



# **BUILDING RESILIENCE FOR FOOD & NUTRITION SECURITY**

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## **RESILIENCE AND SOCIAL CAPITAL**

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## ABSTRACT

Increasingly, resilience is being incorporated into planning and social protection policy. People have been facing shocks, both natural and anthropogenic, forever, devising and innovating a variety of institutional responses to cope with, recover from, and prevent future impacts. Central to these shocks and this coping capacity, but often underexplored, is the role of social capital. This paper, using the case studies of *iddirs* (funeral societies) in Ethiopia and migrant networks in the Philippines, explores the contribution of local forms of social capital to building and strengthening the resilience of individuals and communities, focusing on their contributions to coping, adaptive, and transformative capacities. This paper argues that understanding clearly the role that existing social capital can play in building resilience is a necessary first step for policymakers. The authors suggest policy interventions to fill gaps where and when necessary while supporting and deepening existing social capital.

**Keywords:** social capital, community organizations, networks, resilience

## 1. INTRODUCTION

Increasingly, resilience is being incorporated into planning and social protection policy. In doing so, it is essential to recognize that external interventions are not the only (or even the prime) sources of resilience, nor do they operate in a vacuum. In order to better build on these practices, we need to understand how they relate to what individuals and communities are already doing. People have been facing shocks, both natural and anthropogenic, forever, devising and innovating a variety of institutional responses to cope with, recover from, and prevent future impacts. Central to these shocks and this coping capacity, but often underexplored, is the role of social capital. Social capital includes “features of social organization, such as networks, norms, and social trust, that facilitate coordination and cooperation for mutual benefit” (Putnam 1995, 66). Social capital takes many forms, but of particular interest here are local-level organizations and less formal social networks. Social capital has long played a role in individual, household, and community risk-smoothing and risk-sharing practices (Fafchamps and Lund 2003; Hoddinott, Dercon, and Krishnan 2009) and has been identified as a vital component of adaptive capacity (Adger 2003) as well as a key factor contributing to postdisaster recovery (Nakagawa and Shaw 2004). Practitioners often assume that the poor can develop, acquire, and utilize social capital easily; however, as many studies have illustrated, the poor face significant challenges in building and using social capital (Di Gregorio et al. 2012). Moreover, social capital by itself may not be sufficient to encourage proactive adaptive behaviors and changes (Dasgupta 2003); external interventions may be necessary to strengthen indigenous associations and support for resilience.

This review paper looks at the role of social capital in encouraging and promoting resilience, in particular examining the role of networks and local-level organizations. It argues that these systems have not been sufficiently examined in their application and contribution toward resilience. Understanding the contribution of these types of social capital, which exist prior to development or government policy interventions, to individual and community resilience is an essential first step for understanding government and policy interventions designed to support and contribute to local-level resilience building.

We begin with a brief review of resilience, establishing a definition and outlining the framework that will be used for analysis. We then consider the literature on the importance of social networks and local-level community organizations, drawing on literature from natural resource management, agriculture, community development, climate change, and development. These are then explored further using two case studies, *iddirs* in Ethiopia and migrant networks in the Philippines, to consider what role these two forms of social capital have in strengthening resilience and promoting food and nutrition–secure, resilient systems. We hope that these cases studies, using the framework drawn from the literature, can serve as a diagnostic that future policy efforts can employ to understand the functioning and potential of social capital to contribute to food and nutrition–secure, resilient communities. We conclude with a discussion of the policy implications for focusing on social capital in building resilience.

## 2. RESILIENCE

Development practitioners and theorists use varying competing definitions of *resilience*—originally a term applied to ecological systems—that bring together lessons from vulnerability studies, climate change adaptation, social protection, disaster-risk reduction, and development. As a concept, scholars now apply resilience thinking to a number of theories that move far beyond the original ecological foundation (Barrett and Constanas 2013).

While a thorough review of the concept of resilience is beyond the scope of this paper, we do highlight what have been suggested as characteristics of resilient systems in order to guide the later discussion of the role of social capital in resilience. Resilient systems are diverse and redundant, with built-in overlap to ensure that they can continue to function in the face of shocks and to allow for reserve resources upon which to draw in times of stress and need (Mazur 2013). In addition, scholars highlight the importance of governance arrangements that encourage local-level participation and control in decisionmaking (Béné et al. 2012), and empirical studies indicate that good leadership, broad-based collective action, and community cohesion are important in being able to deal with uncertainty and change (Boyd et al. 2008; Duit et al. 2010; Schwarz et al. 2011). While assets and capital are important as indicators of resilience, resilience also necessarily involves process-oriented changes, including changes to the ways in which individuals and communities learn, take advantage of new opportunities, and respond to events (Tschakert and Dietrich 2010; Jones et al. 2010). Resilience is a continual process of adjustments and change, both incremental and transformative, rather than something that is achieved through the building up of assets and stocks of capital alone. Moreover, diverging from its original ecological application, resilience for development seeks a general improvement in welfare over time, not just a constant level of chronic poverty (Barrett and Constanas 2013). Conceptualizing resilience as a process that goes beyond buffering against shocks and ultimately has development aims necessitates recognizing power and agency relationships that reproduce inequalities and contribute to vulnerability (Pelling 2011; Berman, Quinn, and Paavola 2012). Ultimately, resilience recognizes that both change and stability are important in the future and that systems need capacities that can contribute to both.

We define resilience as the capacity of an individual, household, community, or system to respond over time to shocks and to proactively reduce the risk of future shocks; these actions contribute to growth and development rather than merely maintain stability. Resilience requires a diverse set of capacities to meet the reactive and proactive challenges posed by economic, political, environmental, and social shocks. Krishna and colleagues (2004), using data collected from India, Kenya, Peru, and Uganda from 2001 to 2005, found that the reasons and causes for households and individuals to resist becoming poor differ greatly from those that enable households to rise from poverty (Krishna 2007). The policy solutions, therefore, are also quite different (Krishna 2004). Recent scholars (see the review in Keck and Sakdapolrak 2013) identify three central capacities for resilience: persistence, adaptation, and transformation.

Persistence, or coping capacity, refers to the ability of resilient systems to cope with shocks, *ex post*, and to restore well-being to current levels after the events. Adaptation, or adaptive capacities, are preventive actions that individuals or communities employ to learn from experience or to reduce the impact of predicted shocks. The skills and resources required for adaptation are different from those required for coping and may necessitate mobilizing additional outside resources or knowledge. Transformative capacities refer to the abilities of people to change the larger structures and systems in which they live, implying adaptation at larger scales and thus a more radical shift. Systems can possess these elements at varying degrees, yet scholars argue that a balance of all of them is needed to move toward resilience (Béné et al. 2012; Keck and Sakdapolrak 2013). Each implies certain temporal, scope, scale, and resource requirements that may have trade-offs. Some empirical work suggests that an emphasis on maintaining coping strategies has limited the capacity of certain agricultural societies to innovate and respond to change in beneficial ways (Thomas et al. 2007; Osbahr et al. 2008). As with all development interventions, improving resilience can create winners and losers in the household, in the community, or at the national level, which reinforces the need to focus attention on the

disparate impacts that such interventions and capacities have (Cannon 2008; Siegmann 2010). However, central to this paper is the role that local forms of social capital play in building, maintaining, and strengthening these three capacities. We draw on a growing literature that suggests the importance of social capital in resilience and climate change adaptation (Adger 2000; Adger et al. 2002; Pelling and High 2005; Wolf et al. 2010; Scheffran, Marmer, and Sow 2012). We use this framework and these capacities to guide the rest of our discussion. While we recognize that resilience itself is the result of an interplay between local, national, and global forces (Olwig 2012), which would require a focus on the interactions between these different scales, we argue that assessing and understanding the potential for local forms of social capital to contribute to resilience capacities is a necessary first step for policy interventions. These policy interventions should be guided by the principle of “do no harm,” inasmuch as interventions that ignore or poorly interact with existing local forms of social capital can provoke a variety of unplanned negative impacts, from elite capture to destruction of existing social capital (Kamoto et al. 2013).

We draw a parallel between these three capacities and the three types of social capital: bonding, bridging, and linking social capital. Bonding focuses on social cohesion, through peer groups, often based on ethnicity, location, religion, and shared values. It can be created and reinforced by working together. Bridging social capital refers to relationships or networks that cross social stratifications and identities, involving coordination or collaboration. Finally, linking social capital creates the opportunity to engage with external agencies and to influence policy (Woolcock and Narayan 2000). Woolcock and Narayan (2000) observed that while the poor tend to have strong bonding social capital and some bridging capital, they may often have very little linking capital. All three types of capital may exist simultaneously in a community, and each may play a different function in helping to improve the outcomes of different projects or interventions (Njuki et al. 2008).

Our contribution is to apply a framework so that policymakers and practitioners might be better placed to understand and build on existing social capital and institutional arrangements, identifying ways to complement and strengthen these activities. We find this framework to be a useful way to evaluate existing social capital arrangements and to consider how policy interventions can build up (or at least not undermine) these different capacities in order to strengthen individual and community resilience.

### 3. COMMUNITY ORGANIZATIONS

Community-based organizations, as considered in this paper, have a variety of functions and can occur in a variety of forms. We consider community-based organizations to be local groupings of individuals that can be either informally organized or formally registered. While some community-based organizations are founded through outside interventions, many have originated through local initiative, either recently or generations—even centuries—ago. These organizations can undertake a wide variety of tasks, serving to implement and manage shared natural resources, collectively market agricultural goods, offer credit, or perform civic and religious functions. In addition, community groups are often used as mechanisms for interventions, to achieve efficiencies in reaching more members, and to facilitate the transfer of information and resources. This paper focuses on their potential contributions to the three capacities outlined above: coping, adaptation, and transformation.

In their review, Bhattamishra and Barrett (2010) identified several different risk-management functions for community-based organizations: mutual insurance, insurance for major life events, savings and credit facilities, social assistance facilities, and public goods and services. Within these functions and groups, a diversity of arrangements exists, from those with more formal codified rules to informal organizations that depend on social enforcement mechanisms. However, all are based upon bonds of trust and interpersonal relationships. In addition, Agrawal identified three roles that groups and local organizations play in adaptation to climate change: “(1) local institutions structure environmental risks and variability, and thereby the nature of climate impacts and vulnerability; (2) they create the incentive framework within which outcomes of individual and collective action unfold; and (3) they are the media through which external interventions reinforce or undermine existing adaption practices” (2010, 179–180). Thus, groups can have an important impact on resilience by building on relationships of trust and interaction, but also by increasing access to outside actors and resources (Di Gregorio et al. 2012) and encouraging the adoption of new technologies (Tumbo et al. 2013). Collective-action institutions, such as producer organizations, can effectively allow members not only to share risk but also to diversify income, access new markets, and learn new skills and technologies, all of which have important implications for building diversity into social systems (Markelova et al. 2009; Hellin, Lundy, and Meijer 2009).

Besides these roles, groups can facilitate the collective action necessary for adopting or the coordination necessary for improving natural resource management (Knox, Meinzen-Dick, and Hazell 2002; German et al. 2012). Resource-poor households often rely on common-pool resources to supplement their livelihoods and as part of their household risk diversification strategies (Beck and Nesmith 2001). Several studies have emphasized the importance of increasing diversity of income, livelihood strategies, and income sources for managing and smoothing risk and for escaping poverty (Krishna 2004; Krishna et al. 2004; Sabates-Wheeler, Mitchell, and Ellis 2008; Below et al. 2012)—groups can play a role in all of these functions. Ratner, Halpern, and Kosal (2011) and Ratner and others (2013) further demonstrated the role of local collective action for reducing conflict, which is another important source of vulnerability.

Development practitioners have long emphasized group- and community-based approaches because they theorize that community groups can help to ensure local participation, increase demand for good governance, reflect local priorities, make projects more sustainable, lend increased legitimacy and accountability at the local level, and in the case of social protection programs, provide effective targeting services (Mansuri and Rao 2013). Local groups function effectively to manage risk because they are able to reduce information asymmetries and can rely on social mechanisms for enforcement; such groups are more likely to form in an environment of trust, among family, kin, and close friends and neighbors (Attanasio et al. 2012). One very well-known example of such groups is the microfinance organization, which pools community resources and offers credit and loans to customers unable to access more formal credit opportunities. Microfinance organizations offer other intangible benefits, such as a self-induced necessity to save (Gugerty 2007). However, the costs of social enforcement can be high (Rahman 1999; Montgomery 1996).

These groups can evolve and take on new roles and new responsibilities over time. Starting small and based on relationships of friendship and kinship, self-help groups among the Kuria in Tanzania evolved to take on an expanding role in helping women and marginalized community members share risk, diversify their livelihoods, and learn new activities. Despite their expanding scope, the groups still based their legitimacy and acceptance on their original foundations (Rodima-Taylor 2012). Grassroots Organizations Operating Together in Sisterhood (GROOTS) Kenya demonstrates a similar evolution. It started as a group to help people living with HIV/AIDS. Group leaders recognized the value of holistically and systematically addressing women's empowerment, and now group activities encompass legal activities, agriculture, and women's empowerment (Mwaura-Muiru 2006; Asaki and Hayes 2011). Other opportunities still exist for local groups to expand their roles into new areas of responsibility, such as providing information on new technologies or agricultural practices. Understanding how local groups function and what services they provide for community members is necessary to understanding their potential for building resilience and resilience capacities.

However, while local groups may facilitate the accumulation of assets and help members accrue various capitals (economic, social, political), local groups may operate on unequal terms, with barriers that exclude vulnerable members of the community through restrictions based on sex, religion, caste, or other socioeconomic divisions (Chambers 1983, 1997; Nabi et al. 1999; Cleaver, Cooke, and Kothari 2001; Agarwal 2001; Mwangi, Markelova, and Meinzen-Dick 2012). Moreover, the risk-sharing nature of these forms of local collective action are often limited to dealing with idiosyncratic shocks, such as illness or death, as opposed to more widespread covariate risks, such as crop failures from droughts or floods (Mwangi, Markelova, and Meinzen-Dick 2012). With predicted climate changes, dealing with covariate risks will be increasingly important.

A long history of empirical work on collective action and local groups suggests that local groups may have limited impacts if not backed by external support (Meinzen-Dick, Knox, and Di Gregorio 2001) and that they are able to achieve greater and more efficacious power by connecting to higher levels (Di Gregorio et al. 2012). Federations of local groups or producer groups can sometimes effectively convert social capital to political capital, but they face the same challenges that local groups face in ensuring that such efforts are accessible to everyone in the community. One example is the Federation of Community Forest Users (FECOFUN) in Nepal, a federation of district and regional forest users' groups, which effectively lobbies at the national level for implementation of the community forest law. However, while the group is effective at the national level, local-level participation by poor and marginalized members remains limited (Timsina 2003). In addition, the services and benefits offered by federations and associations may not be accessible to all members; a review of the commercialization and agribusiness promotion efforts of the National Association of Smallholder Farmers in Malawi found that farmers with higher levels of household labor, assets, and food security were more likely to participate in and benefit from such programs (Chirwa and Matita 2012).

Despite efforts by policymakers and development organizations to support and deepen these collective-action institutions, few empirical studies rigorously demonstrate external impact on local collective-action organizations (Mansuri and Rao 2013). A study of a community-driven development project in Sierra Leone found that, outside of required program activities, the project did not succeed in reshaping village organizations and had no impacts on collective action, decisionmaking, norms and behaviors, or ability to raise local resources (Casey, Glennerster, and Miguel 2012).

Moreover, interventions by external agents may not prove to be neutral. External funding for microcredit groups in Kenya raised their level of prestige; as a result, after the intervention, increased participation (and leadership) of wealthier, better-educated men and women, coupled with the exit of poorer, marginalized participants, altered the composition of the group (Gugerty and Kremer 2008). Indigenous funeral associations in Tanzania and Ethiopia view external support with suspicion because they have a checkered experience with attempts at state co-option, which limits their ability to engage with nongovernmental organizations (NGOs) and outside actors (Dercon et al. 2006). In addition, scholars fear that such external interventions could crowd out local, indigenous efforts. As of yet, however, the evidence on such crowding out proves inconclusive

(Barrett 2006; Bhattamishra and Barrett 2010). Some evidence from Mexico has suggested that poor households that receive cash transfers extend gifts and loans to other households in order to expand their risk-sharing networks (Angelucci and De Giorgi 2009), while Dercon (2004) provided some evidence that food aid “crowds out” traditional community transfers.

## ETHIOPIAN IDDIRS

*Iddirs* in Ethiopia provide an example of local organizations that contribute to resilience, and an instructive case for examining the contributions of such organizations to the three outlined capacities for resilience (coping, adaptation, and transformation). *Iddirs* are burial societies or funeral organizations in which members meet monthly and contribute a small payment. They are formally organized, with mostly written records of contributions and payments. Upon death of a member, they make a payment to surviving family members. Funeral groups are found in many societies but are particularly prevalent in Ethiopia. Our discussion is largely based on the analysis by Dercon and colleagues (2012) of survey results collected by the International Food Policy Research Institute (IFPRI), the Economics Department of Addis Ababa University, and the Centre for the Study of African Economies at the University of Oxford. They found that respondents commonly reported facing drought shocks (46.8 percent); the death of a household head, spouse, or other person (42.7 percent); and illness of a head, spouse, or other person (28.1 percent). In addition to these shocks, households faced shocks related to pests or agricultural diseases, livestock diseases, crime, and access to inputs, as well as policy-related shocks. This section summarizes findings from the 2004 survey round, focusing on villages south of Addis Ababa, where illness shocks were reported to have the largest effects on consumption.

Membership in *iddirs* is widespread; 90 percent of survey respondents reported belonging to at least one *iddir*, with 41 percent of households belonging to more than one *iddir*. Only 4 percent claimed that the monthly contribution proved too steep. In the sampled *iddirs*, membership rules varied: some had no restrictions, beyond payment, while others were limited to members of the same church or mosque, some were restricted to women, and others had some other type of restriction.

Initially funeral societies, *iddirs* have expanded to cover additional shocks that prove to be harmful to members. Dercon and colleagues (2012) reported that in addition to assisting with funeral expenses, sampled *iddirs* also provided cash or loans for additional shocks including fire, loss of livestock, destruction of houses, weddings, illness, harvest loss, or other events. The authors particularly focused on *iddirs* that provided health insurance, which survey data demonstrated to be effective at reducing the consumption-related impacts of health shocks.

In order to manage the provision of health insurance, *iddirs* created new rules and ways to manage and address issues of adverse selection and moral hazards. The survey found that *iddirs* that imposed membership restrictions were more likely to offer health insurance. These restrictions included geographic or religious distinctions. All *iddirs* that provided health insurance also undertook additional efforts to overcome asymmetric information; geographic restrictions ensured that neighbors and family members could observe that the money destined for medical use was actually invested in that purpose. Some *iddirs* also sent members to check that expenses were used for medical costs by conducting house visits or verifying the need for such expenses before distributing loans. *Iddirs* that were likely to offer health insurance used a variety of mechanisms to ensure sustainability and viability, such as including members of diverse ages or creating payment schedules that were linked to group income.

The following applies the framework discussed above to consider how *iddirs* contribute to social resilience.

**Coping capacity:** *Iddirs* help to reduce the impacts of idiosyncratic shocks by covering health costs and expenses associated with burials. Innovations by *iddirs* ensure that payments are used for these activities and expenses, which have demonstrated impact on poverty and household consumption. These groups, furthermore, are based on bonds of trust and reciprocity, deepening the bonding social capital of these

communities. The collective-action literature suggests that these long-established relationships of trust and reciprocity may be effective for encouraging and motivating future collective action. Iddirs may work in tandem with the government-established Productive Safety Nets Programme (PSNP) to cover the basic needs of the communities. A limitation of such programs is that they do not seem to be able to deal with covariate shocks, only idiosyncratic shocks. In addition, if not all are allowed to be members, these groups may not be reaching those who need the assistance most. Furthermore, the limited funding for only healthcare costs may pose a larger problem for families who rely on agricultural labor or income, which is lost as a result of illness. Thus, the coping mechanism of the iddirs cannot smooth for all families equally and may not be sufficient to help such member families “resist” shocks. The evidence does show, however, that these insurance mechanisms do manage to help their members avoid the worst of the consumption-related shocks that result from healthcare expenses. Healthcare expenses have been demonstrated in many other contexts to be one of the key factors that contribute to and keep families in poverty (Krishna 2004; Krishna et al. 2004).

**Adaptive capacity:** The iddirs demonstrate a commitment to learning, innovation, and flexibility, having evolved in their mandate to offer health insurance products for their consumers. Moreover, they demonstrate effective governance rules and regulations, with their enforcement and accounting mechanisms. In addition, they help communities cope with uncertainties and unexpected expenses—but often do not cover other additional expenses of ill health, such as lost income. They do not currently offer much in the way of proactive adjustments to shocks, although there has been discussion of using their existing social infrastructure for microfinance. Iddirs are further constrained by their need to rely on trust and interpersonal relationships. Iddirs that offer health insurance all employ barriers to entry that can be geographic or social, in addition to the monetary funding requirement, which reduces their diversity.

**Transformative capacity:** Iddirs, by relying exclusively on local assets and capacities, do little to build the transformative capacities of communities, households, and individuals. There is, however, potential for transformative capacity in the very nature of their governance and in the experience of having effective local institutions to work with and to build upon. Iddirs also seem to be constrained in this role because they have long been seen as separate from the state and may be reluctant to engage in politics. Furthermore, the space for engaging in politics may not be available to them.

Applying this framework suggests that while iddirs build social resilience for food and nutrition security mainly through their focus on coping capacities, they do not build the adaptive and transformative capacities of communities. Because not everyone has the same set of resources and access to iddirs, such voluntary community organizations with some form of “buy-in” may exclude the most poor and marginalized. Furthermore, even within the context of coping capacity, iddirs are not suited to deal with covariate shocks, such as a natural calamity that affects most members of a community at the same time.

The question for policy, then, is how to fill the gaps that community-based organizations are not able to address, particularly in terms of adaptive and transformative capacities, dealing with covariate risks, and coverage of the socially marginalized. In Ethiopia, the government-established PSNP also seems to fail to effectively address adaptive and transformative capacities by not promoting investments in agriculture nor effectively encouraging diversification (Weldegebriel and Prowse 2013), but there may be an important role for such government programs to provide a safety net through outreach to include marginalized community members.

## POLICY INTERVENTIONS

Overall, it seems difficult to induce participation in community groups through external intervention. Such efforts must be assessed within specific contexts, so further work is needed to understand the best modalities through which to see actual impact on livelihoods and other outcomes (Mansuri and Rao 2013). Perhaps the only universal finding is that there are no blueprint approaches. However, some lessons can be drawn from various experiences in how to strengthen and support community groups and thereby contribute to resilience.

One source of lessons upon which to draw is the literature on adaptive comanagement of natural resources. Adaptive comanagement refers to the learning-by-doing approach to shared responsibility for natural resource management. Under this approach, higher-level institutions support and engage local-level institutions and resource users, with particular attention to their capacity needs, leadership needs, and ability to evaluate and make decisions (Plummer 2013). Adaptive management takes a longer-term view, with multiple feedback loops for learning between local users, scientists, and higher-level institutions, and offers an approach that evolves over time in response to lessons learned and a changing context (Plummer et al. 2012). This approach requires careful consideration of how outside institutions and interventions support and engage with local-level actors through support with resources, enforcement, and monitoring (Berkes 2009). This approach mirrors Mansuri and Rao's (2013) argument for community development programs to involve effective engagement from the bottom up and the top down. In adaptive comanagement, linkages are horizontal (using within-group bonding) but also vertical, linking communities, groups, and resource users to higher-level institutions, federations, and agencies. These linkages may be overlapping and numerous (Nagendra, Karna, and Karmacharya 2005). Furthermore, several studies highlight the role of bridging organizations with the ability to respond to opportunities and to serve as catalysts and facilitators (Folke et al. 2005; Hahn et al. 2006; Berkes 2009; Plummer 2013). In order to gain legitimacy and accountability, however, such adaptive comanagement should build upon existing rules and local-level institutions, including community groups, and build their capacity and their ability to respond to uncertainty through social learning (Armitage et al. 2008). Policy changes are needed to ensure incentives for expanded operation of community groups; such an expansion, in turn, will often require flexibility to allow for differences in approach, configuration, and outcomes from one place to another. Perhaps social protection organizations can imagine a similar comanagement role, in which mutual support and capacity building of local organizations, based on existing forms of capital, is important, but gaps—resource gaps in particular—can be filled by outside actors.

However, engaging with community groups can at times run the risk of co-opting them or diverting them from their original goal. When higher-level institutions work with local groups, they must recognize and assess the possibility of expanding the community groups' ability to engage effectively in the required capacities, while remaining ready to intervene when a different mechanism can be more effective. Moreover, if external resources are to be channeled through community groups, such as in response to a disaster, it is important to examine who will receive the benefits and who will be excluded.

Some easy measures of social capital can be improved through program fixes; for example, an experiment with a microfinance provider in West Bengal found that groups requiring weekly as opposed to monthly meetings reported an increase in important social capital variables (Feigenberg, Field, and Pande 2010). But even this outcome is not universal: Bruns (1992) argued that in irrigation, episodic activities with "just enough organization" are preferable because they do not overburden busy members.

Many of the other changes that development and policy interventions endeavor to make may require a departure from the normal operations of such interventions. A long-term research project conducted in Honduras with farmer research groups succeeded in making larger and more transformative changes in gender relations through expanding the project's norms of inclusiveness and by using the structured group research to encourage and deepen interactions between participating men and women (Classen et al. 2008; Humphries et al. 2012). Action research approaches also have had success in working with established groups and local organizations in order to achieve change and increase resilience at the community and individual levels. The African Highlands Initiative found that external organizations, by offering support for "horizontal" negotiations among local resource users, coupled with the provision of inputs and information, could lead to the adoption of better natural resource management options and the enhancement of local capacity to manage these resources (German et al. 2012). These improvements contributed to a stronger and more productive natural resource base, providing coping and adaptive capacities. Another action research project working with the Coalition of Cambodian Fisheries convinced the existing organization to reorient its focus, emphasizing its

ability to bridge between local-level experiences and national-level policymaking (Ratner, Halpern, and Kosal 2011). Such efforts would not have been possible without the appreciation-influence-control (AIC) approach, which contributed toward overall transformative capacity by ensuring that national policies reflected local needs and priorities.

## 4. SOCIAL NETWORKS

We define social networks as ties, not bounded by organized groups, that facilitate the informal exchange of information, materials (such as seeds or fertilizer), or resources (Meinzen-Dick et al. forthcoming). Such ties can include kinship, ethnic, religious, friendship, or client-patron relationships. Social networks are important to consider in any discussion of resilience, for they describe with whom and how individuals interact and also affect the distribution of resources.

Various studies have suggested that social networks can have a positive impact on the adoption of new technologies (Bandiera and Rasul 2006; Isham 2002; Njuki et al. 2008; Tumbo et al. 2013), and farmers often rely on social networks as a trusted and reliable source of information (Magnan et al. 2013). These networks include ties that are both “strong” and “weak” (Spielman et al. 2010). Each type of tie serves an important function: weak ties between institutions and individuals aid in the search for information, while stronger and denser ties are important for discussion, experimentation, and the exchange of information on more complex subjects (Darr and Pretzsch 2008). Different types of networks may be more effective at encouraging the adoption of different types of practices, sharing of information, distribution of resources, and contribution to different outcomes. For example, Kiptot and others (2006) found that in Kenya, farmers shared information about improved fallow and improved fallow seeds largely through kinship and informal social networks. However, these networks proved more effective at distributing seeds than ensuring the dissemination of accurate information. In addition, social networks with bridging and linking functions may help communities and individuals secure access to resources outside of the community. Thus, the various dynamics of the different networks may have differential impacts on the outcomes.

Patron-client relationships are important for many smallholders around the world, distributing goods and information across a social hierarchy. In the best of situations, these relationships can enable poorer households to access networks of resources, power, and information, and provide a recourse for the clients in a wide range of emergencies, from crop loss to medical and family crises. These have long played an important role in the livelihoods strategies of the rural poor (Scott 1976) and continue to play an evolving role in the climate change adaptation strategies of farmers as another resource upon which to draw (Onta and Resurreccion 2011). However, not all client-patron relationships necessarily make the same contribution toward building resilience, inasmuch as they involve power dependencies and may further deepen inequalities (Pelling and High 2005). Putnam (2004) and Szreter and Woolcock (2004) distinguished between responsive and unresponsive linking capital. Unresponsive linking capital tends to reinforce nepotism and to concentrate power unequally, making such relationships exploitative. Periods of repeated and extended crisis can also alter the social fabric and the networks that individuals rely on. As Vervisch, Vlassenroot, and Braeckman (2012) argued, the extended food crisis in Burundi, resulting from civil conflict and recurring droughts, overwhelmed traditional safety nets and made people more likely to rely on unresponsive linking capital and client-patron relationships, reducing their resilience.

Norms and patterns of behavior create unequal opportunities between men and women to access and draw upon social networks. Bantilan and Padmaja (2008) found that in India, women developed bonding social capital through kin networks and women-only groups, while men developed bridging social capital, involving weaker, less dense ties, with farmers and acquaintances from different ethnic groups. They suggested that the development of these networks made it more difficult for women to access outside opportunities and reinforced female dependence on men. A recent study of men’s and women’s agricultural networks, again in India, found that while women’s networks were as large as men’s agricultural networks—and in the case of poorer households, larger—the composition of the networks varied in significant ways. Women’s connections were likely with poorer households that were less likely to adopt new technologies, while men, even with smaller networks, tended to connect to wealthier farmers and more early adopters (Magnan et al. 2013). These differences would mean much less exposure to new technologies and practices for women, and likely lower adoption rates of these practices. Relatedly, since social networks are socially determined, it is difficult

to correct for original disparities in structure, size, or reach. Quisumbing (2009) found that increases in male or female education in Bangladesh resulted in strengthened networks with different actors, largely because of the very different and distinct spheres of influence of men and women. The importance of social networks also may vary with socioeconomic status; Njuki and others (2008) reported a negative correlation between land size and bonding social capital for the adoption of soil and water conservation technologies in Mozambique, suggesting that social capital is less important for the larger landholders, who may have more alternatives.

Within kinship networks, moral obligations of reciprocity and sharing are supported by customs and norms, and may allow individuals to claim and receive assistance in times of need. These expected behaviors and the social pressures for redistribution among kin provide a form of safety net (coping capacity) as well as connections and opportunities for occupational diversification or advancement that contribute to adaptive or even transformative capacity. However, they may also reduce incentives to advance if the benefits must be shared with others, perhaps resulting in socially suboptimal outcomes or in evasive or less-than-honest sharing among communities and individuals (for example, see Di Falco and Bulte 2013).

Migration, as both a response and an adaptation to shocks, creates, disrupts, and expands social networks, with important implications for the resilience of individuals and communities (Scheffran, Marmer, and Sow 2012). Through migration, individuals whose social networks include out-migrants gain access to outside resources, can diversify income through remittances, gain knowledge, and spread risk across larger scales, increasing the diversity of their networks (de Haan et al. 2000). Migrants can help to build social networks that provide important sources of income. The networks that migrants themselves are able to tap into among people from their own background or community are crucial to short-term support in times of crisis, but also to longer-term occupational opportunities that lead to adaptive and transformative capacity. Remittances provide significant resources not only to individuals but to local and national economies (Canuto and Raftery 2011). Migrant networks can be powerful tools to tie communities together (Woodruff and Zenteno 2007). Yet migrant-sending households are necessarily investors, often sacrificing some of their household labor, which leads to a decrease in the intensity of farming operations back home (Deshingkar 2012; Rademacher-Schulz, Schraven, and Mahama 2014). In addition to labor shortages, research from Mexico and India found that outmigration contributes toward a disintegration of local governance and community organizations, with reduced access to natural resources and livelihood options for the remaining community members (Robson and Nayak 2010). Thus, migration is a double-edged sword for resilience; while it may promise extra resources and information, it may also reduce the ability of communities to rely on certain resources. Moreover, international and skilled migrants tend to remit larger amounts of money, compared with regional or unskilled migrants (Deshingkar 2012), suggesting that such migrants may increase the inequality of initial conditions between poorer households and those that are able to educate and finance sending members abroad.

## PHILIPPINE MIGRANT NETWORKS

Quisumbing, McNiven, and Godquin's (2012) longitudinal study in southern Bukidnon in the Philippines provides an example of how social networks can affect resilience. The 2004 round of a survey conducted by IFPRI and the Research Institute for Mindanao Culture, Xavier University, interviewed parents who were original respondents and households formed by children who no longer lived in their origin villages. The analysis that follows is based on data for 305 of the parent households from the surveys. This study found that networks were quite common in this area and that respondents belonged to many networks dealing with social and economic issues. Virtually all households reported at least one person whom they could rely on for help in various manners. Of the various types of networks, 75 percent of households reported a network for smoothing economic losses, 69 percent for getting price information, 58 percent for assistance with family problems, 53 percent for care of the house, and 48 percent for technology adoption. The size of these networks did not depend on the number of groups that an individual belonged to but was correlated with human and physical capital, including education and asset level.

This study found that migrant networks and local social capital acted as substitutes for each other and that sons and daughters played different roles in social and economic networks. The authors suggested that this was due to the ways in which boys and girls are socialized: girls are socially obligated to support parents and families and, by virtue of living elsewhere, serve as important sources of information for new technologies and prices, while sons who live in separate households within the village are more likely to engage in agricultural production themselves and may be seen as a local source of technology information for parents.

The authors found that households that experienced more negative shocks between 1984 and 2002 belonged to more groups in 2003, which is consistent with the hypothesis that groups perform an insurance function. There was statistically weaker evidence that the number of shocks experienced after 1984 increased the number persons to whom a household could turn for assistance in 2003. Households relied on preexisting personal relationships for economic networks.

In this study, remittances appeared to have a consumption-smoothing function. The number of cumulative shocks up to 2002 increased the likelihood of receiving remittances and the amounts received. A daughter's education also increased remittance receipts, which indicates that "households' risk management strategies involve investing not only in local networks but also in migrant kin networks" (Quisumbing, McNiven, and Godquin 2012, 101). An increasing number of migrants per household was associated with a decrease in expenditures on clothing and footwear, family events, alcohol, tobacco, and health, but remittances, on the other hand, had a significant positive impact on spending on housing and consumer durables, and on the total value of assets. With remittances, expenditures on clothing, footwear, and education all increased.

**Coping capacity:** The survey results suggested that social networks do play a coping role, for investment in these networks rises after a shock. To the extent that assistance through social networks is limited to family and limited by social obligations of reciprocity, such networks would have a limited effect on the ability to cope with more widespread shocks. However, the response of the Filipino diaspora to rebuilding in the wake of Typhoon Milenyo (2006) illustrates that migrants can be a resource for resilience beyond their immediate kin. While donations channeled through the LINKAPIL Program (in English, Link for Filipino Development Program) mainly flowed toward migrant-sending regions, the diaspora donors did direct funding to areas that had suffered from natural disasters (Saweda et al. 2009).

In the longitudinal study, wealthier individuals seemed to have larger networks to rely on, thus making social networks a potential source of rising inequality in villages (Quisumbing, McNiven, and Godquin 2012). Migrant networks increased the diversity of social networks, so the social networks thus expanded may have been more likely to help their members manage more widespread risks. However, the costs involved in sending migrants may have been prohibitive, again with inequality implications for a reliance on organic networks as a resilience-building tool. In addition, migrant networks seemed to act as a substitute for local networks, which may have counteracted the impacts of improved diversity.

**Adaptive capacity:** Migrant networks, and social networks in general, help their members connect to information sources and resources. These outside resources may diversify against local shocks and encourage proactive investment, initiate a learning process, and enable the accumulation of human capital through education (Sakdapolrak, Promburom, and Reif 2014). Investing in these migrant networks demonstrates some foresight and planning itself. However, the social dynamics of relying on daughters and investing in migrant capital at the expense of local social capital may limit the exposure of households to new ideas at the local level.

**Transformative capacity:** In order to ensure greater investment in productive enterprises, governments should make efforts to provide opportunities and incentives that enable and encourage remittance-receiving individuals to invest in activities that will reduce vulnerability to shocks, economic or climatic. Again, migrant networks help to diversify and bridge across scales, though this effect is somewhat diluted if the migrant

networks come at the expense of local networks. However, even if migrants return home, they would potentially bring home with them skills and new ideas.

Some governments have capitalized on migrant remittance flows as a potential transformative source of capital for co-development schemes, which leverage the savings of migrants to invest in their home communities. The government of France, for example, has programs that provide incentives for immigrants to invest in their home countries (Panizzon 2011). Some migrant-sending countries, like Senegal, have explored ways of connecting with the diaspora to utilize their investments in public infrastructure and other areas (Panizzon 2011). The crucial question is whether these arrangements complement or substitute for government investment and foreign aid flows (Baldé 2011). National- and local-level institutional arrangements are necessary to encourage these investments in productive activities, and these arrangements may require coordination between the private and public sectors. In Mexico, for example, a government-backed institution supplies mortgage insurance and backing to mortgage providers who extend financing to immigrants (Gupta, Pattillo, and Wagh 2009). Another key policy-related question is the development of financial instruments to allow for remittances with low transaction costs (Gupta, Pattillo, and Wagh 2009). Further, communications technologies that strengthen interaction are important to maintain the quality of the social ties that motivate mutual assistance and to transmit ideas and knowledge that contribute to transformative capacity.

Overall, social networks prove to be an important mechanism for coping and, through the addition of migrant networks, for bringing in additional resources. However, there is a risk that, because individuals are not able to draw on the same resources through their social networks, relying on these networks for resilience may increase social inequalities. In addition, severe communitywide shocks may overwhelm the capacity of social networks to respond and function.

## POLICY INTERVENTIONS

Again, at a policy level, interventions to strengthen social capital must take into account the context and scope of social networks, inasmuch as the different types of social networks have different uses and strengths.

First, those implementing project and policy interventions must understand and appreciate the function of the social networks that the interventions employ, recognizing who is included, who is excluded, and what types of information and knowledge are passed along.

Project and policy interventions that improve interactions between individuals, communities, and outsiders can help to facilitate the development of social networks as well as the use of the higher-level skills of communication, experimentation, and so on that are necessary for improving adaptive and transformative policies. Osbahr and colleagues (2010) highlighted the role that established forums for sharing and spreading knowledge play in supporting and deepening village-level social networks in South Africa and Mozambique. New technologies, such as mobile phones, video, and television, can help farmers communicate and expand their networks as well as learn about new practices (Zossou et al. 2009). Obviously, these interactions must be sensitive to the gender and resource nature of these networks. The literature on social learning suggests various techniques that can be used to help deepen and encourage knowledge and feedback among communities.

In terms of harnessing the resources and potential of social networks, governments and policymakers should pay attention to the policy environment to ensure that institutions and incentives are in place for the productive use of resources and to allow remittances to complement government and donor expenditures and investments (Baldé 2011). However, to build transformative and adaptive capacities, these remittances must be seen as additional funding sources capable of amplifying the reach of traditional resources, rather than as replacements for government or donor support for infrastructure, livelihood development, and credit outreach.

## 5. CONCLUSIONS

Resilience is clearly an interest of policymakers, who have implemented many projects and policies to build resilience at the community level. Many of these projects and policies can be associated with coping, adaptive, or transformative capacity, as indicated in Table 5.1.

**Table 5.1 Policy and project interventions to increase coping, adaptive, and transformative capacity**

Coping capacity	Adaptive capacity	Transformative capacity
<ul style="list-style-type: none"> <li>▪ Social protection (PSNP)</li> <li>▪ Social transfers</li> <li>▪ Pension programs</li> <li>▪ Public works programs</li> </ul>	<ul style="list-style-type: none"> <li>▪ Social transfers</li> <li>▪ Livelihood diversification</li> <li>▪ Crop insurance</li> <li>▪ Access to credit</li> <li>▪ Asset transfers</li> <li>▪ Seed starter packs</li> <li>▪ Access to common property</li> <li>▪ Public works programs</li> <li>▪ Farmer federations for improved access to markets</li> </ul>	<ul style="list-style-type: none"> <li>▪ Promotion of minority rights</li> <li>▪ Farmer federations to influence agenda</li> <li>▪ Participatory budgeting</li> <li>▪ Antidiscrimination</li> <li>▪ Social funds</li> </ul>

Source: Adapted from Davies et al. (2013).

Note: PSNP = Productive Safety Nets Programme (Ethiopia).

Many of these policy interventions may interact with, strengthen, or duplicate resilience-building capacities of locally occurring forms of social capital. This paper has argued for understanding clearly the role that existing social capital can play in building resilience, and for using policy and interventions to fill gaps where and when necessary while supporting and deepening existing social capital.

But such external policy or project interventions do not operate in a vacuum. People are working together through organized groups and informal networks to respond to a wide range of shocks and to reduce their vulnerability to future shocks. As discussed above, social capital can play a role in strengthening the absorptive, adaptive, and transformative capacities of communities and individuals. Given this role, the lesson is clear that policymakers must at least recognize the importance of social capital as an asset (Nakagawa and Shaw 2004) and consider different ways in which existing forms of social capital interact with, strengthen, or compete with policy initiatives and programs. As countries move toward developing systems of social protection, coordinating across agencies and single programs (Gentilini and Omamo 2011), they must not overlook the role played by existing social institutions.

Although we still need a better understanding of how specific local institutions interact with social resilience programming, a review of the available evidence suggests that groups and social networks have evolved to be effective means of responding to certain types of risk among households and communities. These social institutions have overall strengths in dealing with issues that require detailed local knowledge and can rely on social norms for enforcement mechanisms, such as iddirs' monitoring of members who receive health insurance payouts.

These practices are based on important norms of trust but may lay the groundwork for expanding their action in the future. Social capital investments may serve multiple purposes. For example, Quisumbing and Kumar (2011) suggested that in the short run, social capital for women in Bangladesh serves as a substitute for physical assets while enabling them to build up assets over the long run. It is important to consider the temporal scope and resources required for these groups to effect certain types of change. External interventions may be able to assist groups in expanding their scope through providing resources and training,

but it is important to ensure that the groups themselves want to take on additional functions, to make sure the expansion does not detract from the coping capacities and roles that the groups currently provide, and not to be overly optimistic about the potential for local forms of social capital to contribute to favorable outcomes (Pretty 2003).

Local groups can help people cope with idiosyncratic but not covariate shocks. Through occupational and geographic diversification, migrant networks, on the other hand, can help people deal with some covariate shocks. Just as diversity of livelihoods is a source of resilience, so also diversity of institutional structures contributes to resilience, particularly if diverse structures are complementary. Krishna (2002) argued that social capital can be made more effective through local agents who connect communities to resources, helping them navigate through governments or NGOs. These lessons connect to the literature on the importance of “institutional entrepreneurs” who can help to ensure that innovations cross boundaries and that existing social networks are able to leverage connections and resources to effect changes (Moore and Westley 2011). Although leadership development programs, local forums, local leaders, and externally funded facilitators can help to foster such institutional entrepreneurs, these strategies do not guarantee that such entrepreneurs will emerge or be effective at encouraging proactive and forward thinking for adaptive and transformative capacities, nor at confronting widespread covariate risks.

Social capital is inherently contextual. How social capital relations function is a part of the existing social structure, and not all communities have an existing stock of social capital upon which to draw (Mansuri and Rao 2013). Gender, poverty, wealth, and other forms of power relations certainly shape both groups and social networks, often to the exclusion or detriment of certain people, especially the very poor, women, low castes, or marginalized ethnic groups. Thus, other safety nets, including state programs, are needed to provide more complete coverage.

Part of this context also includes an understanding of interaction between local social capital and the state, which has important implications for resilience, local governance, and capacities to recognize, respond to, and deal with risk. Building and strengthening local social capital requires a longer-term commitment to capacity building, as well as a state that is responsive to community demands and needs (Mansuri and Rao 2013). In the most ideal situation, local communities have networking linkages and the state engages in a process of adaptive social learning. However, other, less optimal, outcomes have the state substituting for external linkages by providing resources and information without engaging in social learning or recognizing community needs, or in the cases of coercive or absent governments, suppressing linking networks or forcing communities to rely on negative linkages, as in the case of Burundi, discussed above (Adger 2003). Recognizing this relationship and assessing the roles of local social capital in building resilience is critical to effectively strengthening local levels of resilience. Additionally, using social network concepts to understand who is included and excluded in local social networks can help policymakers understand who can participate in and benefit from informal risk-sharing networks and relationships (Bodin and Crona 2008). These tools can also help to identify possible weaknesses and areas for intervention by outside actors.

Locally occurring forms of social capital play an important role in building the resilience of rural communities to confront shocks. Efforts to build on and strengthen resilience must continue to encourage and deepen these existing relationships (Njuki et al. 2008), driven by both a desire to understand the context-specific forms of local social capital and a commitment to do no harm. This effort requires building on the existing forms of social capital and offering additional resources and support, but also strengthening areas where such interventions are weak or underdeveloped. Greater efforts must also be undertaken to strengthen the adaptive and transformative capacities of communities and individuals. However, policymakers must recognize the limitations of local social capital, which may not be effective in mobilizing resources that are outside of communities and may therefore require assistance to access and utilize these necessary resources to build resilience.

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