

# Chapter 6

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# Disaster Resilience in a poverty reduction goal

Resilience in the context of poverty  
reduction post-2015: the new  
geography of poverty and risk

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## Executive summary

This chapter focuses on questions of enhancing resilience and reducing vulnerability amid broader debates on poverty reduction in any post-2015/new MDG framework(s). However, its scope is different to that of others in this ODI report as it is wider and goes beyond resilience largely in the context of DRR. In short, it is about how the broader issues of enhancing resilience and reducing vulnerability could be factored into the post-2015 framework(s).

The chapter does three things: (i) it sets out the changing context for poverty and vulnerability reduction post-2015 or a 'new geography of poverty', and extends this into a 'new geography of risk', making projections forward to 2030; (ii) it outlines the relationships between poverty, vulnerability, risk and resilience, and their manifestations in this 'new geography'; and (iii) it suggests three poverty/vulnerability domains and accompanying indicators emerging that would have value-added in tracking enhanced resilience in any post-2015 framework with the aim that stressors and shocks do not hamper broader poverty reduction efforts, whether they be disaster-related or other shocks and stressors.

### Key messages

- 1 The poor (however defined) face a range of variabilities and risks, in terms of not only shocks but also slow-burning stressors, which can deplete resilience/capacities to cope in general and particularly during acute shocks. Such risk exposure is potentially compounded and co-evolving, and can be a major hindrance to governments' poverty reduction efforts. Further, 'poverty' does not in all likelihood end at \$1.25/day or \$2/day per person or the national poverty line, as insecurity and the risk of falling in poverty often continue up to around \$10/day per capita, at which point vulnerability to extreme/moderate poverty declines drastically.
- 2 The good news is that the bulk of the world's poor (however defined) are no longer concentrated largely in the world's LICs, least developed countries (LDCs) or aid-dependent countries, so the prospects for reducing risk are, in many countries, not hindered by overall financial resources *per se* to the extent they have been in the current MDG period.

- 3 Three poverty indicators – with feasible 2030 targets – that would better capture the tracking of poverty from a resilience perspective in a post-2015 framework would be (i) proportion of population below the 'security poverty line' of \$10 PPP per capita (to be reduced by 1 billion people by 2030 or 2 billion by 2040); (ii) proportion of population 'not receiving social protection' (to be reduced to 25%) or government spending on social protection as a proportion of GDP (to be increased to 5% of GDP); and (iii) a new indicator added to the Gallup World Poll reporting the proportion of the population replying positively to the question, 'Are you better able to cope with hazards/shocks than a year ago?' An alternative indicator, already available in Gallup World Poll is, 'Is the area where you live becoming more liveable?' (with a target for either of positive end-of-scale responses from over 75% of the population).

## 6.1 Introduction

This chapter focuses on questions of enhancing resilience and reducing vulnerability amid broader debates on poverty reduction in any post-2015/new MDG framework(s). For this chapter, 'post-2015 framework' means the MDGs/SDGs process widened to include two other 'post-2015 frameworks', relevant to the topic of DRR, namely, climate change post-Kyoto and DRR post-Hyogo, being negotiated in 2015.

However, the scope of this chapter is different to others in this ODI report as it is wider and goes beyond resilience largely in the context of DRR. In short, it is about how the broader issues of enhancing resilience and reducing vulnerability could be factored into the post-2015 framework(s).

The discussion relates to both the impacts of major shocks (e.g. large-scale flooding) and more frequent slow-burning stressors (e.g. repeated 'minor' flooding) on poverty and poverty reduction efforts, and how both stressors and shocks can hamper broader efforts to reduce poverty. Vulnerability is not defined simply by exposure to an external pressure but determined by the development processes that regulate relationships between a unit of interest and a hazardous process or force. Vulnerability then is internal to development, not an externality of development.

## 6.2

# What are vulnerability and resilience?

A common starting point in thinking about poverty in terms of vulnerability and resilience is to consider what is meant by the terms ‘vulnerability’ and ‘resilience’ in terms of sensitivity to and capacity to cope with hazards/shocks/stressors or variability within the development process.<sup>1</sup> Table 9 provides definitions and combinations that point towards the independence of vulnerability and resilience. Combinations of high and low resilience and high and low vulnerability are possible, and examples of each are given. The outline draws on a metaphor developed by Room (2000) and Wood (2003), which emphasises two key dimensions of the vulnerability–resilience nexus. The first, ‘snakes and ladders’, refers to expected and unexpected vulnerability – meaning variability – that can lead to an advance (ladder) or decline (snake) in human wellbeing. Second, ‘buffers and passports’ refers to resilience capacities (buffers) and abilities to take opportunities from the situation faced (passports). Poverty (or otherwise) is determined, and poverty alleviation or resilience-building capacity circumscribed by governance. While livelihoods remain central, this observation shifts the balance of attention from livelihoods towards governance in explaining, mediating and moderating poverty, risk and resilience. For example, access to security of tenure, where people live, access to insurance, microcredit, local support networks and so forth all hinge on governance in a broad sense – informal and formal.

In an extensive review of longitudinal datasets, Dercon and Shapiro (2007) note that an individual’s descent into poverty can be explained by anticipated temporary shocks such as illness and health-related expenses; social and customary expenses on marriage and funerals; high-interest private loans; crop disease; and drought and irrigation failure. Dealing with such temporary shocks often requires strategies (buffers and possibly passports for some), such as selling assets – which may result in greater vulnerability in the longer term. Indeed, ‘risk-averse’ strategies become more important under conditions of compound, repeat and complex shocks and stressors. One might say they are two sides of the same coin: more vulnerability

means less resilience and more resilience means less vulnerability, in any area of concern (natural hazards, health, education, economic, financial or institutional capacity etc.).

In its most general sense, vulnerability is thus seen as the risk that a household, community or country could be negatively affected by a stress or shock associated with an environmental, socioeconomic, physical or political hazard, or some combination thereof, that as noted is part of development processes not external to it (Naude et al., 2009a; 2009b). Questions of risk, variability, sensitivity and exposure are at the heart of the concepts of poverty, vulnerability and resilience: how a household, community or country deals with and reacts to risk; what kinds of outcomes result from a particular risk; and through what processes a risk produces a given outcome.

Vulnerability is not the same as risk. Risk results from the combination of hazards and vulnerability. For example, the IPCC Working group on Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation (SREX) (IPCC, 2012) observes that the main determinant of vulnerability to climate-related disasters is exposure (where people live and quality of dwellings), not susceptibility or hazard character. Shock and stress emanate from hazards. UNISDR (2009b) thus defines vulnerability as ‘the characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard’.

This discussion alludes to fact that the impacts of hazards can be disaggregated into shocks and stressors. The UNISDR Global Assessment Report (2009a) uses the terms ‘high intensity low frequency’ and ‘low intensity high frequency’ to distinguish two types of hazards and extensive versus intensive risk. Extensive describes individual low-impact but high-frequency and widespread events that can in aggregate have a greater erosive effect on development gain than intensive events, which describe unique, catastrophic events. These are somewhat comparable with shocks and stressors: shocks refer to sudden-onset risk events, such as floods, droughts and price spikes, whereas stressors refer to more gradual shifts, such as regular non-catastrophic flooding, land degradation or socioeconomic marginalisation (Hart, 2009). A key

**Table 9**  
**What are vulnerability and resilience?**

		Resilience or 'buffers and passports' <i>Capacity to cope and/or (even) advance</i>	
		High	Low
Vulnerability or 'snakes and ladders' <i>Sensitivity and/or 'hazard'/'harm'/'variability'</i>	High	Highly vulnerable but resilient, e.g. an elderly couple living in a flood-prone neighbourhood but with full health and property insurance, supporting social networks and excellent emergency services	High vulnerability and low resilience, e.g. an isolated rural community dependent on rain-fed agriculture and with few resources following previous rounds of economic or environmental stress and shock; a community beyond the reach of humanitarian and development aid, perhaps because of conflict
	Low	Not vulnerable and with high resilience, e.g. a well-resourced family not exposed to current hazards and with sufficient capacity to enjoy flexibility in resource expenditure (i.e. savings), access to knowledge resources to plan for the future and insurance to cope with unforeseen contingencies and surprises	Not vulnerable but also not resilient, e.g. a household not exposed to current risk, but one that has not been able or is not willing to invest in protecting the household from uncertainty and future contingencies. Investment in education and insurance and engagement in community governance are not priorities

Source: Adapted from Sumner and Mallet (2013)

distinction is the difference in time scale. While the duration of a shock may be short, its impacts can persist for longer after the initial event and erode resilience capital, as noted earlier.

Finally, it is worth noting vulnerability can be viewed as vulnerability to falling below a specific poverty line or falling further below a specific poverty line (see also later discussion). The poor (however defined) may face different kinds of risk exposures, in terms of not only the qualitative and quantitative nature of hazard exposure but also physicality and existing stretched resilience/capacities to cope. For example, as Table 10 shows, the proportion of Mexican households facing shocks in the poorest income quintile (a relative definition of poverty) is significantly higher than that in the richest income quintile.

Table 10: Shocks by income quintile in Mexico, 2002-2005 (%of households) In sum, resilience and vulnerability do not represent opposite ends of the spectrum, but rather form part of the same equation: resilience determines in large part how people or systems prepare and respond to shocks, and hence how people or systems are affected by those shocks and how vulnerable they are to experiencing a particular outcome. Further, some variability can be anticipated to a certain extent, such as funeral costs or dowry. It is useful to distinguish, as the IPCC SREX does, between coping (using assets to mitigate harm today) with adaptation – reorganising entitlements and consequent assets in preparation for anticipated harm tomorrow.

The current MDGs were borne in a different era, when vulnerability and resilience, DRR and CCA

**Table 10**  
**Shocks by income quintile in Mexico, 2002-2005 (%of households)**

	Exposure to any shock	Loss of dwelling	Loss of crops	Loss of livestock	Dwelling, crops and livestock
Poorest 20%	29.0	1.6	5.7	2.3	8.0
Richest 20%	21.5	0.5	1.5	1.5	3.1
Average	25.1	0.9	2.8	1.2	4.2

Source: Adapted from López-Calva and Ortiz-Juarez (2011)

were less prominent on the political agenda. Despite the clear reference to the topic in the 2000 Millennium Declaration, with specific MDGs selected soon after, DRR was not included explicitly, and the link with MDG 7 is arguably too tenuous to be meaningful. MDG 7 became the environment MDG, including a number of indicators such as on forest cover and protected areas (and also sanitation and drainage), but this was not extended to consider hazards arising from degraded environments.

The Millennium Declaration notes the importance of ‘protecting our common environment’ and agreement ‘to intensify cooperation to reduce the number and effects of natural and man-made disasters’, and includes a mention of climate change; the MDGs contain several elements of vulnerability (poverty, health care, education, sanitation and drainage), but these are somewhat disarticulated and so lose policy purchase. That said, the MDGs also focused extensively on ill-health, the most common impoverishing shock.

## 6.3 The new geography of poverty and risk

### The new geography of poverty

The ‘new geography of poverty’ refers to the fact that the distribution of global poverty (income poverty as well as ill-health and malnutrition) has shifted from countries classified by the World Bank as low income towards (new) MICs, and a billion extreme (\$1.25) poor or a ‘new bottom billion’ live in MICs (Sumner, 2010; 2012a; 2012b; 2012c). The same is true by multidimensional measures

of poverty, and by ill-health (Alkire et al., 2012; Glassman et al., 2011; Kanbur and Sumner, 2011).

This means the bulk of the world’s poor (however defined) are no longer largely concentrated in the world’s poorest countries – whether defined as LICs or LDCs or aid-dependent countries. Of course, this is not to say the 300 million extreme (\$1.25) poor in LICs/LDC do not matter rather than the bulk of world poverty is now in countries where average income are rising. The result, one could argue is that, to a certain extent, the resource constraints and aid-led costing debates of the first round of MDGs are less pressing in any new MDGs/post-2015 framework. Most MICs have credit ratings and can borrow from capital markets (and indeed may prefer to do so to avoid conditionalities). Concessional lending may remain important, as it is cheaper, but it is important to note the number of aid-dependent countries is declining and the vast bulk of world poverty is no longer in such countries. In fact, almost 130 developing countries have an official development assistance (ODA) to gross national income (GNI) ratio of less than 2%, and only around 40 countries have an ODA to GNI ratio of more than 10% in the most recent data (Edward and Sumner, 2013).

Although the World Bank’s country thresholds do not mean a sudden change in countries when a line is crossed in per capita income, substantially higher levels of average per capita income in countries that are experiencing significant economic growth implies substantially more domestic resources available for poverty reduction. Of greater note for aid donors is the fact that the aid system, including many aid agencies, does, in general, treat countries differently if they are MICs (or at least consider MIC classification a reason in itself for reducing aid flows). However, there are good reasons for continuing aid to MICs



in terms of concessional loans rather than grants. Further aid modalities could be the co-financing of global or regional public goods such as vaccination programmes and/or research and knowledge transfer from MICs to other countries of successful policies.

Over time, it is likely that the expanding number of MICs will make far greater demands for traditional donors' focus to be on 'policy coherence' (better trade, migration and other policies) than for small amounts of ODA transfer which would be very small relative to the size of recipients economies

If we take a broader scope than the (somewhat arbitrary) middle-income threshold for income per capita, 80 developing countries converge with the Organisation for Economic Co-operation and Development (OECD) countries per capita income by achieving GDP per capita growth of more than twice the OECD average over the past decade (OECD, 2012).

At the other end of the spectrum, projections for future economic growth point towards a small group of about 20 countries, possibly fewer, that will remain low income even in 2030, of which many, but not all, are conflict- or post-conflict-affected countries.

In terms of this new geography of poverty, it is worth looking at what exactly has happened. In 1990, almost all of the world's poor people (however defined) lived in countries then classified as LICs, with average income barely above the higher international poverty line (\$2 per capita PPP). Addressing global poverty was framed largely around aid and resources transfers. Now, however, (based on 2008 data) most of the world's poor live in MICs, and mostly in countries that are new MICs or 'emerging economies' where average income is significantly higher – around five times the higher international poverty line in the LMIC group as a whole (about \$10/day PPP per capita). In short, 30 countries – notably five populous countries – where the bulk of the world's poor live, became better off in average income terms and transitioned from LIC to MIC status, and poverty did not fall as much as one might expect. The net result was a reclassification of world poverty into MICs.

This changing pattern of global poverty raises various questions about whether 'global poverty' requires reframing as a national distribution issue in a world of fewer and fewer aid-dependent countries,

either now or at some point in the foreseeable future, and/or whether the dominant analytical country categories are out-dated. It could be argued that many of the world's extreme poor already live in countries where the total cost of ending extreme and even moderate expenditure poverty is not prohibitively high as a percentage of GDP and, by 2020, even with fairly conservative estimates (see Sumner, 2012b), most of world poverty may be in countries that do have the domestic financial resources to end at least extreme if not moderate poverty. However, constraints remain, and there are significant questions over whether the country classifications are still meaningful, relating to the heterogeneity of new MICs and their economic growth patterns, as well as differing administrative state capacities and constraints of domestic political economy in terms of the taxation base and support for redistributive policies.

It is fair to say ending, or getting close to ending, \$1.25 poverty by 2030 can be viewed largely as feasible without 'bending the curve' too much (see Karver et al., 2012; Ravallion, 2013). On a similar logic, \$2 poverty could fall to 500-600 million in 2030, with a net cost of ending \$2 poverty in 2030 potentially as low as 0.1-0.2% of world GDP (Edward and Sumner, 2013). The pre-requisites are though, if growth meets International Monetary Fund (IMF) World Economic Outlook (WEO) forecasts and inequality trends are favourable.

## A new geography of risk?

In light of the above, it may be an opportune time to think about a new higher poverty line based on resilience. One way this can be done is to take a 'security from poverty' poverty line of \$10/day PPP per capita. The \$10 line has been identified by Pritchett (2006) and empirically explored in Chile, Mexico and Brazil by López-Calva and Ortiz-Juarez (2011). The empirical basis of such a 'resilience line' or 'security from poverty' poverty line is as follows. It is estimated that the risk of falling back into poverty in Latin America (where poverty is defined by the higher Latin American poverty line of \$4-5) drastically falls – to about 10% at around \$10 per capita per day (see Figure 9) (López-Calva and Ortiz-Juarez, 2011). Further, \$10 per capita is associated with completion of secondary school across Latin America, providing some greater security from poverty (Birdsall, 2012).

**Table 11**  
**Estimates of the distribution of global poverty, and poverty incidence, 2008**

	\$1.25 poverty line			\$2 poverty line		
	Millions of people	% of world's poor	Poverty incidence (% population)	Millions of people	% of world's poor	Poverty incidence (% population)
LICs	316.7	25.7	48.5	486.3	20.6	74.4
LMICs	711.6	57.7	30.2	1,394.5	59.2	59.1
UMICs	205.5	16.7	8.7	476.6	20.2	20.3
LDCs	324.0	26.3	46.4	505.0	21.4	72.2
Total	1,233.8	100.0	22.8	2,357.5	100.0	43.6

Note: UMIC = upper-middle-income country.

Source: Sumner (2012a) based on data processed from PovcalNet (2012).

Surprisingly, perhaps, if one takes this \$10/day per capita poverty line, poverty has actually been increasing in recent decades under the MDGs, indicating that, although the number of people in extreme poverty may have been falling, the number vulnerable to falling into poverty has been increasing. The total number of \$10 poor is likely to peak soon at around 5 billion people or 70% of the world's population, and then could go two ways. Under slow economic growth and rising inequality, it could rise by an extra billion people by 2030; under strong economic growth and falling inequality, it could fall by a billion people by 2030 and then by almost another billion by 2040.

The geography of poverty and risk if one takes \$10 per capita points not towards the poorest countries (meaning LICs or LDCs or aid-dependent countries) (see Table 12). Currently, and ahead to 2030, those under the \$10 'security from poverty' poverty line will live in countries that are MICs and 'emerging economies'.

Of the current 5.1 billion people living under \$10/day per capita, only 15% live in LICs (or LDCs or 'fragile states'); 85% live in MICs and largely 'convergence MICs', or the group of 'emerging market economies' (Edward and Sumner, 2013). This is not to suggest those \$10 poor people in

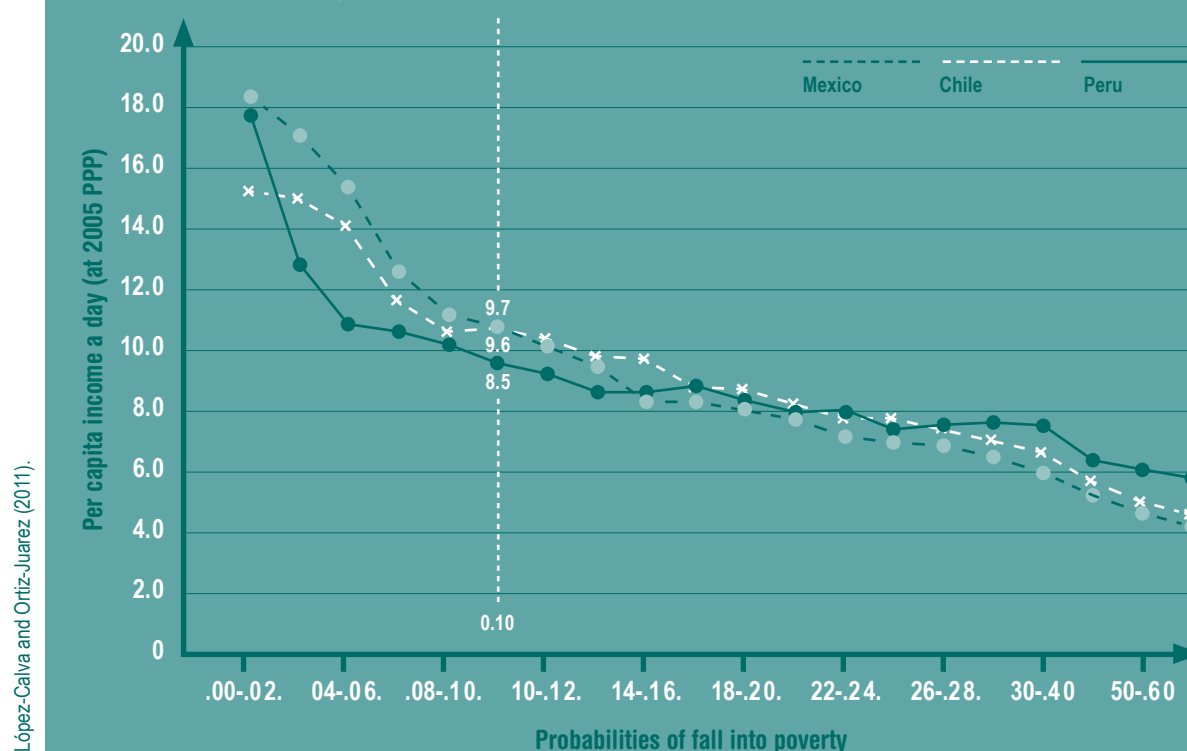
the poorest countries matter less – clearly we are talking about entire populations, potentially with the least state capacity to cope; rather, the data remind us that, if we accept a higher poverty line, then poverty extends way beyond small numbers of LICs or LDCs (see Table 12).

One could extend this, of course, considering populations covered or not by social protection or populations reporting positive/negative trends in self-declared ability to cope (see later discussion on indicators) or, indeed, populations vulnerable and/or resilient to the impacts of climate change (extreme weather, sea level changes and agricultural productivity changes). For example, the IPCC (2007) noted that 80% of the 300 million people who lived within 5m of sea level were in developing countries. Wheeler (2011) outlines climate risks and coping ability by country and finds that the top 20 countries most at risk of extreme weather in 2015 are a number with considerable poverty levels, including MICs and LICs.

It is worth noting that most of the world's poor live in 10 countries that are almost all listed in the top 20: China, India, Vietnam, Bangladesh, Ethiopia and the Philippines. Indeed, the countries listed above as most at risk account for 800 million of the world's poor, although, of course, not *all*



**Figure 9: Daily income by probability of failing into poverty, Chile, Mexico and Peru**



those in India and China and other countries are at risk. Of the top 20 most vulnerable countries to climate change, a total of 11 are MICs, 4 are LICs and the remaining are members of the OECD. Of the MICs, both India and Indonesia are projected to experience dramatic increases in the size of the population vulnerable to sea level rises. With respective increases of 80% and 60%, the two countries are likely to house a combined total of over 58 million of the most vulnerable people by 2050. A further 6 million people in China will also be exposed to sea level rises, to make the total in that country 22 million. Nigeria, the Philippines and Egypt will also see the size of their vulnerable populations more than double between 2008 and 2050. Of the LICs, the size of Bangladesh's vulnerable population is, unsurprisingly set to grow to around 27 million people – more than double the 2008 size – to become the second largest vulnerable population of the countries listed.

Another take on risk from climate would be agricultural productivity. Although extreme weather and sea level risks are dominant in MICs and Asia, projected agricultural productivity losses in

2008-2050 are the most striking for Africa. In the period between 2008 and 2050, areas of Africa and Asia are forecast to lose between 10% and 20% in agricultural productivity on average. Areas in Central Africa and the southern and northern extremes of the continent are each expected to experience significant losses of at least 18%; East Africa is likely to be affected less severely, suffering similar productivity losses to parts of Asia and the Middle East – in the region of 10-14%.

## 6.4 Poverty, vulnerability and resilience

### Overview

In light of the shifting geography of poverty and risk, this section outlines the set of relationships between poverty, vulnerability, risk and resilience, manifestations in the 'new geography' outlined above. The section thus focuses on questions of situating resilience amid boarder debates

**Table 12**  
**Estimates of poverty, \$10/day per capita, 2010 and 2030**

		Extrapolated current trends		Static inequality		'Best-ever' distribution	
	2010	Pessimistic	Optimistic	Pessimistic	Optimistic	Pessimistic	Optimistic
Millions							
Global total	5,130	6,010	5,107	5,780	4,481	5,514	4,149
Current LICs	699	1,117	1,056	1,115	1,048	1,119	1,057
Current MICs	4291	4,751	3,959	4,538	3,362	4,356	3,081
LDCs	763	1,217	1,150	1,220	1,151	1,223	1,160
Fragile states	350	622	568	623	568	624	569
Emerging economies	3,759	3,894	3,210	3,676	2,621	3,474	2,352
% of total							
Current LICs	13.6	18.6	20.7	19.3	23.4	20.3	25.5
Current MICs	83.6	79.0	77.5	78.5	75.0	79.0	74.3
LDCs	14.9	20.2	22.5	21.1	25.7	22.2	28.0
Fragile states	6.8	10.3	11.1	10.8	12.7	11.3	13.7
Emerging economies	73.3	64.8	62.9	63.6	58.5	63.0	56.7

Fragile states = World Bank list or 'Fragile Situations' (34 countries);  
LDCs = UN list; Emerging Economies = IMF list of Emerging Market Economies.

Source: Edward and Sumner (2013).

on poverty and vulnerability. Poverty has been approached using various perspectives, but three aspects of poverty can be drawn out. These are material or physical aspects of poverty, relational or social aspects of poverty and subjective or perceptual aspects of poverty (see Table 14).

The material or physical domain of poverty has historically/typically been judged by income or consumption expenditure per capita (e.g. in developing countries by national poverty lines or internationally comparable measures such as

the World Bank's \$1.25 or \$2/day of Chen and Ravallion, 2008; 2012). However, over time, there has been a shift to human development (meaning health, education, nutrition and so forth) and more recently aggregating these into multidimensional poverty measures (e.g. the UNDP/Oxford Poverty and Human Development Initiative (OPHI) Multidimensional Poverty Index). In contrast, the relational or social aspects of poverty are non-material but play a significant role in shaping the material aspects. These might be taken to mean personal relationships and social relations. Finally,

**Table 13:**  
**Most vulnerable developing countries**  
**to sea level rises and vulnerable**  
**populations, 2008 vs. 2050.**

	Vulnerable population (millions)	
	2008	2050
<b>MICs</b>		
India	20.6	37.2
China	16.2	22.3
Indonesia	13.0	20.9
Philippines	6.5	13.6
Nigeria	4.3	9.7
Vietnam	5.7	9.5
Egypt	2.1	6.3
Brazil	2.6	4.5
Turkey	2.6	3.9
Malaysia	1.9	3.5
Thailand	1.8	2.6
<b>LICs</b>		
Bangladesh	13.2	27.0
Myanmar	2.8	4.6
Korea Rep	4.8	5.3
Mozambique	1.2	2.8

Note: Remaining top 20 vulnerable countries are OECD countries.

Source: Wheeler (2011).

the subjective or perceptual aspects of poverty are also non-material but play a significant role in shaping both the material aspects and the relational or social aspects. These could include subjective life satisfaction or satisfaction with environment (e.g. Gallup's World Poll) or, for some, more hedonic concepts of happiness and/or mental wellbeing/health.

## The material or physical aspects of poverty and vulnerability/resilience

It has long been commonplace to think about poverty and vulnerability in terms of their material dimensions. Traditionally, there has been a focus on tangible assets and entitlements (such as income, labour, capital, as per the Sustainable Livelihoods approach). The assumption here is that assets and entitlements represent the resources that can be mobilised and managed when an individual or a system is confronted with a threat; in other words, resilience (Moser, 1998).

Households can also make 'material-based' decisions in order to increase their resilience. Morduch (1995) presents a range of examples that demonstrate how individuals and households engage in 'income-smoothing' activities, such as making conservative production or employment choices and diversifying economic activities, in order to protect themselves from 'adverse income shocks' before they occur (that is, *ex-ante*). Indeed, such 'risk-averse' strategies become even more important under conditions of compound and complex shocks and stressors.

The 'material aspects' also include the physical basis of poverty and vulnerability/resilience, meaning the proportion of the population without secure tenure, including slum dwellers, squatters and renters living without rent protection legislation, or where there is no legal requirement for households to be built to disaster standards; one could add also those without access to basic sanitation and water. A material focus on the geographical characteristics of a particular place has, in the past, and particularly in the disaster-risk literature, been used to identify people living in particular areas as vulnerable, when it is now widely acknowledged that 'hazard risks, their impacts and local responses are not predetermined by individual or location' (Webb and Harinarayan, 1999).

**Table 14:**  
**Poverty - areas and determinants**

	Material or physical aspects of poverty – ‘needs met’ and ‘practical welfare and standards of living’	Relational or social aspects of poverty – ‘ability to act meaningfully’ and ‘personal and social relations’	Subjective or perceptual aspects of poverty – ‘life satisfaction’ and ‘values, perceptions and experience’
<b>Area</b>	The objectively observable outcomes people are able to achieve	The extent to which people are able to engage with others to achieve their particular needs/ goals.	The meanings people give to the goals they achieve and the processes in which they engage.
<b>Key determinants</b>	<ul style="list-style-type: none"> <li>• Income, wealth and assets</li> <li>• Employment and livelihood activities</li> <li>• Education and skills</li> <li>• Physical health and (dis) ability</li> <li>• Access to services and amenities</li> <li>• Environmental quality</li> </ul>	<ul style="list-style-type: none"> <li>• Relations of love and care</li> <li>• Networks of support and obligation</li> <li>• Relations with the state: law, politics, welfare</li> <li>• Social, political and cultural identities and inequalities</li> <li>• Violence, conflict and (in) security</li> <li>• Scope for personal and collective action and influence</li> </ul>	<ul style="list-style-type: none"> <li>• Understandings of the sacred and the moral order</li> <li>• Self-concept and personality</li> <li>• Hopes, fears and aspirations</li> <li>• Sense of meaning/ meaninglessness</li> <li>• Levels of (dis)satisfaction</li> <li>• Trust and confidence</li> </ul>

Source: Adapted from McGregor and Sumner (2010).

However, it is important to see poverty not as a state but as a trajectory, as vulnerability and resilience help determine these trajectories. There is a rich literature on vulnerability to poverty (e.g. Dercon and Shapiro, 2007; Hulme et al., 2001; Pritchett et al., 2000). Certainly, people move in and out of poverty, and do not escape poverty at once but in a series of steps (see Dercon and Shapiro, 2007; Narayan and Petesch, 2007). This implies that many of those labelled ‘poor’ are moving in and out of poverty, depending on vulnerabilities, shocks, stresses and capacities to cope; and that those above \$2/day may actually sometimes be ‘poor’.

Material poverty remains an issue in MICs despite higher average income per capita. In the LMIC group, a third of the population comes under \$1.25 and 60% of the population is living under \$2 (see Table 11). That said, the costs of ending \$2 poverty as a proportion of GDP are likely to be negligible by 2020-2030 (Sumner, 2012c). Thus, the use of the \$10/day per capita ‘resilience line’ outlined above may be useful in the post-2015 framework (see Table 15).

## The relational or social aspects of poverty and vulnerability/resilience

As noted above, poverty and vulnerability are about governance and formal and informal institutions. North (1995) notes in his seminal work that institutions are the ‘humanly devised constraints that structure human interaction [...] composed of formal rules [...] [and] informal constraints’. While the risk of a household falling below the poverty line is minimised in a society in which formal safety nets exist, such as the provision of basic levels of welfare and social protection, in many developing countries life is ‘non-insured’ (Duffield, 2008).

This can be related to McGregor’s work (1991; 1994) on patron–client relations in Bangladesh. McGregor found that, in order to cope with their environment and avoid poverty and vulnerability in the present, poor people entered into ‘bargains’ with wealthier patrons, who in turn provided a level of welfare and security. As a consequence of this bargain or negotiation, however, the client’s ability to seek routes out of poverty in the longer term was diminished. As the author argued, ‘consenting participation in the existing hierarchical organisation of rural society, which assures some degree of security, reinforces the institutions which

**Table 15**  
**Indicators of 'material or physical aspects of poverty' (standards of living and risk)**

<b>Indicators</b>	Proportion of the population above/below the 'security poverty line' of \$10 PPP per capita at which the risk of falling back into poverty falls drastically.
<b>Equity sub-indicator</b>	Ratio of population above \$10 to that below \$10 would capture inequality of risk.
<b>Dataset</b>	World Bank, PovcalNet, 1981-2008, 127 developing countries.
<b>Feasible 2030 target</b>	A feasible global target for 2030 would be to reduce by 1 billion the number of people 'at risk', meaning under \$10 per capita.

serve to deny the possibility of easy recourse to other organisational arrangements (for example, cooperation amongst the poor, or open access to markets, or to government social security)'.

Thus, in reality, the poor face something of a trade-off: longer-term aspirations are foregone in favour of more immediate imperatives regarding basic livelihood security. So, where formal welfare regimes are non-existent, informal institutions, such as the organisational hierarchies of Bangladeshi rural society, take on a greater significance. The treatment here of this domain is inevitably summarised, given space constraints. One could draw further from an extensive literature on social networks; politics and political relationships; employer–employee relationships; and market relationships.

Access to formal (e.g. government-backed), reliable social protection (meaning social insurance and social assistance) is instrumental in reducing vulnerability to poverty. Thus such indicators would be useful indicators of poverty from a resilience lens. Coverage of and spend on social protection in MICs is improving significantly, with coverage rates in many LMICs and UMICs reasonable and spending on social protection in the range of 5-10% of GDP (see Table 16).

### **The subjective or perceptual aspects of poverty and vulnerability/resilience**

Finally, it is important to note the ways in which poverty and vulnerability are, perhaps above all, highly subjective in people's experiences and responses. Quarantelli (2005) contends that any

disaster is rooted in the particular social structure of the community that has been affected by a given hazard. Depending on one's characteristics, relationships, networks and status, perceptions of what constitutes being or *feeling* 'vulnerable' can vary enormously. For example, research by Valentine (1989) into how men and women experience public spaces differently explores the various ways in which perceptions of vulnerability and resilience can be influenced and defined. As Cannon (1994) explains, the determination of vulnerability and resilience is a complex characteristic formed by a mix of factors, which are themselves derived in large part from class, gender and ethnic attributes, as well as from personal perceptions of vulnerability and resilience. The same ideas apply to perceptions of risk.

The value of a subjective approach to vulnerability and resilience is that it compels us to question the assumptions that go into both vulnerability and resilience assessments and common attitudes towards vulnerabilities. It also represents a step in the direction of privileging hitherto silenced voices, and tailoring a perspective of vulnerability and resilience that is more contextually sensitive. Finally, none of these three aspects of poverty should be viewed in isolation; each is interacting and producing compound outcomes. Rather, how people feel (subjective aspects) can have significant consequences for the behaviour and activities of individuals, which can in turn shape material and relational/social wellbeing. Similarly, people's actual experiences of and exposure to disasters can shape their future perceptions and responses. An element here is the degree of risk awareness of specific populations: in some

**Table 16**  
**Indicators of 'social or relational aspects of poverty' (societal relations and risk management)**

<b>Indicators</b>	Proportion of the population 'not receiving social protection' or social protection expenditures as % of GDP.
<b>Equity sub-indicator</b>	Ratio of population covered to the population not covered would capture inequality of risk.
<b>Dataset</b>	Coverage data: World Bank, ASPIRE dataset, 2005-2010, 55 developing countries; expenditure data: World Bank Social Safety Net dataset, 2000-2010, 87 countries
<b>Feasible 2030 target</b>	A feasible target for 2030 could be developed from the data, for example to increase social protection spend to 5% of GDP or 75% population coverage. This would be based on the logic that the current median spend in the countries with data is around 5% of GDP. The OECD average is 15% of GDP. In terms of current coverage: Afghanistan, 2007: 15% of population 'receiving social protection'.

**Table 17**  
**Indicators of 'subjective and perceptual aspects of poverty' (personal perceptions and risks)**

<b>Indicators</b>	A new indicator added to the Gallup World Poll reporting the proportion of the population replying positively to the question, 'Are you better able to cope with hazards/shocks than a years ago?'
<b>Equity sub-indicator</b>	Ratio of the population replying high positive to population replying low negative (assuming a sliding scale of five responses) to the question would capture inequality of risk.
<b>Dataset</b>	Gallup World Poll would be able to collect the data.
<b>Feasible 2030 target</b>	A feasible target for 2030 could be ambitious – for example positive end-of-scale responses from over 75% of the population. An alternative indicator, already available in Gallup World Poll is, 'Is the area where you live becoming more liveable?'

places risk awareness may be greater. Further, a collective and historic experience of disasters also shapes social norms, which may be more important in terms of shaping behaviour.

In light of this, a new indicator could be added to the Gallup World Poll to report the proportion of the population replying positively to the question, 'Are you better able to cope with hazards/shocks than a years ago?' There is an alternative, and existing, potential question in the Gallup World Poll: 'Is the area where you live becoming more liveable?' (see Table 17).

## 6.5 Concluding remarks

This chapter has focused on questions of enhancing resilience and reducing vulnerability amid broader debates on poverty and vulnerability reduction in the post-2015 framework(s). The poor (however defined) face various variabilities, in terms of not only in terms of shocks but also slow-

burning stressors depleting resilience/capacities to cope and compounded and co-evolving exposure. However, given that the bulk of the world's poor (however defined) are no longer concentrated largely in the world's LICs or aid-dependent countries, the prospects for increasing resilience are, in many countries, not hindered by overall financial resources *per se* to the extent they were in the MDG period. To that end, three poverty indicators (with respective 2030 targets) have been proposed to support the inclusion of resilience building in the post-2015 framework.

### Chapter 6 Endnotes

1 This section and below draw in particular on Sumner and Mallet (2013).