



How Do You Know “Resilience” When You See It?

Characteristics of Self-Perceived Household Resilience among Rural Households in Burkina Faso

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Table of Contents

Executive Summary	iii
Introduction	1
Why Resilience Matters	1
Defining Resilience	1
Resilience and Financial Services	1
Purpose of Paper	2
Methods	3
Resilience Diaries	3
Research Partners and Resilience Diary Participants	3
Data Processing and Analysis	4
Results	5
Demographics	5
Characteristics of a Resilient Household	6
Case Studies	9
Discussion	11
Conclusion	12
Annex	13
Resilience Diary Composition by Interview Number	13
Table A: Diary Questions Used for Determinants Analysis	14
Table B: Determinants of Self-Perceived Household Resilience Status	18
Case Studies	22
Eugenie—Resilient	22
Helene—Somewhat Resilient	24
Marie—Not Resilient	26
References	29

Executive Summary

Resilience—or the “capacity that ensures adverse stressors and shocks do not have long-lasting adverse development consequences” (Constas, Frankenberger, and Hoddinott 2014)—has become a new development paradigm in the past few years. While policies and funding in the past have focused primarily on post-disaster relief and recovery, there is a new focus on the importance of policies and funding to support ex-ante efforts to build the resilience of the poor, such that vulnerabilities to disasters could be mitigated. Despite the interest, as well as importance of focusing on resilience, the phenomenon is not well-defined and is difficult to measure.

The primary goal of this paper is to identify the characteristics of self-perceived resilience among a small sample of women in rural Burkina Faso. This analysis contributes to the ongoing efforts to better understand the factors that contribute to household resilience for practitioners interested in helping project participants build their resilience. This paper is written with financial services practitioners in mind, but is applicable to any organization interested in resilience.

Using a “resilience diary” methodology with 46 women to understand how households anticipated and responded to shocks over a seven-month period, a household’s self-perceived resilience status was established and then compared to a series of variables that women used to qualitatively describe resilient and nonresilient households. The diaries consisted of a series of 10 interviews with the same participants that focused on participants’ (1) demographic background, hopes, and dreams; (2) shock-coping strategies; (3) use of financial services; (4) food security; (5) income-generating activities; (6) social capital; (7) household decision-making dynamics; (8) health; (9) attitudes and perceptions; and (10) program participation and future outlook.

Members from two Freedom from Hunger partners—le Réseau des Caisses Populaires du Burkina Faso (RCPB), a credit union that provides formal financial services, and the Office de Développement des Eglises Evangéliques (ODE), a nongovernmental organization (NGO) that facilitates savings groups—participated in the diaries. Forty-six women completed all 10 interviews. Twenty-five out of 46 were RCPB members; the remaining 21 were from ODE.

Self-perceived resilient and nonresilient households were compared using Pearson chi-square tests, T-tests, and Wilcoxon tests with the following series of variables that women used to describe resilient and nonresilient households: poverty status (based on the Grameen Foundation Progress out of Poverty Index [PPI]); food security status; types of livestock assets owned; whether the household received remittances; amount held in savings; types of financial services used; types of income-generating activities (IGAs) used by the household; social capital; health status; types of shocks experienced and coping mechanisms used; a series of attitudes and perceptions toward life; proxies for women’s empowerment such as mobility; and domestic violence. These comparisons are also supported by three case studies highlighting differences among resilient¹ and nonresilient households.

1. This paper bases a household’s resilience status on its own self-perceived status of being resilient or not. While the terms resilient and nonresilient are used interchangeably with self-perceived resilience and self-perceived nonresilience, all terminology should be interpreted as being based on their self-perceived resilience status.

Self-perceived resilience was associated or correlated with the following:

- Household poverty status
- Average food security status
- Using livestock as an IGA
- Having higher median savings amount over the 10 interviews
- Belonging to a microfinance institution (MFI) and a savings group
- Saving money for health
- Client not reporting to have been sick during the 10 interviews
- Not being afraid of one's husband
- Feeling supported, hopeful, capable of meeting one's financial obligations
- Being trustful of others
- Not living one's life “day to day”
- Reporting they would try anything to improve their life

As it relates to shocks and shock-coping strategies, self-perceived resilience was associated or correlated to being less likely to borrow money from friends and family, reduce food consumption, make purchases on credit from vendors, and work harder as a result of a shock. Self-perceived resilience was associated with being more likely to use fewer coping mechanisms overall and respond to shocks only with positive coping mechanisms (defined as using savings, borrowing from financial institutions, borrowing from savings group, borrowing from friends and family, and starting a new economic activity).

Self-perceived resilience was not associated with these variables: average savings amount, receipt of remittances, belonging to either an MFI or a savings group alone, having a chronic illness, capable of leaving one's home without spouse's permission, feeling happy or satisfied with life, and number of shocks experienced or the type of shock (except for client being ill as previously indicated).

For organizations interested in resilience and financial services, both general and specific financial services designed to help people anticipate and cope with shocks play an important role in building household resilience. Providing financial services to help households diversify their income streams, with a focus on livestock as an independent IGA in this particular context, holds promise. In addition, given the strong correlation between objective measures of resilience and a person's self-perceived resilient status, measuring self-perceived resilience, either alone or combined with objective variables, could be an effective and important measure of household resilient status.

These findings provide unique insights into the set of factors, if reinforced by financial institutions and development practitioners, that are likely to strengthen household resilience. These factors include household savings accumulation, access to different financial services (such as savings), credit for IGAs (particularly, those associated with a resilient household, such as livestock in the case of this population), and specific savings products for health and other emergencies. While more significant research is necessary to validate the findings from this small sample, these findings help provide direction for practitioners interested in building and measuring changes in household resilience.



Introduction

Why Resilience Matters

Resilience has become a new development paradigm in the past several years. While policies and funding have historically focused on post-disaster relief and recovery, there is a new focus on the importance of policies and funding to support *ex-ante* efforts to build the resilience of the poor (World Bank 2012), such that vulnerabilities to disasters could be mitigated. While major disasters make headlines, research suggests that the cumulative losses from small and recurrent disasters can often exceed those of larger, visible crises (Campos et al. 2012). Headlines rarely reflect the full complex picture of the long-term consequences and prolonged tragedies of large and small crises alike, particularly on poor households. As a result of disasters, the poor are most at risk from income shocks that force them to reduce investments in children’s education in exchange for affording basic needs such as food and shelter, as well as undernourishment and other health problems, resulting in new generations of children being caught in poverty traps for a lifetime due to stunted growth, poor school performance, and other long-term productive capabilities (Baez, de la Fuente, and Santos 2010).

Defining Resilience

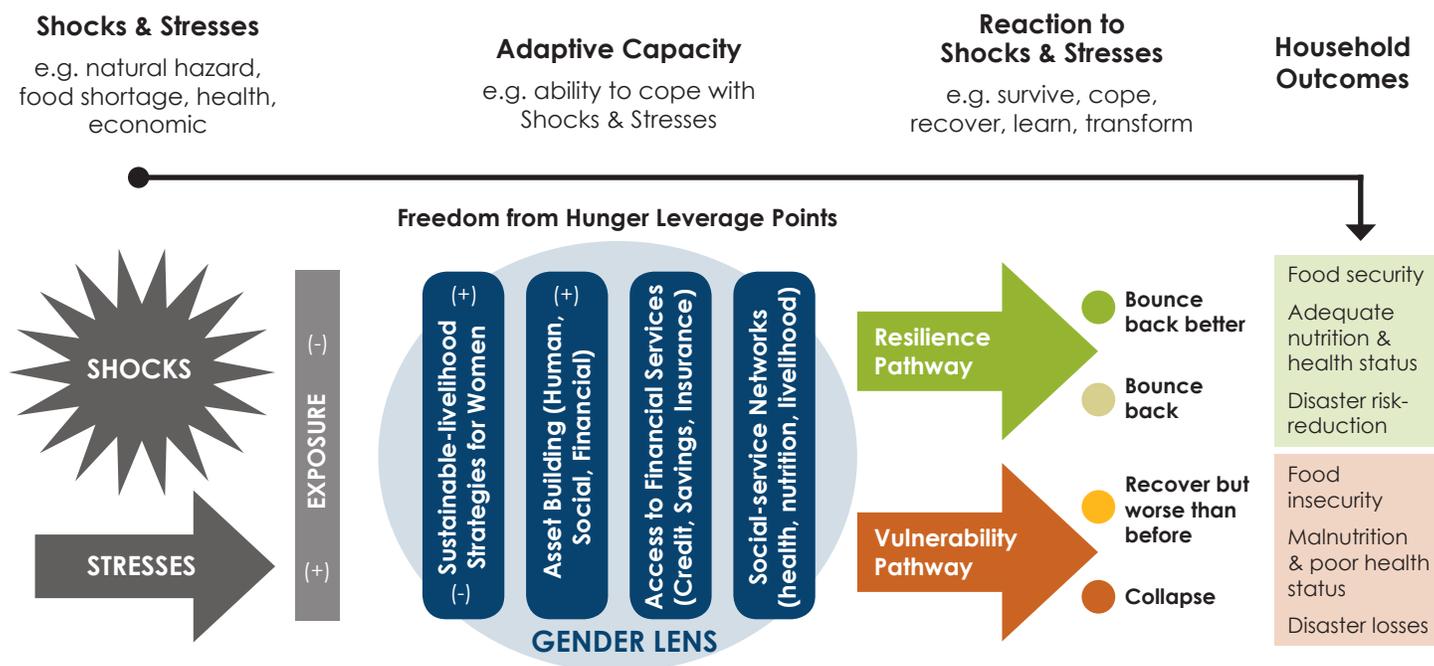
Despite the interest as well as importance of focusing on resilience, the phenomenon is not well defined and is difficult to measure. A recent review of resilience definitions by Fitzgibbons (2014) suggests that those used by various organizations prohibit a consensus on the concept; the definitions are so general that “nearly any intervention can now be relabeled as ‘resilience-building.’” Some organizations emphasize responding to a disaster, some look at resilience as disaster plus development, and others look at it as a process, with none of them describing the end state of resilience. Measurement indicators can help clarify what it means to build resilience, but Fitzgibbons (2014, p. 2) observes that, when organizations try to select them, they are “paralyzed by choice” and end up with exhaustive lists of indicators attempting to cover all facets of the concept. To support consensus, the Resilience Measurement Technical Working Group² (RM-TWG) of the World Food Programme published a shared definition of resilience: “Resilience is the capacity that ensures adverse stressors and shocks do not have long-lasting adverse development consequences” (Constas, Frankenberger, and Hoddinott 2014). The RM-TWG also developed a set of 10 resilience measurement principles and a model for measurement.

Resilience and Financial Services

In 2013, Freedom from Hunger posed the question about the role that formal, nonformal, and informal financial products play in improving household resiliency, and about the strategies that poor households use to manage economic, environmental, and health shocks that disrupt their financial lives. Freedom from Hunger adapted a resilience framework that TANGO International (www.tangointernational.com) had created, which itself was built on previous disaster and livelihood frameworks. The framework focuses on adaptive capacity or “the ability to learn from experience and adjust responses to changing external conditions, yet continue operating” (Von Grebner et al. 2013).

2. The Resilience Measurement Technical Working Group, co-sponsored by the European Union and USAID, comprises 20 leading experts in resilience measurement from government and nongovernment organizations (NGOs), including FAO, IFAD, Cornell University, TANGO International, Mercy Corps, and others. For more information, see <http://www.fsincop.net/topics/resilience-measurement/technical-working-group/en/>

Figure 1. Freedom from Hunger Resilience Framework



TANGO 2012. Adapted from DFID Disaster Resilience Framework (2011), TANGO Livelihoods Framework (2007), DFID Sustainable Livelihoods Framework (1999) and CARE Household Livelihood Security Framework (2002).

In much of the resilience literature, the concept of resilience is examined as a capacity with which to respond to shocks. There are three types of resilience capacities to consider: absorptive, adaptive, and transformative (Von Grebner et al. 2013). Adaptive capacity is where financial services falls best—in that access to financial services is a leverage point, or where an individual or household can make an incremental change in the response to a current shock or in anticipation of a future shock. That leverage point, or change, could help lead a household down a path of resiliency instead of one of vulnerability. Ultimately, a resilient path can lead to better food security, adequate nutrition, improved health status, and disaster risk-reduction for a household. This framework served as the basis for the design of a research study conducted by Freedom from Hunger in Burkina Faso to help understand resilience in the context of financial services. Freedom from Hunger added the “gender lens” to the adaptive capacities to ensure the opportunities and barriers faced specifically by women were included in the design and analysis of resilience.

Purpose of Paper

The goal of this paper is to contribute to ongoing efforts to better understand resilience in practice by examining the characteristics that are important for strengthening household resilience among a small sample of women in rural Burkina Faso. Using a resilience diary methodology with 46 women to understand how households anticipated and responded to shocks over a seven-month period, self-perception of a household’s resilience status is established and then compared to a series of variables that women used to qualitatively describe resilient and nonresilient households. This paper is written with financial services practitioners in mind, but is applicable to any organization interested in resilience.

Methods

Resilience Diaries

The resilience diaries consisted of ten individual interviews. Each of the ten diaries had sections that were repeated for all of the diaries, including quantitative and qualitative questions related to the following:

1. The household members and any changes in household composition.
2. Recent “positive surprises” and shocks experienced in the prior three weeks and how the household coped with these events.
3. Household food security and whether food consumption changed during the prior three weeks.
4. Changes in household assets, with a particular focus on livestock.
5. Changes in household finances—focusing on actual income received and its comparison to expected income, comparison of actual to expected expenses and use of financial instruments such as savings and loans.
6. Changes in attitudes such as women’s level of hope for the future, support from family and friends, overall happiness, and their perceived ability to meet their financial obligations.

In addition to the repeated information, each diary had a specific subject that focused on a different topic involving participants’

1. Background, hopes, and dreams
2. Shock-coping strategies
3. Use of financial services
4. Food security and education
5. Income-generating activities (IGAs)—it was during this interview that women were also asked to first define a resilient household in reference to IGAs and then they were asked whether their household was resilient, based on their own definition
6. Social capital
7. Household decision-making dynamics
8. Health
9. Attitudes and perceptions—given the formative research strongly suggested that resilience was defined by one’s attitude towards life, significant effort was made to understand various attitudes and perceptions and how these helped explain a household’s perception of their resilience (Haushofer 2013)³
10. Program participation and future outlook

The special focus for each diary is described in detail in the Annex.

Research Partners and Resilience Diary Participants

Members from two Freedom from Hunger partners—le Réseau des Caisses Populaires du Burkina Faso (RCPB), a credit union that provides formal financial services, and the Office de Développement des Eglises Evangéliques (ODE), a nongovernment organization (NGO) that facilitates savings groups—participated in the research. Study participants were members from RCPB and ODE who live in the

3. Within the ninth interview, a previously tested set of 10 attitude questions chosen by Haushofer was used and answers were tallied to develop a final score. When the Haushofer attitude index is referenced, this is a score of the answers to the 10 questions.

Samba department of the Passoré province or the Gourcy department of Zondoma province, where both organizations have programs. Based on previous research conducted by Freedom from Hunger in West Africa, the findings described in this paper are perceived to be fairly generalizable for organizations working in rural communities with village banks or savings groups primarily serving women.

Forty-seven women were originally interviewed with the first diary; one participant moved and the remaining interviews included only 46 participants. Twenty-five of the 46 women were RCPB members; the remaining 21 were from ODE.

Data Processing and Analysis

Freedom from Hunger designed all diary instruments and provided them to Lessokon Sarl, a research firm located in Ouagadougou, Burkina Faso. Lessokon Sarl pretested all diary instruments with three or four different participants. While the diaries were written in French, Lessokon used local languages when necessary. Lessokon staff conducted the interviews for all 10 diaries between August 2014 and February 2015.

All diaries were transcribed into predesigned MSEXcel databases. Responses to qualitative questions were summarized, and inductive analysis was often used to describe key findings for each question. For quantitative questions, averages or distributions were tabulated in MS Excel. All questions used for the quantitative analysis are provided in Table A in the Annex.

In interview 5, which focused on IGAs, women were asked to describe a resilient household and then report whether they perceived their household as resilient based on their own definition of resilience. While both questions were qualitative, they were coded to obtain quantitative responses for analysis. Each factor or definition of a resilient household was coded as well as whether the household was ("yes") or was not perceived to be resilient ("no"). Self-perceived resilience was then analyzed with variables from across the 10 interviews that researchers hypothesized could be associated with resilience to determine whether there was a correlation or association. These other variables included poverty status (based on the Grameen Foundation Progress out of Poverty Index [PPI]), food-security status, types of livestock assets owned, whether the household received remittances, amount held in savings, types of financial services used, types of IGAs used by the household, social capital, health status, types of shocks experienced and coping mechanisms used, a series of attitudes and perceptions toward life, proxies for women's empowerment such as mobility, and domestic violence.

Data were analyzed using statistical software SAS, version 9.1. Frequencies, percentages, Pearson chi-square tests, T-tests, and Wilcoxon tests were used to compare the variables that women associated with describing resilient households of self-perceived resilient households to nonresilient households. Confidence intervals (90 percent and 95 percent) were calculated for all variable comparisons included.

Three case studies were developed using the positively associated variables to identify client stories that fell fully within the self-perceived resilient category, were somewhat perceived to be resilient, and one that could not be classified as being resilient. All names in the report have been changed to protect the privacy of the women interviewed. These case studies are provided in the Annex, and their details are interspersed throughout the report to highlight various findings.

Results

Demographics

Interview 1 engaged 47 female participants.⁴ About 53 percent of them were RCPB members (25 out of the 47); the remaining were ODE members. Table 1 lists the key demographics. The average age was 46 years; the youngest participant was 23 years old, the oldest was 65. A majority of women (66 percent) are married and living in a polygamous relationship; 26 percent of them are in a monogamous relationship, and 8 percent are widows. The average household size was 14 members, with some households reporting having as few as three members and as many as 42. There was an average of five children per household. Most participants reported having a child or family member who no longer lives with the household; most participants are married or left the household to work in the gold mines or elsewhere within Burkina Faso or the Ivory Coast.

Very few women could read, and very few had ever attended school. For those who reported attending school at some point, only one person made it to the 10th level; most reported the highest level attained was the third level. Of their children, an estimated five children per household were of school age, but on average, two attend school. Only 25 percent of the women who have school-aged children have all of their children attending school. Of those who are not in school, the most-mentioned reason for their children not attending is that they did not have the financial means to put the children in school. Some mentioned that their husband, or the child's father, did not find it important for the child to attend school. Some of the young daughters are married and, therefore, no longer in school.

Almost half identified as Muslim, 32 percent as Christian, and 19 percent as Animist. Most identified as being members of the Mossi ethnic group, while a few were members of the Gourounsi and Bobo ethnic groups.

The majority of the women identified their spouse as the head of household (81 percent), but 15 percent indicated they were head of household, often because the women were widows or because of their position as the first wife. Those who said someone else was household head were widows living under the roof of their fathers-in-law or deceased husband's brother.

A majority of the women were classified as food insecure. Ninety-one percent were classified as periodically food insecure, such as facing food insecurity during the lean season; whereas, 89 percent of them were classified as chronically food insecure because they face this condition almost year-round. The high rates indicate that this population is chronically food insecure. It is important to note that the food-security measure is subject to being influenced by the period to which it was applied. Since the first interview was conducted during the lean season, when higher rates are expected more so than during any other period of the year, this likely represents the most extreme measure of food insecurity for the year.

Using PPI, 49 percent of participants are estimated to live below the national poverty line, estimated at XOF 226 per person per day—based on year 2003 measures. Sixty-four percent live below the US\$1.25 international poverty line (estimated at XOF 288 in 2003 measures).

4. After Interview 1, which focused on demographics, one of the 47 original participants dropped out of the study; therefore, most of the remaining sections of the report will reference results as they relate to the 46 women who participated in interviews 2–10.

Table 1. Key Demographics

	Indicator	Measure
	Percentage who are RCPB members	53%
	Percentage who are ODE members	47%
	Average age (years)	46
	Percentage who are in a polygamous marriage	66%
	Average household size	14
	Percentage who are illiterate	85%
	Percentage who ever attended school	11%
	Percentage who are periodically food insecure	91%
	Percentage who are chronically food insecure	89%
	Percentage living below \$1.25 international poverty line	64%
	Percentage living below national poverty line	49%

Characteristics of a Resilient Household

During the formative research, women and men in the research area were asked to define a resilient household (Gray and Gash 2014). They primarily explained resilience as an attitude toward life. A resilient household is made up of people who get up early, go to bed late, and work hard to get ahead. Those who are not resilient are stuck in poverty and are generally “lazy.” Women believed the nonresilient home “was a parasite on the environment.” Men, however, defined resilience in terms of their means—an accounting of what they have. They thought nonresilient homes resulted from a lack of agreement within the household (on how to manage household resources) and that they lived particularly stressful lives. Most members of RCPB and ODE placed themselves in the resilient category of people living in their communities.

When women were asked in Interview 5 to describe a resilient household, most said a resilient household is primarily one that diversifies its income or chooses an IGA wisely; a nonresilient household is one that does not pick the right IGA, sells its large livestock⁵ or food, and takes credit (loans). Most of the women—72 percent—consider their households to be resilient in terms of income, mainly because they have diversified their income sources. Women who felt resilient said they had learned from the past crises, made adjustments to prevent problems in the future, and thought that these adjustments were helping them. However, almost one-third (28 percent or 13 women) said their households were not resilient. Either only their basic needs were met, or their basic needs were not met at all. Some of the nonresilient women diversified their incomes since the last food crisis (about half of the 13); however, it did not seem that doing so was effective enough to make them consider themselves currently resilient.

The women’s answers to a series of questions over the course of the diaries allowed for identifying a set of indicators most commonly associated with self-perception of resilience. Table 2 summarizes how self-perceived resilient households and self-perceived nonresilient households compared in relation to these indicators. The full table of results, of all individual indicators, is included in Table B in the Annex.

The aforementioned indicators can be grouped in these following categories.

5. Although sales of small livestock are considered commonplace for paying expenses, the sale of large livestock, such as cattle or oxen, are seen as an economic hardship.

Poverty. Self-perceived resilience was associated or correlated with household poverty status (as measured by PPI), such that the less poor the household, the more likely it reported feeling resilient. For example, resilient households were 45 percent likely to fall below the national poverty line whereas nonresilient households were 58 percent likely to fall below the national poverty line.

Food security. Self-perceived resilient households were more food secure than nonresilient households. In Interview 1, when a full food-security index consisting of 17 total questions was used, resilient households on average scored 6.7 (on a scale of 1 to 9; 9 indicates the most severe level of food insecurity) whereas nonresilient households scored 8.3. When a shorter food-security index was used for interviews 2–10, resilient households again were found to be more food secure. Resilient households on average scored 2 (on a scale of 1–4; 4 indicates the most severe level of food insecurity) whereas nonresilient households scored 2.4. However, whether they scored as being chronically food insecure or not, was not associated with self-perceived resilience. Given chronic food insecurity averages are very similar to those of periodic food insecurity, this may mean that if a person was classified as periodically food insecure at all, they were likely chronically food insecure, which might explain why there is no differences detected for chronic food insecurity.

Income-generating activities. Resilient households were those with more IGAs used and more likely mentioned raising livestock as an IGA; other IGAs, such as selling grain, were not associated with household resilience status. Resilient households had 4.5 IGAs on average whereas nonresilient households mentioned 3.5 IGAs. This matches the women’s perception that resilient households are those that use livestock as an IGA (versus keeping them for food source or using them as “walking savings accounts” to be sold only when an expense needs to be covered) and those who have diversified income streams.

“Women suffer more during crises because, while they can sell livestock and assets like men do, they have to stay at home with the children.”

—Eugenie, RCPB client

Financial services. Resilient households reported saving more money consistently over time (based on median savings reported in prior week of interview) compared to nonresilient households, and they were more likely to belong to both RCPB and ODE, versus belonging to just one of the institutions (which one they belonged to did not matter). This suggests that resilient households are those able to save higher amounts consistently versus those with a high average, but are relying on large lumps sums followed by smaller ones. While receiving remittances was not statistically associated with self-perceived resilience, nonresilient households reported more often receiving remittances and financial support from the government than resilient households.

Social capital. While it was assumed that strong social ties might define a resilient household, the number of memberships or associations with community groups did not define resilient households. Nor was the feeling that one should rely on others during a crisis associated with household resilient status. During the interviews, the women often noted that it was difficult to rely on others when everyone was experiencing the same problem. In fact, some noted that they aimed to be self-sufficient so as not to rely on others.

“It is better to count on one’s own means and deal with problems internally.”

—Helene, RCPB and ODE member

Health. Resilient households were more likely to save money for health and not report that the member herself was sick during any of the 10 interviews. Of resilient households, 76 percent reported saving money for health; of nonresilient households, only 39 percent reported saving for health. When asked about

shocks that occurred during each of the interviews, members from resilient households reported that her illness was a shock only 0.8 times over the interview period, whereas members from nonresilient households reported being ill 2.7 times over the interview period.

Gender. Women in resilient households were more likely to report not being afraid of their husbands, even though the average is still quite high. Fifty-two percent of women in resilient households reported being afraid of their husbands compared to 85 percent of nonresilient households. However, their ability to leave the household without the husbands' permission was not associated with household resilience status. Since less than 16 percent of any of the women reported being able to leave their household without permission, this likely explains the lack of association.

Attitudes. Of the four attitude questions repeated in each of the 10 interviews, three were associated with household resilience such that resilient households reported feeling more supported, hopeful, and capable of meeting one's financial obligations. The fourth, feeling happy, was not associated with household resilience status. Of the Haushofer questions asked in Interview 9, only three of the 10 questions were independently associated with household resilient status: resilient households were more trustful of others, did not live their life day to day, and reported they would try anything to improve their life. The remaining seven Haushofer questions were not associated with household resilience status: satisfaction with life, one can shape one's own destiny, do best regardless of pay, would work if did not have to, felt alone in past three weeks, felt life lacked meaning, and adventure and risk were part of meaningful life. The composite index of all 10 Haushofer questions was not associated with household resilience status.

Shocks and Coping Mechanisms. It does not appear that the number of shocks or type of shock experienced mattered for self-perceived resilience, except in the case of the member reporting personally being sick and this resulting in an economic shock to her household. Interestingly, when asked whether a person could anticipate a drought, nonresilient households were more likely to say droughts could be expected compared to resilient households. The reasons for this are not altogether clear. Resilient households were less likely to report living their lives "day to day"; therefore, it would have been expected for resilient households to more likely report droughts being an anticipated phenomenon.

What does appear to be associated with household resilience status is how a household is able to cope. Resilient households were less likely to report borrowing money from friends and family, reducing their food consumption, making purchases on credit from vendors, or working harder as a result of a shock. Resilient households were also more likely to report using fewer coping mechanisms overall and responding to shocks only with positive coping mechanisms. Coping mechanisms were considered as "positive" if they were perceived to have no negative development consequences, such as reducing food consumption. Positive coping mechanisms were defined as using savings, borrowing from financial institutions, borrowing from savings group, borrowing from friends and family, and starting a new economic activity. Although resilient households were less likely to report borrowing from friends and family, when only the positive mechanisms were counted, resilient households were more likely to report using any one of the noted positive coping mechanisms, which included borrowing from friends and family. Nonresilient households used an average 3.6 different coping mechanisms, while resilient households used an average 2.7. Thirty percent of resilient households used only positive coping mechanisms whereas none of the nonresilient households used only a positive coping mechanism.

In anticipation of the lean season, "we stock our crops and diversify our incomes. When the lean season arrives, we reduce our food consumption and purchase food on credit. To buy food, we prefer to use our income and purchase on credit. We will also use our savings held at home, sell our assets, and borrow money from others."

—Marie, ODE client

The Good Life. The perception of one's ability to achieve their definition of what it means to lead a good life was not associated with household resilience status.

Case Studies

Three individual case studies were chosen to further depict the concept of resilience. They represent three categories of clients: a clearly resilient client, a somewhat resilient client, and one that clearly was not resilient, based on the various variables associated with self-perceived resilience. All names of the women described below have been changed to protect their privacy. The full case studies are provided in the Annex.

The example of the most resilient household from the sample depicts a salaried civil servant. Eugenie and her husband are often relied on by others when household shocks occur. They are not poor and are food secure, particularly compared to the rest of the women interviewed. Eugenie appears quite empowered; she rarely fears her husband and has quite a bit of mobility on her own terms. She uses financial services to purchase large-ticket items, such as a freezer, and to help pay education expenses for her sisters. While she does not report saving with a savings group, she saves for health using an RCPB health savings account. Eugenie saves an average 10,000 CFA every three weeks, but her savings do not stay consistently high. She reported saving no money for at least two interviews. For the most part, her life reflects a strong relationship between her self-perceived resilience status and the individual indicators used to describe resilient households.

Helene, on the other hand, is fairly poor compared to Eugenie. She is, in fact, as poor as Marie who reports being nonresilient (described below). However, she sets aside almost consistently large amounts in savings, and when shocks do occur—and she has her fair share of expensive shocks such as funeral expenses for three people—she rarely appears visibly affected by them. In fact, she is quite appreciative that her savings and income typically cover her household shocks. Helene saves an average 12,650 CFA, more than Eugenie reports. Despite fearing her husband and not having a lot of mobility, her family's use of savings is what seems to set her apart from others who share similar characteristics of being poor and food insecure. While Helene perceives herself as being resilient, fewer of the indicators associated with her resilience status apply to her individual case; what seems to set her apart most is her ability to save significant amounts. This strong ability to save may be explained by the wide diversification of her income streams (her household grows peanuts, corn, groundnuts, cowpea, okra, and sorrel; she also sells condiments, and her household recently began investing in and raising chickens) and the fact that she reports receiving remittances.

Marie, in contrast to Helene and Eugenie, is not resilient. She says so herself. She is not resilient due to the constant hunger her household faces and the fact that her IGAs are not very productive. Marie saves consistently, but she is not capable of saving very much each time. Whereas Eugenie and Marie save more than 10,000 CFA every three weeks, Marie is saving an average of only 100 CFA. In fact, she often describes her savings amount as being much less than expected because her IGAs were not very profitable. She fears her husband and has very little mobility. She does not appear to be very happy, but she's hopeful that the future will be different. Marie perceives herself as not being resilient, and the individual indicators also reflect this lack of resilience. Eugenie and Marie are clearly opposites, and their self-perceived resilience is easily reflected in the individual indicators. Helene seems much more a positive deviant since so many individual indicators would describe her as being nonresilient were it not for her savings.

Table 1. Relationships between Self-perceived Household Resilience Status and Determinants of Resilience^a

Variable Categories	Associated/Correlated with Perception of Household Resilience Status	NOT Associated/Correlated with Perception of Household Resilience Status
Poverty	Poverty rates for US\$1.25, National Poverty Line and Extreme Poverty Line (-)	
Food Security	Food security prevalence (+)	Chronic food-security status; meat consumption
IGAs	Average and Median number of IGAs used by household (+)	
	Households that mentioned raising any livestock as an IGA (+)	The type of livestock raised is not associated nor are the other types of IGAs (i.e., selling grain, dolo, petty commerce)
Financial Services	Median savings amount (saves more money consistently over time) (+)	Average savings amount
		Remittances
	Belonging to both RCPB (MFI) and ODE (savings groups) (+)	Belonging to either/or RCPB or ODE
Health	Saves money for health (+)	
	Client being sick (-)	Health status (having a chronic illness, perceived state of health)
Social Capital		Number of community group memberships; feeling that one should rely on others during a crisis
Gender	Fear of spouse (-)	Ability to leave household without spouse permission
Attitudes	Feel supported, more hopeful, capable of meeting financial obligations, more trustful (+)	Feel happy
	Live life day to day (-), would try anything to improve their life (+)	Satisfied with life, can shape one's own destiny, do best regardless, would work if did not have to, felt alone in past three weeks, felt life has no meaning, adventure and risk are part of meaningful life
		Composite attitude score
Shocks and Coping Mechanisms	Drought can be expected (-)	Number of shocks experienced
		Types of shocks (sick child, death, livestock loss, education shock, poor harvest, income loss, other shocks) BUT—sick client is negatively correlated as referenced under health above
	Borrows from friends and family (-), borrows from financial institution (+), makes purchases on credit (from vendors) (-)	Use of personal savings, borrowing from savings group, borrowing from moneylender
	Reduce food consumption (-)	Sale of livestock (small or large), sale of grain, sale of property or other assets
	Works harder as result of shock (-)	Start new economic activity, migrate, pull children from school, delay payment obligations, sell crops in advance
	Total number of coping mechanisms used (-) Responds to shocks with ONLY positive coping mechanisms (financial coping mechanisms such as using savings; borrowing from financial institutions, savings group, friends and/or family; starting a new economic activity) (+)	
The Good Life		Believe they can achieve the good life

a. A (+) = indicator is positively associated (for categorical variables) or correlated (for continuous variables). A (-) = indicator is negatively associated/correlated. For example, resilient households are more likely to be food secure (+), but less likely to report the client reporting her illness as a shock (-).

Discussion

These findings suggest resilient households are financially better off than nonresilient households, as would be expected. The findings also indicate that resilient households use more positive coping strategies when shocks do occur. Further, **self-perceived resilience status is consistently associated with many of the household well-being indicators identified in the resilience framework examined earlier (i.e., poverty status; food security; savings, including emergency savings; access to a variety of financial services; income diversification; and, in particular, raising livestock)**. The finding that self-perceived resilience was associated with belonging to both a village bank and a savings group but not associated with belonging to only one of those can suggest one of two possible relationships. It may either suggest that those who have the capability to financially contribute to more than one group are more resilient or it may be indicative of one's ability to develop a portfolio of financial services that helps them earmark or safeguard their funds for different financial needs.

While mobility was not associated, fear of one's husband, which is serving here as a proxy for domestic violence in any form (physical, emotional, etc.) was associated with resilience. Other research also points to the link between domestic violence and resilience: Domestic violence has both immediate impacts on people's vulnerability (such as poor physical and mental health status, inability to work, health costs) as well as long-term impacts (mental health, experiences within the workforce, education, and skills) (Duvvury, Callan, Carney, and Raghavendra 2013). During qualitative follow-up focus group discussions, women shared that it is common for women to require permission to leave their household if it is for anything other than to attend a group meeting, to tend to their IGAs, or to seek water or provisions at the market. While this research did not find an association between mobility and self-perceived resilience, other research highlights the link between women's increased access to income-generating opportunities and changing gender roles, greater bargaining power at the household and community levels, and greater mobility and freedom (Le Masson, Norton, and Wilkinson 2015).

While the quantitative analysis provides insights into the characteristic differences between resilient and nonresilient households on an aggregate level, the case studies provide insights into the variability of experiences that women face when it comes to household resilience. While it is easy to detect differences between those at each end of the spectrum, such as Eugenie (resilient) and Marie (not resilient), the more difficult distinction is represented by Helene's story. She shares many behavioral characteristics with Eugenie, but she's almost as equally poor as Marie. She is somewhat of a positive deviant; despite her poor economic and gender status, she still appears resilient to some fairly significant shocks due to her ability to save fairly large amounts, which likely results in the wide diversification of her income streams and her report of receiving remittances.

This research adds to the existing literature on resilience by focusing on the types of characteristics or determinants of resilience that could be of interest to financial service providers, in particular, as well as other organizations interested in resilience. What is clear from this research is that **savings accumulation and saving for health specifically (and perhaps emergencies in general) are important factors for building resilience. The more savings accumulated and the more savings earmarked for emergencies, the more likely a person is to perceive themselves as being resilient.**

Hudner and Kurtz (2015) from Mercy Corps found a similar result in the Philippines. Their study found that households who were affected by Typhoon Yolanda and reported saving informally were more likely to perceive themselves as resilient. **This did not hold true when asked about formal savings**—possibly due to the chaos resulting from the typhoon that made it difficult to reach the banking centers. Also, the

more financial services a person accesses appears to be indicative of their self-perceived resilience. As is suggested in research such as Collins, Morduch, Rutherford, and Ruthven (2009), people need a portfolio of financial services that are designed to meet different financial needs.

Also, in this population, **income diversification is important, but livestock as an IGA was particularly important** and was the single activity that was most associated with a resilient household. However, another study by Mercy Corps conducted in southern Somalia found that income diversification was not the answer to resilience there; however, independent income sources, which spread risk across different types of hazards, were important (Mohamud and Kurtz 2013). Magnoni and Sobol (2014), in a study regarding microinsurance for maize crops in Burkina Faso, found that while farmers had diversified their income sources, they relied on agricultural revenue to invest in other income streams, making it difficult to use diverse IGA strategies when agricultural yields were low. While income diversification was associated with a resilient household, the fact that livestock was the only IGA that stood out as characterizing a resilient household suggests picking IGAs that are independent of each other is also critical and reflective of the belief of the women interviewed that livestock as an IGA was independent enough from their agricultural activities to be worth the investment.

Finally, given self-perceived resilience as a measure seems to reflect several characteristics of resilient households that would be expected, there is some added confidence that the measure of self-perceived resilience alone could be useful for measuring and monitoring changes in household resilience status. Graham and Lora (2010) document how, over time, subjective measures of well-being are growing among academics; a stronger integration of economic and psychological measures is occurring in research.

Conclusion

In conclusion, this research provides unique insights into the set of factors that, if reinforced by financial institutions and development practitioners, are likely to strengthen household resilience: household savings accumulation; access to different financial services, such as savings; financial services for IGAs (particularly, those IGAs associated with a resilient household, such as livestock in the case of this population); and specific savings products for health and other emergencies. While further and more significant research is necessary to validate the findings from this small sample, these findings help provide direction for practitioners interested in building and measuring changes in household resilience.

Annex

Resilience Diary Composition by Interview Number

1. **Demographics and the Good Life.** This interview included the use of the Progress Out of Poverty Index (PPI) for Burkina Faso to establish the household poverty level and complete food-security assessment using a 17-question scale to determine the household food-security level. The repeating diaries did not include PPI but did include a one-interview-question food security scale to facilitate a shorter interview, as food security is more likely to fluctuate than poverty status during a seven-month period. This interview also included basic demographic information such as marital status, education levels achieved by the female participants, number of family members, etc. In addition, women were asked to describe “the good life” and their perceptions of whether they and their children would achieve it.
2. **Shock-coping and Resilience.** Interview 2 focused on ways women faced the latest food crisis in terms of their finances, support from the community, how prior crises have influenced how they currently anticipate crises, and how they define household resilience.
3. **Financial Services.** Interview 3 focused on an assessment of the financial services used by women as well as their satisfaction with any services used. They were also asked to describe the financial services they lack.
4. **Food Security and Education.** The fourth interview included an expanded assessment on food security, probing into financial and nonfinancial coping mechanisms to increase access to food during the lean season. It also included similar questions related to the education needs of the family. In both cases, women were asked about their decision-making power within the household as related to food and education.
5. **Income Generation.** The interview on income generation inventories the various ways women earn income, which includes any business, land use, and strategies they use that they believe make their households more resilient.
6. **Social Capital.** This interview focuses on the various group affiliations, financial and nonfinancial, and the women’s perceptions of community support in times of need. It explores questions of trust, theoretical questions related to the role groups play for financial transactions, and what they would miss if they were able to manage their finances without group members.
7. **Gender.** The gender interview examines the roles men and women play in the household, how women’s lives now differ compared to prior generations, how women are affected by shocks compared to men, and how they try to manage a work-life balance.
8. **Health.** The health interview assesses the way households manage health costs and their preferences for using some financial instruments over others. It explores expected and unexpected as well as small and large health expenses and their management.
9. **Attitudes.** The attitude interview uses a psychological resilience index that includes questions related to risk-taking behaviors, mental health, support from others, and perceptions related to control of one’s life (Haushofer 2013).
10. **Program Participation and the Future.** The final interview covers satisfaction questions related to participation in both RCPB and ODE as well as potential uses for new technologies such as mobile money. It also explores the members’ future goals for the next five years and their perception of the roles that RCPB and ODE will play in achieving those goals.

Table A. Diary Questions Used for Determinants Analysis

Variable Categories	Question	Answer Options
Poverty	The Grameen Foundation PPI was used to estimate poverty levels. See http://progressoutofpoverty.org/country/burkina-faso	
Food Security — Short Version	I will read 4 choices for your response. Please tell me, which of the following best describes the food consumed by you (woman head of household) in the past three weeks:	<p>1 = Enough and the kinds of nutritious food I wanted to eat</p> <p>2 = Enough but not always nutritious food</p> <p>3 = Sometimes not enough food to eat, was sometimes hungry</p> <p>4 = Often not enough to eat, was often hungry</p>
Food Security — Long Version	<p>The following 9 core questions make up the long interview version:</p> <ul style="list-style-type: none"> • During the past 12 months, that is, from August of last year until now, were you ever worried that the food in your house would run out? • During the past 12 months, was the food you had ever not enough? • During the past 12 months, did you ever have to eat the same foods daily because you did not have other types of food in the house? • During the past 12 months, did you ever serve yourself or any other person in your household less food because you did not have enough food in the house? • During the past 12 months, did you ever miss any meals (breakfast, lunch, or supper) because you did not have enough food in the house? • During the past 12 months, did you ever eat less than you felt you should because you did not have enough food in the house? • During the past 12 months, were you ever hungry and did not eat because you did not have enough food in the house? • During the past 12 months, did you or a member of your family ever lose weight because you did not have enough food in the house? This weight loss should not be caused by stress (worrying), hard work, or sickness. • During the past 12 months, did you or another person in your household ever not eat for an entire day because you did not have enough food in the house? 	<p>1 = Yes</p> <p>2 = No</p> <p>Each question to the left is followed by the question “How often did this happen? With responses of “often, sometimes, rarely” (except for question about losing weight)</p>
Income-Generating Activities	<p>Think of all the ways your household earns money. Please name all income sources that you or other household members living with you rely on during a typical year. If there are multiple wives, include only income sources that benefit you and your children.</p> <p>In the prior interview, you indicated you had {X- } number of cattle or other large animals, how many cattle or other large animals does the household now own?</p> <p>In the prior interview, you indicated you had {X- } number of chickens, how many chickens does the household own now?</p> <p>In the prior interview, you indicated you had {X- } number of goats, how many goats does the household own now?</p> <p>In the prior interview, you indicated you had {X- } number of donkeys, how many donkeys does the household own now?</p> <p>In the prior interview, you indicated you had {X-answer to G14} other livestock, how many other livestock does the household own now?</p>	<p>Answer options were coded and included the following:</p> <ol style="list-style-type: none"> 1. Livestock 2. Agriculture 3. Dolo 4. Petty commerce 5. Growth and sale of grains <p>Average number mentioned as well as individual categories were analyzed.</p>
Financial Services	<p>How much money would you estimate you put aside or saved last week (either at home or in a savings group or a savings account)?</p> <p>Are you, or anyone in your household, a member of a savings group facilitated by an NGO?</p> <p>Are you a member of an ODE Saving for Change group?</p> <p>Are you, or any other member of your household a member of a credit and savings group (such as a caisse villageoise), facilitated by an MFI?</p> <p>Are you a member of an RCPB caisse villageoise group?</p>	<p>Amounts reported in CFA.</p> <p>1 = Yes</p> <p>2 = No</p>

HOW DO YOU KNOW “RESILIENCE” WHEN YOU SEE IT?

Variable Categories	Question	Answer Options
Health	In general, how is the health of your household members at this time?	1 = Excellent 2 = Very good 3 = Good 4 = Fair 5 = Poor
	Has anyone in your household ever been diagnosed with a chronic illness, such as cancer, diabetes, high blood pressure, epilepsy, HIV/AIDS, etc.	1 = Yes 2 = No
	Do you save any of your money specifically for health expenses (e.g., money that you keep separate from other savings)?	1 = Yes 2 = No
Social Capital	Do you, or anyone in your household, belong to any of the following groups?	Savings group Village banking group Church group Tontine Women's association Community garden group Livelihood group Baptism or wedding group Illness and burial society Other
	Do you agree or disagree with the following statement: When a small crisis strikes my household, I prefer to keep this private.	1 = Agree 2 = Disagree
	Do you agree or disagree with the following statement: When a large crisis strikes my household, I prefer to keep this private.	1 = Agree 2 = Disagree
	Overall, how important are your social networks—people outside of your household that you associate with—in helping you manage a crisis? Please explain.	1 = Very important 2 = Somewhat important 3 = Not very important 4 = Not important at all
	Overall, do you believe that a household needs the ability to rely on others outside of the small household to be resilient through a crisis?	1 = Yes 2 = No
Gender	In the past 12 months, were you ever afraid of your husband/partner: Most of the time, sometimes, or never?	1 = Most of the time 2 = Sometimes 3 = Never
	Can you leave your home without seeking permission?	1 = Yes 2 = No
Attitudes	Included in all 10 interviews:	
	<ul style="list-style-type: none"> In the past two weeks, I felt hopeful for the future. In the past two weeks, I felt capable of meeting my financial obligations. In the past two weeks, I felt supported by friends and family. In the past two weeks, I felt happy. 	All questions have answer responses: 1 = Yes 2 = Somewhat 3 = No

Variable Categories	Question	Answer Options
Haushofer questions:		
Attitudes	<p>Some people believe that individuals can decide their own destiny, while others think that it is impossible to escape a predetermined fate. Please tell me which comes closest to your view on this scale in which 1 means "everything in life is determined by fate," and 10 means that "people shape their fate themselves."</p>	<p>1 = Everything in life is determined by fate. 2 3 4 5 = Life is equally determined by fate and by a persons' ability to share their fate. 6 7 8 9 10 = People shape their fate themselves.</p>
	<p>Please indicate whether you agree or disagree with the following statement: "I do the best I can regardless of pay or money I can earn."</p>	<p>1 = Agree 2 = Disagree</p>
	<p>Please indicate whether you agree or disagree with the following statement: "Working for a living is a necessity; I wouldn't work if I didn't have to."</p>	<p>1 = Agree 2 = Disagree</p>
	<p>Do you trust people you meet for the very first time?</p>	<p>5 = Trust completely 4 = Trust somewhat 3 = Do not trust nor distrust 2 = Do not trust somewhat 1 = Do not trust at all</p>
	<p>During the past few weeks, did you ever feel lonely or remote from other people?</p>	<p>1 = Yes 2 = No</p>
	<p>How often, if at all, do you have the feeling that life is meaningless?</p>	<p>1 = Very often 2 = Sometimes 3 = Rarely 4 = Never</p>
	<p>Do you tend to agree or disagree with the following statement: "The future is so uncertain that it is best to live from day to day."</p>	<p>1 = Agree 2 = Disagree</p>
	<p>Would you please indicate how much this person is like you. "Adventure and taking risks are important to this person; to have an exciting life."</p>	<p>1 = Very much like me 2 = 3 = 4 = 5 = 6 = Not like me at all</p>
	<p>Would you be prepared to do something new to improve the conditions of your immediate family?</p>	<p>1 = Absolutely yes 2 = Very likely 3 = Maybe 4 = Very unlikely 5 = Absolutely no</p>
	<p>Additional attitude questions On the whole how satisfied are you with the life you lead?</p>	<p>1 = Not satisfied at all 2 = Not very satisfied 3 = Fairly satisfied 4 = Very satisfied</p>
Shocks and coping mechanisms	<p>Do you see droughts as expected events or unexpected events?</p>	<p>1 = Yes 2 = No</p>

HOW DO YOU KNOW “RESILIENCE” WHEN YOU SEE IT?

Variable Categories	Question	Answer Options
Shocks and coping mechanisms	<p>What is an example of a small or large problem or an unexpected expense that you or your household has encountered in the past two weeks?</p> <p>Did you respond in any of the following ways? Answer “yes” or “no” to the following:</p> <ul style="list-style-type: none"> Sell large livestock? (cattle, etc.) Sell small livestock? (chickens, goats, donkey, etc.) Sell grain? Sell other property? Use personal or household savings? Borrow money from a savings group? Borrow money from a financial institution? Borrow money from family, friends, or neighbors? Borrow money from a moneylender? Start a new economic activity (work in day labor, start a new business activity, etc.) Migrate to earn more money to cover the cost (you or a household member)? Did you take your children out of school? Reduce food consumption? Delayed payment obligations? Made purchases on credit? Sold crops in advance? Did nothing? Work harder (or longer hours)? Other(s) thing(s)? 	<p>Type of shock as well as number of shocks mentioned analyzed.</p> <p>1 = Yes 2 = No</p>
The Good Life	Do you feel like you have what you need to achieve a good life?	<p>1 = Yes 2 = No</p>

Table B. Determinants of Self-Perceived Household Resilience Status

Variable	Self Perception of Resilience		T-Test (mean)/ Chi2 (%)	Wilcoxon (Median)
	No	Yes	P-value	P-value
Poverty (based on Grameen Foundation PPI)				
Mean national poverty line (NPL) PPI likelihood	58	45	0.0433	
Median NPL PPI likelihood	66	44		0.027
Mean \$1.25 international poverty line (IPL) PPI likelihood	72	60	0.0673	
Median \$1.25 (IPL) PPI likelihood	80	62		0.027
Mean extreme poverty line PPI likelihood	29	21	0.0755	
Median extreme poverty line PPI likelihood	34	19		0.027
Food Security				
Mean food Security (FS) prevalence score (Long version, Interview 1)	8.3	6.7	0.0457	
Median FS prevalence score (Long version, Interview 1)	9	8		0.0083
Mean FS chronic score (Long version, Interview 1)	6.2	5.2	0.1659	
Median FS chronic score (Long version, Interview 1)	6	6		0.3072
Percentage prevalence FS ^a (Long version, Interview 1)	0	12.1	0.1890	
Percentage chronic FS (Long version, Interview 1)	0	15.2	0.1370	
Mean FS prevalence score (across all 10 interviews)	2.4	2	0.0042	
Median FS prevalence score (across all 10 interviews)	2.5	2.1		0.0043
Mean meat consumption (across all 10 interviews)	5	5.1	0.7875	
Median meat consumption (across all 10 interviews)	5	5.3		0.4548
Income-generating activities (Interview 5)				
Mean number of IGAs mentioned per household	3.5	4.5	0.0358	
Median number of IGAs	4	4		0.0233
Percentage with livestock as an IGAs	30.7	66.7	0.0270	
Percentage with agriculture as an IGAs	76.9	66.7	0.4960	
Percentage with dolo as an IGA	15.4	36.4	0.1640	
Percentage with petty commerce as an IGA	53.9	72.7	0.2190	
Percentage with grains specifically mentioned as an IGA	7.7	15.2	0.4990	
Livestock Assets (means and medians across all 10 interviews)				
Mean number of cattle owned	2.5	1.8	0.4193	
Median number of cattle owned	2	1.1		0.2069
Mean number of chickens owned	10.7	17.5	0.1459	
Median number of chickens owned	9.7	12.1		0.1466
Mean number of goats owned	10	11.9	0.5324	
Median number of goats owned	8.6	8.7		0.5999

a. The way this variable is stated may cause confusion: 15.2 percent of the resilient category were more "chronically food secure," meaning they experienced less chronic food insecurity; 12.1 percent were more food secure in general.

HOW DO YOU KNOW “RESILIENCE” WHEN YOU SEE IT?

Variable	Self Perception of Resilience		T-Test (mean)/ Chi2 (%)	Wilcoxon (Median)
	No	Yes	P-value	P-value
Mean number of donkeys owned	1.8	1.2	0.1195	
Median number of donkeys owned	1	1		0.4334
Mean number of other owned	1	0.3	0.2008	
Median number of other owned	0	0		0.5352
Mean number of total livestock owned	26	32.6	0.3669	
Median number of total livestock owned	23.8	27.1		0.5831
Mean number of total livestock w/out other owned	25	32.4	0.3209	
Median number of total livestock w/out other owned	23.6	26.1		0.5023

Remittances/Transfers (Interview 3)

Percentage who reported receiving remittances	92.3	81.8	0.3720	
Percentage who received payments/cash transfers from the state	53.9	33.3	0.1990	

Savings (means and medians across all 10 interviews)

Mean Savings (in CFA)	1031.5	2978	0.2604	
Median Savings (in CFA)	230	1200		0.0198
Percentage with high savings (2001+ CFA)	23.1	36.4	0.0280	
Percentage with medium savings (301-2000 CFA)	15.4	42.4		
Percentage with low savings (0-300 CFA)	61.5	21.2		

Financial Services (Interview 3)

Percentage of members of SG alone	46.2	45.5	0.2170	
Percentage of members of bank alone	53.9	36.4		
Percentage of member of both	0	18.2		
Percentage of member of 1 institution	100	81.8	0.0990	
Percentage of member of 2 institutions	0	18.2		

Social Capital (Interview 6)

Mean number of associations with community groups	3.2	2.9	0.5335	
Median number of associations with community groups	3	3		0.5288
Percentage who felt one should rely on others during crisis	61.5	57.6	0.8060	

Health (Interview 8)

Percentage who felt state of health was very good or good (vs. fair/poor)	61.5	81.8	0.1470	
Percentage who reported having a chronic illness	46.2	27.3	0.2190	
Percentage who said they saved money for health purposes	38.5	75.8	0.0170	

Gender (Interview 7)

Percentage who reported often or sometimes being afraid of husband during prior year	84.6	51.5	0.0380	
Percentage who reported being able to leave their home without permission from spouse	7.7	15.2	0.4990	

Variable	Self Perception of Resilience		T-Test (mean)/ Chi2 (%)	Wilcoxon (Median)
	No	Yes	P-value	P-value

Attitudes

From all 10 interviews

(Mean % across all 10 interviews, on scale of 1–2, where 1=yes, 2=no; higher number signifies more likely said "no")

Mean percentage who felt hopeful	1.4	1.3	0.1493	
Median percentage who felt hopeful	1.4	1.3		0.079
Mean percentage who felt capable of meeting financial obligations	1.5	1.4	0.0958	
Median percentage who felt capable of meeting financial obligations	1.4	1.3		0.1652
Mean percentage who felt supported	1.9	1.6	0.0036	
Median percentage who felt supported	2	1.6		0.003
Mean percentage who felt happy	1.8	1.6	0.1124	
Median percentage who felt happy	1.8	1.5		0.265

Haushofer Attitude Questions (Interview 9)

Percentage who are moderately or very satisfied with one's life	46.2	51.5	0.7430	
Feel can shape one's own destiny (mean: higher number on scale of 1–10 indicates higher personal empowerment)	4.8	4.3	0.5193	
Percentage who feel they do their best regardless of earnings	92.3	100	0.1070	
Percentage who would not work if did not have to	38.5	54.6	0.3260	
Trust people met for the first time (mean: higher number on scale of 1–5 indicates more trust)	2.5	3.6	0.0001	
Trust people met for the first time (median: higher number on scale of 1–5 indicates more trust)	3	4		0.0001
Percentage who reported feeling alone or distant from others in the past 3 weeks	38.5	51.5	0.4250	
How often one felt life has no meaning (mean: higher number on scale of 1–4 indicates rare occurrence)	2.7	2.8	0.8285	
Percentage who feel it is better to live day by day because of uncertainty	61.5	33.3	0.0800	
Percentage who agree that adventure and risk taking are important to an exciting life	2.5	2.1	0.5268	
Would do anything to further improve life of family (mean: higher number on scale of 1–5 indicates more unlikely)	1.8	1.3	0.0329	
Would do anything to further improve life of family (median: higher number on scale of 1–5 indicates more unlikely)	1	1		0.0881
Mean Haushofer score	3.6	3.7	0.7626	
Median Haushofer score	4	4		0.6337

Drought (Interview 9)

Percentage who believe a drought can be expected	38.5	15.2	0.0840	
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Shocks (average/median across all 10 interviews)

Mean number of shocks	8.5	8.1	0.6255	
Median number of shocks	9	9		0.9012
Mean number of client sick	2.7	0.8	0.0021	
Median number of client sick	1	1		0.0251
Mean number of child sick	2.3	3.1	0.2453	

HOW DO YOU KNOW “RESILIENCE” WHEN YOU SEE IT?

Variable	Self Perception of Resilience		T-Test (mean)/Chi2 (%)	Wilcoxon (Median)
	No	Yes	P-value	P-value
Median number of child sick	1	1		0.2162
Mean number of family death	0.9	1.4	0.2352	
Median number of family death	1	1		0.2689
Mean number of livestock loss	1.1	0.6	0.2334	
Median number of livestock loss	0	0		0.7312
Mean number of education expenses	0.6	0.8	0.6475	
Median number of education expenses	0	0		1
Mean number of other shocks	0.8	0.8	0.8319	
Median number of other shocks	0	0		0.6481
Mean number of poor harvest	0.1	0.2	0.2863	
Median number of poor harvest	0	0		0.2813
Mean number of loss of income	0	0	NA	
Median number of loss of income	0	0		NA

Coping Mechanisms (average/median across all 10 interviews; on scale of 1–2, where 1=yes, 2=no; higher number signifies more likely said “no”)

Mean percentage who sold cattle	2	2	0.4132	
Median percentage who sold cattle	2	2		0.8236
Mean percentage who sold small livestock	1.7	1.7	0.5032	
Median percentage who sold small livestock	1.7	1.7		0.5826
Mean percentage who sold grain	1.6	1.7	0.3118	
Median percentage who sold grain	1.6	1.7		0.4152
Mean percentage who sold other property	1.9	2	0.2990	
Median percentage who sold other property	1.9	1.9		0.5933
Mean percentage who used personal savings	1.3	1.3	0.9126	
Median percentage who used personal savings	1.2	1.3		0.6474
Mean percentage who borrowed money from savings group	1.8	1.8	0.4503	
Median percentage who borrowed money from savings group	1.8	1.9		0.1438
Mean percentage who borrowed money from financial institution	1.9	1.8	0.0799	
Median percentage who borrowed money from financial institution	2	1.9		0.128
Mean percentage who borrowed money from family/friends across	1.8	1.9	0.0044	
Median percentage who borrowed money from family/friends	1.8	1.9		0.0006
Mean percentage who borrowed money from moneylender	2	2	0.8444	
Median percentage who borrowed money from moneylender	2	2		0.8418
Mean percentage who started a new economic activity	1.9	1.9	0.6151	
Median percentage who started a new economic activity	1.9	1.9		0.9478
Mean percentage who migrated to earn money	2	2	0.5047	
Median percentage who migrated to earn money	2	2		0.4986
Mean percentage who pulled children from school	2	2	0.6623	
Median percentage who pulled children from school	2	2		0.6573
Mean percentage who reduced food intake	1.5	1.7	0.0017	

Variable	Self Perception of Resilience		T-Test (mean)/ Chi2 (%)	Wilcoxon (Median)
	No	Yes	P-value	P-value
Median percentage who reduced food intake	1.4	1.8		0.0063
Mean percentage that delayed repayment obligations	1.8	1.9	0.3454	
Median percentage that delayed repayment obligations	1.9	1.9		0.3061
Mean percentage that made purchases on credit	1.5	1.8	0.0000	
Median percentage that made purchases on credit	1.5	1.9		0.0001
Mean percentage that sold crops in advance	2	2	0.8477	
Median percentage that sold crops in advance	2	2		0.9844
Mean percentage that said they did nothing	2	2	0.2709	
Mean percentage that said they did nothing	2	2		0.2661
Mean percentage that worked harder	1.8	1.9	0.0063	
Median percentage who worked harder	1.7	1.9		0.0178
Mean number of coping mechanisms used per round	3.6	2.7	0.0144	
Median number of coping mechanisms used per round	3.7	2.7		0.0083
Percentage who responded to shock only with a positive resilient strategy (Interview 5 only)	0	30.3	0.0250	

The Good Life (Interview 1)

Percentage who believe they can achieve good life	15.4	18.2	0.8220	
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Case Studies

Eugenie—Resilient

Eugenie⁶ is a 33-year-old mother of a 2-year-old son. She, her husband, and her son live in Yako, Burkina Faso. She is a client of RCPB. She is literate and attended school until the 4th year in secondary. Compared to many of the women in her credit group, she is not poor. For the seven months Eugenie was interviewed, she was fairly consistently food secure, which meant she had enough of the foods she wanted to eat during that time. Only once, during the deepest part of the lean season, did she report not having enough of the foods she wanted to eat. She is employed as a midwife, and her husband is employed as a civil servant, making their income streams fairly predictable.

Eugenie considers her household resilient because she and her husband are able to live on their salaries, they save money, and they stock grains for later use. Her strategies to anticipate future shocks were informed by the experience she had during the drought and food crisis of 2011 and 2012. To cope with this shock, they ate rice instead of millet and used their savings, eventually resorting to credit. Through these events, she feels she developed a “savings culture.” She saves more in cash, and she buys grains to stock and sell to cover unexpected costs. Because she and her husband had fixed salaries, others actually relied on them during the food crisis. Eugenie also feels that a positive consequence of the food crisis was that the practice of market gardening (short-term crops) has been opened to women whereas before it was reserved for men only, and that people do not sell their own grains as much.

6. Name has been changed to protect client's privacy.

She would recommend to others, if they are farmers, to diversify their IGAs (such as with livestock farming and market gardening) and store their grains. She follows her own advice; **when she has money, she buys grains to stock and resell later**. She and her husband do not really work in agriculture; she has a few chickens but no other livestock.

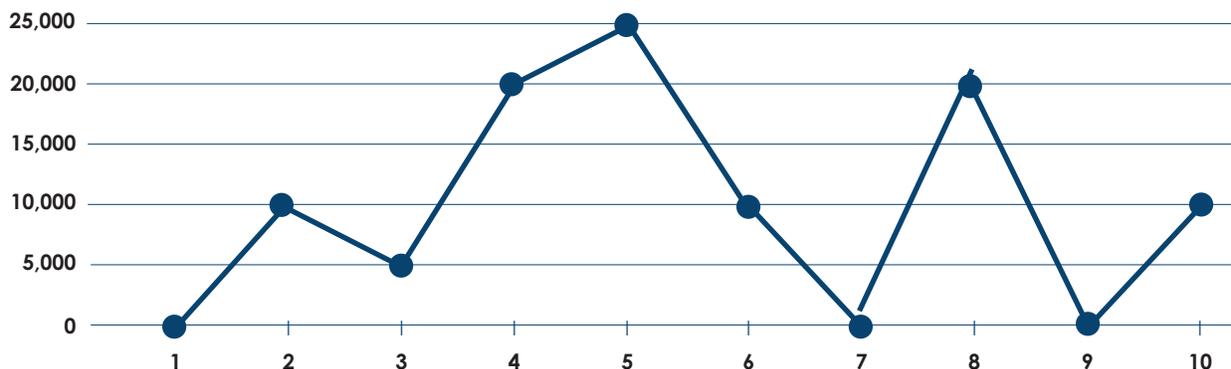
Eugenie prefers to keep all crises private, large or small, including health problems, to protect the dignity of the household and to be respected. Even in the event of a death in the family, she'd rather take a loan (since “*death doesn't wait*”) than ask for help from others. While she faces several shocks during the seven months, rarely does she feel extremely affected. For example, in five out of the 10 interviews, she does not report a shock. For five of them she does, but in most cases, she mentions using savings or taking a loan from a financial institution (in the case of covering funeral expenses) to deal with the shocks. In all cases, she felt grateful that she had savings to cover these expenses and the result was a fairly quick recovery.

Overall, the health of her household is good. She saves money for health expenses with RCPB, but she has never needed to use this money. She mainly uses her husband's income for health expenses, since he's the head of the household. If he's away, she uses the savings at home. If the health problem is serious and urgent, they use both incomes, their savings, and, if necessary, take a loan. They also paid for childbirth expenses using her husband's income. She would like to be more involved in the decision-making process concerning health expenses, and she mentions she personally could take care of a quarter of them with her salary.

Eugenie's savings fluctuate quite a bit; however, for most interview periods she saves more than the average (2,800 CFA) saved by the other women interviewed. On average, she saves about 5,000 CFA during a three-week period; the actual average savings during this period was 10,000 CFA. At interview 5, she shared that she saved more than normal because her expenses were particularly low. However, at interviews 7 and 9 she saved nothing, which could be attributed to needing to use her savings for her father-in-law's funeral in interview 7 and having motorcycle repairs and the need to send money to some of her relatives in interview 9.

Unlike many of the other women interviewed, Eugenie was never afraid of her husband in the past few months, and she can leave her home without permission. She thinks an empowered woman has IGAs or an income to take care of expenses such as her clothing, food, and other items without asking her husband. She is empowered because she “works and has her salary to cover her expenses.”

Eugenie's Savings



While she is a member of an RCPB village bank, she uses her loan to help pay for her sisters' education. She's also used one of her loans to purchase a freezer. She has been a member of RCPB for three years and is grateful that **access to credit through RCPB is there to solve problems without involving a third person**. She likes to be able to save for health expenses and take a loan for a serious problem, but she says that it is never a fast process and getting access to money takes time. She would like to have health insurance, which she estimates would take care of 80 percent of their health expenses.

Over the seven months, Eugenie consistently felt hopeful for the future, able to meet her financial obligations, and supported by friends and family. Overall, she is very satisfied with her life because the household is healthy and in harmony.

Helene—Somewhat Resilient

Helene⁷ is 35-year-old mother of five. She is the first wife of her husband; she along with her co-wives make up a family of 27 people. They all live in Samba, Burkina Faso. Four of her children are school-aged and attend school; the fifth child is currently too young to attend school, but will start this year. She is a client of RCPB and a member of an ODE savings group. She is illiterate and has never been to school. Like many of the women in the interviews, she is poor. She is 75 percent likely to fall beneath the national poverty line, 89 percent likely to fall below the \$1.25 international poverty line, and 50 percent likely to fall below the extreme poverty line. For the seven months Helene was interviewed, she was food insecure, but did not go hungry; her family simply did not have the nutritious foods she wanted to serve. They often ate meat throughout the majority of the interviews. Her household is involved in several different IGAs: she sells condiments, grows peanuts, corn, and groundnuts. Although she cannot own the land she works, she grows cowpea, okra, and sorrel. About one-half of her income comes from these crops. She is in charge of selling the condiments; it is a round-the-year IGA that allows her household to have income during the lean season. Helene also mentions that her household has further diversified its activities due to facing some economic shocks. It recently diversified its IGAs with livestock (chickens and other small ruminants).

Helene considers her household resilient because the IGAs they have chosen to pursue are designed to allow them to respond to shocks. She explains, "A resilient household is able to find solutions to the various crises it encounters (food, financial) by making good choices in their income-generating activities. A nonresilient household fails to solve crises encountered." She acutely remembers the food crisis of 2011 and 2012. This was a terrible period during which they and all other surrounding families struggled to survive due to lack of rains and the subsequent bad crops. They coped by going through their savings and receiving help from family members in the Ivory Coast, but never asked for government aid. She mentions that these crises taught them to manage money better, which is the only positive thing she can find about those crises. She reports that they used to waste more resources before. The food crisis also changed her family structure: it is now divided into self-sufficient households, which requires everybody to be more responsible.

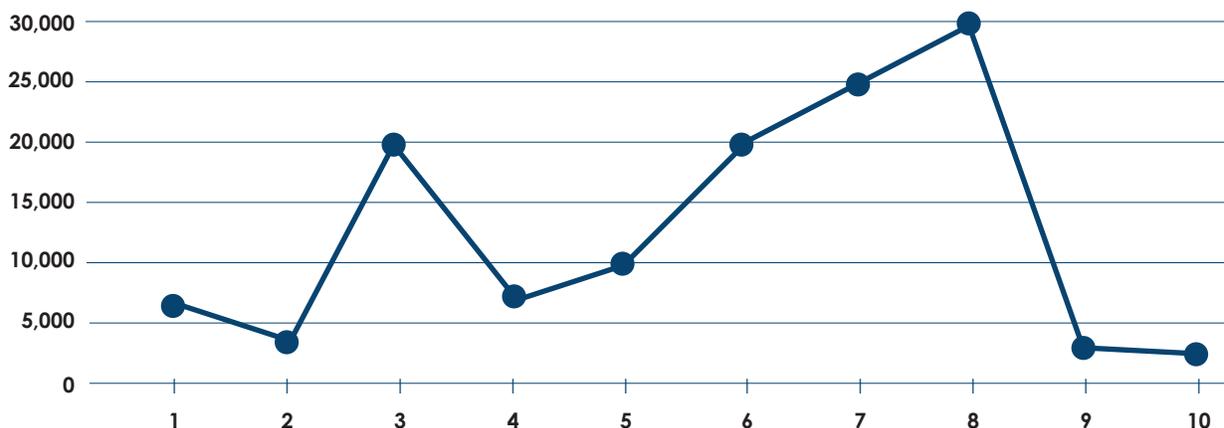
The community has also changed since nowadays young people work less in agriculture and more in trade, livestock farming, and other projects, but she still feels very vulnerable, since she is still counting on the rainy season for their livelihoods.

She would recommend, if asked to give advice to others regarding how to be more resilient, others **save more to anticipate shocks**, which she is doing herself. Saving more is helping her significantly, in her opinion. **In fact, looking at Helene's savings, she saved an average 12,560 CFA during the 10**

7. Name has been changed to protect client's privacy.

interviews. At the peak of 30,000 CFA in savings at Interview 8, Helene indicated she was able to save more during this period because she sold more of her condiments during Christmas. At interviews 9 and 10, she had to contribute her savings to help with funeral expenses and to cover the expenses for herself to seek treatment due to an illness. At Interview 2, she also had lower than average savings because her father became village chief, and she contributed her savings to help with the village celebrations.

Helene’s Savings



Helene shares that the lean season is the only time of the year they risk going hungry. In anticipation of the lean season, they stock grains and resort to strategies many households use: consume wild foods and reduce meal sizes and the number of meals. Overall, she believes it is important to manage the lean season privately. This message is consistent throughout her interviews. There is a strong desire to manage education expenses by first using her husband's income. When this income is lacking, they use savings at home. She turns to other people in her household and not friends or extended family because “it is an honorable choice” and it “preserves respect for her household.” Yet, while she would not request help for small crises, she believes larger crises would require the help from one’s social network. These social networks make a household more resilient.

Helene had her own share of crises during the seven-month period, but she never seemed significantly impacted due to her savings. For example, she faced three funerals that required financial contributions from her household. She was ill and needed to visit the clinic. Again, she used her savings to cover this expense. Educational expenses were also mentioned as shocks during interviews 3 and 4 since four of her children are in school. She used savings as well as sold some grain and livestock to cover these expenses. She felt affected more by the education expenses than the funerals, but this may have more to do with the timing of the costs given education expenses were noted to occur during the lean season.

Overall, the health of her household is good, even though one of her family members suffers from a chronic illness. She saves money for health at home. She mainly uses her husband's income for health expenses, since he's the head of the household, and then they use her income followed by the savings kept at home. If the health problem is serious and urgent, they use both incomes and their savings; she prefers not to sell her livestock since she has a lot of experience conducting her IGAs and knows

how to save money. She knows RCPB offers a health savings account and health loan, but has never used this product because she keeps her savings for health at home. She also knows she can save for health-related expenses within her ODE savings group, but still prefers to keep the money at home.

Like many of the other women interviewed, Helene was sometimes afraid of her husband and she cannot leave home without first gaining permission from her husband. While she makes half of the household income, she also holds half of the household debt in her name, which makes her uncomfortable. She saves more than half of the household savings because her husband has less of a chance to save since he is responsible for most household expenses. While she indicates she shares most decisions with her husband, she wishes she had more influence on decisions made regarding the IGAs and the financial services they use. Helene feels that empowerment means “being able to establish one’s development plan without coercion.” She, unfortunately, does not feel empowered because she is forced to support certain household expenses.

Helene has been a member of an RCPB village bank for three years; she used her current loan to help pay for her children’s education. She has not been very satisfied lately with her membership because she feels it is difficult to access enough credit to invest in and adequately diversify her IGAs. But she would still recommend RCPB to friends and family because it offers the possibility to save money securely and there is access to credit to invest in IGAs. The best thing that happened since she joined RCPB was being able to buy a bike.

While Helene was not a member of ODE when the interviews started, she joined ODE soon after they began, further increasing her capacity to save her money. She also shares that she often receives money transfers from family via Airtel, which covers part of her financial expenses when there are shocks. For the most part, despite the lack of adequate credit, she feels she has access to all the financial services she needs.

Over the seven months, Helene’s attitudes toward life were generally optimistic. In Interview 1, her household had lost three oxen, which is a significant financial loss. She was unable to replace the oxen because she lacked the credit to do so. She shared that this event, “made me sad.” She also was not happy because her children were sick, but overall she felt positive for the future and felt somewhat able to meet her financial obligations. Throughout the remaining interviews, she generally was “somewhat” happy or hopeful toward the future, which is likely reflective of her capacity to face life’s challenges with her savings.

Marie—Not Resilient

Marie⁸ is 42 years old and lives in Samba, Burkina Faso. She is a member of an ODE savings group. She is married and the third wife in a polygamous household. She has four children, ages 9 to 21. In total, 18 people live in her household. She is illiterate. While all of her children are school-aged, only two attend school. One could not attend because of lack of means; the other was taken out of school for the same reason after he had to repeat a year. She is 75 percent likely to fall below the national poverty line, 89 percent below the \$1.25 international poverty line, and 50 percent below the USAID extreme poverty line. She is also chronically food insecure. During the seven months, she always scored as food insecure. In the first several interviews she shared that she and her children were often hungry. They rarely ate meat during this time. In fact, her husband had to buy millet on credit as they reduced their food consumption at the beginning of the lean season. She said this “tires us out and leaves us very anxious.”

8. Name has been changed to protect client’s privacy.

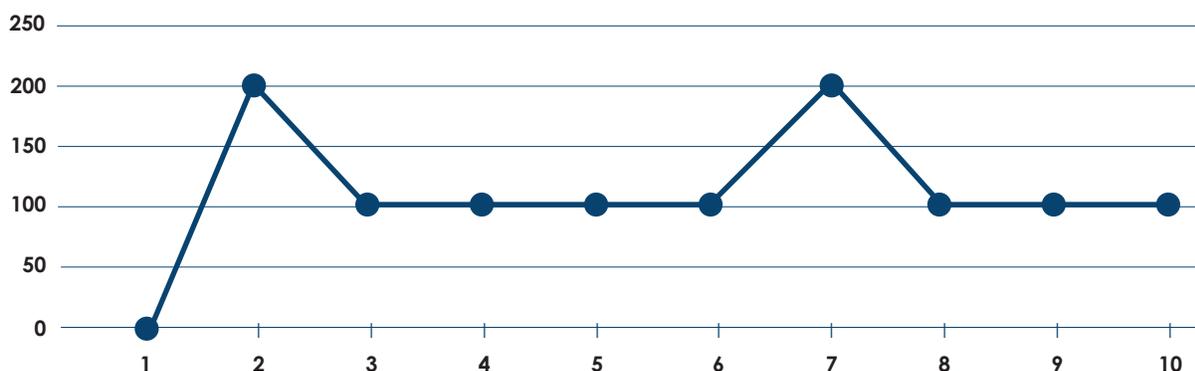
She remembers the prior food crisis; there was a lack of rain and they began to anticipate the bad harvest. “We went to the market and could not find millet to buy and we went for more than 24 hours in a row without eating.” Managing the food crisis was challenging. They ate babenda (a sauce made of wild leaves and peanuts), some family members had to migrate; they used up their savings, and sold all of their animals to survive. Marie thinks they use resources more rationally now, as a consequence of this experience. The community uses plows now; she and her family purchased a horse to work in the fields to make their work easier. But she does not really feel protected against the threat of a new food crisis as she and her family primarily rely on agriculture for their income. They generate income with marketable crops (sesame, cowpea, and peanuts), and they sell soft drinks. Marie shares that during difficult times, the sale of cowpea and soft drinks are the more reliable IGAs. During the 2011 and 2012 food crises, they relied on livestock farming, selling soft drinks, and purchasing on credit. Since then, they started growing sesame and started taking out loans from her ODE savings group. Sesame is the crop she counts on to cover the expenses important to her because it is more profitable and has a short growing season.

Now, in anticipation of the lean season, Marie says, “We stock our crops and diversify our IGAs. When the lean season arrives, we reduce our food consumption and purchase food on credit. To buy food, we prefer to use our income and purchase on credit. We will also use our savings held at home, sell our assets, and borrow money from others.”

Marie defines a resilient household as one where there is an understanding among members and diversifies its income, saves money consistently, and can access different financial services. **She does not consider her household resilient because they are food insecure and not in good health.** She feels she needs more financial support and inputs for agriculture as well as credit to invest in her IGAs for them to generate more income.

While Marie sees consistent savings as necessary for building household resiliency, she is forced to save fairly small amounts. For most months, she saves about 100 CFA. Even this small amount is a challenge, because she is also struggling to put food on the table. She equates her small savings amounts to being all she could manage or due to her IGAs not being that profitable.

Marie's Savings



Marie faces her fair share of shocks during the seven months. While the first three interviews she mentions the household's lack of food as the primary shock, food insecurity continues as a consequence to the health shocks she faces for many of the remaining interviews. Generally, she thinks the health of her husband and children is poor. In Interview 4, one of her children got sick, so she sought treatment at a local clinic, which cost her money and therefore, reduced food purchases. Three weeks later, for Interview 5, the child had to go to the hospital. In Interview 5, one of her co-wives falls ill and needs to seek treatment, which reduces household finances overall. In interviews 6 and 7, she had to pay school fees and struggles to do so by drawing down on all her resources. By Interview 8, her husband reports problems with his eyes, and he had to be hospitalized. For interviews 9 and 10, her "shocks" were described as her inability to repay her loan to her ODE savings group. She took a loan from her ODE group to pay for one of the medical consultations and for prescription medicines. In all the shocks experienced, the household had to reduce its food consumption, but she also used her savings, borrowed from her savings group, friends and family, and purchased food and other items on credit and started selling her harvest in advance. She wishes she could have access to credit so she could hold onto her grain longer.

Marie believes women suffer more during a crisis because if the children are ill, women have to stay at home with them; if there is a food crisis, men migrate to earn money, while the women are left at home alone with the children.

While Marie prefers to keep her crises private because she feels it is not honorable to share every problem, some shocks are just too serious to be dealt with alone. When there is a health crisis, she tries to keep this private because it could hurt the community's respect for her family. When faced with a death in the family, she has to rely on the community because funeral expenses are just too high.

While Marie faces many challenges, she generally is optimistic about the future her children will have. She thinks women today are doing better than during her mother's time because they can conduct IGAs (small business, livestock farming) and can access financial support through savings and credit groups. She thinks her daughters will do better because they are in school, which will allow them to have jobs or be civil servants. In addition, they will be able to enjoy their rights as women. Marie considers an empowered woman as one who has money and enough to eat and can conduct IGAs. She does not consider herself empowered because she has problems with money and food, and she is especially not free to conduct her IGAs as she wishes. She can access a loan only if her husband agrees, and then he is the one to decide how the loan will be spent.

Even though Marie is actively engaged in agricultural IGAs, she does not believe drought is predictable because she does not have in-depth knowledge of nature. She also thinks life is determined entirely by fate and she does not see herself as much of a risk-taker. She is prepared to do anything to help her family, but she is not very satisfied with life or very happy because the harvest this year was bad and her children's health was poor. The constant inability to feed her children and cover their expenses weighs on her.

Marie has been a member of an ODE savings group for almost two years. She is happy with her membership because it helps her meet her financial needs. She finds it valuable to work in a group because it offers guidance and support to her. The greatest achievement of her group, she feels, is "the offering of paid services to work in the fields," which helps her in two ways. She can pay others to help her in her field and she can reciprocate and be paid. It makes harvesting go much quicker. **She feels ODE has made it possible to invest in her IGAs and have food to survive, making it an important part of her ability to improve the life of her family.**

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