

Uganda Development Food Security Activities

Baseline Resilience Analysis Brief



Introduction

This brief presents findings from a baseline study of resilience using data from two Development Food Security Activities (DFSAs) in Uganda. The DFSAs cover seven districts in Karamoja and are implemented by Catholic Relief Services (CRS) and Mercy Corps (MC). The research examines what elements help households mitigate, adapt to, and recover from shocks and stresses in ways that reduce chronic vulnerability and facilitate inclusive growth.¹ Specifically, this study assesses which resilience capacities are associated with positive well-being outcomes (expenditures, poverty, dietary diversity, and recovery from shock), which are drivers of positive well-being outcomes, and which coping strategies households use based on their level of resilience capacity.

This brief summarizes the key findings and program implications of the resilience analysis and presents exploratory evidence that:

- Households with higher levels of resilience capacities achieve better economic and food security outcomes. These capacities, however, are not a significant predictor of recovery.
- Resilience capacity components associated with increased expenditures, lower prevalence of poverty, and greater dietary diversity are: cash savings, durable and livestock assets, human capital, information exposure, access to agricultural extension, shock preparedness and mitigation, access to infrastructure, aspirations/confidence to adapt, and participation in local decision-making.

¹ Description based on USAID definition of resilience: USAID. 2013. The resilience agenda: Measuring resilience in USAID. Washington, DC: USAID.

https://www.usaid.gov/sites/default/files/documents/1866/Technical%20Note_Measuring%20Resilience%20in%20USAID_June%202013.pdf

- Households with higher levels of resilience capacities are more likely to use money from savings and sell livestock as coping strategies.

Key Findings

SHOCKS AND COPING STRATEGIES

The most commonly experienced shock in the 12 months preceding the baseline survey was excessive rain, reported by about 8 out of 10 households. The next most common shocks overall were flooding, drought, increasing food prices, and crop disease, each reported by at least half of sample households.

To cope with any of these shocks, half of households reduced food consumption. This coping strategy was most prevalent for food price shocks, which were more common in CRS areas. Households were also likely to take up new/additional work (more common in CRS areas) and to sell livestock (more common in MC areas) when faced with any shock.

HOUSEHOLD WELL-BEING OUTCOMES

The study uses four indicators to measure household well-being. Variation across the project areas for these indicators is minimal. Mean values for the overall sample are as follows:

- Per capita **expenditures**, a proxy for income, is \$1.05.
- Prevalence of **poverty**² is high, at 88.7 percent of the sample.
- Household **dietary diversity** is low: households consumed < 4 of 12 food groups.

Recovery is the final well-being outcome used in this analysis.³ Among the five most salient shocks (excessive rain, flooding, drought, increased food prices, and crop disease), the percentage of households in the overall sample that reported having recovered to the same level or better is low, ranging from 3.5 percent for crop disease to 10.8 percent for drought.

RESILIENCE CAPACITIES

This study measures three resilience capacities. **Absorptive** capacity refers to households' ability to minimize exposure to shocks through preventive measures and appropriate coping strategies. **Adaptive** capacity measures households' ability to make proactive and informed choices about alternative livelihood strategies based on an understanding of changing conditions. **Transformative** capacity reflects governance mechanisms, policies, infrastructure, community networks, and formal and informal social protections that enable systemic change. Each capacity is expressed as an index comprised of household- and community-level indicators and ranging from 0 (lowest capacity) to 100 (highest).

The mean absorptive capacity index is similar for the two DFSA areas: 25.0 for CRS and 23.2 for MC. Of the component indicators, some levels are notably low: less than 1 out of 10 households has access to agricultural insurance, remittances, and/or humanitarian assistance. Bonding social capital is also low. Households also indicate a relatively low availability of informal safety nets, are limited in their ability to prepare and mitigate the effects of shocks, and possess relatively few assets. In contrast, one-quarter of households have access to cash savings.

Mean index values for CRS and MC are also similar for adaptive capacity: 38.1 for CRS and 36.1 for MC. In

² Based on \$1.90 daily per capita income threshold

³ The recovery indicator measures households' perceptions of whether or not they have recovered from shocks that occurred in the last 12 months.

both program areas, households engaged in about 3 livelihood activities (out of a possible maximum of 17) over the last year, a low value that partly drives the low adaptive capacity score. Most index component values were also low, except for aspirations and confidence to adapt and the adoption of improved agricultural practices, whose mean values were near the maximum of the possible range.

Transformative capacity is slightly higher in CRS than MC areas (40.2 and 33.9 index values, respectively). Component indicator values are similar across the two areas except for access to agricultural and livestock extension services (both higher in CRS areas) and local government responsiveness (slightly higher in MC areas). Overall, about one quarter of households could access agricultural extension, 4 out of 10 could access livestock services, and almost 9 in 10 reported responsive local government. About half the sample participated in local decision making, however the score for gender-equitable decision making is quite low. Excepting the latter, these moderate scores strengthen transformative capacity, while lower scores in other index components indicate low capacity in areas such as formal safety nets, access to infrastructure, and collective action.

WHICH RESILIENCE CAPACITIES ARE ASSOCIATED WITH POSITIVE WELL-BEING OUTCOMES?

The analysis strongly suggests that high levels of resilience are linked with improved well-being. For per capita expenditures, poverty, and dietary diversity, the three resilience capacities are significantly associated in the anticipated direction, even when controlling for different degrees of shock exposure.

Adaptive capacity improves household ability to recover from all of the most salient shocks. Absorptive capacity is positively associated with recovery from excessive rain, flooding, and food price shocks. Transformative capacity has a statistically significant and negative correlation with recovery for drought shocks, which is the opposite direction from what is expected.

Relationship between resilience capacity and well-being outcomes

Outcome	Absorptive			Adaptive			Transformative		
	Coeff.		% change	Coeff.		% change	Coeff.		% change
Expenditure	0.022	***	34.7	0.024	**	35.6	0.011	***	33.3
Poverty	-0.028	***	-10.1	-0.035	***	-12.3	-0.015	***	-11.2
HDDS	0.012	***	20.6	0.016	***	25.4	0.005	***	16.6
Recovery ^{a/}									
Excessive rain	0.012	**	36.5	0.015	***	41.9	0.003		22.9
Flooding	0.010	**	31.6	0.009	*	27.2	0.004		23.3
Drought	-0.002		-5.5	0.013	***	33.1	-0.009	*	-67.4
Increased food prices	0.011	**	32.4	0.022	***	51.3	-0.003		-23.4
Crop disease	0.008		29.4	0.016	***	46.7	-0.001		-4.9

Note: Asterisks represent statistical significance at the 0.01 (***), 0.05 (**), and 0.10 (*) levels.
 “% change” represents the percent change from the lowest to highest quartile (25th to 75th percentile) of the sample for indicators measured as continuous variables (absorptive, adaptive, transformative).
 a/ Only for those households who experienced and were impacted by a shock in the last 12 months.

WHICH RESILIENCE CAPACITY INDICATOR COMPONENTS DRIVE POSITIVE WELL-BEING OUTCOMES?

Regression results provide evidence that higher levels of access to cash savings, durable assets, livestock assets, and human capital (education/training) improve expenditures, poverty, and dietary diversity outcomes (but are not associated with recovery). In addition:

- Improvements in dietary diversity are driven, in addition to the four indicators mentioned above, by increases in aspirations/confidence to adapt and participation in local decision making.

- Higher exposure to information and access to agricultural extension are each associated with an approximately 20 percent increase in expenditures.
- High adoption of improved agricultural practices and access to financial institutions are associated with sizeable decreases in expenditures: 50 percent and 28 percent, respectively. Owning more productive assets is associated with a smaller decrease (11 percent).
- Higher levels of shock preparedness and mitigation, access to infrastructure, and owning productive assets account for small decreases in poverty (less than 7 percent).

DOES RESILIENCE CAPACITY DETERMINE THE COPING STRATEGIES HOUSEHOLDS ARE LIKELY TO ADOPT?

This analysis tests the assumption that households with higher levels of resilience capacities are less likely to engage in negative coping mechanisms than those with lower levels. A comparison of households with lower versus higher resilience capacity of any type shows that higher-resilience households are more likely to get food on credit, use savings, and/or borrow from a micro-finance institution or village savings group. Wealthier households are also more likely to engage in these particular mechanisms. The only index component positively associated with these three coping mechanisms is durable assets: higher asset levels are associated with 19-27 percent increases in the use of these strategies.

Higher levels of absorptive and adaptive capacity are also positively associated with selling and slaughtering livestock and reducing non-essential expenses. However, households with greater absorptive and adaptive capacity are also more likely to reduce food consumption, considered among the more harmful coping strategies.

In households with greater transformative capacity, household members were less likely to migrate, sell livestock, or lease out land. Because the transformative capacity index reflects availability and accessibility to community resources and services, these results may indicate that more abundant resources and means of support at community level are helping households avoid these means of coping.

The most negative coping strategy included in the analysis⁴ was reducing food consumption. Indicators found to decrease the likelihood of limiting food intake were access to basic services, humanitarian assistance, access to livestock services, and livestock assets.

Household members are less likely to migrate for work when there is greater access to financial services and/or to infrastructure. They are also less likely to migrate when improved agricultural practices are adopted and when they have durable assets. Education and training increase the likelihood of migration.

Implications for Programming

These findings have implications for programming to enhance resilience. First, traditional economic development activities for increasing household income and wealth—increasing human capital, promoting value chains, and investing in infrastructure—are also means to enhance household and community resilience. The demonstrated importance of savings to improving household economic status and dietary diversity suggests that supporting savings and loans groups and other savings mechanisms can have positive impacts on resilience. Strategies that strengthen bonding and linking social capital through savings and loans and other community-based or collective organizations can also be beneficial. Poverty reduction can be

⁴ While the survey inquired about a range of coping strategies, the analysis was limited to those employed by at least five percent of households.



supported by investments in shock preparedness and mitigation efforts.

Secondly, strengthening community access to markets, agricultural extension services, and livestock services would serve to promote livestock production and ownership at the household level, which has been shown to enhance both household economic status and dietary diversity. The results also point to the importance of interventions that promote access to information, especially for recovery efforts.

While these findings give helpful indications of where to invest, it is important to tailor interventions to each shock, as the importance of resilience indicators to well-being outcomes varies by context.

Background Information

The Uganda DFSAs included in this study aim to build resilience to shocks, enhance livelihoods, and improve food security and nutrition for vulnerable rural families. The **Nuyok DFSA** is implemented by CRS and partners in Abim, Nakapiripirit, and Napak districts of Karamoja. Mercy Corps and partners implement the **Apolou DFSA** in Kaabong, Kotido, Moroto, and Amudat districts of Karamoja.

Data for this study are from the baseline survey of the Food for Peace DFSAs in Uganda. The baseline study was prepared by ICF Macro, Inc. and funded by the USAID Office of Food for Peace. The representative population-based survey gathered data from 2,460 households from June 7 through July 6, 2018,⁵ during the rainy season and toward the end of Karamoja's lean season.

⁵ Households selected using a multistage clustered sampling design for a statistically representative sample of the DFSA implementation areas