

## Climate-Responsive Social Protection

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*How can social protection help tackle the impacts of climate change and improve household and community resilience in developing countries? This article sets out the case for more climate-responsive social-protection systems, and proposes a design framework to achieve this. Four features can help, namely: scaleable and flexible programmes that can increase in response to climate disasters and then scale back as necessary; targeting that responds to climate events; livelihood enhancements; and building institutions for climate and disaster risk management.*

**Key words:** Social protection, climate change, adaptation, disasters, risk management

### 1 Vulnerability and climate change: implications for social protection

Climate change will have severe negative impacts on rural and urban populations in developing countries in the coming decades. Increases in temperature and greater variability in rainfall are already being recorded in many regions, and projections suggest that these will increase during the present century. Changes in average temperature and precipitation will reshape the geographies of many resource-dependent livelihoods, and those of disease vectors. Greater climate variability will bring greater risk of climate-related disasters (Field et al., 2011).

Temperature extremes and more frequent and severe weather events such as drought, flooding, heat and cold waves, and intense storms are particularly troubling manifestations of increased climate variability. Heat waves and heavy rainfall will increase during the twenty-first century; droughts are likely to intensify and tropical cyclones to become more severe. By the end of the century, a current 1-in-20-year heat extreme will likely become a 1-in-2-years extreme in most regions (Mitchell and van Aalst, 2011). Moreover, unprecedented and unpredictable extremes of heat, rainfall, or cyclones will spread to areas that have not experienced such events in the past, requiring changes in social knowledge and institutional response.

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The impacts of climate change will shape our world in decades to come in negative ways. Climate change will make incomes and food prices more volatile, erode some livelihoods, and cause natural disasters. The negative impacts of climate change will be particularly challenging in the developing world, where they threaten to erode some of the reduction of poverty achieved over the past decades. Climate change will exacerbate existing vulnerabilities. Some of the communities most vulnerable to the effects of climate change are those living in flood plains, those whose economies are closely linked to climate-sensitive resources, and those in areas prone to extreme weather events, especially where rapid urbanisation is taking place (Parry et al., 2007). The poor will be particularly disadvantaged as they have less capacity for adaptation and are often disproportionately exposed to climate shocks. When shocks occur, the poor also rely disproportionately on costly coping mechanisms with long-term negative impacts on human capital. Extreme weather shocks will create large numbers of transitory poor and make it harder for both near-poor and poor households to recover between increasingly frequent disaster events.

The social-protection (SP) sector is often called upon to assist communities affected by climate-related shocks. In the past decade, SP has assumed a growing role in the World Bank's response to both rapid- and slow-onset disasters, with large-scale involvements in, for example, Ethiopia, Honduras, Madagascar, and Pakistan – often in the form of cash transfers and public works to the affected populations (Heltberg, 2007). In Ethiopia, households affected by the 2008 drought received transfers or cash-for-work interventions from the Productive Safety Net Programme (PSNP), which helped improve caloric consumption by 30% compared with non-beneficiary households (World Bank, 2010a). Experience shows that countries that have SP systems in place *before* a shock hits are better able to launch a more immediate and effective response when such events occur.

A growing literature and practice recognise the role of SP as part of climate-change adaptation, opening up the possibility that SP expenditures may benefit from climate-finance sources (Stern, 2006; 2009; Mearns and Norton, 2009; UNDP, 2007; World Bank, 2010b; Kanbur, 2009). A shared understanding among donors and client countries is evolving that climate change poses challenges for social policy and that the impacts of climate threaten to undercut the achievements of SP interventions. By integrating climate and disaster risk considerations into the planning and design of SP programmes, the sector can help prevent poor and vulnerable households from falling deeper into poverty, reduce their overall exposure to risk, and contribute to long-term adaptation to climate change. As such, SP can form part of the overall adaptation response, alongside interventions in other sectors. SP programmes may be able to seek financing from bilateral and multilateral funds earmarked for climate adaptation which, judging from pledges made at the climate-change conferences in Copenhagen and Durban, could be a rapidly expanding area of concessional development assistance.

This article presents a framework to help practitioners consider SP from a climate-change perspective, and identify how the sector can contribute to increased resilience to the negative impacts of climate change. The next section reviews the linkages between climate change and SP. Section 3 proposes a framework for climate-responsive SP, laying out a set of principles, design features and instruments. Section 4 concludes.

## 2 Climate change and SP objectives

SP interventions offer a range of coping mechanisms for households and communities confronting disasters and climate change. In the face of climate change, responding to shocks alone will not suffice; it will also be essential to enhance adaptive capacity. SP can contribute to climate resilience, along with interventions in the water, agriculture, urban planning, disaster risk reduction, and other sectors.

Many of the factors that enhance adaptive capacity simultaneously promote development and can, potentially, advance social and economic inclusion of the poor. The literature emphasises several inputs to (climate) resilience, specifically: (i) promoting assets and capabilities of the poor through direct support and access to information, financial services and training; (ii) enhancing the quality of social services and infrastructure; (iii) increasing opportunities to diversify livelihoods and acquire skills; and (iv) ensuring that the voices of community members are heard (Mearns, 2004). Local institutional development can help scale-up SP response during disasters. This was found to be the case in Honduras, Malawi and Pakistan, for example, when local organisations already operating under social fund investments were able later to respond quickly when disasters occurred (World Bank, 2008).

### 2.1 Climate change and risk profiles

Different agencies define SP somewhat differently. The United Nations' 'One-UN Social Protection Floor Initiative' sets out two SP goals: (i) ensuring a basic set of social transfers and (ii) ensuring the provision of universal access to essential social services such as health, water, sanitation, education, food security, and housing (ILO, 2011a; 2011b). Some authors emphasise governance, social accountability, social transformation, and rights-based approaches as additional elements of SP. The World Bank's new Social Protection and Labor (SP&L) strategy emphasises three objectives: (i) *resilience* – helping people insure against drops in well-being from shocks; (ii) *equity* – reducing poverty and inequality; and (iii) *opportunity* – building human capital, assets and access to jobs and freeing families to make productive investments from a greater sense of security (World Bank, 2012). Regardless of definition, all SP efforts aim to assist the poor and the near-poor to manage shocks to income.

While climate has always been risky, climate trends now under way are shifting the risk profile towards the poor in ways that adaptation responses must consider. First, the direct impacts of a changing climate give rise to a range of indirect risks for households and communities. Declines in crop yields due to climate change will have indirect consequences for rural incomes, food prices, labour demand, health and nutrition, access to drinking water, deforestation, soil erosion and migration. The indirect risks are more difficult to predict but, due to their scale effects, could surpass even direct climate risks in terms of degree of negative impact. Second, climate change will result in higher frequency of extreme climate events. More frequent and repetitive risky events will exhaust informal coping mechanisms; autonomous rebuilding of livelihoods after disasters at such shorter intervals may prove impossible. More formal risk management with external support may therefore be required. There may also be a need to rethink SP targeting strategies in order to better reach the transitory poor.

Third, climate change will exacerbate covariate risks (those that affect entire communities or countries). As a result, localised and informal risk management may fall short, necessitating risk pooling over larger areas. Fourth, there is a great deal of uncertainty about when, where, and how much of the predicted climate change will manifest itself. Uncertainty, however, should not delay action. Rather, climate-responsive SP represents a key form of ‘low-regrets’ investment by simultaneously contributing to livelihoods diversification and poverty alleviation. Fifth, without successful adaptation, the risks associated with climate change could cause irreversible damage to life, assets, and social capital. Improved disaster management and more risk-responsive safety-nets can help prevent irreversible human damage and improve disaster recovery (Heltberg et al., 2009).

## 2.2 Climate change and SP functions and instruments

Confusingly, different authors assign various names to the core functions of SP. The confusion is heightened because SP can be seen both as part of poverty-reduction efforts and as contributing to risk-management goals. The social risk-management framework (Holzmann and Jorgensen, 2000) used the terms risk mitigation, coping and risk reduction. These terms are reasonably consistent with dictionary treatments of risk terminology. Focusing on poverty-reduction functions, Sabates-Wheeler and Devereux (2008) made the terms prevention, protection, and promotion popular, and included a transformative rights-based function. The World Bank (2012) chose to frame the functions as resilience, equity, and opportunity. Table 1 attempts to provide a translation and explanation.

The difference may be largely semantic. Ahead of shocks, risk can be mitigated, thereby preventing poverty. *Ex-post*, SP can help people cope, thereby protecting against the worst consequences of poverty. And in the long term, SP can promote enhanced livelihood opportunities, which include an inherent risk-reduction element. Climate-change considerations are relevant to all three functions, as Table 1 makes clear.

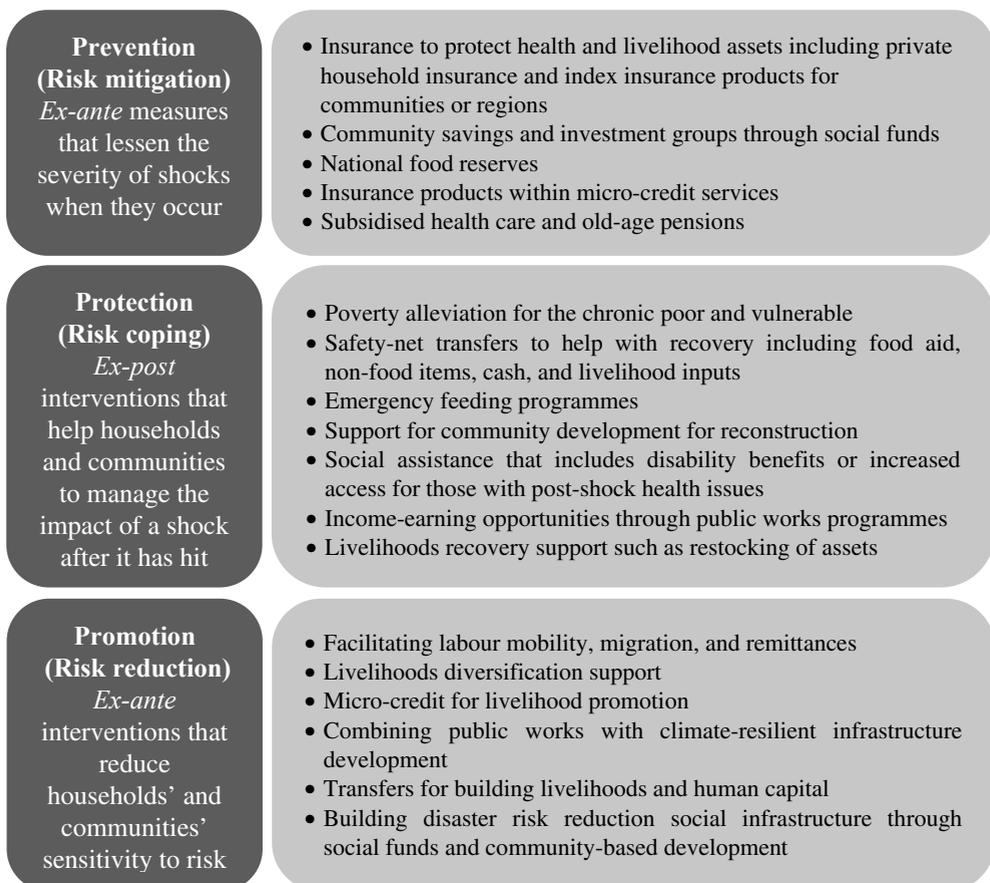
**Table 1: Terminology for SP functions**

<b>Social risk management framework</b>	<b>World Bank 2012-22 SP&amp;L Strategy</b>	<b>3P framework</b>	<b>Implications for adaptation to climate change</b>
Risk mitigation	Resilience	Prevention (of deprivation)	<i>Ex-ante</i> security against climate shocks, e.g., through insurance
Risk coping	Equity	Protection (relief from deprivation)	<i>Ex-post</i> protection against shocks and disasters arising from climate change and variability
Risk reduction	Opportunity	Promotion (enhanced income and capabilities)	Long-term adaptation via livelihood promotion and diversification

Source: Authors based on World Bank (2012) and Sabates-Wheeler and Devereux (2008).

*SP functions, instruments, and climate change.* All SP instruments can be useful in a changing climate. Instruments for the prevention of deprivation (or risk mitigation) include: social insurance; weather-based insurance; social transfers; asset diversification; and other instruments that reduce vulnerability and decrease the impact of risks by increasing the range of coping strategies available to households when disasters occur. Protection measures aimed at providing relief (improved coping) after shocks include cash transfers, social pensions, and public works. Promotion measures focus on productive livelihood approaches and can contribute to adaptation by encouraging risk diversification, enhancing incomes and assets, and building skills. They address underlying vulnerabilities (for example, of relying on single livelihoods or one crop), and build individual and group capacity to respond. Cash and asset transfers, microfinance, public works, training and skills programmes, asset diversification, and support for drought and flood-resistant agriculture are examples (see Figure 1).

**Figure 1: Potential climate-responsive SP instruments**



### 2.3 *Climate change and SP systems*

The effects of climate change are multi-dimensional and affect specific regions, institutions, and actors in different ways. This necessitates effective co-ordination of activities and resources across international, national, and local levels.

Climate-responsive SP approaches face complex challenges in integrating adaptation and disaster risk-reduction considerations more fully into SP programmes. Traditionally, SP, climate-change adaptation, and disaster risk-reduction have operated as separate sectors, reporting to different and poorly linked line ministries with staff from different technical disciplines. Each sector runs its own programmes, drawing on separate lines of funding and focusing on different sets of risks and target groups (World Bank, 2011a). Innovation for improved synergies is imperative.

The World Bank's Social Protection and Labor (SP&L) Strategy 2012-22 proposes building SP systems (as opposed to stand-alone programmes) that can respond to a range of shocks and needs (World Bank, 2012). Climate change has several implications for the design and implementation of SP systems, from improved inter-agency co-ordination around disaster response, transfer delivery, and use of early warning systems, to more widespread use of in-built targeting and funding mechanisms that can quickly respond to disasters of increasing frequency and severity. System monitoring will also require attention to how climate change and variability affect baseline measurements and assessments of vulnerability – not least for those climate events that may occur outside the lifetime of a project. Affordability of programmes also needs to be re-assessed: for example, might consolidation of discrete *ex-post* humanitarian responses into national SP systems offer enhanced savings and more timely response, when compared with *ad hoc* event-specific responses? And, more fundamentally, should not the costs of climate-responsive SP be assessed against the likely high costs of the inaction of *not* addressing populations' vulnerability to climate change (Shalizi and Lecocq, 2009)?

## 3 A framework for climate-responsive SP

The purpose of climate-responsive SP is to help households and countries respond and adapt to climate risks. The framework presented in Figure 2 is intended to help SP and labour practitioners consider the opportunities, entry points, and specific steps that can help SP programmes and systems evolve towards greater climate responsiveness.

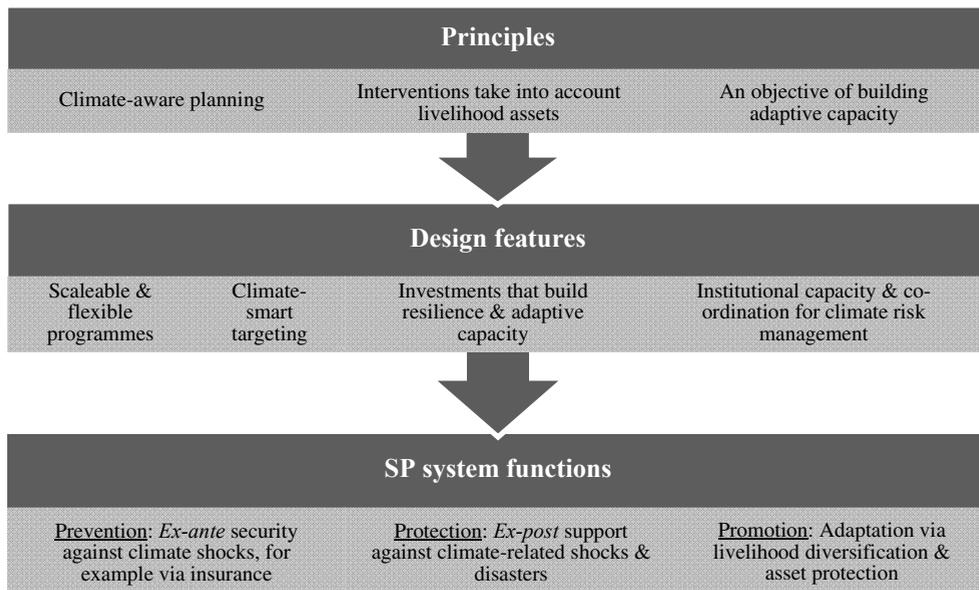
### 3.1 *Principles of climate-responsive SP*

Three principles form the starting-point for climate-responsive SP, namely, climate-aware planning, livelihoods-focused interventions, and stronger adaptive capacity.

*Climate-aware planning.* The effects of climate change will vary across countries and sectors; specific effects are difficult to predict with certainty, particularly at the local level. New climate trends that deviate from the historical norm in weather patterns are a major challenge to communities and development practitioners who must learn to plan for adaptation. For SP policy-makers and practitioners, this translates into the need to: (i) acknowledge and hedge against uncertainty; (ii) plan for higher frequency and severity of

disasters; (iii) build in feedback loops with early warning systems for SP systems; and (iv) co-ordinate with meteorological and climate-change agencies, particularly at the national level. Planners will also need to consider both the direct (mainly disasters, but also increased disease burden) and indirect impacts of climate change on vulnerable populations (such as food-price volatility, food insecurity, migration, and potential conflict over land and natural resources) which shift the risk profiles of households, communities, regions and nations.

**Figure 2: Climate-responsive SP framework**



More frequent and severe climate events can quickly exhaust the assets and capacities of actors at all levels (from households to countries) unless disaster risk is managed. Covariate risks, i.e., those affecting most households in a locality or most localities in a region, are likely to increase with climate change because the physical effects of climate change tend to concentrate geographically. Also, because there is often over-concentration locally in a small set of resource-based livelihood types, the risks for poor households in the face of climate change can increase exponentially. Countries that relied previously on traditional informal insurance may find that increasing rates of covariate climate-related shocks require more formal and systematic SP to reduce vulnerability (Barrett, 2011; Bhattamishra and Barrett, 2010). Ethiopia, for example, has taken steps to integrate disaster planning into SP. Its Productive Safety-Net Programme (PSNP) is organised to deliver timely and predictable resource transfers to households, in particular to reduce drought risk (World Bank, 2010a). To increase the programme's capacity for early response to rapid-onset climate events, particularly drought, an emergency risk-financing facility was established in 2007 in which *ad hoc* donor emergency financing was replaced with predictable, *ex ante* financing to meet regular seasonal food insecurity in the country. While the PSNP's emergency risk-financing facility was an important element of its success,

climate-responsive SP also calls for long-term, risk-reducing investments in adaptive capacity, including soil and water conservation and off-farm livelihoods.

*Interventions that take account of livelihoods and assets.* Understanding how households' assets and livelihood strategies will be affected by climate change is critical in designing climate-responsive SP programmes. A user-oriented livelihoods perspective that takes into account the economic and migration decisions of households will help to improve the likelihood that users adopt robust adaptation measures and reduce costly coping strategies, such as distress asset sales, in response to climate shocks. Broadening and strengthening the asset and livelihood portfolios of households and communities in advance of shocks builds climate resilience.

*Stay or leave: The dilemma of livelihoods no longer viable.* Climate-responsive SP planning requires that the viability of livelihood strategies over time be assessed, and not only in relation to the current climate scenario. This attention to the temporal characteristics of climate impacts is particularly important for those areas facing dramatic changes to the physical environment, so that governments can avoid artificially 'propping up' declining livelihoods and regions. When policy-makers decide to maintain households in regions where old livelihood strategies are no longer viable – for example, by providing safety-nets, subsidies, or other support – they need to consider also the counter-case: that is, is the support policy in fact promoting the long-term dependence of vulnerable households in irreversibly degraded environments? In places where, for instance, desertification has taken over farmland or where melting permafrost has changed rangeland ecology, livelihoods may be changed permanently – beyond the scope of any adaptation strategy. In such settings, the greatest risks will be borne by those least able to cope and may be magnified by other maladaptive policies, such as policy attempts to stem migration (Black et al., 2011). In some cases, therefore, support for relocation (including, for example, skills training appropriate to the new region)<sup>1</sup> might be judged a better option than support for traditional livelihoods threatened by climate change.

Thus migration can be seen as a form of adaptation but it may require public support to reduce its inherent inequity. Much migration research points to better-off households holding assets that enable them to migrate, compared with poorer households who are left behind (see Johnson and Krishnamurthy, 2010).<sup>2</sup> Johnson and Krishnamurthy distinguish between distress migrants and economic migrants, and between process triggers (for example, desertification) and event triggers (such as a flood).

Migration is not a panacea, however, as people often move into places with high economic opportunity coupled with high environmental vulnerability, such as low-lying coastal cities (Government Office for Science, 2011). Thus climate-responsive planners need to take into account the increased propensity of people to migrate in the face of climate change, and plan for growing urban populations of vulnerable and socially excluded

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1. History is replete with cases where this support was not given, and conflicts arose between migrants and receiving populations.
  2. Migration is a complex phenomenon for which the causal mechanisms are notoriously difficult to isolate. This makes it hard to specifically identify and analyse 'climate' migration (Warner et al., 2009; Johnson and Krishnamurthy, 2010; Johnson, 2012). Indeed, international refugee law does not recognise environmental refugees.

migrant groups. Measures such as flood control, water management, early warning systems, participatory urban governance, land-use planning, and conflict resolution will be required (ibid.).<sup>3</sup>

*Interventions that aim to build adaptive capacity at all levels.* As mentioned above, climate change increases covariate risk, implying that a household-level focus alone for climate-responsive SP will be insufficient to address climate vulnerability. Climate-responsive efforts by the SP sector may thus need to enhance local collaborative efforts among actors. Such an approach may include an objective of building national and local adaptive capacity, including identifying which physical, natural, or institutional assets need strengthening, and how consultative processes can help empower the most vulnerable during climate planning.

Local institutions mediate how households are affected by and respond to climate change and climate shocks. Local institutions also channel external adaptation interventions. Designing programmes that support local empowerment and build adaptive capacity can help protect the voice of the most vulnerable and ensure their inclusion in anti-poverty programmes. As Ribot (2010) writes, vulnerability ‘does not fall from the sky’ but is produced by local inequities that mediate the translation of shocks into outcomes for different groups of people. Issues of power and voice, therefore, need to be tackled.

### ***3.2 Design features of climate-responsive SP interventions***

Four design features that embody the principles outlined above can help practitioners devise SP programmes that address the negative impacts of climate change. These features are: (i) scaleable and flexible programmes; (ii) climate-smart targeting; (iii) investments that build resilience and adaptive capacity; and (iv) promotion of institutional capacity for climate risk management.

*Scaleable and flexible programmes.* These are a key design feature that can help SP programmes respond to climate-related disasters, as they do to economic shocks. Scaleability refers to the ability of programmes to rapidly expand coverage during crises and then scale-back after the crisis has ended. In addition, it refers to a programme’s ability to scale-up overall levels of support to existing programme beneficiaries to cope with shocks. Achieving scaleability requires that targeting, registration, and payment systems are capable of identifying, enrolling, and making transfers to additional eligible beneficiaries, and that funding arrangements can mobilise adequate resources at short notice. Planners may consider the use of early warning ‘triggers’, such as those based on weather indices, and flexible approaches that can respond to needs that emerge over time. Achieving scaleability and flexibility also requires that agencies overcome a range of institutional challenges in order to deliver more agile SP.

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3. SP support for migrants also requires the development of ‘portable benefits’ that are not tied to place-specific residence (as was earlier the case in e.g., China and Vietnam before recent reforms). Others are calling for benefits that can cross national borders, raising transnational governance questions of a different sort (Sabates-Wheeler and Feldman, 2011).

*Innovative financing mechanisms.* Securing flexible funding to respond adequately to rapid-onset shocks has been a major challenge for SP programmes in the past. In order to reduce the fiscal burden of disasters, governments should be encouraged to manage risk through a suite of disaster risk-management investments and instruments such as effective early warning systems, infrastructure investments, and disaster risk-financing instruments. Managing contingent fiscal risks can be addressed through a ‘layers of risk’ approach (i.e., assessing the probability and severity of risks), that distinguishes among the continuum of frequent but less damaging events through to the rare but catastrophic disasters, and then manages this risk through a variety of instruments.

Funding for low-impact, frequent disasters is typically met through mechanisms like national disaster relief and calamity funds, or other reserves. Larger, medium-impact disasters (such as a 1-in-10 or 1-in-25 years event) can be funded if contingent lines of credit are in place (Alderman and Haque, 2005).<sup>4</sup> Rarer and more severe disasters may be funded through traditional and parametric insurance or catastrophe bonds that transfer the risk to international investors. Whichever option is selected, *ex-ante* planning and the establishment of strong systems that can respond quickly improves disaster response, which is typically plagued by slow release of funds from disaster appeals, ineffective use of funds, and weak response capacity.

*Climate-smart targeting.* Many SP programmes target poor and vulnerable households through methods such as proxy means testing or community-based targeting. Climate-responsive targeting uses area- and household-level data on climate exposure to inform the targeting of SP interventions. It distinguishes the transitory poor from the chronic poor, in places where climate-related crises are likely to occur and for which rapid scaling-up of programmes would be required. Because climate-change impacts will tend to affect certain areas within a country more severely than others, geographic targeting may be a useful, and cost-effective, way to deliver assistance to affected households, particularly when combined with other targeting methods. Similarly, SP interventions can target communities or groups of households based on their livelihood strategies. Early warning systems and weather-based data from satellite and rainfall stations can be used to monitor vulnerability correlates and assist in geographic targeting systems, as has been done in Ethiopia.

Many SP (safety-nets) interventions target chronically poor households, whose needs are the greatest. However, a climate-responsive lens also places emphasis on households that are transitorily vulnerable to climate shocks. Alderman and Haque (2005) have explored the differences between programmes in which targeting is based on a household’s chronic poverty status (or its correlates) and those in which it is based on a household’s losses (or potential losses) as a result of a shock. *Proxy means testing* uses a set of easily identifiable indicators such as a household’s location, the quality of its housing, and its asset holdings to develop a score that can be compared with a pre-determined threshold for eligibility. This is often an effective way of targeting the chronic poor. However, proxies are static and tend to correlate with long-term poverty measures, rather than reflecting short-term or intermittent risk and vulnerability. They are not appropriate for measuring rapid changes in welfare due to sudden shocks and may be less relevant tools for

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4. Magnitudes of extreme events and their impacts are roughly correlated, though many factors conspire to transform extreme events into *bona fide* disasters (see World Bank and United Nations, 2010).

identifying households in need of transitory support (Grosh et al., 2008). One way to remedy this would be to select correlates of household vulnerability, such as participation in climate-vulnerable livelihoods such as fishing, herding or agricultural labour, that can be incorporated into a proxy means test to identify transitory need. Other targeting approaches commonly used in disaster response employ categorical targeting, often in conjunction with assessment of actual losses. Insurance is another option, as insurance products offer people self-targeted access to protection for particular needs.

*Community-based targeting* uses information collected by community members to identify households in need of support. This approach may be more effective than means testing in identifying both the transitory poor, as well as those community members at risk of becoming poor in the near future. Community-based targeting also has lower data requirements and can be more legitimate in the eyes of community members than means testing.

*Investments that build resilience and adaptive capacity.* This design feature can be achieved by (i) strengthening community physical assets and (ii) supporting livelihoods in a co-ordinated manner that serves a long-term adaptive SP function.

*Strengthening community social and physical infrastructure, and natural assets.* Interventions that enhance communities' physical assets are key to supporting adaptation to climate change. Community-based adaptation is a promising vehicle for channelling adaptation investments to vulnerable communities, and can be financed and scaled-up through the use of social funds or other types of community grants. Labour-intensive public works programmes designed with local community participation are another way to enhance adaptive capacity and strengthen resilience to climate shocks, while boosting local employment. Public works programmes thus yield double dividends by offering paid employment for the poor, while building vital infrastructure needed by the community. The infrastructure investments contribute to longer-term development objectives by reducing a community's vulnerability to climate over the longer term. Common project types include: (i) environmental rehabilitation (for example, soil and water conservation through tree planting, or construction of bunds, area catchments, or fenced enclosures); (ii) improving water management (for example, improving water delivery, de-silting irrigation, especially in drought-prone areas); (iii) climate-proofing physical infrastructure (for example, by strengthening embankments, buildings, roads, bridges, or gullies that can resist flash flooding); and (iv) constructing community-based disaster risk-reduction assets, such as storm shelters. Public works programmes are most useful as forms of support during disasters when their plans are stored in a 'shovel-ready' format, for example, with feasibility studies completed.

*Supporting viable livelihoods at the household level.* Climate-responsive SP with livelihoods support needs to be carefully designed to ensure that it serves a long-term, adaptive SP function. There are many instruments available to support sustainable livelihoods and increase climate resilience, including: (i) crop and livestock insurance that allows farmers to take greater risks and experiment with new climate-resilient varieties that are not feasible under traditional insurance schemes; (ii) asset restocking to enhance income and climate resilience (for example, poultry rearing in flood-prone areas, or camel rearing

in drought-prone areas); (iii) training and support for off-farm livelihood diversification into rural enterprise and industry; (iv) cash and food transfers that increase food security and enable households to invest in the next generation through education and health allocations; (v) labour-intensive public works programmes that provide income support while building physical infrastructure for area resilience; and (vi) assisted migration or resettlement projects with improved remittance schemes (IDS, 2007). Programmes that combine elements to mutually reinforce benefits can be particularly potent. In Mongolia, for example, livelihoods resilience for pastoralist households was developed through the use of multi-pronged investments in community-driven risk management and livestock early warning systems, combined with index-based livestock insurance, public infrastructure such as community wells, and the provision of microfinance (World Bank, 2007).

*Promoting institutional capacity and co-ordination to manage disaster risk.* Public, civic and private institutions influence how disaster risks affect households and individuals. These can either facilitate or impede climate responses, in part because such institutions implement donor-funded programmes for climate resilience (Agrawal, 2010; Ruijs et al., 2011; World Bank, 2011b).<sup>5</sup> Stronger institutions to manage climate and disaster risks are important, but they should avoid undermining traditional, informal risk-management mechanisms.

Reduced fragmentation of programmes and institutions can help boost risk-management capacity overall. An integrated climate-responsive SP system builds on existing government systems. It should also be able to deliver a range of programmes in accordance with country needs and link with early warning and emergency systems. It aims additionally to foster participatory planning and social accountability throughout the system, in order to strengthen the voices of all stakeholders towards more responsive programming.

## 4 Summary and concluding remarks

In the coming years, development efforts aiming at reducing human vulnerability will increasingly need to take account of climate change in programme planning, and SP is no exception. Climate change will magnify existing climate- and disaster-related risks. It will also create unprecedented types of risk, and has the potential to set back development gains in many parts of the developing world, especially for the poor. The most important risks associated with climate change relate to increased climate variability, in particular greater variability and intensity of rainfall and temperature, which will exert long-term downward pressure on natural-resource-dependent rural livelihoods. In this context, it is increasingly important for SP to consider climate change and climate risk.

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5. India's National Rural Employment Generation Scheme (NREGS), for example, was able through its design to enhance livelihood security and climate resilience for poor women by applying the same statutory wage rate for its employment guarantee scheme for women and men. The result: NREGS wages were above the market rate for female casual labour, and below that for male labour, ensuring better female participation (World Bank, 2012).

This article has set out the case for climate-responsive SP, arguing that consideration of climate-change impacts in SP planning and design can help societies build resilience. Many SP instruments can contribute to climate adaptation. Prevention measures (such as asset diversification, weather-based insurance, and building response capacity) can help avoid adverse coping in the face of disasters. Protection against disasters and climate shocks through *ex-post* transfers has already become an important SP programming area. Promotion efforts that enhance assets, skills, and incomes contribute to long-term adaptation by facilitating transition and diversification away from exposed livelihoods.

To guide thinking and practice in this area, we put forward a framework that set out principles, design features, and functions to help SP systems evolve in a climate-responsive direction. The principles comprised: climate-aware planning; livelihood-based approaches using the full range of assets and institutions available to households and communities; and support for community resilience by planning for the long term. Four design features may prove helpful in this regard, namely: (i) scaleable and flexible programmes that increase coverage in response to climate disasters and scale-back support once disasters abate; (ii) climate-responsive targeting systems, including geographic targeting, to take account of the socio-physical basis of climate vulnerabilities; (iii) investments in livelihoods that build community and household resilience; and (iv) promotion of better climate risk management (for example, via inter-sectoral co-ordination and capacity-building).

The larger policy environment appears, on the whole, to be a welcoming one for climate-responsive SP. First, there is consistency in the aims of adaptation and SP: both seek better risk management. Second, there is strong and growing demand from developing countries for support in this area, as it is a recognised need at all implementation levels from local disaster mitigation to national financing mechanisms for SP. Finally, concessional funding made available for adaptation may grow, given commitments at recent global climate conferences. Such funding could be used to great effect to support climate-responsive SP systems for enhanced household, area, and national climate resilience.

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