

# Northeast Nigeria Rural Resilience Study Recurrent Monitoring Survey (RMS) Round 2 Report

March 2023



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## Acronyms

ADP	Agricultural Development Programme
BAY-G	Borno, Adamawa, Yobe and Gombe states
C4R	Center for Resilience
HFIAS	Household food insecurity access score
HFIAP	Household food insecurity access prevalence
IDP	Internally displaced person
MFI	Microfinance Institution
MSD	Market systems development
MSME	Micro, small and medium enterprise
PICS	Purdue Improved Crop Storage
PoS	Point-of-service
REAL	Resilience Evaluation, Analysis, and Learning
RFS	[USAID's Bureau of] Resilience and Food Security
RMS	Recurrent Monitoring Survey
RRA	Rural Resilience Activity
SACCO	Savings and Credit Cooperative Societies
SEMA	State Emergency Management Agency
TANGO	Technical Assistance to Non-governmental Organizations
VSLA	Village Savings and Loans Association

## I. Introduction

This report presents findings from the second of four rounds of the Recurrent Monitoring Survey (RMS) of the Northeast Nigeria Resilience Study conducted by TANGO<sup>1</sup> International in partnership with Binomial Optimus Ltd, a Nigerian data collection and research firm. The study is commissioned by USAID's Bureau of Resilience and Food Security (RFS) and Center for Resilience (C4R), in collaboration with the USAID Nigeria Mission, under the Resilience, Evaluation, Analysis, and Learning (REAL) Award. The study aims to understand if and how a portfolio of resilience interventions can mitigate the negative impacts of shocks and stresses, avert humanitarian need, and improve well-being in the context of protracted crises. The RMS is among the suite of research activities TANGO will conduct under the study's umbrella to better understand the drivers of resilience in complex contexts characterized by high levels of internal displacement and conflict and economic and climate shocks.<sup>2</sup>

The focal activity for the Northeast Nigeria Resilience Study is the USAID Feed the Future-funded Rural Resilience Activity (RRA). RRA is a five-year (2019-2024) USD 49 million activity implemented by Mercy Corps in partnership with Save the Children International and the International Fertilizer Development Center in the states of Borno, Adamawa, Yobe, and Gombe (BAY-G) in northeast Nigeria. RRA aims to facilitate and protect economic recovery and growth in vulnerable, conflict-affected areas and sustainably move people out of chronic vulnerability and poverty by expanding access to market services. The activity has multiple components that focus on market-systems strengthening layered with peacebuilding interventions and a short-term humanitarian assistance COVID-19 response, primarily in the form of cash transfers.<sup>3</sup>

This report compares Round 1 (R1) and Round 2 (R2) RMS results. It presents findings on changes in household well-being over time and changes in the key drivers of household resilience, including the use of targeted market services and improved practices. Results are expected to inform the design and implementation of the next round of the RMS and, where applicable, to refine RRA's intervention approaches and targeting.

Section 2 provides an overview of the country context during the data collection period to help contextualize results. Section 3 presents findings from the qualitative and quantitative components of the study, and Section 4 outlines conclusions and recommendations. In the interest of brevity, the main report covers only key findings. Additional details on the study methodology, definitions of key terms, and statistical analyses are given in Annexes I - 4.

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<sup>1</sup> Technical Assistance to Non-governmental Organizations

<sup>2</sup> In addition to the RMS, the REAL Northeast Nigeria Resilience study includes additional and sequenced qualitative components.

<sup>3</sup> Note: in Year 3, RRA received an additional USD 15 million in funding to provide humanitarian assistance to households particularly hard-hit by the COVID-19 pandemic and an additional USD 4 million to mitigate the impacts of the Ukrainian war.

## 2. Country Context

Round 2 of the RMS overlapped with the main harvest season for most cereals and tubers (see **Error! Reference source not found.**). It also coincided with the worst flooding the country has experienced in the past decade. Flooding destroyed farmlands, roads, bridges, and markets, disrupting markets, farming, and livelihood activities. According to FEWS NET, flooding, the high cost of agricultural inputs, and conflict and insecurity contributed to below-average harvests in October-November 2022. Despite these challenges, production in the northeast was reportedly higher than last year.<sup>4</sup>

The destruction of bridges connecting the northern and southern states exacerbated food and fuel supply issues. Households and markets continue to grapple with high transportation costs due to fuel shortages. The depreciation of the Naira, and inflation, have also been relevant issues. Although inflation remained relatively stable between September and November, November's 21.5% inflation rate was higher than the year before.<sup>5</sup> Ongoing inflation continues to impact the purchasing power of households.<sup>6</sup> In addition, the Central Bank of Nigeria (CBN) launched the new Naira banknotes on November 23, 2022 in order to curb money laundering<sup>7</sup> and gave the public until January 31, 2023 to deposit their old notes in the banks.<sup>8</sup> CBN later extended the deadline for depositing old notes to February, 10, 2023.<sup>9</sup> The scarcity of new notes created hardship for Nigerians, including the inability to access cash from banks and limits on cash withdrawals, increased fees charged by point-of-service (PoS) providers for cash withdrawals and transfers, and a general disruption to market transactions because of the lack of currency in circulation.<sup>10</sup>

The incidence of violence in the northeast has been stable and reportedly lower than in the northwest and north-central regions of the country. Conflict in the northeast has occurred in localized areas in Borno State and has improved overall over the course of the past year. Banditry, kidnapping, and general insecurity increased mostly in the northwest and north-central areas. Notably, displacement in the northeast increased due to conflict caused by insurgents, military strikes, and flooding. In October 2022, IOM recorded a new wave of internally displaced persons (IDPs) arriving at camps in Adamawa and Borno.<sup>11</sup> In general, displaced people are remaining within their home communities and sheltering with relatives.<sup>12</sup>

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<sup>4</sup> [FEWS NET. 2022. Nigeria Food Security Outlook October 2022 to May 2023.](#)

<sup>5</sup> Nigeria National Bureau of Statistics. Consumer Price Index November 2022.

<sup>6</sup> [FEWS NET. 2022. Nigeria Food Security Outlook October 2022 to May 2023.](#)

<sup>7</sup> [FEWS NET. 2022. Nigeria Food Security Outlook October 2022 to May 2023.](#)

<sup>8</sup> [Central Bank of Nigeria. ND. Frequently Asked Questions and Answers on the Naira Redesign.](#)

<sup>9</sup> [Press Statement by Godwin Emefiele, Governor, Central Bank of Nigeria, January 29, 2023. On Progress of Implementation of New Redesigned Currency by the Central Bank of Nigeria.](#)

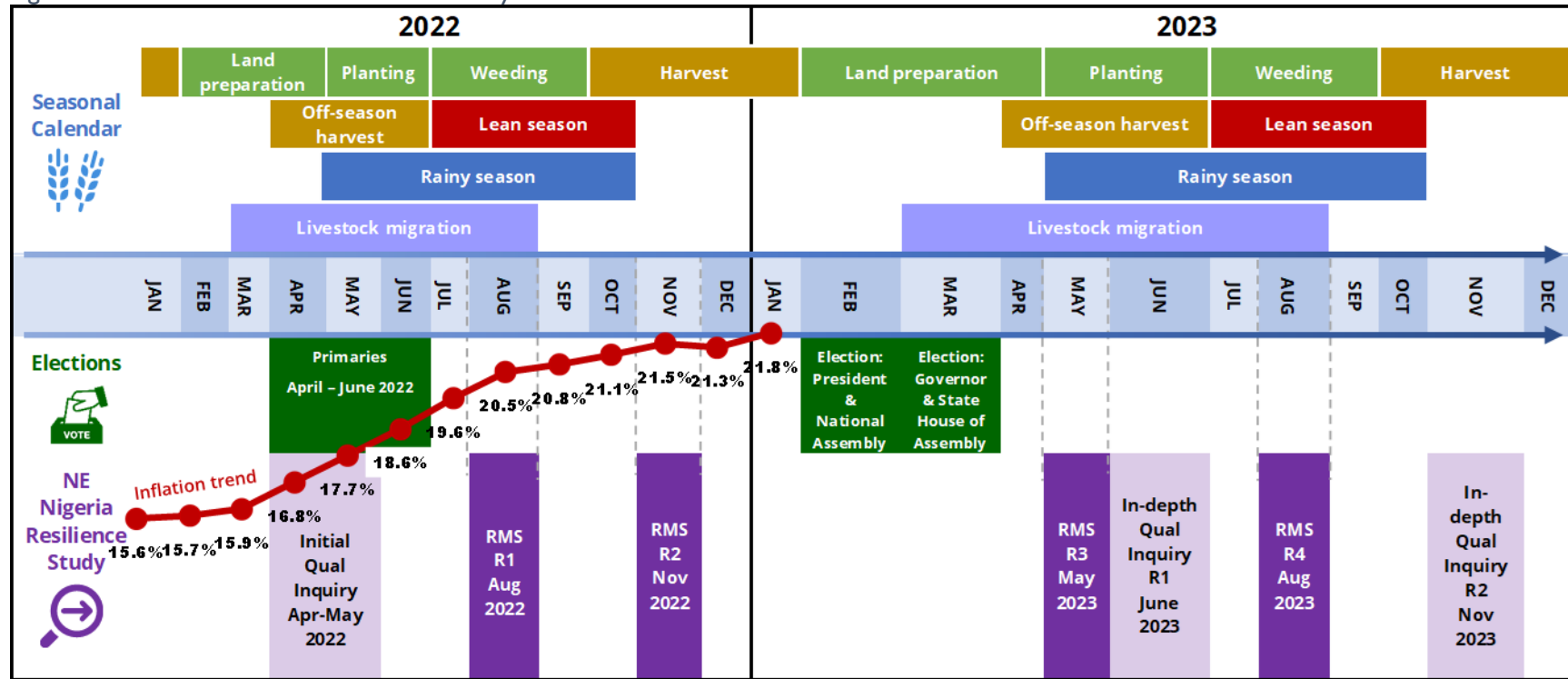
<sup>10</sup> The Premium Times Nigeria. March 21, 2023. "[Naira Redesign: Nigerians grapple with hardship as PoS transaction charges jump 400%.](#)"

<sup>11</sup> [IOM Displacement Tracking Matrix \(DTM\). Nigeria Emergency Tracking Tool Report 298 \(17-23 October 2022\).](#)

<sup>12</sup> [FEWS NET. 2022. Nigeria Food Security Outlook October 2022 to May 2023.](#)



Figure I. Seasonal calendar and timeline of key events



Sources: FEWS NET (2013) Seasonal Calendar: Nigeria (December 2013). INEC (2022) Timetable & Schedule of Activities for 2023 General Election. Central Bank of Nigeria. Inflation Rates Statistics 2022.

### 3. Findings

The first round of the RMS measured three aspects of household resilience: absorptive, adaptive, and transformative capacities. Figure 2 presents the key components of household resilience in the RRA areas, based on R1 data analysis.

Figure 2. Key components of household resilience in RRA areas, based on R1 data analysis

Adaptive resilience capacity	Absorptive resilience capacity	Transformative resilience capacity
<ul style="list-style-type: none"> <li>• Asset ownership</li> <li>• Bonding social capital</li> <li>• Insurance</li> <li>• Access to savings</li> <li>• Access to humanitarian assistance</li> </ul>	<ul style="list-style-type: none"> <li>• Information exposure</li> <li>• Asset ownership</li> <li>• Livelihood diversification</li> <li>• Linking social capital</li> <li>• Bridging social capital</li> <li>• Aspirations/confidence to adapt</li> <li>• Social networks</li> </ul>	<ul style="list-style-type: none"> <li>• Basic services</li> <li>• Infrastructure</li> <li>• Extension services</li> <li>• Markets</li> <li>• Formal safety nets</li> <li>• Local government responsiveness</li> </ul>

NOTES: Based on the magnitude of factor loadings from analyses conducted using R1 data. Items with factor loadings of 0.5 and higher are considered “important” components of resilience in the study areas. Please refer to Annex 2 for the full list of indicators that comprise each capacity.

R2 data analysis focused on statistical comparisons of key indicators to understand changes between R1 and R2 in household well-being and the key drivers of household resilience, such as the ability to save, asset ownership, livelihood diversification, and social capital.<sup>13</sup> “Change” in an indicator is defined as a difference between rounds that is statistically significant at the  $p < 0.05$  level. The study team conducted additional analyses to better understand the characteristics and behaviors of food-secure households compared to food insecure households. It also explored the relationship between information exposure and the use of targeted market services and improved business and production practices. To better understand the characteristics of IDP households in the RRA areas, the study team conducted additional bivariate analyses to explore how they may differ from non-IDP households in key components of adaptive and absorptive resilience (e.g., asset ownership, social capital, information exposure) as well as in their use of targeted market services and improved practices. All results are weighted to account for the probability of selection and household non-response.

The influence of the recall period and seasonality on the data collected should be taken into consideration when interpreting results. R1 had a more extended recall period (twelve months) compared to R2 (three months); in the longer recall period, households are likely to report more events, activities, etc., because of the longer timeframe involved. In addition, many of the indicators measured by the survey (e.g., shocks, food consumption, application of farming practices) are affected by

<sup>13</sup> R2 collected data for components of household adaptive and absorptive resilience capacities that are expected to change between rounds. Components of transformative capacity were not measured in R2 because they are community-based and not expected to change in 3 – 4 months (the approximate interval between survey rounds).

seasonality; these indicators may be expected to fluctuate across seasons.<sup>14</sup> The influence of recall period and seasonality on fluctuations in indicator estimates between rounds is corroborated across similar RMS surveys in Kenya.<sup>15</sup>

### 3.1. Food Security

Table I illustrates food insecurity patterns in the RRA areas and shows no change between rounds. More than three-quarters of households are moderately-to-severely food insecure.<sup>16</sup> RMS R2 findings are consistent with FEWS NET Food Security Outlook for October 2022 – May 2023, which predicted widespread Crisis (IPC Phase 3) and Stressed (IPC Phase 2) outcomes during the harvest period.<sup>17</sup> FEWS NET notes that despite the damage from flooding, food access improved for many households due to the availability of the harvest. Many households still experienced consumption shortfalls due to the lower-than-average harvest and limited purchasing power. Moreover, FEWS NET expects Crisis (IPC Phase 3) outcomes to become more widespread in February – May 2023, after food stocks are depleted and households become more market reliant.<sup>18</sup>

Table I. Household food insecurity in the RRA areas, R1 and R2

	Average R1	Average R2	Sig.
Average household food insecurity access score (HFIAS, 0-27)	10.1	10.2	ns
Household food insecurity access prevalence (HFIAP) (%)			
Food secure	15.4	16.2	ns
Mildly insecure	4.3	5.7	ns
Moderately insecure	22.8	23.5	ns
Severely insecure	57.5	54.7	ns
Index of shock exposure (0-256)	44.0	35.5	ns
Number of households	1,012	1,004	

\*\*\* p<0.001, \*\* p<0.01, \* p<0.05, ns = statistically nonsignificant p<0.1.

NOTES: The reference period for the household food insecurity access score and prevalence is 30 days before the survey.

The distribution of households by food insecurity condition did not change between rounds, with a few exceptions.<sup>19</sup> For example, fewer households in R2 scaled back the number of meals consumed per day (R1 69.2%, R2 61.9%, p<0.05) than in R1, but more households were unable to eat preferred foods (R1 60.3%, R2 77.2%, p<0.01).

<sup>14</sup> The RMS captures information across 12 months to account for fluctuations across an entire seasonal calendar. While seasonal effects are likely to influence round-by-round comparisons, the planned panel analyses utilizing four rounds of data is expected to provide a better understanding of the relationship between key indicators and programming-related services, while controlling for seasonal factors.

<sup>15</sup> [PREG RMS I: Bower, T., Mueller, M., Downen, J., Finan, P., and Langworthy, M. 2022. PREG II Impact Evaluation Report of Recurrent Monitoring Survey 2019–2020. Washington, DC: Resilience, Evaluation, Analysis and Learning \(REAL\) Associate Award.](#) For other references see: i) TANGO International. Partnership for Resilience and Economic Growth (PREG). Kenya. Recurrent Monitoring Survey (RMS-2) Round 1 Results. Presentation. April 2022. ii) TANGO International. Partnership for Resilience and Economic Growth (PREG). Kenya. Recurrent Monitoring Survey (RMS-2) Round 2 Results. Presentation. September 2022. iii) TANGO International. Partnership for Resilience and Economic Growth (PREG). Kenya. Recurrent Monitoring Survey (RMS-2) Rounds 1, 2 and 3 Results. Presentation. December 2022.

<sup>16</sup> Refer to Annex 3, Table A3.1 for additional details.

<sup>17</sup> [FEWS NET. 2022. Nigeria Food Security Outlook October 2022 to May 2023.](#)

<sup>18</sup> [FEWS NET. 2022. Nigeria Food Security Outlook October 2022 to May 2023.](#)

<sup>19</sup> Refer to Annex 3, Table A3.2 for additional details.

Results from the food consumption module indicate shifts in households' diets between rounds (see Table A3.3). In R2, households consumed oil, roots and tubers, vegetables, and dairy<sup>20</sup> less frequently than in R1. On the other hand, the consumption of fish, fruits, and pulses increased. Below-average production of tubers due to the impact of flooding could account for the decrease in the consumption of tubers. Milk production is typically higher in the rainy versus dry season, which can explain the higher consumption of dairy in R2.

The qualitative data show households switching to less preferred or more readily available foods in R2, such as foods self-grown or grown in the community, rather than imported, processed, or store-bought foods. Focus groups captured examples of this shift, whereby households reported a switch from eating rice or spaghetti to eating Nigerian swallow (cooked dough made from roots, tubers and vegetables) and maize chaff (dry protective casing of the seeds). Households are now consuming the food they harvest such as maize, rice, millet, and groundnuts, while before the period of high inflation, they ate processed foods such as spaghetti, couscous, and foreign rice. In addition, many households have significantly reduced their meat consumption due to prohibitively high prices. On the other hand, fish consumption increased coinciding with the fishing season in September and October. Notably, one focus group in Adamawa stated that fishing was especially fruitful this last season due to the flooding.

### 3.2. Shocks, Coping Strategies, and Shock Preparedness

#### Shocks

Table 2 illustrates top shocks and stresses, shock count, and shock exposure index in the RRA areas.<sup>21</sup> The top shocks and stresses across rounds are increased prices for food, fuel and inputs; crop, livestock and human disease; and weather-related shocks. Price inflation remains a top shock, but in R2, fewer households reported increases in food prices (R1 94.0%, R2 75.9%,  $p < 0.001$ ) and input prices (R1 69.9%, R2 52.8%,  $p < 0.001$ ). Qualitative interviews indicate that food prices have not decreased as much as households expected based on previous years. Findings from the qualitative data are consistent with FEWS NET reporting for this period, which reports that the price of staple foods decreased modestly between September and October, due to the harvest, but remains very high due to high transportation costs and other inflationary pressures.<sup>22</sup>

The percentage of households experiencing energy cuts (R1 35.6%, R2 14.9%,  $p < 0.001$ ) and fuel shortages decreased (R1 25.2%, R2 18.9%,  $p < 0.05$ ) in R2, but more households are impacted by high fuel prices (R1 71.1%, R2 78.4%,  $p < 0.05$ ). The latter finding is consistent with FEWS NET reporting for this period, which indicates that the destruction of main roads due to flooding exacerbated price inflation for fuel.<sup>23</sup>

<sup>20</sup> "Dairy" includes milk consumption.

<sup>21</sup> Refer to Annex 3, Table A3.4 for additional details on shock exposure.

<sup>22</sup> [FEWS NET. 2022. Nigeria Food Security Outlook October 2022 to May 2023.](#)

<sup>23</sup> [FEWS NET. 2022. Nigeria Food Security Outlook October 2022 to May 2023.](#)

Table 2. Top shocks and stresses, shock count and exposure index in the RRA areas, R1 and R2

	Average R1	Average R2	Sig.
Percentage of households experiencing a shock or stressor			
Increased food prices	94.0	75.9	***
Increased fuel prices	71.1	78.4	*
Increased agricultural input prices	69.9	52.8	***
Human disease	68.0	64.8	ns
Illness/death/health expenses	54.4	44.7	**
Crop pests	51.9	55.6	ns
Excessive rains/ flooding	43.0	58.1	**
Variable rain/drought	42.1	13.2	***
Livestock disease	41.7	32.4	***
Soil degradation	35.8	23.2	**
Energy cuts	35.6	14.9	***
Crop disease	34.2	36.8	ns
Weeds	28.4	22.2	*
Fuel shortage	25.2	18.9	*
Reduced sales	21.5	8.0	***
Theft or destruction of assets	20.4	14.0	*
Input shortages	20.4	19.8	ns
Number of shocks experienced (0-32)	8.9	7.0	ns
Index of shock exposure (0-256)	44.0	35.5	ns
Number of households	1,012	1,004	

\*\*\* p<0.001, \*\* p<0.01, \* p<0.5, ns = statistically nonsignificant p<0.1.

NOTES: The recall period for R1 was 12 months before the survey, while the recall period for R2 was three months before the survey (i.e., the interim period between R1 and R2).

The prevalence of households experiencing variable rain/drought declined from 42.1% to 13.2% ( $p<0.001$ ), but the percentage of households experiencing excessive rains/flooding increased from 43% to 58.1% ( $p<0.01$ ). FEWS NET<sup>24</sup> notes that Borno, Adamawa, and Yobe were among the states most affected by flooding, and qualitative interviews confirm the widespread impacts of flooding on farms. Although the recall period for data collection overlapped with the flooding period, when livestock disease typically increases, the prevalence of livestock disease declined between rounds; this finding is, potentially a result of a more extended recall period for R1 than R2. About two-thirds of households experienced human disease; this did not change between rounds. The study team expects the spread of cholera, malaria, diarrhea, and other water- and vector-borne diseases to remain high because of flooding, especially in the northeast. The country has been grappling with a cholera outbreak since January 2022, with Borno and Yobe among the states most hard hit.<sup>25</sup> The displacement of people from flood affected areas to unaffected areas has the potential to further spread diseases.<sup>26</sup>

The RMS quantitative results showed a decrease between rounds in reports of theft or destruction of assets (R1 20.4%, R2 14%,  $p<0.05$ ) and conflict over natural resources (R1 8.4%, R2 3.1%,  $p<0.01$ ), and no change in community insecurity or violence (under 5% in both rounds) or households experiencing displacement (2% or lower). On the other hand, qualitative interviews indicate that the risk of conflict and theft continues to impact households and merchants. For example, respondents indicate that

<sup>24</sup> FEWS NET. 2022. [Nigeria Food Security Outlook October 2022 to May 2023](#).

<sup>25</sup> [Nigeria Center for Disease and Prevention. Cholera Situation Report. Epidemiological week 36 - 39: \(5 September to 2 October 2022\)](#).

<sup>26</sup> FEWS NET. 2022. [Nigeria Food Security Outlook October 2022 to May 2023](#).

communities continue to experience kidnapping and theft; farmers and businesses expressed apprehension about traveling with large harvests or inventories of agricultural input supplies for fear of robbery and kidnapping, saying perpetrators target people who are visibly wealthy. In addition, interviews frequently mentioned theft of harvest from farms.

Farmers also recounted conflict with herders around livestock grazing of crops ready for harvest, theft, harassment, and violence. In some cases, a source of conflict is that farmers now cultivate lands designated as pathways for herders and livestock, leading to a loss of grazing land available to herders. A few informants reported improved relations through increased dialogue between the two groups' leaders. In some cases, herders and farmers reached a resolution by designating specific areas off-limits to farming and creating pathways for herders to let their livestock pass. In these agreements, herders promise to compensate farmers for any destroyed crops, and the community leader, jointly with the herder leader, ensures accountability around complaints of violence, harassment, and theft. However, farmers also report frustration that they cannot farm in off-limits areas, such as hillsides, and the reduction in arable farmland may give rise to new conflicts in the next cultivation season.

There are a few reasons to expect the RMS data to reflect a low level of conflict, in contrast to the qualitative findings. First, much of the conflict is in other geographic areas. For example, while FEWS NET reports an increase in kidnapping, banditry, and herder-farmer conflict, these increases occurred in the northcentral and northwestern states (namely Zamfara and Katsina)—outside of the study states. Additionally, the rise in conflict is said to have occurred in localized areas in Borno State, rather than throughout the study area.<sup>27</sup>

The qualitative data illustrate changes in displacement dynamics over the last three months, mainly due to flooding. From August through October 2022, flooding affected parts of Gombe and Adamawa, particularly communities along the Benue and Gongola riverbanks. Households affected by the flooding scattered and found refuge in neighboring communities unaffected by the flooding. Some displaced people found shelter in local schools, hospitals, IDP camps, and relatives' houses. Others remained in their home community but relocated to public facilities unaffected by the floods (e.g., schools, hospitals, and community centers). In addition to flooding, insecurity and banditry in Zamfara and Katsina states contributed to displacement, driving new IDPs into the northeast region. Concurrently, some IDPs from Borno and Yobe states have returned to their home communities due to waning conflict. The resettlement program initiated by the Borno State government also draws returnees back as the government pledges to build houses for IDP families willing to return to their ancestral homes.

### Coping Strategies

Table 3 shows the top coping strategies households use to deal with shocks and stresses.<sup>28</sup> The most common coping strategies in R2 continue to include a combination of reducing food consumption, change in diet quality, and borrowing food or money. Focus group participants across all states report reduced food consumption: many eat only two meals a day. Households and businesses report that many people no longer buy food in bulk, but instead purchase it day-by-day, even on credit.

A significantly lower percentage of households dipped into their savings to cope with shocks (R1 42.4%, R2 11.7%,  $p < 0.001$ ). This finding is expected given that R1 coincided with the lean season, when reliance

<sup>27</sup> [FEWS NET. 2022. Nigeria Food Security Outlook October 2022 to May 2023.](#)

<sup>28</sup> Refer to Annex 3, Table A3.5 for additional details on households' full suite of coping strategies.

on savings would be expected to be higher than the harvest period, when income from the sale of harvest is available.<sup>29</sup>

Table 3. Top coping strategies of households impacted by shocks, RRA areas, R1 and R2

	Average R1	Average R2	Sig.
Percentage of households that used [strategy] to cope with a shock			
Reduced food consumption	62.8	54.1	***
Sought help at a health clinic	52.0	58.0	ns
Consumed less nutritious foods/fewer types of food	49.2	45.7	ns
Used own savings	42.4	11.7	***
Borrowed money or food from friends or relatives	41.3	37.3	ns
Took up new/additional work	34.7	17.9	***
Reduced non-essential household expenses	29.8	27.1	ns
Engaged in spiritual efforts	28.6	24.7	ns
Sold livestock	21.4	18.6	ns
Gift of money or food	18.6	6.5	***
Got food on credit from a local merchant	11.3	6.2	*
Borrowed from a moneylender	10.1	6.3	ns
Number of households experiencing at least one shock	1,008	998	

\*\*\* p<0.001, \*\* p<0.01, \* p<0.05, ns = statistically nonsignificant p<0.1.

NOTES: Includes households that experienced at least one shock. The recall period for R1 was 12 months before the survey, while the recall period for R2 was three months before the survey (i.e., the interim period between R1 and R2).

On the other hand, storing harvest and grains was widely reported in the R2 qualitative interviews in all states; this finding is corroborated in the module on shock mitigation strategies.<sup>30</sup> In previous years, the harvest season was known as “money time” because farmers take their yields to the market to sell their produce. However, due to recent economic hardship from low yields, some farmers are reluctant to sell their grains and instead opt to set aside grains and harvest in anticipation of future food shortages, or to sell later once prices have increased. In Yobe, a VSLA member reported, “The government is advising farmers not to sell all their farm product, but to save the product so their family can eat before the next rainy season and harvest period.”

*"Some people are storing their grains for household consumption, not to sell because what they were able to harvest is not even enough to feed the house, let alone sell. Imagine harvesting only three bags of groundnut from a farm where you planted two bags; the only difference between what you planted and harvested is one bag. Mind you; you would have spent a lot on the farm, from renting the land, purchasing seedlings, fertilizers, and herbicides, and even paying laborers to work on the farm, and the only thing you get is one bag. This means you are at a loss." ~ Female KII, VSLA, Adamawa*

The percentage of households receiving gifts of food or money (R1 18.6%, R2 6.5%, p<p.001) or food on credit from a local merchant (R1 11.3%, R2 6.2%, p<0.05) declined between rounds. This may be because the availability of the main harvest, though lower than expected, nevertheless improved food access temporarily, reducing the need to obtain food on credit or gifts of food or money. The qualitative data provide insight into household use of credit. The qualitative data from Borno indicate some households often purchase farm inputs and food on credit: households attribute the procurement of inputs on credit to diminished purchasing power that has resulted from flooding and inflation. Moreover,

<sup>29</sup> The percentage of households saving cash did not change between rounds, but it is not possible to infer from the survey data whether there are any changes in the amount of cash saved.

<sup>30</sup> See discussion in the Shock Preparedness and Mitigation subsection of Section 3.2.

households obtain food and household goods on credit because of inflation. One market food seller in Gombe estimates 30% of his customers buy grains on credit.

One possible explanation for the decline in borrowing reflected in the quantitative findings is the preponderance of households defaulting on payments, mainly due to the impact of flooding on their anticipated income streams. Defaulting on loans was mentioned frequently as a coping strategy in R2, particularly in Adamawa. Traders and input suppliers say the inability to repay is a bigger problem this year than in previous years. There is a common sentiment among agricultural input suppliers that households who are unable to pay will do so eventually, without them having to seek specific avenues for recompense. One input supplier in Borno says he is not concerned about taking extra measures to get repaid since the borrowers are either his family or he knows them well and he trusts that they will pay him when they are able.

*“In the over 25 years of my involvement in this business, I have never gone to a police station or hired a lawyer to try and get back my money. . . Of a truth, I was born in this town and spent most of my life here in this town, and gave birth to all my children here, so most of those who come to collect inputs on credit are my relatives . . . very few are outsiders, so I don’t usually take any extra measure to get back my money, I know that when they have, they will pay up.”* ~Male KII, agricultural input supplier, Borno

The quantitative survey data indicate a decrease in the percentage of households shifting to a new crop or new types of improved agricultural or livestock products. The percentage of households taking up new or additional work (R1 34.7%, R2 17.9%,  $p < 0.001$ ) also declined. These findings are consistent with the livelihoods module,<sup>31</sup> which showed a decline in the average number of livelihood activities. They also align with findings from FEWS NET<sup>32</sup> that underscore disruption in livelihood and market activities due to flooding and conflict.<sup>33</sup>

While the survey data illustrate an overall decline in households shifting to new crops, qualitative interviews show that some households coped with the impacts of flooding by switching to short-cycle crops (e.g., away from maize to beans or potatoes) and pursuing dry-season agriculture. The qualitative interviews indicate interest from households and a push by businesses to engage in dry-season farming to recoup monetary losses and the loss from low harvests. Agricultural input suppliers give farmers inputs, often on credit, to engage in dry-season agriculture. According to interviews in all states, dry-season farming is usually performed by men rather than women due to its difficulty and time and resource requirements; women are stated to prioritize domestic family responsibilities and often lack the resources to acquire equipment such as hoses, pumps, and fuel. Thus, women are said to mostly farm during the rainy season and engage in other livelihood activities during the dry season, such as food processing and petty trade. However, a key informant in Borno described women’s engagement in dry-season farming for crops that are less labor-intensive, such as onions, tomato, and pepper.

The shift to dry-season farming is part of a broader interest in diversifying livelihoods to cope with ongoing stressors and supplement household income. Focus group participants and key informants in all states discussed new or additional ventures that households engaged in to counter the effects of inflation and the poor harvest. There is mention of youth becoming more entrepreneurial: they now engage in small businesses such as selling household items like torchlights, batteries, and phone

<sup>31</sup> See Section 3.3. Assets and Livelihoods.

<sup>32</sup> [FEWS NET. 2022. Nigeria Food Security Outlook October 2022 to May 2023.](#)

<sup>33</sup> Annex 3, Table A3.5 illustrates the percentage of households that shifted to new crops not grown before or new types of improved agricultural/livestock products, by round.



accessories. Youth also perform daily wage labor, such as bricklaying, painting, farmhand labor, carpentry, tailoring, and transportation.

## Recovery

Households are considered to have recovered from a shock if they report that they fully recovered to the same as before a shock, recovered to better than before the shock, or were not impacted by the shock. Table 4 illustrates a decline in the percentage of households recovering from the most commonly experienced shocks.<sup>34</sup> Recovery from shocks is expectedly higher in R1 than R2, given the differences in the recall period, as recovery is more likely over a longer time.

Table 4. Recovery from top shocks experienced by households, RRA areas, R1 and R2

	Average R1	Average R2	Sig.
Percentage of households recovering from the shock or stressor			
Increased food prices	9.2	5.6	ns
Increased fuel prices	16.7	6.7	***
Increased input prices	7.6	8.3	ns
Human disease	52.6	44.2	*
Illness/death/health expenses	29.6	27.1	ns
Crop pests	20.2	10.1	***
Excessive rains/ flooding	17.9	7.5	***
Variable rain/drought	25.6	4.0	**
Livestock disease	30.0	31.1	ns
Soil degradation	16.3	12.2	ns
Energy cuts	46.0	49.4	ns
Crop disease	14.3	7.3	*
Weeds	16.6	10.3	*
Fuel shortage	25.4	10.7	**
Reduced sales	3.2	13.7	ns
Theft or destruction of assets	20.6	10.9	ns
Input shortages	13.4	5.0	**

\*\*\* p<0.001, \*\* p<0.01, \* p<0.5, ns = statistically nonsignificant p<0.1.

NOTES: The sample size for each shock differs because it includes only the subsample of households that experienced the shock; see Annex 3, Table A3.6 for details. The recall period for R1 was 12 months before the survey, while the recall period for R2 was three months before the survey (i.e., the interim period between R1 and R2).

## Shock Preparedness and Mitigation

Table 5 shows the top shock preparedness strategies used by households.<sup>35</sup> The fraction of households that prepare for the impact of future shocks (close to two-thirds) did not change between rounds. There was no change in the percentage of households increasing savings (about 20 percent, but the percentage of households putting aside grains increased between rounds (R1 23.8%, R2 36.7%, p<0.001). As noted above (see Coping Strategies), storing harvest and grains in anticipation of a future food shortage was widely reported in the R2 qualitative data.

The percentage of households switching to different types of livestock almost doubled (R1 4.7%, R2 9.9%, p<0.05). There was no change in the percentage of households switching to different crops (though the discussion – in the previous section – of the shift to dry-season farming is relevant here).

<sup>34</sup> Refer to Annex 3, Table A3.6 for data on recovery from the full suite of shocks.

<sup>35</sup> Refer to Annex 3, Table A3.7 for data on the full suite of shock mitigation strategies.

Qualitative interviews indicate an interest in switching to short-cycle and flood-resistant varieties to mitigate against the impact of future shocks.

*“Last week, some farmers came to seek knowledge on the right variety that can withstand flooding. To me, that's impressive and it shows what farmers are doing or planning for future shocks like flooding. Mostly here, we are not used to these varieties (flood tolerant crops), but in places like Niger State, because they have rivers, they know these varieties. Ahmadu Bello University is working to develop this type of variety. Since they are showing interest, now we can source these varieties, so our farmers can plant. This variety can withstand flooding for three weeks, even if the land is submerged.”* ~Male KII, agricultural service provider, Adamawa

Although qualitative interviews underscore the importance of livelihood diversification as a coping strategy,<sup>36</sup> the quantitative survey data indicate fewer households are mitigating the impact of future shocks by diversifying their livelihoods. For example, the percentage of households that added an additional agricultural activity declined from 41.2% to 28.3% ( $p < 0.001$ ). The percentage of households that diversified into an agricultural livelihood decreased from 7.9% to 4.8% ( $p < 0.05$ ). The percentage of households that diversified into a non-agricultural activity dropped from 11.4% to 4.4% ( $p < 0.05$ ). These findings are consistent with those of the livelihoods module, which shows a decline in the average number of households' livelihood activities.

Table 5. Household shock preparedness and mitigation, RRA areas, R1 and R2

	Average R1	Average R2	Sig.
Percentage of households that used [strategy] to cope with a shock			
Added additional agricultural activity	41.2	28.3	***
Added additional non-agricultural activity	28.9	30.3	ns
Put aside grains	23.8	36.7	***
Increased savings	20.6	19.0	ns
Diversified into non-agricultural activity	11.4	4.4	*
Switched to different crop(s)	9.6	10.3	ns
Diversified into an agricultural livelihood	7.9	4.8	*
Switched to different livestock	4.7	9.9	*
Changed from ag to non-ag livelihood	1.3	2.0	ns
Changed from non-ag to ag livelihood	0.9	1.5	ns
Number of households	1,012	1,004	

\*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$ , ns = statistically nonsignificant  $p < 0.1$ .

NOTES: Refers to mitigation practices performed at or around the time of the survey.

### 3.3. Assets and Livelihoods

Asset ownership is an important component of households' absorptive and adaptive resilience capacity. The average score for the index of asset ownership (0 – 66) decreased slightly from 12.0 to 11.6 ( $p < 0.01$ ).<sup>37</sup>

Livelihood diversification plays a vital role in the ability of households to better prepare for and adapt to future shocks (i.e., adaptive capacity). However, the average number of livelihood activities also declined slightly from 4.9 to 4.2 ( $p < 0.001$ ). The recall period from R1 was more extended than R2, so the average number of livelihoods reported in R1 is expectedly higher.

<sup>36</sup> See discussion in the earlier subsection, Coping Strategies.

<sup>37</sup> Refer to Annex 3, Table A3.8 for details on household asset ownership by round.

The qualitative interviews confirm the widespread impact of recent flooding on farming and market access. Communities in all states made frequent mention of isolation due to collapsed bridges, flooding, and the roads to markets becoming inaccessible. This presented considerable challenges for households, as well as input suppliers and agricultural extension agents, who were unable to reach communities due to flooding. Farmers reported widespread destruction of farmland and harvests over the previous three months due to the flooding. One community focus group in Borno said that over 80% of their farmers were affected by the flooding, which resulted in significantly reduced yields.

*“The way it was in August was better; at least we had hope of a good harvest, but now no harvest, some of us are in debt, and still the prices of food are still going up.”* ~Male FGD, Borno

A female focus group discussant in Gombe stated that many people lost their livelihoods over the past three months, noting that grain traders and farmers face the greatest hardship. Businesses, such as grain traders, blame inflation and the high cost of capital for the difficulties they are experiencing, and note that this economic hardship was exacerbated by the flooding, which led to a poor harvest. Youth also reported losing income from farming and pursuing other options, such as trading, haircutting, and menial work.

*“Formerly, these young men only depended on the returns from their farming, but with the losses this year, they are now engaging in other alternative sources of livelihood.”* ~Male FGD, Borno

Table 6 presents the top sources of households’ food and income and indicates no change between rounds, with a few exceptions.<sup>38</sup> Most households engaged in farming and crop production and integrated those activities with livestock production and wage labor. The qualitative data corroborate that despite the flooding, farming and harvest activities continue to be the main livelihood source for communities.

Table 6. Top sources of household food or income, RRA areas, R1 and R2

	Average R1	Average R2	Sig.
Percentage of households engaged in a livelihood activity			
Own farming/crop production and sales	72.5	62.7	ns
Borrowing	53.3	51.6	ns
Agricultural wage labor (within the village)	50.6	40.4	*
Own livestock production/fattening and sales	45.6	39.9	ns
Non-agricultural wage labor (within the village)	41.7	42.0	ns
Petty trade	26.6	20.1	***
Non-agricultural wage labor (outside the village)	25.5	25.7	ns
Other agricultural self-employment/own business	25.2	23.2	ns
Agricultural wage labor (outside the village)	24.4	18.2	ns
Gifts/inheritance	24.3	13.5	*
Other non-agricultural self-employment/own business	21.8	26.2	ns
Number of households	1,012	1,004	

\*\*\* p<0.001, \*\* p<0.01, \* p<0.05, ns = statistically nonsignificant p<0.1.

NOTES: Multiple responses are allowed; totals may sum to more than 100. The recall period for R1 was 12 months before the survey, while the recall period for R2 was three months before the survey (i.e., the interim period between R1 and R2).

The data show that participation in agricultural wage labor declined (R1 50.6%, R2 40.4%, p<0.05). This finding is consistent with FEWS NET information that agricultural wage labor, a primary source of

<sup>38</sup> For a comprehensive list of household livelihood activities in the RRA areas, refer to Annex 3, Table A3.9.

income for poorer households, contracted during this time.<sup>39</sup> FEWS NET reported that the disruption of harvesting activities from flooding, coupled with the reduced ability of better-off households to hire wage laborers (due to the disruption in their own income streams following the flooding), has led to overall reduced demand for agricultural wage laborers. According to FGDs in RMS R2, some households mitigated the impacts of crop destruction by seeking agricultural labor on farms in communities that were not as hard hit by flooding.

Although the survey results show a decline in petty trade (R1 26.6%, R2 20.1%,  $p < 0.001$ ), the qualitative interviews indicate more men and women engaged in petty trading to support their households. Similarly, FEWS NET reports that poor households are being driven into unskilled labor, such as petty trade and craft sales, due to declining agricultural labor activities and other livelihood opportunities.<sup>40</sup> The qualitative interviews show that a common form of petty trade is collecting goods on credit for resale and re-paying the trader after making a modest profit. The qualitative data also show an increase in youth taking on new activities such as starting braiding in addition to cooking, and engaging in additional menial work, such as working longer days or different parts of day (e.g., noon and mornings, when previously they worked only noon). There is also mention of women taking on additional livelihood activities such as farm labor, hair braiding, sewing, poultry farming, selling soap, and selling plasticware. Women are often involved in selling cooked food or food processing, increasing their hours and diversifying the types of food they sell. One woman in Yobe reported supplementing her sewing and clothing business by selling snacks and bottled water at the market.

*“Before I used to sell only waina (rice cake). I added more snacks such as Dan wake, Danbu, and waina. Formerly I sold in the morning, but now I sell in the afternoon too, just to earn money; the cost of living is too expensive.” ~ Female FGD, Yobe*

### 3.4 Social Capital and Collective Action

Social capital, a measure of the degree to which households can rely on their social network of friends and family for support to smooth over the impact of shocks and stresses, is a core component of households' absorptive and adaptive resilience capacities. The index of bonding social capital measures the degree to which households can give and receive support within one's community. In contrast, the bridging social capital index measures the degree of social capital between households in different communities. The average scores of the bonding social capital and bridging social capital indices remained at moderate between rounds (average score of approximately 3 on a scale of 0-6).<sup>41</sup>

Focus group discussants and key informants in all states reported supporting others through a range of local community groups or social networks, e.g., religious groups, youth groups, traders' associations, farmers' associations, business associations, women's groups, and development committees. The qualitative data indicate that community group activities remained similar between rounds. Community groups were said to come together to collectively provide services (e.g., repairs, patrolling/community watch, community development projects, etc.) or financial assistance (e.g., assisting farmers and households affected by floods). However, some community groups noted that they could no longer help non-members due to financial constraints and economic hardship. For example, a rural farmers' cooperative reported being unable to extend its services to communities further than 45 km away because it no longer has the capacity or resources to do so (male KII, farmer's cooperative, Borno).

<sup>39</sup> FEWS NET. 2022. [Nigeria Food Security Outlook October 2022 to May 2023](#).

<sup>40</sup> FEWS NET. 2022. [Nigeria Food Security Outlook October 2022 to May 2023](#).

<sup>41</sup> Annex 3, Tables A3.10 – A3.11, provides additional information on bonding and bridging social capital.

Key informants and focus group participants noted that VSLAs and informal savings groups are enabling members to support each other to mitigate the impact of shocks and stresses; this was mentioned more frequently in Adamawa and Yobe. However, due to inflation and recent economic challenges, VSLA participants reported seeing a large decline in the amount of money that group members were able to contribute to savings. Reduced savings for VSLAs means they, too, are no longer able to meet the demand for loans or provide financial assistance to those in need.

Collective action, such as repairing community infrastructure (e.g., schools, hospitals, roads, drinking water), reflects the cohesiveness of social networks because it includes community-based actions and projects initiated and implemented by the community to enhance the living conditions of the community as a whole. The index of collective action (range: 0-10) measures the degree to which households partake in collective actions within one's community. The average score on the index of collective action declined from 0.5 to 0.3 between rounds.<sup>42</sup> Several focus group respondents reported lacking the financial ability to purchase new building materials. Even those who could afford building materials faced challenges in procuring them, namely, the scarcity of raw materials and goods due to rising fuel costs. Thus, some households are reverting to building temporary makeshift structures from bamboo or are said to be waiting for government response efforts from the State Emergency Management Agency (SEMA) to provide relief materials to households affected by flooding.

Focus group respondents also reported other collective actions taken in response to flooding. For example, households with extra rooms welcomed those whose houses were flooded while they planned how to rebuild or move to another location. Farmers with surplus distributed some of their harvest to those who lost their crops in the flood. Religious and community groups also rallied to contribute clothing and food for those affected by the floods.

*“Some houses were flooded late at night, at around 2 am, so we had to help them move into houses of those who had free rooms although families had to be split between households.”*

~Male FGD, Borno

Another top collective action discussed in FGDs and KIIs in both rounds was employing community vigilante groups to safeguard communities. Most communities still report reliance on vigilante groups to mitigate against security concerns arising from crimes such as kidnappings, theft, and armed robbery, as well as to prevent farmer-herder conflicts. Vigilante groups were credited for resolving conflicts and reducing the number of attacks, particularly in Adamawa and Gombe.

### 3.5. Program-Relevant Market Services and Practices

RRA uses a market systems development approach to facilitate and protect economic growth and move people out of chronic vulnerability and poverty by expanding their opportunities. In partnership with various market actors, RRA targets “pull” activities that stimulate market systems growth and diverse economic opportunities, and “push” activities that build capacity of farmers households and businesses to take advantage of market system opportunities. Target populations include farmer households and micro, small and medium enterprises working in targeted value chain commodities: cowpeas, ground nuts, maize, nuts, and small ruminants. The following sections describe the changes in the use of financial services, input and output market linkages, and other improved business and farming practices promoted by the program.

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<sup>42</sup> Refer to Annex 3, Table A3.12 for details.

## Financial Services

The use of financial services (e.g., saving, borrowing, and agricultural insurance) stayed the same between rounds. Most households borrowed cash (approximately 70%); some households received agricultural inputs in-kind (less than 30%), and some households saved money (less than 20%). However, less than 1% of households purchased agricultural insurance.<sup>43</sup> The qualitative interviews showed that most farmers are unfamiliar with agricultural insurance programs, how they work, or where to purchase insurance. Some also expressed skepticism about insurance programs.

*"I registered with an insurance paying 20,000 Naira yearly for four years, and nothing happened with my farm. When I asked them what then will happen to the 80,000 Naira I have paid, they told me that the money I have been paying and that of others is what was used to pay those affected by the disaster. That alone discouraged me to reregister for the fifth time." ~Male FGD, Adamawa*

Annex 3, Table A3.14 provides details on sources of borrowing and saving. Although the overall percentage of households that borrowed cash did not change between rounds, borrowing from banks declined from 4.7% in R1 to 2.0% in R2 ( $p < 0.05$ ). Qualitative interviews with financial service providers show that while demand for bank loans remains high, it has become more difficult for banks to issue new loans because the volume of borrowers defaulting on loan payments has reduced bank equity.

*"At a point the bank was running short of funds to disburse to applicants, and it negatively impacted the business because we couldn't afford to meet their demands." ~Male KII, financial service provider, Adamawa*

Focus group discussants, particularly in Adamawa, frequently mentioned defaulting on loans of all types (e.g., from banks, VSLAs, agricultural input suppliers lending inputs on credit) to cope with the loss of income that resulted from the flooding damage to farmland and crops. Faced with poor yields due to flooding, farmers were unable to sell sufficient product to repay their loans. In some cases, farmers incurred additional costs to replant flooded farmlands and were unable to absorb these costs. Some discussants reported diverting loan funds that were intended as investments in livelihood activities to cover household expenses such as food, hospital bills, rent, and school fees.

The survey data show the percentage of households taking in-kind loans from market vendors declined from 46.8% in R1 to 27.8% in R2 ( $p < 0.01$ ), but in-kind borrowing of agricultural inputs from friends or relatives nearly doubled from 41.3% to 75.5% ( $p < 0.001$ ). Borrowing from friends and relatives, and purchasing inputs on credit from agricultural suppliers, were also commonly cited by key informants and focus group discussants. The qualitative data also suggest that households are preparing to re-plant and must acquire seeds and inputs quickly. Since bank credit approvals take a long time and come with high-interest rates, households instead borrow inputs in-kind from friends and family. A few farmers described participating in local micro-credit schemes known as 'bada kaka' (a Hausa term meaning to give back during the harvest season), where those who have the means provide cash loans to farmers who later repay in-kind with crops.

*"Sometimes wealthy people give out loans known as 'bada kaka', they give a certain amount for you to pay for a bag with crops. For a bag of maize, they give 11,000. For a bag of cowpea, they give 16,000, and 10,000 for a bag of rice. Irrespective of the value of a bag of the commodity at the time of harvest, you must pay it back as that is the term for getting the loan.*

<sup>43</sup> Refer to Annex 3, Table A3.13 for additional details on household use of financial services.

*For example, they loan you 11,000, and probably during harvest a bag of maize has appreciated to 50,000, you will still give them the bag.” ~Female FGD, Adamawa*

Purchasing farm inputs on credit was mentioned frequently in the Round 2, qualitative interviews, predominantly in Borno. For example, one market food seller estimated that about a third of his customers buy grains on credit. The need to purchase inputs on credit was attributed to financial constraints due to flooding. Reportedly, a common practice among women was borrowing food and other goods on credit from vendors and commodity traders, reselling items in the market and then paying back loans:

*“When I share the bags of vegetables I collect on credit from petty traders, they [other food sellers] usually do not pay me back and the ones that do, it usually takes a long period of time for them to pay back. I end up using my money to pay the trader.” ~Female KII, food seller, Borno*

Annex 3, Table A3.15 provides information on credit and savings groups. Household membership in saving groups (a little over 10%) and credit groups (about 1% or less) did not change between rounds. However, the qualitative data indicate that despite caps on membership numbers, some VSLAs are now seeing a surge in member numbers. For example, savings groups that originally had 15 to 20 members, now have between 70-90 members. However, despite the increased interest in saving, many report no longer being able to save money. Savings groups described seeing a great reduction in the amount that members are contributing to savings, which directly affects the groups’ ability to keep up with the demand for loans and as a result, many are no longer providing loans to non-members.

*“We were contributing over NGN 12,000-15,000 early this year in some of our meetings weekly, but now we can barely contribute NGN 5,000 in a week.” ~Female KII, VSLA savings group, Yobe*

### Information Exposure and Training

Access to information, such as borrowing and investment opportunities or improved practices, is expected to enhance production and income, and support sustainable economic growth. The RI findings underscored that information exposure is an important component of adaptive capacity, i.e., households’ ability to prepare for and mitigate the impact of future shocks. Table 7 illustrates information exposure in the RRA areas as measured by the information exposure index, a count of different types of information received by the household.<sup>44</sup> The average index score declined from 9 to 7.2 ( $p < 0.01$ ). The receipt of information on market prices (specifically, prices of animal products, crops, agricultural products, food, live animals, and water) remained the same across rounds. However, the percentage of households receiving information on business opportunities, borrowing opportunities, and improved production practices decreased. Similarly, the percentage of households receiving information on crop and livestock disease also decreased.

The quantitative data indicate that the most common sources of information remained the same across rounds and included relatives/friends, local markets, traditional media, government development agents, and health/extension workers. This finding was consistent with the qualitative data in all states indicating that there was no significant change in how participants access information on market prices; most rely on other community members who regularly visit markets to return and relay information on price

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<sup>44</sup> Refer to Annex 3 Table A3.16 - A3.17 for additional details on information exposure.

changes. However, recent increases in the cost of fuel and poor road conditions due to flooding have increased the difficulty of accessing markets, which could result in a lag in receiving timely information.

Declines in the percentage of households receiving information on business and borrowing opportunities and improved production practices may reflect seasonal variations in the need or demand for such information. For example, information on where to borrow and types of practices to use is more relevant in advance of the planting season when farmers need credit to purchase inputs or equipment to cultivate crops. Disruption to market activities due to flooding may have also reduced farmers' ability to reach service providers or extension service agents who typically supply this information to farmer households and businesses.

Table 7. Information exposure, RRA areas, R1 and R2

	Average R1	Average R2	Sig.
Percentage of households who received or knew about any information on [TOPIC]			
Climate and Biological			
Water prices and availability in local boreholes, wells, etc.	22.5	24.5	ns
Animal health (e.g., disease, epidemic, prevention)	43.5	35.2	*
Rainfall/ weather prospects for the coming growing season	43.6	28.8	***
Long-term changes in weather patterns	46.4	39.6	ns
Crop health (e.g., pest outbreaks, disease, prevention)	51.1	40.6	*
Early warning for natural hazards (flooding, hail, landslide)	55.2	51.1	ns
Agri. Production			
Improved livestock production practices (fodder, husbandry)	27.6	18.7	**
Improved crop production practices/technologies (CA, seeds)	41.9	24.4	***
Economic			
Grazing conditions in nearby areas	22.6	12.8	ns
Market prices for animal products (milk, hides, skins, etc.)	30.4	22.5	ns
Business and investment opportunities	39.8	22.4	**
Opportunities for borrowing money	43.5	29.9	***
Current market prices for live animals in the area	52.7	51.8	ns
Market prices for crops and agricultural products	75.9	71.2	ns
Conflict or security issues	76.8	65.8	***
Market prices of the food you buy	86.3	85.7	ns
Index of information exposure	9.0	7.2	**
Number of households	1,012	1,004	

\*\*\* p<0.001, \*\* p<0.01, \* p<0.5, ns = statistically nonsignificant p<0.1.

NOTES: Respondents were asked whether they or anyone in the household received or knew about any information on a list of topics, including market systems development topics. The recall period for R1 was 12 months before the survey, while the recall period for R2 was three months before the survey (i.e., the interim period between R1 and R2).

Participation in targeted training (crop or livestock marketing, business/financial/accounting practices, financial literacy, and youth/vocational training) was low in R1 (4% or lower) and declined to even lower levels by round 2 (under 2%).<sup>45</sup> The decline in training participation could reflect seasonality and differences in the recall period. It is also worth noting that given the facilitative nature of MSD programs, direct training is very limited, which could explain these low numbers.

Key informants and focus group discussants indicate that some farmers could not participate in trainings because the timing conflicted with harvest activities. In addition, as reported by an agricultural service

<sup>45</sup> Refer to Annex 3, Table A3.18 for additional details.



provider in Adamawa, many participants could not attend training because flooding led to the loss of accessible roadways. Low training participation was also attributed to the “receiver mindset” of program participants, who expect to receive free inputs and are otherwise reluctant to participate in training if they are expected to purchase inputs, particularly when inputs were provided for free in the past. For example, one respondent reported that farmers were unwilling to “fully participate and contribute to field work” because the Agricultural Development Programme (ADP) and Mercy Corps expected them to purchase farm inputs for demo plots with their own money, but farmers preferred to invest their money in their own personal plots (female KII, agricultural service provider, Borno).

*“These farmers are getting too reliant on the NGOs, so the inputs should be subsidized not free of charge, because when the free is not there tomorrow, what will they (the farmers) do?”*  
~Male KII, farmers’ cooperative, Borno

The qualitative data suggest that the decrease in training participation could be related to farmers switching to short-harvest, less input-intensive, or flood-tolerant crops that may not necessarily be promoted by the program. For example, some farmers reported changing crop types based on fertilizer prices. Also, flooding damage prompted them to replant with fast-maturation crops such as beans and sweet potatoes to replace targeted value chain crops (e.g., groundnut, maize, and sorghum) that had rotted.

### Value Chain Production and MSMEs

There was no change in the percentage of households operating a microenterprise or small-medium agribusiness (under 20%).<sup>46</sup> However, the percentage of households engaged in value chain production decreased between rounds (R1 55%, R2 42.3%,  $p < 0.01$ ),<sup>47</sup> and the percentage of households not cultivating crops more than doubled (R1 7.2%, R2 16.2%,  $p < 0.05$ ). The survey data indicate a decrease in households producing all targeted value chain commodity crops (maize, rice, cowpeas, and ground nuts). The qualitative data provide insight into these findings: as indicated above (see Information Exposure and Training), interviews show that farmers who previously cultivated maize, groundnut, and sorghum sustained harvest losses due to the flooding and are now opting to replant with different fast-maturing crop varieties like beans and sweet potatoes (namely in Adamawa, Borno and Gombe). There was no change in the percentage of households raising livestock.<sup>48</sup>

### Input Market Services

As shown in Table 8, household use of agricultural extension services and precision farming advisory and training services, already low in R1 (about 2% or less), declined between rounds.<sup>49</sup> The decreases shown in the use of extension and farming advisory services could reflect seasonality in the need for these services (e.g., before or during planting season). Qualitative interviews with both agricultural service providers and farmers confirm that most trainings take place before and during the farming season. They also indicated that farmers are thankful for timely farming interventions and prefer that they take place before they start planting.

Findings from R1 indicate that most households must travel more than 5 km to reach agricultural extension services. Damage to roads and bridges, and businesses due to flooding may have made it more

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<sup>46</sup> Microenterprises can be agricultural or nonagricultural. Agribusinesses include agro-processors and agri-dealers.

<sup>47</sup> A household is considered to partake in value chain production if they cultivated crops or raised/bought livestock to sell/resell.

<sup>48</sup> Annex 3, Tables A3.20 illustrates the percentage of households by type of crop cultivated or livestock raised.

<sup>49</sup> Refer to Annex 3, Table A3.21 for additional statistical information on the use of input market services.

difficult to physically access inputs and input market services; the high cost of transportation was an additional obstacle to accessing services and training sites. Qualitative interviews show that many agri-extension organizations and seed suppliers experience high demand for their services, but they are unable to meet this demand due to financial constraints (e.g., transport, cost of inputs for participating farmers), flooding-related access challenges, and insufficient staff.

*"In my department, I'm supposed to have 536 extension agents, but I only have 110 extension agents. Many will be retiring this year and next year. So, if there is no employment, in five years' time, it will get worse if nothing is done."* ~Male agricultural extension provider, Adamawa

Table 8. Use of targeted input market services, RRA areas, R1 and R2

	Average R1	Average R2	Sig.
Percentage of households			
Agricultural extension services	2.4	0.2	*
Financial advisory services/linkages to financial institutions	0.2	0.3	ns
Business development services	5.7	10.4	ns
Precision farming advisory services/training	1.9	0.0	*
Number of households	565	423	

\*\*\* p<0.001, \*\* p<0.01, \* p<0.05, ns = statistically nonsignificant p<0.1.

NOTES: This analysis refers to the subsample of households engaged in value chain production or operating a microenterprise or small-medium agribusiness.

By contrast, the use of veterinary/livestock services did not change between rounds (approximately 30%).<sup>50</sup> The R1 survey found that most households could access livestock services within a 5-km radius year-round, so the impact of flooding on access may be less of an issue for those services. However, among the types of veterinary/livestock services targeted by the program,<sup>51</sup> the use of animal health services declined (R1 39.9%, R2 32.2%, p<0.05), which is consistent with the decrease in households reporting livestock disease (R1 41.7%, R2 32.4%, p<0.001).

Qualitative interviews with livestock input suppliers and veterinarians in all states frequently mentioned inflation and high prices as a challenge for acquiring products and distributing services. One livestock vet in Adamawa explained that he is seeing fewer customers and that other customers are no longer able to afford the same quantity of medicine as in earlier times due to price hikes, which in some cases could be a three-fold increase from NGN 500 to NGN 1,500.

### Output Market Services

Household engagement in contract farming declined from 16.2% to 4.3% (p<0.05). On the other hand, selling products through traders, village agents, or grain aggregators increased from 30.5% to 41.3% (p<0.001). This increase is partly a result of reviewing how this question was asked in R1 and adjusting the approach to asking the question in R2 to elicit more accurate responses. However, the increase may also be explained by the qualitative findings, which suggest that selling to traders and aggregators may be more lucrative than contract farming: some buyers are eager to purchase large quantities of harvested crops at any price to dispense of old Naira notes after the Central Bank issued new notes to curb money laundering.

<sup>50</sup> Additional details on the use of veterinary services by type are illustrated in Annex 3, Table A3.22.

<sup>51</sup> RRA targets the following veterinary/livestock services: animal health advice, livestock vaccinations, livestock antibiotics, de-worming, dipping inoculation, commercial feed, and home feed production training.

*“People who hide naira notes are now bringing them out to buy grains in large quantities and they don’t bargain: whatever price they are told, they pay in cash at the spot” ~Female FGD, Gombe*

The qualitative data also show that companies engaged in contract farming or providing farmers with inputs on credit are experiencing many defaults on payments, mostly due to poor yields caused by flooding.

The percentages of households selling livestock products through off-takers (less than 20 percent) and of households with linkages to transportation services for products (less than 6 percent) remained the same.<sup>52</sup> Similarly, there was no change in participation in farmer cooperatives (approximately 9 percent), crop producer and marketing groups (less than 12 percent), or livestock producer and marketing groups (approximately two percent).

### Improved Agricultural Practices and Technologies

The percentage of farmers using targeted improved practices did not change, with a few exceptions: the use of cropping systems (R1 49.4%, R2 40.4%,  $p<0.05$ ), fertilizer application (R1 63.1%, R2 48.6%,  $p<0.001$ ), and improved seeds (R1 11.2%, R2 7.6%,  $p<0.05$ ) declined from R1. These findings are not unexpected, given that R2 overlapped with the harvest period. In addition, the impact of flooding and price inflation may have further exacerbated the availability, accessibility, and affordability of fertilizer and improved seeds for farmers preparing for the next season. The qualitative data confirm that inflation has been a barrier for farmers acquiring inputs, particularly seeds and fertilizer. Inflation has also made it difficult for input suppliers to acquire and deliver goods and services to communities. Input suppliers cited increased transportation costs, flooding, and risks from insecurity on the roads, including a few cases of shipments being robbed or stopped by soldiers demanding money and delays due to soldier searches of urea fertilizer shipments.

Household use of targeted improved storage practices remained the same<sup>53</sup>, and the percentage of farmers who did not store crops (approximately 4%) did not change between rounds. Finally, there was no change in the application of targeted improved livestock practices (i.e., use of improved animal feed, veterinary services, and use of improved species/breeds).<sup>54</sup>

The qualitative interviews with farmers and service providers show that farmers are becoming more familiar with improved agricultural practices through increased exposure to various trainings, particularly in Adamawa and Borno. The qualitative data indicate that farmers appreciate the improved seeds because many see better yields from the improved seeds provided by various agricultural service providers. Their neighboring farmers see this and talk among themselves, causing others to want to adopt as well. However, inflation continues to be a challenge for farmers in accessing improved seeds. In addition, many farmers reported substituting organic fertilizer, such as manure or sawdust, for chemical fertilizer due to the cost. However, there is mention in the qualitative data that organic fertilizers yield a smaller harvest than when organic fertilizers are used.

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<sup>52</sup> Refer to Annex 3, Table A3.23 for additional details.

<sup>53</sup> The use of improved storage practices varied widely by type. For example, about 60% of households that cultivated crops used Purdue Improved Crop Storage bags/grain bags (PICS), and about 20% or fewer used sealed/airtight containers or traditional storage. About 2% of crop producing-households used modern storage or improved locally made structures.

<sup>54</sup> Refer to Annex 3, Table A3.24 for additional information on the use of improved agricultural production practices.

*"The high cost of farm inputs like fertilizer and pesticides also affected farming. Farmers could not afford inorganic fertilizer, making them go with the option of using organic fertilizer (animal dung), which to them is not the best but is the only choice, they could go with." ~Female FGD, Adamawa*

*"From the look of things, more farmers from far and near are becoming familiar with and appreciate our inputs and the extension services we provided so in these coming years, we will be able to capture most farmers within southern Borno and employ more extension agents across the LGAs." ~Male KII, farmers' cooperative, Borno*

### 3.6. Additional Analyses

The study team conducted additional analyses to explore the characteristics, market linkages, and practices of food secure households that set them apart from food insecure households. The study team also analyzed the association between information exposure and training, on the one hand, and the use of market services and improved business and farming practices, to explore how a suite of program interventions can contribute to strengthening market linkages and bolstering production. To better understand the characteristics of IDP households in the RRA areas, the study team conducted additional bivariate analyses to explore how they may differ from non-IDP households in key components of adaptive and absorptive resilience (e.g., asset ownership, social capital, information exposure) as well as their use of targeted market services and improved practices.

Readers should exercise caution in the interpretation of findings: first, bivariate correlations do not imply causation. Second, it is not possible to conclude program attribution, given the multitude of market actors and donors operating in the RRA areas. Moreover, the study is not designed to assess the impact of RRA programming but rather to explore the relationship between resilience and wellbeing in relation to a suite of resilience programming (regardless of the implementor) Third, bivariate analyses do not adjust for other factors such as asset ownership, livestock holding or other confounding variables that could change the relationship between the variables of interest (e.g., the direction of the relationship – the positive or negative sign of the correlation – or its statistical significance).

#### Characteristics of Food Secure Households Compared to Food Insecure Households












Results of the bivariate analyses indicate that food-secure households differ from food-insecure households in important ways.<sup>55</sup> Figure 3 summarizes some of the characteristics, market linkages, and practices of food-secure households.<sup>56</sup> The round number (R1 or R2) given in parentheses after each indicator specifies the round or rounds for which a statistically significant difference was found between food secure and food insecure households. Where more-detailed indicators are available for a category, these are given in the right-most column. The results in Figure 3 show that food-secure households are more likely than food-insecure households to engage in activities that are strongly correlated with absorptive and adaptive resilience capacities—namely, the ability to save, accumulate assets, possess more social capital, receive information (e.g., weather, prices, and business opportunities), and prepare



<sup>55</sup> In this analysis, food secure households refer to households that are food secure or mildly food insecure. Food insecure households include households that are moderately-to-severely food insecure. These two groups were compared in each round. Similar results (not shown here) were found when the study team compared to households that remained food secure across rounds (or became food secure by R2) with households that remained food insecure (or became food insecure in R2).

<sup>56</sup> Refer to Annex 4, Table A4.1 and Table A4.2 for the statistical results of the bivariate analyses of food security.

for shocks. In addition, food-secure households are more likely to use input and output market services and improved production practices that are expected to enhance productivity and income.

Figure 3: Summary of characteristics, market linkages, and practices of food secure households

Food secure households (compared to food insecure households) are more likely to....		
	<b>Accumulate more assets</b> →	<ul style="list-style-type: none"> <li>More household assets (R1, R2)</li> <li>More productive assets (R1, R2)</li> </ul>
	<b>Possess more significant social capital</b> →	<ul style="list-style-type: none"> <li>Higher score on social bonding index (R2)</li> <li>Higher score on social bridging index (R2)</li> </ul>
	<b>Own or raise livestock (R2)</b>	
	<b>Engage in value chain production (R1, R2)</b>	
	<b>Operate an MSME (R1, R2)</b>	
	<b>Regularly save cash (R1, R2)</b>	
	<b>Belong to a credit/micro-finance group (R1)</b>	
	<b>Cope by getting credit, expanding market outreach, or renegotiating contract</b> →	<ul style="list-style-type: none"> <li>Borrow from a bank (R1, R2)</li> <li>Go to a new market or contact new customers to sell agricultural or livestock products (R2)</li> <li>Renegotiate agreements with input providers (R2)</li> </ul>
	<b>Prepare for the impact of future shocks (R2)</b> →	<ul style="list-style-type: none"> <li>Increase savings (R1, R2)</li> <li>Put aside grains (R1)</li> <li>Switch to different crops (R2)</li> <li>Add an additional non-agricultural activity (R1, R2)</li> </ul>
	<b>Access weather, price, and business information</b> →	<ul style="list-style-type: none"> <li>Early warning natural hazard (R1)</li> <li>Water prices and availability (R1)</li> <li>Market prices for crops/agricultural products (R1)</li> <li>Business and investment opportunities (R1)</li> <li>Current market prices for live animals (R2)</li> <li>Animal health (R1)</li> </ul>
	<b>Participate in training</b> →	<ul style="list-style-type: none"> <li>Livestock production practices/health/management (R2)</li> <li>Business/financial/accounting practices (R2)</li> </ul>

Food secure households (compared to food insecure households) are more likely to....		
 <p><b>Use input or output market services</b></p>	<p>Use business development services (R2)</p> <p>Sell products through a trader, village agent, or grain aggregator (R2)</p> <p>Sell livestock using off-takers, including e-services (R1)</p> <p>Belong to a crop producers' group (R2)</p>	
	 <p><b>Adopt improved agricultural production practices</b></p> <p><b>Store crops (R1)</b></p>	<p>3+ targeted improved crop practices (R1, R2)</p> <p>Cropping systems (R1, R2)</p> <p>Proper plant spacing (R1, R2)</p> <p>Integrated pest management (R1, R2)</p> <p>Rainwater harvesting (R1, R2)</p> <p>Improved seeds (drought-tolerant, early-maturing) (R1)</p> <p>Use sealed/airtight containers (R1, R2)</p> <p>Dipping inoculation for livestock (R1)</p> <p>Use commercial feed for livestock (R1)</p>

NOTES: Bivariate analyses were conducted for each round separately. The table reports statistically significant findings at the  $p < 0.05$  level for the round in which they were observed (in parentheses). See Annex 3, Table A4.1 and Table A4.2 for additional information, including indicator point estimates and p-values.

In addition to the findings summarized in Figure 3, the results of the bivariate analyses also show food insecure households are more likely to partake in certain behaviors than food secure households. The round in which the associations were observed are reported in parentheses in the narrative. The analysis indicates that food-insecure households are *more* likely to cope by migrating the whole family, sending children or an adult to stay with relatives (R1), or taking children out of school (R1).<sup>57</sup> Food insecure households are more likely to cope with the impacts of a shock by borrowing from a MFI/VSLA/SACCO (R2) or moneylender (R2), borrowing food or money from friends or relatives (R1), or acquiring food on credit from a local merchant (R1). They are also more likely to sell household items to cope with a shock (R2). They are also more likely to manage shocks by shifting to a new crop not grown before (R1) or new types of improved agricultural or livestock products (R1). The bivariate analyses also indicate that food-insecure households are more likely to receive training on crop/livestock marketing, youth skills or vocational training (R1), or crop production practices (R2). Food-insecure households are more likely to rely on contract farming to sell products (R2). Under current market conditions, contract farming may be less lucrative than selling through an off-taker or grain aggregator (see Output Market Services).


### Information Exposure and Use of Targeted Market Services and Improved Production Practices

Bivariate analyses indicate that households that received information on borrowing opportunities or improved production practices are more likely to take out a loan, use input or output market services,

<sup>57</sup>Note: the qualitative data show some families withdrawing their children from private school and enrolling them in free public schools.

and/or apply improved production practices. Figure 4 summarizes key findings from the bivariate analyses of information exposure.<sup>58</sup>

Figure 4. Summary of the relationship between information exposure and the use of market services or improved practices

<b>Households that received information (compared to households that did not receive information) are more likely to...</b>		
	Households that received <b>information on opportunities for borrowing money</b> were more likely to take out a cash loan or belong to a community credit/VSLA group <sup>a</sup>	<ul style="list-style-type: none"> <li>Take out a cash loan from micro-finance institutions (R1, R2)</li> <li>Take out a cash loan from a VSLA, credit group, cooperative, or ADASHE (R1)</li> <li>Belong to a credit or micro-finance group (R1)</li> </ul>
	Households that received <b>information on improved crop production practices and technologies</b> were more likely to use input market services, output market services, or improved agricultural production practices <sup>b</sup>	<ul style="list-style-type: none"> <li>Agricultural extension services (R1)</li> <li>Precision farming advisory services/training (R1)</li> <li>Contract farming (R1, R2)</li> <li>Transportation services for products (R1)</li> <li>Proper plant spacing (R2)</li> <li>Rainwater harvesting (R2)</li> <li>Use of improved seeds (R1, R2)</li> <li>Improved locally made structure/granary (R1)</li> </ul>
	Households that received <b>information on improved livestock production practices and technologies</b> were more likely to use input market services, output market services, or improved livestock practices <sup>c</sup>	<ul style="list-style-type: none"> <li>Sell (livestock) products through off-taker (R1, R2)</li> <li>Sell (livestock) products via electronic off-taker services (R2)</li> <li>Use transportation services (for products) (R1, R2)</li> <li>Use improved species/breeds (R1, R2)</li> <li>Take animal health advice (R1)</li> <li>Vaccinate livestock (R1)</li> <li>Use livestock antibiotics (R1, R2)</li> <li>De-worm livestock (R1)</li> <li>Use dipping inoculation (R1)</li> <li>Use commercial feed (R1)</li> <li>Participate in home feed production training (R1)</li> <li>Use improved animal feed (R1, R2)</li> </ul>

NOTES: Bivariate analyses were conducted for each round separately. The table reports statistically significant findings at the  $p < 0.05$  level and for the round in which they were observed (in parentheses). See Annex 4, Table A4.4 for additional information, including indicator point estimates and p-values.

<sup>a</sup> Analysis includes all households.

<sup>b</sup> Analysis is limited to the subsample of households that engage in crop production.

<sup>c</sup> Analysis is limited to the subsample of households that engage in livestock production.

In addition to information exposure, the study team explored the relationship between training participation and use market services and improved practices. Although some positive associations were

<sup>58</sup> Refer to Annex 4, Table A4.4 for additional details.




found, the results are not reported because the sample size for households that participated in training was small (n<30). Therefore, these results are less reliable.<sup>59</sup>

### Characteristics of IDP Households Compared to Non-IDP Households

The ongoing insurgency is the main driver of displacement in the BAY-G states, with displacement occurring in successive waves over the past decade. The RMS data indicate that 6.8% of households in the RRA areas are IDPs.<sup>60</sup> Figure 5 summarizes some of the key ways in IDP households differ from non-IDP households in the RRA areas.<sup>61</sup> The round number (R1 or R2) given in parentheses after each indicator specifies the round or rounds for which a statistically significant difference was found between food secure and food insecure households. Where more-detailed indicators are available for a category, these are given in the right-most column.

Quantitative data show that compared to other households, IDP households are more likely to experience moderate-to-severe food insecurity. They have fewer assets and less social capital. In addition, when faced with shocks, IDP households are more likely to cope by migrating or sending away family members, taking children out of school, reducing food consumption or dietary quality, moving to less-expensive housing, selling off assets, or using savings. However, IDPs are also more likely than other households that experienced a shock to adapt to shocks by pivoting business and production practices and diversifying livelihoods. IDP households resemble other households in their information exposure, with a few exceptions: they are less likely to access information on food prices or crop/livestock production market prices. The survey data also show no differences in the use of financial services, linkages to input and output market services, or the adoption of improved production practices, with a few exceptions. On the other hand, IDP households are more likely than other households to participate in training.

Figure 5. Summary of characteristics, market linkages, and practices of IDP households








IDP households (compared to non-IDP households) are MORE likely to....	
	<b>Experience moderate to severe food security (R1, R2)</b>
	<b>Cope by migrating members, reducing consumption, depleting assets/savings, pivoting business and production practices</b>
	<ul style="list-style-type: none"> <li>Migrate or send away family members (R1)</li> <li>Take kids out of school (R1)</li> <li>Reduce food consumption and dietary quality (R1)</li> <li>Move to less expensive housing (R2)</li> <li>Sell household items (R1)</li> </ul>

<sup>59</sup> Results based on a small sample size can magnify bias. For example, a finding from bivariate analyses indicating the percentage of households using an improved production practice is higher among those who participated in a training compared to those who did not, could overstate the positive effect of training on the adoption of productivity-enhancing practices in a sample where the number of households who participated in training is small (n<30) compared to a sample where the pool of households trained in improved production practices is large. This is because with small samples there is a higher risk (compared to large samples) that the observations (i.e., associations between an intervention and a desired outcome) are due to chance. Increasing sample size is expected to reduce sampling error and improve the reliability of results (by reducing the standard errors of the estimate).

<sup>60</sup> Households are considered IDPs if they reported moving to the village to avoid conflict or as a result of forced expulsion or camp closures.

<sup>61</sup> Annex 4, Tables A4.5 and A4.6 provide details of the characteristics of IDP households compared to non-IDP households.



<b>IDP households (compared to non-IDP households) are MORE likely to....</b>	
	<ul style="list-style-type: none"> <li>Go to a new supplier of inputs not visited before (R2)</li> <li>Go to a new market or contact new customers to sell agricultural or livestock products (R1)</li> <li>Renegotiated agreements with input providers or buyers (R1)</li> </ul>
	<p><b>Participate in training</b> →</p> <ul style="list-style-type: none"> <li>Livestock production practices/health/management (R1)</li> <li>Crop production practices (R1)</li> <li>Crop or livestock marketing (R1, R2)</li> <li>Business/financial/accounting practices</li> <li>Savings/microfinance (financial literacy training) (R1)</li> <li>Youth skills/vocational training (R1)</li> </ul>
	<b>Borrow agricultural inputs in-kind from merchants (R1)</b>
	<b>Belong to a credit/microfinance group (R2)</b>
	<b>Use agricultural extension services (R2)</b>
<b>IDP households (compared to non-IDP households) are LESS likely to....</b>	
	<p><b>Own assets</b> →</p> <ul style="list-style-type: none"> <li>Fewer household assets (R1)</li> <li>Fewer productive assets (R1)</li> <li>Fewer livestock assets (R1, R2)</li> </ul>
	<p><b>Possess social capital</b> →</p> <ul style="list-style-type: none"> <li>Lower score on social bonding index (R1, R2)</li> <li>Lower score on social bridging index (R1, R2)</li> </ul>
	<p><b>Access some types of information</b> →</p> <ul style="list-style-type: none"> <li>Information on market prices for crops/livestock products (R2)</li> <li>Food prices (R1)</li> </ul>
	<b>Sold products through trader, village agent, or grain aggregator (R1, R2)</b>
	<b>Store crops (R2)</b>

Qualitative findings highlight the heterogeneity of IDPs, with some populations living in camps, some in host communities, and still others returning to their home communities. Among IDPs in host communities, there is a high level of variation in economic status. KIIs and FGDs indicate that some IDPs arrived in host communities with financial assets from businesses activities in their communities of origin, enabling them to invest in the acquisition of homes and farmland in host communities, as both owners and renters. Other IDPs cannot afford housing or farmland. Earlier arrivals who had family connections in host communities or who were accommodated by host community members tend to be wealthier and can settle into host communities more permanently. In contrast, more recent arrivals who came without assets were said to be living in temporary housing such as schools, hospitals, and community centers. In some cases, qualitative interviews report that a recent influx of migrants into communities are from Muslim Hausa and Fulani ethnic groups (previously nomadic) who are now choosing to settle in host communities. There is also a wide variety of livelihood activities reported

among IDPs, ranging from menial work and day labor to those who farm or own businesses. One FGD in Gombe reported gleaning as a primary activity among IDPs.

## 4. Conclusions and Implications for Programming and Research

This study aims to understand if and how a portfolio of resilience interventions can mitigate the adverse effects of shocks and stresses and improve well-being. The first round of the RMS identified important components of household absorptive, adaptive, and transformative resilience capacities, such as the ability to save, asset ownership, livelihood diversification, information exposure, and social capital. R2 data analysis focused on statistical comparisons of key indicators between R1 and R2 to understand changes in household well-being and the key drivers of household resilience. Seasonal effects and recall period differences account for some variations in indicator estimates between rounds. But the recent flooding, macroeconomic conditions including inflation and the introduction of the new Naira, and general insecurity have exacerbated linkages to market services and the use of income and productivity-enhancing practices and technologies.

### 4.1. Conclusions

**Households continue to grapple with price inflation (food, fuel, inputs), general insecurity, and flooding.** The shocks experienced most continue to be price inflation (of food, fuel, and inputs), extreme weather, and human disease. The percentage of households experiencing energy cuts and fuel shortages declined in R2, but more households are impacted by high fuel prices. Reports of theft, destruction of assets, and conflict over natural resources fell between rounds, but qualitative interviews indicate that communities continue to experience kidnapping and robbery. Flooding has created a new wave of IDPs sheltering in unaffected structures within their communities or with friends and family, or relocating to communities unaffected by flooding.

**Food insecurity remains pervasive and will likely persist into the coming months, if not worsen, as household food stocks dwindle. Inflation and declining purchasing power make it more difficult to acquire food and inputs.** Food insecurity remained high in R2 despite R2's overlap with the main harvest for cereals and tubers. More than three-quarters of households are moderately-to-severely food insecure. Flooding, the high cost of agricultural inputs, and a ban on urea contributed to lower-than-average yields. Improved food access from the most recent harvest has resulted in fewer households scaling back the number of daily meals, but more households cannot eat preferred foods.

**More households are setting aside grains and harvest in anticipation of future shortages..** The most common strategies for coping with the impact of shocks remain a combination of reducing food consumption and diet quality, and borrowing food or money. A significantly lower percentage of households in R2 dipped into their savings to cope with shocks. But more households (over one-third) are setting aside grains in anticipation of future food shortages or to sell later when prices have increased.

**Households are reporting lower income diversity, which is likely to increase their vulnerability to future shocks.** Fewer households are mitigating the impact of future shocks by diversifying their livelihoods, for example, by adding an agricultural activity, diversifying into a farming livelihood, or diversifying into a non-agricultural activity. The average number of livelihood activities in which households engage declined between rounds. Most households engage in farming and crop

production, integrating those activities with livestock production and wage labor, but participation in agricultural wage labor and value chain production declined. The qualitative interviews show that some households are taking up petty trade to supplement their incomes. FEWS NET findings corroborate the widespread negative impact of flooding and macroeconomic conditions on farming, livelihood and market activities.

**Worsening macroeconomic conditions make it challenging for financial providers to extend credit as cash-strapped borrowers default on loans.** There is no change in the percentage of households borrowing cash, borrowing agricultural inputs in-kind, or saving. However, fewer households borrow from banks or receive in-kind inputs from market vendors. Instead, more households rely on their friends and family networks to borrow cash or inputs. While demand for bank loans remains high, it has become more difficult for banks to issue new loans because the volume of borrowers defaulting on loan payments has reduced bank equity. Defaulting on loans was mentioned frequently in qualitative interviews as a coping strategy, particularly in Adamawa. Households default on loans to cope with the loss of income resulting from flooding damage. Some divert loan funds intended as investments in livelihood activities to cover expenses such as food purchases, hospital bills, rent, and school fees.

**Sustaining access to market services amidst macroeconomic pressures is likely to remain a challenge.** The use of agricultural extension services and precision farming advisory services was low and declined to even lower levels between rounds. Fewer households applied fertilizer or used improved seeds. These declines may be attributable to seasonal effects. But the qualitative data confirm that inflation has hindered farmers from acquiring inputs, particularly seeds and fertilizer. Although the survey did not pick up any changes in the use of livestock input services or other improved practices, such as using animal feed or raising improved breeds, livestock input suppliers and veterinarians frequently mentioned inflation and high prices as a challenge for acquiring products and distributing services.

**Access to price, weather, and productivity-enhancing information can foster linkages to essential market services and productivity-enhancing practices.** The decline in information exposure and training participation between rounds may reflect seasonal effects and differences in recall periods. But preliminary analyses show that households that receive information on borrowing opportunities or improved production practices are more likely to take out a loan, use input or output market services, and/or apply improved production practices.

**Household well-being was associated with several indicators of resilience and with the adoption of services and practices promoted by RRA.** The findings from exploratory analyses indicate that food-secure households are more likely than food-insecure households to save, accumulate assets, possess more social capital, receive information (e.g., weather, prices, and business opportunities), and prepare for shocks. In addition, food-secure households are more likely to use input and output market services and improved production practices that are expected to enhance productivity and income.

**Social capital remains a crucial element for the exchange of critical services and financial support during emergencies, but continued economic hardship may lead to its deterioration over time.** The average score on the bonding social capital index and the bridging social capital index, which measure the degree to which households can give and receive support within and outside one's community, remained at moderate levels between rounds. Focus group discussants and key informants commonly reported supporting others through various local community groups or

social networks to provide services or financial assistance. However, some community groups noted that they could no longer help non-members due to financial constraints and economic hardship. In addition, the low supply and high cost of materials hamper community efforts to repair infrastructure damaged by the flooding.

## 4.2. Questions for Programming

The results of the RMS thus far suggest several questions relevant for adaptive program management and future program design. The table below presents questions for programming connected to RMS findings from the two RMS rounds to date.

Finding and reflection on program implications	Specific questions for programming
<p>Severe flooding has significantly affected people across the BAY-G states, impacting agricultural production, markets and household income. Households are finding it more difficult to afford basic needs, and now face additional costs of repairing flood damage. The negative impact of flooding on agricultural income created a sudden demand for short-cycle crop seeds for re-planting as flood water receded. The impetus to shift to different crops and livelihood activities also created a need for quick access to credit to purchase additional seeds and other inputs.</p>	<p>How can market-strengthening activities pivot quickly to respond to this sudden change in demand for credit and inputs?</p>
<p>Inflation and disruptions in access to currency have increased the cost of monetary transactions and strained households' capacities to support each other during a time of economic hardship and engage inter-household giving, common practices in communities in the study area.</p>	<p>How can interventions bolster social networks to facilitate inclusive non-monetary exchange mechanisms (i.e., barter) in the short term?</p> <p>How can these interventions be designed to avoid undermining the return to monetary transactions once conditions normalize?</p>
<p>Economic hardship, insecurity, and extreme weather events are straining community resources and contributing to a reduction in collective action (e.g., road/bridge repair, repair of flood damage to infrastructure, planting trees on communal land).</p>	<p>What can be done in the short run to protect and support collective activities that provide important services to community members?</p>
<p>Food secure households are more likely to engage in market-systems strengthening activities (e.g., information exposure, input/output market services) than food insecure households.</p>	<p>How can we explain improved food security outcomes: Has access to market-systems strengthening services led to improved food security?</p> <p>Is there a self-selection bias whereby better-off households are more likely to participate in and benefit from market-systems strengthening activities?</p> <p>Is there a need to adjust the program strategy to more effectively engage vulnerable households in market-systems interventions?</p>

### 4.3. Research Considerations

The findings of the RMS point to potential areas of inquiry for future monitoring and research. The following themes may be addressed through a combination of activities, including rounds 3 and 4 of the RMS, a deeper qualitative inquiry, RRA's ongoing monitoring and assessment activities, and other complementary studies:

**Displacement.** Findings from the initial qualitative inquiry and RMS highlight the heterogeneity of displaced populations. More robust profiles of IDPs and their engagement with market-systems and resilience-strengthening activities would inform future programming in displacement contexts. Potential areas for research include:

- How do displaced populations compare/differ from non-displaced populations in the ability to engage in market transactions?
- Do displaced people encounter unique obstacles in certain types of market transactions or services?

**Social capital and collective action.** It will be important to monitor and assess trends in social capital and collective action indicators over time.

- How and to what extent are social capital and collective actions eroding?
- What are the implications of these dynamics on household and community well-being?

**Flood impacts.** Possible research questions on this theme include:

- How are households adjusting farming, livestock, and other livelihood activities in response to flooding and financial shocks and stress?
- How are service providers (e.g., agricultural input suppliers, financial service providers, transporters) responding and adapting?

**Market systems development approach.** An in-depth analysis could address the following questions:

- To what extent are market systems development approaches benefiting more-vulnerable populations?
- Are interventions contributing to increased food security of more vulnerable households, or are they supporting populations that are already less vulnerable/more food secure and thereby better able to engage in market-systems strengthening activities?
- If the latter, what possible changes in intervention strategies could help promote a more inclusive engagement strategy?