

FINANCING DISASTER RISK REDUCTION:

Towards a coherent
and comprehensive
approach

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Key messages

- National financing is essential for the reduction of disaster risk, and the likely future global framework must make this a priority area for support.
- Research shows that countries have highly variable models and patterns of financing, even across similar risk profiles.
- Of the five countries studied for this report, Indonesia and the Philippines have the most coherent and coordinated financing, with both stand-alone and sector-integrated funding for disaster risk reduction (DRR). They are also the poorest, relatively, of the five, suggesting that national financing of DRR is not about the availability of funding but rather about the priority attached to the need to fund.
- Weaknesses remain even in countries that have made progress. Local-level financing, transparency and accountability, and integration of non-government finance all need significant improvement.
- There is a paucity of research on national financing of DRR, especially in low-income, high-risk countries, where other risks such as conflict (or post-conflict situations) may exist. This needs to be addressed.
- Recommendations in this report focus on national governments setting and meeting financial commitments to DRR, non-government actors focusing on comparative advantage and support of government priorities, and the need for the likely successor framework to the HFA to focus attention on providing clear guidance and practical tools to government.

Executive summary

Although receiving less attention than some of the perceived weaknesses of the existing Hyogo Framework for Action (HFA) – such as the tendency of its five priorities of action to ‘silo’ activities, its lack of attention to the challenge of doing DRR in complex contexts and its focus on process rather than outcomes – national financing has arguably seen at best highly variable progress over the past 10 years, with the weakness of its articulation and commitments within the original framework likely to be one, but not the only, contributing factor. The World Conference on Disaster Risk Reduction therefore presents the international community, through the likely creation of a new framework for DRR, with an opportunity to make progress on financing.

Progress has been made, however, and in some countries it has been considerable. The five countries examined in this report all have positive aspects regarding coordinated and coherent national financing of DRR, and have made policy commitments to finance specific DRR interventions and have created national institutions to manage the implementation of allocated finances. In some cases, they have financed DRR not only as a stand-alone activity but also as one that is integrated into development planning, which is increasingly seen as the key objective. Indonesia and the Philippines are the most successful (followed closely by Costa Rica), having well-articulated DRR legislation and both stand-alone financing and development financing through sectors. They are also the poorest countries of the five examined, at least when measured by gross domestic product (GDP) per capita, which leads to the conclusion that national financing of DRR is not about the availability of funding but rather about the priority attached to the need to fund. South Africa and Mexico, meanwhile, perform poorly in terms of coordination and coherence, but for quite different reasons: the former largely due to the predominance of risk financing above all else, and the latter because of more considerable weaknesses, including the low priority given to disaster risk.

What is important and obvious from the research is that issues remain, regardless of progress made by individual countries. The lack of local-level financing is a weakness shared across all five countries, including those that have made progress in other areas. There are questions about the adequacy of financing in general, and transparency and accountability are much in need of improvement. In most of the countries, the engagement of non-government actors and their financing (including that of the international community) is not clear, showing that more needs to be done to integrate (and leverage) different sources of investment in DRR.

However, given all this, it is not possible from an examination of the available country-level literature (even when using supporting ‘global’ sources) to establish how truly effective each country is in reducing its disaster risk, and how financing contributes to that effectiveness. Essentially, we are comparing across countries rather than measuring the success of each. More work is needed to unpick how the financing of DRR works, and how it can be transplanted from one place to another. Much needs to be done to understand how different kinds of risk reduction activities, with quite different costs, could benefit different contexts. From coherence and coordination, we must move towards effectiveness.

We cannot say that the HFA has failed to deliver on effective and coherent financing of DRR in these countries. Neither can we say that the relatively weak articulation of financing needs within the HFA has actually led to weak financing, just as it cannot be said that all successes during the period that the HFA has been in operation are down to the HFA itself. Clearly countries were failing and/or succeeding in risk reduction efforts long before the HFA was formulated. Each country examined in this report, for example, has a long history of usually increasing sophistication in dealing with issues of disaster risk, moving in different ways from a focus on disaster management to disaster risk management (DRM) and then to DRR.

Some of the recommendations in this report are directed towards different actors – national governments, the international community, the research community – while others are directed towards the likely successor to the HFA. There is an essential inter-relationship and synergy between these two sets of recommendations, with the successor to the HFA (and the institutions around it) also in some ways being responsible for enabling these various actors to achieve the reduction of disaster risk. However, the responsibility is shared amongst many stakeholders, and the evidence to date on financing suggests that there have to be many different routes towards the adequate financing of DRR. The main recommendations are as follows.

For national governments:

- Establish legal mandates for sustainable DRR resources.
- Clarify and simplify DRR legislation.
- Focus on local financing.
- Involve national non-government actors to a greater extent.

For the international community:

- Finance only as part of a robust national system of risk management.
- Prioritise more financing to high-risk, low-capacity countries.
- Focus on the comparative advantage of the international system.
- Integrate risk into internal systems.
- Close the divide between DRR and climate change adaptation (CCA).

Academic and research community:

- Significantly improve the quality and scope of research and data availability in national financing of DRR.
- Map DRR financing approaches, focusing on what has proved successful or not.
- Map countries' financing needs in detail.
- Help build practical tools that can be replicated across contexts.

The successor to the HFA:

- Set targets for financing (including accountability and transparency).
- Refocus the HFA Monitor and make it more robust.
- Invest substantially in tracking DRR financing.
- Learn lessons and build and disseminate models and tools that can be replicated.

If there is one general principle that underpins the recommendations, it is that making and respecting financial commitments to risk reduction is essential to make progress. No quantity of good legislation or strong DRR frameworks, even those that make risk reduction an issue sector by sector, will make a difference if insufficient financing is allocated to undertake the necessary measures. However, the lack of DRR financing itself, and even the lack of coordination or coherence of that financing, may not be an issue of availability but rather one of prioritisation, an issue that remains to be addressed in many countries with high risk of disaster. Future developments must be considered in light of this complexity.

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Background

The state of national financing of disaster risk reduction

Pointing out the importance of dedicated financing for the reduction of disaster risk may appear rather redundant, or at least self-evident. Without committing funding, national governments will not be able to reduce risk. However, it has become increasingly evident that national governments are struggling to invest in DRR for many, inter-related reasons, a few of which are indicated here:

- The complexity of financing DRR in public expenditure: ‘Structural features of public expenditure management and of state governance make it difficult for cross cutting issues like DRR to be effectively financed, despite the apparent fiscal savings from doing so’ (Jackson, 2011: 7)
- The inadequacy of available funds in general: ‘Countries persistently identify the lack of resources over the long-term as a major impediment to effectively reduce disaster risk in public investment’ (Gordon, 2013: 5);
- An inadequacy of funds to implement policies developed: ‘Even countries with strong DRR mechanisms and political commitment towards integrated DRR/CCA lack financial support’ (Mitchell et al., 2010);
- A stubborn adherence to post-crisis reflection on risk: ‘Disaster risk reduction (DRR) and climate change adaptation are like “airbags” or “cushions” that inflate (often too late) when there is a crisis but under other circumstances receive very little attention or finance’ (Lavell and Maskrey, 2013).

The sense of these and other studies, including both direct and indirect examinations of DRR financing, is that the volume of finance is not the only issue (although of course it remains an important one) in what appears to be at best a mixed picture of success in reducing disaster risk. Considerable importance is also placed on the policies that underpin financing, the channels through which funding flows and the activities that are being financed.

Financing and the Hyogo Framework for Action

Failures to adequately resource the reduction of disaster risk were highlighted as early as the 2009 Global Assessment Report on Disaster Risk Reduction (GAR) (UNISDR, 2009: 123) and repeated in the 2011 report (UNISDR, 2011: 82). The mid-term review of the Hyogo Framework for Action (UNISDR, 2011) took this further, making it clear that financing was an issue across each of the HFA’s five priority actions:

- 1 Ensure that disaster risk reduction is a national and local priority with a strong institutional basis for implementation: While progress in developing policy was evident in 2011, the actual financing for the implementation of policy was not. This was particularly evident at a local level, where only 20 countries reported dedicated budget allocations to local governments for DRR, even though the majority of countries (65%) reported that it was a legal obligation for local governments to enact DRR measures.
- 2 Identify, assess and monitor disaster risks and enhance early warning: A lack of progress was reported by a number of countries, and attributed to the lack of ‘technical, financial and human resources’.
- 3 Use knowledge, innovation and education to build a culture of safety and resilience at all levels: A lack of funding was reported for the key area of DRR education in school curricula.
- 4 Reduce the underlying risk factors: References to a lack of financing were both explicit and implicit throughout the review. Recurring issues included lack of financing at a local level and the need for financing systems to explicitly include DRR, without which disaster risk would not be integrated into local planning and resourcing (UNISDR, 2011: 48).
- 5 Strengthen disaster preparedness for effective response at all levels: Despite this being the HFA priority area in which most success was found, the review still remarked that ‘financial allocations, especially at the local level, for managing response remain uneven across countries’ (UNISDR, 2011: 30).

Some of the failures to make DRR financing a national priority are found in national platforms for DRR, which often consist of self-selected key stakeholders and often lack representatives from the financial, economic and development sectors (UNISDR, 2011: 59). Yet most responsibility for failure to deliver DRR is due to structural limitations within national governance, especially the heavy centralisation of DRR processes, actors and finances. Decentralisation of financing, it is argued, would not only transfer responsibility to where it is most needed, but would help build a network of local stakeholders who would help harmonise funding to 'risk reduction, poverty alleviation, development and CCA' (UNISDR, 2011: 47-48).

However, the key failing is probably the HFA itself and its relative lack of explicit reference to financing throughout. The HFA does not include finance issues as one of its expected outcomes, or amongst its strategic goals or priorities for action.¹ Nor is financing included as one of the cross-cutting issues of the framework. It perhaps seems intuitive that finance should be considered to be one of the instruments to achieve the framework's stated goals and priorities, raising questions as to why it was not included as a cross-cutting issue within each of the priority areas as an essential condition for dealing with disasters. Can it merely be implied that financing has appropriate attention within the HFA simply because all the activities articulated as necessary across the five pillars require funding? The evidence suggests not.

In any case, the failing of the HFA to adequately integrate financing as an obligation for national governments may go deeper than that. In their reflection on the future of disaster risk management (DRM), Lavell and Maskrey (2013) suggest that disaster losses and impacts could rise even if the HFA was fully implemented, in large part because of the structure of the HFA itself. Priority Action 4, the reduction of underlying risk, they say, 'is the area which has achieved least traction and is probably the least understood as regards its policy, institutional and financial implications. This implies that while the HFA did create a space for anticipatory or prospective disaster risk management, this is the space into which most nations have yet to tread' (Lavell and Maskrey, 2013: 3). Later, it is argued that a failure to make this area central to the HFA is what needs to be addressed in the future: 'an HFA2 can be turned inside-out so that Priority Action 4 becomes the overarching goal and objective, then it may become an instrument for a much

needed paradigm shift' (Ibid.: 20). The main questions, from a financial perspective, are how the structure of the HFA has limited, firstly, commitments to financing and, secondly, the effectiveness of that financing, and then looking to the future, how financing would fit into a future HFA that focused on an structure created around Priority Action 4.²

The key failing is probably the HFA itself and its relative lack of explicit reference to financing throughout.

The importance of the moment: the 2015 policy agenda

The particular importance of financing for DRR now is related to the bigger consideration of how risk in general will be (or rather should be) reflected in the future development agenda. We are likely to see an enhanced role for financing within the successor framework to the HFA, and work is under way to consider how that may function and what (if any) commitments governments may be asked to sign up to meeting (UNISDR, 2011). However, disaster risk was largely absent from the Millennium Development Goals (MDGs) and there has been considerable effort from a range of actors and decision-makers, and through a range of processes, to ensure that this is not the case in the future.³

The Rio+20 UN Conference on Sustainable Development was perhaps the most important policy forum to make DRR a priority issue to be addressed and, within that, to make financing an essential element:

'We call for disaster risk reduction and building of resilience to disasters to be addressed with a renewed sense of urgency in the context of sustainable development and poverty eradication, and, as appropriate, to be integrated into policies, plans, programmes, and budgets at all levels and considered within relevant future frameworks. We invite governments at all levels as well as relevant subregional, regional and international organizations to commit to adequate, timely and predictable resources

for disaster risk reduction in order to enhance resilience of cities and communities to disasters, according to their own circumstances and capacities' (United Nations, 2012: 33).

Although the wording 'we invite governments ... to commit to adequate, timely and predictable resources' is weak, the declaration does at least signal that disaster risk cannot be reduced without adequate investment. Similar statements have been made by the Busan Partnership for Effective Development Co-operation, the World Bank Development Committee, the Intergovernmental Panel on Climate Change (IPCC), the G20 and the Secretary-General of the United Nations as part of his report into the implementation of the United Nations International Strategy for Disaster Reduction (UNISDR).⁴ This is obviously a unique opportunity, with unparalleled support for financial commitments to make good on development policy.

We are likely to see an enhanced role for financing within the successor framework to the HFA, and work is under way to consider how that may function.

National financing of disaster risk reduction: the research concept

This paper attempts to answer what appears to be on the surface a simple question: what evidence is there for coherent and comprehensive national government financing of disaster risk reduction?

To frame this discussion, the authors have considered firstly the importance of the moment for the financing of DRR (the introduction) before moving on to a consideration of the range of ways in which DRR is articulated and financed, a consideration of the financial capacity of different countries, a review of the HFA Monitor and its usefulness for tracking DRR financing and processes and finally an analysis of the range of research material available.

Models of financing DRR

The discussion about the role of financing for the reduction of disaster risk within both past and future global frameworks leads us to first to consider exactly how the financing of DRR actually functions. Increasingly, the importance of embedding or integrating DRR into national development plans and priorities is seen as the way forward. However, although referenced in the HFA, financing was just one activity under Priority Action 1 (DRR as a national/local priority): ‘integrate risk reduction, as appropriate, into development policies and planning at all levels of government’ (UNISDR, 2005). To an extent, similar wording appears in Priority Action 4 in the activities around integrating risk into ‘social and economic development’.

Channels of delivery

Such ‘activities’, if implemented, obviously carry a financial element. If DRR is integrated or embedded into development planning and policy through, for example, the close articulation of risk within key sectors such as health, infrastructure, urban development and water resources, then there will be a budgetary component. The challenge for researchers into the effectiveness of DRR financing is not only that the issue is complex but also that it is somewhat perverse: the better the work of integrating DRR into development, the less it can be seen in action and the less it can be tracked or measured – partly because, with increasing integration, attribution becomes more and more difficult. There may be no line item to actually track for

volumes of DRR financing; countries where such financing is well established may make little reference to risk at all, but rather equate such an approach to development financing simply as good governance.⁵

That said, there will remain in high-risk countries a need for stand-alone DRR funding and for institutions that are responsible for ensuring that risk always has due attention. There is also a need to ensure that structures and processes are in place not only to reduce risk but also to transfer risk (using financial instruments) and prepare for risk that cannot be managed away. This demands, as the mid-term review rightly advises, that there be ‘senior over-arching authority at government level where responsibility, and with it accountability, can rest for setting policies, driving processes, and ensuring budget allocations for all the different aspects of disaster risk reduction’ (UNISDR, 2011).

Figure 1 highlights the different ways in which DRR is financed, and what activities are likely to be covered by these main channels:

- **DRR as part of a DRM budget:** DRR is often financed as part of a larger DRM budget that includes preparedness, response and sometimes recovery. This can also be replicated at a local level. This usually requires management by a single governance structure, such as a national disaster management agency;
- **DRR as a budget line or special fund:**⁶ financing the targeting of DRR needs as a first priority;
- **DRR integrated into development planning and management:** the ‘heavy lifting’ of risk reduction, where risk is integrated into sector plans and management.

The financing of DRR is in all cases an evolution in each country context, and is based very specifically on the state of development of the system of law and governance.

FIGURE 1: APPROACHES TO FINANCING DRR, AND THE LIKELY ACTIVITIES FINANCED

DRR as part of a DRM budget	DRR as budget line or special fund	DRR integrated into development planning and management
Early warning systems	National disaster management agency	Land use planning and management
Climate and risk monitoring	Early warning systems	Transport infrastructure
Evacuation facilities	Climate and risk monitoring	Water resource planning and infrastructure
National disaster management agency	National risk reduction frameworks and plans	Retrofitting schools and hospitals
National risk reduction frameworks and plans	Probabilistic risk assessments	Risk-targeted social protection
Risk and vulnerability assessments	Targeted risk reduction infrastructure, e.g. dykes, tsunami defences	Targeted risk reduction infrastructure, e.g. dykes, tsunami defences
Disaster response		Environmental protection
Stockpiling		Biodiversity
Catastrophic risk insurance		
Micro-insurance		

- Risk reduction activities
- Risk-related activities, but not specifically targeted to reduction

NOTE: THIS DOES NOT RESPOND TO SCALE, BUT A SIMILAR BREAKDOWN OF FINANCING APPROACHES AND ACTIVITIES COULD BE IMAGINED AT A LOCAL LEVEL.

Figure 1 is deliberately illustrative. In reality, the financing of DRR is in all cases an evolution in each country context, and is based very specifically on the state of development of the system of law and governance. Decentralisation, risk-consciousness, federal systems of governance and economic systems could all affect the ways in which governments finance the reduction of disaster risk. Unsurprisingly then, countries may also have a mixed model, with different DRR activities undertaken by two or even all three of these channels.

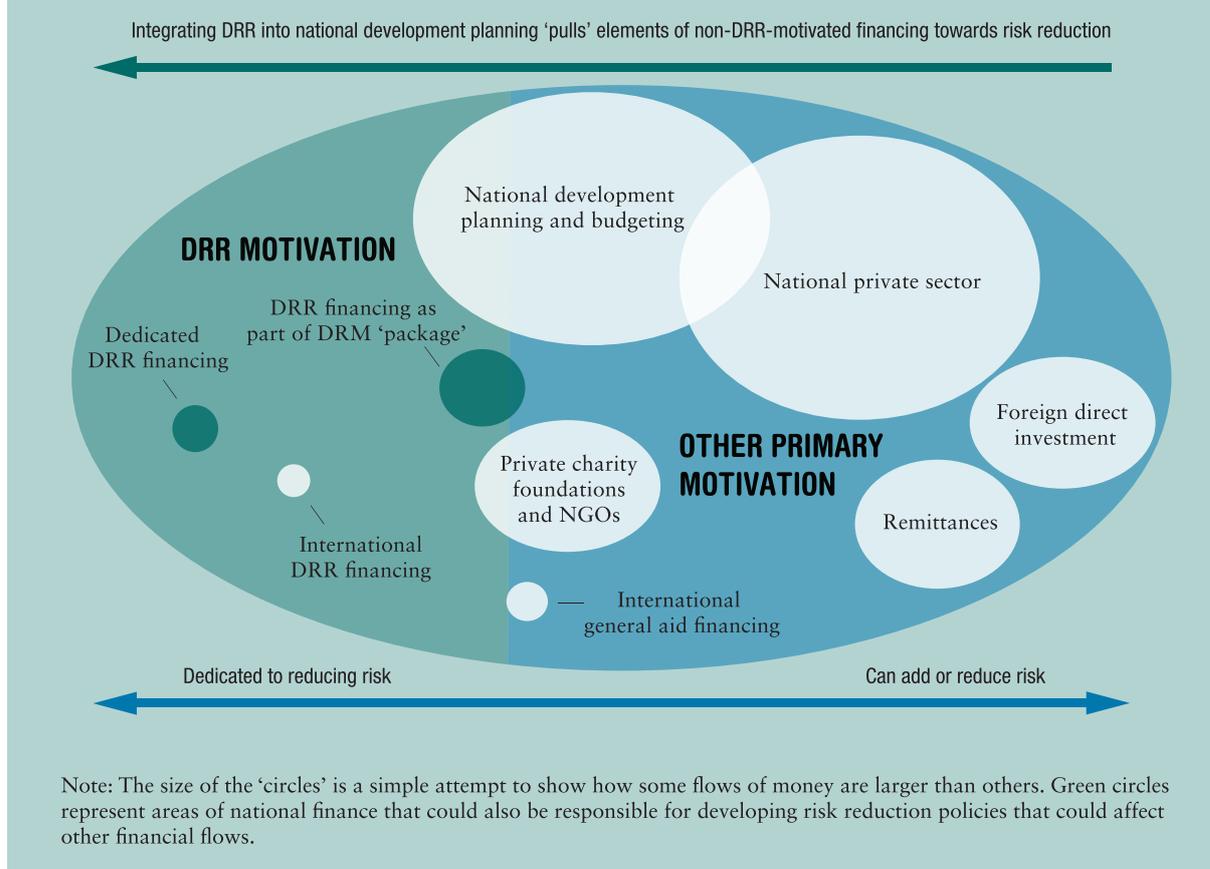
Taxonomy of DRR financing

The authors’ conception of the way in which DRR financing can be undertaken through different financing channels is further articulated in Figure 2. This takes the various channels of risk-related financing outlined

in Figure 1, but this time visualised in terms of whether or not they are motivated by risk reduction, or by other motivations, and how they fit into the bigger picture of flows of financing a country may experience.

The figure also indicates the relationship between financing and risk more generally, by highlighting in simple fashion the way in which integrating DRR financing ‘pulls’ other financial flows towards risk reduction. Given the weight of financial flows that do not prioritise risk reduction at all as a primary motivation, the necessity of integrating DRR into wider development work becomes very clear, as well as the building of effective multi-stakeholder platforms that can truly have effective impacts beyond government. Maintaining DRR financing as a stand-alone area of activity rather than one that is integrated into development will always diminish its potential.

Figure 2: The taxonomy of DRR financing⁸



Context is key: needs and capacities

In addition, the authors considered the current capacity that exists for the financing of DRR. Figure 4 highlights a range of developing countries and various contexts, ranked by UNISDR's Mortality Risk Index (MRI) (UNISDR, 2009). Key lessons from this include the following:

- The range of financing needs is very different across countries. Not all countries need the same level of financing because not all have the same level of risks. There is, for example, much less need in Benin or Cameroon compared with Bangladesh, Indonesia or Afghanistan.
- It is already known that specific DRR financing from the international community does not systematically support countries with high levels of risk and low capacity (Kellett and Caravani, 2013).
- The problem is that many high-risk countries do indeed have low financial capacity to invest in DRR.
- The high-risk, low-income countries Bangladesh, Myanmar, Afghanistan, Haiti, Cambodia, Uganda, Nepal, Ethiopia, Sierra Leone, Malawi⁹ have annual government revenues of less than \$100 per person.
- Given that the financing of DRR is one need competing with many others, and not often the priority it should be, the challenges for these countries are plain.
- It is also noted that the lower-middle-income countries Indonesia, India, the Philippines, Guatemala and El Salvador have seen considerable national financing for DRR. These countries all have annual government revenues of more than \$250 per capita.
- There is an argument that there is a need to focus less on international DRR financing and more on national financing – but if some national governments have so few resources to spend on DRR, then perhaps expectations have to change. At present the international architecture appears unable to adequately identify where and in what way the international community should support governments.

FIGURE 3: GOVERNMENT REVENUES FOR DEVELOPING COUNTRIES, RANKED BY MORTALITY RISK INDEX (MRI)

Recipient country	Average annual government revenues net of ODA, 2007-2011, per capita (\$) ¹⁰	Mortality Risk Index (MRI) ¹¹	% population affected by drought. ¹²	20-year international DRR (\$ millions) ¹³	20-year international DRR per capita (\$) ¹⁴	Income level
Bangladesh	71.34	9	0.00%	916.4	7.12	Low
Indonesia	513.64	9	0.02%	1,439.20	6.75	Lower-middle
India	262.28	9	1.59%	524.9	0.5	Lower-middle
Myanmar	46.08	9	n/a	9.1	0.21	Low
Philippines	416.42	8	0.18%	834.6	10.78	Lower-middle
Guatemala	373.5	8	1.20%	97.9	8.58	Lower-middle
Afghanistan	-134.9	8	1.34%	22.1	0.96	Low
Turkey	3,591.96	7	n/a	457.6	7.2	Upper-middle
El Salvador	571.44	7	0.32%	33.3	5.67	Lower-middle
Costa Rica	1,192.93	7	0.00%	0.7	0.18	Upper-middle
Haiti	-8.23	6	0.57%	99.1	11.52	Low
Cambodia	80.89	6	2.56%	81.6	6.69	Low
Mexico	2,329.40	6	0.12%	586.3	5.9	Upper-middle
Uganda	31.78	6	0.74%	37.1	1.5	Low
Nepal	64.29	6	0.10%	35	1.43	Low
Ethiopia	19.9	6	3.34%	22.9	0.35	Low
Sierra Leone	0.94	6	n/a	0.4	0.09	Low
Chile	3,136.44	6	0.00%	0.7	0.05	Upper-middle
Lebanon	1,931.17	5	n/a	252.3	68.03	Upper-middle
Sri Lanka	324	5	0.70%	286.2	15.07	Lower-middle
Argentina	3,249.53	5	0.00%	544.5	14.82	Upper-middle
Kenya	177.76	5	6.96%	126.4	4.01	Low
Brazil	3,714.52	5	0.33%	492.3	2.84	Upper-middle
Malawi	57.84	5	8.32%	14.5	1.26	Low
Morocco	870.69	5	0.05%	13.7	0.48	Lower-middle
Zimbabwe	52.28	5	5.85%	0.4	0.04	Low
Cameroon	223.94	5	0.06%	0.3	0.02	Lower-middle
Yemen	417.71	4	n/a	114.3	6.4	Lower-middle
Niger	43.69	4	8.15%	19.9	1.78	Low
Benin	113.42	4	n/a	5.7	0.86	Low
Burkina Faso	53.58	4	2.11%	8.9	0.72	Low
Zambia	205.44	4	1.94%	4.5	0.44	Lower-middle
South Africa	2,038.85	4	1.64%	5.6	0.13	Upper-middle
Eritrea	51.89	4	6.84%	0.3	0.07	Low

NOTE: COUNTRIES HIGHLIGHTED IN DARK GREEN ARE PARTICULARLY AFFECTED BY DROUGHT, WITH ON AVERAGE MORE THAN 3% OF THEIR POPULATION AFFECTED EACH YEAR. SOURCE: BASED ON WORK IN KELLETT AND CARAVANI (2013)

Monitoring national financing through the HFA

The HFA Monitor is an online tool designed to assist countries (and other stakeholders) to monitor and review progress on the implementation of DRR and recovery actions undertaken at the national level, in accordance with the Hyogo Framework's priorities. The tool can be used to examine a range of supporting statistics around financing, even when information on financing volumes is limited.

Current national investments

A total of 99 countries provided responses to the HFA Monitor over the years 2011-2013: 27 high-income countries (HICs), 32 upper-middle-income countries (UMICs), 24 lower-middle-income countries (LMICs), 11 low-income countries (LICs) and five without status.¹⁵ Of these 99 countries:¹⁶

- Disaster risk is taken into account in the majority (75% or more) of countries in public investments and planning decisions, in national development plans and in climate change policy.
- Rather oddly, although 62 countries report that costs and benefits of DRR are incorporated into the planning of public investments, only 37 have actually conducted studies on economic costs and benefits (five of these are LICs – Bangladesh, Burkina Faso, Ethiopia, Malawi and Mozambique).
- In most cases, costs and benefits of DRR are incorporated into the planning of public decisions, but studies on the economic costs and benefits of DRR are rarer, in particular in LICs.
- In 60% of cases, DRR for resilient recovery is incorporated and budgeted in post-disaster programmes.
- In 78% of cases, local-level preparedness appears to be mainstreamed.
- As noted by UNISDR (2013: 221), only 15% of countries indicate the ratio of their budget allocation to risk reduction as compared with disaster relief and reconstruction, although specific questions on the breakdown of disaster activities are included in the HFA Monitor tool. Furthermore, they do not appear to quantify DRR allocation in various sectors, such as the amount allocated to hazard-proofing sectoral development investments, including transport, agriculture and infrastructure.
- From the points above, of all countries reporting, Bangladesh and Mozambique are the only two of the 99 to emerge as both reporting the information and complying with the HFA Monitor indicators.

Exactly what activities are being financed?

The majority of the countries report having made investments in the following areas:

- Flood infrastructure investments are most common, with 81% of countries implementing such projects. This is followed by investments to reduce the risk of vulnerable urban settlements (78% of countries).
- The provision of land titling and housing for low-income communities is implemented to a lesser degree but still in at least 51% of the countries.
- Reporting of these investments does not include the amount of money being spent on these areas.

FIGURE 4: RESPONSES FROM THE HFA NATIONAL PROGRESS QUERY 2011-2013: CURRENT NATIONAL INVESTMENT

	Answers	Income group					Total
		n/a	LIC	LMIC	UMIC	HIC	
Is disaster risk taken into account in public investment and planning decisions?	No			2	3		5
	Not indicated			1	1	2	4
	Yes	5	11	21	28	25	90
Is disaster risk taken into account in national development plans?	Not indicated	2	1	6	6	10	25
	Yes	3	10	18	26	17	74
Is disaster risk taken into account in climate change policy and strategy?	Not indicated	2	4	2	7	4	19
	Yes	3	7	22	25	23	80
Are the costs and benefits of DRR incorporated into the planning of public investment?	No	3	4	9	11	3	30
	Not indicated			1	2	4	7
	Yes	2	7	14	19	20	62
National and sectoral public investment systems incorporating DRR	Not indicated	3	3	12	16	8	42
	Yes	2	8	12	16	19	57
Studies on the economic costs and benefits of DRR	Not indicated	15	6	22	16	3	62
	Yes	12	5	10	8	2	37
Do post-disaster programmes explicitly incorporate and budget for DRR for resilient recovery?	No	5	4	11	13		33
	Not indicated	3		1		2	6
	Yes	19	7	20	11	3	60
Local-level preparedness	Not indicated	4	4	6	6	1	21
	Yes	23	7	26	18	4	78

SOURCE: ODI BASED ON HFA MONITOR

FIGURE 5: RESPONSES FROM THE HFA NATIONAL PROGRESS QUERY 2011-2013: TYPES OF ACTIVITY FUNDED

	Answers	Income group					Total
		n/a	LIC	LMIC	UMIC	HIC	
Investments in retrofitting infrastructure including schools and hospitals	Not indicated	5	6	12	9	9	41
	Yes		5	12	23	18	58
Investment to reduce the risk of vulnerable urban settlements	No	4	1	5	3	2	15
	Not indicated		1	2	1	2	6
	Yes	1	9	17	28	23	78
Investment in drainage infrastructure in flood-prone areas	Not indicated	1	5	7	3	2	18
	Yes	4	6	17	29	25	81
Slope stabilisation in landslide-prone areas	Not indicated	3	8	12	12	5	40
	Yes	2	3	12	20	22	59
Training of masons on safe construction technology	Not indicated	3	5	13	15	7	43
	Yes	2	6	11	17	20	56
Provision of safe land and housing for low-income households and communities	Not indicated	3	3	16	14	12	48
	Yes	2	8	8	18	15	51
Regulated provision of land titling	Not indicated	3	6	12	13	12	46
	Yes	2	5	12	19	15	53

SOURCE: ODI BASED ON HFA MONITOR

What does the HFA Monitor tell us about the financing of DRR?

Overall, the results from the reporting tables are positive, as in most cases countries report compliance with the HFA indicators. It would appear that DRR is well integrated into the main national policies (including development and climate change) at local levels and through individual projects. However, as discussed later, these results should be treated with caution, given the voluntary self-assessment nature of the HFA Monitor – it may be that governments offer a more optimistic view than the reality.¹⁷ At present there is no way of knowing to what extent statements, or stated levels within statements, are correct.

That said, it could be argued that at least financial reporting is improving. The HFA Monitor originally contained very little at all about financing, and now it has reasonably well articulated questions about both levels and policies of funding for risk reduction.

Financing DRR: the current state of research

A literature review¹⁸ undertaken for this report highlighted 79 separate papers that focus on aspects of the financing of DRR, covering 25 countries and four regions (the Caribbean, Europe, Latin America, Asia) as well as a global perspective. The following limitations were noted.

- For the core area of investigation – ‘national financing’ – individual countries are examined only 40 different times by 23 different papers, and one of these papers alone (Gordon, 2013) is responsible for seven ‘examinations’. This is rather a limited range of material.
- Although national financing may be the focus of these 40 papers, not all are necessarily directly concerned with the reduction of disaster risk. Many examine other issues, such as insurance or social protection in a risk context. Only 14 of the 79 papers have DRR financing/budgeting as their particular focus.
- In addition, the range of countries for which material is available is limited. Of the 25 countries for which material exists only seven are low-income, and of these only Nepal has material with some component related to national financing.
- Only eight of the 25 countries covered by national financing risk reduction reports are in sub-Saharan Africa and for only one of these, South Africa (an upper-middle-income country and therefore somewhat unrepresentative), has there been any detailed research into national DRR financing.

Clearly, given the range of disaster risks, the range of countries in which risks occur and the general lack of material, there is a significant research gap. This also highlights the challenge in being able to answer the central research question – what evidence is there for coherent and comprehensive national government financing of DRR?

FIGURE 6: LITERATURE REVIEW FOR THE FINANCING OF DRR

	Broad focus of research			Specific focus area of disaster-related financing					
	National financing	International financing	Public-private financing	DRR financing	Catastrophe risk	Micro-insurance	Climate adaptation	Emergency preparedness	Social protection
Global	5	6	1	1	4	3	1	0	0
Latin America	3	0	0	0	1	0	0	0	0
Europe	1	0	0	1	1	0	0	0	0
Asia	0	0	0	0	2	0	0	0	0
Caribbean	2	0	0	1	3	1	0	0	0
Mexico	5	0	1	1	7	1	0	0	0
India	2	0	0	0	3	1	1	1	0
Philippines	2	2	0	1	1	0	1	1	0
Nepal	2	1	0	0	0	1	2	0	0
Costa Rica	4	0	1	3	2	0	0	0	0
Indonesia	4	0	0	2	1	0	0	0	0
South Africa	4	0	0	1	1	0	0	0	0
Malawi	0	0	1	0	1	2	0	0	0
Ethiopia	0	0	0	0	1	1	0	1	1
Peru	3	0	0	0	1	0	0	0	0
El Salvador	1	1	0	1	0	0	0	0	1
Turkey	1	0	1	0	1		0	0	0
Bangladesh	0	0	0	0	0	2	0	1	0
Pakistan	0	1	0	0	0	1	0	0	0
Honduras	1	0	0	0	0	0	0	0	1
Guatemala	2	0	0	0	0	0	0	0	0
Nigeria	0	0	1	0	0	0	0	0	0
Uganda	0	0	0	0	0	0	1	0	0
Sudan	0	0	0	0	0	0	0	1	0
Haiti	0	0	0	0	0	0	0	1	0
Niger	0	0	0	0	0	0	0	1	0
Myanmar	0	0	0	0	0	0	0	1	0
Fiji	1	0	0	1	0	0	0	0	0
Vanuatu	1	0	0	1	0	0	0	0	0

NOTE: NUMBERS IN EACH CELL REPRESENT THE NUMBER OF TIMES A PAPER TOPIC COVERS A COUNTRY OR REGION. SOME PAPERS COVER MULTIPLE AREAS OF RESEARCH AND COUNTRIES, WHICH IS REFLECTED IN THE NUMBERS.

Investigating the financing of DRR: criteria for a coherent and comprehensive approach

Comparable global sources of information on the national financing of DRR begin and end with the HFA Monitor which, despite the limitations indicated, still provides a picture of the range of activities being undertaken and the extent to which governments have committed themselves to financing DRR. While the Monitor is a useful tool that helps to better understand the current status of implementation of the HFA within countries, it has three main and inter-related limitations:

- It provides limited quantitative data, especially in terms of volumes of funding allocated to DRR, and it provides only limited supporting information about financing.
- It does not provide a baseline to allow monitoring of progress over time for each indicator, as the data from previous years is scarce. For example, the dates examined (2011-2013) in the section above relate to the period during which countries could report the information (i.e. this is the reporting cycle). Data is not divided by individual years. Progress could only be measured if comparing this data with 2009-2011, but here information is scarce and of marginal value.
- It is a voluntary reporting mechanism without comparable external checks across countries, and the impartiality and comprehensiveness of data could at the very least be challenged.

A far more robust understanding of the way that different countries finance DRR has to be drawn from the countries themselves. The issue is made somewhat problematic because (as outlined above) the available examinations of national financing of DRR at the country level are very limited to date. However, enough material is available to provide at least an overview and some detail of national DRR financing for some countries. Five have been examined for this report – Mexico, South Africa, Costa Rica, Indonesia and the Philippines – based on the following criteria: where there is enough research material available; where a range of different funding sources is available but there is a particular focus on national financing; and where there is some description of the different levels of government capacity to undertake risk reduction.²⁰

Within each national financing case study the authors have tried, as much as possible given the relatively sparse nature of research to date, to highlight issues of coherence and comprehensiveness. A series of inter-related issues are examined, becoming the base criteria for the comparison and conclusions of this paper.

- **Models of financing:** What models of DRR financing exist, whether as a part of DRM, stand-alone or integrated into development? Is there evidence for both stand-alone financing of DRR and funding integrated into national budgets? What do we know about the coherence of different models?
- **DRR and development planning:** To what extent is DRR integrated into general development planning and policy, and is it a priority? What national policies and structures manage the financing of DRR? Are risk analyses central to development planning? What frameworks exist? Are climate risks integrated with DRR coherently, and are there financial allocations to match?
- **National to sub-national:** Does DRR financing reach sub-national levels, where much of the work is needed? How does financing work in terms of national and decentralised management and budgets? Are funding processes and volumes adequate?
- **Adequacy of national financing:** What is the amount spent on DRR, and by which national body? Is it adequate for the needs? Are commitments to spend a certain amount actually met?
- **Transparency and accountability:** What evidence is there of transparency, or accountability more generally? Can accountability initiatives be compared across countries?
- **Reporting on objectives:** How does reporting to the HFA Monitor tally with detailed in-country research? What are the issues reported and what are the issues found through research?

An additional section of this report on financing from non-government flows, drawn from the same case study literature (and, given the paucity of country-level information, supplemented by global studies that also reference the same countries), looks to understand how these additional resource flows work in the five countries examined. This generates one more criterion for the examination of coherence:

- **Integration of other financial flows:** What contributions come from outside of government sources and are there any specific implications of that financing? What is the relationship between international and national financing of DRR? Is it coherent, planned and coordinated? Is adaptation finance integrated with DRR finance? What role does civil society or national private sector financing play in DRR, and is it coordinated with government efforts?

National financing of disaster risk reduction

Mexico

Mexico suffers to a considerable extent from hurricanes and tropical storms, flooding and drought, while also being one of the world's most seismically active countries. More than two million people were affected by the 1985 Mexico City earthquake, which killed nearly 10,000 people and caused direct economic losses amounting to \$7 billion, or 2.7% of GDP (CRED EM-DAT). About 68% of the population and 71% of the GDP of this upper-middle-income country are at risk from natural hazards (World Bank, 2005).

The Sistema Nacional de Protección Civil (National Civic Protection System – SINAPROC) was established to improve the country's civil protection capacities following the Mexico City earthquake (OECD, 2013), with its role updated most recently in a 2012 act. Established within the Ministry of the Interior, SINAPROC serves as the executive coordination agency for disaster prevention, post-disaster response and reconstruction activities.²¹ Divided into three layers of governance – national, state and municipal – its main objectives are to:

- Understand the causes of risks
- Control and reduce risks
- Reverse the social causes of risks
- Strengthen the resilience of government and society against disasters.

The role of SINAPROC is highlighted in the National Development Plan 2013-2018 (Federal Government of Mexico, 2013a). The plan underlines the importance of considering disaster planning both as an essential part of development and as something that should be considered before the event itself; it presents a strategy to enhance financial instruments that prevent disasters by managing risks. It goes on to say that Mexico can take advantage of its developed financial markets to mitigate the risks 'that would otherwise need to be faced by public spending'. Further to this, there is a direct and articulated connection between the country's National Climate Change Strategy (NCCS) and DRR, with disasters seen as a central outcome of a lack of control of climate risks (Federal Government of Mexico, 2013b); the strategy goes on to 'require' an increased budget allocation to 'disaster prevention'. The strategy also states that there is a specific budget assignment within the three layers of government and the legislative branch on climate

change, due to the importance of allocating funds to adaptation, disaster prevention and mitigation actions (Federal Government of Mexico, 2013b: 25). Despite this language, it is not clear, however, whether declarations contained within national plans state a definitive commitment to finance DRR activities.

Mexico frames its DRR activities largely as part of a wider DRM agenda, and much of the research has been on large-scale national risk financing, where the country has been seen as a model for others to follow.²² The Mexican Ministry of Finance and Public Credit (SHCP) has established two main financial strategies to manage risk: a) retention through the creation of a natural disaster fund (FONDEN); and b) transferring risk (of potential future losses) to the financial markets, primarily through reinsurance schemes and catastrophe bonds.²³

a) **Risk retention:** FONDEN was first created as a budget line in the Federal Expenditure Budget of 1996, and then became operational in 1999. It served as a budgetary tool through which federal funds were allocated annually for expenditure on post-disaster response. It is divided into the following components:

1. Infrastructure fund, to repair uninsured public infrastructure
2. Agriculture fund, to support low-income farmers
3. Assistance fund, to provide relief to victims of disasters.

The Federal Budget and Fiscal Responsibility Law requires that at the beginning of each fiscal year not less than 0.4% of the annual federal budget (about \$800 million in 2011) should be allocated to FONDEN (World Bank, 2012). This amount is net of uncommitted funds in the FONDEN Trust at the end of the previous fiscal year. In addition to this, FONDEN can be granted an additional \$200 million of 'exceptional budget allocation' if required.

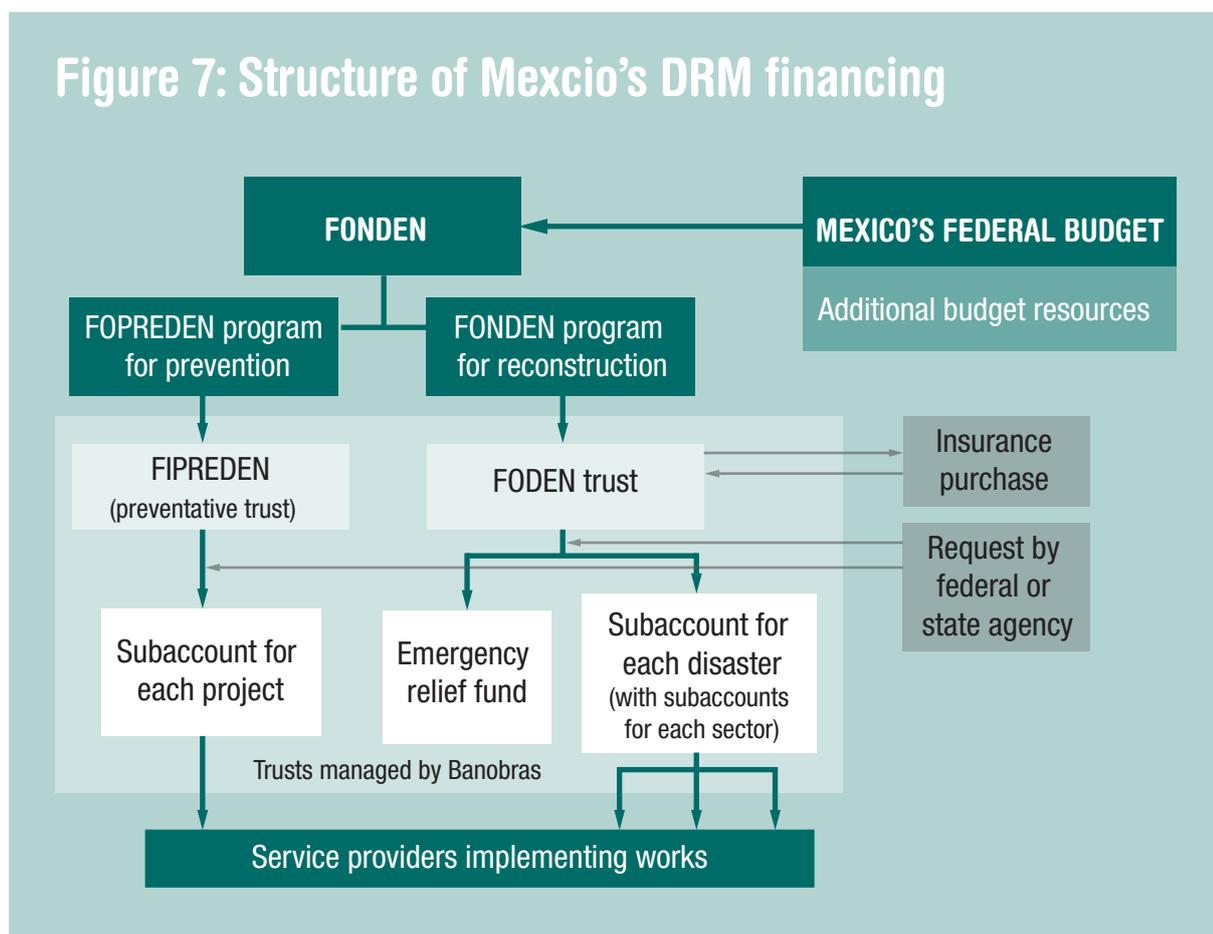
Mexico frames its DRR activities largely as part of a wider DRM agenda, and much of the research has been on large-scale national risk financing.

b) **Risk transfer:** To manage the volatility of demand on its resources and the challenges of raising funding, FONDEN started to transfer risks through insurance and other risk transfer mechanisms such as catastrophe bonds. With a transfer of \$160 million to international capital markets in 2006, Mexico became the first middle-income country to transfer part of its public sector natural catastrophe risk to the international reinsurance and capital markets (Cardenal et al., 2007). This parametric catastrophe bond, issued by Swiss Re, was against earthquake risks in three at-risk zones for a three-year duration. FONDEN then secured \$290 million of reinsurance coverage for the same three zones for three years, bringing its total protection to \$450 million. When this bond expired in 2009, FONDEN increased its cover by issuing a three-year, \$290 million bond for earthquake and hurricane risks (GFDRR, 2012: v). Most recently, in 2011 it secured indemnity cover for government assets and low-income housing with a \$400 million excess-of-loss reinsurance treaty (GFDRR, 2012).

Actual financing for risk reduction within the current institutional set-up is a small and arguably marginal part of the country's approach to managing risk. Financing for SINAPROC and its activities is channelled largely through the budget of the Ministry of Interior, of which the agency is a part. In 1999, the government recognised the need for greater investment in proactive risk reduction by allocating dedicated resources to the National Disaster Prevention Fund (FOPREDEN). The funding for this programme comes directly from FONDEN, amounting to 3% of its total allocation; in 2011 available finances were \$25 million. The main activities supported by FOPREDEN are as follows (with similar allocations hypothetically available at a national level):

- Perform preventive actions to identify risk.
- Mitigate or reduce the impact of natural phenomena.
- Promote prevention culture and population self-protection in the event of a disaster.

Figure 7: Structure of Mexico's DRM financing



SOURCE: GFDRR, 2012

- Develop a state-level risk atlas.
- Conduct studies on social and economic impacts of disasters.
- Design early warning systems.
- Analyse the feasibility of relocating vulnerable populations living in areas of high risk.

How DRR financing works locally receives relatively little attention in the available literature. According to the World Bank, the Government of Mexico has strengthened ‘the capacity of national and local institutions to reduce risk ex ante, to plan for potential disasters, and to respond efficiently in the event of an adverse natural event’ (World Bank, 2012: 4). However, little is said about the working relationships of financing at different levels of government.

A number of weaknesses are evident in Mexico’s current DRR financing structure, and are largely related to the preponderance of risk retention and transfer:

- **Risk retention and transfer marginalise risk reduction:** FONDEN separates disaster funds from normal budgetary operations, and it largely separates funding mechanisms for prevention activities from the fund itself. On the one hand, this can be considered an example of best practice, as it ensures that the system deals specifically with DRR. On the other, however, it limits the possibility of integrating DRR components into other national investments or into different sectors of the economy (little information exists on this).

BOX 1: THE ADDITIONAL BENEFITS OF RISK TRANSFER

One of the significant co-benefits of the use of insurance has been the need for very detailed risk assessments. In Mexico this has meant the creation of an ‘emergency risk inventory’ using ‘information systematized in decades of research done by the Universidad Nacional Autónoma de México and other institutions. The inventory was put together by 2009 ... [and used as] the basis for the R-FONDEN system, a computational model of probabilistic evaluation of disaster risk of main public assets covered by FONDEN’ (Orihuela, 2012: 19).

- **Prevention funding is inadequate:** Although authorities have gradually acknowledged the need to focus on prevention by allocating resources to FOPREDEN, the 3% of financing from FONDEN is very inadequate. The OECD recommends using relatively disaster-free years to utilise more FONDEN funds for DRR activities (OECD, 2013: 21).
- **There is a post-crisis focus:** Suarez and Bayer (2011) point out that the catastrophe bonds used by the Mexican government are linked only indirectly to DRR measures, as they provide immediate and reliable post-disaster payments to the government, allowing authorities to reduce losses through timely relief and rescue operations. They suggest that in order to make catastrophe bonds more linked to DRR, they should be designed to fund the incremental costs of adding risk reduction measures to reconstruction efforts, which currently insurance companies refuse to pay.
- **Risk remains despite transfer:** Another challenge experienced by FONDEN is that it needs to ‘build back better’ infrastructure damaged by disasters, ensuring a risk reduction component in reconstruction. Even if the assets to be rebuilt are insured, insurance companies do not finance improvements but only the basic repair and rebuild. This implies that ultimately it is still affected populations and to an extent national government who shoulder risk reduction costs.²⁴
- **FONDEN’s finances are not secure:** Oil revenues are a substantial source of funding, and when oil prices has fallen the FONDEN’s resources have been significantly reduced (Poundrik, 2011: 5).
- **Risk analysis is not integrated:** Mexico has not as yet incorporated risk analysis into its investment planning, unlike other Central and South American countries (Orihuela, 2012; Gordon, 2013: 4). In addition, no detailed analysis has been undertaken to establish if this has limited investment in DRR across sectors/ministries.
- **Capacity is weak:** Although Mexico has a long history of decentralised responsibility and financing, municipal government capacity (and resources) to implement DRR measures remains weak (Wilkinson, 2012).

- **The number of stakeholders is limited:** A lack of stakeholders in financing risk reduction is seen, with suggestions being made for a marked increase in ‘business continuity planning efforts in the public and private sectors, particularly for SMEs’ (OECD, 2013: 21). The architecture of SINAPROC lacks formal engagement with the private sector, as well as with voluntary organisations (Ibid.: 8).

According to a review of Mexico’s civil protection system, many of these issues have been seen as a ‘recognized need among SINAPROC stakeholders to shift focus towards strengthening capacities for disaster prevention and vulnerability reduction in order to contribute to sustained growth’ (OECD, 2013: 4).

South Africa

Ostensibly, South Africa has a relatively low disaster risk profile. It is ranked as only 4 in the MRI, and deaths from natural disasters have numbered only a few thousand over the past 20 years, largely from floods and epidemics. The MRI, however, does not include drought,²⁵ and this is a present and growing threat for the country. In 2004, 15 million people in South Africa were affected by drought, more than a quarter of the population, and as recently as late 2013 North West Province was declared ‘drought-stricken’ under the Disaster Management Act (Bloomberg, 2013).

Ostensibly the importance of tackling disaster risk in South Africa (and by inference the financing of risk reduction) is very high, ‘since it is a constitutional imperative to ensure that lives are safeguarded [and] the non-funding of DRM may be regarded as the relinquishing of that constitutional responsibility’ (van Niekerk and Madubula, 2011: 109) However, the incorporation of DRR within public policy is at best mixed, in terms both of depth and effectiveness. The National Development Plan: Vision for 2030, for example, which outlines the government’s long-term strategic priorities, speaks of ‘improved disaster preparedness for extreme climate events’ as one of its environmental sustainability objectives, rather than DRR explicitly. The priority given to DRR (or even disaster management in general) does not appear to be high, however – and this ‘improved disaster preparedness’ is itself just one of nine separate sustainability ‘objectives’ within the National Development Plan. There is at least a move towards the integration of

climate and disaster considerations in the country’s National Climate Change Response White Paper of 2011, which states that extreme weather will lead to a need for ‘more effective disaster management’.

The legal and institutional structures through which this commitment to improved preparedness is undertaken are relatively well established, and DRM more broadly is also represented in national structures and policies. The 2002 Disaster Management Act established the National Disaster Management Centre (NDMC) as the principal functional unit for DRM at the national level. The National Disaster Management Framework (NDMF) of 2005 guides the implementation of the Act. The act and framework emphasise the role of local governments in implementing DRR,²⁶ as well as requiring all ‘spheres of government to develop disaster management frameworks that guide DRM activities, including planning and implementing DRR projects and programs’ (van Niekerk and Madubula, 2011: 115).

The NDMC is largely funded through the ministry of which it is a part, the Ministry of Cooperative Governance and Traditional Affairs. However, wider DRR financing is complicated. The NDMF establishes DRR as one of five categories that should be funded as part of a wider package of DRM measures, while also demanding that DRR should be mainstreamed into sectoral responsibilities (van Niekerk and Madubula, 2011: 96). How that works in practice is debatable. While sectoral ministries have responsibility under the law to implement DRR, they must finance measures from their own budgets but also have the possibility to seek additional funding from the NDMC for ‘national priorities for risk reduction’ (Visser and van Niekerk, 2009: 32). Some of this sectoral DRR funding can be for ‘structural mitigation infrastructure’ such as transport and water resources. Local-level sectoral responsibility also exists, in similar fashion, with devolved ministry authorities able to apply for similar special DRR financing support.

The available literature suggests that financing fails in South Africa because of much broader issues than the weakness of actual financial processes, with a general lack of capacity, mismatched incentives for undertaking risk reduction and a simple failure to adhere to the law.²⁷ These inter-related issues make funding for DRR incoherent.

- **There is an ex-post emphasis:** The overall emphasis of the Disaster Management Act is on the management of disasters after they occur, rather than their prevention or the reduction of impact through DRR. Although much of the government's work (and actually the research drawn on for this case study) does mention DRR, it is actually DRM, or often even more narrowly disaster management, that has the main focus.
- **Guidelines are weak:** Although the act focuses on a range of DRM-related issues, including DRR, there are none to cover funding or to clearly divide responsibilities, as outlined above (van Niekerk and Madubula, 2011: 181).
- **Disaster risk is not a political issue:** Many politicians perceive DRM to be the work of the NDMC, with very few links to the rest of development. Politicians do not call for DRR to be a priority, senior civil servants do not prioritise DRR and officials do not budget for it (van Niekerk and Madubula, 2011: 189). There is a suggestion that low overall risk levels and an inability to grasp the growing importance of climate change are factors contributing to this.
- **There is a lack of sectoral understanding and capacity:** Although the Disaster Management Act and the NDMF make it reasonably clear that ministries and agencies have a responsibility to reduce disaster risk, very few departments fully understand what this means in practice. 'This [DRM across the board] is an area that should actually be budgeted for by the various line-departments, it was clear that they do not understand how they can budget for DRR and why it is important to do so' (Visser and van Niekerk, 2009: 67). These government authorities do not, therefore, integrate DRR into their normal day-to-day functioning. This lack of capacity and related lack of attention lead unsurprisingly to a lack of budgeting for DRR across these sectors (van Niekerk and Madubula, 2011: 189). In essence, although technically DRR is supposed to be integrated within sector financing, it is rare that this happens.
- **There is a lack of transparency:** Almost nothing is said about the volumes of money spent on DRR by South Africa. Even the NDMC website²⁸ has very little to say about the volumes of financing the agency controls, not to mention funding, which may be more challenging to track sector by sector.

The lack of financing at a municipal or local level is of particular concern and is a repeated feature of almost all the studies on South Africa's work to reduce disaster risk. The NDMF does make provision for funding arrangements for devolved DRM and suggests that municipalities have responsibility for the funding of most DRM activities (Visser and van Niekerk, 2009: 25). However, while legal and institutional structures exist, budgeting and funding at the sub-national level is clearly inadequate (African Centre for Disaster Studies, 2011). In part this is because municipalities' own work in DRR suffers from the same range of issues that affect financing more broadly, but beyond that it is suggested that municipalities experience considerable difficulty in meeting their legal provisions for implementing DRR because of the particular financing challenges they face (van Niekerk and Madubula, 2011: 188).

Financing fails in South Africa because of much broader issues than the weakness of actual financial processes, with a general lack of capacity, mismatched incentives for undertaking risk reduction and a simple failure to adhere to the law.

Local financing is very complex under the law. Under the NDMF, central government can either pay for any or all DRM activity itself (including DRR) or can place 'the onus on provincial and local government to finance expenditures in DRM activities from their own existing equitable share transfers or own revenue' (van Niekerk and Madubula, 2011: 108). If central government does not fund DRM, responsibility devolves rather vaguely to a 'responsible Cabinet Member, Member of Executive Council²⁹ or other organ of the state' to ensure appropriate disaster risk management at the municipal level (NDMC, Section 7.1: 89). At the same time, under the 2002 Disaster Management Act, local municipalities are obliged to budget for DRM, but districts or metropolitan authorities (the other local governance structures) have no such legal obligation.

FIGURE 8: DRM FUNDING ARRANGEMENTS FOR SOUTH AFRICAN MUNICIPALITIES

Activity	Funding sources	Funding mechanism
Ongoing DRM operations	New assignment to local government	Increase in the institutional component of the equitable share of local government
Disaster risk reduction	Districts, municipalities	Own budget – can be augmented by application for funding to the NDMC for special national priority risk reduction projects
	Low-capacity poor municipalities	Additional funding provided by NDMC
Response, recovery, rehabilitation, reconstruction	Local government	Access to central contingency fund once threshold is exceeded
		Conditional grant (Municipal Infrastructure Grant – MIG)
Education, training and capacity-building programmes	Local government	Own budgets and reimbursement through sector education and training authorities
		Public awareness programmes and research activities can be funded by private sector, research foundations, NGOs, donor funding

SOURCE: AFRICAN CENTRE FOR DISASTER STUDIES (2011)

The act does allow a municipality or provincial government to request financial assistance from the national government, but this is usually for response and reconstruction, not risk reduction. Some conditional grants or subsidies are supposedly available for municipalities to establish a DRM centre, the basic risk management structure at local level. However, Visser and van Niekerk (2009) in their examination of four municipalities found that none had received any such funding. Not only did authorities have to provide funding from their own budgets for set-up costs, they also had to finance salaries, maintenance, equipment and all the work of the centre – training, planning, and so on.

The consequence of this is stark: it is clear from the information obtained from the municipalities that they largely do not budget for DRM (Visser and van Niekerk, 2009: 67). This is corroborated by another study that includes a series of interviews with local government representatives (see Figure 8): a third claimed to have no budget at all for DRM, and of the remaining two-thirds only a fraction suggested that the budget was sufficient (African Centre for Disaster Studies, 2011).

Up to this point we have actually been talking about DRM and, as noted earlier, in South Africa DRR is just one of five elements within it. If funding for broad DRM is already poor, DRR financing as one element will hardly be much better.³⁰ Figure 8 breaks down various aspects of risk management financing at a local level. It highlights the lack of resources for DRR at this level, with municipalities’ own budgets

being largely the only source of financing, except for the poorest of municipalities. The lack of funding is recognised in research to have some significant yet unsurprising effects (van Niekerk and Madubula, 2011):

- A lack of compliance with the Disaster Management Act and in particular the focus on DRR
- A simple lack of DRR implementation
- A lack of adequate measures in one district affecting a neighbouring one (even one that has invested in DRR)
- In the long run, a negative impact on national budgets, considering the significant financial impact of disasters.

In brief summary, a lack of risk-consciousness in general, an overly complicated and somewhat vague legal framework and the establishment of a legal obligation to undertake DRR without any clear allocation of additional finances suggests that, largely, risk reduction activities in South Africa are not taking place.

Costa Rica

The Republic of Costa Rica ranks second in the world among countries most exposed to natural hazards, with 36.8% of its landmass exposed to three or more natural hazards (World Bank, 2005). Earthquakes, volcanic eruptions, floods, storms, landslides and droughts all seriously affect the country’s population and economy

(CRED EM-DAT database). Three major volcanic eruptions in the 1960s, notably the eruptions of the Irazu volcano between 1963 and 1965 and that of the Arenal volcano in 1968, spurred the government to move towards creating the country's DRR system (Gallardo, 2011).

The National Emergency Commission (CNE), which later became the National Commission for Risk Prevention and Emergency Management, and the National Emergency Fund (FNE) were created as far back as 1969. According to Ghesquiere and Cortez (2008), the CNE is a longstanding part of government which has gained 'recognition and ownership by the population', along with credibility for its reports and its use of public resources. The DRR work of the CNE is complemented by the general development goals of the national government, which seek to integrate risk management into public investment decisions. The 2011-2014 'María Teresa Obregón Zamora' National Development Plan (NDP) emphasises the need to integrate risk reduction for natural hazards into public investment decisions in order to protect investments and ensure their quality, safety and longevity, all while promoting climate change adaptation. The NDP specifies that the CNE is responsible for overseeing some aspects of this process, including evaluating the regulation and implementation of urban development plans and helping develop a modern telecommunications platform that is environmentally sustainable (Government of Costa Rica: 78).

The National Emergency Law of 1999 extended the CNE's work to cover prevention activities. The most recent reform to DRM legislation and institutions came in 2005 with the National Emergency and Risk Prevention Law which, according to Poundrik (2011), addresses disasters from a more comprehensive development point of view than previously. Further legislation in 2006 created the National System for DRM, the national platform for the country, with the CNE as the HFA focal point. Current legislation makes it clear that the CNE is the institution responsible for the planning, coordination and management of disaster response, a remit now extended to include prevention, mitigation and reconstruction.

Funding for risk reduction is largely focused on the FNE (Ghesquiere and Cortez, 2008: 7; Costa Rica, National Law No. 8488 on Emergencies and Risk Reduction, 2006).

- **Current budget:** This is allocated annually and represents the operations budget of the CNE as well as its investment in DRR. In 2007 the current budget was \$18 million, and specific risk reduction investments through the CNE were just over \$3.2 million (no more recent data is available).
- **Supplementary budget:** All public entities are legally required to contribute 3% of surplus to FNE at the end of the fiscal year. Ghesquiere and Cortez (2008: 7) remark that this supplementary budget is largely used for 'prevention activities'. In 2007 the value of these contributions was \$17.1 million. In addition, when an emergency has been declared, public entities may provide the FNE with emergency management funds. In 2008 these funds amounted to \$10.6 million, in 2007 \$43.1 million.
- **In addition,** the government uses 'planning and investment instruments' to structure the financing of post-emergency activities, though it does not appear that these legislate for the financing of risk reduction activities. There is a General Emergency Plan that 'defines, organises, prioritizes the actions required for managing a specific crisis', which appears to be almost entirely reactive to crisis (Ghesquiere and Cortez, 2008: 8).

The range of DRR activities undertaken by the CNE through FNE funding is very diverse. While these activities include the creation and maintenance of response and preparedness structures and institutions, they also include a range of 'prevention activities' including, according to the National System for DRM, 'mitigation activities, especially through construction work... community-based prevention projects... research activities, early warning projects' (Gallardo, 2011: 5).

Not all funding (nor responsibility) for DRR passes through the FNE/CNE institutional structure. The 2006 law makes it clear that DRR is a responsibility across government, a 'mandatory obligation of public entities and local governments to make allocations for risk management in their budgets' (Ghesquiere and Cortez, 2008: 7). This stipulation encourages all state enterprises and institutions to account for disaster prevention and preparedness in their own fields (National Law No. 8488, 2006).

The available research investigating Costa Rica's institutional and financing structure for disaster management is largely positive, with a range of interconnected successes for the current system. There are clearly established roles and responsibilities that are well articulated in legislation and policy, all leading to the effective coordination of a range of DRR activities

However, no demand is made for a certain percentage of funding for 'disaster prevention' within the act itself. In addition, the section of the National Development Plan entitled 'Social Development and the fight against poverty' contains goals for risk management: 'every state institution has to mainstream risk management issues within its planning process, meaning dedicated resources for implementing DRR activities. They must also participate in the coordinating bodies of the National System. Sector and institutional plans have to reflect the guiding principles related to DRM' (Gallardo, 2011: 3).

A few negatives exist, and are worth outlining here.

Funding for the CNE tends to fluctuate, largely because it relies heavily on post-crisis financing.

Participation in the management (and financing) of prevention activities is weak by all non-central government actors, especially municipalities, civil society and the private sector.

Municipalities are required under National Law No. 8488 to maintain permanent Emergency Management Committees to coordinate local disaster management (National Law 8488, 2006: 7). These committees receive funds from the CNE in the event of a disaster, but many still

lack sufficient technical capacity and human resources to effectively manage local risks (GFDRR, 2012: 6).

The available research investigating Costa Rica's institutional and financing structure for disaster management is, however, largely positive, with a range of interconnected successes for the current system.³¹ There are clearly established roles and responsibilities that are well articulated in legislation and policy, all leading to the effective coordination of a range of DRR activities. This administrative clarity is matched with a strong political commitment to financing DRR, which is successful (it is argued) because there is both separate and integrated financing.

Indonesia

Indonesia is one of the few countries to have the highest MRI score of 9. It faces multiple hazards, in particular earthquakes, tsunamis, flooding and volcanic eruptions. The 26 December 2004 earthquake and tsunami alone affected almost 533,000 people and killed 165,708, and caused damages and losses equivalent to about 1.9% of GDP. Around 67.4% of the population and 62.3% of the GDP of this lower-middle-income country are exposed to disaster risk (World Bank, 2005).

Indonesia clearly sees the significance of disaster risk in terms of development. The country's 2011-2014 medium-term national development plan³² outlines 'the environment and management of natural disasters' as a national priority. A range of national planning tools and documents support this, with the National Action Plan for DRR (2010-2012) being a key elaboration of DRR policies at a national level.

In total, 24 central government institutions are involved in DRR initiatives. The coordinating role across these numerous institutions is performed by the National Agency for Disaster Management (BNPB), which was established in 2008 following the adoption of the Disaster Management Law (No 24/2007). The agency is involved in the following plans:

- Its own departmental budget plan
- The wider National Action Plan for Disaster Risk Reduction, which has elements of a coordinating plan and elements of a regulatory plan under the Disaster Management Law
- A multi-stakeholder National Platform for DRR that includes a wider coordinating plan (Darwanto, 2012).

FIGURE 9: DRR IN INDONESIAN PLANNING DOCUMENTS

Mid-Term National Development Plan, 2010-2014
DRR mainstreaming is a national priority
Direction to strengthen capacity at national and local levels
DRR is considered in spatial management
Encouragement of community participation in disaster management and DRR
Government Working Plan, 2007-2012
DRR is one of nine national development priorities since 2007
National Action Plan for DRR, 2010-2012
DRR activities for 2010-2012 cover 24 central government institutions
National Disaster Management Plan (BNPB)
General overview of disasters, challenges and opportunities, disaster management policy, programme, budget and financing, monitoring, evaluation and reporting

SOURCE: DARWANTO (2012)

Beyond its coordinating role, the activities implemented under the BNPB include research, education and training for disaster management, early warnings and other risk reduction strategies (BNPB website³³).

Indonesia has invested heavily in DRM, and over a significant period of time. In recent years the volume budgeted has exceeded \$1 billion annually. Figure 10 shows that between 2006 and 2012 budgets for DRR (excluding rehabilitation and reconstruction) increased by 55%.

The 2004 earthquake and tsunami marked a key turning point for the financing of DRR. The government strengthened the national system for disaster management considerably and DRR became, for the first time, one of its national mid-term development priorities. It matched the rhetoric with financing, increasing the disaster management budget by 1,000% (Maarif, 2013).

The majority of stand-alone DRR investments (about 68% during 2006-2012) were allocated for disaster mitigation and prevention activities,

to control floods, lava flow and coastal abrasion; these were largely infrastructure developments and, unsurprisingly, accounted for a large proportion of expenditure. The second biggest investment programme (22%) was for disaster preparedness, such as the formulation of mechanisms for preparedness and DRR, formulation and testing of emergency disaster management plans, organisation, installation and testing of early warning systems, etc. The third biggest area of investment (about 6%) was for research, education and training (Darwanto, 2012).

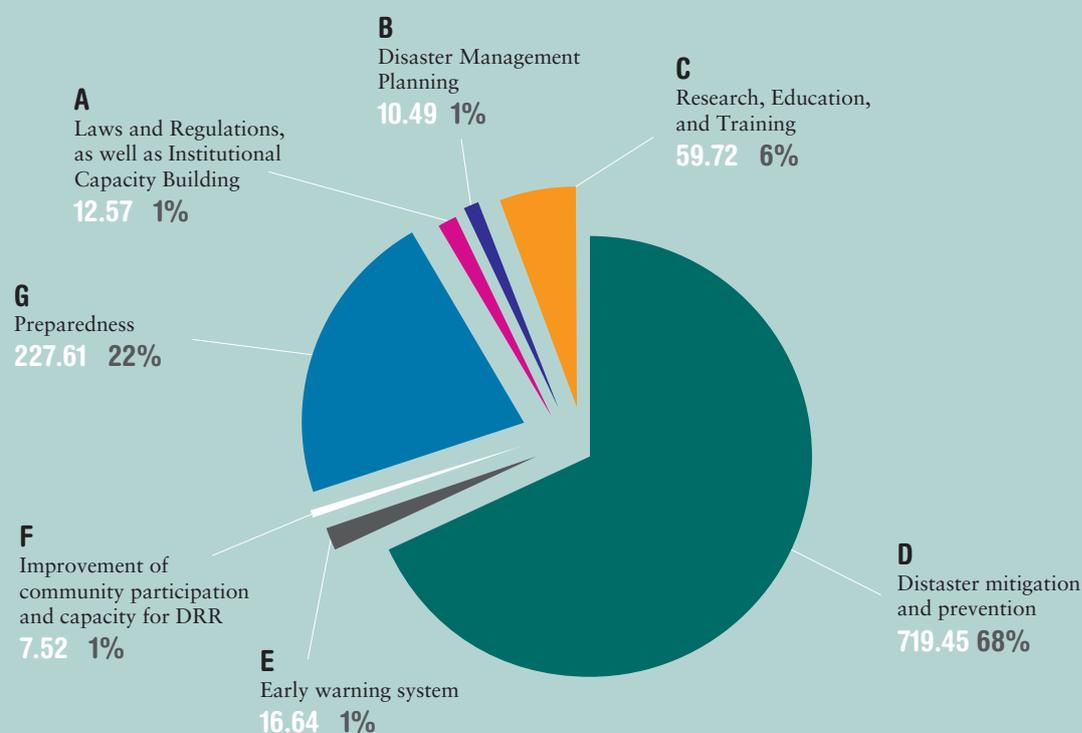
The Ministry of Works spends the largest amount on DRR activities, accounting for more than half of all institutional DRR budgets in 2012. Most of its budget is used for the mitigation of disasters. The second largest actor is the Ministry of Forestry (26%), with spending mainly for forest and land rehabilitation to prevent flooding. The third largest is the National Search and Rescue Agency (SAR) (7%), followed by the BNPB itself (6%). Some ministries and agencies have special units dealing with DRR activities.

FIGURE 10: TOTAL AND PER CAPITA BUDGET ALLOCATIONS FOR DRM 2006-2012, \$ 2009 PRICES

	2006	2007	2008	2009	2010	2011	2012
Total budget allocation for disaster management (USD billions)	0.77	0.89	0.89	0.65	0.79	1.24	1.19
Per Capita DRR Budget Allocation (USD)	3.1	3.8	3.7	2.7	3.3	5.0	4.8

SOURCES: DARWANTO (2012). NOTE THAT INDONESIA'S USE OF THE TERM 'DISASTER MANAGEMENT' IS MORE ALIGNED WITH WHAT THE INTERNATIONAL COMMUNITY WOULD CALL DRM.

Figure 11: Breakdown of Indonesian budget for disaster management, 2006-2012



SOURCE: BASED ON DARWANTO (2012) AND UNISDR (2012) (ALL FIGURES \$)

In addition to these ‘national’ financing processes, legislation has devolved implementation of DRR activities such as water supply, drainage, construction and land use zoning to district authorities (Jackson, 2011). A coordinating role is played by provincial agencies, with provincial governors having executive powers for DRR delegated by the president. In addition, ‘as of 2012 all provinces have established their Local Agency for Disaster Management (BPBD), and they have also been established in more than 60% of the regencies/municipalities’ (Darwanto, 2012: 6). Ultimately it is the BNPB’s responsibility to facilitate local government in conducting DRR activities (Ibid.).

Despite these considerable positives in terms of DRR financing, some issues as yet remain unaddressed; the following have been picked out as having a particular financial dimension.³⁴

- **Undercounting embedded financing:** The volumes and types of DRR financing discussed in this section are stand-alone investments

with a specific budget classification, whether implemented by the BNPB or by sector agencies. They do not include uncounted ‘embedded’ financing within sectors for which the country has not yet developed a DRR tracking code.

- **Limited funding:** In general the resources available for DRR are limited, especially compared with the vast needs. In addition, little funding flows to sub-national levels, limiting the role of key sub-national institutions.
- **‘Ownership’ is not unanimous:** ‘Buy-in’ to the National Disaster Management Plan 2010-2014 and the National Action Plan for DRR 2010-2012 remains weak in some parts of government, an issue that extends beyond government to civil society and the private sector. In addition, although sectoral agencies include DRR in their strategic plans (and therefore in their financing commitments), most see stand-alone spending for DRR as more important, partly because this means that they receive additional funding to their general sectoral budget.

- **Gaps in understanding and capacity:** There is a lack of understanding of how both to programme and finance the mainstreaming of DRR into development plans and priorities.
- **Governance at different levels is complex:** There is a lack of integration and synchronisation of DRR policies at different levels of government and between central and local government.
- **There is inadequate investment in risk transfer.**³⁵

The Philippines

The Philippines is one of the most disaster-prone countries in the world, menaced by floods, droughts, typhoons, landslides, mudslides, earthquakes and even volcanoes and tsunamis. According to the 2012 World Risk Report,³⁶ it is ranked third out of 173 countries for disaster risk. Disasters are both high-impact and long-lasting; risk levels are high for many different kinds of disaster and a large proportion of the population is exposed to these hazards. Cyclone Haiyan in 2013 is just one of many devastating hazard events to have hit the country, and in recent years many of these (especially typhoons or cyclones) have been atypical in terms of their strength and the area affected (Kellett J. , 2014).

The evolution of risk management in the Philippines has culminated in a well developed articulation of risk in key processes and plans. The Philippine Development Plan 2011-2016 (PDP) features risk management throughout (Government of Philippines 2011). This prominence is significant in two particular ways: first, it is seen as key to the sustainability of development and, second, the management of disasters is central to ‘ensuring national security’. Often conceived as a joint DRR and climate change adaptation (CCA) requirement, DRM is incorporated into the PDP as a cross-cutting issue³⁷ and is linked to macroeconomics, the impact of disasters on growth, the economic sector, livelihoods and productive sectors, infrastructure, the environment and social development, including achieving the MDGs. It is in the chapter in the PDP on ‘Conservation, Protection and Rehabilitation of the Environment and Natural Resources’ that DRR/CCA is particularly relevant, and where clear goals and objectives for risk management are presented (Kellett J. , 2014).

Modern DRR started with the establishment in 1976 of the National Programme of Community Disaster Preparedness. The impact of national disasters over nearly four decades has forced the

evolution of a once disaster management-focused system towards what is often considered to be a comprehensive set of policies and legislation.³⁸ The Disaster Risk Reduction and Management (DRRM) Act of 2010 is the latest evolution in the management of disaster risk, building on these decades of development and representing, to the Philippines authorities, ‘a paradigm shift connected to the country’s commitment to the HFA’ (Government of Philippines 2011: 331).

The evolution of risk management in the Philippines has culminated in a well developed articulation of risk in key processes and plans.

At the core of the act was the transformation of the National Disaster Council into the National Disaster Risk Reduction and Management Council (NDRRMC), an institutional body that includes representation from the private sector, civil society organisations (CSOs), government financial institutions, etc. The new role went beyond the coordination of response with the development of a DRRM framework (NDRRMF) and through that a long-term plan for reducing risk.³⁹ The framework, adopted in 2011, is meant to ‘provide for a comprehensive, all-hazards, multi-sectoral, inter-agency and community-based approach to DRR and management... [and to] ...serve as the principal guide to DRR and management efforts in the country and shall be reviewed at a five-year interval’ (Government of Philippines, 2010: 12).

The NDRRMF emphasises investment in prevention and preparedness and promotes multi-stakeholder and multi-sectoral participation. It guides the work of the NDRRMC (and its counterparts at the regional and local levels). The council and the framework both operate under a branch of the defence ministry, the Office of Civil Defense (OCD), which is tasked with carrying out the provisions of the 2010 national DRRM Act (the act also allocates the OCD a revolving budget of 1 billion pesos (\$22.63 million) to implement the provisions of the NDRRMF). The framework classifies DRM strategies into four categories, each with a separate government body responsible:

- Preparedness (Department of the Interior and Local Government)
- Prevention and mitigation (Department of Science and Technology)
- Response (Department of Social Welfare and Development)
- Rehabilitation and recovery (National Economic and Development Authority).

In addition to funding for DRR through the OCD and through aspects of the four-pillar implementation system, the Philippines has two separate stand-by funds dealing with disaster mitigation and response that are funded through the national budget. The larger of the two, the Local Disaster Risk Reduction and Management Fund (LDRRMF) (which was known as the Local Calamity Fund until the new act was passed in 2010), is dedicated to pre-disaster preparedness programmes, payment of premiums for calamity insurance and local DRR plans. The Quick Response Fund provides resources for relief and recovery programmes and receives 30% of the budget allocated for the LDRRMF. Both can fund elements of risk reduction.

Thirdly, the National Economic and Development Authority (NEDA) has developed a framework for mainstreaming DRR in the development planning process. Administrative Order No. 1, issued by the President in September 2010,

directs all provinces to use the Guidelines on Mainstreaming DRR in Sub-national Development and Land Use/Physical Framework Plans (which embody the mainstreaming framework). These guidelines were updated to incorporate CCA in 2012 and are also corroborated by the 2011-2016 Development Plan, which mainstreams DRR into its ‘social development’ and ‘infrastructure development’ goals, two of the ten overall areas for targeting resources. DRR allocations, therefore, can also be found throughout ministry budgets, accounting for over 2% of the total national budget in 2011 and spanning a number of sectors and activities (Jose, 2012: 28). Minimising exposure through physical infrastructure projects (such as drainage, flood control and land use management) and technical risk mitigation services comprise the bulk of total DRR budget allocations.

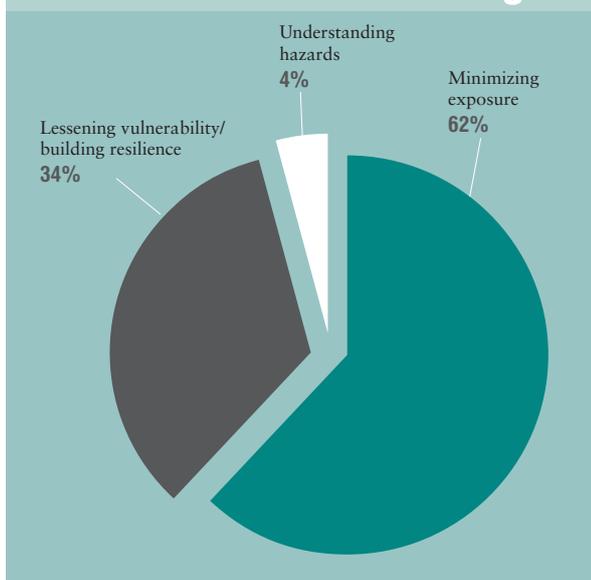
The volume of budget set aside through these and other sources is considerable, certainly when compared with other developing countries, with DRR investments amounting to \$707.8 million in 2009, \$665.7 million in 2010 and \$1,019.3 million in 2011 (\$ 2009 constant prices) (Kellett J. , 2014).⁴⁰ It should be noted that is unclear whether these figures represent the bulk of DRR financing, especially that which sector ministries may undertake.

Finally, in addition to this risk reduction financing, in 2011 the Philippines became the first country in East Asia and the Pacific to take advantage of a Catastrophe Deferred Drawdown Option (CAT DDO) from the World Bank. This is a contingent credit product that provides immediate access to liquidity upon declaration of a state of emergency; the Philippines drew down the full amount of its CAT DDO – \$500 million – to finance recovery and reconstruction costs following Tropical Storm Washi.

These DRM financing initiatives have largely been well received by both Filipino and international stakeholders. However, considerable issues remain, many of which have a financial dimension, including a lack of human capacity, logistics and equipment for all manner of DRR work and a simple lack of implementation of local authority obligations. This is driven by a set of issues, all of which have a financial dimension.

- **Response still comes first:** The focus remains on response rather than reduction, leading allegedly to funds being diverted from DRR back towards responding to disaster (see IDMC, 2013 23.)

Figure 12: The Philippines: distribution of DRR budget



SOURCE: ADAPTED FROM JOSE (2012) AND UNISDR (2012)

- **The governance structure is complex:** There is a complicated structure of national, provincial and local levels, with mismatches in organisational structure across the range of obligations under the NDRRMF and act, forcing local government units to ‘translate the work of five different line agencies into operations of one department at a local level’ (Kellett J. , 2014).
- **The poorest municipalities remain vulnerable:** It is often the poorest areas that have the least capacity; they face a challenging combination of limited local resources to tackle risk and a basket of chronic needs, often exacerbated by recurring disasters.
- **The sheer complexity of DRR financing** (see Figure 13)

Local financing for preparedness is complicated considerably by the relationship between national government and local areas in terms of resources and expenditure and by the many options (each with its set rules and processes) for government to access additional DRR funding. As Figure 13 highlights, there are at least seven different ways in which local government units can fund work in DRRM from within their own budgeting alone.

The most relevant financing route for DRR activities undertaken by LGUs at municipal and barangay (village or ward) level is the ‘disaster risk reduction and management’ fund. This

fund is made up of a minimum of 5% of the local revenues raised by municipalities, which is returned to them by central government. The LGU can decide to spend considerably more than the 5% minimum, which has to go to the four areas specified under the DRRM Act – reduction, response, preparedness and recovery – though a minimum of 30% of this has to be set aside for response.

While this appears to be an admirable way of managing local DRR expenditures, by ensuring that a minimum is set aside for DRRM while allowing devolved administrations to make their own choices about priorities within that minimum, actual implementation has highlighted underperforming LGUs, especially in relation to available resources (Kellett J. , 2014). Poor municipalities may allocate total expenditures of \$25,000 or less annually to stretch across a wide range of needs, which might mean (after further division amongst those needs that) as little as \$1,250 available to spend on each of the four areas under the DRRM Act. The lack of local capacity may also prevent some of these LGUs from being able to creatively find other resources for their DRRM needs, such as those indicated in Figure 13. In areas at threat from climate-related risks, an additional burden that requires financing is the preparation and implementation of local CCA plans; the People’s Survival Fund (created to allow additional funds for this) has not yet been approved by parliament.⁴¹

FIGURE 13: THE PHILIPPINES: LOCAL GOVERNMENT UNIT (LGU) BUDGET POSSIBILITIES AND OBJECTS OF EXPENDITURE

LGU budgets	Objects of expenditure
1. General funding	
– Personnel services fund	Salaries and wages of DRR/CCA staff
– Maintenance and other operating expenses fund	Supplies and materials for DRR/CCA office
– Capital outlay fund	Infrastructure, buildings, equipment
2. 20% local development fund	Development, resilience and adaptation
3. +/- DRRM fund	DRR fund
4. Local CCA fund	CCA fund
5. 10% youth fund	Youth development programmes and projects
6. New fees and charges	DRR/CCA initiatives
7. Cost-sharing of LGUs	DRR/CCA initiatives

SOURCE: (IN KELLETT, 2014 FORTHCOMING)

DRR financing outside government

This paper focuses on financing for DRR from national government resources, but these resources are not spent in a vacuum – they are part of a context of much wider investment in risk reduction. This section examines two other strands of spending – international aid financing and national financing from civil society and the private sector – in the context of the five case study countries.

Research on these subjects is once again limited. This is certainly true of the case study countries, where no comprehensive research appears to have been done to date, but also applies to much of the remaining literature reviewed. Where the papers available on case study countries do examine non-government financing flows, they rarely look at precise processes or scales of contributions, and much of the information refers specifically to individual components – there is almost no mention of how various flows of financing work together, what keeps them aligned or separates them into different purposes. The evidence on additional flows and the rationale behind those flows is thus rather marginal and it also means that, in general, the details cited in this section cannot be derived wholly from existing country-level investigations.

International financing of DRR

International financing of DRR across the five countries examined is very mixed in terms both of volumes of funding and international engagement in general with disaster risk issues.⁴²

Mexico is among the top ten recipients of international DRR funding, with \$586.2 million over a period of 20 years. Its national capacity to deal with disasters, looking at a proxy value such as government revenues (\$2,329.4 per capita on average between 2007 and 2011), is relatively high and the country appears to be well placed to finance DRR activities from both external and domestic sources. However, this is somewhat misleading, given that a single World Bank project for disaster management across a range of sectors in 2000 accounted for \$584 million of that total. The country's UN Development Assistance Framework (UNDAF) is not focused on disasters, although there are

some connections within its goal (one of six) of sustainable environment and a green economy (United Nations Office, Mexico, 2013).

International aid to South Africa, and strategy in general, is not focused at all on DRR. The country received only \$5.6 million over the two-decade period between 1991 and 2010, ranking it 81st in the world in terms of financing volume. Neither its current UNDAF nor the World Bank Country Partnership Strategy (CPS) refers to disaster risk as a key 'pillar' of engagement with the country, or even a priority concern.

DRR financing for Costa Rica from the international community has been almost non-existent – just \$714,000 over the entire 20-year period, despite the country's relatively high multiple mortality risk levels; 120 countries have received more international support for DRR. How, despite these low volumes, international assistance to the country's DRR efforts appears to have slowly become a priority. One of the five priority areas articulated in the most recent UNDAF (2013-2017) is 'environmental sustainability and risk management', particularly in reference to land use planning (United Nations Office, Costa Rica, 2013). Similarly, the World Bank's 2012-2015 CPS specifies 'supporting the environment and disaster risk management' as one of its three 'cluster' priority areas (World Bank, 2011: 19). Both documents identify the potential for Costa Rica to become a leader in DRM, and seek to build the capacity of its DRM institutions.⁴³

In addition to this growing focus on risk, the Costa Rican government has secured a contingency loan agreement with the World Bank, establishing a CAT DDO facility in September 2008, the first country to do so. Part of the \$65 million facility (\$15 million) was drawn from the loan following the 2009 Cinchona earthquake (Clarke and Mahul, 2011: 3).

Indonesia is the second biggest recipient of international DRR funding over 20 years with \$1.4 billion spent, not far off 10% of the global total for that period. The country's national capacity to deal with disasters, looking at its government revenues of about \$513 per capita on average between 2007 and 2011, is relatively high. It appears to be well placed to finance DRR activities, from both external and domestic sources. Its 2011-2015 UNDAF also has as one of three objectives to 'strengthen national and local resilience to climate change, threats, shocks and disasters' (United Nations Office, Indonesia, 2010), and one of four focus areas in the World Bank CPS is called 'Pro-Green: Ensuring sustainable development and improving disaster resilience'.

The Philippines has also been one of the major recipients of international financing of DRR, ranking fourth overall over 20 years, with \$834.6 million. In addition, the international community is clearly engaged with disaster risk in the country: all its key strategic engagement documents, such as the UNDAF, World Bank CPS and ADB strategy, refer heavily to disaster risk and help to drive continued international funding and support.

The country is one of the few where specific analysis is available of how international aid connects with national financing. In a review of emergency preparedness, Kellett (2014) investigates weaknesses in the current system and finds coordination amongst agencies working on a range of DRR activities to be inconsistent, creating a situation where little is understood about what is being done, or by whom. This, above and beyond issues of volume, appears to be the most pressing issue for the international community when considering DRR needs in the country.

BOX 2: INTERNATIONAL FINANCING OF DRR – A GLOBAL PICTURE

Research into international financing of DRR, despite the relatively high profile of the subject, is quite limited. While many papers and research projects have touched in part on financing, this is almost always as part of a more general investigation, or part of research into a different theme or topic. There have been no more than a handful of investigations looking at international commitments to DRR financing globally, comparing and contrasting amongst recipients and donors (see, for example, Kellett and Caravani (2013), Kellett and Sparks (2012), Sparks (2012)). The first of these reports, the most recent, highlighted the following worrying trends over a 20 year period between 1991 and 2010:

- Financing has been highly volatile; only in the past few years has there been relative stability.
- Although \$13.5 billion of financing has been made available, it is a fraction of overall development aid – less than 40 cents in every \$100.
- There is a high concentration of funding in a relatively small number of middle-income countries. The top ten recipients received nearly \$8 billion, the remaining 144 just \$5.6 billion combined.
- Many high-risk countries have received negligible levels of financing for DRR compared with response; 17 of the top 20 recipients of response funding received less than 4% of their disaster-related aid as DRR.
- Financing is very fragmented. The 3,188 projects that cost less than \$1.5 million represent 86.5% of the total number but only 5.5% of the volume of financing. The administrative costs of this have not been calculated.

In addition, the priorities of international financing are, on the whole, not matched with either the needs or capacity of recipient countries:

- There is some correlation between mortality risk levels and volumes of financing, but only at the high-risk level.
- Per capita financing reveals significant inequity. Ecuador, the second highest recipient per capita, received 19 times more than Afghanistan, 100 times more than Costa Rica and 600 times more than the Democratic Republic of Congo (DRC).
- Where the economy is at risk, volumes of financing tend to be high; where populations are predominantly at risk, volumes are often low.
- Financing in drought-affected countries is very weak. Niger, Eritrea, Zimbabwe, Kenya and Malawi have seen 105 million people affected by drought over 20 years, but their combined DRR financing has been \$116.5 million over the same period, the same as Honduras alone.
- Financing does not take into account national capacity or finances. Of a group of 23 low-income countries, 12 each received less than \$10 million of DRR funding over 20 years. These same countries received \$5.6 billion in disaster response, equivalent to \$160,000 for every \$1 of DRR.

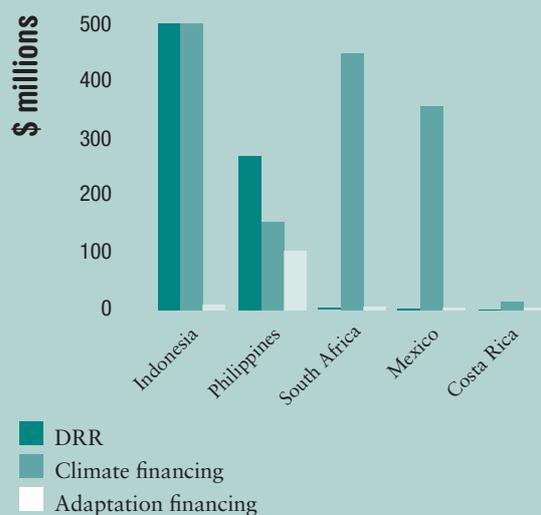
Key issues alluded to in this list of findings that are directly related to issues of national coherence and comprehensiveness of DRR financing include the very uneven financing support to countries most at risk and most in need of support, the heavy burden placed on governments dealing with so many different donors and kinds of approaches, and the lack of a coordinated approach from the international community.

Climate adaptation financing

To contextualise financing from international aid sources, climate adaptation financing is important, as where climate and disaster risk exist there can be a range of similar, often identical activities undertaken, including legislation, integration in development planning, risk management frameworks, and including a range of soft and hard risk reduction measures.

Once again, finding information on volumes and processes at country level is a challenge. Only five of the 79 studies examined as part of the literature review mention CCA as a possible source of funding for DRR (this is probably due to the persistent lack of integration of DRR/CCA in general – see Box 3). Little can be gleaned, therefore, from country-level research as to how adaptation finance connects with national financing of DRR. However, from global sources we can look at a range of international financing for the five case study countries and examine whether there is integration across international sources.

Figure 14: International finance for DRR, climate change and adaptation, 2003-2010



SOURCES: CLIMATE FUNDS UPDATE; KELLETT AND CARAVANI (2013)

The first point is how little finance is actually going to adaptation, compared with other international flows. The total amount of DRR finance in the five countries between 2003 and 2010 was \$843 million, of which climate finance accounted for \$3.47 billion (mitigation) and finance for adaptation only \$130 million. Only the Philippines had a reasonably substantial volume of adaptation financing, and this accounted for a considerable portion of the total, at \$104.2 million. In order to assess levels of integration between DRR and adaptation financing (which, it could be suggested, is similar to the research question on ‘coherence’), we would need to know the details of projects originating from both sources. Unfortunately, we only know how relevant integration is with adaptation funding; in this respect, three of ten adaptation projects across the case studies target DRR, one in the Philippines, one in Indonesia and one in South Africa, for a total of \$25 million.

It is difficult to ascertain how positive a picture this is of integration. Globally available data, however, does suggest that adaptation funding is increasingly financing DRR. Between 2003 and 2011, a total of 347 adaptation projects were approved, accounting for about \$1 billion in financing. Prior to 2008, not one project was targeted towards DRR, which was only a subsidiary target within larger projects. By 2011 the overall profile had changed remarkably – and positively. In that year, of 130 projects approved, 70 had at least a partial DRR objective and 17 were targeted directly towards DRR (Kellett and Caravani, 2013: 18).

Globally available data, however, does suggest that adaptation funding is increasingly financing DRR. Between 2003 and 2011, a total of 347 adaptation projects were approved, accounting for about \$1 billion in financing.

BOX 3: CLIMATE ADAPTATION FINANCING: THE WORK TO DO

A broad and established recognition within the available literature (Venton and La Trobe, 2008; Mitchell and Aalst, 2008) of the lack of integration between DRR and CCA in general is also reflected in legal and financial issues. This lack of integration may be explained by the fact that, while the two agendas have many similarities, they also have differences. While DRR experts tend to learn from past events and put more emphasis on community-based approaches, CCA specialists deal more with risks that have not yet been manifested and so tend to take into account longer-term design strategies. In addition, adaptation is driven more by a top-down process, because of the strong influence of the system around the United Nations Framework Convention on Climate Change (UNFCCC) (Ibid.). Obstacles to integrating funding are created by the fact that both DRR and CCA have their own institutional mechanisms for delivery: so, for example, CCA tends to rely on a country's ministry of the environment or of finance for implementation, while DRR programmes tend to be implemented through inter-sectoral coordination mechanisms (Mitchell and Alst, 2008).

The latest research suggests that little progress has been made in recent years. A forthcoming paper from IFRC and UNDP on disaster risk states:

'Country research indicates, however, that it remains the exception rather than the rule to integrate DRR and climate change approaches in the respective legal frameworks, where both areas are legislatively mandated. The trend in the sample countries, so far, has been to place responsibility for administration of CCA laws with ministries of the environment, with no legislative mandate for them to coordinate with DRM institutions, or vice versa' (IFRC/UNDP, 2014: 70).

Although national plans often group the two areas together as priorities, their funding is institutionally separate (at least in terms of national budget allocations).

The IFRC/UNDP paper suggests, however, that a best practice may be emerging, one where development planning and resource management legislation provide a focal point for an integrated CCA/DRR policy (IFRC/UNDP, 2014: 71). See also Kellett and Peters (2014) for a recent examination of the potentials and limitations of using adaptation funds in the context of emergency preparedness in a number of countries.

Non-governmental resourcing for DRR

As with international aid financing of DRR, research on non-governmental financing is notably lacking in depth and breadth. In the literature there are, as indicated in the case studies, only a few references to either civil society or private sector engagement with financing of DRR (and almost nothing at all on philanthropy or foundations). This is despite what some feel to be the growing importance of the private sector in particular, something that has been repeated in recent UNISDR Global Assessment Reports. When civil society's role in financing and funding is mentioned in the literature, it is usually in connection with its role in maintaining accountability (Newborne, 2008).

Part of the issue, it may be suggested, is that the private sector (and other stakeholders) do not use the same language as DRR experts, financial or otherwise, and they are not part of the same networks. This may suggest that national platforms have some way to go before engaging fully with these stakeholders and bringing them on board in sharing risk reduction visions

(UNISDR, 2011: 59). It may also reflect the fact that when NGOs are involved, the 'contribution' to DRR may not be easily countable in terms of financing and much of it may be collected 'voluntarily' outside of regular reporting systems. However, these considerations are largely drawn from reading between the lines in a range of texts that focus only on national government financing of DRR, where other sources of funding are at best a marginal concern. Clearly more research is required; nevertheless, some interesting information can be gleaned from the country case study material, however piecemeal it may be.

The private sector (and other stakeholders) do not use the same language as DRR experts, financial or otherwise, and they are not part of the same networks.

In **Mexico**, the 'Fondos' system consists of organisations of farmers who join together on a non-profit basis to mutually insure one another against specific named risks to crops through risk pooling and reinsurance. Limited in size, Fondos ensure that farmers know other members and their risk profile, while also helping to promote shared ownership of risk. A joint reporting mechanism exists, with Fondos reporting all claims to the reinsurer rather than each farmer reporting individually, which apparently both reduces costs for reinsurers and ensures less fraud at the individual level (Clarke and Grenham, 2013).

To date in **South Africa**, DRR has been primarily a government concern, according to the literature. This may reflect a relatively low understanding of disaster risk, or low risk-consciousness. A range of national NGOs were surveyed on their work on DRR in 2011, and their answers were very revealing. The majority (55%) indicated that they were not involved with DRM structures at the local or provincial government level. The remainder that reported being involved did so through technical support – including but not limited to aiding municipalities to design plans and guidelines regarding water disaster management, waste management, environmental issues and risk plans for residential facilities. Two-thirds of NGOs surveyed (66.67%) were completely unaware of the legal structure governing DRM in South Africa (African Centre for Disaster Studies, 2011).

The South African government, by way of the Financial and Fiscal Commission (FFC), has indicated that not all funding for DRM broadly should come from 'nationally collected revenue' but, for example, from the private sector, especially the insurance sector (Visser and van Niekerk, 2009: 45). However, the current reality is that few non-governmental actors of any type are involved, neither in general nor financially. Some community funding exists through 'stokvels' (credit unions or savings clubs) and private loans, but these are ex-ante coping mechanisms and are only available in areas where communities can afford high interest rates tied to such loans (van Niekerk and Madubula, 2011: 189). As of yet, the government has not explored market-based financing mechanisms, such as sovereign insurance, risk pooling, reinsurance, index-based insurance, weather derivatives, micro-insurance or catastrophe bonds (van Niekerk and Madubula, 2011: 192).

Several of the research papers on DRR in **Costa Rica** imply that sources for financing the CNE/FNE could be sought from outside government, but that as yet little has been done. Research into the private sector and DRR highlights that current legislation 'does not provide incentives or promotion for the reduction of risk within the business actions, and the same situation is observed in terms of fiscal incentives or business continuity' (Sarmiento and Hoberman, 2012: 18). Much of the weakness is attributed to broader issues with a lack of stakeholder involvement in DRR (as well as its financing), which is reported by the government itself in its report on DRR financing (Gallardo, 2011).

Indonesia and the Philippines, on the other hand, appear to offer some optimism: in part, it is suggested, because risk-consciousness is high in general in these countries and permeates society well beyond government and governance.

Indonesia, for example, relies heavily on support from national NGOs. Nine NGOs have been participating in DRR initiatives to a substantial degree since the early 2000s, and they implement a number of activities with a strong focus on education and community awareness. The funding sources for these initiatives are corporate social responsibility (CSR) programmes run by private companies and donations from private international institutions. However, the volumes of funding appear to be very low, ranging from \$0.15 million to \$1.5 million per year.

Most of these NGOs report being involved in the preparation of the National Action Plans for DRR 2006-2009 and 2010-2012 (Darwanto, 2012). However, the government is clearly identified by all actors as the main 'promoter' of DRR financing in the country, and only it can induce both the private sector and civil society to increase investments in DRR; this is still seen as a somewhat nascent activity, however, and a weakness to be addressed (Maarif, 2013: 4).

The Philippines is a country where consciousness of disaster risk is particularly high. Civil society plays a major role across a wide range of DRR activities, from community preparedness to research into risk and vulnerability, with NGOs and academia heavily engaged. It is also one country where rhetoric about the role of the private sector appears to be matched by action. A recent study by the Overseas Development Institute (ODI) reflects on the range of private sector organisations and their activities (Kellett and Peters, 2014):

- Philippine Business for Social Progress (PBSP) is the country's 'largest business-led social development organisation'. It works with its 243 member companies to integrate CSR into their core work, and examines the impact of business on the country's growth. It also has a philanthropic wing; in 2012 it reported giving support to more than 14 million people, both from its members and from other sources. It is increasing its work as part of a combined DRR/CCA agenda.
- The Corporate Network for Disaster Response is similar to the PBSP, and focuses on disasters in particular. Again sponsored by a mix of member and external contributions, it works in areas ranging from disaster response to preparedness, with a particular focus on the country's most vulnerable areas.
- One of the most promising public-private sector partnerships for DRR is the Philippine Disaster Recovery Foundation (PDRF). Set up following the 2009 typhoon season, it is venturing beyond reconstruction into ex-ante initiatives, such as using mobile phone company installations to install rain gauges for monitoring purposes.
- The Filipino private sector is also expanding its influence and sharing its expertise beyond its own borders. In early 2013, SM Prime Holdings (the country's largest chain of shopping malls) joined UNISDR's private sector advisory group.

Summary points on non-governmental financing of DRR

- Little work has been done on national financing of DRR that attempts to comprehend how financing from both international actors and government revenues can be effectively and efficiently utilised. Research is urgently needed.
- Where national levels of risk-consciousness are high, such as in the Philippines, actors are very likely to consider risk a priority issue for financing.
- However, consistent financing from the international community is seen in only two of the five case study countries. Global analysis reveals many more problems, including a lack of clear targeting of DRR resources to where need is high and capacity is low.
- There is no evidence of concrete, coherent support from the international community, though there is no great evidence of divergence from national priorities either.
- Little evidence is seen of integration of adaptation financing and DRR in the case study countries.
- National platforms for risk reduction still need to bring more actors together from beyond the DRR sector.

The Philippines is a country where consciousness of disaster risk is particularly high. Civil society plays a major role across a wide range of DRR activities.

Comparing across contexts: case study analysis

Given these caveats, what can we draw from the case studies to help us understand how best to undertake DRR financing from national resources? What can be learned despite contextual differences? What are the lessons we can learn from elements of financing shared across the case study countries and those that differ? And, in particular, what can help to inform future financing models, processes and relationships?

Summary: coherence and comprehensiveness?

The five country contexts are very different in terms of the scale and scope of disaster risks, general wealth levels,⁴⁴ the political setting and many other factors that affect the way in which DRR is financed and the priority it is given amongst many other competing priorities. In addition, understandably, the type of risk governance in place, including legislation and frameworks, determines much. The question is, given this, is there something tangible that we can say about coherence and comprehensiveness?

Figure 21 makes it clear that some countries do perform better than others when examined by each of the seven research questions used as criteria for this research. Costa Rica, Indonesia and the Philippines all in general perform reasonably and finance DRR reasonably coherently and comprehensively. Perhaps unsurprisingly these three countries prioritise disaster risk, implement across and through development and allocate dedicating finance. Mexico and South Africa meanwhile, perform poorly, but for quite different reasons, the former largely because of the predominance of risk financing above all else, and the latter because of more considerable weaknesses, including the low priority given to disaster risk.

What is important and obvious through the research is that gaps remain, regardless of individual country progress made. Local level financing is a shared weakness across all five countries, including those that have made progress in other areas. There are questions of the adequacy of financing in general, and transparency and accountability are in much need of improvement. In most of the countries the engagement of other

actors and their financing (including that of the international community) is not clear, showing that more needs to be done to integrate (and leverage) the financing from non-government actors.

However, given all this, it is not possible from an examination of the available country-level literature (even when using supporting ‘global’ sources) to see how truly effective each country is in reducing its disaster risk, and how financing contributes to that effectiveness. Essentially, we are comparing across countries, rather than measuring the success of each. Much more work is needed to unpick how the financing of DRR works, and how it can be transplanted from one place to another. Much needs to be done to understand how different kinds of risk reduction activities, with quite different costs, could benefit different contexts. From coherence and coordination, we must move towards effectiveness.

Highly varied models of financing

A high degree of variability is found in the financing models for DRR used in the case study countries. What drives the differences is difficult to ascertain directly from the literature. What we do know is that all five financing structures have in some way evolved from earlier, simpler financing structures, often built upon pre-existing disaster management priorities and institutions that then grew into broader DRM. However, in the cases of Indonesia, the Philippines, Costa Rica and to an extent Mexico, DRR has ‘outgrown’ its parent DRM structures, evolving to encompass its own legislation, framework and funding streams.

The following is an overview of the various models found in the case studies, with a simplified overall suggestion of how ‘successful’ each approach has been.

- **Mexico:** Disaster management agency is financed directly through parent Ministry of Interior; risk reduction activities financed largely through a DRM-focused structure (FONDEN); evidence of sector/development DRR financing minimal. **Overall: Too focused on risk transfer and retention and not sufficiently on DRR.**
- **South Africa:** Largely subsumed within broader DRM concerns, the DRR financing structure is complex and rather convoluted, with central government financing also vaguely ‘optional’. Sectoral financing is obligatory using existing budgets, but additional funds can be sought for national priorities. **Overall: not a model as such, but a complicated and vague structure with unclear financial responsibilities.**

FIGURE 15: ANALYSIS OF NATIONAL FINANCING COHERENCE OF DRR ACROSS THE FIVE CASE STUDY COUNTRIES

	Mexico	South Africa	Costa Rica	Indonesia	Philippines
Models of DRR financing	DRR is specifically targeted with dedicated funding, but less integrated with other sectors. Risk transfer and retention dominate.	Incoherent and vague financial architecture throughout.	Mixed model: stand-alone funding for the country's key risk agency is supplemented considerably by funding from sectoral ministries (3% of their budgets). DRR responsibility and financing are also part of these ministries' own work, linked to the country's general development goals.	Substantial financing for central bodies responsible for disaster risk, as well as large-scale stand-alone DRR financing, often for infrastructure projects. Ministerial funding for DRR exists, but its scale and scope are unclear.	Stand-alone funding exists for key risk agencies. DRR allocations can be found throughout sectors and activities, with increasing integration between DRR and adaptation financing. Two separate stand-by mechanisms are funded through the national budget.
DRR and development planning	Integrated, but only as a political rather than as a specific financial commitment. Poor risk analysis in investment planning.	Recognised but not prioritised in the National Development Plan 2030.	National Development Plan (NDP) emphasises the need to integrate risk reduction for natural hazards into public investment decisions.	DRR is considered a national priority within the Mid-Term National Development Plan 2010-2014, but is not appropriately programmed or financed in the plan.	DRR treated as a cross-cutting issue, often merged with CCA and incorporated into the National Development Plan.
National to sub-national funding flows	Municipal government capacity to implement DRR remains weak.	The role of local governments in implementing DRR is emphasised in the National Disaster Risk Management Framework but no funding is allocated to them.	Municipalities tend to have sparse capacity to manage local risks.	Few funding flows to sub-national levels as a result of poor coordination mechanisms between these levels.	Lack of capacity at the local level leaves municipalities underfunded.
Adequacy of national financing	Lack of up-to-date information.	No information available.	Lack of up-to-date information.	Funding increasing over time but inadequate to meet needs.	Volumes of funding relatively high, but the country is also one of the most disaster-prone in the world.

FIGURE 15: ANALYSIS OF NATIONAL FINANCING COHERENCE OF DRR ACROSS THE FIVE CASE STUDY COUNTRIES (continued)

Transparency and accountability	Limited capacity to track DRR expenditure as no tracking code exists.	Almost nothing is said about the volumes of money spent on DRR in the country. Weak due to a lack of risk-consciousness.	Lack of recent data on volumes of funding for DRR and currently there is no system in place to track DRR investment.	Stand-alone projects have budget classifications but it is difficult to track embedded projects.	There is no system to track DRR spending at national level and information is also scarce at the sub-national level. However, high risk-consciousness ensures that accountability in general is quite high.
Integration of non-government finances	Catastrophe bonds and household insurance use the private sector for risk transfer. These are broader DRM mechanisms and have little connection to risk reduction; indeed private companies do not pay for incremental measures of DRR in the event of reconstruction after disaster. There is little evidence of integration of non-government financing, partly because there is little evidence of consistent financing from any source.	Limited evidence but, overall, scant integration of the various sources of non-government finances. Minor technical support from national NGOs for local-level DRM, sometimes DRR.	DRR activities appear to be integrated with adaptation priorities (e.g. early warning systems and future risk analysis).	Potential to integrate finance from international sources (including adaptation) with national finance because of the high volumes of finance flowing. In addition, reliance on national NGOs to implement DRR suggests integration, though in practice research to date has not sketched out the potential scale and scope of civil society's financial contribution to DRR.	CCA and DRR national spending appear to be integrated, but less so international financing and national spending on DRR. National private sector and civil society are well integrated into government-led risk framework, and although financial relationships are not always clear, a degree of financial integration is imagined.
Accurate reporting on financial objectives	Almost entirely positive answers in the HFA Monitor, not completely matched by research.	Many questions not answered in the HFA Monitor, so difficult to answer questions about accuracy of reporting.	All positive answers to the HFA Monitor, largely borne out by research.	All positive answers to the HFA Monitor, largely correct, but issues remain.	Almost entirely positive answers to the HFA Monitor, largely correct.

NOTE: THE COLOUR CODING USED IN THIS FIGURE IS RELATIVE ACROSS THE CASE STUDIES AND IS INTENDED AS A QUICK VISUAL CUE TO THE LIKELY SUCCESS OF EACH CRITERION OF COHERENCE. GREEN EQUALS GOOD, YELLOW AVERAGE AND RED POOR.

- **Costa Rica:** Mixed model. Stand-alone funding for key risk agency is supplemented significantly by funding from sectoral ministries (3% of budgets). DRR responsibility and financing are also part of these ministries' own work, linked to the country's general development goals. **Overall: largely successful.**
- **Indonesia:** Substantial financing for central bodies responsible for disaster risk, as well as large-scale stand-alone DRR financing, often for infrastructure projects. Ministerial funding for DRR exists, but the scale and scope of this are unclear. **Overall: Largely coherent financing model.**
- **The Philippines:** Stand-alone funding exists for key risk agencies. DRR allocations can be found throughout sectors and activities, with increasing integration between disaster risk and climate adaptation financing. Two separate stand-by funds exist for mixed DRM/ DRR-specific activities. **Overall: Multiple approaches, but held together well by strong legislation and framework.**

All of the countries, except Mexico,⁴⁵ make the integration of risk (and its financing) an issue for sectors and ministries, and for development in general. The problem is with the implementation of these 'instructions'. Even in the Philippines, where instructions to integrate DRR into development planning and financing are relatively clear, there is little clarity on exactly how that should be done. In the remaining three countries, the issues with integrated financing are more obvious. In South Africa, a lack of clear guidelines or general understanding of DRR, together with a perception that 'risk' is someone else's problem, has led to a lack of financing. In Indonesia, instructions within policy are relatively clear, with sectoral ministries responsible for financing DRR (alongside substantial stand-alone, risk-dedicated projects). Finally, Costa Rica, perhaps the most successful financing model, has used a rather unusual 'dual' system where sectors are supposed to finance DRR through their own work while also contributing 3% of their own budgets for DRR to CNE, the national disaster management agency.

In summary, almost nothing is shared across the five countries in terms of how DRR is financed at a national level. The only pattern noted – broadly, and not yet fully implemented – is that Costa Rica, Indonesia and the Philippines present a mixed model of financing with both stand-alone DRR investments or dedicated funds as well as DRR activities embedded within other sectors. These appear to be the most coherent

three of the five models, with a degree of clarity on how financing works, from policy through to practice. The financing of DRR in South Africa and Mexico is largely focused on a broader DRM perspective, with South Africa dominated by 'response' and Mexico by 'risk transfer'. In both cases, DRR financing appears to suffer.

All of the countries, except Mexico, make the integration of risk (and its financing) an issue for sectors and ministries, and for development in general. The problem is with the implementation of these 'instructions'.

Risk largely integrated into development planning

It is in general development where the bulk of risk can be added, by the public and especially the private sector, and it is therefore through development planning – from overall development strategies through to the work of sectoral ministries – that risk reduction efforts will have the most impact. It is important to understand, therefore, how each of the case study countries demonstrates integration of disaster risk issues into development planning.

All five countries mention disaster risk in some way or other in their development planning, as can be seen in the figure below, and for all but one (South Africa) DRR remains a development priority. South Africa's planning is the weakest, as it really only focuses on 'disaster preparedness'. Mexico is arguably the next weakest because it focuses largely on risk financing, rather than reduction, and its DRR financing is marginalised by its heavy focus on broad DRM. Costa Rica's most recent national development plan talks of the need for risk reduction to be integrated into public investment decisions. The two countries with the highest risk profiles (and similar levels of government revenues per capita), Indonesia and the Philippines, reference disaster risk frequently in their most recent development strategies. The Philippines stands out amongst the case study countries for the way in which disaster risk is a priority for national security.

FIGURE 16: HOW DRR IS ARTICULATED ACROSS KEY DEVELOPMENT LEGISLATION, PLANS AND FRAMEWORKS

	Mexico	South Africa	Costa Rica	Indonesia	Philippines
DRR legislation bodies and legislation	SINAPROC: executive coordination agency for disaster prevention, post-disaster response and reconstruction activities	National Disaster Management Framework of 2005 guides implementation of the 2002 Disaster Management Act, which established the Disaster Management Centre (principal unit for national DRM)	National Risk Prevention and Emergency Management Commission (CNE) and the National Emergency Fund (FNE) established in 1969 and updated by law most recently in 2005	Coordinating role played by the National Agency for Disaster Management (BNPB). National DRR plan for the period 2012-2012. Other national planning documents also recognise the importance of DRR activities	National programme of preparedness established in 1976. The National Disaster Risk Reduction and Management Council has drafted a DRR framework. Three DRM-dedicated funds are active in the country
National development and DRR	National Development Plan 2013-2018 recognises the importance of DRR	National Development Plan 2030 mentions disaster preparedness as one of its objectives	The 2011-2014 National Development Plan (NDP) emphasises the integration of risk reduction for natural hazards into public investment decisions	The Mid-Term National Development Plan 2011-2014 considers disasters as a priority	The Philippine Development Plan 2011-2016 (PDP) features risk management throughout
Climate change and DRR	National Climate Change Strategy articulates disaster as a lack of control of climate risk. It suggests more funds for prevention, linking this to both mitigation and adaptation	National Climate Change Response White Paper highlights the need for additional funding for DRR in the context of climate change	The National Climate Change Strategy was integrated into the National Development Plan. It calls for climate to be mainstreamed into national strategies. No direct DRR linkages, but shared 'pillars' such as capacity building, financing, etc.	Climate change is recognised as a cross-cutting issue, embedded in three of 11 priorities in the national strategic plan: food resilience, energy and disaster management	DRR and CCA are joint requirements of the PDP

SOURCE: ODI

Weak local-level financing

One of the most evident weaknesses shared across the five case studies is the lack or unreliability of funding at a local level. Each of the studies reveals a slightly different picture of uncoordinated, malfunctioning or absent DRR financing flows from the national to the sub-national level.

In the Philippines, local-level financing of DRR is problematic due to a combination of complexity and (related to this) uneven resources. Local-level DRR is obviously highly dependent on the capacity of a municipality to implement measures, yet the budgeting system can actually lead to the poorest, marginalised municipalities (which are often those most at risk of disaster) having less money and therefore fewer resources (Kellett, 2014). In Indonesia, legal and institutional structures exist and decentralisation in general is strong, but budgeting for DRR at a sub-national level just does not occur. It is similar in South Africa, where a lack of risk-consciousness and understanding of the issues at the national level leads to a lack of money locally; essentially there is little money and even when it is available, local authorities are not aware of how to use it. An additional issue for South Africa is the vagueness and complexity of legislation guiding DRR financing, with central government able to choose whether or not to fund activities, which leaves local government unclear as to where its responsibility begins and ends. In Costa Rica, municipalities are obliged by law to maintain permanent emergency management committees and to undertake local risk reduction activities; in reality, however, they receive little funding, and also face a lack of technical capacity and human resources. For Mexico, meanwhile, the bulk of the available literature concentrates almost exclusively on FONDEN and risk transfer, with risk reduction being a marginal concern at best, especially at the local level. Even here, the literature that touches on financing tells us that, despite reasonably robust legislation and devolved responsibility, local-level financing is problematic at best (Wilkinson, 2012).⁴⁶

Even in those cases where countries have robust laws and legislation for the financing of DRR at local levels, sustainable revenues for DRR are lacking. Politics, a lack of incentives, a heavy burden of bureaucracy, the complexity of systems, a lack of clarity on roles and responsibilities, weak local-level capacity to plan, unclear processes – all affect local-level financing of DRR in different measures across the five case studies.

Even in those cases where countries have robust laws and legislation for the financing of DRR at local levels, sustainable revenues for DRR are lacking.

Little evidence of transparency or accountability

The transparency of available information on DRR financing and the necessary holding to account of government and other actors that control that financing are both key to achieving effective and efficient programming and implementation. What does current research into DRR financing say about these issues? Are there references to processes of accountability? The following is what is evident from the literature, with countries ordered best to worst for transparency and accountability, according to an analysis of the source material.

- In Costa Rica, the CNE has a high level of credibility due to its sustained evolution and implementation and its reputation for transparency in its use of reconstruction resources (Poundrik, 2011: 8). Meanwhile, the work of effective integration of DRR into development is still evolving, including tracking. The Ministry of National Planning and Economic Policy is elaborating ‘the development of instruments for pre-investment design and evaluation that incorporate risk analysis criteria’ (Orihuela, 2012: 8). This should allow effective tracking of allocations of financing to DRR and may incentivise that financing, by making it clear what body is investing what level of funding, and how risk in general is integrated into sector and ministry activities.
- The Republic Act 10121 commits the Filipino government’s DRR programme to principles of good governance, including transparency and accountability. The law decentralises much responsibility for DRR to local governments, which may increase accountability. The Philippines does not yet have a system to track DRR spending in the national budget, but one research paper offers a bespoke analysis (Jose, 2012).

- The monitoring of expenditure and outcomes of the financing of DRR in **Indonesia** is facilitated by a budget classification developed by the government for stand-alone activities (Gordon, 2013). It is more difficult to track DRR investments embedded in other sectors. Darwanto (2012) proposes a specific budget code for DRR (a code for each area of action), along with DRR outcome and output indicators that could be used in a standardised way by all ministries and agencies involved. These are based on the classification of DRR programmes identified in national disaster laws and regulations.
- **Mexico** has limited capacity to track DRR expenditure because it does not use a specific code for the area. This may change, as a new initiative between the Mexican government and the World Bank intends to analyse DRR investments and their impacts, appraise the use of hazard risk information in national investment decisions and design a mechanism for monitoring future DRR investments (Gordon, 2013: 11).
- Research in **South Africa** attributes a clear lack of accountability to a lack of awareness of and demand for DRR services on the part of the public (van Niekerk and Madubula, 2011). This is in general an outcome of the low level of risk-consciousness across society, shared by politicians and civil society alike. There is little transparency in funding for DRR, with even the NDMC lacking information on financial flows for a range of DRM issues.

In summary, we know from the HFA Monitor that the majority of countries (including the five case study countries) report having a national disaster information system publicly available and also the availability of information on DRR practices at a community level. In addition, all have commitments to transparency, accountability and open data through the Open Government Partnership (OGP).⁴⁷ However, the case studies do not have much to tell us about the full range of accountability and transparency issues and much, it is imagined, would be dependent on the general public reporting and accountability mechanisms that exist in each country.

Largely unknown adequacy of national financing

Challenges exist in comparing actual DRR volumes across such diverse contexts: the limited standardisation of what is considered to be DRR, the way in which DRR expenditure is included within other expenditures, the issues of currencies and years of pricing and finally the various years in which financing is reported.

Some comparable figures do exist in a different piece of research (Kellett and Caravani, 2013) but only for two of the five case study countries (the Philippines and Indonesia). A comparison of these two and three additional countries (Panama, Guatemala and Peru), where prices have been translated into comparable figures, highlights significant domestic investment in DRR compared with the international DRR funding available. In this case, for example, the Philippines, Indonesia

Figure 17: National financing of DRR



NOTE: AVERAGE OVER A NUMBER OF YEARS (INDONESIA 2006-2012, PHILIPPINES 2009-2011) OR VALUE FOR A SINGLE YEAR (PERU 2012, GUATEMALA 2010, PANAMA 2010), 2009 PRICES. COMPARED WITH INTERNATIONAL FINANCING AVERAGE OVER THE PERIOD 1991-2010. SOURCE: KELLETT AND CARAVANI (2013)

and Guatemala are all financing DRR way beyond international levels, with the stand-out example being Indonesia, which has provided more than \$900 million over a sustained seven-year period.

While these volumes are not insignificant, their usefulness is somewhat undercut by a lack of full knowledge of DRR commitments made by governments, due to a lack of shared definitions

and beyond that risk governance systems, which hinders a full ‘counting’ of DRR from national budgets. This is exacerbated by the lack of a robust system for tracking DRR expenditures in any of the case study countries. What we do know is that much needs to be done to track just how much is spent on DRR, for what activity and through which agency.

FIGURE 18: COMPARABLE INFORMATION AND DATA ON THE FINANCING OF DRR IN CASE STUDY COUNTRIES

		Mexico	South Africa	Costa Rica	Indonesia	Philippines
Volumes of DRR funding	Amount spent on DRR, and by which national body	\$25 million in 2011 financed as 3% of FONDEN budget		In 2007, \$21.2 million for specific risk reduction through CNE. Plus \$17 million to FNE from public entities	\$900 million stand-alone average over six years	Average stand-alone annual \$800 million, 2009-2011
	International (1991-2010) (\$ million)	586.28	5.61	0.71	1,439.20	834.58
	International (2003-2010) (\$ million)	2.08	5.58	0.71	553.95	280.42
Volumes of climate funding	International climate financing (2003-2010) (\$ million)	364.81	441.93	18.14	2.5	148.22
	International adaptation funding (2003-2010) (\$ million)	4.50	6.78	4.85	9.9	104.20
Risk indicators	MRI	6	4	7	9	8
	% population at risk	68.2	56.4	84.8	67.4	81.3
	% GDP at risk	71.1	62.4	86.6	62.3	85.2
	% population affected by droughts	0.12%	1.64%	0.00%	0.02%	0.18%
Geo-economic indicators	Government revenues (average 2007-2011 per capita \$)	2,329.40	2,038.85	1,192.93	513.64	416.42
	Income level	UMIC	UMIC	UMIC	LMIC	LMIC
	Region	Latin America and Caribbean	Africa	Latin America and Caribbean	Asia and Pacific	Asia and Pacific

SOURCE: LARGELY FROM KELLETT AND CARAVANI (2013), SUPPLEMENTED BY LITERATURE ON EACH CASE STUDY COUNTRY

Much needs to be done to track just how much is spent on DRR, for what activity and through which agency.

Figure 18 compares the five countries across a range of ‘volume’ indicators and against both risk and economy. What it shows, amongst other things, is that country wealth is not necessarily leading to weak DRR financing, as we can see with both the Philippines and Indonesia, both high risk, relative low per capita wealth and yet some of the highest volumes of DRR financing from national budgets, according to available research on developing countries.

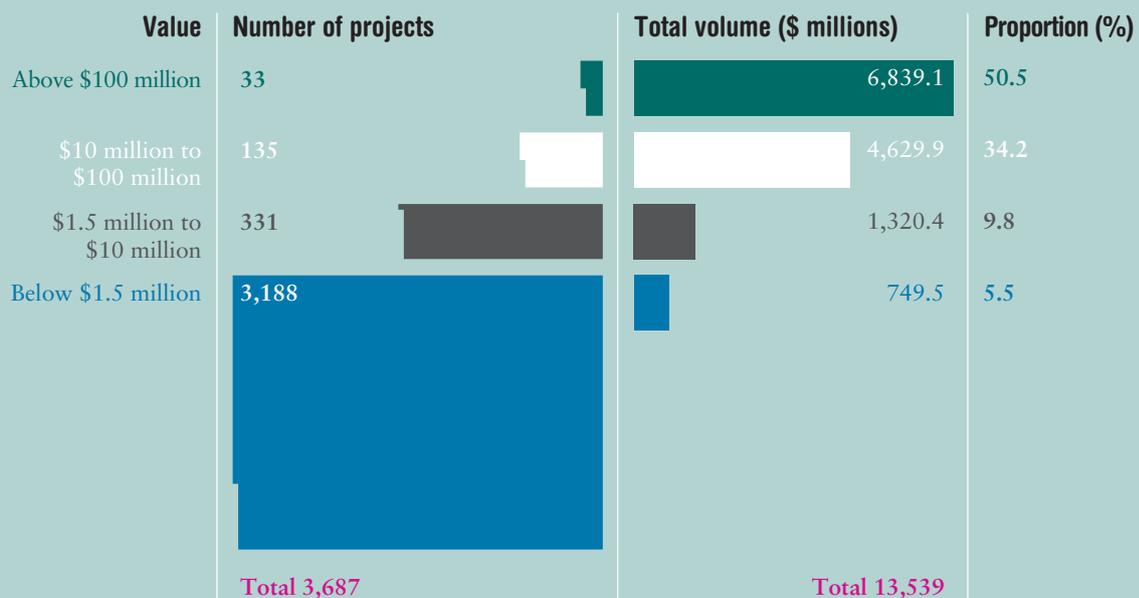
What we do not know, even in countries where we have a reasonable picture of financing, is the relationship between volumes spent and needs. Very little of the available literature discusses volumes of DRR financing, and none talks of the adequacy of the financing available.

Poor integration of non-governmental financing

Perhaps one of the most striking and obvious points to be taken from Figure 17 is that international DRR financing is not necessarily a disincentive for national financing. It is not possible to tell definitively if it is an incentive either, although an analysis of funded international projects for both Indonesia and the Philippines does suggest considerable engagement with those countries (technical support, capacity building, early warning systems, etc.) during the years the government has been investing.⁴⁸

There is no evidence from the research that there is a coordinated, coherent relationship between international and national financing.

Figure 19: Concentration and fragmentation of international DRR funding, 1991-2010



SOURCE: TAKEN FROM KELLETT AND CARAVANI (2013)

However, other research, targeted specifically towards preparedness, suggests that in many countries the relationship between international and national financing of DRR is extremely problematic. International financing is complicated and fragmented, with an array of separate institutions, mechanisms and approaches funding different activities in very different ways (Kellett and Peters, 2014: 51).

In addition, there are issues with semantics, unclear roles and responsibilities and inadequate tracking of international contributions, all underpinned by a general lack of country capacity and inadequate planning (Ibid.: 94-95). In fact, despite significant challenges, national governments often have a much more rational and logical approach to the financing of DRR.⁴⁹

In addition, case study research, at least in the cases of Costa Rica, the Philippines and Indonesia, suggests that international strategy frameworks are responding to the imperative of disaster risk. In each case, both the country's UNDAF and World Bank CPS contain strong references to disaster risk and the need to build partnerships to tackle that risk. The issue here is that these guiding documents only structure the engagement of a section of international actors – the UN through the UNDAF and the World Bank through its country strategy. There is no evidence from the research that there is a coordinated, coherent relationship between international and national financing. Indeed, some research suggests that coordinated, coherent support for government is lacking even when these strategy documents focus on disaster risk (Kellett and Peters, 2014).

International financing is complicated and fragmented, with an array of separate institutions, mechanisms and approaches funding different activities in very different ways

In addition, international aid is fragmented into a multitude of projects, which could arguably be another indicator of a lack of integration. An analysis of the heavy concentration of DRR financing in a relatively small number of projects reveals a concomitantly massive fragmentation at lower project volumes (see Figure 6). Between 1991 and 2010, just 33 projects with a value of more than \$100 million apiece accounted for more than 50% of all DRR – \$6.9 billion in total. A further 466 projects each worth above \$1.5 million accounted for a further 44%. This meant that a total of 3,188 projects shared just \$749.5 million, working out at just \$235,112 per project. There is no information to date on the administrative burden placed on national governments in managing so many small projects.

We see the same at a country level, with significant fragmentation. Here, however, only the data from Indonesia and the Philippines is useful; it shows an average value per project of less than \$10 million, despite the high volumes of aid received overall.⁵⁰

FIGURE 20: FRAGMENTATION OF INTERNATIONAL FINANCING OF DRR, RANKED BY AVERAGE VALUE PER PROJECT

	Number of projects	Value of projects (\$ million)	Average value per project (\$ million)
Mexico	12	586.3	48.86
Indonesia	163	1,439.2	8.83
Philippines	138	834.6	6.05
South Africa	20	5.6	0.28
Costa Rica	17	0.7	0.04

SOURCE: KELLETT AND CARAVANI (2013)

Debateable accuracy in reporting objectives

Have case study countries reported accurately on the financial aspects of their work under the HFA? Or are there discrepancies that need to be examined before further attempts are made to build coherent national systems of DRR financing? This can be considered by going back to the country reports made to the HFA Monitor introduced earlier, but focusing this time on only the five case study countries.

Figure 20 suggests a generally positive picture of DRR financing. Three of the five countries report that disaster risk is taken into account in public investment and planning decisions and four say that risk is also accounted for in national development planning. All five report that disaster risk is additionally reflected in climate change policy and strategy and four of the five report that 'national and sectoral public investment systems incorporate DRR'. Four report functioning local level-preparedness.

However, there are discrepancies between the reporting and reality, according to the research. The reporting of the last three items listed in Figure 20, all of which focus on work likely to come under sectoral ministries, is not necessarily confirmed by the case studies. Neither do we know the extent to which disaster risk is really taken into account in 'public investment and planning decisions'. This all comes back to one of the key weaknesses of the HFA Monitor, which in places has 'yes/no' answers for complicated questions that should be tied much more to outcomes rather than process. Overall, it could be argued that reporting through the HFA Monitor is stronger and more accurate when it considers 'policy', and much less so when it talks of 'volume' or actual detail of financing processes.

All five countries report that financing exists for local preparedness, but individual studies are much more sceptical, certainly regarding the financing available within local government. It appears that progress is still needed, given that in 2009 the GAR reported: 'Even in countries with adequate legislation and national plans little is happening on the ground, especially in small, rural municipalities and informal settlements' (UNIDSR, 2009).

FIGURE 21: CASE STUDY COUNTRIES' FINANCIAL REPORTS TO THE HFA MONITOR⁵¹

	Country/income group				
	Mexico (UMIC)	South Africa (UMIC)	Costa Rica (UMIC)	Indonesia (LMIC)	Philippines (LMIC)
Reporting period	2011-2013	2004	2011-2013	2011-2013	2009-2011
Is disaster risk taken into account in public investment and planning decisions?	Yes	Question not raised	Yes	Yes	Question not raised
Is disaster risk taken into account in the national development plan?	Yes	Question not raised	Yes	Yes	Yes
Is disaster risk taken into account in climate change policy and strategy?	Yes	Yes	Yes	Yes	Yes
National and sectoral public investment systems incorporating DRR	Not indicated	Yes	Yes	Yes	Yes
Local-level preparedness	Yes	Question not raised	Yes	Yes	Yes
Investments in retrofitting infrastructure, including schools and hospitals	Yes	Not indicated	Yes	Yes	Yes
Investment to reduce risks to vulnerable urban settlements	Yes	Not indicated	Yes	Yes	Yes
Investment in drainage infrastructure in flood-prone areas	Yes	Not indicated	Yes	Yes	Yes

SOURCE: ODI BASED ON HFA MONITOR

BOX 4: DOES RELATIVE WEALTH DICTATE THE FINANCING OF DRR?

On the surface, this might appear to be an easy question to answer, as more money overall should equate to more money for DRR. This report wished to draw upon the financing experiences of a wider range of countries, especially those that are low-income. However, there was only enough research material on one of the 16 countries listed in Figure 4 that are classed as low-income for it to warrant consideration for this paper, and on reflection even this country – Nepal – had much more material on international engagement than on national. Simply, very little research has been done on national financing of DRR in low-income countries, even those that are relatively unaffected by issues of conflict and insecurity and where government-led DRR is still viable. Beyond these important caveats, can we say anything about the five countries that we have examined?

Indonesia and the Philippines are relatively similar in terms of government revenues per capita, with about \$500 per year. Revenue for Mexico and South Africa are both above \$2,000 and Costa Rica is somewhere in the middle, at just over \$1,000. Little is discernible in terms of models or processes that can be easily attributed to relative levels of wealth. All of the systems on display (to varying degrees) place risk within development planning and policy, and all at least talk of integrated financing of risk. A clear negative that is shared is the inability to translate overall national financing of risk into sub-national financing. Risk transfer, meanwhile, a more sophisticated tool of broader DRM (rather than of risk reduction) and usually used by richer nations, is used by both the poorest of the five countries, the Philippines, and the richest, Mexico. The Mexican model is, however, more advanced, with a series of interconnected transfer-retention mechanisms; this is probably the one stand-out issue. Response remains dominant in all five countries, especially in the Philippines and Indonesia, given the sheer scale and number of natural hazards that these countries face.

In terms of volume, the two countries with the lowest per capita incomes, Indonesia and the Philippines, spend up to \$1 billion per year on DRR, a far larger amount than the traceable financing in the other case study countries (although it must be remembered that this is by absolute volume, not per capita).

In summary, from the case studies, the relationship between a country's wealth and its model or volume of DRR financing is not at all clear. This suggests that, while additional wealth could indeed improve risk reduction if a country prioritised it appropriately, there is no definitive connection. An example from a developed country, Italy, may be useful here. On the night of 9 April 2009, the L'Aquila earthquake destroyed student accommodation, killing those inside; the building had been constructed in a known seismic area on top of unsafe sand deposits. Reform of institutions with a focus on risk is not just a developing country issue.

Recommendations for improving national financing of DRR: the HFA and beyond

We cannot say that the HFA has failed to deliver on effective and coherent financing of DRR. Neither can we say that the relatively weak articulation of financing within the HFA has actually led to weak financing, just as it cannot be said that all successes during the period the HFA has been in operation are down to the HFA itself. Clearly countries were failing and/or succeeding in risk reduction efforts long before the HFA was formulated. Each country examined in this report, for example, has a long history of usually increasing sophistication in dealing with issues of disaster risk, moving in different ways from a focus on disaster management to DRM and then to DRR.

If there is a guide for the recommendations in this section, therefore, it is the inter-relationship between those that are directed towards various different actors – national governments, the international community, the research community – and those that are directed towards the likely successor framework to the HFA. Naturally there is some synergy between these recommendations, with the successor to the HFA (and the institutions around it) also in some ways responsible for enabling these various actors to achieve the reduction of disaster risk. However, the responsibility is shared amongst many stakeholders, and the evidence to date on financing suggests that there have to be many routes towards the adequate financing of DRR.

If there is one general principle that underpins all the rest, it is that making and respecting financial commitments to risk reduction is essential to make progress. No amount of good legislation or strong DRR frameworks, even those that make risk reduction an issue sector by sector, will make a difference if insufficient financing is allocated to undertake the necessary measures. However, the lack of DRR financing itself, and even the lack of coordination or coherence of that financing, may not be an issue of availability, but one of prioritisation, an issue that remains with many countries with high risk of disaster. Future developments must be considered in light of this complexity.

National governments

Establish legal mandates for sustainable DRR resources

Governments must establish legally mandated mechanisms to provide sustainable resources for risk reduction. These should include mechanisms under DRM/DRR legislation but also under sectoral legislation, the latter ensuring that financing for risk reduction is available and prioritised across all development planning. Part of this work must be an examination of the benefits of relatively low-cost normative risk reduction against more expensive hard infrastructure measures.

Clarify and simplify legislation

Much of how financing works is tied to legislation on DRR or more often broader DRM, and sometimes even wider than this, as part of strategy and planning for both climate change and broad development goals. All national governments should examine their current legislation, frameworks and development planning to ensure that DRR is not fragmented or confused by its integration (or lack of it) across key government policy.

Focus on local financing

Time and again, even when on the whole the financing of DRR is not an issue at national level, it is locally. Even when processes are understood and responsibilities are clear, the actual funding that can be obtained locally is highly variable and is rarely sustained. Governments should seek to understand how flows of financing from national to local levels (sometimes local to national and back again) work, paying special attention to articulating and planning the removal of key blockages – legislative, bureaucratic and political.⁵²

Involve national non-governmental actors to a greater extent

National government finances are only one part of the DRR puzzle at country level. Increasingly, private sector and other investments outweigh national financing, and could be elevating as much as reducing levels of risk. Governments must develop a clearer understanding of the scale and type of these other flows – remittances, philanthropic flows, private sector investments –

to both ensure that risk is not increased and to understand how they could be better utilised for risk reduction. Part of this work will require a far stronger national platform for risk reduction in many countries, bringing a more diverse group of actors together, including the private sector.

International community

International financing can be a dynamic source of support for nationally led DRR. There are excellent examples of technology transfer and capacity building, though marred in some cases by a lack of coherence and coordination, usually caused by the complexity of the system. A series of inter-related improvements are required.

Finance only as part of a robust national system of risk management

International financing needs to be much more focused on supporting the building of a robust national system of risk management (both within and beyond government), with specific support for risk reduction. This entails a move away from stand-alone direct risk reduction undertaken by international aid actors towards a coordinated and coherent contribution to DRR in each country.

Prioritise more financing to high-risk, low-capacity countries

International DRR should be much more dynamic and should seek out opportunities to finance; it should not simply follow national priorities when risk is obviously being sidelined. This applies especially to low-income, low-capacity countries, which historically have been considerably underfunded for DRR. These countries are the ones that most require international aid. In addition, relatively high volumes of international DRR financing are not always central, especially in larger countries; the international community needs to commit much more in poorer countries, where the need is greater and the impact of external support could be significantly greater. It should also use the HFA successor process to identify and commit to targets (see below).

Focus on comparative advantage

Over the past two decades there has been an improvement in the type of activities financed by the international community, with a move away from heavy infrastructure, for example (Kellett and Caravani, 2013). However, there is still work

to be done to ensure that international aid is targeted only to what is required in each context, especially the transfer of technology and building of capacity.

Integrate risk into internal systems

International donors should lead by example by integrating risk management into all investment and funding provision, including through multilateral architecture. This will also entail the demarginalisation of DRR structures from within humanitarian structures, a weakness that still exists across a wide range of donors. This leadership from donors can act as a financial incentive for the development system as a whole to integrate risk management throughout policies, practices and programming.

Close the DRR/CCA divide

The time has come to move beyond rhetoric on the divide between DRR and CCA at both country and global levels, and to realise how using different approaches and financing channels to carry out sometimes fundamentally similar activities in the same context can actually contribute to undermining those activities. The international system should analyse the comparative advantages offered by both CCA and DRR financing in their respective areas of expertise (e.g. in terms of implementing institutions, technical capacities, technologies deployed), and the two sectors should learn from one another in order to implement activities efficiently, capitalising on each other's specific competencies, while saving significant financial resources. This should include an examination of what significant changes should take place at an institutional level to maximise the use of these funds. This work has to be at the most senior level possible within the relevant CCA/DRR structures, with a high-level commitment to change given at the outset of the investigation.

Academic and research community

Significantly improve the quality and scope of research

There is an urgent need for considerable investment to expand research into national financing of DRR, which is currently very weak, lacking breadth and depth and missing out some

key issues. The range of research required, to different degrees, includes the following topics:

- The effectiveness of financing
- Detailed analysis of financing models
- Local-level financing of DRR
- Relationships between national and non-governmental resources in financing DRR
- Incentivisation within and between government agencies, learning from other fields (such as medicine)
- Practical cost-benefit and business case exercises
- DRR financing in low-income countries
- Comparative advantages of international aid.

Map DRR financing approaches

An element of this work should be to map out exactly how different DRR financing systems work across all contexts. This should include both developing and developed countries and full information on financing models against activities financed.

Map countries' financing needs

There must be improved mapping of disaster risk-related needs at country level and analysis of how these match with the type of activities funded so far, to identify the main gaps and point out the specific types of activities required (e.g. within DRR).

Learn lessons, build tools

See HFA recommendations below.

The successor to the HFA

Our understanding of the effectiveness of DRR financing is still limited, and the HFA and its Monitor tool largely prioritise the process of doing DRR, rather than the outcome. Even this report's estimate of the coherence of financing systems is based largely on reports of how models appear to operate and on whether or not financing actually flows, but not on an appreciation of the effectiveness of this work. There is an urgent need to reorient thinking on DRR from processes and systems towards outcomes, driving change by targeting effectiveness.

Set targets for financing (including accountability and transparency)

Without clear guidance and targets, countries will not be able to truly measure progress and institutions that provide aid will have no benchmarks. Targets should be set for both international actors and especially national governments for the financing of risk reduction. Mechanisms for effective accountability and transparency to support this financial commitment will need to be made, and targets should be outcome- and not process-based.

Refocus the HFA Monitor and make it more robust

The discrepancies between countries' reporting and actual results are important. The HFA should be underwritten by much more work to support the actual implementation of DRR financing at a national level. There should be significant work in learning lessons, tailoring best practice to new contexts, etc. Specific recommendations to support this include much more robust (multi-stakeholder) peer review and verification of reports at a country level, and investigations into what can likely be attributed to the specific financing of DRR rather than other flows.

Invest substantially in tracking DRR financing

If there is one element of national financing of DRR in particular that requires centralised, standardised support, it is tracking. Without tracking information, investigations into DRR financing and its effectiveness will always be handicapped. Tied into Monitor reporting, the successor framework to the HFA should build an effective tool to be used across different contexts for mapping stand-alone and embedded DRR financing, from the level of semantics up and including the type of activity being undertaken. Lessons learned from other cross-cutting issues such as gender and CCA would be invaluable in this task.

Learn lessons and build and disseminate models and tools that can be replicated

In 2013 the Global Platform for Disaster Risk Reduction made it clear that HFA stakeholders had moved largely out of the 'advocacy' phase and are now firmly engaged with 'implementation'. In some cases, national

governments are making substantial commitments to reduce disaster risk, but at the same time are looking for clear guidance to maximise the effectiveness of the work being done. This report suggests that much research needs to be done, and that this research should be tailored towards providing governments with tools and guidance for the national financing of DRR. Governments urgently require technical support within planning, financial and budgetary agencies to effectively embed risk management within their taxation, spending and investment portfolios.

Financial models are very diverse, as has been discussed, and it may not be possible to devise a simple tool that can be used across all contexts. Whatever tool is designed needs to cope with multiple diverse contexts and to be based on some basic principles, such as detailed risk assessments, adequate planning, investigations into legislation and frameworks and strong national platforms. Finally, all guidance should be focused on execution underpinned by truly robust monitoring.

In 2013 the Global Platform for Disaster Risk Reduction made it clear that HFA stakeholders had moved largely out of the 'advocacy' phase and are now firmly engaged with 'implementation'

Endnotes

- 1 One exception is that financial risk sharing mechanisms are one of the key activities for Priority Action 4: Reduce the underlying risk factors.
- 2 Note that some of this has been anticipated in the consultations on the successor framework to the HFA. See UNISDR's reflection on post-HFA discussions to date (UNISDR, 2013: 6-7).
- 3 This includes targets for the inclusion of disaster risk in future development goals, some of which have already been articulated and are likely to have a financial dimension. For example: i) as part of a stand-alone DRM goal: indicator to 'reduce the risk of disasters' – percentage of budget allocated to DRR/preparedness; ii) within a 'resilience'-type goal: indicator to 'enhance community resilience' – percentage of budget allocated to DRR/preparedness (both of these are from ODI (2013)).
- 4 'We must ensure that development strategies and programmes prioritise the building of resilience among people and societies at risk from shocks... Investing in resilience and risk reduction increases the value and sustainability of our development efforts.' – Busan Partnership (2011) outcome document, Fourth High Level Forum on Aid Effectiveness.

'Natural disasters can be a serious impediment to poverty reduction and affect poor and vulnerable people the most, and their impact is on the rise.' – World Bank (2012) IMF Development Committee Communiqué.

'[We need effective adaptation strategies that] ... help manage disaster risk now and offer near-term development benefits, while reducing vulnerability over the longer term.' – IPCC (2012) *Special Report on Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation (SREX)*.

'We recognize the value of Disaster Risk Management tools and strategies to better prevent disasters, protect populations and assets and financially manage their economic impacts.' – G20 Leaders Declaration (2012).

'Development cannot be sustainable if the disaster risk reduction approach is not fully integrated into development planning and investments... Development investment that does not consider disaster risk will lead to the accumulation of more risk.' – UN Secretary-General's Report on the Implementation of the International Strategy for Disaster Reduction.
- 5 One study (IFRC/UNDP, 2014) suggests Japan as a country where this is the case, with a culture of risk permeating many areas of law.
- 6 Note that this funding may still be spent by non-DRR focused agencies, such as cases when implementation is better allocated to specialised sectoral agencies, e.g. fire or water resource agencies. Note also that these financing options could easily be made more complex by looking in greater detail at DRR-specific budget financing. For example, a forthcoming report on DRR legislation by the International Federation of the Red Cross (IFRC) and the UN Development Programme (UNDP) outlines three likely models (IFRC/UNDP, 2014: 57): i) A guaranteed budget percentage model, at national and sub-national levels, mandated by law; ii) The federal funding model, where DRR is primarily a state power but federal revenues are made available annually as DRR funds (for prevention, mitigation, resilience), as a financial incentive for state and municipal governments; iii) The practice of establishing a dedicated fund for DRR projects under special laws outside regular government budgeting, available to receive both government and donor funding. These funding mechanisms could be more flexible to changing needs.
- 7 The two main models are the federal (annual recurrent funds) and special fund law (to build a reserve allowing local project applications).
- 8 Diagram inspired by the ODI development finance/landscape report found at: <http://www.scribd.com/doc/210962315/New-Development-Finance-Landscape-Interim-Report-February-2014>
- 9 Malawi classes as 'high-risk' because of the substantial impact of drought, which is not taken into account by the MRI (UNISDR, 2009).
- 10 Government revenues are made by a tax component and a non-tax one (e.g. revenue from sovereign wealth funds and state-owned enterprises/corporations). They also include fees, fines, mineral and property rights. Sources: IMF Regional World Economic Outlooks.
- 11 Developed by UNISDR, the MRI is based on modelling hazards (cyclones, floods, earthquakes, landslides) for frequency and severity, human exposure and vulnerability. A series of indicators rank each country on a scale of 1 to 10 (negligible to extreme). These are then used to generate an overall figure for the country (see UNISDR (2009) for more details).
- 12 Authors based on data from CRED EM-dat.
- 13 Kellett and Caravani (2013).
- 14 Kellett and Caravani (2013).
- 15 World Bank classifications: <http://data.worldbank.org/about/country-classifications/country-and-lending-groups> - Low_income
- 16 South Africa and the Philippines are not included in the 2011-2013 National Progress Query Tool as their most recent National Progress Reports are from 2004 and 2011 respectively. Note that it would be very useful to attribute achievements within these various processes to either national or international funding. This is outside of the remit and resources of this paper, but would warrant additional research.
- 17 See pp. 43-44 for a comparison of research conducted on case study countries and what they report through the HFA Monitor.
- 18 The literature review used a range of financing and budgetary keywords in conjunction with DRR, DRM or other related terms. It included a review of journal articles (using Metalib) and grey literature (using Google Scholar and Preventionweb) and was also supported by discussions with several experts in the field. Both quantitative and qualitative research was included with a focus on studies that look at national financing first (and only secondarily how international financing supports national processes.) Studies were in general only considered that make some reference to DRM activities occurring from 2005 onwards (i.e. during the HFA) – i.e. it could be that financing occurred before 2005, but the activities under discussion continue after 2005. The languages covered included English, Spanish and French.
- 19 Low-income countries are poorly represented in terms of research into their financing of DRR. Haiti, Bangladesh, Cambodia, Niger, Uganda, Nepal, Malawi, Afghanistan, Burkina Faso, Ethiopia, Myanmar, Sierra Leone, Eritrea and Zimbabwe all have government revenues of less than \$100 per person on average. In the literature review undertaken for this report, the authors sourced only 21 papers covering a range of DRR financing issues for these 14 countries and only two papers that focused primarily on the way in which national governments finance their risk reduction efforts, both of which were for Nepal, though in this case largely from an international perspective. There is also a

- dearth of literature on national catastrophe risk financing for low-income countries, perhaps reflecting that on the whole only relatively wealthy developing nations can support such schemes. Micro-insurance does feature in some of the material focusing on low-income countries, with four studies detailing micro-insurance for climate-related risks in Bangladesh, Ethiopia, Malawi and Nepal.
- 20 Several forthcoming papers also touch upon aspects of government capacity to undertake risk reduction, for example, IFRC/UNDP (2014) on DRR legislation and Wilkinson et al. (2014).
- 21 The technical arm of SINAPROC is the Sitio Oficial del Centro Nacional de Prevención de Desastres (CENAPRED). CENAPRED conducts research, training and the application of technologies to prevent and mitigate disasters.
- 22 See Poundrik (2011) and World Bank (2012).
- 23 Information on Mexico's 'risk retention' is taken largely from Poundrik (2011) and Cardenas et al., (2007).
- 24 Both Suarez and Bayer (2011) and the OECD (2013) recommend that more emphasis should be placed on the development of a personal insurance culture, through incentives and regulatory changes, to enlarge personal household insurance coverage.
- 25 From CRED EM-DAT.
- 26 Note that the legislation around local government responsibility for DRR is rather vague. Article 43 of the Disaster Management Act stipulates that a district/municipality is expected to establish and operate its DRM function and activities in partnership and cooperation, but specific guidelines are not provided.
- 27 Although funding mechanisms for DRM were revised in 2005, it has been noted that current legislative, policy, institutional and funding mechanisms are not being fully applied or adhered to by the different spheres of government (van Niekerk and Madubula, 2011: 28).
- 28 www.ndmc.gov.za
- 29 This is a representative of the provincial authorities
- 30 It should be noted that these issues were recognised to an extent by government (though not necessarily acted upon effectively) when the country's Financial and Fiscal Commission (FFC) recommended in 2001 that 'the major portion of funding for emergency responses, post-disaster recovery, prevention/mitigation, and emergency preparedness, should, in the case of municipalities, be funded centrally', and in addition 'the start up costs of primarily low-capacity municipalities should be funded by means of a conditional grant from the national government' (FFC, 2001: 14-15). In addition, it highlighted both complexity and lack of clarity in DRR financing regulations in meeting the additional burden of funding at a local level without funds being made available (ibid.: 15).
- 31 These are largely derived from Ghesquiere and Cortez (2008), Gallardo (2011) and Poundrik (2011).
- 32 Rencana Pembangunan Jangka Menengah Nasional or RPJMN.
- 33 www.bnppb.go.id
- 34 These are largely taken from Darwanto (2012).
- 35 Mahul and Gunawan (2011) explore a range of options for DRR funding in Indonesia: a) short term, develop financial disaster risk assessment tools and a disaster risk financing strategy relying on risk retention and risk transfer; establish a national disaster reserve fund as a fast-disbursement mechanism. b) medium term, establish a disaster risk insurance programme for public assets, promote property catastrophe risk insurance for private dwellings. c) long term, establish a joint disaster reserve fund for local governments.
- 36 The World Risk Report: United Nations University/The Nature Conservancy (2012).
- 37 See Annex D of the NDRRMP for a detailed matrix of areas within the PDP that are connected to the country's DRM strategy.
- 38 See Kellett (2014) for a full chronological list of policy/structure developments.
- 39 This is the National Disaster Risk Reduction and Development Plan (NDRRMP).
- 40 Total DRR budget allocations increased by just over 44% in constant \$ prices for the period 2009-2011, due primarily to additional investment in rehabilitation and reconstruction following two major cyclones (typhoons) in 2011 (this is considered to be risk reduction, according to Filipino law and financing).
- 41 The elements in this section on local-level financing of DRR are taken largely from (Kellett J. , 2014) and were accurate as of mid-2013.
- 42 All figures for international financing of DRR in this sub-section are taken from Kellett and Caravani (2013).
- 43 One positive point regarding international financing of DRR in Costa Rica is made by Orihuela (2012), who remarks how technocrats have emphasised their satisfaction with World Bank, Inter-American Development Bank (IDB) and GIZ projects, expressing the view that international DRR projects have supported one another rather than duplicating efforts.
- 44 See Box 4 for an indication of whether relative wealth affects structures and volumes of DRR financing.
- 45 Indeed, Mexico does not indicate in its HFA reports whether national and sectoral investment systems incorporate DRR.
- 46 Note that the available literature for Mexico says almost nothing about local financing of DRR.
- 47 <http://www.opengovpartnership.org/countries>
- 48 This is taken from data prepared for Kellett and Caravani (2013)
- 49 The evidence for these statements is taken in part from detailed case study examinations of Haiti, the Philippines, Myanmar, Sudan and Niger, undertaken as part of Kellett and Peters (2014).
- 50 Mexico's data is dominated by a single project that represents nearly all of its DRR funding from the international community, while financing to South Africa and Costa Rica is extremely small in volume.
- 51 While Mexico, Costa Rica and Indonesia have all compiled their latest reports for 2011-2013, the Philippines' most recent report is from 2009-2011 and that of South Africa from 2004. These earlier reports do not present the same questions as the 2011-2013 reports, which shows that indicators of progress have changed over time. It is unclear why these two countries have not compiled the latest reports; the lag in South Africa's reporting in particular needs addressing. In addition, Priority Action 4, concerned with reducing underlying risk factors, has as one of its indicators: 'Disaster risk reduction is an integral objective of environment related policies and plans, including for land use natural resource management and adaptation to climate change'. The HFA Monitor tool reports that 89% of reporting countries are implementing CCA projects, but it is unclear whether or not these are integrated into other DRR activities. Furthermore, the five countries examined all self-report that disaster risk is taken into account in climate change policy and strategy.
- 52 Local-level prioritisation should include the prioritisation of the poorest and most marginalised communities.

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Abbreviations

BNPB	National Agency for Disaster Management (Indonesia)
CAT DDO	Catastrophe Deferred Drawdown Option
CCA	Climate change adaptation
CNE	National Emergency Commission (Costa Rica)
CPS	Country Partnership Strategy (World Bank)
CRED EM-DAT	Centre for Research on the Epidemiology of Disasters Emergency Events Database
CSO	Civil society organisation
CSR	Corporate social responsibility
DRM	Disaster risk management
DRR	Disaster risk reduction
DRRM	Disaster risk reduction and management
FFC	Financial and Fiscal Commission (South Africa)
FONDEN	Natural Disasters Fund (Mexico)
FOPREDEN	National Disaster Prevention Fund (Mexico)
GAR	Global Assessment Report on Disaster Risk Reduction
GDP	Gross domestic product
GFDRR	Global Facility for Disaster Reduction and Recovery
HFA	Hyogo Framework for Action
HIC	High-income country
IDB	Inter-American Development Bank
IFRC	International Federation of the Red Cross
IPCC	Intergovernmental Panel on Climate Change
LIC	Low-income country
LMIC	Lower-middle-income country
MDG	Millennium Development Goal
MRI	Mortality Risk Index
NDMC	National Disaster Management Centre (South Africa)
NDMF	National Disaster Management Framework (South Africa)
NDRRMC	National Disaster Risk Reduction and Management Council (Philippines)
NEDA	National Economic and Development Authority (Philippines)
NGO	Non-governmental organisation
ODA	Official development assistance
ODI	Overseas Development Institute
OGP	Open Government Partnership
PBSB	Philippine Business for Social Progress
PDP	Philippine Development Plan
PDRF	Philippine Disaster Recovery Foundation
SINAPROC	National Civil Protection System (Mexico)
UMIC	Upper-middle-income country
UNDAF	United Nations Development Assistance Framework
UNDP	United Nations Development Programme
UNFCC	United Nations Framework Convention on Climate Change
UNISDR	United Nations Office for Disaster Risk Reduction/United Nations International Strategy for Disaster Reduction

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