of DRF provides a vision of predictable and speedy financing leading to more effective disaster risk management planning.

In order to scale these DRF tools globally, creating a truly successful “Humanitarian DRF” that reaches the people most at risk in the most efficient way, we need a new design lens that will enable us to create disaster risk financing systems that work at scale, across all windows of opportunity and incorporate:

- financial preparedness, predictability, fit for purpose, layered structuring and efficiency
- planning and data robust enough to allow for high levels of financial pre-positioning, but with the flexibility to adjust to the unexpected, and to richer and more diverse humanitarian data
- transparency, participation and accountability to people at risk
- good disaster management governance and coordination
- a clear set of success factors from the top to the very bottom of a DRF system for humanitarian impact.
Creating a new design criteria for humanitarian DRF

This series of papers explores exactly this. It aims to start the conversation and stimulate innovative ideas, tackling questions such as: what can be done to merge these approaches and maximise the strength and rigour of many of the DRF systems developed but also establish a localised humanitarian approach. The question is how do we develop these systems at scale and take full advantage of various financial instruments?

The series looks at how we bring the various focuses together to create a set of hybrid design criteria that fulfils humanitarian principles and ambitions whilst also addressing messy realities and uncertainty, and that builds on the “pillar one and two strengths” of the humanitarian approaches taken by Start, WFP, FAO and IFRC, whilst along drawing on the “pillar three strengths” of traditional DRF systems. The aim is to develop systems that are coordinated between multiple actors, and have the technical and financial capabilities to scale nationally, globally and across all windows within a disaster management timeline.

The figure below talks to this merging of strengths and ideas:

Figure 2 Developing new hybrid design criteria

<table>
<thead>
<tr>
<th>TRADITIONAL SOVEREIGN DRF</th>
<th>PILLAR</th>
<th>HUMANITARIAN APPROACH</th>
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<tbody>
<tr>
<td>Robust, science-based geographically wide, allowing for high levels of funding to be disbursed/channelled. Typically, single triggers and focused more on outputs (finance) rather than impact.</td>
<td>01 RISK DATA &amp; TRIGGERING</td>
<td>Human impact-centred; risk to the most vulnerable; needs to reflect complexity; transparency and accountability open data in decisionmaking. Climate science for decision-making. Mixing hard and soft data. Difficult to scale.</td>
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<td>The majority are not directly linked to contingency plans or systems, and have limited systems in place for accountability to citizens.</td>
<td>02 CONTINGENCY/ DISASTER/EA PLANNING</td>
<td>Risk-oriented planning; localised planning and implementation, targeting based on exposure and vulnerability, inclusivity and gender; communication and accountability to people at risk, opportunities for participation. Linking risk and impact data to plans.</td>
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<tr>
<td>Efficiency and diversity in financial structuring, prepositioning within a range of instruments for different requirements with volumes, speed, efficiency and flexibility. Financial risk management.</td>
<td>03 PRE-POSITIONED FINANCING</td>
<td>Identifying what money is needed from experience, and when, to meet risks and needs. Large international funding streams but lacks proper structuring and pre-positioning to be most effective. Defined funding needed along the DRM cycle; funding in itself not necessary useful if there is no capacity to implement it effectively.</td>
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DRF is sometimes seen as a solution to humanitarian financing gaps, but in many cases it may not add new financial flows but instead improve the efficiency and deployment of existing ones. Arguably, to date, there has also often been an overly strong focus on insurance when this instrument is relevant in some contexts, and for certain windows of opportunity, but not necessarily in all the cases. The next sections outline the current limitations of, and opportunities for, DRF and set out recommendations on the way forward to ensure that DRF strategies have humanitarian impact as their starting point, and focus on this ahead of financial instruments.

Essentially the challenge is what are the nuts and bolts of making this “technical concert” happen?
The problem of starting with the instruments

In many traditional DRF systems, the design begins with the monetary identification of the need for an instrument within the risk profile to government budgetary systems and consideration of how finance will flow. To begin to use these instruments for humanitarian response within different crisis windows, the starting point must be the risks and impacts the money is looking to address at the human level, as well as the capacity of the disaster management and response channels, and the linking to operational disaster response plans and policy.

Arguably some of the early discussions on the use of DRF by and for humanitarian actors did not completely recognise this need to shift the design criteria. Much of the focus was on trying to use innovative finance to close a humanitarian financing gap, rather than on how to use this toolkit effectively to strengthen humanitarian action. Further, without fully understanding the human risks that needed to be financed, it becomes very difficult to design appropriate analytics to trigger pay-outs and inform which action to take, and at what time.

Collectively as a community of practice, we need to identify design processes that begin at the bottom and with the impact on people: defining what people at risk need, at different points in the disaster management cycle; identifying what resources and enablers can make that happen; designing and costing the actions by humanitarian agencies (local, national and international) in a coordinated way to support that; drawing on that data to design the analytics to identify those risks and needs through a suit of hard and soft indicators. This then presents a humanitarian financing package from which the appropriate instruments can be identified, aligned and put in place.

**KEY QUESTIONS**

01 What people’s risk will be reduced, or what type of disaster event/severity will be managed?
02 What are the specific humanitarian risks, impacts and needs that will be targeted in each window of opportunity for different disasters, and by whom?
03 What is the funding-absorption capacity of organisations and local markets? And what capacity-building investment is needed to ensure large DRF funding is adequately used?
04 What actions will different actors take to address those humanitarian risks, impacts & need?
05 What would it cost for different agencies to mount those responses, for different severity events? (How much cash would be needed, how often?)
06 What data and forecasts are available to trigger different windows of action?
Challenges and enablers of an impact before instruments approach

This new design lens and design process are both challenging and exciting. Enablers, such as a better coordinated national overview of a number of elements, would be very helpful including:

- Co-development of scenarios considering what different people at risk require when, and why, in different windows in a crisis timeline, and the potential impacts of acting or not. We need to innovate around participatory, localised and quantitative approaches to do this effectively; we also need to explore how it can work at scale.

- All humanitarian and development actors looking holistically across windows (including preparedness and early action), at a risk management strategy assessing where different actors’ strengths lie and identifying the gaps.

- Improving humanitarian financing tracking. Currently, there is no strategic overview of how the different financial flows interact in disaster risk management, including multilateral and bilateral funding, development funding lines and crisis financing within that, traditional humanitarian pooled funding (DREF, CERF, Start Fund), and informal flows such as remittances and local and on budget funds. Once properly mapped, gaps in funding and humanitarian risks and need, and the impact of those gaps on the whole system, can be more starkly evidenced. This can encourage new instruments to be identified; it may also potentially lead to the redeployment of existing instruments and funds to cover gaps more efficiently.

- Improving the overview in the data and analytics sphere. Models, impact-based forecasting, datasets, assessments and research often remain isolated, without a clear route to operational use, or a means for the operational perspective to be communicated to the science and data community and research funding bodies in a coordinated and meaningful way.

- Jointly invest in a stronger set of technical partnerships, tools and inter-agency coordination to achieve a stronger impact before instruments approach that is fit for purpose for humanitarian objectives.

- A funding and political environment that allows – and expects – learning and innovation to be critical enablers; an environment in which agencies can make mistakes, remain accountable and learn and improve. The excitement and political momentum around this work is growing; collectively we must carve out and hold the space to learn and develop these approaches and embrace failure and learning.
DRF could be a game changer, or certainly a contributor to significant change in the humanitarian system. To respond to the ambitions of the Grand Bargain as well as those of the Sendai framework, and to create the right incentives for multi-stakeholder strategies to support people at risk, DRF needs to become more strategic, multi-stakeholder and scaled and, across the board, it needs to adopt an impact before instruments approach. This series of short papers outlines the types of considerations and innovations that need to be taken in systems seeking to utilise DRF for humanitarian impact purposes.

**People-centred and transparent risk analytics**
This paper considers how we put in place accountable and transparent data systems that reflect who is most at risk; support rigorous decision-making; manage uncertainty and basis risk as standard practice and work across the spectrum, from hazard (geo/climate/non-climate) to vulnerability and exposure, and manage those unquantifiable risk indicators.

**Early action planning, contingency planning and coordination**
Early Action and contingency planning can be based on an analysis of the measures needed to deliver support at the right time to people at risk or in need. This includes of opportunity and timeframes. This paper considers how planning can be undertaken in a coordinated way, across government and humanitarian actors, and used to cost the financial requirements, gaps and analytics needed to initiate implementation.

**Accountability, transparency and participation**
Clear opportunities for accountability and participation are present in a pre-planned and positioned system, where ahead of time communities and people at risk can review the system, question it and hold it to account to deliver what it promised. Community organisations can also become active implementers and stakeholders in such systems and be included in the pre-planning. However, the risk remains that without this approach, the DRF system will further disempower people at risk.

**Preparedness resources**
For action to happen effectively within a crisis timeline (after finance is triggered by data), resources and the capacity to implement contingency plans need to be ready to go. Essentially, a DRF system without strong institutional preparedness, is like hiring a delivery van and filling it with petrol, but not knowing how to drive or where to go, and having nothing loaded into the van to deliver! It must be integral to humanitarian DRF.

**Matrix of instruments and funds**
For DRF systems to be efficient and to ensure that all levels of risks and disaster severity are covered by financing, different instruments and funds need to be coordinated and aligned, with clear financial responsibility. One instrument or fund cannot cover all risks and of all severities across all windows. This means new instruments could potentially come into play but, at the same time, existing humanitarian funding lines could become much more strategic and directional in terms of their intended impact.
How do we shift to a more focused humanitarian design criteria?

Structural recommendations

01 Identify the human-centred impact statement (risks and needs to be addressed) and theory of change as a first step in the design of any DRF system. This involves assessing how different crises are likely to develop; who will be most affected, why and where; and the nature of the risks and impacts that exposed communities may be subject too. A strategy to address this within the different disaster risk management continuum windows can then be developed or gaps in windows, actions and severity events within existing strategies identified. It also involves calculating the funds required to support – when and for what objective – to pre-position the right financing and select the appropriate instrument. The system’s success can then be assessed, at a later point, against the impact statement and theory of change.

02 Create contingency plans based on risks and likely needs using quantitative and qualitative but transparent impact analysis on elements and people at risk to evidence and inform realistic and accountable actions to be implemented in the different disaster management windows.

03 Base the system’s financial and operational requirements on a quantitative assessment of the crisis impact and the likely costs to address it across different windows. It is important to consider the need for multiple, aligned, instruments and funding streams covering actions to address needs and manage risks in different windows and for different type of events (hazards, severity, scale).

04 Evaluate your data for its availability, accessibility, skill-requirement, quality, granularity, completeness, cost and transparency, drawing on innovative approaches developed in programmes such as Science for Humanitarian Emergencies and Resilience (SHEAR), Humanitarian Data Exchange (HDX) and others.

05 Undertake transparent analysis of the trade-off between optimal triggering data and optimal management of risk. Often the quality of the available trigger data (uncertainty) will lead to compromise over possible measures that could be implemented in the different windows of action. Investment in the data analysis (including forecast, historical data, real-time data, etc) will enhance the predictability of the analytics, therefore making decision-making for early action and response more effective.

06 Design the triggering analytics so they inform planning and implementation processes across all windows. For example, if your data analytics only support decision-making at a higher spatial admin level but your action planning is set at a lower spatial admin level, the implementation triggered by the analytics will inevitably not be fit for purpose.
07 Create decision-making systems that reflect uncertainty in modelling and data. Ensure the model used to release financing and trigger action is systematically evaluated. This allows for real-time assessment of basis risk (model error and uncertainty) and for adjustments to be made to the system to ensure unforeseen or unmodeled risks or needs are met.

08 Invest in improvements to your data management system, including hard science and locally-sourced historical and real-time data. Finding new ways to utilise diverse sources (accepted that they will vary in their robustness) will enhance financial and implementation decision-making.

09 Integrate participatory approaches with local at-risk communities and local CSOs in all aspects of the system – from the analytics used to depict communities' risks to the action plans designed to meet their likely needs – building on community-based, long-term programming and DRR efforts, such as OpenStreetMap. Feedback and complaints mechanisms should also be built in, and all evaluations of these systems should be publicly available.

10 Accountability and transparency of the models used to trigger measures in the widows of action are essential. The models need to be set up in such a way that the decision to trigger is not compromised by political and personal interest. The use of independent third party veritable data allows for this objective discussion making, and also the attachment of financial contracts to prepositioned financing.

11 Explore and select the correct suite of financing instruments to respond to the different windows of action, the varying risk levels, severity of events, geographical scales, action costs, uncertainty, data quality and implementation capacity.

12 Use a layering/matrix approach to ensure seamless application of DRF instruments. A clear financing and operational implementation strategy across mild, moderate and severe events is needed – within each window of action.

13 Develop transparent multi-stakeholder governance, decision-making and operational processes. These should include safeguards against corruption and mismanagement and good practice standards to ensure accountability to communities, governments and donors. Learning loops as part of the operational system should be developed to ensure systems that can be continually learning and calibrating to changing risks. The system is never finished: it must continually evolve.

### System capacity recommendations

14 The DRR and preparedness window of the disaster risk management continuum needs to be considered an integral part of DRF financing. While not triggered on a risk or need threshold like other crisis timeline windows, it must be part of a DRF financing strategy, even if the funding streams attached are different to crisis timeline windows. Investment in this window is critical to effective implementation in subsequent windows, and to growing the capacity to develop a DRF strategy.

15 Invest in training. DRF systems rely on a wide range of technical expertise, from science, financing and economics to operational disaster risk management and social science. These skilled groups
need to understand each other’s worlds; how they interact in a DRF system and the
interdependencies involved. Better understanding of the implications, set-up and roll-out of DRF
systems in the humanitarian system is essential. Training and knowledge exchange are pivotal.
This will only come with training and capacity building. We need to invest in training civil society on
the use of science and financing in DRF systems, just as we need to invest in developing scientists’
and economists’ understanding of the realities of mounting action on the ground.

16 Take an integrated approach. These systems must not be designed to entrench silos, for example
with financing, data analysis and implementation performed separately. All of the system’s
components should be co-designed so that each element works from every perspective.

17 Develop a culture of learning and continuous improvement. The leadership and all those involved
in the system need to be open to failing, but “failing forward” with the political space to allow for
reflection and improvement. Expect things to go wrong but learn from them, make improvements and
be accountable in how design decisions are taken, with a clear articulation of known limitations.

18 Shift mindsets towards a holistic management of risk across all DRM windows. In addition to
“availability”, it is important for funding instruments to interact with each other across windows,
potentially using the same continuum of analytics. Ensure leadership are signed up to, and driving,
investment in a more holistic risk management system. In the humanitarian system this may mean
improved coordination and structuring between development, DRR/CCA and humanitarian
personnel and strategies. Similarly, within government and other multi-delivery organisations.

19 Encourage collaboration and coordination. Building on existing coordination mechanisms, it is
crucial to use those existing national-level spaces to coordinate and possibly harmonize DRF
activities between actors. What this collaboration looks like is likely to be different in each country.

20 Create globally recognised good practice standards in DRF. We also need global agreement on good
practice standards that all DRF systems with humanitarian ambitions can work towards within all
area of these systems. This can be used, not only to identify gaps and opportunities of improvement
in existing systems, but to drive the design and build of systems that are fit for purpose to support
predictable and effective humanitarian action across different windows of action.
01 Thinking Impact Before Instruments in Humanitarian Disaster Risk Financing
- 02 People-centred and Transparent Risk Analytics
- 03 Early Action Planning, Contingency Planning and Coordination
- 04 Accountability, Transparency and Participation
- 05 Preparedness Resources
- 06 Matrix of Instruments and Funds

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