

WHAT REALLY MATTERS FOR RESILIENCE?

Exploratory Evidence on the Determinants of Resilience to Food Security Shocks in Southern Somalia

October 2013

The renewed commitment among humanitarian and development actors to strengthening resilience of populations and regions experiencing recurrent crisis is much welcomed. However, the evidence base for informing resilience programming remains woefully thin. Of the multiple frameworks that have been developed to clarify the concept of resilience¹, few provide insights into what needs to be done differently to enhance it. As a result of the conceptual ambiguity and lack of evidence, nearly any intervention can currently be re-labeled as “resilience building”². If the major investments to strengthen resilience are to be most effective, they must be informed by more rigorous and critical analysis of what contributes to resilience, for whom, and to what?

Mercy Corps, in partnership with TANGO International and other agencies, is working to generate this understanding through program research and evaluation. This research brief presents findings on resilience to food security shocks in Southern Somalia. The study set out to empirically test commonly held assumptions about which characteristics, capacities, and conditions were most strongly linked to household resilience in the face of Somalia’s complex political, ecological, and humanitarian crisis in 2010-2011. The results provide unique insights into a critical policy question: **What specific set of factors, if reinforced, are most likely to strengthen households’ resilience to major food security shocks in Southern Somalia and similar contexts?**



Key Results and Recommendations

- **Women’s participation matters:** Female involvement in household decision making was strongly linked with greater household dietary diversity and less distressful coping in the face of the complex crisis. This suggests that resilience programming should consider women as untapped adaptive capacity, rather than only as a vulnerable group, and should seek to strengthen female engagement in productive decisions.
- **Inter-clan social networks make a difference:** Households with greater social and economic interaction across clan lines were more likely to maintain food security through the crisis, or recover it quickly afterwards. To build resilience, humanitarian and development interventions must go beyond providing material support, and do more to strengthen the forms of social capital that people draw on to cope with complex shocks.
- **Livelihood diversity is not enough:** Contrary to expectations, having multiple household income sources was not strongly linked to greater resilience to food security shocks. To contribute to resilience, livelihood diversification efforts need to go beyond increasing the number of income sources to promote more independent income sources, which spread risk across different types of hazards.

BACKGROUND

Southern Somalia represents one of the most critical contexts where a resilience-building approach is needed, based on evidence showing that people living in fragile and conflict-affected states account for the majority affected by natural hazards and climate change-related shocks.³ When drought conditions ravaged the Horn of Africa in 2010–2011, only South Central Somalia experienced a famine, due in large part to the combination of political instability, conflict, food price spikes, and lack of humanitarian access. Nearly four million people were unable to access basic food and non-food items. Of those affected, approximately 3.2 million people required emergency life-saving assistance, the majority (2.2 million) in South Central Somalia, the most inaccessible region for humanitarian agencies due to insecurity. Yet despite these compounded shocks, some households managed to productively cope, adapt, or quickly recover. Of utmost interest is the question: **What factors enabled these groups to be resilient when so many others were not?**

When significant areas of South Central Somalia were recovered from Al-Shabab⁴ control in 2012, Mercy Corps, TANGO International, and local partners took the opportunity to study how some households were better able to cope with effects of the drought and other major shocks. This provided a unique opportunity to understand how households that were largely unsupported by humanitarian assistance effectively managed the complex crisis, and to identify what conditions and capacities enabled them to do so. Mercy Corps' aim is to use the results to design interventions that will strengthen these factors, and generally contribute to more evidenced-based programming for resilience in complex crises.



Somalia – Mohammed Jama/Mercy Corps

RESEARCH FRAMEWORK AND METHODS

For the purpose of this study, resilience is defined as the capacity of households to manage shocks and stresses in a manner that avoids adverse, long-term consequences to their food security and well-being.⁵

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Three broad types of capacities are considered important to resilience:⁶

- **Absorptive capacity:** the ability to absorb the negative impact of shocks and stresses, and to cope with change in the short-term.
- **Adaptive capacity:** the ability to make proactive and informed choices about alternative strategies based on an understanding of changing conditions.
- **Transformative capacity:** the ability to utilize formal and informal mechanisms, such as government services, infrastructure, market systems, and community networks to manage and benefit from change in the long-term.

A number of factors within each set of capacities were hypothesized (based on previous research) to contribute resilience to food security shocks. The study assessed levels of food security using three standard measures:

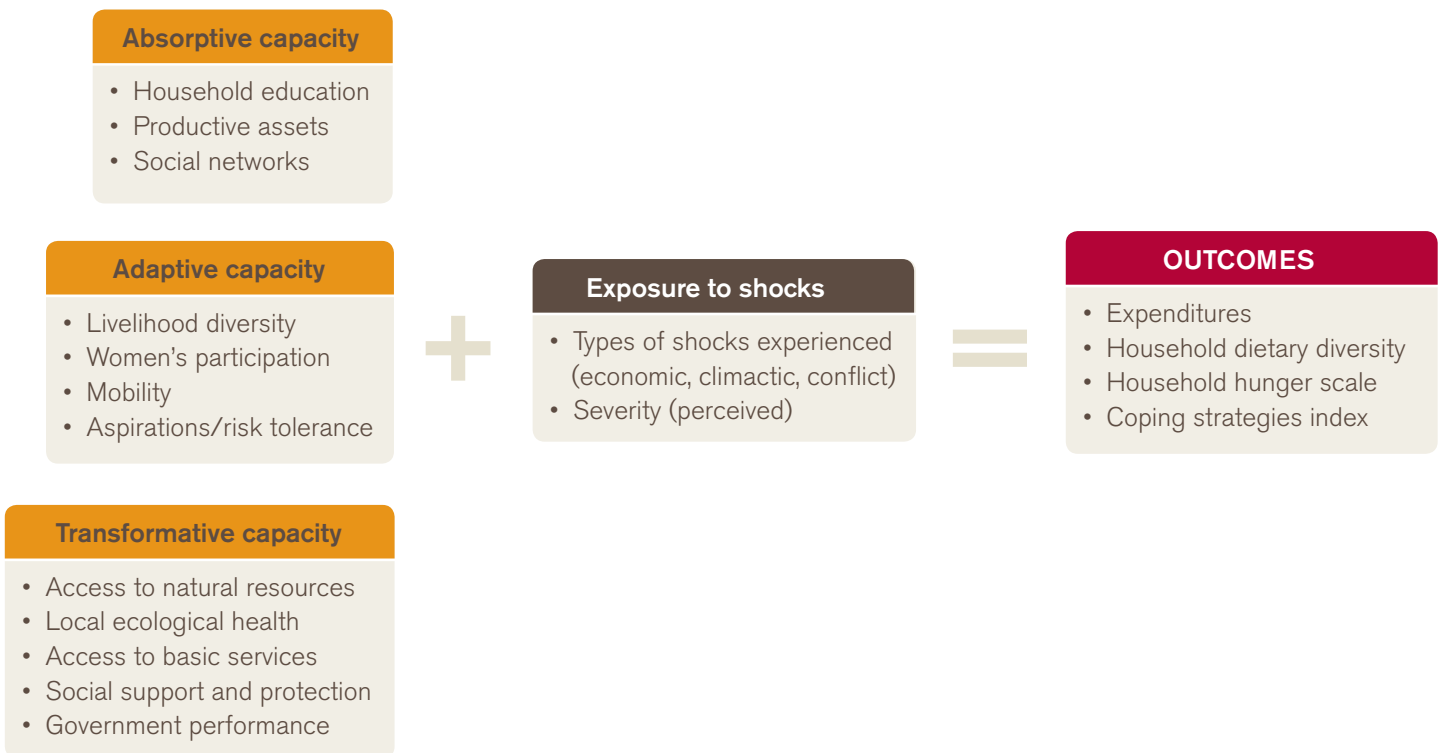
- 1) **Household dietary diversity:** a measure of the ability of a household to consume a variety of foods;
- 2) **Household hunger scale:** a measure of household food deprivation; and
- 3) **Coping strategy index:** a measure of distressful strategies households used to access food.

Figure 1 illustrates the expected relationships between the sets of factors presumed to support resilience, exposure to shocks, and household food security. The hypotheses tested were grounded in Mercy Corps' and other agencies' experience and research in pastoral communities in the Horn of Africa.⁷ Exploratory analysis was done as a plausibility check⁸ of key theories on which Mercy Corps resilience programs are often based.

Multiple aspects of absorptive, adaptive, and transformative capacities interact to influence households' resilience to food security shocks. Through a series of regression models, the study attempted to capture the simultaneous effects of the different contributing factors and estimate the strength of these relationships.⁹ To isolate the unique effects of

each variable on the food security outcomes, the analysis controlled for pre-shock household conditions, such as education and wealth status, as well as for the types of shocks households experienced (drought and/or conflict¹⁰) and their perceived severity.

FIGURE 1:
Analytical Framework



Testing the hypotheses required both quantitative and qualitative data collection and analysis. A research team administered standardized household surveys among a representative sample of 1,185 households in the three main livelihood zones in Southern Somalia¹¹. The surveys were conducted in September 2012, and included recall questions to assess the status of key household conditions and other factors prior to and during the height of the crisis of 2010-2011.

Two major qualitative methods were employed: key informant interviews and expert interpretation. The study team conducted semi-structured interviews with select local government officials and leaders of customary institutions. The study team also brought together a range of Mercy Corps staff and external experts to interpret the findings, and to determine their practical significance and implications for resilience-building program priorities and policies in Southern Somalia.

A limitation of this study was that it relied primarily on cross-sectional data from a single survey. Such analysis cannot adequately capture the dynamic nature of resilience, or the resilience trajectories for households.¹² Collecting accurate data on households' exposure to shocks was another challenge; relying on self-reports of exposure and severity may have resulted in some underestimation of the impacts of the shocks. However, bias in responses is believed to be consistent across the sample, and thus should not have affected the results of the correlational analyses.

MAIN FINDINGS

Pastoral livelihoods:¹³ *Pastoralists suffered less from food deprivation and were less likely to have relied on distressful coping strategies during the crisis than farmers with similar characteristics and conditions.* The coping strategies index and households hunger scale scores were on average 10 percent lower for pastoral households than non-pastoral households following the protracted crisis. The most obvious explanation for this is that pastoralist households tend to have greater physical capital reserves to draw on in times of stress. As an indication, livestock represent over 95 percent of the total average value of household assets in the study area¹⁴ – meaning families without livestock have very few productive assets with which to support themselves.

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Social dynamics are also part of the explanation. In Southern Somalia, social inequalities are closely related to primary livelihood strategy. Pastoralists are typically from more dominant clans, which have stronger social networks, and therefore have access to social support, such as remittances. As such, it is unsurprising that larger, wealthier, and better connected pastoralists generally fared better during the crisis. However, even when controlling for factors such as the quantity of livestock owned prior to the crisis and access to social safety nets, rearing animals as a primary livelihood strategy (versus relying mainly on agriculture) was still found to be one of the strongest predictors of greater household ability to maintain food security in the face of shocks in the area studied.¹⁵ This demonstrates that pastoralism on its own—independent of the potential social benefits—is strongly linked to greater adaptive capacities that underpin household resilience to food security shocks.

Women's participation: *Households where women had joint or sole control over household decisions, such as major purchases, were more likely to be resilient to food security shocks.* Women's involvement in household decision making is traditionally low in Southern Somalia, especially among pastoralists. However, the crisis resulted in a greater reliance on women as heads of household, as many men relocated to towns, distant grazing lands, or IDP camps to seek security and assistance. When present, women's involvement in decisions was strongly linked to a greater ability to maintain diverse and sufficient food intake among family members following the 2010-2011 crisis. Previous studies have demonstrated similar linkages between women's empowerment and household nutrition outcomes, as empowerment increases women's influence over the allocation of resources, often toward health-related priorities such as food consumption.¹⁶ The finding also supports the claims of other studies that gender inequality can increase the types of risk and vulnerability that work against resilience.¹⁷

Livelihood diversity: *There is little indication that having a greater number of income sources contributed to households being more resilient to the multiple food security shocks.* This finding is contrary to the dominant thinking on resilience that if a household has multiple adequate income sources, the effects of a shock will be reduced because not all income sources will be adversely affected. Recent studies have highlighted that independence, rather than total number, of income sources is most important to livelihoods resilience.¹⁸ For example, the majority of households in Southern Somalia have multiple livelihoods sources, but almost all are based on animal and crop production and, consequently, prone to the same types of weather-related risks. Similarly, a diverse set of income sources that are all based on agro-pastoral activities is unlikely to significantly reduce households' vulnerability to food security shocks.

Social networks: *Households with greater social and economic interactions with people outside their own clans exhibited a greater ability to maintain food security in the face of the crisis.* Households that reported recently engaging in economic or social activities, such as trading or attending a wedding, with members of other ethnic groups had dietary diversity scores that averaged 15 percent higher than families without those interactions. This finding supports other evidence showing that the ability to draw on an extended social network for support during times of shocks, including natural disasters, is a critical contributor to resilience and recovery.¹⁹

In the Somali context, intra-and inter-clan linkages play an important role in promoting reciprocal assistance, such as the loaning of milking animals, which reduces the impact of disasters on the most vulnerable. Yet, there are still gaps in the understanding of the relationship between this type of 'bridging' social capital²⁰ and household resilience. For example, this study found that households that relied on informal support, such as charitable giving (zakat), donations of cash or animals (quaadhan), or restocking assistance from relatives (xoolo goony), exhibited less resilience to food security shocks than households that had not received such assistance. This may be an indication of greater need and vulnerability among those households who received assistance compared to others who were more self-sufficient.

Institutional functioning: *Households exhibited less resilience to food security shocks where the local authorities were reported doing a poorer job of handling major governance functions.* During the crisis of 2010-2011, Southern Somalia was governed by a diverse set of formal and traditional institutions. The ability of these groups to provide security, deliver basic services, and respond to the emergency needs of the population varied from low to non-existent. For example, less than half of the surveyed population reported receiving any type of formal, external support to deal with the crisis. Of those who did report receiving external support, less than three percent had received such support from the local authorities or other government sources.

With such a limited government response to the crisis, it would seem unlikely that other functions of local government would have a significant influence on household resilience. However, the effectiveness of the local authorities in fulfilling core governance functions did appear to make a difference to households' abilities to cope with the crisis. Poorer perceptions of government performance in providing security, basic health care, and water and sanitation were significantly associated with less dietary diversity and more distressful coping. These findings support the assertion that effective governance can be a key building block of resilience.²¹ In the case of Southern Somalia in 2010-2011, exactly how this relationship between local government performance and household resilience worked is not clear. It may be that the local institutions in control during the crisis, while generally weak, sufficiently influenced household's access to essential resources, services, and information that they relied on to cope, adapt, or recover.

Basic services and resources: *Access to markets, veterinary services, mobile phones, and water were strongly linked to greater ability to maintain adequate food security in the face of the crisis.* Out of all these resources found to be important determinants of resilience, the finding on access to markets is of particular interest because of the role that trade, especially in livestock, plays in South Central Somalia. Access to functioning markets was a significant predictor of lower scores on the household hunger scale scores and coping strategies index. This relationship held true even when controlling for reported levels of conflict, which had a major effect on access to markets. These findings reinforce how supporting the development and equitable access to basic infrastructure and services, including markets, can help create an enabling environment within which resilience can be better ensured.

The insecurity in the region during 2010-2011 caused major disruptions to the transport networks and market systems. As a result, people and goods were not able to move freely, which exacerbated the effects of the crisis on households' food access and consumption. This study found that only one in three households had adequate access to markets (both for livestock and grains or other agricultural products) during the crisis. As expected, that third of households was more likely to maintain or recover adequate food security than those without adequate market access.

Access or disruptions to other resources and services (including health services, education facilities, and agricultural extension) were not found to be linked to resilience to food insecurity among the population studied. For example, health facilities were reported as the most highly affected during the crisis, with many being vandalized by the militias. But this change in access to

health services was not associated with any differences in food security outcomes in the face of the shocks. Together, these findings demonstrate that all basic services and resources cannot be treated equally when assessing their contributions to resilience. Rather, they must be analyzed in light of the type of shocks, and the distinguishing characteristics of the affected populations.

FIGURE 2:
OLS Results for Predictors of Distressful Coping²²

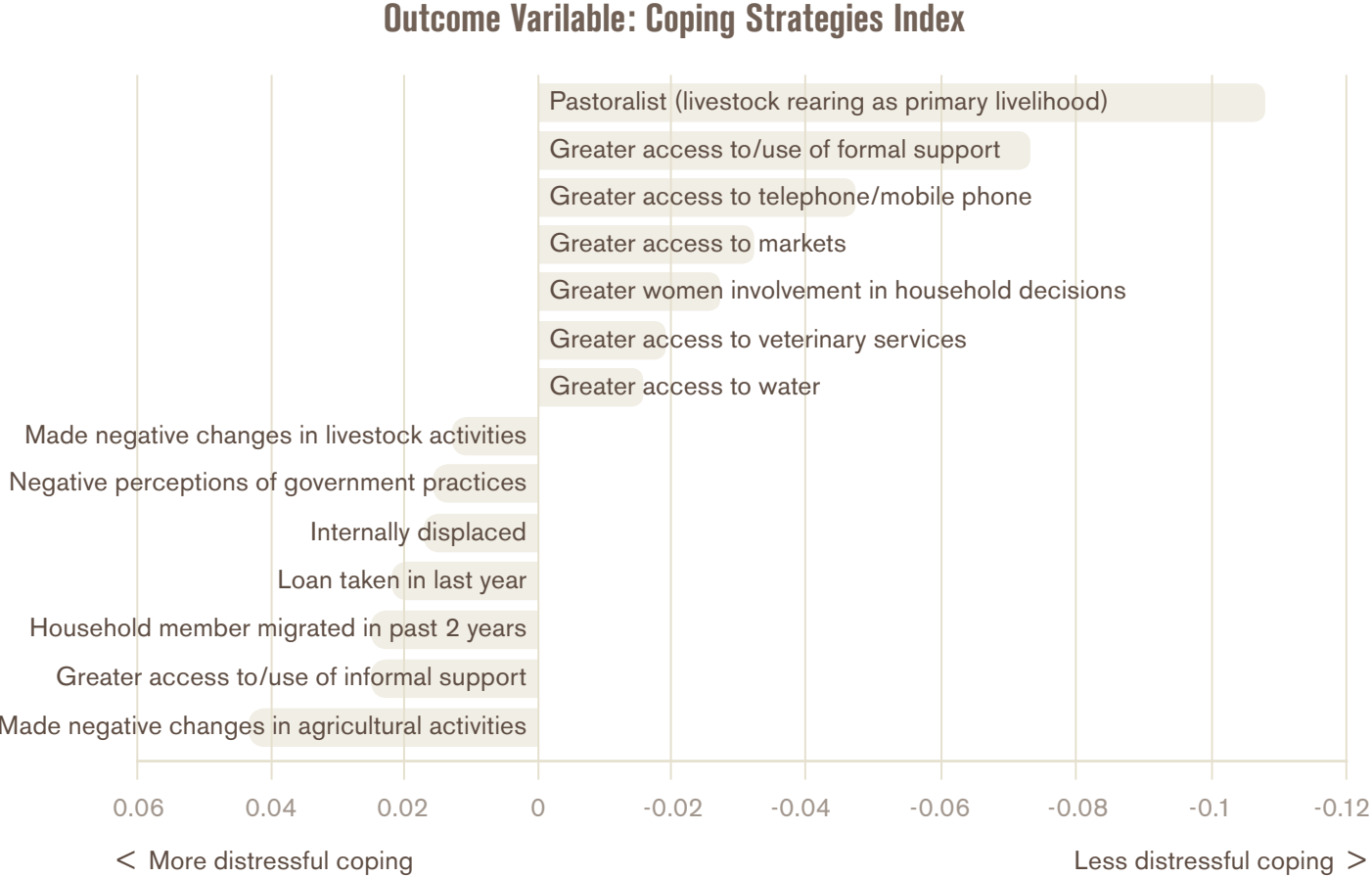


Figure 2 summarizes results from one of the models used to identify the determinants of resilience to food security shocks among the population studied. It shows factors found to significantly predict the use of distressful, consumption-related coping mechanisms (as measured by the coping strategies index) by households in the face of the 2010-2011 crisis. The bars illustrate the relative amount of the contributions to the coping strategies index made by each of the significant factors.²³ The bars also indicate the direction of the relationship: bars to the right of '0' show positive contributions to resilience (less distressful coping); bars to the left show negative contributions (more distressful coping).

Implications

Resilience is a complex and dynamic concept that defies attempts to determine ‘what works’ to strengthen it – probably nowhere more so than in a volatile, fragile context like Southern Somalia. Yet the evidence from this study points to potential leverage points for enhancing people’s resilience to the type of complex crises often faced there and in similar regions. The most apparent implications of the findings are the following:

- **Leverage women’s adaptive capacities:** While women often bear the heaviest burden of shocks and stresses, the findings of this study illustrate how they also possess important capacities to help themselves and their families cope with recurrent crises. Households in which women are more involved in productive decisions are also more likely to interact with local authorities and others within their communities to access essential resources and services needed to successfully manage crises.²⁴ As such, increasing women’s decision-making power and influence can be an effective strategy for strengthening households’ absorptive and adaptive capacities.
- **Strengthen ‘bonding’ social capital:** This study provides empirical backing to the common assertion

that strong social networks, especially between communities and clans, are a major determinant of resilience. To date, few resilience programs have succeeded in translating this knowledge into practice. Humanitarian and development agencies should look to conflict management and mitigation programs as a source of lessons on how to strengthen the type of social capital communities rely on in times of crisis. For example, Mercy Corps’ interventions to mitigate violent conflict over natural resources in the Horn of Africa have proven successful in increasing interactions and trust between traditionally conflicting groups.²⁵ In at least one case, these changes were also found to contribute to greater ability to maintain food security during the 2010-2011 drought.²⁶

- **Rethink dominant approaches to livelihoods diversification:** This study illustrates how encouraging multiple income sources may not necessarily be an effective risk management strategy for vulnerable, rural families. Livelihood diversification efforts must look beyond the number of income sources and focus more on developing independent sources, such as assisting farmers and pastoralists to take on non-farm income-generating activities. Diversifying income sources is only likely to contribute to resilience if multiple livelihood strategies are not affected by the same types of shocks.

CONCLUSION

If humanitarian and development actors are to have a real impact, the concept of resilience requires greater scrutiny. To this end, the factors found not to be closely associated with resilience in this study are of equal importance as those shown to be significant determinants. The type of plausibility checks done through this research are important starting points for understanding both what is and what is not likely to support the resilience of specific groups to a specific set of shocks. More researchers and practitioners should follow suit and translate their theories about what contributes to resilience into testable hypotheses, and then evaluate if and under what conditions they apply. Evidence from such research is essential to understand what is unique about resilience programming and what humanitarian and development interventions need to do differently to enhance resilience.

END NOTES

- 1 For instance: USAID, "Building Resilience in Recurrent Crises: USAID Policy and Program Guidance," 2012; Pasteur, K., "From Vulnerability to Resilience: A framework for analysis and action to build community resilience," Practical Action, 2011.
- 2 Levine, S. et al, "The relevance of 'resilience'?" HPG Policy Briefs, 2012.
- 3 Harris, K., Keen, D., & Mitchell, T. "When disasters and conflicts collide conflict prevention: Improving links between disaster resilience and conflict prevention." London, UK: Overseas Development Institute, 2013.
- 4 Al-Shabab means "the youth" in Arabic, and is the largest Somali group attempting to bring down Somalia's Transitional Federal Government and impose Islamic law.
- 5 This definition includes the ability to maintain or recover food security after exposure to a major shock. It is in line with the conception of resilience as "a capacity indexed to food security" as discussed in the following paper: Mark A. Constas, Timothy R. Frankenberger & John Hoddinott, "Framing Paper on Resilience Measurement for Food and Nutrition Security: Toward an Agenda for Measurement Design," Resilience Measurement Technical Working Group, FAO and WFP, 2013 (forthcoming).
- 6 Christophe, B., et al, "Resilience: New Utopia or New Tyranny? Reflection about the Potentials and Limits of the Concept of Resilience in Relation to Vulnerability Reduction Programmes. IDS Working Paper," Volume 2012 Number 405, CSP Working Paper Number 006, Institute of Development Studies (IDS) and Centre for Social Protection (CSP), September 2012.
- 7 Including: Kurtz, J., and G. Scarborough, "From Conflict to Coping: Evidence from Southern Ethiopia on the contributions of peace building to drought resilience among pastoralist groups," Mercy Corps, 2011; Hughes, K., "Effectiveness Review: Disaster Risk Reduction Programming in Ethiopia's Somali Region," Oxfam Great Britain, 2013.
- 8 Donaldson, S. I., "Program Theory-Driven Evaluation Science: Strategies and Applications," Mahwah, NJ: Erlbaum, 2007.
- 9 The three outcome indicators measured different facets of a household's food security status. Where the findings across these outcomes were mixed for a presumed determinant, a 'convergence of evidence' approach was used to make conclusions regarding the apparent significance of the relationship.
- 10 While drought and conflict were the major shocks examined, it is important to note that the study was done in areas that were also affected by political instability, food price spikes, and lack of humanitarian access.
- 11 The study was conducted in five regions in southern Somalia: Bay (Bardale and Baidoa Districts), Bakool (Rab Dhure), Gedo (Garbaharey and Luug), Hiran (Belet Weyne, Mataban and Bulo Burde Districts), and Lower Juba (Afmadow and Jamame Districts).
- 12 Barrett, C. and Constas, M, "Toward A Theory of Resilience for International Development Applications," Cornell University, 2013.
- 13 Pastoralists are defined here as households that generate more than 50 percent of their food and income from livestock. In practice, many of them are agro-pastoralists who also relying on cultivation a smaller share of their livelihoods. For the rest of the paper, 'pastoralists' will refer to pastoralists and agro-pastoralists.
- 14 Value of farmland not included.
- 15 One exception is that pastoralist households had lower household dietary diversity than farmers following the crisis. However, this is typically the case because their traditional food sources do not include many of the items measured by the household dietary diversity scale.
- 16 Smith, L. C. et al, "The importance of women's status for child nutrition in developing countries," International Food Policy Research Institute (IFPRI), 2012, Women's empowerment in agriculture index.
- 17 Hillier, D. and Castillo, G., "No Accident: Resilience and the inequality of risk," Oxfam, 2013.
- 18 Boudreau, Tanya, "Livelihoods at the limit: reducing the risk of disasters and adapting to climate change - evidence from the consolidated household economy Analysis database," Save the Children and the Food Economy Group, 2013.
- 19 Aldrich, Daniel, "Building Resilience: Social Capital in Post-Disaster Recovery," University of Chicago Press, Chicago, 2012.
- 20 Ibid.
- 21 USAID, "Building Resilience in Recurrent Crises: USAID Policy and Program Guidance," 2012.
- 22 Similar results were produced for the other two outcome variables: household dietary diversity, and household hunger scale. The chart for the coping strategies index (CSI) results is presented here because it was found to be the best fit model. The narrative findings in this brief reflect the results across all three of the models.
- 23 The figure reports elasticity values for the explanatory variables. These are unit-free measures of the strength of association between the given explanatory variable and the dependent variable. They indicate the percentage change in the dependent variable for a one percent change in the explanatory variable. For example, the elasticity value of access to markets on the coping strategies index (CSI) is -0.032. This means that households that had access to markets had CSI scores 3.2 percent lower (better) than households without access to markets, when controlling for all other explanatory variables.
- 24 Frankenberger, T. et al, "Enhancing Resilience to Food Security Shocks in Africa," TANGO International, 2013
- 25 Petryniak, Olga, "Building Relationships, Building Resilience: Final Evaluation Findings from the USAID -Funded Strengthening Institutions for Peace and Development (SIPED) Program in Ethiopia," Mercy Corps, 2012; Mercy Corps, "Building Bridges to Peace: Final Evaluation Report for Mercy Corps in Uganda," 2011.
- 26 Kurtz, J., and G. Scarborough, "From Conflict to Coping: Evidence from Southern Ethiopia on the contributions of peace building to drought resilience among pastoralist groups," Mercy Corps, 2011.

ABOUT MERCY CORPS

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