



FEED THE FUTURE

The U.S. Government's Global Hunger & Food Security Initiative

Feed the Future Learning Agenda Literature Review: Improving Resilience of Vulnerable Populations

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USAID
FROM THE AMERICAN PEOPLE

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LIST OF ACRONYMS

ASP	Adaptive social protection
BFS	Bureau for Food Security
CCT	Conditional cash transfer
COMACO	Community Markets for Conservation (Zambia)
DNM	Direction Nationale de la Météorologie (Mali)
EGS	Employment Generation Scheme (Ethiopia)
ERI	Enabling Rural Innovation (Uganda and Malawi)
FAO	Food and Agriculture Organization
FFW	Food for work
HPG	Humanitarian Policy Group
IFAD	International Fund for Agricultural Development
IFPRI	International Food Policy Research Institute
M&E	Monitoring and evaluation
NGO	Non-governmental organization
PES	Payment for environmental services
PSNP	Productive Safety Net Programme (Ethiopia)
RPS	Red de Protección Social (Nicaragua)
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
WFP	World Food Programme
WGI	Worldwide Governance Indicators
WMO	World Meteorological Organization

MAIN FINDINGS AND CONCLUSIONS

To ensure that impact evaluations being undertaken for the U.S. Government's Feed the Future initiative are well-conceived, build on existing evidence, and fill critical evidence gaps, the Bureau for Food Security (BFS) in the United States Agency for International Development (USAID) is providing resources for a comprehensive assessment of existing evidence and gaps in knowledge for each of six themes covered by the Feed the Future Learning Agenda. Concerned staff of USAID in headquarters and country missions and staff of USAID's implementing partners are expected to be the primary users. This paper provides the assessment for Theme VI: "Improving resilience of vulnerable populations."

The stated aim of Feed the Future is to tackle the root causes of global hunger and poverty through inclusive agriculture sector growth and improved nutritional status. This paper examines available evidence on the impact of investing in improving the resilience of vulnerable populations as a means of reducing poverty and chronic malnutrition.

International and humanitarian development actors are increasingly adopting resilience as an organizing concept for food security policy and program development. The emergence of this new perspective has coincided with increases in the frequency and severity of natural and human-caused disasters resulting from climate change, ecosystem fragility, geopolitical instability, and economic volatility (Constas & Frankenberger, 2013). The new focus on resilience also reflects recognition by the international humanitarian community that while large-scale emergency responses have saved millions of lives, they have not increased the capacity of vulnerable populations to withstand shocks and stresses (USAID, 2011b). Nor have they been the most cost-effective response to the underlying causes of vulnerability. Multiple studies have demonstrated that the cost of immediate damage to life and property, coupled with the resources spent on emergency response, is several times greater than effective disaster prevention (World Meteorological Organization [WMO], 2010; Venton, Fitzgibbon, Shitarek, Coulter, & Dooley, 2012).

In December 2012, USAID laid the foundation for the agency's future investments in resilience by issuing policy and program guidance for resilience programming that calls for layering, integrating and sequencing of humanitarian and development assistance (USAID, 2012a). This paper supports that effort by summarizing current learning related to resilience programming and discussing some of the critical evidence gaps that must be addressed in order to inform policy and maximize the impact and sustainability of investments in this emerging area. The paper is structured around four large themes related to resilience, each of which encompasses specific questions outlined in the Feed the Future Learning Agenda.

Strengthening household capacities to withstand and recover from shocks. Enhancing the capacities of households and communities to withstand and recover from shock entails both *ex ante* and *ex post* aspects of risk management. Likewise, the determination of the most effective risk mitigation strategies depends in part on whether the shock is *covariate* (affecting everyone) or *idiosyncratic* (affecting only certain types of households or communities). In reality, there is considerable overlap and interaction among various types of risk and among strategies for reducing them. Ideally, both *ex ante* and *ex post* strategies will be employed at the household and community levels in preparation for both covariate and idiosyncratic shocks.

Building resilience requires an integrated approach and a long-term commitment to improving three critical capacities: absorptive capacity, adaptive capacity, and transformative capacity (Béné, Wood, Newsham, & Davies, 2012). *Absorptive capacity* is the ability to minimize exposure to shocks and stresses (*ex ante*) where possible and to recover quickly when exposed (*ex post*) (Frankenberger, Langworthy, Spangler, & Nelson, 2012b). *Adaptive capacity* involves making proactive and informed choices about

alternative livelihood strategies based on changing conditions. *Transformative capacity* relates to governance mechanisms, policies/regulations, infrastructure, community networks, and formal safety nets that are part of the wider system in which households and communities are embedded. Although many of the papers in this review do not analyze the evidence on the basis of these capacities, an effort has been made to discuss the findings with these three capacities in mind.

Strategies designed to help vulnerable populations withstand and recover from shock typically fall into one or more of three categories: asset strategies, safety net strategies, and insurance. Asset strategies aim to maximize the use of productive assets to buffer households and communities against periodic shocks and stresses. It is important to note, however, that resilience is not synonymous with asset accumulation and that promotion of assets must carefully consider asset management strategies in light of the particular risk context. There is substantial evidence to suggest that safety nets have a positive effect on *absorptive* capacities by stabilizing consumption and helping households to decrease the use of negative coping strategies during shocks (Hoddinott, 2008; Lustig, 2000). However, the literature also reveals that in order to deliver sustainable benefits, safety net interventions must be integrated with activities that build adaptive and transformative capacities such as conditional cash transfers (CCT), food for work (FFW), and school feeding programs. The evidence suggests that participation in such initiatives can help households maintain minimal living standards while enabling investments in recovery and future livelihoods (Fiszbein, Schady, & Ferreira, 2009; Maluccio, 2005; Skoufias, 2003). Likewise, FFW and weather-indexed crop and livestock insurance are promising means of helping farmers in disaster-prone regions to smooth consumption and avoid distress sales of productive assets. Formal insurance schemes are found to be most helpful when combined with informal risk-sharing mechanisms.

There are several critical evidence gaps for improving the ability of vulnerable households and communities to withstand and recover from shocks. These include: (i) a lack of evidence on effective activities for building social capital, (ii) an incomplete understanding of recovery timeframes, (iii) a need for studies that show differences across livelihood types, (iv) a gap in understanding about the role of local knowledge of climatic conditions and weather, and (v) insufficient consideration of the role of aspirations in shaping household resilience.

Role of safety nets in risk management. Safety nets are properly viewed as one element of an adaptive social protection scheme aimed at ensuring the welfare of vulnerable households while enabling them to participate in and benefit from economic growth (United Nations Development Programme [UNDP], 2011). They can contribute to resilience by helping risk-averse households engage in more diverse and adaptive livelihood strategies within an uncertain or risk-prone context. Safety nets can enable the risk taking necessary to improve adaptive capacity by relaxing the liquidity constraints common among chronically vulnerable households, a key first step to facilitating their engagement in more remunerative economic activities. Despite the promise of safety nets, the benefits of FFW, CCT, and other forms of assistance cannot be over-generalized, particularly in light of key differences in forms of social assistance and methods of social service provision in different parts of the world (Devereux et al., 2008).

In order to effectively contribute to resilience, safety net mechanisms should be closely tailored to a range of influencing factors including: household asset and income levels, the predictability of access to complementary social protection mechanisms, and the size of the transfer. Appropriate tailoring of safety net and other risk management interventions will be aided to the extent that important evidence gaps can be filled. These gaps include: (i) limited insight into the relationship between agricultural productivity and adaptive capacity, (ii) lack of evidence on the main barriers to investing social protection proceeds in consumption smoothing and asset accumulation, (iii) insufficiently robust methodologies for assessing the role of gender dynamics in risk reduction strategies, and (iv) the influence of power inequalities on the ability of vulnerable populations to improve their adaptive capacity.

Market access and value chains. Improving market access can make important contributions to greater resilience among vulnerable populations. Direct support for market improvements can enhance the transformative capacity of the wider system while simultaneously strengthening the *adaptive capacity* of vulnerable individuals and households (Frankenberger, Spangler, Nelson, & Langworthy, 2012a; Barrett, 2008).

Maximizing profitable access to markets among the poor entails overcoming market efficiency constraints and poverty-driven constraints. Market inefficiencies typically result from inadequate infrastructure, input/output markets, and economic policies whereas poverty-driven constraints are caused by the deprivation among vulnerable populations in terms of physical, human, and social assets. The inter-related nature of these constraints necessitates emphasis on processes (rather than outputs) and careful consideration of intervention coordination and sequencing. The evidence suggests that value chain activities represent some of the best opportunities for capturing potential benefits of market development for pro-poor growth (Kaaria, Njuki, Abenakyo, Delve, & Sanginga, 2008; Maertens & Swinnen, 2009). Value chain interventions must consider context when determining the most appropriate means of enhancing the asset bases of the poor, enabling more effective risk mitigation, and reducing market transaction costs (van Haften, Anderson, Caudill, & Kilmartin, 2013; Barrett, 2008; Torero, 2011). The evidence shows that value chain interventions are most successful when they are demand driven, participatory, and incorporate the private sector (Altenburg, 2007; Devaux et al., 2009; Torero, 2011; United Nations Conference on Trade and Development [UNCTAD], 2009).

Several gaps remain in our understanding of the relationship between market access, poverty traps, and resilience. There is a critical need for: (i) empirical evidence on the effectiveness of producer and marketing associations in enhancing market access, (ii) methodologically sound quantitative data on the extent to which value chain interventions are transferable or scalable (Mitchell, Keane, & Coles, 2009), and (iii) better understanding of the diverse underlying causes of vulnerability that determine the most effective sequencing and combination of market interventions to promote pro-poor economic growth in varying economic contexts.

Incorporating the poor and vulnerable into economic growth strategies. Ensuring that economic growth strategies are broad-based, inclusive, and effective in reducing poverty is a fundamental challenge. Although considerable research and effort has gone into development of strategies aimed at promoting agricultural intensification, improving access to markets and infrastructure, providing basic services, and promoting enterprise development, there is no consensus on how to implement such strategies in a manner that delivers benefits for all, including the most vulnerable. It has become increasingly clear, however, that the long-run costs of neglecting poverty alleviation in growth strategies may be higher than the cost of incorporating them from the start (The Montpellier Panel, 2012). There is also growing agreement that economic growth strategies aimed at incorporating the poor are most effective when they are microeconomics-based, agriculture-led, equity-focused, institution-centered, and push-pull oriented (Barrett, 2008; Barrett & Carter, 2012; World Bank, 2008). Potential examples include initiatives in support of decentralization and devolution of local land governance, microfinance and microenterprise associations, and formal insurance arrangements for smallholders.

Despite a growing body of literature on the linkages between economic growth and resilience, several critical evidence gaps remain. Much work is needed to: (i) verify empirically the nature of causal relationships between poverty reduction, agricultural productivity, and the existence and avoidance of poverty traps (Barrett & Carter, 2012; Kida, 2011; Levine, Pain, Bailey, & Fan, 2012) and (ii) move beyond traditional indicators such as aggregate statistics on agricultural growth to examine more closely the economic implications of social protection, insurance, food assistance, and climate change on asset accumulation and livelihood security (Béné, Wood, Newsham, & Davies, 2012; Frankenberger, Langworthy, Spangler, & Nelson, 2012b).

Other research areas. In addition to the identified gaps for the key questions of interest to USAID, there are a number of other important research areas pertinent to resilience programming that still need further investigation. These include measuring resilience at multiple levels, mainstreaming gender equity, fostering good governance, mitigating internal and cross-border conflicts, and promoting complementarity of public and private sector investment in resource-poor environments.

I. ABOUT THE LEARNING AGENDA

The objective of this paper is to summarize available evidence on key questions for the Feed the Future Learning Agenda Theme on resilience, and document expert opinion on gaps in the scientific literature for this theme that are in most urgent need of attention.

Feed the Future is an initiative of the U.S. Government, undertaken in response to the commitment of global leaders at the G8 Summit in L'Aquila, Italy, in July 2009, to "act with the scale and urgency needed to achieve sustainable global food security." Feed the Future aims to tackle the root causes of global hunger and poverty through inclusive agriculture sector growth and improved nutritional status, especially of women and children. Feed the Future aims to achieve these objectives through several intermediate results detailed in the *Feed the Future Results Framework*: sustainably increasing agricultural productivity, expanding markets and trade, promoting increased public and private investment in agriculture and nutrition, supporting vulnerable communities and households to increase resilience, increasing access to diverse and quality foods, promoting improved nutrition-related behaviors, and improving use of maternal and child health and nutrition services. The Feed the Future approach focuses on smallholder farmers, especially women.

An important objective of the Feed the Future monitoring and evaluation (M&E) component is to generate evidence to address unanswered questions in the development literature pertaining to the causal linkages in the *Feed the Future Results Framework*. In line with USAID's new Evaluation Policy launched in January 2011, Feed the Future's M&E approach emphasizes generating, learning from, and sharing evidence and results that can inform future programming and investments, increasing the chance that future investments will yield even more results than prior investments.

In order to organize this work, USAID's BFS led the development of a *Feed the Future Learning Agenda* (USAID, 2011a) in the first half of 2011, comprising a set of key evaluation questions related to the causal linkages in the *Feed the Future Results Framework*. These questions were designed to be answered using evidence-based hypothesis testing, primarily through impact evaluations but also through performance evaluations, economic analysis, and policy analysis. In June 2011, a meeting was held with key experts from implementing partners and other stakeholders (U.S. Government agencies, universities, research centers, non-governmental organizations [NGOs], think tanks, the private sector, and others) to review and validate the key questions, and the thematic groupings into which they had been organized to form the *Feed the Future Learning Agenda*. These stakeholders also provided preliminary design ideas for impact evaluations to be conducted to address these questions.

To ensure that Feed the Future impact evaluations are well-conceived, build on existing evidence, and fill critical evidence gaps, BFS is providing resources for a comprehensive assessment of existing evidence and gaps in knowledge within the framework of the Feed the Future FEEDBACK project. This assessment includes development of annotated bibliographies and literature review papers organized around the six themes of the Learning Agenda:

1. Improved Agricultural Productivity;
2. Improved Research and Development;
3. Expanded Markets, Value Chains and Increased Investment;

4. Improved Nutrition and Dietary Quality;
5. Improved Gender Integration and Women's Empowerment; and
6. Improved Resilience of Vulnerable Populations.

Annotated bibliographies for each of the Learning Agenda themes have already been prepared. Literature review papers for each theme, including this one, present expert analyses of the current state of the scientific evidence for the key questions related to each theme and offer additional guidance on the gaps remaining to be filled by the impact evaluations. At a later stage, the assessment will also include activities aimed at articulating and demonstrating how new evaluations and studies conducted under the auspices of the Feed the Future M&E program contribute to filling the gaps in the body of evidence identified in this and the other five expert papers on the Learning Agenda themes.

II. ABOUT THE THEME: IMPROVING RESILIENCE OF VULNERABLE POPULATIONS

Background. Resilience has recently emerged as an organizing concept for food security policy and program development. This new focus on resilience stems from the realization that continuous humanitarian support does not prevent future crises. Climate change, ecosystem fragility, geopolitical instability, and economic volatility have generated a pronounced set of risks for the world's poor (Constas & Frankenberger, 2013). A common concern with humanitarian responses is that while they have saved lives, they have not increased the capacity of affected populations to withstand future shocks and stresses (USAID, 2011b).

Drought shocks have also taken their toll on local economies. Prolonged drought cost the Government of Kenya \$12 billion, primarily due to loss of livestock (Republic of Kenya, 2012). The World Bank also found that in the last 30 years, one out of every three dollars spent on development was lost as a result of disasters and crisis. Thus there is both a humanitarian imperative and an economic imperative to focus on resilience (Collins, 2013).

The concept of resilience has gained popularity because it holds the promise of bridging the operational gap between humanitarian aid and development assistance and because it highlights the need to build the capacity of individuals, households and communities to withstand and/or adapt to a broad array of risks (Constas & Frankenberger, 2013). This shift in emphasis from emergency response to building resilience has also been shown to provide good value for money. The WMO and the United Nations International Strategy for Disaster Reduction estimate that “one dollar invested in disaster preparedness can save seven dollars’ worth of disaster-related economic losses” (WMO, 2009). Thus investing in resilience programming that reduces exposure to risk is significantly more cost effective than post-disaster responses.

USAID defines resilience as “the ability of people, households, communities, countries, and systems to mitigate, adapt to, and recover from shocks and stresses in a manner that reduces chronic vulnerability and facilitates inclusive growth” (USAID, 2012a). Resilience programming synthesizes humanitarian relief and development aid to provide a platform for addressing the needs of communities that face chronic hazards like flood and drought (Griffin, 2013).

In December 2012, USAID issued policy and program guidance for resilience programming that calls for layering, integrating, and sequencing humanitarian and development assistance to increase adaptive capacity, improve the ability to address and reduce risk, and improve the social and economic conditions of vulnerable populations. The guidance also provides a conceptual framework for resilience and establishes a monitoring, evaluation, and learning agenda to measure progress and capture lessons learned (USAID, 2012a).

Basic concepts and assumptions. The concept of resilience was first introduced to the field of ecology nearly four decades ago by Holling (1973). Since then, the term has been adopted by numerous disciplines, each with its own conceptual focus, making it difficult to arrive at consensus on a definition of resilience. This poses problems for measuring resilience. In general, resilience is commonly understood as the ability to bounce back and return to a stable state in which some entity (e.g., individual, household, or community) existed before a disturbance (Constas & Frankenberger, 2013).¹ The disturbance could be a collective shock shared by a large group of people (covariate shock) or a shock experienced only within a given household or community (idiosyncratic shock). Economists

¹ However, many feel that if the stable state is chronic poverty, then this is not resilience. Resilience outcomes cannot be poverty traps.

have tended to focus on risk management strategies that reduce the riskiness of the income-generating process (income smoothing) and risk-coping strategies that include self-insurance through saving and informal, group-based risk sharing (consumption smoothing) (Alderman & Paxson, 1994; Dercon, 2002). Saving and accumulating assets in good times and depleting assets in bad times are commonly observed consumption-smoothing strategies. If shocks are persistent and collective in nature, then coping is more difficult (Dercon, 2002). Much of the economic literature reviewed in this paper takes this perspective in measuring resilience.

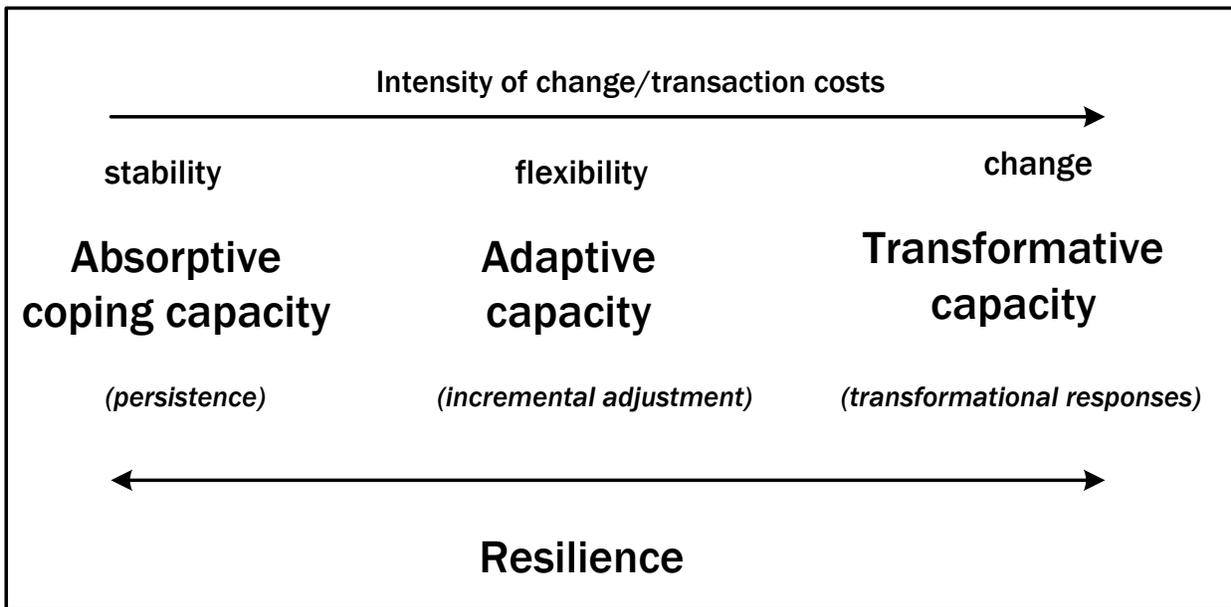
In February 2013, an Expert Consultation on Resilience Measurement for Food Security was held in Rome.² A number of resilience measurement principles were identified including the notions that resilience: is a dynamic process; is context specific; changes over time; may operate non-linearly; operates at multiple levels; comprises psychosocial factors in addition to more traditional economic factors; and is heavily influenced by culture and the state of natural resources in a given community (Frankenberger & Nelson, 2013; Griffin, 2013).

A recent conceptualization views resilience as a process rather than a static state, with its determinants changing within evolving social, economic, and environmental contexts (Frankenberger & Nelson, 2013). Building resilience requires an integrated approach, and a long-term commitment to improving three critical capacities: absorptive capacity, adaptive capacity, and transformative capacity (Béné et al., 2012) (See Figure 1: Functional roles of resilience programming on the following page). *Absorptive capacity* is the ability to minimize exposure to shocks and stresses (*ex ante*) where possible and to recover quickly when exposed (*ex post*) (Frankenberger et al., 2012b). Improved disaster risk management is aimed at improving absorptive capacity at the community and household levels, helping them to both reduce disaster risk and absorb the impacts of shocks without suffering permanent, negative impacts on their longer-term livelihood security. *Adaptive capacity* involves making proactive and informed choices about alternative livelihood strategies based on changing conditions (Frankenberger et al., 2012b). Interventions to improve adaptive capacity are aimed at improving the flexibility of households and communities to respond to longer-term social, economic, and environmental change. This necessarily entails promoting livelihood diversification, supporting asset accumulation, and improving the social and human capital available to vulnerable populations. *Transformative capacity* relates to governance mechanisms, policies/regulations, infrastructure, community networks, and formal safety nets that are part of the wider system in which households and communities are embedded. Transformative capacity refers to system-level changes that enable more lasting resilience and often challenge the status quo in a substantial way (Béné et al., 2012). Each of these capacities is not mutually exclusive and exists at individual, household, community, state, and ecosystem levels.

Although many of the papers in this review do not analyze the evidence on the basis of these capacities, an effort has been made to discuss the findings with these three capacities in mind.

² The meeting was organized by the Food and Agriculture Organization of the United Nations and World Food Programme and was supported by the European Commission and USAID.

Figure 1. Functional roles of resilience programming



Source: Béné et al., 2012.

III. KEY QUESTIONS FOR THE THEME

I. Strengthening Household Capacities to Withstand and Recover From Shocks

What interventions improve the ability of households to withstand (stable consumption and protected assets) common and extreme shocks affecting their economic activities? In what ways?

What interventions strengthen the ability of vulnerable households to recover (regain consumption levels and rebuild lost assets) from common and extreme shocks?

Have interventions changed risk-reduction strategies pursued by men and women to cope with shocks (health-related, agro-climatic, economic, socio-political)?

Evidence

Introduction

Building individual, household and community capacities to withstand and recover from shocks is a function of risk management. Risk management has *ex ante* and *ex post* aspects relative to a shock. *Ex ante* strategies address preparation for a shock and *ex post* strategies are about coping with the shock and recovery. The duration of the *ex post* period can vary widely, determined by such factors as the extent and nature of the shock; household asset base; the extent, strength, and nature of the household's social network; the enabling environment (e.g., governance, policy, infrastructure); and whether the shock is idiosyncratic (affecting a single household) or covariate (affecting multiple households or communities).

These organizing concepts are useful for categorizing interventions for preparing for, coping with, and recovering from shocks. In practice, there is overlap and interaction among risk types and among management and coping strategies and their impacts. For example, more than one type of risk may be in play—e.g., the death of an income-earning household member (idiosyncratic) during a regional drought (covariate). Data from Ethiopia on income risks in 1994-1995 reveal that “most of the shocks experienced by households included both idiosyncratic and common risk features” (Dercon, 2002, p. 143).

Timeframes (e.g., the duration of a shock and its after-effects, the duration of the emergency response, and the time required for recovery) have a strong influence on the impacts and outcomes of interventions. Moreover, different shocks, risk reduction strategies, and their impacts may run concurrently. In addition, not all households recover from a shock at the same rate, as illustrated in a large-scale study measuring resilience in Niger in areas prone to successive drought shocks. That study found that recovery rates on different food security and agricultural indicators differed across districts and agricultural zones (Bauer, Pompili, & Ballo, 2012).³

Awareness of the influence of timeframes is important as complex, integrated responses may be required in the face of a series of shocks. Effective activities in a recovery stage, for example, may

³ This United Nations World Food Programme study measures household resilience using trend analysis and focuses on the speed and extent of recovery following the 2009 drought. It uses cross-sectional data on 10,000 households for a multi-year period.

require interventions that address both absorptive and adaptive capacities, such as when a household is affected by a new shock while rebuilding after the last one. Awareness of the trade-offs of different strategies with respect to different time horizons is also important—e.g., in some studies, self-insurance strategies are correlated with lowered child health and nutrition status and decreased investment (Skoufias, 2003). A key characteristic of resilience is that households do not employ negative coping strategies that compromise resilience capacities in any timeframe, whether short-, medium- or long-term.⁴ Ideally, both *ex ante* and *ex post* strategies are employed at household and system levels to reduce/minimize recovery time, start restoring food and livelihood security, and contribute to future resilience as quickly as possible.

This section presents evidence on three broad categories of strategies for withstanding and recovering from shocks – asset strategies, safety nets, and insurance – and includes observations about the importance of social capital. It is beyond the scope of this paper to provide an exhaustive treatment of these strategies; the interventions described are intended as illustrative examples.

Asset strategies

Building a strong asset base. A strong asset base is widely accepted as critical to households' abilities to withstand and recover from shocks, to maximize the benefits of additional inputs, and to avoid the "poverty trap" whereby poverty is perpetuated across shocks and across generations (see also Section 3). Possession of a liquid asset base, access to credit, and technical efficiency in agricultural production were found to increase drought resilience in Indonesia (Keil, Zeller, Wida, Sanim, & Birner, 2008; Dodman, Ayers, & Huq, 2009). Many interventions are therefore designed to strengthen the household asset base. Both *ex ante* and *ex post* opportunities exist to build asset endowments and thus bolster households' absorptive and adaptive capacities in responding to shocks.

It is important to resilience programming to understand how assets play into household coping and recovery strategies, as well as the minimum amount of assets needed. There is evidence to suggest that decreasing reliance on distressful coping strategies – especially those that involve the depletion of productive assets – puts households in a position to recover from shocks such as drought faster and more easily (Humanitarian Policy Group [HPG], 2009; Naess, Sullivan, Khinmaung, Crahay, & Otzelberger, 2010). However, the research also shows that asset ownership alone and not selling assets in times of distress do not translate into recovery and well-being in all cases. Studies of household responses to the 1994-1995 drought in Zimbabwe found that households with more than two oxen – the minimum needed for ploughing – were more likely to sell at least one ox than those with just one or two oxen, and thus generate income. However, those that did not sell assets during stresses did not necessarily fare well: in households owning only one or two oxen, women lost more body mass than in households with more oxen, and children's growth rates declined to an irreversible degree (Hoddinott, 2008).⁵ In other words, these households had some assets, but not enough to head off negative health outcomes after a shock. Dercon (2002) describes research⁶ on the 1984-1985 Ethiopian famine showing when asset terms of trade collapsed, households chose to reduce their consumption to dangerous levels rather than sell their livestock. Some of the implications of these studies are that there is more to

⁴ Examples of such coping strategies include distress sales of livelihood assets, adjusting household labor supply (e.g., withdrawing children from school to help in agricultural activities, which also reduces the investment in human capital—namely, the child's education); and choosing low-risk but low-profit activities and other ultimately costly self-insurance practices that perpetuate a cycle of vulnerability (Skoufias, 2003, 2007).

⁵ Hoddinott (2008) also cites an econometric study on this topic by Owens, Hoddinott, and Kinsey (2003).

⁶ Rahmato, D. (1991). *Famine and Survival Strategies, A Case Study from Northeast Ethiopia*. Uppsala, Sweden: Nordiska Afrikainstitutet.

resilience than asset building: a certain minimum asset base must be established and there must be an enabling environment (e.g., favorable terms of trade) in order for households to employ their assets to their benefit and avoid negative coping strategies.

Land access and land rights are highly relevant to resilience programming because this is a pervasive area of inequality in many developing contexts: “It is widely accepted that clearly-defined and secure land rights are critical to provide incentives for investment and sustainable resource management...[S]ecure land tenure is likely to be particularly important for socially excluded groups, and Lipton (*op. cit.*) argues that secure access to even very small land parcels (for example only enough for a house) can provide important risk management and resilience building benefits, providing reserve income and strengthening the bargaining position of rural labor” (Lipton, 1993, cited by Dorward et al., 2006).

The significance of land assets to livelihood security is highlighted in a joint evaluation of Brazil’s National Program of Land Credit,⁷ a market-based land reform program that provides land transfers and grants for infrastructure improvements, and Bolsa Familia, a CCT program for the poor. The evaluation finds that land credit increases land and animal ownership, irrigation, agricultural assets, participation in agricultural production, and the value of monthly per capita production, while Bolsa participants are less likely to enter land ownership and have lower levels of forest production. Although neither program has increased household income (Fitz, 2012), this study shows that households with more land assets are better able to take advantage of additional transfers, while poorer households need different kinds or amounts of assistance to surmount entry barriers to more productive and resilient livelihoods. While the study did not examine these effects in the context of shocks, it underlines the importance of land ownership as a gateway to other opportunities that promote resilience.

Asset transfer programs. There is growing interest in asset transfer programs as opposed to cash transfers (discussed later in this section) because the former are viewed as offering productive support rather than welfare. Indeed, some evidence suggests that asset transfer programs contribute to productivity outcomes. The Challenging the Frontiers of Poverty Reduction: Targeting the Ultra Poor program in Bangladesh was found to lead to more stable and diversified livelihood incomes, and the Chars Livelihood Programme (also in Bangladesh), which provided cash transfers for the purchase of productive assets, has yielded strong returns on cattle purchases that served to diversify participants’ incomes (Devereux et al., 2008). However, there is debate over the comparative benefits of cash vs. asset transfers in terms of how they limit spending choices, how they affect markets, and which modality is more effective, which is often viewed in terms of cost efficiency or budgetary trade-offs (Devereux et al., 2008; Hoddinott, 2008).

Savings programs. Savings are an important component of recovery capacity. Savings programs offer an *ex ante* opportunity to allow households to put away funds for times of need. Dercon (2002) suggests that more emphasis is needed within microfinance initiatives on low-cost savings programs, which would assist households to self-insure against shocks. Research has shown that households that thrived in the context of erratic rainfall attributed their capacity in part to investing in a contingency fund to manage risk (Frankenberger et al., 2007; TANGO International, 2011).

Safety nets for transitory shocks⁸

Overview. Safety nets can be formal or informal. While informal safety nets are often more effective in dealing with idiosyncratic shocks because they incorporate community-specific knowledge and account for cultural, physical, and economic differences among affected communities, they tend to be less

⁷ Programa Nacional de Crédito Fundiário.

⁸ See also longer discussion in Section 2.

effective in cases of covariate shocks (Frankenberger et al., 2012b). Macroeconomic shocks are a good illustration of this difference: “From the perspective of social risk management . . . with most covariate shocks, self-insurance, informal insurance, and market-based smoothing mechanisms such as credit are likely to be less effective, particularly for poor people. With covariate shocks, both the value of assets held by the poor and the incomes of their associates in informal insurance arrangements fall, precluding the use of either as a safety net” (Lustig, 2000, p. 3). In contrast, households that experience an idiosyncratic shock are more likely to be able to take advantage of interventions that are not affected by that shock such as FFW, a formal safety net that can aid in consumption smoothing (Lustig, 2000).

Formal social safety nets include cash or CCTs, in-kind transfers, general food distribution, supplementary feeding, FFW, and price subsidies. There is substantial evidence to suggest that formal safety nets have a positive effect on absorptive capacities by stabilizing consumption and helping households to decrease negative coping strategies during shocks (Hoddinott, 2008; Lustig, 2000). Safety net interventions have been criticized for offering short-term effects that do little to help households exit from chronic poverty (Ravallion, 2003). This may be due partly to the need to integrate them with interventions that build overall resilience capacities. Hoddinott (2008) points out that safety nets and agricultural investments go hand-in-hand, but the integration of social protection and agricultural policies is limited despite established linkages between poverty and agricultural risks (Dorward et al., 2006). Safety nets also can serve different goals: those with transfer functions target chronic poverty, while insurance functions focus on transitory needs (Alderman & Haque, 2006).

Conditional cash transfers to withstand and recover from shocks. CCT programs are a form of cash transfer designed to assist households to meet current needs that requires them to invest in children’s health and development, which can be irreversibly affected by shocks (Skoufias, 2003).⁹ Participation in CCT programs is found to help households weather shocks by supplementing income to increase food expenditures, enable consumption smoothing, and facilitate households’ human capital investments (Fiszbein et al., 2009; Maluccio, 2005; Skoufias, 2003). The impacts of CCTs may also extend to non-participating households that experience a shock (Fiszbein et al., 2009). As with any intervention type, the effects of CCTs on households’ ability to withstand shocks vary depending on the local context, the type of shock, and the outcome being measured (Fiszbein et al., 2009, p. 162).¹⁰ Income transfers such as CCTs have been criticized for doing little to increase the productivity of poor adults, focusing instead on the human capital of the next generation (Fitz, 2012; Todd, Winters, & Herts, 2010) – an indication of the complexity of addressing absorptive and adaptive capacities simultaneously.

There is a considerable volume of research on large-scale CCT programs in Latin America such as Mexico’s Oportunidades, which provides cash transfers to households for nutrition and health and education transfers to children ages 8 to 18. A 2007 study of PROGRESA, the predecessor to Oportunidades, found that participating households were better able to insulate their consumption from income fluctuations than non-participants (Skoufias, 2007). This corroborates findings in earlier research on PROGRESA showing that CCTs helped to protect school attendance during shocks, though the income effect “...is not sufficient to reduce the use of child work as a crucial element of risk-coping strategies” (de Janvry, Finan, Sadoulet, & Vakis, 2006, p. 351). These findings support the notion that CCTs help households to protect assets during shocks and to continue strategies that will build resilience across generations.

Similar support for the contribution of CCTs to absorptive capacity comes from research on the Red de Protección Social¹¹ (RPS) in Nicaragua, which found that participating households were “able to maintain

⁹ CCT programs tie a cash benefit to participation in activities such as health and education services.

¹⁰ Fiszbein et al. (2009) refer their readers to Ferreira and Schady (2008) on this point.

¹¹ Social Protection Network.

pre-program expenditure levels in both coffee-growing and non-coffee-growing areas” during a severe downturn in coffee prices in 2000-2002. It also found that child height-for-age scores improved in RPS communities during the coffee crisis, while control communities experienced serious declines in this measure. While school enrollment increased in treatment (RPS) and control (non-RPS) communities, these increases were larger in treatment communities and larger still in treatment communities in coffee-growing areas most affected by the crisis (Maluccio, 2005).

In addition to successes in promoting human capital investments, there is evidence that CCTs yield productivity and income benefits with positive long-term impacts. A study of Oportunidades by Gertler et al. (2012) shows that money from CCTs was used to purchase productive assets and led to increased agricultural income, which contributes to the improvement of living standards over the long term. A study of a Nicaraguan program that combines CCTs with vocational training or a productive investment grant finds that these complementary interventions led to livelihood diversification and improved households’ abilities to manage drought shocks two years after the intervention (Macours, Premand, & Vakis, 2012).

CCTs are a form of cash transfer that have performed notably well in some highly volatile and operationally-constrained conflict environments such as Somalia, the eastern Democratic Republic of Congo and Pakistan. Success factors in these contexts include functioning markets, NGO experience with the cash transfer modality, and a large number of money transfer agents (as in Somalia) (TANGO International, 2013c; Longley, Dunn, & Brewin, 2012).

Impact of FFW on ability to withstand and recover from shocks. FFW can serve both transfer and insurance functions (Skoufias, 2003). As a contributor to asset protection (an element of absorptive capacity), FFW has been shown to decrease distress sales of livestock among poor households (Barrett, Bezuneh, & Aboud, 2001). While FFW provides immediate assistance to households during a fragile post-shock period, it also builds infrastructure that aids community recovery. Moreover, the FFW transfer provides support while shock-affected households recapitalize their assets in an adaptive way (e.g., by diversifying animals and crops) (Mortimore, 2009).

However, the evidence indicates that short-term gains from FFW may come at the cost of negative effects in areas that are necessary to long-term resilience. Research on Ethiopia’s Productive Safety Net Programme (PSNP)¹² (which uses both a cash-for-work and FFW model) points out harmful impacts on agricultural intensification, short-term soil conservation measures, informal risk sharing, and growth of livestock holdings (Andersson, Mekonnen, & Stage, 2011;¹³ Dercon & Krishnan, 2003). A study on emergency FFW (the Employment Generation Scheme, or EGS) and free food distribution in Ethiopia during the 2002 drought shows that participation in EGS improved consumption in the short-term, but had a negative effect on the growth rate of livestock holdings.¹⁴ The authors conclude that apart from clear and significant benefits during the drought period, “improved targeting, especially in EGS, and larger, sustained transfers may be required to increase benefits, particularly to the poorest households. The impacts of food aid identified here indicate some persistence or accumulated effects of transfers on consumption growth over time” (Gilligan & Hoddinott, 2007, p. 239). These studies suggest that FFW approaches need to consider potential impacts on both absorptive and adaptive capacities, i.e., how to

¹² The PSNP is a large public social protection program, launched in 2005 and funded by the Ethiopian government and donors. The PSNP is intended to prevent asset depletion at the household level during the hungry season, create public assets, and stimulate investments. It employs chronically food-insecure people during the agricultural off-season in the creation of community-based public works.

¹³ Andersson et al. (2011) in turn cite Barrett et al. (2004); Gebremedhim and Swinton (2003); Dercon and Krishnan (2004); and Gilligan and Hoddinott (2007).

¹⁴ The authors suggest this could be due to the participants feeling that livestock holdings as a self-insurance mechanism are less important.

avoid harmful trade-offs when prioritizing support during immediate post-shock stages vs. recovery, or vice versa.

One way to minimize such trade-offs is to use a combination of approaches to building capacities to withstand and recover from shocks. Andersson et al. (2011) examined the interaction between the PSNP and the Other Food Security Programme (OFSP), which offers productivity-enhancing transfers or services. They find that among PSNP participants, improved credit access (part of OFSP) leads to increased livestock holdings. In fact, they find it to be more important than the PSNP itself. Similarly, Gilligan et al. (2008) find that the greatest effects on food intake and income diversification are for households that participate in both the PSNP and the OFSP.¹⁵ They also find that beneficiaries of both programs “were more likely to be food secure, to borrow for productive purposes, use improved agricultural technologies, and operate their own nonfarm business activities,” yet there was no evidence that the programs resulted in faster asset growth (Gilligan, Hoddinott, & Taffesse, 2008, p. 2). These studies suggest that joint approaches can be highly effective in helping households to build resilience yet there is still room for further layering of interventions to build resilience capacities – in this case, to catalyze asset growth.

School feeding to withstand shocks. School feeding is posited to build resilience by building human capital (Devereux et al., 2008). It also plays roles in welfare and risk insurance (when the transfer is stable and durable, it protects against consumption shocks) (Dorward et al., 2006). In complex crisis contexts such as Pakistan and South Sudan, school feeding is an important incentive for keeping schools open and encouraging school enrollment and attendance after a shock; it thereby contributes to social stability that is important to transition and recovery (TANGO International, 2013c). School feeding therefore has both immediate effects on absorptive capacity and medium- and longer-term effects such as helping to keep children in school during critical ages and periods of external stresses.¹⁶

Insurance

Few crop or health insurance programs have been designed specifically for farmers in the developing world or for the poor (Hillier & Castillo, 2013; Karlan & Morduch, 2009). Uptake of crop/rainfall and health insurance is low, and experiences with co-pay health insurance models are mixed (Karlan & Morduch, 2009). Some of the main factors correlated with poor participation in insurance are credit constraints, lack of familiarity with the insurer and the product, limited experience with other kinds of insurance, education level, and low participation in community networks (Giné, Townsend, & Vikrey, 2007; Giné & Yang, 2009; Karlan & Morduch, 2009). Challenges cited in implementing insurance include moral hazard, adverse selection, high transaction costs, covariate risk, and delayed payouts (Karlan & Morduch, 2009; Devereux et al., 2008).

There is a growing emphasis on weather-indexed insurance (Devereux et al., 2008), which simplifies insurers’ compensation calculations (all farmers receive the same payout whether or not they experience a loss) and thus speeds payouts. This helps farmers to smooth consumption and avoid distress sales of productive assets. Devereux et al. (2008) contrast the advantages of index insurance by comparing two insurance models in Ethiopia. In the World Food Programme (WFP) Ethiopia Drought Insurance project, payouts are triggered by deficit rainfall levels and delivered immediately after harvest in time to assist farmers to protect consumption and assets. In contrast, the PSNP (a non-indexed

¹⁵ The OFSP offers “access to credit, agricultural extension services, technology transfer (such as advice on food crop production, cash cropping, livestock production, and soil and water conservation), and irrigation and water harvesting schemes” (Gilligan et al., 2008, p. 1).

¹⁶ See also the discussion on CCTs above; the CCTs in the PROGRESA program in Mexico, which are contingent on school attendance, also protected school enrollment during shocks (de Janvry et al., 2006).

model) has delivered transfers months late, thereby “undermining [its] social protection role” Devereux et al. (2008, p. 39). Like other insurance products, farmer uptake of index insurance is limited, which is commonly attributed to lack of trust and poor understanding of the products, as well as the “basis risk” inherent in indexed schemes.¹⁷

Access to trusted climate-related information helps farmers in Mali to adapt their agricultural strategies. The Direction Nationale de la Meteorologie (DNM) provides climate information directly to smallholders, who state that this makes them feel “...less exposed to the uncertainties of changing climate and more confident about investing in improved seeds, fertilizers, and pesticides, all of which boost production.” Crop yields and farmer incomes were higher in areas covered by DNM (Dodman et al., 2009). Conversely, circulation of misleading information breeds mistrust. What is the value of a disaster risk reduction module that advises going to a cyclone shelter when the existing shelters can only accommodate a small proportion of those endangered (TANGO, 2013b)?

A recent study in Ethiopia found that farmer uptake of weather index insurance was higher when marketed as a mechanism to complement informal risk-sharing groups (specifically, funeral societies). The idea here is that when a farmer experiences an idiosyncratic loss not covered by the index insurance, the informal group will step in to assist that particular farmer (Dercon et al., 2012). Dercon et al. (2012) also found a positive correlation between demand for weather-indexed insurance and training about this insurance to leaders and members of funeral societies to whom the insurance was marketed. Once awareness is established at the individual and household level, much of the ability to act – and the effectiveness of those actions – depends on broader enabling conditions relating to governance and the institutional context.

A promising insurance program based on similar principles is being piloted in a drought-prone region of Ethiopia and integrated into the PSNP. Its main innovation is that, rather than paying cash for insurance, farmers can pay with labor on risk-reduction projects such as irrigation or soil management. Insured farmers were found to have significantly higher yields than the uninsured, which was attributed to the insurance giving them the confidence to invest in higher-yielding seeds (Hillier & Castillo, 2013). As a whole, these studies suggest that weather-indexed insurance builds farmers’ absorptive capacities (as a positive strategy to cope with crop loss) as well as their adaptive capacities (by facilitating changes in crop choices that lessen their vulnerability to drought-related losses). Conversely, other indexed programs have been less successful, such as one piloted by the social enterprise BASIX in India, which “...has not fulfilled expectations for encouraging adaptive strategies of poor and vulnerable farmers.” One of the reasons for this is the high cost of the coverage and resulting underinsurance (farmers insure inputs but not the anticipated value of their crops); moreover, prices are increasing as climate change concerns escalate (Dodman et al., 2009, p. 166).

Evidence Gaps

The role of social capital. Social capital (including social networks) has a central role in resilience as a locus of systems-level resilience. Aldrich (2012) describes the significance of three forms of social capital – “bonding,” “bridging,” and “linking” – for community resilience in the face of a disaster; and provides numerous case studies of the interaction of these dynamics with resilience. There is a lack of clear evidence on interventions that help bolster social capital, however.

¹⁷ *Basis risk* refers to the difference between losses incurred and the losses insured: a farmer insured under an indexed scheme may receive a payout when his crop is unaffected by the weather extreme, yet it is also possible that an actual crop loss results in no payout. The latter risk makes this kind of insurance less palatable.

Recovery timeframes. There is little empirical evidence to guide implementing agencies as to the most effective exit strategies for sustaining resilience over time, which should, in turn, be informed by more research on expected recovery timeframes. The latter is a complex area, given the multiplicity of idiosyncratic responses to shocks (Bauer et al., 2012). “From the point of view of risk management, the efficacy of safety nets includes the degree to which assets are protected or the speed at which the affected households return to the pre-shock level of production or earnings. To be sure, the necessary data to evaluate a safety net from this perspective often [are] not available” (Alderman & Haque, 2006, p. 381). Others expound on this view and argue that resilience means being able to adapt to long-term trends or changing conditions (Frankenberger & Nelson, 2013; Frankenberger et al., 2012b; Ludi et al., 2011). M&E timeframes therefore need extended trend analysis and trans-generational studies to capture intervention effects through the resilience lens (Bauer et al., 2012). Programs seeking to build absorptive and adaptive capacities and appropriate exit strategies need to reflect understanding of the time required to sustain the resources, capacities, motivation, and linkages that have been supported by the intervention (Coates & Rogers, 2011).

A useful contribution to the evidence in this regard would be more case studies of households with common demographic, socioeconomic, and cultural profiles in different localities to describe their adaptive processes in response to different shocks. This is currently being done by Tulane in the USAID-funded Resilient Africa Network. Over time, these case studies could be analyzed to determine whether distinct patterns of response can be generalized to common household profiles.

Differentiation of resilience by livelihood type. More studies are needed that present data on absorptive and adaptive capacities that are disaggregated by livelihood, demographic, and other characteristics. For example, Alinovi et al. (2010) perform a cluster analysis of Kenyan households to measure household resilience to food insecurity; they find that the determinants of resilience vary by livelihood type.¹⁸ Another illustrative example of a study that uses a livelihoods framework to analyze vulnerability, risk factors, and resilience is Frankenberger et al. (2007), which defines thresholds for achieving household resilience.

Local knowledge of climate and weather variability. More in-depth, robust, and systematic examination of local knowledge of climate variability and change, and of how communities cope with these changes, is needed to improve strategies for building absorptive and adaptive capacities. While climate extremes and weather variability are not new phenomena – agricultural, agro-pastoral, and pastoral livelihoods have many effective coping strategies for weather variability – the increasing intensity of climate-related shocks and stresses is testing these capacities and increasing vulnerability (Naess et al., 2010; HPG, 2009).

The role of aspirations. More research is needed to understand the role of aspiration and adaptive preferences in recovery¹⁹ and how to support the aspirations that facilitate recovery. Aspirations summarize the manner in which people visualize the future and engage in forward-looking behavior (Appadurai, 2001; Rao & Walton, 2002). The capacity to aspire conditions the preferences, choices, and calculations of individuals/groups and relationships they form with one another; it also influences beliefs and calculations regarding the feasibility of wants and preferences. A study in Ethiopia showed that beliefs may significantly influence the extent to which one is willing to invest in future-oriented activities (Frankenberger et al., 2007). Aspirations are therefore directly linked to resilience, such that those who

¹⁸ The Alinovi et al. study measures resilience using data on income and food access, agricultural assets, non-agricultural assets, agricultural practice and technology, access to basic services, social safety nets, stability, and adaptive capacity. It finds that large-holder farmers are the most resilient, pastoralists and smallholder farmers the least, and that the resilience determinants are different for each group. The data are also analyzed by province and by gender of household head.

¹⁹ Not all adaptive choices are conscious decisions. See Levine et al., 2011.

are willing to make investments that enhance well-being may durably and autonomously stay out of poverty.

2. Risk Management and the Role of Safety Nets

Do safety net programs promote greater participation of poorer households in prudent risk taking and more remunerative economic activities?

Evidence

Introduction

Informal safety nets that help households manage shocks and smooth consumption in response to idiosyncratic risks are widespread in traditional agricultural societies. In recent decades a variety of formal safety nets have also become more widely available to assist vulnerable households to address large-scale or covariate shocks. Safety nets enable poor households to undertake a greater degree of risk, which is necessary to realizing higher returns from their production. However, to effectively reduce shocks, formal safety nets must be reliable, timely, and substantial enough to enable households to expand their income opportunities, and thus their resilience. There is evidence that informal and formal safety nets influence people's risk reduction strategies, and may be complementary under certain conditions.

Women, who are more vulnerable to shocks and stresses due to social and economic inequalities, are also less likely to be able to fully participate in the opportunities provided by safety nets due to these same social and economic constraints. It is important to understand gender dynamics and gender equity in CCTs and other safety nets as men and women experience shocks differently, with different degrees of vulnerability, and interventions should not harm existing positive gender relations (Flintan, 2011).

"Safety nets and financial protection" is one of the five priority areas within the risk reduction component of USAID's conceptual framework for resilience²⁰ (USAID, 2012a). A key assumption is that the network of formal and informal institutions and organizations operating in any given locale can play a role in helping to cope with shock by providing safety nets that facilitate consumption smoothing and asset protection for vulnerable populations (TANGO International, 2013a). This review understands "safety net programs" to encompass a broad set of measures considered "social protection." This expanded interpretation is based on the work of Devereux et al. (2008), who describe the evolution of social protection policies. They state that agriculture and social protection programs are on a continuum, and note the importance of both economic and social dimensions of risk and vulnerability; currently, social protection includes welfare, risk insurance, and resilience-building measures (Devereux et al., 2008). Dorward et al. (2006) also write extensively on the increasing linkages between welfare-promoting social protection and growth-promoting agricultural development. The recognition of the necessity of these linkages is consistent with the adaptive social protection (ASP) concept that is gaining currency among development actors: "ASP refers to a series of measures which aim to build resilience of the poorest and most vulnerable people to weather-related shocks by combining elements of social protection, disaster risk and climate change in programs and projects... [ASP] leverages the transformative potential of social protection, to prevent and mitigate frequent negative shocks on poor and vulnerable households" (UNDP, 2011, p. 6).

²⁰ The other priority risk reduction components are access to risk assessment tools, early warning systems, reduction in drivers of conflict, and disaster risk reduction.

The significance of safety nets to resilience is that they can help people try new activities and strategies when conditions would otherwise call for a more conservative approach; people tend to be less risk-averse if they know they have backup in case the new strategies fail (Frankenberger et al., 2007). The premise that safety nets result in more risk taking by poor households and higher-yielding activities speaks to a longstanding concern that safety nets discourage activities and investments that would support food and income security in the longer term.²¹

The research indicates that concerns about safety net programs undermining resilience have not been substantiated. CCTs have been found “to have had at most modest disincentive effects on adult work” and generally have not had a negative impact on remittances and other transfers, nor have they upset local price and wage equilibria (Fiszbein et al., 2009, p. 16). Similarly, there is evidence that FFW has small or no labor substitution effects (i.e., whereby people choose FFW in lieu of other income-generating activities) (Bezuneh & Deaton, 1997; Gilligan et al., 2008).

Safety nets have an impact on resilience by increasing the ability to take prudent risks and increasing liquidity. Their impact is enhanced by the regularity, certainty, and appropriate size of the transfer. Two of the most important are FFW and CCT. Safety nets may be either informal or formal and often interact with each other to provide comprehensive protection. Risk reduction strategies in conflict zones go beyond safety nets to include peace-building measures and investments.

Risk taking

Devereux et al. (2008) present various concepts from the literature about what factors contribute to risk taking as well as arguments for how social protection mechanisms influence risk-taking behaviors. Factors posited to affect attitudes toward risk include household asset and income levels; the certainty, predictability, and regularity of social protection mechanisms; and the size of the transfer. The authors cite a 2003 study of the Employment Guarantee Scheme in India’s Maharashtra state that provides low-waged, unskilled manual work. The study found that the insurance effect of the program enabled farmers to plant higher-yielding crops, rather than lower-risk, drought-tolerant varieties. This suggests that the guaranteed work is a form of insurance that encourages farmers to opt for improving their productivity, even at the risk of losing the crop to drought (Devereux et al., 2008). Earlier research also provides case studies (cash transfer social pensions in Namibia, cash payments to the urban poor in Mozambique, and public works in Zambia) illustrating how the interventions facilitated increased uptake of higher-productivity strategies that were otherwise beyond the participants’ reach (Devereux, 2002). While such findings indicate that these measures may have increased short-term productivity, they do not speak to whether farmers increased their long-term resilience to climate extremes or other stresses.

Liquidity

Liquidity is a widely-recognized constraint to households’ capacity for risk taking. Liquidity constraints are related to the amount and types of assets households own and the context that defines how they can be used. The ability to withstand and rebound from shocks, to “build back better”, and to adjust risk reduction strategies is related to household’s *ex ante* endowment or asset base. Safety nets can contribute to growth because they help to relax the liquidity constraints faced by chronically poor households. The supplemental income or food from safety nets expands households’ choices in how to allocate their time, money, and other resources and can influence risk tolerance/risk preferences. Studies of income diversification in rural Africa have shown that “The wealthy are able to access

²¹ For example, Sadoulet, de Janvry, and Davis (2001) comment briefly on possible work disincentives inherent in social assistance.

higher-return niches in the non-farm sector, increasing their wealth and reinforcing their superior access to strategies offering better returns. Those with weaker endowments *ex ante* are, by contrast, unable to surmount liquidity barriers to entry into or expansion of skilled non-farm activities and so remain trapped in lower-return, and sometimes riskier livelihood strategies” (Barrett et al., 2001, p. 381).

Regularity and certainty of safety net transfers

A critical factor in the extent to which safety nets influence risk taking in a way that promotes resilience is the regularity and certainty of the transfer. Policies need to be consistent over time so that people involved in agriculture have sufficient certainty and information to plan effectively. Case studies by Devereux et al. (2008) have shown that people may not invest in productivity-enhancing inputs if they fear their land may be confiscated (Ethiopia); or if they do not know if agricultural inputs such as fertilizer will be subsidized, they may not arrange import contracts or storage facilities (Malawi). “Conversely, all available evidence confirms that regular and predictable social transfers (e.g., social pensions in southern Africa) are not only consumed but invested in farming, non-farm enterprises, and asset purchases.” In sum, “maximizing synergies requires that social transfers are guaranteed, predictable, and/or regular so as to perform an effective insurance function and encourage moderate risk-taking by uninsured smallholders in high-risk agro-ecologies. Conversely, seasonality in agriculture requires transfers (such as fertilizer) to be carefully timed” (Devereux et al., 2008, p. 50-51).

Size of the transfer

The research recognizes that the size of the transfer influences the extent of households’ expanded opportunities for higher-return, higher-risk activities (Dorward et al., 2006). Generally, the higher the transfer, the greater the likelihood that the household will change its risk reduction and investment strategies. Devereux et al. (2008, p. 18) note that cash transfers in Mexico’s PROCAMPO program were “not sufficient to induce changes in cropping patterns among smallholder participants.” Other studies also find that higher transfers are correlated with the likelihood of investing (Gertler, Martinez, & Rubio-Codina, 2006).

FFW role in helping participants manage risks

FFW, considered a safety net in that it offers an additional income source, especially during the hungry season, has been shown to have some effect on farmers’ choices of agricultural strategies designed to increase productivity and income. A study of FFW in Ethiopia, where it is widely used in public works programs, found that FFW encouraged farmers to use fertilizer, with no disincentive effect (Bezu et al., 2008). The findings also suggested that both access to FFW income and the size of the transfer play into decisions about input use (Bezu & Holden, 2008). The study’s literature review found no strong evidence that FFW has disincentive effects on food production in Sub-Saharan Africa (Bezu & Holden, 2008, p. 542), citing a study of 42 Sub-Saharan African countries that showed that food aid has a positive effect on food production with up to two years’ lag (Abdulai, Barrett, & Hoddinott, 2005). This effect was attributed to food aid helping to relax factor markets, especially financial liquidity constraints.

Research on Ethiopia’s PSNP also supports the premise that this type of safety net allows participants to adopt more lucrative strategies: Andersson et al. (2011) found that PSNP farmers increased their planting of higher-value, higher-risk perennials relative to the acreage they allotted to pulses and teff. He describes this shift in risk avoidance as “in line with the findings in previous studies, namely that increased possibilities to *ex post* smooth consumption in times of negative income shocks lead to less income skewing in favor of low-risk, low-return activities” (Andersson et al., 2011, p. 29-30).

Bezu and Holden (2008) cite a study in Tunisia that found a positive correlation between increase in food aid and increased per capita income in the short and long run, and between an increase in food aid and increased domestic demand and supply of food grains (Bezuneh, Deaton, & Zuhair, 2003). Additional examples exist of the effect of FFW on easing liquidity constraints, such as a program in Kenya that found that FFW transfers enabled households to engage in higher-return livelihood strategies associated with "...improved crop production, increased participation in skilled non-farm activities, and improved management of livestock assets for long-term capital gains" (Barrett et al., 2001, p. 381). Poorer households decreased reliance on livestock sales and increased both crop and non-farm income.

Ethiopia's PSNP is a widely-studied safety net program relevant to resilience. Using panel and survey data from before and after the PSNP started, Andersson (2011) conducted an econometric analysis to examine whether PSNP participation resulted in participants reducing or discontinuing typical risk-reduction strategies such as investing in livestock and trees. The study authors identified perceived riskiness and yields of the assets, households' risk aversion, and discount rates as factors that potentially influence this result. They found that "shocks appear to lead households to disinvest in livestock, but not in trees." They described the most plausible interpretation of this is that secure income from PSNP while trees mature, along with increases in wood prices, gives farmers the option to forego income from annual crops. There was no evidence that PSNP participation leads households to disinvest in livestock or trees; in fact the number of trees increased for participating households.

CCT role in helping participants manage risks

Various studies point to the positive effect of CCTs on encouraging more remunerative economic activities. A much-cited study found that Oportunidades transfers increased household investment in microenterprise and agriculture, with 88 percent of the transfer being spent on consumption and the rest on investment. This improved the rate of return on investment by 18 percent, and after five-and-a-half years of participation households had increased their consumption by 34 percent. The study also found that Oportunidades households are 33 percent more likely to engage in microenterprise than control households (Gertler et al., 2006). Another study found that Oportunidades increased land use, livestock ownership and crop spending, though effects differed across land use category and participation in PROCAMPO (Todd et al., 2010). Research by de Janvry et al. (2006) on PROGRESA found that CCTs can offset losses to human capital caused by households taking children out of school as a way to smooth consumption during shocks. "The Progresa transfers largely or completely protected children from the effect of these shocks on school enrollment. Cash transfers, conditional on schooling, can thus have an important safety net role to play, protecting child education from a range of idiosyncratic and covariate shocks." Similar positive results have been found elsewhere in Latin America and beyond. In Paraguay, the Tekopora CCT has been found to increase agricultural investments and savings among beneficiaries compared to non-participants (Soares, Ribas, & Hirata, 2010).

FFW and CCT programs need to take women's time and mobility constraints into account in order to give them equal access to formal safety nets. In northern Kenya, Oxfam works to establish safe and accessible times and sites for women to participate in CCTs that take their other productive and reproductive duties into consideration. This enables more women to benefit, as it reduces the time they must spend to obtain their cash payments (Flintan, 2011).

Despite these successes, the promise of CCTs should not be over-generalized; the institutional context must be taken into account. Compared to Latin America, the public sector in much of Africa is weaker and the success of linking social assistance with social services cannot be assumed. Moreover, "... [T]he effects of unconditional cash transfers or different kinds of insurance (and the demand for insurance against different kinds of risks) change with economic and institutional growth, and vary between different economies and cultures" (Devereux et al., 2008, p. 49).

Even within Latin America, the results of CCT programs vary. A study of the Bolsa CCT program in Brazil found that it actually decreased investment in land and some agricultural assets, though it suggested that better integration with Brazil's land transfer program would yield better results because households would have pluriactive pathways to investment (Fitz, 2012). Nicaragua's CCT program, RPS, was found to affect a small overall increase in food and education expenditures of program participants during a coffee price crisis, but had "no discernible effect on other types of investment expenditures" (Maluccio, 2005, p. 8).

Interaction between formal and informal safety nets

Households use various social protection mechanisms and these play a role in their ability to withstand and recover from shocks. Informal risk-sharing schemes are common among the rural poor, but when large shocks occur, these networks provide limited support. Formal insurance mechanisms may either complement or crowd out informal risk-sharing strategies that are important resilience characteristics (Dorward et al., 2006), such as the funeral societies common in African countries. When examining how formal interventions affect existing risk-reduction strategies, there is evidence of both negative and positive effects. Research on PROGRESA found no significant differences in how treatment vs. control villages respond to shocks, and suggests that PROGRESA "did not replace or reinforce any pre-existing risk sharing among households within villages" (Skoufias, 2007, p. 630). Other studies find the opposite: that food aid "crowds out local arrangements for insuring idiosyncratic risk" (Dercon & Krishnan, 2003, p. 23; see also Dercon, 2002). In India, researchers found that formal and informal risk-sharing mechanisms interact, and that "when individuals in a group face both idiosyncratic and aggregate risk, informal networks lower the demand for formal insurance only if the network indemnifies against aggregate risk, but not if its primary role is to insure against farmer-specific losses" (Mobarak & Rosenzweig, 2012). The study further finds that informal networks may reduce risk taking if the network protects members primarily from idiosyncratic risk. At the same time, the study notes that informal insurance both complements and substitutes for formal insurance, depending on the risk and the type of informal insurance. Both types of insurance increase risk taking and familiarity with customary informal safety nets affect demand for formal insurance (Mobarak & Rosenzweig, 2012).

Risk reduction strategies in conflict zones

Another cluster of risk reduction strategies relates to conflict scenarios. Oxfam (2013) implemented risk reduction measures in a conflict-affected region in Colombia where armed actors imposed "confinement" on villages, disabling their mobility and their ability to tend to their agricultural livelihoods. These measures include kitchen gardens to support household food supply, community awareness of anti-personnel mines as livelihood protection, and national lobbying to strengthen basic rights and state-provided humanitarian protections. These examples are notable in that while they are related to livelihood protection, they are implemented in the context of a protracted threat.

Where conflict overlaps with other external factors affecting vulnerability, a combination of approaches is usually needed to bolster resilience to multiple threats to livelihoods and survival. "In regions where chronic, violent conflict is present, activities to promote peace are a prerequisite for strengthening resilience since livelihood diversification, market integration, and other forms of risk reduction and adaptation among pastoralists are directly dependent on security and freedom of movement. Creating the enabling conditions for peace will also require investment in human capital and development of livelihood alternatives for protagonists in violent conflict, especially male youths (Frankenberger et al., 2012b). Women's vulnerability often increases in conflict situations, where physical insecurity exacerbates constraints to livelihoods. There is evidence to suggest that combining peace building and disaster risk reduction initiatives increases resilience by ensuring access to productive resources needed

to maintain livelihood security, thus enabling more use of adaptive capacities and reducing reliance on negative coping strategies. Providing infrastructure and basic services are also important to both peace building and resilience (TANGO International, 2013c).

Evidence Gaps

Traditionally, social protection programs are oriented toward welfare or growth or both (Devereux et al. 2008; Maluccio 2005, 2010), and the impacts of these programs are measured on these bases. It is less common that such programs are explicitly designed to increase resilience capacities, and there is a corresponding lack of measurement of their effect on growth and risk taking from a resilience perspective. To determine this, we must know not only how households spend supplemental income from social protection mechanisms (there is ample research on this), but also the long-term impacts of those decisions, which kinds of investments promote resilience, under what circumstances, and in what time horizon we can expect to observe the impacts of safety net assistance on household resilience.

Evidence is needed to understand use and impacts of safety net transfers and other interventions in the context of successive shocks and changing conditions. Specifically, “More research is required to develop a better understanding of poverty traps and the scale and nature of transfers necessary to move recipients across critical thresholds” (Dorward et al., 2006). What composition of assets allows a household to move into successively more resilient positions? One means to get at this information is more longitudinal comparative studies of safety net program participants vs. non-participants after a shock.

At the community level, there is little in the existing literature on “why and how specific attributes of communities affect the abilities to provide informal insurance against idiosyncratic losses and aggregate losses” (Mobarak & Rosenzweig, 2012) that may help us understand how groups could strengthen self-insurance and thus resiliency. The impact of long-term programs that combine safety-net mechanisms to enhance absorptive and adaptive capacities at individual and household levels with interventions designed to build transformative capacity at community and system levels should be evaluated to determine whether such integration generates positive benefits more efficiently than programs implemented individually.

It is increasingly recognized that women are key to long-term stability in regions subject to protracted and recurrent weather extremes such as the Sahel (Long-Garcia, 2013). More robust methodologies are needed to understand the role of power in gender dynamics and other relationships in changing risk reduction strategies in ways that promote resilience to shocks. This will require more in-depth and tailored qualitative methods to capture the nature of these influences and design appropriate interventions at household and policy entry points that can reinforce resilience-promoting dynamics. For instance, more effort should be made to determine the impact of development interventions on increasing the social and economic empowerment of rural women, and the nature of their participation in local governance, including institutions charged with disaster mitigation (TANGO International, 2013d).

3. Market Access and Value Chains

To what extent do different interventions to promote market access (such as promoting access to markets with lower risks and lower entry barriers) generate the participation of poorer households?

What interventions on both the “push” (social protection) and “pull” (value chain deepening) sides improve the participation of the poor in value chain activities?

Evidence

Introduction

To generate the economic growth needed to reduce poverty and hunger, market access and value chain interventions are intended to promote diversification into high-return, on-and-off farm activities. By improving links to markets and access to inputs, providing affordable business development and financial services, and promoting greater diversification, value chain programs aim to “pull” rural smallholder households into income-raising activities. These interventions seek to enhance the transformative capacity of the wider system to enable improvements in household and community adaptive capacity, making the poor and vulnerable more resilient. To take advantage of these market-oriented activities, “push” interventions are aimed at building up the capacities of smallholders to enable them to participate in markets (USAID, 2011c).

The potential of market access to foster resilience of vulnerable households

There are multiple ways in which markets can be catalytic instruments for economic growth, poverty reduction, and resilience. They allow diversification, the capture of more value of production, and specialization in areas of greatest comparative advantage (Barrett, 2008; Torero, 2011). Markets also provide a means of consumption smoothing and access to nutritional variety (Hawkes & Ruel, 2011; Humphrey & Navas-Alemán, 2010), and promote sustainability by allowing the vulnerable to capture greater value from their use of natural resources (Coppock, Tezera, Desta, & Gebru, 2012; Lewis et al., 2011).²²

Vulnerable households can use market access to advance multiple, interrelated goals including food security, sustainable livelihoods, and resilience. Resilience is enhanced by utilizing access to markets for risk reduction (through market-oriented asset and enterprise diversification) and formal insurance for risk mitigation (through formal institutional mechanisms) (Frankenberger et al., 2012a). When smallholders diversify away from spot markets with high price volatility and thus risk, market participation can be a powerful risk-mitigation strategy (Barrett, 2008).²³ If smallholders can enter into more value-added markets, market participation holds even more potential to bolster food and livelihood security and, ultimately, resilience (Torero, 2011). Lack of market access prevents vulnerable households from obtaining these outcomes.

²² This is part of the logic behind the design of such programs as Zambia’s Community Markets for Conservation (COMACO) (Lewis et al., 2011), Namibia’s Wildlife Community Conservancies (Jones, 2010), the Brazil’s Amazonian Xingu Indigenous Reserve (Brondizio et al., 2009), and the Philippines’ Kalahan Forest (Indigenous) Reserve (Dahal & Adhikari, 2008).

²³ Market participation also benefits vulnerable households through feedbacks from aggregate increases in market participation, which can provide for the transmission of excess supply to distant locations, thus allowing the returns to increased production to diminish more slowly and lowering the adverse welfare effects of food price increases on non-adopters (Barrett, 2008).

Constraints to improving access to markets

A number of important issues have been identified regarding the relative importance of various market access constraints and the effectiveness of mitigating interventions (Barrett et al., 2001; Barrett, 2008; Boughton et al., 2007; Markelova, Meinzen-Dick, Hellin, & Dohrn, 2009; Page & Slater, 2003; Poulton, Kydd, & Dorward, 2006; Torero, 2011).

Torero (2011) identifies two types of market access constraints: market-inefficiency constraints (as experienced by all participants) and poverty-driven constraints. *Market-inefficiency constraints* include insufficient physical infrastructure (e.g., transportation, market spaces, electricity, communication, safe water); thin input markets (e.g., goods and services, especially formal capital and insurance) and output market chains; and insufficient enabling public institutions and policies (e.g., trade and food price policies, contract enforcement, property laws, production technique research and development, and extension)²⁴ (Barrett et al., 2001; Barrett, 2008; Boughton et al., 2007; Hoddinott et al., 2007; Markelova et al., 2009; Page & Slater, 2003; Poulton et al., 2006; Torero, 2011). *Poverty-driven constraints* result from vulnerable households' weak initial endowment in terms of physical, human, and social assets.²⁵ The most relevant market access constraints are limited liquidity and access to credit, high risk and limited risk-mitigation strategies (self-insuring, social protection, and formal insurance), and high marketing-related transaction costs (i.e., the costs of information, contract negotiation, and contract enforcement) (Boughton et al., 2007).

The vulnerable experience both high marketing costs, in terms of insurmountably high market entry barriers and risk, and low marketing benefits, in terms of profits and other potential market-derived benefits discussed above (Barrett et al., 2001; Barrett, 2008; Boughton et al., 2007). Vulnerable households are often susceptible to a downward spiral of divestment, where smallholders are forced to sell at harvest when prices are low and buy back months later when prices are high. Since the vulnerable experience these constraints relatively more than the non-vulnerable, they have the additional poverty-driven market access constraint of being new entrants facing competitors who are less constrained and already established (Torero, 2011).

Value chain activities place higher demands on vulnerable producer assets and have stronger demands for liquidity and credit, risk mitigation to bear shocks, and transaction cost alleviation. The relatively small size of landholdings of the poor means they are more likely to be left out of value chain developments (Minten, Randrianarison, & Swinnen, 2009). Smallholders are often marginalized in value chain markets in that they receive a lower share of the value added than larger agents, and often have very low profit margins (Hellin, Lundy, & Mejer, 2009; United Nations Industrial Development Organization, 2011). Humphrey and Schmitz (2001) report such marginalization of small-scale growers in the United Kingdom-Africa horticulture chain. Bando and Sadoulet (2012) found that small-scale coffee producers in Guatemala struggle to earn a living, although some organized small producers (who federated into umbrella cooperatives with substantial technical and managerial capacity and capital investment) were able to gain some of the same advantages in marketing as large producers.

²⁴ An extensive system of institutions and enabling policy is required to support markets. These institutions reduce market imperfections (such as negative externalities, asymmetries in information, and transaction costs), and help mitigate risks in the exchange between producers and consumers. Examples include property rights laws, market information systems, commercial standards, vertically integrated schemes, producer and trader associations, and institutions to support an efficient private market services sector (Barrett, 2008; Torero, 2011).

²⁵ The vulnerable have slipped beneath the social safety nets of not only the lean public institutions of developing countries, but also those created by family ties, informal reciprocal sharing networks, and formal collective action (Barrett et al., 2001; Bhattamishra & Barrett, 2010; Hoddinott et al., 2007).

Overview of interventions to address constraints

The interrelated nature of market access and poverty-driven constraints creates advantages and disadvantages in terms of intervention design. Interventions can address several constraints at once, but equally, a single remaining binding constraint can foil the impact of interventions that succeed in removing all other constraints. This interrelationship necessitates a targeted emphasis on the process aspects of interventions, and on the need for intervention coordination and sequencing.

Promotion of improved market access has the potential for building transformative capacity of households and communities that are vulnerable to shock, but interventions that promote market access of the vulnerable are highly context-specific relative to the state of the vulnerable, their communities, and the national pro-poor policy environment. Moreover, “pull” type interventions are unlikely to succeed unless accompanied by “push” type interventions targeted at the poor.

Value chain deepening “pull” interventions with positive impact

Value chain activities²⁶ offer some of the best opportunities for capturing potential benefits of markets for pro-poor growth. A number of studies indicate increased income among the poor participating in value chains (Kaaria et al., 2008; Maertens & Swinnen, 2009). For example, members of a fruit producer cooperative who participated in a Paraguayan fruit juice value chain reduced their poverty level at a steeper rate than non-members (Masi, Setrini, González, Arce, & Servin, 2011).

Yet in terms of entry barriers, value chains can present serious constraints to participation of the poor. The study of Karlan et al. of Ghanaian farmers (2012) indicates that “binding credit market constraints and incomplete insurance can reduce investment in activities with high expected profits.” Analyzing potential interventions to improve value chains, Mitchell et al. (2009) identify a number of “pull” strategies²⁷ that can potentially benefit the rural poor. They include process upgrading, product upgrading, functional upgrading, horizontal coordination, vertical coordination, chain upgrading, and “upgrading” of the enabling environment.

Value chain interventions focused on the vulnerable tend to be conducted by facilitators with private marketing companies including supermarket chains, NGOs, or international aid organizations. Promising approaches and their limitations are discussed briefly below.

Contract farming. This involves management of both input supply and output chains by the contractor. Reported benefits include technology transfer, access to credit, reduced risk, and increased income and employment (Food and Agriculture Organization [FAO], International Fund for Agricultural Development, & International Labour Organization, 2010; Maertens & Swinnen, 2009; Minten et al., 2009; UNCTAD, 2009). Women, however, face gender-related barriers to value chain entry. A study of organic farming among smallholders in Uganda found that women’s responsibility for food production and domestic work limited their ability to participate in contract farming schemes. Men controlled the income from the scheme, while women’s labor burden increased and they experienced an overall loss of personal income and leisure time (Bolwig, 2012).

²⁶ Value chain markets are contrasted with spot markets where producer-consumer interactions are customarily face-to-face and money is exchanged at the time of the transaction (Bando & Sadoulet, 2012). Value chain activities refer to the chain of activities from the original producer of the raw product to the ultimate consumer, each link of which represents a point of increased value to the original product (Kaaria et al., 2008).

²⁷ “Upgrading” strategies involve “acquiring technological, institutional and market capabilities that allow firms (or communities) to improve their competitiveness and move into higher-value activities” (de Ruijter de Wildt, Eliot, & Hitchins, 2006).

Formal collective action. Formal collective action is particularly applicable to value chain activities for high value-added export crops. To provide sufficient incentives to organize, the benefits need to be high enough to outweigh the actual and transaction costs of organizing (Hellin et al., 2009; Torero, 2011). Where the product is of particularly high value and where the costs of using alternative marketing arrangements are too high, this is likely to be the case. Vegetable production in Honduras, El Salvador, and the Andes, and in Madagascar and Senegal are examples (Hellin et al., 2009; Maertens & Swinnen, 2009; Minten et al., 2009). Producer and marketing groups provide access to physical inputs, seasonal credit, market information, transportation, risk reduction and mitigation contract options, and reductions in transaction costs (Humphrey & Navas-Alemán, 2010). There have been reports of higher incomes and better diets among value chain cooperative members (Hellin et al., 2009; Humphrey & Navas-Alemán, 2010). Creating producer and marketing groups is especially important for women's access to value chains (Doss et al., 2012; Kaaria et al., 2008).²⁸

Market niche participation. Opportunities to develop inclusive value chains depend on the context in terms of the opportunities or competition offered by large firms (Maertens and Swinnen 2009), the availability of technology at the appropriate scale, the type of market, and government policy in terms of standards. In Senegal's French bean export market, a change in production from exclusive smallholder to large-scale integrated estate production benefitted the poor because it did not constrain them from participating as laborers in the estates (Maertens & Swinnen, 2009). Types of market niches that seem most appropriate for smallholder value chain participation are high-input and high-value export products such as vegetables (Hellin et al., 2009; Maertens & Swinnen, 2009; Minten et al., 2009), fruit juice (Masi et al., 2011), and niche markets including organic and fair trade markets (Bando & Sadoulet, 2012; Hellin & Higman, 2002; Norell & Brand, 2012).

Enabling policy environments. The national policy environment also has an important impact on small producers in global markets (Hellin & Higman, 2002). Senegal's increase in standards for exported fresh fruits and vegetables caused a shift from small-scale contract farming to large-scale integrated estate farming (Maertens & Swinnen, 2009). India's distribution of cross-bred cows and establishment of a milk grid for the nation allowed smallholders to enter into that nation's dairy value chain (Cunningham, 2009). Kenyan smallholders had a similar experience with their nation's legalization of raw milk sales (Haggblade et al., 2012). Mexico's dual policies of provision of maize subsidies and extension services exclusively to cooperatives and a fixed price for maize sent a mixed message to producers about incentives for organizing into cooperatives. It provided incentives that encouraged producers to form cooperatives for input provision, but provided no incentives to encourage them to organize for marketing. As a consequence, producers only formed cooperatives for the purpose of receiving these input benefits and not marketing (Hellin et al., 2009).

Private sector engagement. In a comparative study of cooperatives in Latin America, Hellin et al. (2009) found that farmer organizations established by and directly linked to supermarkets were more economically sustainable relative to organizations supported by NGOs. More generally, Altenburg (2007), Devaux et al. (2009), UNCTAD (2009), and Torero (2011) all find that interventions to support

²⁸ Women tend to have disproportionately high entry barriers into markets in general and value chain activities in particular. Kaaria et al. (2008) found this phenomenon extended to bargaining power in negotiating favorable product prices. When women are away from their homesteads, they are more exposed to security risks and are prevented from combining multiple responsibilities more than men. Women tend to engage in less remunerative links in value chains and tend to engage in more flexible work (contract, seasonal, and piecemeal jobs), and women tend to lose control to male household heads of a disproportionate portion of the returns from market activities (Food and Agriculture Organization et al., 2010; Dolan & Sorby, 2003; Kaaria et al., 2008; World Bank, 2008). There are some reports of the benefits to women from participation in value chain marketing in terms of income earned, sense of empowerment, and increase in bargaining power within the household such that more decisions are made jointly and the division of household responsibilities is more equal (Food and Agriculture Organization et al., 2010; Dolan & Sorby, 2003; Doss et al., 2012; Laven, 2012; Kaaria et al., 2008; World Bank, 2008).

value chain activities are most successful if they are demand-driven and participatory, and incorporate the private sector. Van Haeften et al. (2013) found that, although working with groups of smallholders makes it easier to achieve economies of scale in extension and marketing, such programs often ignore the important role economic incentives play in getting farmers involved in these groups. It was sometimes more appropriate to allow farmers to be “individual entrepreneurs,” given they generally prefer to make decisions at the household level and only choose to work as a community when relevant resources are available only at the larger scale (van Haeften et al., 2013).

Experience with social protection and other “push” type interventions

Interventions designed to augment directly the initial endowments of physical, human, and social assets of the poor have been described by a number of authors. These include:

- Policies to leverage smallholders’ private investment in land to attain necessary land thresholds (Boughton et al., 2007);
- Asset transfer programs such as the Bhumi micro-plot land distribution in West Bengal (Santos, Savath, Peterman, & Fletschne, 2013);²⁹
- Training in basic literacy, budgeting, entrepreneurship, marketing, business, and government law, support for health and food security programs (Page & Slater, 2003; Torero, 2011; World Bank, 2008);
- Safety-net programs (Lustig, 2000); and
- Building social assets (e.g., communication, contract negotiation, and conflict resolution skills, opportunities for horizontal and vertical networking, capacity for collective action, and linkages among governmental institutions) (Barrett, 2008; Brondizio, Ostrom, & Young, 2009; Doss, Bockius-Suwyn, & D’Souza, 2012; Markelova et al., 2009; Poulton et al., 2006; Torero, 2011).

There are also interventions designed to address vulnerable households’ disadvantaged state regarding assets such as liquidity and credit, risk and risk-mitigation strategies (self-insuring, social protection, and formal insurance), and marketing-related transaction costs. Interventions to ease liquidity constraints include a FFV program in agropastoral Kenya (households diverted liquidity from food purchases to investment opportunities) and a pilot project in Ethiopia (interventions enabled improved access to informal rotational savings and credit societies and to formal microfinance savings-and-credit groups) (Barrett et al., 2001; Barrett, Holden, & Clay, 2004; Coppock et al., 2012). Risk-reduction interventions include those designed to reduce food price volatility, production risks, and marketing risk (Barrett, 2008). Interventions to support risk-mitigation strategies include those designed to increase physical assets that allow self-insuring; subsidize entrance into social protection in the case of household-level shocks; support contracts with external suppliers/buyers that build in implicit insurance through limited liability clauses and flexible payment terms; and provide access to formal insurance mechanisms to protect against covariate, community- or region-level stresses and shocks (Barrett et al., 2001; Barrett & Carter, 2012). Finally, interventions to reduce transaction costs include those that increase access to market information through formal channels or informal social networks, and interventions to increase

²⁹ Secure property rights are significant to investment decisions, as risk of loss affects the level and composition of investment (investment is shifted to the most secure assets), as well as to collateral status and credit market access (Torero, 2011).

social networks and access to formal institutions to reduce the costs of contract negotiations and enforcement (Torero, 2011).

Benefits of integrating “pull” type and “push” type interventions

The “push-pull” model, which links farmers to more promising, higher-value markets in combination and simultaneously with improved technologies and practices, technical assistance, training, and, in some cases, asset transfers, is geared to promoting market participation of smallholder households (van Haften et al., 2013). A successful example of a push-pull project is the AquaFish pilot project in Nicaragua, which worked with low-literacy women who were cockle-shell gleaners to create a producer group that employed an innovative, management-intensive production technique, and negotiated a co-management agreement with local government that included an exemption from a seasonal nation-wide harvest ban and exclusive permits to sell cockle harvests in the local market (Crawford et al., 2010). Several authors cite the combined PSNP (safety nets) – PSNP-Plus (value chains) project funded by USAID in Ethiopia as a good example of a push-pull project that has increased participation of the vulnerable in value chain activities and reduced levels of poverty. The project included provision of microfinance, technical training, and value chain development that linked smallholder producers to markets. This resulted in increased participation of the vulnerable in value chain activities and reduced levels of poverty (Burns & Bogale, 2011a; Burns & Bogale, 2011b; Norell & Brand, 2012; Steen & Maijers, 2012).

Other examples of successful “push-pull” are the Enabling Rural Innovation (ERI) project in Uganda and Malawi and the Community Markets for Conservation (COMACO) program in Zambia. Led by the International Center for Tropical Agriculture, the ERI project “integrates specific strategies to encourage and promote participation by the poor and women in markets, and builds their capacity to effectively engage in markets in a more sustainable manner.” In Uganda, ERI worked with a group of potato farmers in negotiating a contract with Nandos, a fast food chain located in the capital (Kaaria et al., 2008). In Zambia, COMACO works with a network of remote communities surrounding national parks to provide the least food-secure households with extension support, key production inputs, and access to stable, high-value national markets through branding, bulking, grading, transporting, and marketing (Lewis et al., 2011).

Case studies have shown that coordinated interventions have been successful in generating market participation of vulnerable households (Coppock et al., 2012; Dahal & Adhikari, 2008; Lewis et al., 2011).³⁰ Interventions to ease market-inefficiency constraints are not always sufficient, in that they tend either to leave the vulnerable in a stagnant access position or systematically erode their access, thus pushing them closer to the low input-low output equilibrium of a poverty trap (Barrett et al., 2001; Barrett & Carter, 2012; Boughton et al., 2007; Torero, 2011). On the other hand, interventions designed to ease the poverty-driven access gap tend to focus either on directly augmenting the initial endowment of assets or indirectly affecting those endowments via feedback loops by addressing liquidity and credit, risk reduction and risk-mitigation strategies, or marketing-related transaction costs, but without necessarily creating essential links with markets.

³⁰ Projects that intervene to ease the poverty-driven market access constraint coordinate with programs to ease the inefficiency constraint, and/or work toward easing the local inefficiency constraint, as was done with consumer preference surveying in the microenterprise project in Ethiopia and the extensive marketing chain development in the Ethiopian project, the Philippines’s Kalahan Forest (Indigenous) Reserve, and Zambia’s COMACO project (Coppock et al., 2012; Dahal & Adhikari, 2008; Lewis et al., 2011).

Evidence Gaps

Mainstream development policy in the era of market liberalization and reduced government involvement in the market has prioritized research on the role of markets and interventions that would support smallholder participation in market growth and economic development. Recent interest has largely been on easing market-inefficiency constraints through macroeconomic and trade policy tools and reducing transportation costs. Little attention has been given to removing poverty-derived market-access constraints of the vulnerable, however (Barrett, 2008; Doss et al., 2012; Markelova et al., 2009; Torero, 2011). Consequently, there are several gaps in our understanding of the relationship between market access, poverty traps, resilience, and the most optimal market access interventions (Levine et al., 2012).

There are a few case and pilot studies that link interventions to the alleviation of constraints, but these need to be deepened, nuanced, and contextualized. Moreover, there is still much to be done to understand and empirically verify the causal relationships between the different constraints and the effectiveness of a specific intervention. The multifaceted, interlocked nature of poverty-derived market access constraints makes it difficult to evaluate the efficacy of any single intervention or to identify which interventions have the greatest impact and are the most cost-effective in different contexts. The interlocking nature of these constraints also makes it difficult to identify which combination and sequencing of interventions can have the greatest impact on the largest number of objectives (Barrett, 2008; Boughton et al., 2007; Torero, 2011). Torero (2011) argues for the need to develop categories of the vulnerable in terms of their poverty-driven market access constraints, degree to which their market-inefficiency constraints have been removed, and types of interventions for alleviating the poverty-driven market access constraints of each category.

Another set of questions yet to be systematically addressed is the efficacy of interventions to support the development of producer and marketing groups (Barrett, 2008; Poulton et al., 2006; Markelova et al., 2009) and contract farming (Torero, 2011). Although there are a growing number of documented case studies centered on producer and marketing organizations, there is very limited empirical assessment of the extent to which these organizations effectively support smallholders as a way to target poverty alleviation (Torero, 2011). The conceptual and empirical evidence that is available suggests that the facilitation of smallholder collective action is pivotal to easing poverty-derived market access constraints (Barrett, 2008; Markelova et al., 2009; Torero, 2011). Yet there is evidence that interventions to facilitate smallholder organization and contract farming have predominantly benefited those who are already established in the market or are medium-scale producers (Barrett, 2008; Torero, 2011). Further the efficacy of producer and marketing organizations is conditional on the existence of incentives and an enabling policy environment (Markelova et al., 2009), which is often not the case. In summary, the most effective forms of collective action and the preconditions for success in relieving poverty-driven market access constraints are still not known and the subject needs to be systematically explored.

There are several gaps in the value chain literature on pro-poor growth. Projects have relied on anecdotal and qualitative data without the benefit of confirmatory, rigorous quantitative data collection and analysis. Studies often have neither baseline data nor control groups (Burns & Bogale, 2011a; Humphrey & Navas-Alemán, 2010; Mitchell et al., 2009). An overriding constraint is the short timeframe of many projects, which does not allow enough “impact time” before final assessments are done (Burns & Bogale, 2011b). Finally, the weaknesses in methodology in these studies mean that it is difficult to make policy conclusions about transferability and scaling up.

Carefully designed and rigorous empirical studies are needed to fill the gaps in the literature on the poverty-driven, market access, and value chain constraints of the vulnerable (Barrett, 2008; Torero, 2011). Ideally, these empirical studies should be done in each country to assess the status of key

potential marketing bottlenecks (Torero, 2011). These reports would feed into comparative studies used to further develop hypotheses and conceptual frameworks. Ideally, multi-country studies should use panel data to control for some of the econometric identification problems associated with cross-sectional analyses (Boughton et al., 2007).

Once it is verified that interventions to alleviate poverty-driven constraints to market access and value chains have a strong impact on the market participation of the vulnerable, then benefits and costs of alternative options need to be calculated so that specific policy recommendations can be matched to particular contexts (Torero, 2011).

4. Incorporating the Poor and Vulnerable Into Economic Growth Strategies

Have Feed the Future strategies to generate overall economic growth improved livelihoods of the poorest and most vulnerable populations? What are the most effective economic growth strategies for incorporating the poor and vulnerable?

Evidence

Immediately following World War II, the prevailing understanding among development economists was that rapid growth with industrialization was the most effective way to bring about transformations that improve poor people's living conditions (Ranieri & Ramos, 2013). Although income distribution would worsen in the beginning, the benefits of growth would eventually "trickle down" to the poor. However, in several countries where fast growth was accompanied by worsening inequality, the growth process failed to produce a turning point and poverty levels persisted at high levels (Kanbur, 2000). This led to the emergence of concerns about the distributional consequences of growth (Ranieri & Ramos, 2013).

Ensuring that economic growth is broad-based, inclusive, and reduces poverty has become a fundamental development challenge. In many countries, poor people cannot fully participate in or enjoy the benefits of economic growth.³¹ Broad-based economic growth is intended to create opportunities for impoverished households to raise their living standards and provide governments with resources to expand access to basic services. The Feed the Future initiative is supporting broad-based economic growth through improving access to markets, promoting sound economic policies for growth, improving infrastructure (roads, bridges, health and school facilities, water supply, electrical grids, information and communication technologies), supporting private enterprise to diversify incomes, promoting microenterprise development, and improving poor peoples' access to financial services.³² In terms of enhancing resilience, these broad-based economic growth strategies focus on strengthening transformative capacities that enable the poorest and most vulnerable to be more resilient to shocks and stresses.

³¹ USAID website: <http://www.usaid.gov/what-we-do/economic-growth-and-trade/microenterprise-development>. Accessed June 26, 2013.

³² USAID website: <http://www.usaid.gov/what-we-do/economic-growth-and-trade>. Accessed June 26, 2013.

There is no consensus on how to achieve economic growth more broadly. Several debates have arisen over the most effective strategies for achieving this inclusive type of economic growth:

- Macroeconomics vs. microeconomics (Barrett et al., 2001; Dorward, Kydd, Morrison, & Urey, 2004b);
- Agriculture vs. manufacturing and services (de Janvry & Sadoulet, 2010; Dorward et al., 2004b; Kida, 2011; Lyakurwa, 2011; World Bank, 2008);
- Efficiency vs. equity, and trickle-down vs. bubble-up (Barrett et al., 2001; Dorward et al., 2004a; Torero, 2011);
- Infrastructure vs. institutions (Torero, 2011); and
- “Push” (assets and capacities) vs. “pull” market development (Levine et al., 2012; Pingali, Alinovi, & Sutton, 2005).

The undercurrent of each of these debates is the relationship between growth and poverty alleviation. It is possible that the long-run costs of neglecting poverty alleviation objectives in growth strategies may be higher than the cost of incorporating them from the start and that inclusive growth will be more predictable and stable, thus encouraging further growth (Montpellier Panel, 2012).

Ultimately, the capacity of the vulnerable to contribute to growth will depend on lifting current constraints to participation (“push” interventions). Participation of the poor in economic growth is constrained by poor initial endowment of assets and capacities. If these constraints are not lifted, then the poor and vulnerable will not be able to take advantage of “pull” interventions and new growth opportunities and will remain in low input-low output poverty traps (Barrett & Carter, 2012; Barrett et al., 2001; Boughton et al., 2007; Dorward et al., 2004b; Torero, 2011). Barrett et al. (2001) argue that effective implementation of programs that have both “push” and “pull” interventions can make the most valuable contribution to greater participation of the poor.

There is some consensus in the literature that the most effective economic growth strategies for incorporating the poor and vulnerable are those that are microeconomics-based, agriculture-led, equity-focused, institutions-centered, and push-pull oriented, as well as explicitly and exclusively targeted to the needs of the poor and vulnerable (Barrett, 2008; Barrett & Carter, 2012; World Bank, 2008). A key focus is on enhancing the asset set of the poor.

Research and development and extension programs on pro-poor production techniques provide an essential foundation for vulnerable households’ efforts to increase assets. Such programs need to focus on developing and supporting production systems that are low-risk and appropriate to the marginalized lands cultivated by the vulnerable.³³ Incentives should also be provided to extension staff to work with those who have low asset endowments, and these staff should be trained so that they have the skills to extend production knowledge to the vulnerable, who often have low literacy levels (Barrett et al., 2001; Crawford et al., 2010; Dorward et al., 2004b).

³³ Feed the Future focus country strategies targeted areas of high poverty prevalence, stunting, and agricultural potential and these areas do not necessarily target areas of greatest vulnerability or, put another way, greatest resilience deficits. To complement these efforts and explicitly address some of these more vulnerable areas, Feed the Future has recently made investments in areas of chronic vulnerability and recurrent crisis of Burkina Faso, Ethiopia, Kenya, and Niger through the work of its joint planning cells.

In addition, interventions that strengthen market support services, build local collective action capacity, and strengthen government institutional structures and the enabling policy environment will help build transformative capacity of the poor and vulnerable, enabling them to escape from the poverty trap and thus to become more resilient to shocks. Interventions that would enhance asset sets for the poor and strengthen market support services include:

- Supporting appropriate processes of decentralization and devolution of local land governance to increase security of property rights (Knox & Meinzen-Dick, 2001; Lyakurwa, 2011);
- Endeavors like microfinance and microenterprise group-based projects (Coppock et al., 2012); and
- Supporting participation of the vulnerable in informal mechanisms for mitigating idiosyncratic, household-level risk and developing appropriate formal insurance instruments for mitigating covariate, community- or regional-level risk (Bhattamishra & Barrett, 2010).

Evidence Gaps

There are numerous gaps in the literature on pro-poor growth. Much more can be done to understand and empirically verify the causal relationships between the different constraints to participation of the poorest and vulnerable and the interventions to lift them. Several specific gaps have been pointed out in the literature. Kida (2011), for instance, suggests that the positive link between the agriculture sector and poverty alleviation is associational such that it should be verified and the causes and effects analyzed. Barrett and Carter (2012) discuss the importance of verifying the existence of poverty traps, their causes, and policy implications, but lament that analysis of poverty traps is rarely considered in strategies for economic growth. They describe the many challenges of direct empirical testing of poverty traps, and suggest that one solution might be to conduct indirect tests for poverty traps' behavioral effects. Levine et al. (2012) discuss the gap in guidance for implementing "push-pull" programs.

Research on the impact of pro-poor growth strategies will likely have to change the types of indicators that are monitored. Indicators that have been developed using past conceptions of growth may not be the best for providing evidence of change in the new paradigm. For example, aggregate statistics that indicate growth in the agriculture sector, such as agriculture sector gross domestic product and per capita expenditures of rural households, while indicative, may not be the most appropriate for providing evidence that the constraints of the vulnerable are being lifted.

There is general mention in the literature of the difficulty of measuring progress when a long-term process of change like pro-poor growth is involved. Qualitatively-informed, carefully-designed empirical studies are needed, with random sampling and control groups to analyze causes and effects, identify why goal indicators changed the way they did, how much of the change was due to planned interventions, and what could be done better in the future (Barrett, 2008; Torero, 2011; UNDP, 2011).

IV. BROADER QUESTIONS FOR THE THEME

In addition to the identified gaps for the key questions of interest to USAID, there are a number of other important research areas pertinent to resilience programming that still need further investigation. These include:

- Measuring resilience at multiple levels;
- Mainstreaming gender equity;
- Fostering good governance;
- Mitigating internal and cross-border conflicts; and
- Promoting complementarity of public and private sector investment in resource-poor environments.

The current state of the art and pressing issues for further work on each of these research areas is reviewed briefly below.

Measuring resilience at multiple levels. Current assessments of resilience primarily emphasize individual- or household-level measurements (Frankenberger & Nelson, 2013). However, individuals, households, and communities form an interrelated hierarchy of scalar dependencies: individuals operate within households, which operate within communities, which operate within larger governance units (e.g., districts, departments, regions) (Barrett & Constanas, 2012). Households may achieve some level of resilience on their own (absorptive and adaptive capacity) but this will be limited if resilience-enhancing policies and programming are not supported through local and regional institutions and governance systems (transformative capacity). More research is needed to determine which indicators are best suited for measuring resilience at the community and higher systems levels and to generate evidence on the interaction between levels.

Resilience at the community level requires the ability to mobilize collective action, which is highly dependent on social capital (Aldrich, 2012). Measures of community resilience include proxies for social cohesion, sociopolitical organization, community-based planning, reciprocity (including informal risk mitigation mechanisms), community-based ecosystem management, intercommunity relationships/cooperation, and the ability to restructure community capacities. Other factors that contribute to community resilience include provision and equitable distribution of market access, credit mechanisms, conflict resolution mechanisms, and basic services. Higher-level governance and enabling conditions at the regional or national levels that contribute to community and household resilience include legal/regulatory frameworks, large-scale infrastructure, information systems, contingency preparedness plans, and formal safety nets. All of these factors capture dimensions of transformative capacity.

Households and communities are embedded in wider ecosystems. Ecosystem health is threatened by deforestation, encroachment into fragile lands, overgrazing, and improper land management. These practices have resulted in soil erosion, loss of vegetation, and loss of biodiversity and ecosystem services throughout much of the developing world. Traditional management systems are often less damaging to the environment (Mortimore, 2009) and should be considered along with non-traditional systems to improve ecosystem health in resilience programming. Environmental degradation is exacerbated by extreme weather events and increasing population pressure, both of which affect the carrying capacity of an ecosystem.

Payment for environmental services (PES) is an innovative market-based approach to promoting conservation of natural ecosystems and the ecosystem services they provide by compensating communities that conserve and protect natural environments. Initiated in 2011 by the International Livestock Research Institute, the University of Hohenheim (Stuttgart), and the Leibniz-Centre for Agricultural Landscape Research in Germany, the Enabling Livestock-Based Economies in Kenya to Adapt to Climate Change project is exploring the use of compensation to pastoralist communities in Kenya for promoting wildlife conservation to attract tourists and generate income while simultaneously managing rangelands for their livestock.

Farmer-managed natural regeneration and watershed management are other practices that contribute to preserving ecosystem health (Macek, 2012). Natural resource management, including use of PES, is thought to be extremely effective at restoring and protecting ecosystems, particularly when it is integrated within a multi-sector approach, linked to economic development, and community-owned. More research is needed on how to measure resilience of both humans and ecosystems at this higher systems level, and on the interactive effects of ecosystems on household and community levels and vice versa.

Mainstreaming gender equity. Gender relations can shape the impact of a shock on women and men in different ways. Shocks and potential responses are not gender-neutral. Women are often more vulnerable to shocks because they have fewer assets, less autonomy and mobility, and bear the bulk of caregiving responsibilities (Pincha, 2008). Unequal power relations can perpetuate pre-existing social and economic vulnerabilities. During droughts, women's roles become more difficult to carry out because they have to walk farther to find water, fodder, and firewood (Flintan, 2011). High illiteracy rates among women can impede their understanding of important information such as early warning alerts, preparedness instructions, and available support services if the information is in written form. Safety net interventions may not be sensitive to the other productive and reproductive roles that women have. As a result women have a lower participation rate in public works activities (Flintan, 2011). In pastoral areas, destocking and restocking interventions are often targeted to men, supporting local gender inequalities. That these factors have influence is known, but more research is needed on measuring the gender-differentiated impact of shocks, local responses, and resilience interventions, and translating this information into meaningful programming recommendations.

The analysis of resilience requires greater attention to the role of gender inequality. In societies that place restraints on women's mobility or education, women are more vulnerable as their opportunities to diversify their livelihoods and mitigate risks are truncated. Women also suffer gender-specific idiosyncratic risks to health (e.g., childbirth) and are targets of politically-motivated, gender-based violence during conflict. Social and economic inequality means that women are more vulnerable to disasters. "Disasters and disaster recovery are not gender neutral. Processes of relief, rehabilitation, and reconstruction, if not consciously implemented with a gender perspective can perpetuate pre-existing social and economic vulnerabilities that are rooted in the unequal relationships of gender" (Pincha, 2008).

Fostering good governance. Ineffectual governance (including inefficient and/or inappropriate policies) poses a clear constraint to the achievement of greater household and community resilience in many developing countries. More research is needed on how governance can influence resilience at multiple levels. A potential measure of governance that could be employed is based on the World Bank's Worldwide Governance Indicators (WGI) (World Bank, 2013).³⁴

³⁴ According to the World Bank, governance is defined to be "the traditions and institutions by which authority in a country is exercised. This includes the process by which governments are selected, monitored, and replaced; the capacity of the government to effectively formulate and implement sound policies; and the respect of citizens and the state for the institutions

Notable and common outcomes of governance failures in the Horn of Africa include conflict over natural resources, inefficient livestock marketing, insecure land rights, and inadequate provision of services and infrastructure in arid and semi-arid lands (Helland, 2006; HPG, 2006; Morton, 2005). In Somalia, decades of weak governance and protracted conflict have contributed greatly to increased vulnerability of the Somali people (FAO, WFP, & United Nations Children's Fund, 2012). Lack of political will, or interference by local or national governments in humanitarian and development activities, also compromises efforts to address the root causes of household and community vulnerability to drought (Njoka, 2012).

Geographical distances between marginalized areas (e.g., pastoral and agropastoral regions) and the centers of political power often preclude entire sectors of the population from contributing their voices to national and regional affairs (Frankenberger et al., 2012b). Effective decentralization of political, administrative, and fiscal responsibilities to sub-national structures can help bridge those geographical distances.

The PSNP in Ethiopia demonstrates that when designed and implemented appropriately, policies and programs aimed at enhancing resilience can (and should) fundamentally shift the relationship between the citizen and the state. For example, the multi-level implementation mechanism for the PSNP in Ethiopia is altering expectations of how the government can respond to shocks. Nearly 1,000 regular Ethiopian government staff members are fully employed with the PSNP. They are joined by more than 14,000 development agents in chronically food-insecure woredas, who spend a significant amount of time and effort contributing to PSNP implementation. Finally, more than 1,000 technical specialists, including sector experts, accountants, and public works foremen, were employed by the PSNP as of 2008 (Government of the Federal Democratic Republic of Ethiopia, n.d.) (Frankenberger et al., 2012b). Documented evidence on the improvement in resilience that can be achieved by use of innovative governance mechanisms such as this is needed, however.

The observation that agency and power aspects have been excluded from resilience discourse is becoming more prominent in emerging resilience literature (Frankenberger et al., 2012a; Fraser et al., 2011; Béné et al., 2012). Oxfam (2013) states that "Food trading companies and banks have opposed measures that could help governments anticipate food shocks, with disastrous impacts on poor people struggling to afford even basic foodstuffs." This suggests that power dynamics have a negative impact on the ability of the poor to adapt effectively to climate change. Oxfam argues that changing the status quo approach to building resilience should involve substantially more integrated emergency and development tracks and addressing inequality, power, and rights in national and international realms. The validity of this argument needs to be substantiated with solid scientific evidence.

Mitigating internal and cross-border conflicts. Lack of access to natural resources and degraded ecosystems represent significant constraints to livelihood security and resilience in many disaster-prone regions and often underlie local and regional conflict. Conflict, in turn, contributes to large-scale displacement, loss of or damage to assets, and further erosion of livelihood opportunities. Njoka (2012) concludes that conflict mitigation and peace building must be included in resilience strategies for conflict-affected populations, along with measures to strengthen local governance structures and improve social cohesion and collective resource management among vulnerable communities. This conclusion needs to be supported by robust research that demonstrates the positive impacts on resilience of specific conflict-mitigation and peace-building measures.

that govern economic and social interactions among them." Six dimensions of governance are measured: voice and accountability; political stability and absence of violence; government effectiveness; regulatory quality; rule of law; and control of corruption. These dimensions are measured using information from 30 existing data sources that report the views and experiences of citizens, entrepreneurs, and experts in the public, private, and NGO sectors from around the world. WGI data are available from 1996 to 2012.

Promoting complementarity of public and private sector investment in resource-poor environments. A number of studies are available that show how promoting greater private investment in resource-poor environments can be effectively integrated with public sector interventions to improve the resilience of chronically vulnerable populations. Previous studies have suggested that social protection mechanisms can be complementary to market-based activities by providing a degree of protection from market failures and/or adverse market-based corrections (European University Institute, 2010). Such mechanisms ensure the health and survival of the most vulnerable during times of crisis and enable them to take the risks necessary to build greater household resilience over the longer term, while private sector investments provide the capital needed for longer-term adaptation and transformation of livelihood systems in risk-poor environments.

Thus the resilience agenda should seek to ensure establishment of enabling environments (policies and institutions) that can support predictable private and public investments in poor communities over an extended period, even (or especially) when those communities are impacted by shock (Independent Evaluation Group, 2011). Frankenberger et al. (2012b) conclude that by clustering investments in social protection, disaster risk reduction, livelihoods, and climate change adaptation within specific geographic areas, government can work with the private sector and civil society to create synergistic effects and scale up successful pilot initiatives throughout the target area. However, few evaluations are available as yet to indicate which pilot initiatives of this nature are both successful and scalable.

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