



## Drivers and Barriers to Household Resilience in Northern Nigeria: Methods Report



Prepared for Catholic Relief Services  
by the Keough School of Global Affairs Integration Lab  
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## Acronyms

|               |   |
|---------------|---|
| <b>BRACED</b> | Building Resilience and Adaptation for Climate Extremes and Disasters |
| <b>CoBRA</b>  | Community-Based Resilience Assessment                                 |
| <b>CRS</b>    | Catholic Relief Service   |
| <b>DFID</b>   | Department for International Development (UK)                         |
| <b>FAO</b>    | Food and Agriculture Organization                                     |
| <b>FCT</b>    | Federal Capital Territory   |
| <b>FIES</b>   | Food Insecurity Experience Scale                                      |
| <b>FTF</b>    | Feed the Future   |
| <b>FGD</b>    | Focus Group Discussion  |
| <b>HHS</b>    | Household Survey  |
| <b>HDDS</b>   | Household Dietary Diversity Score                                     |
| <b>IAI</b>    | Intervention Adoption Index   |
| <b>i-Lab</b>  | Integration Lab   |
| <b>JDPC</b>   | Justice, Development, and Peace Commission                            |
| <b>KII</b>    | Key Informant Interview   |
| <b>KSGA</b>   | Keough School of Global Affairs                                       |
| <b>LLKII</b>  | Local Leader KII  |
| <b>LGA</b>    | Local Government Area   |
| <b>KWIC</b>   | Key Word in Context   |
| <b>MEAL</b>   | Monitoring, Evaluation, and Learning                                  |
| <b>MIRA</b>   | Monthly Interval Resilience Assessment                                |
| <b>MSC</b>    | Most Significant Change   |
| <b>RCI</b>    | Resilience Capacity Index   |
| <b>REAL</b>   | Resilience, Evaluation, Analysis, and Learning                        |

|              |  |
|--------------|--|
| <b>RHKII</b> | Resilient Household KII                            |
| <b>SERS</b>  | Subjective Evaluation of Resilience Score          |
| <b>SEM</b>   | Shock Exposure Measure                             |
| <b>SILC</b>  | Saving and Internal Lending Community              |
| <b>TANGO</b> | Technical Assistance for NGOs                      |
| <b>UNDP</b>  | United Nations Development Programme               |
| <b>USAID</b> | United States Agency for International Development |
| <b>WLS</b>   | Weighted Least Squares                             |

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## Preface

From 2013-2018, Catholic Relief Services (CRS) implemented the Feed the Future Nigeria Livelihoods (FTF Nigeria) project. Its aim was to improve economic well-being and reduce poverty of 42,005 households in two states within Northwestern Nigeria, Sokoto and Kebbi, as well as the Federal Capital Territory (FCT). In 2017, the project was expanded as an aid and relief project to the NE states of Borno, Yobe, and Adamawa which were experiencing high levels of conflict. The project was unique for its diverse set of activities; not solely an agriculture project or a health project, the broad range of activities deployed was multi-sectoral and cross-cutting. Therefore, the project is best understood through the lens of resilience: it worked to improve households' ability to withstand shocks and stressors through multiple interventions. While the term resilience was less commonly used in 2013, a decade later it has become a staple concept within the humanitarian lexicon. This study aims to explore both the impacts of the Feed the Future project and the state of resilience in Northern Nigeria. This mixed-methodological study was conducted in 2023 through a collaboration between Catholic Relief Services Nigeria and a team of graduate students from the University of Notre Dame's Keough School of Global Affairs: Emma Hokoda, Colleen Maher, and Nancy Obonyo, working under the School's Integration Lab (i-Lab).

This report provides a full, detailed description of this study's methodology including all data collection instruments, sampling, and data analysis. A separate full project report contains an overview of the project and reveals main findings and recommendations for Catholic Relief Services.

### About the Authors

This document was authored by a team of graduate students enrolled in the Integration Lab (i-Lab) in the Keough School of Global Affairs (KSGA) at the University of Notre Dame. This document assembles data, analyses, recommendations or guidance at the request of Catholic Relief Services. As the product of an academic experience, any opinions, findings, and conclusions or recommendations expressed herein are those of the student authors and do not necessarily reflect the views of the Keough School of Global Affairs, the University of Notre Dame or Catholic Relief Services.



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## Methodology Overview

This study utilized a series of successive data collection methods for two aims: (1) to assess the impact of the Feed the Future Nigeria Livelihoods project and (2) to ascertain the resilience levels of Northern Nigeria communities. Data collection instruments were designed using existing resilience measurement frameworks including TANGO International's Resilience Capacity Index (Light Approach), BRACED's Subjectively Evaluated Resilience Score (SERS), and UNDP's Community Based Resilience Analysis (CoBRA). The adopted resilience measurement techniques were informed by a desk review of existing tools and frameworks, including those that capture participant's resilience perspectives, judgments, and preferences. Data collection was conducted through a phased approach depicted in Figure 1, focusing on the six states where FTF Nigeria was implemented: Sokoto, Kebbi, the Federal Capital Territory, Borno, Yobe, and Adamawa. See [Annex A](#) for the specific villages included in the study.



Figure 1. Methodology Timeline.

The Household Surveys (HHSs) were fielded first. HHSs were conducted across FTF Nigeria beneficiary communities to:

1. determine the efficacy and durability of FTF Nigeria activities,
2. measure households' current resilience levels, and
3. determine which FTF interventions were still in use and the depth of their current engagement with these activities.

Following HHSs, findings were contextualized by focus group discussions (FGDs) with selected beneficiary households. Key informant interviews (KII) then followed, beginning with Local Leaders (LLKIs) and Implementing Partners (IPKIs), as well as interviews with FTF Nigeria staff and activity leads, which revealed these interventions' sustainability and transformative capacity.

To further identify the factors contributing to building, maintaining, and eroding resilience in Northern Nigeria, FGDs also explored local conceptualizations of resilience and the factors/interventions enabling it. Additional Resilient Household Key Informant Interviews

(RHKIs) with households identified as exemplars by their peers during the FGDs, revealed the specific strategies “bright spot” households used to build their resilience, with LLKIs and IPKIs revealing how the context promoted or impeded household resilience.

This study was approved as Exempt Human Subjects Research by the University of Notre Dame’s Institutional Review Board under protocol 23-02-7702. All participation was voluntary with an oral consent process stipulating that participants could choose to withdraw from the study at any time. Participants did not receive any form of monetary compensation or other benefit for their participation

# Resilience Measurement

Although resilience can be applicable in many different industries, from engineering to ecology, resilience has become a key facet of global development strategy in recent years and formalized by USAID as “[T]he **ability of people, households, communities, countries, and systems to mitigate, adapt to, and recover from shocks and stresses in a manner that reduces chronic vulnerability and facilitates inclusive growth.**” As the climate crisis has worsened, compounded by increasing instability across the globe, there is a growing need for communities to be able to weather the shocks that, more and more, seem inevitable.

Resilience-strengthening activities organize into three main categories (see Table 1) and include systems strengthening and livelihood building activities, as well as disaster risk reduction, allowing communities to better cope with future shocks and stressors.

| Table 1: Capacity Definitions  |   |
|--------------------------------|---|
| <b>Absorptive Capacity</b>     | Ability to minimize exposure and sensitivity to shocks and stresses through preventative measures and appropriate coping strategies that ensure short-term survival while trying to avoid permanent, negative impacts. For example, DRR, financial services, and health insurance.      |
| <b>Adaptive Capacity</b>       | Abilities that enable informed choices and changes in livelihood and/or other strategies in response to longer-term social, economic, and environmental change. For example, income diversification, market information, and trade networks.  |
| <b>Transformative Capacity</b> | Governance mechanisms, policies and regulations, cultural and gender norms, community networks, and formal and informal social protection mechanisms that constitute the enabling environment for systemic change. For example, infrastructure, good governance, and formal safety nets |

Because of the multifaceted nature of resilience it can be incredibly difficult to measure resilience. For that reason, productivity, asset measurement and food security status, for example, are often used as a proxy for resilience measurement. Another difficulty in measuring resilience is the dissonance between these conventional, “**objective**” measures and the socio-emotional dimensions of resilience. These contextualized, “**subjective**” resilience are equally critical to absorbing shocks. Thus, this study combines three approaches to achieve a methodology that captures objective resilience measures used by the development community, while also including more subjective measures.

## Resilience Measurement Tool Selection

Several types of qualitative and quantitative resilience frameworks, most with implementation resources available, were considered. Table 1 shows the resilience measurement tools considered. Based on conversations with CRS, desk review, and logistical considerations, including timeline and personnel, the selected tools included TANGO and SERS for the quantitative data collection and CoBRA for the qualitative data collection. Following selection, additional changes were made to the tools in order to tailor them to the Northern Nigeria context.

This study utilized multiple approaches for defining and describing resilience. In the household survey, questions were pulled from USAID and TANGO international's "light approach" for measuring resilience, which was created specifically for evaluating resilience in Feed the Future projects. The light approach questions produce a Resilience Capacity Index (RCI) score, which aggregates the 9 components of the index and rescales them to a score between 0-100.



**Table 1: Resilience measurement tools considered (selected tools are shaded)**

| Name, Source                        | Type  | Pros   | Cons   |
|-------------------------------------|-------|--|--|
| RIMA II, FAO [1]                    | Quant | Used by FAO, which is active in the region.  | Not suggested by CRS staff.  |
| TANGO, TANGO Intl. [2]              | Quant | -Used in other USAID grants.<br>-Measured all three resilience capacities.   | Heavy survey burden for participants.  |
| FTF Nigeria Endline Survey, CRS [3] | Quant | Potential for direct comparison to 2018 endline to determine growth or change over time.   | Not directly designed for resilience measurement.  |
| SERS, BRACED [4]                    | Quant | Measures communities' subjective resilience.   | Lacks factor analysis of more established surveys, such as TANGO.  |
| CoBRA, UNDP [5]                     | Qual  | -Focus on community definitions of resilience.<br>-Characteristics of a resilient household/ community.<br>-Strategies of achieving resilience (from resilient households).<br>-Existing suite of tools and resources. | -Intended to be implemented twice to demonstrate change over time.<br>-Few examples of the tool in the literature. |
| MSC [6]                             | Qual  | -Can capture unexpected stories<br>-Pre-defined methodology.   | Requires extensive training for enumerators.   |
| Sensemaker [7]                      | Qual  | -Highly sophisticated qualitative method.<br>-Used by CRS.   | Requires extensive training for enumerators.   |
| MIRA, CRS [8]                       | Qual  | Widely used by CRS.  | Intended to be a monitoring tool, therefore not applicable.  |

[1] Resilience Index Measurement Analysis II - RIMA II. (2016). Rome, Italy: FAO.

[2] TANGO International. (2018). Methodological Guide: A Guide for Calculating Resilience Capacity. Produced by TANGO International as part of the Resilience Evaluation, Analysis and Learning (REAL) Associate Award.

[3] Final Performance Evaluation: Feed the Future Nigeria Livelihoods Project. (2019). Baltimore: Catholic Relief Services.

[4] Jones, L. (2019) A how-to guide for subjective evaluations of resilience. Resilience Intel. BRACED.

[5] UNDP Global Policy Centre on Resilient Ecosystems and Desertification. (2017). Community Based Resilience Analysis (CoBRA) Implementation Guidelines - Version 2. New York: UNDP.

[6] Dart, J., & Davies, R. (2003). A Dialogical, Story-Based Evaluation Tool: The Most Significant Change Technique. The American Journal of Evaluation, 24(2), 137–155. [https://doi.org/10.1016/S1098-2140\(03\)00024-9](https://doi.org/10.1016/S1098-2140(03)00024-9)

[7] Guijt, I., Gottret, M. V., Anna Hanchar, Deprez, S., Muckenhirn, R. (2022). The learning power of listening: practical guidance for using Sensemaker. Baltimore: Catholic Relief Services.

[8] CRS. (2021). Monthly Interval Resilience Analysis (MIRA). Baltimore: Catholic Relief Services.



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## Data Collection

### Team Configuration

Because of the large geographic scope, security risks, and language needs of this research, the team utilized local enumerators for data collection. Enumerator recruitment and hiring was handled by CRS country staff, who also estimated the number of enumerators needed per state. Because there were six states, each member of the team was responsible for managing the groups of enumerators and leading the focus group formation process in two states.

### Training

The team, in collaboration with partners at the CRS Abuja, Yola, and Sokoto offices, conducted three 2-day training sessions for the study's 50 enumerators. See Table 2 for training dates and number of trainees, by location. Enumerators were briefed on the purpose of the study, the household survey tool in Commcare, and the facilitator guides and synthesis sheets used for focus group discussions and key informant interviews. Training sessions were also used to further localize the survey questionnaire/question framing, and establish resilience definitions in Pidgin and Hausa to ensure consistency in translation.

During enumerator training, the team paired enumerators and identified which enumerators would also serve as facilitators for focus group discussions and key informant interviews.

| Table 2: Training details |                |         |                       |
|---------------------------|----------------|---------|-----------------------|
| Training Location         | Date           | State   | Number of Enumerators |
| Abuja                     | June 1-2, 2023 | FCT     | 6                     |
| Yola                      | June 7-8, 2023 | Adamawa | 4                     |
|                           |                | Yobe    | 6                     |
|                           |                | Borno   | 8                     |
| Sokoto                    | June 12-13     | Sokoto  | 14                    |
|                           |                | Kebbi   | 12                    |



## Household Survey

Household surveys typically lasted between 20 to 45 minutes and were administered by enumerators via the CommCare mobile phone application provided by the CRS office in Abuja. The household survey questionnaire was modeled after the USAID TANGO light approach for measuring household resilience capacity. For more information on TANGO, see its Methodological Guide.<sup>1</sup> The survey adopted the following structure: (1) screening questions to establish beneficiary status, (2) verbal consent process, (3) demographic information, (4) FTF Nigeria Livelihoods program participation, (5) experienced shocks and stressors, (6) coping strategies, (7) FTF Nigeria Livelihoods activity impacts, (8) food security, (9) resilience capacity, (10) subjective self-evaluated resilience score (SERS), and (11) FGD opt-in. The survey's implementation in the Commcare mobile application enabled the inclusion of skip logic to adapt the question sequence based on responses to earlier questions and beneficiary status. Enumerators translated English-language survey questions and prompts displayed in CommCare into the relevant local language at the time of survey administration and recorded participant answers in English, which were encoded on the application backend to corresponding numerical values. See [Annex B](#) for the household survey instrument and [Annex C](#) for its corresponding code book detailing how responses were processed for use in subsequent analyses.

## Focus Group Discussions

Focus groups typically lasted between 45 and 70 minutes and were conducted by two facilitators to allow simultaneous note taking in structured synthesis worksheets integrated into the facilitation guide (see [Annex D](#)). Guided by the Community Based Resilience Assessment (CoBRA) framework<sup>2</sup> facilitators used locally-relevant definitions of key terms regarding shocks, stressors, responses, and resilience characteristics to elicit community experiences and attitudes towards these topics as well as community growth and development and the impacts of FTF activities. The focus group closed with nominations of households in their community who modeled the definition of resilience established in the focus group.

## Resilient Household and Local Leader Key Informant Interviews

Interview guides and recording sheets for RHKIs and LLKIs were also adapted from materials provided by CoBRA. All qualitative data collection activities were audio recorded in CRS-provided

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<sup>1</sup> TANGO International. (2018). Methodological Guide: A Guide for Calculating Resilience Capacity. Produced by TANGO International as part of the Resilience Evaluation, Analysis and Learning (REAL) Associate Award.

<sup>2</sup> UNDP Global Policy Centre on Resilient Ecosystems and Desertification. (2017). Community Based Resilience Analysis (CoBRA) Implementation Guidelines - Version 2. New York: UNDP.

cell phones and sent to the authors at the end of every day to begin the transcription process. Quality control spot checks were completed by CRS staff fluent in the language of the focus group. Facilitators recorded notes in the structured synthesis worksheets integrated into the interview guides for RHKIs (see [Annex E](#)) and LLKIs (see [Annex F](#)). On average, interviews lasted between 20 and 30 minutes. The two facilitators that led the FGDs were also responsible for conducting the RHKIs and the LLKIs. For consistency, they took turns taking notes/recording and leading the interviews.

### Implementing Partner Key Informant Interviews

All IPKIs were administered by the authors via Zoom or Whatsapp and generally lasted around 30 minutes, with one author leading the interview, one recording notes in the structured synthesis worksheet in the interview guide, and the third providing secondary support in interviewing and note taking. Interview guides are provided in [Annex G](#).

## Sampling Frame

Below, the sampling frame for the project is outlined for each data collection method.

### Household Surveys

This study aimed to conduct 1000 household surveys in total, 800 from the FTF Nigeria project and 200 control households, selected to achieve statistical power based on the size of the original beneficiary group (54,785 households). In order to determine the necessary distribution of our sample across states, LGAs, Wards, and Villages, this study replicated the distribution of households from the original FTF project, seeking to match the beneficiary distribution across states outlined in the endline survey, as reported in **Table 3**.

| <b>Table 3: Beneficiary Distribution of Original Feed the Future Nigeria Project</b> |                          |
|--|--------------------------|
| State  | Beneficiary Distribution |
| Sokoto   | 44%                      |
| Kebbi  | 22%                      |
| FCT  | 10.5%                    |
| Adamawa  | 5.5%                     |
| Borno  | 11.5%                    |
| Yobe   | 6.5%                     |
| Total  | 100%                     |

### Northwest + FCT Sampling

This study targeted villages with the highest number of FTF Nigeria households to reduce enumerator burden and increase the likelihood of meeting HHS targets during a limited field collection campaign. The base FTF project in FCT, Sokoto, and Kebbi ran for the entire five-year period, and during this time, CRS collected data at the village level regarding the number of households served. This data was used to *calculate the percentage of households served per LGA and ward*. Next, *the villages with the highest numbers of FTF households* were used to determine which ward should be prioritized. The project served many villages in each ward, some reaching as few as 30 households and others reaching over 1000. The population size of each village was unknown, so data collection in villages with a high number of beneficiaries served (according to project data) was prioritized.

This study relied on CRS's implementing partners and local community contacts to act as recruiters on behalf of the project and connect the enumerators in each state to FTF beneficiaries for data collection. Focusing on fewer villages with a higher original number of households served also lowered the burden on our community recruiting partners.

The *total beneficiary population per ward* was used to calculate the number of surveys to collect in each ward. These sampled households ultimately come from a narrower geographic spread of villages than the original project served, a known but necessary limitation to the study.

### Northeast Sampling

For the NE states (Borno, Adamawa, and Yobe), since the project only operated between 2017 and 2018 as a pseudo-emergency effort, the breakdown of beneficiary households by village could not be recovered by CRS. The only data available was the breakdown of beneficiary households at the state level and the number of SILC groups formed across villages. In this region, the project relied more heavily on CRS and their local partners who were aware of where the project had been implemented to select the villages with the highest number of SILC groups to prioritize for sampling. Because ward-level beneficiary data was unavailable, the team divided the state-level numbers evenly across all villages prioritized within each state.

Due to security concerns in Borno, Kebbi, and Sokoto states, some villages and wards were excluded from the sampling frame. These security determinations were made by local staff and the affected locations were removed entirely from this study. Other than in Sokoto and Kebbi where the control targets fell slightly short, control and FTF samples in all states were met or exceeded (see **Table 4**). Refer to [Annex A](#) for a detailed table of all FTF Nigeria Livelihoods villages and the subset used in this study, including those removed due to security concerns.

| <b>Table 4:</b> Household survey beneficiaries: target and actual counts for FTF and control. |                   |                |            |                    |            |
|---|-------------------|----------------|------------|--------------------|------------|
| State   | Beneficiary Count | FTF Households |            | Control Households |            |
|   |                   | Targeted       | Actual     | Targeted           | Actual     |
| <b>Northwest</b>  |                   |                |            |                    |            |
| Sokoto  | 24,376            | 352            | 449        | 88                 | 76         |
| Kebbi   | 11,850            | 176            | 221        | 44                 | 41         |
| FCT   | 5,777             | 84             | 85         | 21                 | 21         |
| NW  | 42,003            | 612            | 755        | 153                | 138        |
| <b>Northeast</b>  |                   |                |            |                    |            |
| Yobe  | 3,640             | 52             | 61         | 12                 | 12         |
| Borno   | 6,142             | 92             | 101        | 23                 | 27         |
| Adamawa   | 3,000             | 44             | 54         | 11                 | 12         |
| NE  | 12,782            | 188            | 216        | 47                 | 51         |
| <b>Total</b>  | <b>54,785</b>     | <b>800</b>     | <b>971</b> | <b>200</b>         | <b>189</b> |

## Focus Groups and Resilient Household, Implementing Partner, Local Leader Interviews

The study targeted 24 FGDs across the entire program geography, mirroring the distribution of beneficiaries (see **Table 5**). FGDs were drawn from both FTF and non-FTF household survey participants who “opted-in” at the end of their household survey. The team analyzed HHS data to find villages with a high number of “opt-ins” for ease of FGD formation. When possible, FGD participants were all from the same village and the discussion took place in a convenient location for participants to access (this was hardest to achieve in NE states where the sample size was lower and some focus groups were formed with participants from multiple villages). The smallest focus group was 5 and the largest was 12. In most states, FGDs were separated by gender since social and cultural norms prohibit men and women from speaking freely in the same room.

| <b>Table 5: Number of focus groups, resilient household and local leader interviews</b>    |                             |                                |                         |
|--|-----------------------------|--------------------------------|-------------------------|
|  | <b>Focus Groups</b>         | <b>Resilient Household KIs</b> | <b>Local Leader KIs</b> |
| <b>Northwest</b>   |                             |                                |                         |
| Yobe   | 2*                          | 2                              | 2                       |
| Borno  | 3                           | 3                              | 3                       |
| Adamawa  | 2                           | 2                              | 1                       |
| <b>Northeast</b>   |                             |                                |                         |
| Sokoto   | 10: 5 high SERS, 5 low SERS | 10                             | 16                      |
| Kebbi  | 4: 2 high SERS, 2 low SERS  | 4                              | 9                       |
| FCT  | 3: 2 high SERS, 1 low SERS  | 3                              | 4                       |
| <b>Total</b>   | <b>24</b>                   | <b>24</b>                      | <b>35</b>               |
| *an additional, third focus group was conducted in Yobe but the recording was compromised. |                             |                                |                         |

Where possible, focus groups were broken down by participants' subjective evaluation of resilience score (SERS), separating “low” and “high” SERS households.<sup>3</sup> Participants were grouped into “low” and “high” SERS households (low was a score below 20, and high was a score of 20 and above).

At the end of each focus group discussion, participants were asked to nominate up to three model resilient households in their community. There resulted in 24 RHKIs, one per focus group. Finally, two local leader KIs were conducted in each ward where data was collected to match the proportion of beneficiaries per state.

<sup>3</sup> Low SERS was a score below 20, and high SERS was a score of 20 and above.

## Implementing Partner Interviews

Implementing partner KIIs were conducted with current and former CRS staff who worked on the FTF Nigeria project and other implementing partners. Current CRS staff recommended the initial interviewees, and snowball sampling was applied to grow the IPKII pool. The seven KIIs with implementers engaged: 1) field staff, 2) agricultural productivity and diversification technical advisor, 3) former chief of party, 4) head of office, 5) SILC officer, and 6) JDPC staff, 7) program manager.

## Data Analysis

A high-level overview of quantitative and qualitative analyses conducted are first provided, followed by details of these analyses organized by findings presented in the main report. The details include analysis results.

### Quantitative Analysis

Quantitative data collected from household surveys was compiled and downloaded from Commcare into a .CSV file analyzed in STATA. Critical indices (both established and constructed for the purpose of this study) were then calculated using the procedures outlined in the Annexes. See **Table 6** for a listing of these indices and Annexes with implementation details.

The team used basic correlations and descriptive statistics as the first phase of quantitative data analysis. A series of weighted least square (WLS) analyses for variables of interest, with a set of standard demographic controls, was then used to identify substantive and statistically significant effects, though the study design cannot claim to infer causality. As appropriate, data was used for comparative analyses between states/regions and communities with comparable shock and stressor sequences. Difference in means results were used where appropriate for comparative interpretations.



**Table 6:** Constructed Indices used in quantitative analyses

| Index Name                              | Description   | Implementation Details   |
|---|---|--|
| FIES: Food Insecurity Experience Scale  | Typically, FIES is calculated using the Rasch model for cross-country comparisons. In this study, a simple raw, additive score for FIES was calculated, a higher score indicating higher levels of food insecurity.   | <a href="#">Annex C, Section 5.</a><br>FAO. The Food Insecurity Experience Scale: Measuring Food Insecurity Through People's Experiences.<br><a href="https://www.fao.org/in-action/voices-of-the-hungry">https://www.fao.org/in-action/voices-of-the-hungry</a> |
| HDDS: Household Dietary Diversity Score | <p>The Household dietary diversity (HDD) survey is calculated by a simple count of the number of food groups a household consumed in the previous 24-hour period. HDD contains 12 primary food groups:</p> <ol style="list-style-type: none"> <li>1. Cereals</li> <li>2. White roots and tubers</li> <li>3. Vegetables</li> <li>4. Fruits</li> <li>5. Meat</li> <li>6. Eggs</li> <li>7. Fish and other seafood</li> <li>8. Legumes, nuts and seeds</li> <li>9. Milk and milk products</li> <li>10. Oils and fats</li> <li>11. Sweets</li> <li>12. Spices, condiments and beverages</li> </ol> <p>An additional category of food was added for vitamin-A rich red palm oil / palm nut products. This category was combined with the fruits category as both consist of vitamin-A rich foods.</p> | <a href="#">Annex C, Section 6.</a> Kennedy, G., Ballard, T., Dop, MC. Nutrition and Consumer Protection Division, Food and Agriculture Organization of the United Nations. Guidelines for Measuring Household and Individual Dietary Diversity.                 |
| IAI: Intervention Adoption Index        | <p>The IAI is calculated by multiplying the activity participation variable (0 - 1 for each of the four activity types) by the activity use variable (0 - 4) and adding the activity share variable.</p> <p>Therefore, the combined index is a scale ranging from 0 (no participation in FTF) to 20 (high participation, usage, and sharing). A higher IAI indicated deeper, more lasting engagement in and impact of the FTF Nigeria Livelihoods project on a household.</p>   | <a href="#">Annex C, Section 4</a>   |



**Table 6:** Constructed Indices used in quantitative analyses (con't)

| Index Name                                      | Description   | Implementation Details   |
|---|---|--|
| RAI: Recovery Ability Index                     | The Recovery Ability Index (RAI) is based on the estimation of the ability of households to recover from the typical types of shocks that occur in the program areas, based on data regarding the shocks households experienced in the year prior to the survey.  | <a href="#">Annex C, Section 3</a> TANGO International. (2018). Methodological Guide: A Guide for Calculating Resilience Capacity. Produced by TANGO International as part of the Resilience Evaluation, Analysis and Learning (REAL) Associate Award.                             |
| RCI: Resilience Capacity Index                  | All nine (9) variables (bonding social capital, bridging social capital, local government responsiveness, access to cash savings, asset ownership consumer durables, asset ownership productive assets, education/training, access to formal safety nets, and access to humanitarian assistance) were transformed into a 0-10 scale and added together to form the Light Approach Resilience Capacity Index. This index was then rescaled from 0-90 to a 0-100 scale. | <a href="#">Annex H</a> and <a href="#">Annex C, Section 7</a> TANGO International. (2018). Methodological Guide: A Guide for Calculating Resilience Capacity. Produced by TANGO International as part of the Resilience Evaluation, Analysis and Learning (REAL) Associate Award. |
| SEM: Shock Exposure Measure                     | The shock exposure measure is a weighted average of the incidence of experience of each shock (a variable equal to one if the shock was experienced and zero otherwise), weighted by the perceived severity of the shock.   | <a href="#">Annex C, Section 2</a> , TANGO International. (2018). Methodological Guide: A Guide for Calculating Resilience Capacity. Produced by TANGO International as part of the Resilience Evaluation, Analysis and Learning (REAL) Associate Award.                           |
| SERS: Subjective Evaluation of Resilience Score | Respondents score their level of agreement with each capacity statement using a Likert scale from 1 = strongly disagree to 5 = strongly agree. To calculate the SERS, responses to the statements are simply added up to compute a single SERS for the household. In this preliminary analysis, we have chosen to weigh all resilience capacities equally.  | <a href="#">Annex I</a> , and <a href="#">Annex C, Section 8</a> Jones, L. (2019) A how-to guide for subjective evaluations of resilience. Resilience Intel. BRACED.   |



### *A Note on Data Cleaning*

In the data cleaning process, there were three main types of errors identified. Where possible, these errors were fixed ex post facto.

**Misidentification of control group:** In some surveys, the answer to the screening question “Did you or anyone in your household participate in the FTF project” was “yes.” However, in Section 1: FTF activities, the enumerator selected “no” for all four activity categories. It was later determined to be an error in question coding by the enumerator. This error occurred primarily within Kebbi State surveys and screening responses were corrected in CommCare.

**Misattribution of non-relevant FTF activities and misattribution of the impact of non-relevant FTF activities:** In the northeast expansion of the project in Borno, Yobe, and Adamawa states, the FTF project only implemented two of its four activity types: agricultural productivity and diversification and income generating and diversification activities. However, some surveys, primarily in Borno state, still reported participating in nutrition and behavior change and local government strengthening activities in the responses.

Respondent inconsistency in other states was also noted between Section 1: FTF participation and Section 4: FTF impact. For example, some surveys in Section 1 selected “no” for the question “did you or anyone in your household participate in an agricultural productivity or diversification activity” but selected “frequently” in Section 4 for “how often do you practice the agricultural productivity or diversification activity you learned during FTF?”

In both cases, once realized, re-training of enumerators helped to minimize this error in ongoing data collection; however, the acquired records with those inconsistencies could not be corrected. Instead, a variable (match) was added to flag records with this inconsistency, which were then omitted from the analyses focused on the impact of the Feed the Future project on resilience capacities (updated N=866).

**Missing section on FCT:** Two questions at the end of Section 4 of the household survey were not answered by participants in FCT. These two questions were added to the survey after the FCT enumerators had already completed data collection. Because of the tight timeline and staggered rollout of data collection, adjustments to the surveys were made in real time as enumerators had already begun collecting data in FCT, which was the first state trained and deployed. Unfortunately, this enumerator team was using an older version of the survey missing the following two questions “Reflecting on the period before, during, and after the FTF Nigeria project, how has your household’s capacity to prepare for, respond to, and adapt to shocks and stressors changed?” and “Which FTF project activity did your house rely on most when hit by a shock or stressor in the past five years?”

## Qualitative Analysis

Recordings of FGDs, RHHKIs, and LLKIs were transcribed by individuals versed in both the project objectives and Nigerian Pidgin, Hausa, and/or Babur Bura languages. The transcripts were compared against the notes taken on the synthesis sheets integrated into the facilitation and interview guides for quality control. The three types of documents (FGDs, RHHKIs, and LLKIs) were managed as separate projects with separate codebooks and were coded in ATLAS.ti by the authors.

The codebooks were developed for content analysis by first defining categories based on the structure of the facilitation and interview guides. These sections were used for count-based analysis, such as incidence of shocks and identification of resilience characteristics. An open coding strategy was employed for schema analysis of open-ended questions, such as the identification of themes across desired future interventions. The strategies were similar for all types of qualitative data, with the exception of LLKI Recording Sheets, which were primarily made up of open-ended questions and therefore relied less upon a priori codebook development. Codebooks for FGDs, RHHKIs, LLKIs, and IPKIs are respectively in [Annex J](#), [Annex K](#), [Annex L](#) and [Annex M](#).

Qualitative analysis was conducted in ATLAS.ti and MAXQDA. ATLAS.ti was used for content analysis and schema analysis, while MAXQDA was used for keyword in context (KWIC) and word frequencies. Qualitative codes were considered significant when mentioned in at least 50% of focus groups or key informant interviews or 50% of FGDs (overall or disaggregated by region (NE, NW, FCT), depending on context).

## Analysis Details, by Finding

### *Finding 1.1 Participating in FTF Nigeria Livelihoods increased household resilience.*

This finding examined the relationship between various resilience measures (SERS, RCI and RAI), as well as the effect of IAI on these resilience measures. The correlations between the subjective resilience measure (SERS) and the other objective resilience measures (RCI, RAI) are reported in **Tables F.1.1.1 and F.1.1.2**. The effect of IAI on the three resilience measures (RCI, SERS and RAI) is then examined through a set of WLS models with standard controls (state, gender, household size, FTF expansion phase, and education level). These WLS results are reported in **Table F.1.1.3**. The effect of RAI on SERS (**Table F.1.1.4**) and RCI on SERS (**Table F.1.1.5**) was also examined using a pair of WLS models with the same standard controls. Finally, a difference in means is used to determine if SERS and RCI was higher for beneficiaries, relative to non-beneficiaries (**Tables F.1.1.6-F.1.1.7**).

**Table F.1.1.1:** SERS and RCI correlation matrix

| Variable     | sers_re~e | rci_re~e |
|--------------|-----------|----------|
| sers_rescale | 1.000     | 0.382    |
| rci_rescale  | 0.382     | 1.000    |

**Table F.1.1.2:** SERS and RAI correlation matrix

| Variable     | sers_re~e | rai_re~e |
|--------------|-----------|----------|
| sers_rescale | 1.000     | 0.214    |
| rai_rescale  | 0.214     | 1.000    |

**Table F.1.1.3:** WLS results for effect of IAI on household resilience measures

| VARIABLES    | RCI                 | SERS                 | RAI                 |
|--------------|---------------------|----------------------|---------------------|
| IAI          | 1.039***<br>(0.101) | 0.593***<br>(0.108)  | 0.882***<br>(0.159) |
| state        | 0.419<br>(0.517)    | 3.812***<br>(0.551)  | 2.399***<br>(0.809) |
| gender       | 0.451<br>(1.448)    | 1.874<br>(1.544)     | 5.938***<br>(2.269) |
| HH size      | -0.268**<br>(0.135) | -0.449***<br>(0.144) | -0.533**<br>(0.212) |
| expansion    | 5.706***<br>(1.730) | 5.526***<br>(1.845)  | 0.0274<br>(2.710)   |
| education    | 2.511***<br>(0.341) | 2.122***<br>(0.364)  | 1.843***<br>(0.535) |
| Constant     | 39.36***<br>(3.188) | 38.41***<br>(3.400)  | 49.62***<br>(4.996) |
| Observations | 889                 | 889                  | 889                 |
| R-squared    | 0.177               | 0.115                | 0.079               |

Notes: Standard errors in parentheses

Significance reported as \*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

**Table F.1.1.4:** WLS results for effect of RAI on SERS

| VARIABLES    | sers_rescale         |
|--------------|----------------------|
| rai_rescale  | 0.128***<br>(0.0198) |
| state        | 3.265***<br>(0.506)  |
| gender       | 1.557<br>(1.401)     |
| hh_size      | -0.224*<br>(0.132)   |
| expansion    | 5.536***<br>(1.624)  |
| education    | 1.696***<br>(0.323)  |
| Constant     | 36.37***<br>(3.251)  |
| Observations | 1,160                |
| R-squared    | 0.093                |

Notes: Standard errors in parentheses

Significance reported as \*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

**Table F.1.1.5:** WLS results for effect of RCI on SERS

| VARIABLES    | sers_rescale         |
|--------------|----------------------|
| rci_rescale  | 0.368***<br>(0.0282) |
| state        | 3.231***<br>(0.480)  |
| gender       | 1.993<br>(1.326)     |
| hh_size      | -0.223*<br>(0.125)   |
| expansion    | 4.565***<br>(1.541)  |
| education    | 0.945***<br>(0.314)  |
| Constant     | 27.12***<br>(3.173)  |
| Observations | 1,160                |
| R-squared    | 0.181                |

Notes: Standard errors in parentheses

Significance reported as \*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1



**Table F.1.1.6:** Two-sample t-test with unequal variances on SERS for beneficiaries and non-beneficiaries

|                     | bs1 | obs2 | Mean1  | Mean2  | dif    | St Err | t value | p value |
|---------------------|-----|------|--------|--------|--------|--------|---------|---------|
| sers rescale by ftf | 189 | 971  | 58.276 | 63.234 | -4.957 | 1.478  | -3.35   | 0.001   |

**Table F.1.1.7:** Two-sample t-test with unequal variances on RCI for beneficiaries and non-beneficiaries

|                    | obs1 | obs2 | Mean1  | Mean2  | dif    | St Err | t value | p value |
|--------------------|------|------|--------|--------|--------|--------|---------|---------|
| rci rescale by ftf | 189  | 971  | 47.065 | 54.184 | -7.118 | 1.518  | -4.7    | 0       |

*Finding 1.2 FTF Nigeria Livelihoods Improved Household Dietary Diversity Scores*

This finding in the accompanying report is based on a difference in means for HDDS for the beneficiary population in comparison with the control group (**Table F.1.3.1**). A series of WLS models were run to further examine the effect of IAI, SEM and FIES on HDDS, with standard controls (gender, household size, FTF expansion phase, and education level). Results are presented in **Table F.1.3.2**.

**Table F.1.3.1:** Two-sample t-test with unequal variances on HDDS for beneficiaries and non-beneficiaries

|             | obs1 | obs2 | Mean1 | Mean2 | dif   | St Err | t value | p value |
|-------------|------|------|-------|-------|-------|--------|---------|---------|
| hdds by ftf | 189  | 971  | 4.423 | 4.873 | -0.45 | 0.195  | -2.3    | 0.021   |

**Table F.1.3.2:** WLS results for effect of IAI, SEM, and FIES on HDDS

| VARIABLES  | hdds                 | hdds                    | hdds                  |
|--|----------------------|-------------------------|-----------------------|
| ftf_depth  | 0.120***<br>(0.0148) |                         |                       |
| sem  |                      | -0.0598***<br>(0.00966) |                       |
| fies   |                      |                         | -0.276***<br>(0.0348) |
| state  | 0.0532<br>(0.0753)   | 0.159**<br>(0.0703)     | 0.211***<br>(0.0702)  |
| gender   | -0.319<br>(0.211)    | -0.244<br>(0.194)       | -0.128<br>(0.192)     |
| hh_size  | -0.0383*<br>(0.0197) | -0.0105<br>(0.0183)     | -0.0110<br>(0.0181)   |
| expansion  | 0.0740<br>(0.252)    | -0.101<br>(0.229)       | -0.116<br>(0.225)     |
| education  | 0.183***<br>(0.0497) | 0.210***<br>(0.0444)    | 0.210***<br>(0.0439)  |
| Constant   | 3.887***<br>(0.465)  | 4.942***<br>(0.442)     | 5.555***<br>(0.455)   |
| Observations   | 889                  | 1,160                   | 1,160                 |
| R-squared  | 0.094                | 0.059                   | 0.078                 |
| Notes: Standard errors in parentheses<br>Significance reported as *** p<0.01, ** p<0.05, * p<0.1 |                      |                         |                       |

***Finding 1.3 Practices learned during FTF Nigeria Livelihoods continued after the project ended***

This finding in the accompanying report is based on summary statistics and analysis of the continued use variable and sharing variable for each of the four FTF Nigeria Livelihoods project activity categories. The findings detailing the sustainability and exit plan of the project come from the IKPIIs.

“Over 90% of beneficiary households surveyed continue to practice a skill that they learned during the project at least once or twice per year. Over 50% of beneficiaries continue to practice skills they learned during the FTF Nigeria Livelihoods project on a regular (daily) or frequent (weekly/monthly) basis, when faced with shocks and stressors.” These statistics are calculated by aggregating the agri\_use, income\_use, nutri\_use, and gov\_use variables and their responses.

“Over 80% of households who received an FTF intervention shared it with someone else.” This statistic is calculated by aggregating the agri\_share, income\_share, nutri\_share, and gov\_share variables and their responses.

The final three paragraphs of this finding detail IPKII insights drawn from an ocular scan of the interviews with staff and implementing partners. The IPKIIs discussed the challenges and successes of the project design, as well as the sustainability and exit plan of the FTF Nigeria Livelihoods project. Insights were primarily drawn from question 7 of the [IPKII interview guide](#).

### *Finding 2.1 Beneficiaries relied most on agriculture and income generation activities during shocks*

This finding in the accompanying report first examined descriptive statistics on activity participation rates, reliance rates during shocks, and sharing rates (**Table F.2.1.1**). These measures were derived from the following HHS questions:

- **Participation:** Was anyone in your household involved in an intervention (agricultural productivity or diversification activity/income generation and diversification/ nutrition and behavioral change/local government strengthening)? Each question was supplemented by distinct intervention practices.
- **Reliance during shocks:** In the past year, when you experienced a shock or stressor, how frequently did you turn to an intervention (agricultural productivity or diversification activity/income generation and diversification/ nutrition and behavioral change/local government strengthening) you learned through FTF Nigeria?
- **Sharing rates:** Did you share what you learned in this intervention with anyone else?

**Table F.2.1.1:** Descriptive statistics on activity participation, reliance during shocks, and sharing rates

| Intervention                                 | Participation (%) | Reliance during shocks (%) | Sharing Rates (%) |
|--|-------------------|----------------------------|-------------------|
| Agricultural production and diversification. | 57.3              | 97.2                       | 83.5              |
| Income generation and diversification        | 87                | 95                         | 87                |
| Nutrition and behavior change                | 57                | 98.2                       | 88.8              |
| Local government strengthening               | 30.6              | 91.9                       | 69.9              |

### *Finding 2.2 Diversification of income streams builds household resilience*

This finding in the accompanying report examines the impact of diversification on RCI. A series of WLS models were constructed to see the effect of participating in agriculture activities, participating in income activities, and effect of participating in both, with standard controls of state, gender, household size, education level, and literacy level. See results in Table F.2.2.1.

**Table F.2.2.1:** WLS results for effect of agricultural production and income generation on RCI

| VARIABLES          | rci_rescale         | rci_rescale         | rci_rescale         |
|--------------------|---------------------|---------------------|---------------------|
| only_ag            | -6.021*<br>(3.340)  |                     |                     |
| only_income        |                     | -1.110<br>(1.642)   |                     |
| interact_ag_income |                     |                     | 4.655***<br>(1.183) |
| hh_size            | -0.146<br>(0.140)   | -0.154<br>(0.140)   | -0.175<br>(0.139)   |
| education          | 1.224***<br>(0.373) | 1.225***<br>(0.374) | 1.150***<br>(0.372) |
| gender             | -0.804<br>(1.466)   | -1.202<br>(1.450)   | -0.977<br>(1.442)   |
| literacy           | 2.974*<br>(1.527)   | 2.867*<br>(1.528)   | 2.614*<br>(1.518)   |
| state              | 1.201**<br>(0.477)  | 1.081**<br>(0.484)  | 0.911*<br>(0.477)   |
| Constant           | 43.82***<br>(2.708) | 44.52***<br>(2.756) | 43.47***<br>(2.693) |
| Observations       | 1,159               | 1,159               | 1,159               |
| R-squared          | 0.024               | 0.022               | 0.034               |

Notes: Standard errors in parentheses

Significance reported as \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

### *Finding 2.3 Government strengthening activities had the greatest effect on household resilience*

This finding in the accompanying report is based on the HHS question: “Which FTF project activity did your house rely on most when hit by a shock or stressor in the past five years ?” The analysis first considers descriptive statistics reported in Table F.2.3.1. WLS was then conducted to examine the effect of the four activity classes on RCI in the northwest states and FCT (**Table F.2.3.2**) and northeast states (**Table F.2.3.3**), with standard controls of state, gender, household size, education level and literacy level.

**Table F.2.3.1:** Descriptive statistics of activities relied upon during shocks, by state

| State   | Agriculture and<br>livelihood diversification<br>(%) | Income<br>diversification<br>(%) | Nutrition and<br>behavior change<br>(%) | Local government<br>strengthening (%) |
|---------|--|----------------------------------|---|---------------------------------------|
| Yobe    | 70   | 30                               | -                                       | -                                     |
| Borno   | 69   | 31                               | -                                       | -                                     |
| Adamawa | 4  | 96                               | -                                       | -                                     |
| FCT     | -  | -                                | -                                       | -                                     |
| Kebbi   | 17   | 75                               | 7                                       | 1                                     |
| Sokoto  | 50   | 43                               | 6                                       | 1                                     |

**Table F.2.3.2:** WLS results for effect of activities on RCI, northwest and FCT

| VARIABLES   | rci_rescale         |
|---|---------------------|
| ftf_gov   | 10.68***<br>(2.187) |
| ftf_agri  | -1.234<br>(2.049)   |
| ftf_income  | 3.825<br>(2.639)    |
| ftf_nutri   | 3.271<br>(2.108)    |
| education   | 0.755<br>(0.523)    |
| hh_size   | -0.443**<br>(0.215) |
| gender  | -3.436<br>(2.218)   |
| literacy  | 4.680**<br>(2.087)  |
| state   | 2.200*<br>(1.284)   |
| Constant  | 33.49***<br>(7.078) |
| Observations  | 552                 |
| R-squared   | 0.132               |
| Notes: Standard errors in parentheses                   |                     |
| Significance reported as *** p<0.01, ** p<0.05, * p<0.1 |                     |



**Table F.2.3.3:** WLS results for effect of activities on RCI, northeast

| VARIABLES   | rci_rescale         |
|---|---------------------|
| ftf_gov   | -6.040<br>(5.025)   |
| ftf_agri  | -7.227**<br>(3.311) |
| ftf_income  | -7.167*<br>(3.974)  |
| ftf_nutri   | 8.103*<br>(4.547)   |
| education   | 2.382***<br>(0.767) |
| hh_size   | 0.233<br>(0.277)    |
| gender  | 8.437***<br>(3.030) |
| literacy  | -4.776<br>(5.060)   |
| state   | 0.0715<br>(0.814)   |
| Constant  | 53.58***<br>(6.795) |
| Observations  | 212                 |
| R-squared   | 0.132               |
| Notes: Standard errors in parentheses                   |                     |
| Significance reported as *** p<0.01, ** p<0.05, * p<0.1 |                     |

### *Finding 3.1 FTF Nigeria Livelihoods interventions did not target shocks faced by beneficiaries*

Analysis of FGD and RHKII transcripts in ATLAS.ti for this finding focused on code counts for shocks reported by communities, with counts considered significant when they were mentioned in a majority of the regions (NW, NE, and FCT) being analyzed. The further effect of shocks on RCI was examined using a WLS with standard controls (state, gender, household size and education level). See results in **Table F.3.1.1**.

**Table F.3.1.1:** WLS results for effect of bridging and bonding capital on resilience

| VARIABLES   |          | RCI                 |
|---|----------|---------------------|
| Shock Index   | Exposure | -0.106<br>(0.0841)  |
| state   |          | 0.881<br>(0.539)    |
| gender  |          | -1.860<br>(1.621)   |
| hh_size   |          | -0.269*<br>(0.154)  |
| education   |          | 1.420***<br>(0.385) |
| Constant  |          | 49.58***<br>(3.102) |
| Observations  |          | 866                 |
| R-squared   |          | 0.022               |
| Notes: Standard errors in parentheses                   |          |                     |
| Significance reported as *** p<0.01, ** p<0.05, * p<0.1 |          |                     |

*Finding 3.2 Focus group participants prioritize systems-strengthening, community-level intervention for building resilience.*

Focus groups were analyzed using a variety of qualitative methods. ATLAS.ti was used to construct theme and conduct schema analysis (after Quinn, 2005<sup>4</sup>). Specifically, if-then schemas were extracted from FGD participant responses to understand their perception of the development process. MAXQDA was used for Key Word in Context and word frequency analysis to validate schema findings.

*Finding 3.3 Household resilience and community resilience are linked.*

This finding in the accompanying report examines the effect of bridging capital and bonding capital on RCI and SERS, with state, gender, household size and education as controls. WLS results are reported in **Table F.3.3.1**.

<sup>4</sup> Quinn, N. (2005). How to reconstruct schemas people share, from what they say. In *Finding Culture in Talk* (pp. 35-81). Palgrave Macmillan, New York.

**Table F.3.3.1:** WLS results for effect of bridging and bonding capital on resilience

| VARIABLES        | RCI                  | RCI                  | SERS                   | SERS                   |
|------------------|----------------------|----------------------|------------------------|------------------------|
| Bridging Capital | 0.147***<br>(0.0438) |                      | 0.0312***<br>(0.00861) |                        |
| Bonding Capital  |                      | 0.172***<br>(0.0602) |                        | 0.00653<br>(0.0119)    |
| State            | 0.704<br>(0.538)     | 0.886*<br>(0.537)    | 0.751***<br>(0.106)    | 0.784***<br>(0.106)    |
| Gender           | -1.799<br>(1.607)    | -2.121<br>(1.608)    | -0.354<br>(0.316)      | -0.411<br>(0.318)      |
| Household Size   | -0.292*<br>(0.153)   | -0.278*<br>(0.153)   | -0.0932***<br>(0.0300) | -0.0907***<br>(0.0303) |
| Education        | 1.308***<br>(0.384)  | 1.411***<br>(0.383)  | 0.512***<br>(0.0755)   | 0.538***<br>(0.0757)   |
| Constant         | 48.52***<br>(2.900)  | 47.55***<br>(2.914)  | 18.58***<br>(0.570)    | 18.50***<br>(0.576)    |
| Observations     | 866                  | 866                  | 866                    | 866                    |
| R-squared        | 0.033                | 0.030                | 0.104                  | 0.091                  |

Notes: Standard errors in parentheses

Significance reported as \*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

## Methodological Recommendations for Future Resilience Studies

Informed by the experience of designing and implementing this study, the authors provide the following recommendations:

1. Develop instruments that balance standardization and generalization. This allows for flexibility and ensures that instruments can be tailored to the local context. Customization should involve collaboration with local experts and data collectors with contextual knowledge. Integrating these localized insights into the data collection process can improve the instrument's relevance, accuracy, and applicability.
2. Invest in a unified database data management strategy to consolidate project data and simplify the closeout phase, making it more efficient and less prone to complications. In several IPKIs, interviewees mentioned challenges with data management, storage, and transfers in such a large project, which led to key data getting lost in the process. Our research team encountered this in particular with the lack of data availability on villages served in the NE expansion, which complicated survey targeting in that region.

## Annex A: Feed the Future Villages and Communities

Note: Beneficiary households came from all listed villages in the table below. Bolded communities were targeted for the current study. Communities with an asterisk (\*) and highlighted in red were excluded from the current study due to security reasons.

| NORTHEAST |       |                  |  |
|-----------|-------|------------------|--|
| STATE     | LGA   | COMMUNITY        | VILLAGES   |
| Adamawa   | Gombi | Garkida          | Bambuda, Dzangola, <b>Garkida</b> , Possi, Shamaki, Unguwar  |
|           |       | Gombi North      | Anguwar Jauro, Bawa, Buba Basunube, Gudumiya, Makera, Sosai, Tashan Ganda, U/Sabon Layi                                  |
|           |       | Gombi South      | Faransa, Gombi 1, Jauro, Jeka Dafain, Kwarwa, <b>Sangere</b> , Unguwar Sabon   |
|           |       | Guyaku           | Dongo, Dzangula, <b>Guyaku</b> , Jau Kakwara, Kwalamba, Mishalma, Parijo, Pirkasa, Sabon Gari, <b>Tela Bala</b> , Virgur |
|           | Hong  | Banshika         | Banshika, <b>Kala’a</b> , Kwambla, Kwanan Kuka, Shiw   |
|           |       | Hong             | <b>Dakfula</b> , Kurkupu, Nduibuni, Thabu, <b>Waja*</b>  |
|           |       | Shangui          | Dazal, Kuva, Mbuvu, Munga, Tshon Gari  |
|           |       | Thilbang/Daksiri | <b>Daksiri</b> , Duwa, Ngaibi, Zhedinyi  |
| Borno     | Biu   | Berum            | <b>Berum</b>   |
|           |       | Biu              | Piku, <b>Tse</b>   |
|           |       | Buratai*         | Buratai, Kunari  |
|           |       | Garubula         | Bara, Bumsa, Garubula, Gufka, <b>Kutla Kuli</b> , Mathau, <b>Wula</b> , <b>Zuwa</b>                                      |
|           |       | Miringa          | Miringa, Gur   |
|           |       | Yawi             | Bzi, Filin, Kabura, <b>Kigal</b> , Kigir, <b>Usman Dala</b> , Yawi, <b>Yelwa</b> Barki                                   |
|           | Hawul | Azare*           | Azare 1, Azare 2, Azare 3, Arewa Muhd Usman  |
|           |       | Kukurpu          | Module, <b>Sawa</b> , Uwar Arewa   |



|      |         |                                  |  |
|------|---------|----------------------------------|--|
|      |         | Kwajafa                          | Kwajafa  |
|      |         | <b>Marama/Kidang</b>             | Bakin Kasuwa, <b>Bayo</b> , Dikira, Dunguma, Humusu, Jalingo Katsina, <b>Kidang</b> , Kufaya, <b>Marama</b> , Ngumshim, Pakulama, Pikina, Purkusu, Samunaka, Wabara  |
|      |         | <b>Sakwa</b>                     | Bulama, <b>Hema</b> , Kubur Dukku<br>Malana, Mbirti, Merama, Sakwa, Tagwa  |
|      |         | Shaffa                           | Shaffa   |
|      | Jere    | Simari                           | Simari   |
|      |         | Muna Dalti                       | Muna Dalti   |
|      |         | Muna Kori                        | Muna Kori  |
|      | Kaga    | Benisheikh                       | Benisheikh Gana, Misheri, Bulabulin, Mangari, Tamandara, Shewari, Malumti, Danakanam, Godoromari, Adamti, Wasaramti  |
|      |         | Ngamdu                           | Mannari, Zarmari, Goni Umarti, Makinta Modu, Kumbairi, Fulatari, Fawari, Gremari, Kaakti, Lawanti Gana, Tsallake, Makinta, Gojeri                                    |
|      |         | Maniok* Excluded due to security | Maniok   |
| Yobe | Bursari | <b>Baiyamari</b>                 | Aiwadari, <b>Bakin Tasha</b> , Lawan Tsohuwar Kasuwa, Tuluwa Unguwa Bagale, Unguwa Arewa, Unguwa Ali, <b>Bayan*</b> , <b>Saleh Ajiri*</b>                            |
|      |         | <b>Dapchi</b>                    | Ajari, <b>Anguwa Hausari</b> , B/Deri, Bakin Tasha, <b>Dapchi</b> , Fulatari, Lawanti, <b>Sabon Fegi</b> , U/ Dan Shuwa, UNG-Tsakiya, Unguwar Fantaye                |
|      |         | <b>Garin Alkali</b>              | Anguwan Isamiya, Bamusuri Didal, <b>Dogon Jawa</b> , <b>Garin Alkali</b> , Jawa, <b>Sabon Gari</b> , <b>Jabori*</b> , <b>Lawanti Samiya*</b> , <b>Mai Gari Butu*</b> |
|      | Jakusko | <b>Buduwa</b>                    | <b>Buduwa</b> , Gurbana, <b>Jambori</b> Kaluluwa, Lamba, <b>Yindu</b> , Yola   |
|      |         | <b>Girgir</b>                    | Galdimari, Gamari, <b>Giigir</b> Girinbrin, Ngajaji, Yauru, <b>Malan Dogo*</b>   |



|  |  |                |   |
|--|--|----------------|---|
|  |  | <b>Jakusko</b> | Dakido, Famfo, G. Umaru<br>Galadimar, <b>Jakusko</b> , Kimido Seiri, Lamba A,<br>Sanda, <b>Anguwan Lawan*</b> |
|--|--|----------------|---|

| NORTHWEST |                 |                      |   |
|-----------|-----------------|----------------------|---|
| STATE     | LGA             | COMMUNITY            | VILLAGES  |
| Sokoto    | Tangaza         | <b>Ruwa Wuri</b>     | <b>Ruwa Wuri</b> , Gabas, Magarya, Mazoji   |
|           |                 | Sakwai               | Sakwai, Tungadu, Lillingu, Gidan Dandeneju  |
|           |                 | <b>Kwaccehoru</b>    | <b>Kwaccihoru (Sildeou)</b> , Kwannawa, Arabar-birni,<br>Arabar -Daji, Kwakwaran            |
|           |                 | <b>Mongoho</b>       | <b>Mongoho</b> , Masallaci, Sanyinna<br>Holo, Salo, <b>Kufai</b> ,                          |
|           | Dange/<br>Shuni | <b>Wababe</b>        | <b>Wababe</b> , Dabagi, Hausare, Sukandu  |
|           |                 | <b>Fajaldu</b>       | <b>Fajaldu</b> , Dabagi, <b>Darga</b> , <b>Bisalam</b> , <b>Garda*</b>                      |
|           |                 | <b>Rudu Amanawa</b>  | <b>Rudu</b> , <b>Rudu Rugga</b> , <b>Runji</b><br>Makera                                    |
|           |                 | <b>Ruggar Gidado</b> | <b>Bangine</b> , <b>Dillingu</b> , Rugga, <b>Gilaude</b> , <b>Dan Barunje*</b>              |
|           | Kebbe*          | Kebbe                | Kebbe, Umbutu, Runtuwa-Fulani, Dalijan  |
|           |                 | Girkau               | Girkau, Zugu, Jagba, Mazoji<br>Indire   |
|           |                 | Kuchi                | Kuchi, Nasagudu, Bamna, Gidan-Kuka, Here,<br>Kwanta Tungar Labbo, Garin Musa<br>Tungar Maje |
|           |                 | Sangi                | Sangi, Ungushi, Jigawa, Nabasa<br>Tune, Yar-romo, Gwandi, Maikurfuna                        |
|           | Rabah*          | Gandi                | Gandi   |
|           |                 | Yartsakuwa           | Yartsakuwa  |
|           |                 | Rarah                | Rarah   |
|           |                 | Tofa                 | Tofa  |

|     |       |        |   |
|-----|-------|--------|---|
| FCT | Bwari | Igu    | <b>Dnaku</b> , Gaba 1, Gaba 2, <b>Igu Panunike</b> , <b>Tokulo</b> , Baragoni   |
|     |       | Kawu   | Gidan Toro, Karaku, Kaudashi Kaurim, <b>Kawu</b> , Kute 1, Kute 2 Panda Gbagyi, Runji, <b>Tungan Bijimi</b> , <b>Kurmin Dauda</b> , Tungan Wada, Yajida, <b>Nomadic</b> , Chukumi |
|     |       | Shere  | <b>Galauyi</b> , Dankolu, Shumpe, <b>Durumi</b> , Pmalogu, <b>Sherepe</b> , Kuchiko, <b>Shere-Koro 1</b> , <b>Shere Gbagyi</b> , Piko, Panda                                      |
|     |       | Ushafa | Ushafa, Peyi, Kogo, Pambara Kuchiko, Zuma, <b>Sabon gari</b> Guto, <b>Tudun Fulani</b> , Piawoyi <b>Kuduru</b>  |

|       |               |                |  |
|-------|---------------|----------------|--|
| Kebbi | B/Kebbi       | Makera/Maurida | Bungajawo, Haji, Hirchinga Huda, Ikara, Ingarje  |
|       |               | Ujariyo/Junju  | <b>Dagere</b> , <b>Dangarso</b> , <b>Janzomo Junju/Dampa</b> , Kango, Kawara   |
|       |               | Lagga/Randali  | Dokar Kwaya, <b>Gargariyo</b> Gazon Fulani, Gora, Matseri <b>Randali</b>   |
|       |               | Kardi          | <b>Asarara</b> , Guddare, Tungan Lande, <b>Gwambara</b> , Mai Inuwa Matankari, <b>Amanawa*</b> , <b>Unguwan Narba*</b> , <b>Mahuta*</b> , <b>Makera*</b> |
|       | Wasagu/Danko* | Kanya          | Koliko, Koro, Rade, RamboTungan Bizo, Tungan Fulani Uhu  |
|       |               | Waje           | Waje, Udungucho, Sabon Layi/T/Wada, Tungan Wazga Tafki, Unguwar Dogo, Unguwar Maiarewa   |
|       |               | Maga/Kyabu     | Kumdumku, Kyabu (Marafa) Kyale, Madattai, Maga, Mahuta- Banizumbu, Unguwar Narba   |
|       |               | Danko          | Babi Batutu, Balesa, Bami Mairuwa, Chonoko, Danko Danyeku, Wadoko  |

## Annex B: Household Survey Instrument

### Preliminaries

#### Pathways through survey

1. Immediate decline: Straight to Section 8: I understand. Sorry to trouble you. [END SURVEY]
2. Head of Household present:
  - a. Is FTF beneficiary -> Continue
  - b. Not FTF beneficiary + Quota Met: Go to Section 8: Thank you for your time, but we need to speak to someone who participated in the Feed the Future Nigeria Livelihoods Project. Have a nice day. [END SURVEY]
  - c. Not FTF beneficiary + Quota NOT Met: Continue
3. Head of Household cannot be retrieved: Go to Section 8: Thank you for your time, but we need to speak to the head of this household. Have a nice day. [END SURVEY]
4. Head of Household retrieved but declines: Go to Section 8: I understand. Sorry to trouble you. [END SURVEY]
5. Head of household retrieved and agrees to participate:
  - a. Is FTF beneficiary -> Continue
  - b. Not FTF beneficiary + Quota Met: Go to Section 8: Thank you for your time, but we need to speak to someone who participated in the Feed the Future Nigeria Livelihoods Project. Have a nice day.” [END SURVEY]
  - c. Not FTF beneficiary + Quota NOT Met: Continue
6. Issues in Consent Process:
  - a. Not of legal age: Go to Section 8: Thank you for your time, but we can only include adults in this survey. [END SURVEY]
  - b. Declines participation: Go to Section 8: I understand. Sorry to trouble you. [END SURVEY]
  - c. Is of legal age and consents: Continue survey

#### The following universal coding is included in the survey:

- Other = 96
- Not applicable = 97



- Refused to Answer = 99 (provided for all questions when respondent will not answer or does not understand question)

**\*\*Don't Know (98) is not included in the survey to maximize the amount of analyzable data.**

### Clarifications on FTF Beneficiaries vs. Control Group

- Only FTF Beneficiaries receive Section 1 and select FTF Follow Up questions in Section 2
- In screening, the control group is broadly defined as any non-FTF beneficiary & will be processed by interventions received.
- Note in Section 4, all respondents get this sequence but instructions emphasize to focus on FTF if FTF-beneficiary (this will be used to identify interventions received by non-beneficiaries for control group construction)

### Start of Survey

S0. Hello, we are talking with households of [community name] about their experiences with humanitarian projects and resilience. Can I ask you a few questions?

1 YES

0 NO

IF S0=1: Continue to Screening Sequence

### Screening Sequence

S1. [SURVEYORS: Please try to speak to the woman of the household. If she is unavailable, or uncomfortable speaking with someone of the opposite gender, ask to speak to the head of household]

Thank you for agreeing to speak with me. Are you the woman of the house/head of this household?

2 YES (2)

1 NO but the person is here

0 NO and the person is not here



IF S1 = 1: S2: Would you be able to quickly get this person so I can speak with them?

1 YES

0 NO

IF S2=1:

S3. [WHEN THE WOMAN OF THE HOUSE/HEAD OF HOUSEHOLD ARRIVES SAY] Hello, we are talking with households of [community name] about their experiences with humanitarian projects and resilience. Can I ask you a few questions?

1 YES

0 NO

IF S1 = 2 OR S3 = 1

S4. Were you or anyone in your household involved with any programming formed or promoted by Feed the Future Nigeria Livelihoods Project?

1 YES

0 NO

IF S4=0:

S5. [QUESTION FOR SURVEYOR] Have you met your control quota for the day?

1 YES

0 NO

IF S4=1 or S5=0: CONTINUE SURVEY

IF S4=1 or S5=0: DISPLAY THIS SECTION



## Introduction and Consent

Thank you for this information. I will now explain the purpose of this survey and request your consent to participate.

You may choose not to take part in the study or may choose to leave the study at any time. Deciding not to participate or leaving the study later will not result in any penalty or loss of benefits to which you are entitled and will not affect your relationship with the University of Notre Dame or Catholic Relief Services (CRS). If you have any concerns, you may choose not to participate.

The purpose of this study is to learn what worked well and what didn't work well in the Feed the Future Nigeria project between 2013-2018. We also want to know about the shocks Nigerian communities face and how communities cope with them. This study will help CRS develop future programs to help people more effectively.

You were selected as a possible participant because you were either involved in CRS's Feed the Future Nigeria Livelihoods project from 2013-2018, or because you know the challenges Nigerian households face and the resources available to them.

The study is being conducted by Emma Hokoda, Colleen Maher, and Nancy Obonyo, graduate students at the University of Notre Dame in the United States. The study is being funded by the University of Notre Dame and Catholic Relief Services.

If you agree to participate, you will be one of 1000 households asked to complete a private survey. We will record your responses on our mobile devices. The activity should take approximately 45 minutes of your time. You will not be paid for participating in this study.

For your protection from COVID, we will maintain a 2 m space between us. At any point during the survey, you can tell me that you feel uncomfortable or that you do not want to answer a particular question. You can stop participating in the interview at any time. Your identity will not be disclosed or attached to your answers in any way. The investigators will be careful to keep your personal information confidential.

For questions about the study, you can contact Catholic Relief Services. For questions about your rights as a research participant, to discuss problems, complaints, or concerns about this study, you can also contact the University of Notre Dame. Their phone numbers are listed here. [Give the subject a call back card]





[FOR SURVEYOR] I verify the consent script is completed.

### VERIFICATION SECTION

Before we begin, I want to make sure you understand your rights:

- What should you do if you feel uncomfortable during the conversation? [verify understanding]
- Will your decision to participate affect your relationship with CRS? [verify understanding]

### PARTICIPANT'S CONSENT

Now, we would like to ask you if you agree to participate in this study:

C1. Can you confirm that you are at least 18 years of age?

1 Yes

0 No

[IF C1 = yes] C2. Do you agree to participate?

1 Yes

0 No

IF C2 = YES: DISPLAY THIS SECTION

### Section 0: Demographic Information

1. [FOR SURVEYOR]

a. Select the state you are working in.

[look-up table]

1 Adamawa

2 Borno

3 FCT



KEOUGH SCHOOL  
OF GLOBAL AFFAIRS

Integration Lab



- 4 Kebbi
- 5 Sokoto
- 6 Yobe
- b. Select the ward you are working in.  
[look-up table] Filter: state\_id = 1a  
[Codes found here: [State/Ward codebook](#)]
- c. Enter village where subject resides  
[text field]
- d. GPS Location
- e. Select respondent gender:
  - 1 Male
  - 2 Female
- 2. What is the highest education level of any adult in this household?
  - 0 No education/informal (Arabic) education
  - 1 Some primary school
  - 2 Completed primary school
  - 3 Some secondary school
  - 4 Completed secondary school
  - 5 Higher education (college/university, vocational school, technical training certificate)
  - 99 Refused to answer
- 3. Can any of the adults (including yourself) in the household read or write?
  - 1 Yes
  - 0 No
  - 99 Refused to answer
- 4. How many people live in your household, including yourself?  
[Numeric field]

IF C2 = YES: DISPLAY THIS SECTION & S4=YES



## Section 1: FTF Nigeria Program Participation

SAY: Now I would like to ask about your participation or anyone in your household's participation in the following programs under the Feed the Future Nigeria Livelihoods Project.

1. Was anyone in your household involved in agricultural productivity and diversification programs? This could have included:
  - A. Receiving farming inputs such as seeds
  - B. Receiving training on farming practices and/or post-harvest handling such as: (a) improved varieties, (b) fertilizer, herbicides, or pesticides, (c) drip irrigation, (d) planting distance, (e) seed treatment, (f) PICS bags or (g) post-harvest technologies (mechanical)
  - C. Membership in a producer group, farmer group, marketing or agribusiness group, or producer marketing committee
  - D. Linkages to financial service providers and markets for inputs and outputs

1 Yes  
0 No  
99 Refused to answer
2. Was anyone in your household involved in income generating or diversification activities? This could have included:
  - A. Membership in a Savings and Internal Lending SILC group, Enterprise Your Household group, Community Market Research Committee, entrepreneur peer group, livelihoods club, or safe spaces group
  - B. Receiving training in financial management, business startup or development, market engagement, marketing, value addition, or market selection
  - C. Receiving a loan or conditional cash transfer

1 Yes  
0 No  
99 Refused to answer
3. Was anyone in your household involved in improved nutrition or behavior change activities? This could have included:
  - A. Training in nutrition and hygiene



- B. Membership in a caregiver group, Water, Sanitation, and Hygiene (WASH) committee, or Water, Sanitation, and Hygiene WASH friendly school?

1 Yes

0 No

99 Refused to answer

4. Was anyone in your household involved in local government strengthening activities? This could have included:
  - Membership in a village development committee or other community based organization such as a youth group?

1 Yes

0 No

99 Refused to answer

IF C2 = YES: DISPLAY THIS SECTION

## Section 2: Shocks and Stressors

SAY: We know that sometimes bad things happen even though we pray that they do not. Given that these unfortunate events can occur, we would like to ask you a series of questions about them. The next set of questions are about the unfortunate events or shocks your household has faced over the last five years.

1. Over the past five years, has your household experienced a **climatic** shock? This could include:
  - Excessive rains/flooding
  - Variable rain/drought
  - Landslides/erosion

1 Yes

0 No

99 Refused to answer



2. IF Q2.1=1: Did your household experience a **climatic** shock in the last year (12 months?)  
1 Yes  
0 No  
99 Refused to answer
3. IF Q2.2=1: How severe was the impact of the most recent **climatic** shock on your household's income over the last year (12 months)?  
0 No impact  
1 Slight decrease  
2 Severe decrease  
3 Worst ever happened  
99 Refused to answer
4. IF Q2.2=1: How severe was the **climatic** shock on your household's food consumption over the last year (12 months)?  
0 No impact  
1 Slight decrease  
2 Severe decrease  
3 Worst ever happened  
99 Refused to answer
6. IF Q2.2=1: To what extent has your household been able to recover from the **climatic** shock you experienced in the last year (12 months)?  
0 Did not recover  
1 Partially recovered  
2 Fully recovered; same as before shock  
3 Fully recovered; better than before shock  
97 N/A Not affected by shock



99 Refused to answer

7. Over the past five years, has your household experienced a **biological** shock? This could include:

- Crop disease
- Crop pests
- Invasive/parasitic weeds
- Livestock diseases
- Human disease outbreak

1 Yes

0 No

99 Refused to answer

8. IF Q2.7=1: Did your household experience a **biological** shock in the last year (12 months?)

1 YES

0 NO

99 Refused to answer

9. IF Q2.8=1: How severe was the impact of the **biological** shock on your household's income over the last year (12 months)?

0 No impact

1 Slight decrease

2 Severe decrease

3 Worst ever happened

99 Refused to answer

10. IF Q2.8=1: How severe was the **biological** shock on your household's food consumption over the last year (12 months)?

0 No impact

1 Slight decrease



- 2 Severe decrease
- 3 Worst ever happened
- 99 Refused to answer

12. IF Q2.8=1: To what extent has your household been able to recover from the **biological** shock you experienced in the last year (12 months)?

- 0 Did not recover
- 1 Partially recovered
- 2 Fully recovered; same as before shock
- 3 Fully recovered; better than before shock
- 97 N/A Not affected by shock
- 99 Refused to answer

13. Over the past five years, has your household experienced a **conflict** shock? This could have resulted in

- A. Loss of life or physical injury in the household due to violence
- B. Emotional harm (trauma, stress) or displacement/forced resettlement
- C. Theft or destruction of assets or property
- D. Theft of livestock/cattle rustling
- E. Loss of household income or forced sale of productive assets
- F. Violence or insecurity
- G. Forced resettlement

1 YES

0 NO

99 Refused to answer

14. IF Q2.13=1: Did your household experience a **conflict** shock in the last year (12 months?)

1 YES





0 NO

99 Refused to answer

15. IF Q2.14=1: How severe was the impact of the **conflict** shock on your household's income over the last year (12 months)?

0 No impact

1 Slight decrease

2 Severe decrease

3 Worst ever happened

99 Refused to answer

16. IF Q2.14=1: How severe was the **conflict** shock on your household's food consumption over the last year (12 months)?

0 No impact

1 Slight decrease

2 Severe decrease

3 Worst ever happened

99 Refused to answer

18. IF Q2.14=1: To what extent has your household been able to recover from the **conflict** shock you experienced in the last year (12 months)?

0 Did not recover

1 Partially recovered

2 Fully recovered; same as before shock

3 Fully recovered; better than before shock

97 Not affected by shock

99 Refused to answer

19. Over the past five years, has your household experienced an **economic** shock? This could include:



- A. Delay in food assistance
- B. Increasing food prices
- C. Increased prices of agriculture or livestock inputs
- D. Decreased prices for sale of agriculture or livestock products
- E. Loss of land/rental property
- F. Unemployment for youths
- G. Death of a household member

1 YES

0 NO

99 Refused to answer

20. IF Q2.19=1: Did your household experience an **economic shock** in the last year (12 months?)

1 YES

0 NO

99 Refused to answer

21. IF Q2.20=1: How severe was the impact of the **economic** shock on your household's income over the last year (12 months)?

0 No impact

1 Slight decrease

2 Severe decrease

3 Worst ever happened

22. IF Q2.20=1: How severe was the **economic** shock on your household's food consumption over the last year (12 months)?

0 No impact

1 Slight decrease

2 Severe decrease

3 Worst ever happened

99 Refused to answer



24. IF Q2.20=1: To what extent has your household been able to recover from the **economic** shock you experienced in the last year (12 months)?
- 0 Did not recover
  - 1 Partially recovered
  - 2 Fully recovered; same as before shock
  - 3 Fully recovered; better than before shock
  - 97 Not affected by shock
  - 99 Refused to answer

IF C2 = YES: DISPLAY THIS SECTION

### Section 3: Coping Strategies

SAY: The next set of questions discuss how you have coped with the shocks and stressors your household has faced over the last 12 months.

1. To what extent has your ability to meet food needs returned to the level it was before all the shocks and stressors you experienced in the last year (12 months)?
  - 3 Ability to meet current food needs is better than before the shocks
  - 2 Ability to meet current food needs is the same before the shocks
  - 1 Ability to meet current food needs is worse than before the shocks
  - 99 Refused to answer
2. In light of the shocks and stressors you faced in the last 12 months, to what extent do you believe you will be able to meet your food needs in the next year?
  - 3 Ability to meet future food needs is better than before the shocks
  - 2 Ability to meet future food needs is the same before the shocks



1 Ability to meet future food needs is worse than before the shocks

99 Refused to answer

3. Which of the following strategies did your household use to cope with any shock/stress over the last 12 months?
- Did your household sell or slaughter livestock or lease land?
  - Did you or family members migrate or move away from home?
  - Did you or family members migrate or move away from home?
  - Did you utilize any coping strategies to reduce your expenditures such as taking children out of school, moving to less expensive housing, and reducing non-essential HH spending?
  - Did you utilize any coping strategies such as reducing food consumption (number of meals a day) or getting food on credit from a local merchant?
  - Did you utilize any coping strategies to get more food or money such as taking on new or additional work, begging, selling household items or productive assets, taking out a loan from a bank, savings group, money lender, friend or relative, sending children to work, using household savings, or receiving remittances from a relative?

1 Yes

0 No

99 Refused to answer

4. What have you done to protect your household from the impacts of shocks in the future? (check all that apply)

0 Nothing

1 Began saving money

2 Increased savings

3 Put aside grains (for HH or animals)

4 Switched to different crop(s)

5 Switched to different livestock

6 Added additional agricultural activity

7 Added additional non-agricultural activity

8 Changed from ag to non-ag livelihood



- 9 Changed from non-ag to ag livelihood
- 10 Acquired crop insurance
- 11 Acquired livestock insurance
- 12 Acquired other insurance (e.g., health)
- 13 Relocated temporarily
- 14 Relocated permanently
- 15 Learned additional skills or participate in vocational training
- 96 Other
- 99 Refused to answer

IF C2 = YES: DISPLAY THIS SECTION

## Section 4: Activity Impacts

SAY: The next set of questions discusses how often you use activities learned through FTF Nigeria and how these have helped you to cope with the shocks and stressors your household has faced over the past year.

IF S4 = 1

SAY: The next set of questions discusses how often you use activities learned through FTF Nigeria and how these have helped you to cope with the shocks and stressors your household has faced over the past year. Please think ONLY about those FTF Nigeria activities when you respond.

IF S4 = 0

SAY: The next set of questions discusses how often you use activities learned through government or NGO programs and how these have helped you to cope with the shocks and stressors your household has faced over the past year.

1. [FOR FTF BENEFICIARIES] In the past year, when you experienced a shock or stressor, how frequently did you turn to an agricultural productivity or diversification activity you learned through FTF Nigeria?



[FOR CONTROL] In the past year, when you experienced a shock or stressor, how frequently did you turn to an agricultural productivity or diversification activity you learned through a government or NGO program?

4 Regularly (as part of my daily life)

3 Frequently (on a weekly or monthly basis)

2 Sometimes (a few times per year)

1 Rarely (once or twice a year)

0 I do not practice these activities any longer

97 N/A, I never participated in these activities

99 Refused to answer

2. Did you share what you learned in this agricultural productivity or diversification activity with anyone else?

1 Yes

0 No

97 N/A, I never participated in these activities

99 Refused to answer

3. [FOR FTF BENEFICIARIES] In the past year, when you experienced a shock or stressor, how frequently did you turn to an income generating or diversification activity you learned through FTF Nigeria?

[FOR CONTROL] In the past year, when you experienced a shock or stressor, how frequently did you turn to an income generating or diversification activity you learned through a government or NGO program?

4 Regularly (as part of my daily life)

3 Frequently (on a weekly or monthly basis)

2 Sometimes (a few times per year)

1 Rarely (once or twice a year)

0 I do not practice these activities any longer

97 N/A, I never participated in these activities

99 Refused to answer



4. Did you share what you learned in this income generating or diversification activity with anyone else?  
1 Yes  
0 No  
97 N/A, I never participated in these activities  
99 Refused to answer
5. [FOR FTF BENEFICIARIES] In the past year, when you experienced a shock or stressor, how frequently did you turn to a nutrition or behavior change activity you learned through FTF Nigeria?  
[FOR CONTROL] In the past year, when you experienced a shock or stressor, how frequently did you turn to a nutrition or behavior change activity you learned through a government or NGO program?  
4 Regularly (as part of my daily life)  
3 Frequently (on a weekly or monthly basis)  
2 Sometimes (a few times per year)  
1 Rarely (once or twice a year)  
0 I do not practice these activities any longer  
97 N/A, I never participated in these activities  
99 Refused to answer
6. Did you share what you learned in this nutrition or behavior change activity with anyone else?  
1 Yes  
0 No  
97 N/A, I never participated in these activities  
99 Refused to answer
7. [FOR FTF BENEFICIARIES] In the past year, when you experienced a shock or stressor, how frequently did you turn to a local government strengthening activity you learned through FTF Nigeria?  
[FOR CONTROL] In the past year, when you experienced a shock or stressor, how frequently did you turn to a local government strengthening activity you learned through a government or NGO program?





- 4 Regularly (as part of my daily life)
- 3 Frequently (on a weekly or monthly basis)
- 2 Sometimes (a few times per year)
- 1 Rarely (once or twice a year)
- 0 I do not practice these activities any longer
- 97 N/A, I never participated in these activities
- 99 Refused to answer

8. Did you share what you learned in this local government strengthening activity with anyone else?

- 1 Yes
- 0 No
- 97 N/A, I never participated in these activities
- 99 Refused to answer

9. S4 = 1: Reflecting on the period before, during, and after the FTF Nigeria project, how has your household's capacity to prepare for, respond to, and adapt to shocks and stressors changed?

- 4 Today, my household's ability to cope with shocks and stressors is much better than before the FTF Nigeria project.
- 3 Today, my household's ability to cope with shocks and stressors is slightly better than before the FTF Nigeria project.
- 2 Today, my household's ability to cope with shocks and stressors is the same as before the FTF Nigeria project.
- 1 Today, my household's ability to cope with shocks and stressors is slightly worse than before the FTF Nigeria project.
- 0 Today, my household's ability to cope with shocks and stressors is much worse than before the FTF Nigeria project.
- 99 Refused to answer

10. (Q2.1=1 OR Q2.7=1 OR Q2.13=1 OR Q2.19=1) & (Q1.1=1 OR Q1.2=1 OR Q1.3=1 OR Q1.4=1): Which FTF project activity did your house rely on most then hit by a shock or stressor in the past five years?

- 1 Agricultural productivity or diversification activity
- 2 Income generating or diversification activity
- 3 Nutrition or behavior change activity



4 Local government strengthening activity  
97 N/A, I did not participate in FTF  
99 Refused to answer

IF C2= YES: DISPLAY THIS SECTION

## Section 5. Food Security

SAY: I will now ask some questions about your food security. Each question will ask you about your access to food IN THE LAST FOUR WEEKS. Not eating due to religious fasting should not be counted.

1. Was there a time when you or others in your household were worried there wouldn't be enough to eat because of lack of money or other resources?  
0 No  
1 Yes  
99 Refused
2. Was there a time where you or others in your household were not able to eat healthy or nutritious meals because of a lack of money or other resources?  
0 No  
1 Yes  
99 Refused
3. Was there a time when you or others in your household only ate a few kinds of food because of a lack of money or other resources?  
0 No  
1 Yes  
99 Refused
4. Was there a time when you or others in your household had to skip a meal because there was not enough money or resources to get food?



- 0 No  
1 Yes  
99 Refused
5. Was there a time when you or others in your household ate less than you thought you should due to a lack of money or resources?  
0 No  
1 Yes  
99 Refused
6. Was there ever a time where there was no food of any kind in the house and no money or resources to get some?  
0 No  
1 Yes  
99 Refused
7. How often did you or others in your household go to sleep at night hungry because there was not enough food to eat?  
0 Never  
1 Rarely (1-2 times)  
2 Sometimes (3-10 times)  
3 Often (10+ times)  
99 Refused
8. How many times did you or any others in your household go a whole day and night without eating a meal?  
0 Never  
1 Rarely (1-2 times)  
2 Sometimes (3-10 times)  
3 Often (10+ times)  
99 Refused
9. How many meals did the TYPICAL member of your household eat during the day or at night IN THE LAST 24 HOURS?  
[integer]

SAY: Now I will ask you about the types of food you or members of your household have eaten in the LAST 24 HOURS. Please respond yes if you have eaten this food, even if it was an ingredient in a mixed dish.

10. Any bread, rice, noodles, biscuits, or any other local foods made from millet, sorghum, maize, rice, wheat?  
1 Yes  
0 No  
99 Refused to answer
11. Pumpkins, carrots, squash, orange/yellow fleshed sweet potatoes, or any other similar local foods  
1 Yes  
0 No  
99 Refused to answer
12. White-fleshed sweet potatoes, potatoes, yams, cassava or any other foods made from roots or tubers?  
1 Yes  
0 No  
99 Refused to answer
13. Dark green leafy vegetables  
1 Yes  
0 No  
99 Refused to answer
14. Ripe mangoes, ripe papayas or any other fruits that are rich in vitamin A  
1 Yes  
0 No  
99 Refused to answer
15. Any other fruits or vegetables?  
1 Yes  
0 No  
99 Refused to answer
16. Liver, kidney, heart or other organ meats



- 1 Yes  
0 No  
99 Refused to answer
17. Any beef, lamb, goat, rabbit, wild game, chicken, duck, or other birds?  
1 Yes  
0 No  
99 Refused to answer
18. Any eggs?  
1 Yes  
0 No  
99 Refused to answer
19. Any fresh or dried fish, shellfish or sea foods?  
1 Yes  
0 No  
99 Refused to answer
20. Any foods made from beans, peas, lentils, nuts or seeds? (local names)  
1 Yes  
0 No  
99 Refused to answer
21. Any cheese, yogurt, milk or other milk products?  
1 Yes  
0 No  
99 Refused to answer
22. Any foods made with oil, fat, or butter?  
1 Yes  
0 No  
99 Refused to answer
23. Any sugar or sugary foods such as chocolate, sweets, candies, pastries, cakes or honey?



- 1 Yes  
0 No  
99 Refused to answer
24. Any other foods, such as condiments, coffee, tea?  
1 Yes  
0 No  
99 Refused to answer
25. Grubs, snails or insects  
1 Yes  
0 No  
99 Refused to answer
26. Food made with red palm oil, red palm nut, or red palm nut pulp sauce  
1 Yes  
0 No  
99 Refused to answer
27. Do you or anyone in your HH add micronutrient powder to food?  
1 Yes  
0 No  
99 Refused to answer

IF C2 = YES: DISPLAY THIS SECTION

## Section 6: Resilience Capacity

SAY: The next set of questions helps us understand what resources you have to support you in daily life and during shocks.

1. Have any of the adults in your household, including yourself, participated in any sort of adult education, such as a vocational program, business development training, natural resource management training, or similar program?



1 Yes  
0 No  
99 Refused to answer

2. Which of these consumptive assets does your household own?

- a. Computer
- b. Air conditioner
- c. Sofa
- d. Bed
- e. Cell phone
- f. Radio
- g. Television
- h. Fridge
- i. Cushion chair
- j. Modern table
- k. Cupboard
- l. Bicycle
- m. Passenger/truck/motorcycle
- n. Generator
- o. Solar panel
- p. Electric iron
- q. Fan
- r. Keke napek (tuktuk)

1 Yes  
0 No  
99 Refused to answer

3. Which of these productive assets does your household own?

- a. Plough (oxen-pulled)
- b. Mechanical plough
- c. Sickle
- d. Pickaxe
- e. Axe
- f. Pruning/cutting shears
- g. Hoe
- h. Spade or shovel
- i. Traditional beehive
- j. Modern beehive
- k. Knapsack chemical sprayer
- l. Mechanical water pump
- m. Motorized water pump
- n. Stone grain mill
- o. Motorized grain mill
- p. Broad bed maker (oxen-pulled)
- q. Small tractor
- r. Hand-held motorized tiller
- s. Agricultural land

1 Yes

0 No

99 Refused to answer

4. If your household had a problem and needed help urgently (e.g. food, money, labor, transport, etc.) who could you turn to for help IN THIS VILLAGE?

3 Relatives





- 2 Non-relatives in my ethnic group/clan
- 1 Non-relatives in other ethnic group/clan
- 0 No one
- 96 Other
- 99 Refused to answer

5. If your household had a problem and needed help urgently (e.g. food, money, labor, transport, etc.) who could you turn to for help OUTSIDE THIS VILLAGE?

- 3 Relatives
- 2 Non-relatives in my ethnic group/clan
- 1 Non-relatives in other ethnic group/clan
- 0 No one
- 96 Other
- 99 Refused to answer

6. Is anyone in your household involved in any money-saving activities, such as with a bank, micro-finance institution, esusu, or piggy bank?

- 1 Yes
- 0 No
- 99 Refused to answer

IF 6=1

7. How regularly do you or other household members contribute to savings?

- 4 At least once a week
- 3 At least once a month
- 2 At least once a year
- 1 I save money when I can, but not regularly
- 0 I have no money to save



8. Are there any programs or activities from the government or NGOs that help households in this village when they are faced with shocks?
- 3 There are many programs or places and they are easy to access
  - 2 There are a few programs or places but they are easy to access
  - 1 There are few programs or places and they are difficult to access
  - 0 There are no programs or places for assistance
  - 99 Refused to answer
9. Has your household received emergency support, such as food assistance or cash transfers, from the government or NGOs in the last 12 months?
- 1 Yes
  - 0 No
  - 99 Refused to answer
10. I am now going to ask you a few questions about the government's support of improving community assets or services. Has your community requested help from the government for any of the following assets or services?
- a. Roads
  - b. Schools
  - c. Health center/post/clinic
  - d. Piped water/boreholes/wells
  - e. Natural resource conservation
  - f. Irrigation systems
  - g. Public transportation
  - h. Security
- 1 Yes
  - 0 No
  - 99 Refused to answer



IF THE ANSWER TO Q10a-h=1, DISPLAY THE FOLLOWING:

11. How was the request handled?

- 6 Completely addressed/being addressed (i.e., may be ongoing)
- 5 Partially addressed (i.e., response completed but need not fully addressed)
- 4 Positive response, will be addressed
- 3 Promised but not yet addressed
- 2 Not addressed, response pending
- 1 Not addressed, attempts failed
- 0 Leaders did nothing
- 99 Refused to answer

IF C2 = YES: DISPLAY THIS SECTION

### Section 7: SERS: Subjective self-Evaluated Resilience Score

SAY: The next set of questions helps us understand how you feel about your ability to respond to shocks and stresses.

I am going to read out a series of statements. Please tell me the extent to which you agree or disagree with them.

1. Would you say that you strongly agree, agree, neither disagree nor agree, disagree, strongly disagree that:
  - a. During times of hardship, your household can change its primary income or source of livelihood if needed.
  - b. If threats to your household became more frequent and intense, you would still find a way to get by.
  - c. During times of hardship, your household can access the financial support you need, your household can rely on the support of family and friends when you need help.
  - d. Your household has learned important lessons from past hardships that will help you better prepare for future threats.
  - e. Your household is fully prepared for any future natural disasters that may occur in your area.



f. Your household receives useful information warning you about future risks in advance.

- 5 Strongly Agree
- 4 Agree
- 3 Neither agree nor disagree
- 2 Disagree
- 1 Strongly disagree
- 99 Refused to answer

IF C2 = YES: DISPLAY THIS SECTION

### Section 8. FGD Opt In

SAY: We really value your feedback and would like the opportunity to discuss more during a focus group activity. Refreshments will be provided.

Q8.0. Are you interested in taking part in a 90-minute activity at a location in your community?

- 1 Yes
- 0 No

IF Q8.0=Yes

What is your name?

[text field]

What is a phone number where we can reach you?

[numeric field, 11 digits long (no spaces or other characters)]

SAY: "If you are selected for the focus group, we will call you or send someone to your home to notify you."



IF Q8.0=No

We understand. That is no problem.

## Section 9. Closure

IF S0=0 OR S3=0 OR C2=0: IMMEDIATE DECLINE OR RETRIEVED HH DECLINES OR DECLINES IN CONSENT

SAY: I understand. Sorry to trouble you. [END SURVEY]

IF S1 = 0 OR S2=0: NO HEAD OF HOUSEHOLD AVAILABLE ON SITE OR NOT ABLE TO BE RETRIEVED QUICKLY

SAY: Thank you for your time, but we need to speak to the head of this household. Have a nice day. [END SURVEY]

IF S5=1: QUOTA MET

SAY: Thank you for your time, but we need to speak to someone who participated in the Feed the Future Nigeria Livelihoods Project. Have a nice day. [END SURVEY]

IF C1=0

SAY: Thank you for your time, but we can only include adults in this survey. [END SURVEY]

DEFAULT CLOSURE FOR CONSENTING RESPONDENTS:

SAY: Thank you for your participation. Your answers will be very helpful to develop programs to help people respond to shocks more effectively. [END SURVEY]



## Annex C: Household Survey Coding Memo

| Screening Questions   |              |                 |                             |  |  |
|---|--------------|-----------------|-----------------------------|--|--|
| Question  | Column label | Index Component | Max Value                   | Response Coding  | Use  |
| Were you or anyone in your household involved with any programming formed or promoted by Feed the Future Nigeria Livelihoods Project? | FTF          | FTF             | A <sub>1</sub> = 1          | p <sub>5</sub> :<br>No = 0<br>Yes = 1  | Comparing outcomes of FTF vs. non-FTF households |
| Section 0 Demographics  |              |                 |                             |  |  |
| Question  | Column label | Index Component | Max Value                   | Response Coding  | Use  |
| Select the state you are working in   | state        |                 | B <sub>1</sub> = 6          | A <sub>1</sub> :<br>1 Adamawa<br>2 Borno<br>3 FCT<br>4 Kebbi<br>5 Sokoto<br>6 Yobe | Standard control                                 |
| Select the ward you are working in  | ward         |                 | B <sub>2</sub> = 66         | A <sub>2</sub> :<br>[Codes found here:<br><a href="#">State/Ward codebook</a> ]    |  |
| Enter village where the subject resides   | village      |                 | B <sub>3</sub> = text field | A <sub>3</sub> :<br>text field   |  |

|   |           |  |                    |   |   |
|---|-----------|--|--------------------|---|---|
| Select respondent gender  | gender    |  | A <sub>4</sub> = 2 | A <sub>4</sub> :<br>1 Male<br>2 Female  | Standard control  |
| What is the highest education level of any adult in this household? | education | Education/Training variable,<br>resilience capacity index<br><br>Dummy for education if A <sub>5</sub> is between 2-5 then dummy = 1 | A <sub>5</sub> = 5 | A <sub>5</sub> :<br>0 No education/informal (Arabic) education<br>1 Some primary school<br>2 Completed primary school<br>3 Some secondary school<br>4 Completed secondary school<br>5 Higher education (college/university, vocational school, technical training certificate<br>99 Refused to answer | Education/training variable for RCI                                       |
| <i>Constructed variable</i>   | educ      | Transformed education variable into binary variable equal to 1 if education completed is primary or higher                           | A <sub>5</sub> = 1 | 0 if education = 0, 1, or 2<br>1 if education = 3, 4, or 5  | Binary variable used to calculate the education/training variable for RCI |
| Can any of the adults (including yourself) in the household read or | literacy  | Education/Training variable,<br>resilience   | A <sub>6</sub> = 1 | A <sub>6</sub> :<br>1 Yes<br>0 No   | Education/training variable for RCI                                       |

| write?  |              | capacity index<br><br>Dummy for literacy |                    | 99 Refused to answer                                      |  |
|---|--------------|--|--------------------|---|--|
| How many people live in your household, including yourself?   | HH_size      | Household size                           | A7 = number        | A7: numeric   | Standard control   |
| <b>Section 1: FTF Nigeria Program Participation</b>   |              |  |                    |   |  |
| Question  | Column label | Index Component                          | Max Value          | Response Coding   | Use  |
| Was anyone in your household involved in agricultural productivity and diversification programs? This could have included:<br>1. Receiving farming inputs such as seeds<br>2. Receiving training on farming practices and/or post-harvest handling such as: (a) improved varieties, (b) fertilizer, herbicides, or pesticides, (c) drip irrigation, (d) planting distance, (e) seed | FTF_agri     | IAI                                      | B <sub>1</sub> = 1 | B <sub>1</sub> :<br>1 Yes<br>0 No<br>99 Refused to answer | Component of IAI, participation in an FTF agriculture activity |



|   |            |     |           |   |   |
|---|------------|-----|-----------|---|---|
| treatment, (f) PICS bags or (g) post-harvest technologies (mechanical)<br>3. Membership in a producer group, farmer group, marketing or agribusiness group, or producer marketing committee<br>4. Linkages to financial service providers and markets for inputs and outputs?                 |            |     |           |   |   |
| Was anyone in your household involved in income generating or diversification activities? This could have included:<br>1. Membership in a Savings and Internal Lending SILC group, Enterprise Your Household group, Community Market Research Committee, entrepreneur peer group, livelihoods | FTF_income | IAI | $B_2 = 1$ | B <sub>2</sub> :<br>1 Yes<br>0 No<br>99 Refused to answer | Component of IAI, participation in an FTF income activity |

|  |           |              |                    |   |  |
|--|-----------|--------------|--------------------|---|--|
| club, or safe spaces group<br>2. Receiving training in financial management, business startup or development, market engagement, marketing, value addition, or market selection<br>3. Receiving a loan or conditional cash transfer  |           |              |                    |   |  |
| Was anyone in your household involved in improved nutrition or behavior change activities? This could have included:<br>1. Training in nutrition and hygiene<br>2. Membership in a caregiver group, Water, Sanitation, and Hygiene (WASH) committee, or Water, Sanitation, and Hygiene WASH friendly school? | FTF_nutri | WASH + nutri | B <sub>3</sub> = 1 | B <sub>3</sub> :<br>1 Yes<br>0 No<br>99 Refused to Answer | Component of IAI, participation in an FTF nutrition or WASH activity |

| Was anyone in your household involved in local government strengthening activities? This could have included:<br>1. Membership in a village development committee or other | FTF_gov       | Local government strengthening | B <sub>4</sub> = 1 | B <sub>4</sub> :<br>1 Yes<br>0 No<br>99 Refused to answer | Component of IAI, participation in an FTF local government strengthening activity |
|--|---------------|--------------------------------|--------------------|---|---|
| <i>Constructed variable</i>  | num_ftf       | Number of FTF activities       |                    | 0-4   | FTF_agr + FTF_income + FTF_nutri + FTF_gov  |
| <b>Section 2: Shocks and Stressors</b>   |               |                                |                    |   |   |
| Question   | Column label  | Index Component                | Max Value          | Response Coding   | Use   |
| Over the past five years, has your household experienced a climatic shock? This could include:<br>Excessive rains/flooding<br>Variable rain/drought<br>Landslides/erosion  | climatic_5yrs | Climate shocks 5 years         | C <sub>1</sub> = 1 | C <sub>1</sub> :<br>1 Yes<br>0 No<br>99 Refused to answer |   |
| IF Q2.1=1: Did your household experience a climatic shock in the last year (12 months?)  | climatic_12mo | Shock Exposure Measure (SEM)   | C <sub>2</sub> = 1 | C <sub>2</sub> :<br>1 Yes<br>0 No<br>99 Refused to answer | SEM, incidence of climate shock variable  |

|   |                  |                             |                    |  |   |
|---|------------------|-----------------------------|--------------------|--|---|
|   |                  |                             |                    |  |   |
| IF Q2.2=1: How severe was the impact of the most recent climatic shock on your household's income over the last year (12 months)?       | climatic_income  | SEM                         | C <sub>3</sub> = 3 | i <sub>8</sub> :<br>0 No impact<br>1 Slight decrease<br>2 Severe decrease<br>3 Worst ever happened<br>99 Refused to answer   | SEM, impact of climate shock on income        |
| IF Q2.2=1: How severe was the climatic shock on your household's food consumption over the last year (12 months)?                       | climatic_food    | SEM                         | C <sub>4</sub> = 3 | i <sub>9</sub> :<br>0 No impact<br>1 Slight decrease<br>2 Severe decrease<br>3 Worst ever happened<br>99 Refused to answer   | SEM, impact of climate shock on food security |
| IF Q2.2=1: To what extent has your household been able to recover from the climatic shock you experienced in the last year (12 months)? | climatic_recover | climate shock recover       | C <sub>5</sub> = 3 | 0 Did not recover<br>1 Partially recovered<br>2 Fully recovered; same as before shock<br>3 Fully recovered; better than before shock<br>97 N/A Not affected by shock<br>99 Refused to answer |   |
| Over the past five years, has your household  | bio_5yrs         | biological shock five years | C <sub>6</sub> = 1 | 1 Yes<br>0 No<br>99 Refused to answer  |   |

|   |             |  |                     |  |  |
|---|-------------|--|---------------------|--|--|
| experienced a biological shock? This could include:<br>Crop disease<br>Crop pests<br>Invasive/parasitic weeds<br>Livestock diseases<br>Human disease outbreak |             |  |                     |  |  |
| IF Q2.7=1: Did your household experience a biological shock in the last year (12 months?)   | bio_12mo    | Shock Exposure Measure, SEM                  | C <sub>7</sub> = 1  | 1 YES<br>0 NO<br>99 Refused to answer  | SEM, incidence of biological shock variable      |
| IF Q2.8=1: How severe was the impact of the biological shock on your household's income over the last year (12 months)?                                       | bio_income  | biological shock Shock Exposure Measure, SEM | C <sub>8</sub> = 3  | 0 No impact<br>1 Slight decrease<br>2 Severe decrease<br>3 Worst ever happened<br>99 Refused to answer | SEM, impact of biological shock on income        |
| IF Q2.8=1: How severe was the biological shock on your household's food consumption over the last year (12 months)?   | bio_food    | Shock Exposure Measure, SEM                  | C <sub>9</sub> = 3  | 0 No impact<br>1 Slight decrease<br>2 Severe decrease<br>3 Worst ever happened<br>99 Refused to answer | SEM, impact of biological shock on food security |
| IF Q2.8=1: To what extent has your  | bio_recover | biological shock recover                     | C <sub>10</sub> = 3 | 0 Did not recover<br>1 Partially recovered   |  |

|   |               |                           |                     |  |  |
|---|---------------|---------------------------|---------------------|--|--|
| household been able to recover from the biological shock you experienced in the last year (12 months)?  |               |                           |                     | 2 Fully recovered; same as before shock<br>3 Fully recovered; better than before shock<br>97 N/A Not affected by shock<br>99 Refused to answer |  |
| Over the past five years, has your household experienced a conflict shock? This could have resulted in<br>1. Loss of life or physical injury in the household due to violence<br>2. Emotional harm (trauma, stress) or displacement/forced resettlement<br>3. Theft or destruction of assets or property<br>4. Theft of livestock/cattle rustling<br>5. Loss of household income or forced sale of productive assets<br>6. Violence or insecurity | conflict_5yrs | conflict shock five years | C <sub>11</sub> = 1 | 1 YES<br>0 NO<br>99 Refused to answer  |  |

|  |                  |                             |                     |  |  |
|--|------------------|-----------------------------|---------------------|--|--|
| 7. Forced resettlement   |                  |                             |                     |  |  |
| IF Q2.13=1: Did your household experience a conflict shock in the last year (12 months?)   | conflict_12mo    | Shock Exposure Measure, SEM | C <sub>12</sub> = 1 | 1 YES<br>0 NO<br>99 Refused to answer  | SEM, incidence of conflict shock               |
| IF Q2.14=1: How severe was the impact of the conflict shock on your household's income over the last year (12 months?)                   | conflict_income  | Shock Exposure Measure, SEM | C <sub>13</sub> = 3 | 0 No impact<br>1 Slight decrease<br>2 Severe decrease<br>3 Worst ever happened<br>99 Refused to answer   | SEM, impact of conflict shock on food security |
| IF Q2.14=1: How severe was the conflict shock on your household's food consumption over the last year (12 months?)                       | conflict_food    | Shock Exposure Measure, SEM | C <sub>14</sub> = 3 | 0 No impact<br>1 Slight decrease<br>2 Severe decrease<br>3 Worst ever happened<br>99 Refused to answer   | SEM, impact of conflict shock on food security |
| IF Q2.14=1: To what extent has your household been able to recover from the conflict shock you experienced in the last year (12 months?) | conflict_recover | conflict shock recover      | C <sub>15</sub> = 3 | 0 Did not recover<br>1 Partially recovered<br>2 Fully recovered; same as before shock<br>3 Fully recovered; better than before shock<br>97 Not affected by shock<br>99 Refused to answer |  |
| Over the past five years, has your   | econ_5yrs        | Economic shock 5 years      | C <sub>16</sub> = 1 | 1 YES<br>0 NO  |  |

|  |             |                             |                     |                                       |   |
|--|-------------|-----------------------------|---------------------|---------------------------------------|---|
| household experienced an economic shock?<br>This could include<br>1. Delay in food assistance<br>2. Increasing food prices<br>3. Increased prices of agriculture or livestock inputs<br>4. Decreased prices for sale of agriculture or livestock products<br>5. Loss of land/rental property<br>6. Unemployment for youths<br>7. Death of a household member |             |                             |                     | 99 Refused to answer                  |   |
| IF Q2.19=1: Did your household experience an economic shock in the last year (12 months?)  | econ_12mo   | Shock Exposure Measure, SEM | C <sub>17</sub> = 1 | 1 YES<br>0 NO<br>99 Refused to answer | SEM, incidence of economic shock        |
| IF Q2.20=1: How severe was the impact of the economic shock on your household's income over the last   | econ_income | Shock Exposure Measure, SEM | C <sub>18</sub> = 1 | 1 YES<br>0 NO<br>99 Refused to answer | SEM, impact of economic shock on income |



|  |                     |                               |                      |  |  |
|--|---------------------|-------------------------------|----------------------|--|--|
| year (12 months)?  |                     |                               |                      |  |  |
| IF Q2.20=1: How severe was the economic shock on your household's food consumption over the last year (12 months)?                       | econ_food           | Shock Exposure Measure, SEM   | C <sub>19</sub> = 3  | 0 No impact<br>1 Slight decrease<br>2 Severe decrease<br>3 Worst ever happened<br>99 Refused to answer   | SEM, impact of economic shock on food security   |
| IF Q2.20=1: To what extent has your household been able to recover from the economic shock you experienced in the last year (12 months)? | econ_recover        | economic shock recover        | C <sub>20</sub> = 3  | 0 Did not recover<br>1 Partially recovered<br>2 Fully recovered; same as before shock<br>3 Fully recovered; better than before shock<br>97 Not affected by shock<br>99 Refused to answer |  |
| <i>Constructed variable</i>  | SEM                 | Shock Exposure Measure, (SEM) | C <sub>21</sub> = 32 | 0-32   | The shock exposure measure is a weighted average of the incidence of experience of each shock (a variable equal to one if the shock was experienced and zero otherwise), weighted by the perceived severity of the shock. The shock exposure index ranges from 0 to 32 (i.e., 8*4 shocks). |
| <b>Section 3: Coping</b>   |                     |                               |                      |  |  |
| <b>Question</b>  | <b>column label</b> | <b>Index Component</b>        | <b>Max Value</b>     | <b>Response Coding</b>   | <b>Use</b>   |

|   |              |                              |                    |   |  |
|---|--------------|------------------------------|--------------------|---|--|
| To what extent has your ability to meet food needs returned to the level it was before all the shocks and stressors you experienced in the last year (12 months)? | current_food | Present food needs           | D <sub>1</sub> = 3 | 3 Ability to meet current food needs is better than before the shocks<br>2 Ability to meet current food needs is the same before the shocks<br>1 Ability to meet current food needs is worse than before the shocks<br>99 Refused to answer | Recovery Ability Index (RAI) input variable  |
| In light of the shocks and stressors you faced in the last 12 months, to what extent do you believe you will be able to meet your food needs in the next year?    | future_food  | Future food needs            | D <sub>2</sub> = 3 | 3 Ability to meet future food needs is better than before the shocks<br>2 Ability to meet future food needs is the same before the shocks<br>1 Ability to meet future food needs is worse than before the shocks<br>99 Refused to answer    | Recovery Ability Index (RAI) input variable  |
| <i>Constructed variable</i>   | RAI          | Recovery Ability Index (RAI) | S <sub>2</sub> = 6 | 2-6   | The Recovery Ability Index (RAI) is based on the estimation of the ability of households to recover from the typical types of shocks that occur in the program areas, based on data regarding the shocks households experienced in the year prior to the survey. |

|  |                  |                 |                    |                                       |                                  |
|--|------------------|-----------------|--------------------|---------------------------------------|----------------------------------|
|  |                  |                 |                    |                                       | RAI = current_food + future_food |
| Which of the following strategies did your household use to cope with any shock/stress over the last 12 months? Did your household sell or slaughter livestock or lease land?      | cope_agri_sell   | Coping strategy | D <sub>3</sub> = 1 | 1 Yes<br>0 No<br>99 Refused to answer |                                  |
| Did you or family members migrate or move away from home?  | cope_migrate     | Coping strategy | D <sub>4</sub> = 1 | 1 Yes<br>0 No<br>99 Refused to answer |                                  |
| Did you utilize any coping strategies to reduce your expenditures such as taking children out of school, moving to less expensive housing, and reducing non-essential HH spending? | cope_expendit    | Coping strategy | D <sub>5</sub> = 1 | 1 Yes<br>0 No<br>99 Refused to answer |                                  |
| Did you utilize any coping strategies such as reducing food  | cope_reduce_food | Coping strategy | D <sub>6</sub> = 3 | 1 Yes<br>0 No<br>99 Refused to answer |                                  |

|   |  |                            |                     |   |   |
|---|--|----------------------------|---------------------|---|---|
| consumption (number of meals a day) or getting food on credit from a local merchant?  |  |                            |                     |   |   |
| Did you utilize any coping strategies to get more food or money such as taking on new or additional work, begging, selling household items or productive assets, taking out a loan from a bank, savings group, money lender, friend or relative, sending children to work, using household savings, or receiving remittances from a relative? | cope_income  | Coping strategy            | D <sub>7</sub> = 3  | 1 Yes<br>0 No<br>99 Refused to answer   |   |
| <i>Constructed variable</i>   | neg_cop  | Negative coping strategies | D <sub>8</sub> = 5  | 0-5   | Sum of total negative coping strategies a household reported engaging in. |
| What have you done to protect your household from the impacts of shocks in the future? (check all that apply)   | protect_actions0<br>protect_actions1<br>protect_actions2<br>protect_actions3<br>protect_actions4<br>protect_actions5 | Coping actions             | D <sub>9</sub> = 15 | 0 Nothing<br>1 Began saving money<br>2 Increased savings<br>3 Put aside grains (for HH or animals)<br>4 Switched to different |   |

|                      |  |                            |                      |  |   |
|----------------------|--|----------------------------|----------------------|--|---|
|                      | protect_actions6<br>protect_actions7<br>protect_actions8<br>protect_actions9<br>protect_actions10<br>protect_actions11<br>protect_actions12<br>protect_actions13<br>protect_actions14<br>protect_actions15<br>protect_actions16<br>protect_actions17<br>protect_actions96<br>protect_actions<br>protect_actionsextra |                            |                      | crop(s)<br>5 Switched to different livestock<br>6 Added additional agricultural activity<br>7 Added additional non-agricultural activity<br>8 Changed from ag to non-ag livelihood<br>9 Changed from non-ag to ag livelihood<br>10 Acquired crop insurance<br>11 Acquired livestock insurance<br>12 Acquired other insurance (e.g., health)<br>13 Relocated temporarily<br><br>14 Relocated permanently<br>15 Learned additional skills or participate in vocational training<br>96 Other<br>99 Refused to answer<br><br>0 or 1 for each |   |
| Constructed variable | pos_cop  | Positive coping strategies | D <sub>10</sub> = 15 | 0-15   | Sum of total positive coping actions a household reported participating in a positive |

|   |              |                                   |           |  | coping strategy, ranging from 0-15. |
|---|--------------|-----------------------------------|-----------|--|-------------------------------------|
| <b>Section 4: Activity Impacts (for FTF beneficiaries only)</b>   |              |                                   |           |  |                                     |
| Question  | column label | Index Component                   | Max Value | Response Coding  | Use                                 |
| <p>[FOR FTF BENEFICIARIES] In the past year, when you experienced a shock or stressor, how frequently did you turn to an agricultural productivity or diversification activity you learned through FTF Nigeria?</p> <p>[FOR CONTROL] In the past year, when you experienced a shock or stressor, how frequently did you turn to an agricultural productivity or diversification activity you learned through a government or NGO program?</p> | agri_use     | Intervention Adoption Index (IAI) | $E_1 = 4$ | <p>4 Regularly (as part of my daily life)</p> <p>3 Frequently (on a weekly or monthly basis)</p> <p>2 Sometimes (a few times per year)</p> <p>1 Rarely (once or twice a year)</p> <p>0 I do not practice these activities any longer</p> <p>97 N/A, I never participated in these activities</p> <p>99 Refused to answer</p> |                                     |

|  |              |                                   |                    |   |  |
|--|--------------|-----------------------------------|--------------------|---|--|
| Did you share what you learned in this agricultural productivity or diversification activity with anyone else?   | agri_share   | Intervention Adoption Index (IAI) | E <sub>2</sub> = 1 | 1 Yes<br>0 No<br>97 N/A, I never participated in these activities<br>99 Refused to answer   |  |
| [FOR FTF BENEFICIARIES] In the past year, when you experienced a shock or stressor, how frequently did you turn to an income generating or diversification activity you learned through FTF Nigeria?<br>[FOR CONTROL] In the past year, when you experienced a shock or stressor, how frequently did you turn to an income generating or diversification activity you learned through a government or NGO program? | income_use   | Intervention Adoption Index (IAI) | E <sub>3</sub> = 4 | 4 Regularly (as part of my daily life)<br>3 Frequently (on a weekly or monthly basis)<br>2 Sometimes (a few times per year)<br>1 Rarely (once or twice a year)<br>0 I do not practice these activities any longer<br>97 N/A, I never participated in these activities<br>99 Refused to answer |  |
| Did you share what you learned in this income generating or  | income_share | Intervention Adoption Index (IAI) | E <sub>4</sub> = 1 | 1 Yes<br>0 No   |  |

|  |             |                                   |                    |   |  |
|--|-------------|-----------------------------------|--------------------|---|--|
| diversification activity with anyone else?   |             |                                   |                    | 97 N/A, I never participated in these activities<br>99 Refused to answer  |  |
| [FOR FTF BENEFICIARIES] In the past year, when you experienced a shock or stressor, how frequently did you turn to a nutrition or behavior change activity you learned through FTF Nigeria?<br>[FOR CONTROL] In the past year, when you experienced a shock or stressor, how frequently did you turn to a nutrition or behavior change activity you learned through a government or NGO program? | nutri_use   | Intervention Adoption Index (IAI) | E <sub>5</sub> = 4 | 4 Regularly (as part of my daily life)<br>3 Frequently (on a weekly or monthly basis)<br>2 Sometimes (a few times per year)<br>1 Rarely (once or twice a year)<br>0 I do not practice these activities any longer<br>97 N/A, I never participated in these activities<br>99 Refused to answer |  |
| Did you share what you learned in this nutrition or behavior change activity with anyone else?   | nutri_share | Intervention Adoption Index (IAI) | E <sub>6</sub> = 1 | 1 Yes<br>0 No<br>97 N/A, I never participated in these activities<br>99 Refused to answer   |  |



|  |           |                                   |                     |   |   |
|--|-----------|-----------------------------------|---------------------|---|---|
| [FOR FTF BENEFICIARIES] In the past year, when you experienced a shock or stressor, how frequently did you turn to a local government strengthening activity you learned through FTF Nigeria?<br>[FOR CONTROL] In the past year, when you experienced a shock or stressor, how frequently did you turn to a local government strengthening activity you learned through a government or NGO program? | gov_use   | Intervention Adoption Index (IAI) | E <sub>7</sub> = 4  | 4 Regularly (as part of my daily life)<br>3 Frequently (on a weekly or monthly basis)<br>2 Sometimes (a few times per year)<br>1 Rarely (once or twice a year)<br>0 I do not practice these activities any longer<br>97 N/A, I never participated in these activities<br>99 Refused to answer |   |
| Did you share what you learned in this local government strengthening activity with anyone else?   | gov_share | Intervention Adoption Index (IAI) | E <sub>8</sub> = 1  | 1 Yes<br>0 No<br>97 N/A, I never participated in these activities<br>99 Refused to answer   |   |
| <i>Constructed variable</i>  | ftf_depth | Intervention Adoption Index       | S <sub>3</sub> = 20 | 0-20<br><br>(FTF_agri x agri_use +  | The IAI is calculated by multiplying the activity participation variable (0 - 1 |

|  |            |            |                    |   |   |
|--|------------|------------|--------------------|---|---|
|  |            |            |                    | $\text{argi\_share}) + (\text{FTF\_income} \times \text{income\_use} + \text{income\_share}) + (\text{FTF\_nutri} \times \text{nutri\_use} + \text{nutri\_share}) + (\text{FTF\_gov} \times \text{gov\_use} + \text{gov\_share})$   | <p>for each of the four activity types) by the activity use variable (0 - 4) and adding the activity share variable.</p> <p>Therefore, the combined index is a scale ranging from 0 (no participation in FTF) to 20 (high participation, usage, and sharing). A higher IAI indicated deeper, more lasting engagement in and impact of the FTF Nigeria Livelihoods project on a household.</p> |
| S4 = 1: Reflecting on the period before, during, and after the FTF Nigeria project, how has your household's capacity to prepare for, respond to, and adapt to shocks and stressors changed? | FTF_impact | FTF impact | E <sub>9</sub> = 4 | <p>4 Today, my household's ability to cope with shocks and stressors is much better than before the FTF Nigeria project.</p> <p>3 Today, my household's ability to cope with shocks and stressors is slightly better than before the FTF Nigeria project.</p> <p>2 Today, my household's ability to cope with shocks and stressors is the same as before the FTF Nigeria project.</p> |   |

|   |              |                 |                     | <p>1 Today, my household's ability to cope with shocks and stressors is slightly worse than before the FTF Nigeria project.</p> <p>0 Today, my household's ability to cope with shocks and stressors is much worse than before the FTF Nigeria project.</p> <p>99 Refused to answer</p>       |            |
|---|--------------|-----------------|---------------------|---|------------|
| (Q2.1=1 OR Q2.7=1 OR Q2.13=1 OR Q2.19=1) & (Q1.1=1 OR Q1.2=1 OR Q1.3=1 OR Q1.4=1): Which FTF project activity did your house rely on most when hit by a shock or stressor in the past five years? | top_FTF_5yr  | FTF rely        | E <sub>10</sub> = 4 | <p>1 Agricultural productivity or diversification activity</p> <p>2 Income generating or diversification activity</p> <p>3 Nutrition or behavior change activity</p> <p>4 Local government strengthening activity</p> <p>97 N/A, I did not participate in FTF</p> <p>99 Refused to answer</p> |            |
| <b>Section 5: Food Security</b>   |              |                 |                     |   |            |
| Question  | column label | Index Component | Max Value           | Response Coding   | Use        |
| Was there a time when you or others in your household were worried there wouldn't   | fies_1       | FIES            | F <sub>1</sub> = 1  | <p>0 No</p> <p>1 Yes</p> <p>99 Refused</p>  | FIES index |

|  |        |      |                    |                             |            |
|--|--------|------|--------------------|-----------------------------|------------|
| be enough to eat because of lack of money or other resources?  |        |      |                    |                             |            |
| Was there a time where you or others in your household were not able to eat healthy or nutritious meals because of a lack of money or other resources? | fies_2 | FIES | F <sub>2</sub> = 1 | 0 No<br>1 Yes<br>99 Refused | FIES index |
| Was there a time when you or others in your household only ate a few kinds of food because of a lack of money or other resources?                      | fies_3 | FIES | F <sub>3</sub> = 1 | 0 No<br>1 Yes<br>99 Refused | FIES index |
| Was there a time when you or others in your household had to skip a meal because there was not enough money or resources to get food?                  | fies_4 | FIES | F <sub>4</sub> = 1 | 0 No<br>1 Yes<br>99 Refused | FIES index |
| Was there a time when you or others in your household ate less than you thought  | fies_5 | FIES | F <sub>5</sub> = 1 | 0 No<br>1 Yes<br>99 Refused | FIES index |

|   |        |                              |           |  |   |
|---|--------|------------------------------|-----------|--|---|
| you should due to a lack of money or resources?   |        |                              |           |  |   |
| Was there ever a time where there was no food of any kind in the house and no money or resources to get some?       | fies_6 | FIES                         | $F_6 = 1$ | 0 No<br>1 Yes<br>99 Refused  | FIES index  |
| How often did you or others in your household go to sleep at night hungry because there was not enough food to eat? | fies_7 | FIES                         | $F_7 = 3$ | 0 Never<br>1 Rarely (1-2 times)<br>2 Sometimes (3-10 times)<br>3 Often (10+ times)<br>99 Refused | FIES index  |
| How many times did you or any others in your household go a whole day and night without eating a meal?              | fies_8 | FIES                         | $F_8 = 3$ | 0 Never<br>1 Rarely (1-2 times)<br>2 Sometimes (3-10 times)<br>3 Often (10+ times)<br>99 Refused | FIES index  |
| <i>Constructed variable</i>   | fies   | Food Insecurity Index (FIES) |           | 0-8<br><br>fies_1 + fies_2 + fies_3 + fies_4 + fies_5 + fies_6 + fies_7 + fies_8                 | Typically, FIES is calculated using the Rasch model for cross-country comparisons. In this study, a simple raw, additive score for FIES was calculated, a higher score indicating higher levels of food insecurity. |

| Section 6: Household Dietary Diversity   |              |                         |                         |                                       |      |
|--|--------------|-------------------------|-------------------------|---------------------------------------|------|
| Question   | column label | Index Component         | Max Value               | Response Coding                       | Use  |
| How many meals did the TYPICAL member of your household eat during the day or at night IN THE LAST 24 HOURS? | hdd_1        | Number of meals         | G <sub>1</sub> = number | [integer]                             |      |
| Any bread, rice, noodles, biscuits, or any other local foods made from millet, sorghum, maize, rice, wheat?  | hdd_2        | HDDS 1 cereals          | G <sub>2</sub> = 1      | 1 Yes<br>0 No<br>99 Refused to answer | HDDS |
| Pumpkins, carrots, squash, orange/yellow fleshed sweet potatoes, or any other similar local foods            | hdd_3        | HDDS 3 vegetables       | G <sub>3</sub> = 1      | 1 Yes<br>0 No<br>99 Refused to answer | HDDS |
| White-fleshed sweet potatoes, potatoes, yams, cassava or any other foods made from roots or tubers?          | hdd_4        | HDDS 2 roots and tubers | G <sub>4</sub> = 1      | 1 Yes<br>0 No<br>99 Refused to answer | HDDS |
| Dark green leafy vegetables  | hdd_5        | HDDS 3 vegetables       | G <sub>5</sub> = 1      | 1 Yes<br>0 No<br>99 Refused to answer | HDDS |

|   |        |                   |                     |                                       |      |
|---|--------|-------------------|---------------------|---------------------------------------|------|
| Ripe mangoes, ripe papayas or any other fruits that are rich in vitamin A | hdd_6  | HDDS 4 fruits     | G <sub>6</sub> = 1  | 1 Yes<br>0 No<br>99 Refused to answer | HDDS |
| Any other fruits or vegetables?   | hdd_7  | HDDS              | G <sub>7</sub> = 1  | 1 Yes<br>0 No<br>99 Refused to answer | HDDS |
| Liver, kidney, heart or other organ meats                                 | hdd_8  | HDDS 5 meat       | G <sub>8</sub> = 1  | 1 Yes<br>0 No<br>99 Refused to answer | HDDS |
| Any beef, lamb, goat, rabbit, wild game, chicken, duck, or other birds?   | hdd_9  | HDDS 5 meat       | G <sub>9</sub> = 1  | 1 Yes<br>0 No<br>99 Refused to answer | HDDS |
| Any eggs?   | hdd_10 | HDDS 6 eggs       | G <sub>10</sub> = 1 | 1 Yes<br>0 No<br>99 Refused to answer | HDDS |
| Any fresh or dried fish, shellfish or sea foods?                          | hdd_11 | HDDS 7 fish       | G <sub>11</sub> = 1 | 1 Yes<br>0 No<br>99 Refused to answer | HDDS |
| Any foods made from beans, peas, lentils, nuts or seeds? (local names)    | hdd_12 | HDDS 8 legumes    | G <sub>12</sub> = 1 | 1 Yes<br>0 No<br>99 Refused to answer | HDDS |
| Any cheese, yogurt, milk or other milk products?                          | hdd_13 | HDDS 9 milk       | G <sub>13</sub> = 1 | 1 Yes<br>0 No<br>99 Refused to answer | HDDS |
| Any foods made with oil, fat, or butter?                                  | hdd_14 | HDDS 10 oils/fats | G <sub>14</sub> = 1 | 1 Yes<br>0 No<br>99 Refused to answer | HDDS |

|   |        |                     |                     |                                       |   |
|---|--------|---------------------|---------------------|---------------------------------------|---|
| Any sugar or sugary foods such as chocolate, sweets, candies, pastries, cakes or honey? | hdd_15 | HDDS 11 sweets      | G <sub>15</sub> = 1 | 1 Yes<br>0 No<br>99 Refused to answer | HDDS  |
| Any other foods, such as condiments, coffee, tea?                                       | hdd_16 | HDDS 12 spices, bev | G <sub>16</sub> = 1 | 1 Yes<br>0 No<br>99 Refused to answer | HDDS  |
| Grubs, snails or insects  | hdd_17 | HDDS 5 meat         | G <sub>17</sub> = 1 | 1 Yes<br>0 No<br>99 Refused to answer | HDDS  |
| Food made with red palm oil, red palm nut, or red palm nut pulp sauce                   | hdd_18 | HDDS 10 oils/fats   | G <sub>18</sub> = 1 | 1 Yes<br>0 No<br>99 Refused to answer | HDDS  |
| Do you or anyone in your HH add micronutrient powder to food?                           | hdd_19 | HDDS                | G <sub>19</sub> = 1 | 1 Yes<br>0 No<br>99 Refused to answer | HDDS  |
| <i>Constructed variable</i>   | hdds   | HDDS                |                     | 0-12                                  | The Household dietary diversity (HDD) survey is calculated by a simple count of the number of food groups a household consumed in the previous 24-hour period. HDD contains 12 primary food groups:<br><ol style="list-style-type: none"> <li>1. Cereals</li> <li>2. White roots and tubers</li> <li>3. Vegetables</li> </ol> |



|  |              |                             |                    |                                       | <ol style="list-style-type: none"> <li>4. Fruits</li> <li>5. Meat</li> <li>6. Eggs</li> <li>7. Fish and other seafood</li> <li>8. Legumes, nuts and seeds</li> <li>9. Milk and milk products</li> <li>10. Oils and fats</li> <li>11. Sweets</li> <li>12. Spices, condiments and beverages</li> </ol> <p>An additional category of food was added for vitamin-A rich red palm oil / palm nut products. This category was combined with the fruits category as both consist of vitamin-A rich foods.</p> |
|--|--------------|-----------------------------|--------------------|---------------------------------------|--|
| <b>Section 7: Resilience Capacity</b>  |              |                             |                    |                                       |  |
| Question   | column label | Index Component             | Max Value          | Response Coding                       | Use  |
| Have any of the adults in your household, including yourself, participated in any sort of adult education, such as a vocational program, | ed_program   | Education/<br>training, RCI | H <sub>1</sub> = 1 | 1 Yes<br>0 No<br>99 Refused to answer | Education/training variable for RCI  |

|  |            |   |                    |  |  |
|--|------------|---|--------------------|--|--|
| business development training, natural resource management training, or similar program? |            |   |                    |  |  |
| <i>Constructed variable</i>  | educ_index | Resilience capacity index               | H <sub>1</sub> = 3 | 0-3<br>education + literacy + ed_program | Education/training variable based on an index calculated from three variables: education, literacy, and ed_program. Compute an additive index with the three binary variables. The index ranges from 0 to 3. |
| Which one of these consumptive assets does your household own?                           |            |   |                    |  |  |
| computer   | c_computer | Asset ownership consumptive assets, RCI | H <sub>2</sub> = 1 | 1 Yes<br>0 No<br>99 Refused to answer    |  |
| air conditioner  | c_ac       | Asset ownership consumptive assets, RCI | H <sub>3</sub> = 1 | 1 Yes<br>0 No<br>99 Refused to answer    |  |
| sofa   | c_sofa     | Asset ownership consumptive assets, RCI | H <sub>4</sub> = 1 | 1 Yes<br>0 No<br>99 Refused to answer    |  |
| bed  | c_bed      | Asset ownership consumptive assets, RCI | H <sub>5</sub> = 1 | 1 Yes<br>0 No<br>99 Refused to answer    |  |
| cell phone   | c_phone    | Asset ownership consumptive assets, RCI | H <sub>6</sub> = 1 | 1 Yes<br>0 No<br>99 Refused to answer    |  |

|                               |            |   |                     |                                       |  |
|-------------------------------|------------|---|---------------------|---------------------------------------|--|
| radio                         | c_radio    | Asset ownership<br>consumptive<br>assets, RCI | H <sub>7</sub> = 1  | 1 Yes<br>0 No<br>99 Refused to answer |  |
| television                    | c_tv       | Asset ownership<br>consumptive<br>assets, RCI | H <sub>8</sub> = 1  | 1 Yes<br>0 No<br>99 Refused to answer |  |
| fridge                        | c_fridge   | Asset ownership<br>consumptive<br>assets, RCI | H <sub>9</sub> = 1  | 1 Yes<br>0 No<br>99 Refused to answer |  |
| cushion chair                 | c_chair    | Asset ownership<br>consumptive<br>assets, RCI | H <sub>10</sub> = 1 | 1 Yes<br>0 No<br>99 Refused to answer |  |
| modern table                  | c_table    | Asset ownership<br>consumptive<br>assets, RCI | H <sub>11</sub> = 1 | 1 Yes<br>0 No<br>99 Refused to answer |  |
| cupboard                      | c_cupboard | Asset ownership<br>consumptive<br>assets, RCI | H <sub>12</sub> = 1 | 1 Yes<br>0 No<br>99 Refused to answer |  |
| bicycle                       | c_bicycle  | Asset ownership<br>consumptive<br>assets, RCI | H <sub>13</sub> = 1 | 1 Yes<br>0 No<br>99 Refused to answer |  |
| passenger<br>truck/motorcycle | c_car      | Asset ownership<br>consumptive<br>assets, RCI | H <sub>14</sub> = 1 | 1 Yes<br>0 No<br>99 Refused to answer |  |
| generator                     | c_gen      | Asset ownership<br>consumptive<br>assets, RCI | H <sub>15</sub> = 1 | 1 Yes<br>0 No<br>99 Refused to answer |  |
| solar panel                   | c_solar    | Asset ownership<br>consumptive<br>assets, RCI | H <sub>16</sub> = 1 | 1 Yes<br>0 No<br>99 Refused to answer |  |

|   |               |   |                      |                                       |   |
|---|---------------|---|----------------------|---------------------------------------|---|
| electric iron   | c_iron        | Asset ownership<br>consumptive<br>assets, RCI | H <sub>17</sub> = 1  | 1 Yes<br>0 No<br>99 Refused to answer |   |
| fan   | c_fan         | Asset ownership<br>consumptive<br>assets, RCI | H <sub>18</sub> = 1  | 1 Yes<br>0 No<br>99 Refused to answer |   |
| keke napep  | c_keke        | Asset ownership<br>consumptive<br>assets, RCI | H <sub>19</sub> = 1  | 1 Yes<br>0 No<br>99 Refused to answer |   |
| <i>Constructed variable</i>                               | c_assets      | Asset ownership<br>consumptive<br>assets, RCI | H <sub>21</sub> = 18 | 0-18                                  | Asset ownership is measured<br>using the<br>number of consumer durable<br>assets. |
| Which of these productive assets does your household own? |               |   |                      |                                       |   |
| Plough (oxen-pulled)                                      | p_oxe_plough  | Asset ownership<br>productive assets,<br>RCI  | H <sub>22</sub> = 1  | 1 Yes<br>0 No<br>99 Refused to answer |   |
| Mechanical plough   | p_mech_plough | Asset ownership<br>productive assets,<br>RCI  | H <sub>22</sub> = 1  | 1 Yes<br>0 No<br>99 Refused to answer |   |
| Sickle  | p_sickle      | Asset ownership<br>productive assets,<br>RCI  | H <sub>24</sub> = 1  | 1 Yes<br>0 No<br>99 Refused to answer |   |
| pickaxe   | p_pickaxe     | Asset ownership<br>productive assets,<br>RCI  | H <sub>25</sub> = 1  | 1 Yes<br>0 No<br>99 Refused to answer |   |
| axe   | p_axe         | Asset ownership<br>productive assets,<br>RCI  | H <sub>26</sub> = 1  | 1 Yes<br>0 No<br>99 Refused to answer |   |

|                               |                |  |                     |                                       |  |
|-------------------------------|----------------|--|---------------------|---------------------------------------|--|
| pruning/cutting shears        | p_shears       | Asset ownership productive assets, RCI | H <sub>27</sub> = 1 | 1 Yes<br>0 No<br>99 Refused to answer |  |
| hoe                           | p_hoe          | Asset ownership productive assets, RCI | H <sub>28</sub> = 1 | 1 Yes<br>0 No<br>99 Refused to answer |  |
| spade or shovel               | p_shovel       | Asset ownership productive assets, RCI | H <sub>29</sub> = 1 | 1 Yes<br>0 No<br>99 Refused to answer |  |
| traditional beehive           | p_bee          | Asset ownership productive assets, RCI | H <sub>30</sub> = 1 | 1 Yes<br>0 No<br>99 Refused to answer |  |
| knapsack chemical sprayer     | p_chem_sprayer | Asset ownership productive assets, RCI | H <sub>31</sub> = 1 | 1 Yes<br>0 No<br>99 Refused to answer |  |
| mechanical water pump         | p_mech_pump    | Asset ownership productive assets, RCI | H <sub>32</sub> = 1 | 1 Yes<br>0 No<br>99 Refused to answer |  |
| motorized water pump          | p_motor_pump   | Asset ownership productive assets, RCI | H <sub>33</sub> = 1 | 1 Yes<br>0 No<br>99 Refused to answer |  |
| stone grain mill              | p_stone_mill   | Asset ownership productive assets, RCI | H <sub>34</sub> = 1 | 1 Yes<br>0 No<br>99 Refused to answer |  |
| motorized grain mill          | p_motor_mill   | Asset ownership productive assets, RCI | H <sub>35</sub> = 1 | 1 Yes<br>0 No<br>99 Refused to answer |  |
| broad bed maker (oxen-pulled) | p_bedmaker     | Asset ownership productive assets, RCI | H <sub>36</sub> = 1 | 1 Yes<br>0 No<br>99 Refused to answer |  |

|  |             |  |                     |  |  |
|--|-------------|--|---------------------|--|--|
| small tractor  | p_tractor   | Asset ownership<br>productive assets,<br>RCI | H <sub>37</sub> = 1 | 1 Yes<br>0 No<br>99 Refused to answer  |  |
| hand-held motorized<br>tiller  | p_tiller    | Asset ownership<br>productive assets,<br>RCI | H <sub>38</sub> = 1 | 1 Yes<br>0 No<br>99 Refused to answer  |  |
| agricultural land  | p_land      | Asset ownership<br>productive assets,<br>RCI | H <sub>39</sub> = 1 | 1 Yes<br>0 No<br>99 Refused to answer  |  |
| <i>Constructed variable</i>  | p_assets    | Asset ownership<br>productive assets,<br>RCI | H <sub>40</sub> = 1 | 0-18   | Asset ownership is measured<br>using the number of<br>productive assets.   |
| If your household had<br>a problem and<br>needed help urgently<br>(e.g. food, money,<br>labor, transport, etc.)<br>who could you turn to<br>for help IN THIS<br>VILLAGE? | Bonding_cap | Bonding social<br>capital                    | H <sub>41</sub> = 3 | 3 Relatives<br>2 Non-relatives in my<br>ethnic group/clan<br>1 Non-relatives in other<br>ethnic group/clan<br>0 No one<br>96 Other<br>99 Refused to answer | The bonding social capital<br>index is based on the<br>responses to two questions:<br>1. Whether the household<br>indicates it would be able to<br><b>get</b> help from various<br>categories of people living<br>WITHIN their community if<br>they needed it;<br>2. Whether the household<br>indicates it would be able to<br><b>give</b> help to people living<br>WITHIN their community who<br>needed it.<br><br>The research team made two<br>modifications to this index.<br>A. To shorten the overall<br>survey length, we removed |

|  |              |                             |                     |  |   |
|--|--------------|-----------------------------|---------------------|--|---|
|  |              |                             |                     |  | question 2 regarding a household's ability to give help to people living within their community.<br>B. To make survey coding and analysis easier, instead of allowing respondents to select multiple responses for question 1, we coded the survey so that respondents would select one of the multiple responses options. If the respondent selected "no one" this answer would be coded as 0. A new binary variable was developed for this index equal to 0 for "no one" and equal to 1 for another other response. |
| <i>Constructed variable</i>  | bcap         | Bonding social capital, RCI |                     | 0 if bonding_cap = 0<br>1 if bonding_cap = 1, 2, or 3  | Binary variable for RCI.  |
| If your household had a problem and needed help urgently (e.g. food, money, labor, transport, etc.) who could you turn to for help OUTSIDE THIS VILLAGE? | bridging_cap | Bridging social capital     | H <sub>39</sub> = 3 | 3 Relatives<br>2 Non-relatives in my ethnic group/clan<br>1 Non-relatives in other ethnic group/clan<br>0 No one<br>96 Other<br>99 Refused to answer | The bridging social capital index is based on the responses to two questions:<br>1. Whether the household indicates it would be able to <b>get</b> help from various categories of people living OUTSIDE OF their community if they needed it;  |

|                             |       |                              |  |                       |  |
|-----------------------------|-------|------------------------------|--|-----------------------|--|
|                             |       |                              |  |                       | <p>2. Whether the household indicates it would be able to <b>give</b> help to people living OUTSIDE OF their community who needed it.</p> <p>The research team made two modifications to this index.</p> <p>1. To shorten the overall survey length, we removed question 2 regarding a household's ability to give help to people living outside of their community.</p> <p>2. To make survey coding and analysis easier, instead of allowing respondents to select multiple responses for question 1, we coded the survey so that respondents would select one of the multiple-response options. If the respondent selected "no one" this answer would be coded as 0. A new binary variable was developed for this index equal to 0 for "no one" and equal to 1 for another response.</p> |
| <i>Constructed variable</i> | brcap | Bridging social capital, RCI |  | 0 if bridging_cap = 0 | Binary variable for RCI.   |



|  |                |                                   |                     |  |  |
|--|----------------|-----------------------------------|---------------------|--|--|
|  |                |                                   |                     | 1 if bridging_cap = 1, 2, or 3   |  |
| Is anyone in your household involved in any money-saving activities, such as with a bank, micro-finance institution, esusu, or piggy bank? | save           | Access to cash savings, RCI       | H <sub>40</sub> = 1 | 1 Yes<br>0 No<br>99 Refused to answer  | This indicator is a binary (dummy) variable equal to 1 if the respondents reported that a household member is participating in a group-based savings, microfinance, or lending program.  |
| How regularly do you or other household members contribute to savings?   | savings_contri |                                   | H <sub>41</sub> = 4 | 4 At least once a week<br>3 At least once a month<br>2 At least once a year<br>1 I save money when I can, but not regularly<br>0 I have no money to save   |  |
| Are there any programs or activities from the government or NGOs that help households in this village when they are faced with shocks?     | gov_ngo_prog   | Access to formal safety nets, RCI | H <sub>42</sub> = 3 | 3 There are many programs or places and they are easy to access<br>2 There are a few programs or places but they are easy to access<br>1 There are few programs or places and they are difficult to access<br>0 There are no programs or places for assistance<br>99 Refused to answer | In the process of modifying the household survey, this indicator was changed to: "Are there any programs or activities from the government or NGOs that help households in this village when they are faced with shocks?" with the responses ranging from (3) There are many programs or places and they are easy to access, (2) There are a few programs or places but they |

|  |              |  |                    |                                       | <p>are easy to access, (1) There are few programs or places and they are difficult to access, (0) There are no programs or places for assistance.</p> <p>This new indicator doesn't specifically report whether a household received support from a formal safety net, but rather, tells us about the availability of formal safety nets accessible to them.</p> |
|--|--------------|--|--------------------|---------------------------------------|--|
| Has your household received emergency support, such as food assistance or cash transfers, from the government or NGOs in the last 12 months?   | hh_support   | Access to humanitarian assistance, RCI | B <sub>6</sub> = 1 | 1 Yes<br>0 No<br>99 Refused to answer | This indicator is a binary (dummy) variable equal to 1 if the household reported receiving emergency food or cash assistance from the government or NGO during the 12 months prior to the survey.  |
| I am now going to ask you a few questions about the government's support of improving community assets or services. Has your community requested help from the government for any of the following assets or services? |              |  |                    |                                       |  |
| Question   | column label | Index Component                        | Max Value          | Response Coding                       | Use  |
| roads  | roads        | Local government responsiveness, RCI   | G <sub>1</sub> = 1 | 1 Yes<br>0 No<br>99 Refused to answer |  |
| How was the request handled?   | roads_resp   | Local government responsiveness,       | G <sub>2</sub> = 6 | 6 Completely addressed/being          |  |

|                              |              |                                      |                    |  |  |
|------------------------------|--------------|--------------------------------------|--------------------|--|--|
|                              |              | RCI                                  |                    | <p>addressed (i.e., may be ongoing)</p> <p>5 Partially addressed (i.e., response completed but need not fully addressed)</p> <p>4 Positive response, will be addressed</p> <p>3 Promised but not yet addressed</p> <p>2 Not addressed, response pending</p> <p>1 Not addressed, attempts failed</p> <p>0 Leaders did nothing</p> <p>99 Refused to answer</p> |  |
| schools                      | schools      | Local government responsiveness, RCI | G <sub>3</sub> = 1 | <p>1 Yes</p> <p>0 No</p> <p>99 Refused to answer</p>   |  |
| How was the request handled? | schools_resp | Local government responsiveness, RCI | G <sub>4</sub> = 6 | <p>6 Completely addressed/being addressed (i.e., may be ongoing)</p> <p>5 Partially addressed (i.e., response completed but need not fully addressed)</p> <p>4 Positive response, will be addressed</p> <p>3 Promised but not yet addressed</p>  |  |

|                              |             |                                      |                    |  |  |
|------------------------------|-------------|--------------------------------------|--------------------|--|--|
|                              |             |                                      |                    | 2 Not addressed, response pending<br>1 Not addressed, attempts failed<br>0 Leaders did nothing<br>99 Refused to answer   |  |
| health                       | health      | Local government responsiveness, RCI | G <sub>5</sub> = 1 | 1 Yes<br>0 No<br>99 Refused to answer  |  |
| How was the request handled? | health_resp | Local government responsiveness, RCI | G <sub>6</sub> = 6 | 6 Completely addressed/being addressed (i.e., may be ongoing)<br>5 Partially addressed (i.e., response completed but need not fully addressed)<br>4 Positive response, will be addressed<br>3 Promised but not yet addressed<br>2 Not addressed, response pending<br>1 Not addressed, attempts failed<br>0 Leaders did nothing<br>99 Refused to answer |  |
| water                        | water       | Local government responsiveness, RCI | G <sub>7</sub> = 1 | 1 Yes<br>0 No<br>99 Refused to answer  |  |

|                              |                   |                                      |                     |  |  |
|------------------------------|-------------------|--------------------------------------|---------------------|--|--|
| How was the request handled? | water_resp        | Local government responsiveness, RCI | G <sub>8</sub> = 6  | 6 Completely addressed/being addressed (i.e., may be ongoing)<br>5 Partially addressed (i.e., response completed but need not fully addressed)<br>4 Positive response, will be addressed<br>3 Promised but not yet addressed<br>2 Not addressed, response pending<br>1 Not addressed, attempts failed<br>0 Leaders did nothing<br>99 Refused to answer |  |
| conservation                 | conservation      | Local government responsiveness, RCI | G <sub>9</sub> = 1  | 1 Yes<br>0 No<br>99 Refused to answer  |  |
| How was the request handled? | conservation_resp | Local government responsiveness, RCI | G <sub>10</sub> = 6 | 6 Completely addressed/being addressed (i.e., may be ongoing)<br>5 Partially addressed (i.e., response completed but need not fully addressed)<br>4 Positive response, will be addressed   |  |

|                              |                 |                                      |                     |  |  |
|------------------------------|-----------------|--------------------------------------|---------------------|--|--|
|                              |                 |                                      |                     | 3 Promised but not yet addressed<br>2 Not addressed, response pending<br>1 Not addressed, attempts failed<br>0 Leaders did nothing<br>99 Refused to answer   |  |
| irrigation                   | irrigation      | Local government responsiveness, RCI | G <sub>11</sub> = 1 | 1 Yes<br>0 No<br>99 Refused to answer  |  |
| How was the request handled? | irrigation_resp | Local government responsiveness, RCI | G <sub>12</sub> = 6 | 6 Completely addressed/being addressed (i.e., may be ongoing)<br>5 Partially addressed (i.e., response completed but need not fully addressed)<br>4 Positive response, will be addressed<br>3 Promised but not yet addressed<br>2 Not addressed, response pending<br>1 Not addressed, attempts failed<br>0 Leaders did nothing<br>99 Refused to answer |  |
| transport                    | transport       | Local government responsiveness,     | G <sub>13</sub> = 1 | 1 Yes<br>0 No  |  |

|                              |                |                                      |                     |  |  |
|------------------------------|----------------|--------------------------------------|---------------------|--|--|
|                              |                | RCI                                  |                     | 99 Refused to answer   |  |
| How was the request handled? | transport_resp | Local government responsiveness, RCI | G <sub>14</sub> = 6 | 6 Completely addressed/being addressed (i.e., may be ongoing)<br>5 Partially addressed (i.e., response completed but need not fully addressed)<br>4 Positive response, will be addressed<br>3 Promised but not yet addressed<br>2 Not addressed, response pending<br>1 Not addressed, attempts failed<br>0 Leaders did nothing<br>99 Refused to answer |  |
| security                     | security       | Local government responsiveness, RCI | G <sub>15</sub> = 1 | 1 Yes<br>0 No<br>99 Refused to answer  |  |
| How was the request handled? | security_resp  | Local government responsiveness, RCI | G <sub>16</sub> = 6 | 6 Completely addressed/being addressed (i.e., may be ongoing)<br>5 Partially addressed (i.e., response completed but need not fully addressed)<br>4 Positive response, will be addressed<br>3 Promised but not yet addressed   |  |

|                             |                |                                      |                      |  |   |
|-----------------------------|----------------|--------------------------------------|----------------------|--|---|
|                             |                |                                      |                      | 2 Not addressed, response pending<br>1 Not addressed, attempts failed<br>0 Leaders did nothing<br>99 Refused to answer |   |
| <i>Constructed variable</i> | local_gov_resp | Local government responsiveness, RCI | G <sub>17</sub> = 6  | 0-6  | The local government responsiveness variable is a mean score, calculated as the sum of the response value for identified community asset/service needs divided by the total number of community asset/service needs for which any community member requested assistance from the local government. The mean score ranges from 0 to 6. |
| <i>Constructed variable</i> | rci            | Resilience Capacity Index            | G <sub>18</sub> = 90 | 0-90   | All nine (9) variables (bonding social capital, bridging social capital, local government responsiveness, access to cash savings, asset ownership consumer durables, asset ownership productive assets, education/training, access to formal safety nets, and   |



|   |              |                           |                       |  | access to humanitarian assistance) were transformed into a 0-10 scale and added together to form the Light Approach Resilience Capacity Index. |
|---|--------------|---------------------------|-----------------------|--|--|
|   | rci_rescale  | Resilience Capacity Index | G <sub>19</sub> = 100 | 0-100  | This index was then rescaled from 0-90 to a 0-100 scale.   |
| <b>Section 8: SERS</b>  |              |                           |                       |  |  |
| Question  | Column label | Index Component           | Max Value             | Response Coding  | Use  |
| During times of hardship, your household can change its primary income or source of livelihood if needed. | SERS_income  | SERS                      | S <sub>1</sub> = 5    | 5 Strongly Agree<br>4 Agree<br>3 Neither agree nor disagree<br>2 Disagree<br>1 Strongly disagree<br>99 Refused to answer | Transformative capacity  |
| If threats to your household became more frequent and intense, you would still find a way to get by.      | SERS_get_by  | SERS                      | S <sub>2</sub> = 5    | 5 Strongly Agree<br>4 Agree<br>3 Neither agree nor disagree<br>2 Disagree<br>1 Strongly disagree<br>99 Refused to answer | Adaptive capacity  |
| During times of hardship, your household can access the financial support you need,                       | SERS_support | SERS                      | S <sub>3</sub> = 5    | 5 Strongly Agree<br>4 Agree<br>3 Neither agree nor disagree<br>2 Disagree  | financial capital and social capital   |

|  |                |      |                     |  |   |
|--|----------------|------|---------------------|--|---|
| your household can rely on the support of family and friends when you need help.                                       |                |      |                     | 1 Strongly disagree<br>99 Refused to answer  |   |
| Your household has learned important lessons from past hardships that will help you better prepare for future threats. | SERS_learn     | SERS | S <sub>4</sub> = 5  | 5 Strongly Agree<br>4 Agree<br>3 Neither agree nor disagree<br>2 Disagree<br>1 Strongly disagree<br>99 Refused to answer | Learning  |
| Your household is fully prepared for any future natural disasters that may occur in your area.                         | SERS_prepared  | SERS | S <sub>5</sub> = 5  | 5 Strongly Agree<br>4 Agree<br>3 Neither agree nor disagree<br>2 Disagree<br>1 Strongly disagree<br>99 Refused to answer | Anticipatory capacity   |
| Your household receives useful information warning you about future risks in advance.                                  | SERS_risk_comm | SERS | S <sub>6</sub> = 5  | 5 Strongly Agree<br>4 Agree<br>3 Neither agree nor disagree<br>2 Disagree<br>1 Strongly disagree<br>99 Refused to answer | Early warning systems   |
| <i>Constructed variable</i>  | SERS           | SERS | S <sub>7</sub> = 30 | 0-30   | Respondents score their level of agreement with each capacity statement using a Likert scale from 1 = strongly disagree to 5 = strongly agree. To calculate the |

|   |                     |                        |                    |  |  |
|---|---------------------|------------------------|--------------------|--|--|
|   |                     |                        |                    |  | SERS, responses to the statements are simply added up to compute a single SERS for the household. In this preliminary analysis, we have chosen to weigh all resilience capacities equally. |
| <b>Additional variables and Indices appended to the dataset</b> |                     |                        |                    |  |  |
|   | <b>column label</b> | <b>Index Component</b> | <b>Max Value</b>   | <b>Response Coding</b>   | <b>Purpose</b>   |
| <i>Constructed variable</i>                                     | match               |                        | S <sub>1</sub> = 1 | 1 Survey logic matched<br>0 Survey logic did not match   | To track validated surveys with correct logical flow for analysis of Feed the Future Nigeria Livelihoods households  |
| <i>Constructed variable</i>                                     | expan               |                        | S <sub>1</sub> = 1 | 1 Household was part of the project expansion (Adamawa, Borno, or Yobe state)<br>0 Household was part of the original project (Sokoto, Kebbi, and the FCT) | Track expansion status of the household.   |

## Annex C.1: Enumerator IDs

*These are the codes assigned to specific numerators in the HHS dataset.*

| Name                    | ID  | Name                     | ID  | Name                      | ID  | Name                      | ID  |
|-------------------------|-----|--------------------------|-----|---------------------------|-----|---------------------------|-----|
| Faithrita C Igwello     | 101 | Henry Odijieazekhuman    | 302 | Lukman Umar               | 409 | Ochigbo John Onuh         | 510 |
| Verateso Richard Iliya  | 102 | Glory Odilamma Agbakwuru | 303 | Sufyanu Randali Umar      | 410 | Elijah Oyiwoda Favour     | 511 |
| Muhammed Isa Shelleng   | 103 | Katfa Tabitha            | 304 | Kwari Haruna Ezekiel      | 411 | Alheri James              | 512 |
| Aisha Ojochide Suleiman | 104 | Aliyu Abdullahi          | 305 | Ayuba Yahaya Karatu       | 412 | Saratu Jubril             | 513 |
| Mary Mbahi Asugu        | 201 | Adewale Oluseyi Emmanuel | 306 | Bala david precious zinom | 501 | Sherifat Moshood          | 514 |
| Ishaya Inusa            | 202 | Adebayo Kehinde Toyin    | 401 | Kabiru Ismail Noma        | 502 | Paul Ottor Ede            | 515 |
| Ndanaacha Samuel        | 203 | Azuk Ruth Alfred         | 402 | Gloria Odoh               | 503 | Lydia Ishaya              | 601 |
| Ahmed Ahmadu Umar       | 204 | Gladys Simon             | 403 | Henry Ameh                | 504 | Yerima Kachalla           | 602 |
| Gloria Williams Dzarma  | 205 | Ova Dauda Itopa          | 404 | Jilmari Ijasini Paul      | 505 | Julius Naomi Adarju       | 603 |
| Apagu Deborah           | 206 | Comfort Chiromah         | 405 | Esther Lawan              | 506 | Habu Ali                  | 604 |
| Bilal Umar              | 207 | Ladi Bedi                | 406 | Aliyu Muhammed Janiu      | 507 | Abdullahi Muhammed Angula | 605 |
| Bilyaminu Mohammed Ardo | 208 | Bedi Susan               | 407 | Jamila Halidu             | 508 | Rejoice Umoru             | 606 |
| Otor Ikonwye Friday     | 301 | Paul Precious Awulo      | 408 | Abas Isah Zubairu         | 509 |                           |     |



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## Annex C.2: LGA Codebook

*These are the codes used for LGAs in the HHS dataset.*

| Yobe         |    | Sokoto           |    | Kebbi              |    | FCT    |    | Borno             |    | Adamawa              |    |
|--------------|----|------------------|----|--------------------|----|--------|----|-------------------|----|----------------------|----|
| 1            |    | 2                |    | 3                  |    | 4      |    | 5                 |    | 6                    |    |
| Name         | ID | Name             | ID | Name               | ID | Name   | ID | Name              | ID | Name                 | ID |
| Baiyamari    | 61 | Ruwa Wari        | 51 | Makera/<br>Maurida | 41 | Igu    | 31 | Berum             | 21 | Gardida              | 11 |
| Dapchi       | 62 | Sakwai           | 52 | Ujariyo/ Junju     | 42 | Kawu   | 32 | Biu               | 22 | Gombi North          | 12 |
| Garin Alkali | 63 | Kwacchihoru      | 53 | Lagga/ Randali     | 43 | Shere  | 33 | Garubula          | 23 | Gombi South          | 13 |
| Buduwa       | 64 | Mongoho          | 54 | Kardi              | 44 | Ushafa | 34 | Yawi              | 24 | Guyaku               | 14 |
| Girgi        | 65 | Wababe           | 55 |                    |    |        |    | Kukurpu           | 25 | Banshika             | 15 |
| Jakusko      | 66 | Fajaldu          | 56 |                    |    |        |    | Marama/<br>Kidang | 26 | Hong                 | 16 |
|              |    | Rudu-<br>Amanawa | 57 |                    |    |        |    | Sakwa             | 27 | Thilbang/<br>Daksiri | 17 |
|              |    | Ruggar Gidado    | 58 |                    |    |        |    |                   |    |                      |    |



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## Annex D: FGD Facilitation Guide

### WELCOME, INTRODUCTION, AND EXPLANATION

1. Welcome and thank participants for their time.
2. Provide a brief introduction and explain the overview of FGD:
  - **Who will conduct FGD:** This assessment is being carried out by graduate students from the University of Notre Dame in the US in partnership with Catholic Relief Services. We seek general information relevant to the whole community, unrelated to any particular household, program, or service.
  - **Why should FGD be conducted:** We want to assist households in realizing their hopes and visions for becoming more resilient in the future. By learning about the challenges you face and how you cope with them, we can help CRS create better programs in the future.
  - **What is the role of the community in FGD:** You have been asked to come and talk with us today as part of a wider assessment going on in the states of Sokoto, Kebbi, Adamawa, Borno, Yobe, and FCT to understand the factors/challenges that affect resilience. You mentioned your willingness to participate in a focus group discussion during the household survey.
  - **How FGD will help:** This discussion will provide valuable insights on how households respond to shocks, allowing us to identify unique strategies that make other households more resilient than others in the community.

### CONSENT SCRIPT

You may choose not to take part in the study or may choose to leave the study at any time. Deciding not to participate or leaving the study later will not result in any penalty or loss of benefits to which you are entitled and will not affect your relationship with the University of Notre Dame or Catholic Relief Services (CRS). If you have any concerns, you may choose not to participate.

The purpose of this study is to learn what worked well and what didn't work well in the Feed the Future Nigeria project between 2013-2018. We also want to know about the shocks Nigerian communities face and how communities cope with them. This study will help CRS develop future programs to help people more effectively.

You were selected as a possible participant because you were either involved in CRS's Feed the Future Nigeria Livelihoods project from 2013-2018, or because you know the challenges Nigerian households face and the resources available to them.

The study is being conducted by Emma Hokoda, Colleen Maher, and Nancy Obonyo, graduate students at the University of Notre Dame in the United States. The study is being funded by the University of Notre Dame and Catholic Relief Services.

If you agree to participate, you will be asked to participate in a focus group with 7 people. We will record your responses on our mobile devices. The activity should take approximately 90 minutes of your time. You will not be paid for participating in this study.

For your protection from COVID, we will maintain a 2 m space between us. At any point during the survey, you can tell me that you feel uncomfortable or that you do not want to answer a particular question. You can stop participating in the interview at any time. Your identity will not be disclosed or attached to your answers in any way. The investigators will be careful to keep your personal information confidential.

For questions about the study, you can contact Catholic Relief Services. For questions about your rights as a research participant, to discuss problems, complaints, or concerns about this study, you can also contact the University of Notre Dame. Their phone numbers are listed here. [Give the subject a call back card]

### VERIFICATION SECTION

Before we begin, I want to make sure you understand your rights:

- What should you do if you feel uncomfortable during the conversation? [verify understanding]
- Will your decision to participate affect your relationship with CRS? [verify understanding]

### PARTICIPANT'S CONSENT

Now, we would like to ask you if you agree to participate in this study:

- Can you confirm that you are at least 18 years of age? [Pause for a verbal response]
- Do you agree to participate? [Pause for a verbal response]

| SECTION 0. FGD COMMUNITY INFORMATION |                           |                            |            |           |
|--------------------------------------|---------------------------|----------------------------|------------|-----------|
| 0.1: Facilitator                     | 0.2: Community or Village | 0.3: Local Government Area | 0.4: State | 0.5: Date |
|                                      |                           |                            |            |           |
| Participants:                        | # men:                    |                            | # women:   |           |
|                                      |                           |                            |            |           |

| SECTION 1. PARTICIPANT INFORMATION   |              |  |                             |  |                          |  |
|--|--------------|--|-----------------------------|--|--------------------------|--|
| <b>INSTRUCTIONS:</b> Poll participants on each of these questions (by show of hands and log counts in table below) |              |  |                             |  |                          |  |
| 1.1: Age distribution  | Young Adults |  | Middle-aged Adults (31-45): |  | Older Adults (Above 45): |  |

|   |                      |  |               |  |  |
|---|----------------------|--|---------------|--|--|
|   | (18-30):             |  |               |  |  |
| <b>1.2: Major livelihood activities</b> | Pastoral:            |  | Crop farming: |  | Urban<br>(business/trade<br>/employment<br>based): |
|   | Agro-pastoral:       |  | Fishery:      |  |  |
|   | Others:<br>[Specify] |  |               |  |  |

If participants consent to be recorded, begin recording now.

| SECTION 2: SHOCKS AND CRISES  |               |                |                |                    |
|---|---------------|----------------|----------------|--------------------|
| <b>Question 2.1:</b> What is the main shock or crisis that has affected the community in the last five years?   |               |                |                |                    |
| <b>Instructions:</b> Clarify this should affect the whole community or large proportions of households (HHs) in the community (not problems that affect individual HHs e.g. death of a spouse). Circle multiple choices if the participants feel the community is equally negatively affected by more than one. |               |                |                |                    |
| Drought   | Flood         | Conflict       | Human diseases |                    |
| Other:<br>[Specify]   |               |                |                |                    |
| <b>Question 2.2:</b> Would you say this main shock or crisis has impacted you more in the <u>last 12 months</u> compared to other times in the last five years? (Circle the response that best matches group consensus)   |               |                |                |                    |
| Significantly more  | Somewhat more | About the same | Somewhat less  | Significantly less |
| <b>Question 2.3:</b> What is it about this shock or crisis that makes it particularly challenging for this community?   |               |                |                |                    |
|   |               |                |                |                    |



| SECTION 3: STATEMENTS TO DEFINE THE COMMUNITY'S RESILIENCE   |
|--|
| <p><b>INTRODUCTION:</b> Describe “resilience” to the focus group discussants using the definition created during training.</p>   |
| <p><b>Question. 3.1:</b> Ask the group <u>what their community would look like</u> if everyone had achieved the described “resilience” status.</p>   |
| <p><b>INSTRUCTIONS:</b> Probe for realistic and positive building blocks/drivers to achieve context-specific “resilience” status in the community, not negative problems or unrealistic wish lists. As participants make each statement, facilitators:</p>   |
| <ul style="list-style-type: none"> <li>• <b>Pick up the graphic card</b> (see Appendix) corresponding to the statement <b>and place it</b> on the ground (or table) in front of the group.</li> <li>• Check the box (column 3.1) next to the statement in the table on the next page.</li> </ul>   |
| <p><b>Question 3.2:</b> Ask the group to consider which of all the statements made by the participants are the most important. In other words, <u>if only three (3) of the statements could be achieved, which would they choose?</u></p>  |
| <p><b>INSTRUCTIONS:</b> Distribute six beans to each respondent and request every participant to place beans on the graphic cards on the ground (or table) in the following manner:</p> <ul style="list-style-type: none"> <li>• Put three (3) beans on the most important.</li> <li>• Put two (2) beans on the second most important.</li> <li>• Put one (1) bean on the third most important.</li> </ul> <p><b>TIP 1:</b> Remind the group which statements are represented by which graphic cards.</p> <p><b>TIP 2:</b> It is highly recommended that bean scoring be carried out by one FGD participant after another, as far as time permits. For example, facilitators may call one FGD member at a time to place all beans and hide beans under the graphic cards before calling the next member.</p> |
| <p>Once all beans have been placed by the participants, facilitators count the number of beans on each card and note the scores for respective statements under column 3.2 in the table on the next page.</p>  |
| <p><b>Question 3.3:</b> State the two (2) highest scored statements and write their number (01, 02, 03, etc.) in the second column of the table below. Then ask participants to briefly <u>explain why the two priority statements are the most important for their resilience</u>. Take notes in the third column.</p>  |



|   | # | Explanation |
|---|---|-------------|
| 1 |   |             |
| 2 |   |             |

| 3.1: | Resilience (Short) Statements   | 3.2: Counts |
|------|---|-------------|
|      | 01. Cash transfers  |             |
|      | 02. Community skills / organization   |             |
|      | 03. Diversified incomes / Entrepreneurship                                    |             |
|      | 04. Early warning / disaster preparedness                                     |             |
|      | 05. Education – Basic (Mandatory education)                                   |             |
|      | 06. Education – Higher (e.g. University, Collage, Technical, Tertiary, Adult) |             |
|      | 07. Electricity   |             |
|      | 08. Environment / forest / tree / natural resources                           |             |
|      | 09. Farm practices / inputs   |             |
|      | 10. Fishing practices / inputs  |             |
|      | 11. Food for humans   |             |
|      | 12. Governance / No corruption  |             |
|      | 13. Healthcare for animals  |             |
|      | 14. Healthcare for humans   |             |

|                                    |  |
|------------------------------------|--|
| 15. Housing / shelter              |  |
| 16. Irrigation                     |  |
| 17. Jobs / employment / wage labor |  |
| 18. Land ownership                 |  |
| 19. Livestock herds                |  |
| 20. Loan / saving / credit         |  |
| 21. Markets                        |  |
| 22. Peace / security               |  |
| 23. Relief                         |  |
| 24. Roads                          |  |
| 25. Sanitation / latrines          |  |
| 26. Telecommunication              |  |
| 27. Transport / vehicles           |  |
| 28. Water for humans               |  |
| 29. Water for livestock            |  |
| 30. Women / gender empowerment     |  |
| Other:                             |  |
| Other:                             |  |
| Other:                             |  |
| Other:                             |  |
| Other:                             |  |

**NOTES:**

| SECTION 4: RESILIENT HOUSEHOLDS  |   |
|--|---|
| <b>Question 4.1:</b> Think of the HHs in their community that have attained most/many (if not all) of the statements made in Section 3 not only in normal period but also in a crisis period. Describe the characteristics of these resilient households. (Check all that are discussed) |   |
|  | Be entrepreneurial and engage in own income-generating activity (e.g., small business, trade, etc.) |
|  | Have a member who has employment / wage labor   |
|  | Practice irrigated farming  |
|  | Own livestock or have large herd size   |
|  | Have good quality housing/shelter   |
|  | Own / have secure access to (large) land  |
|  | Have transportation assets (e.g. bicycle, motorcycle, vehicle, etc.)                                |
|  | Be food secure  |
|  | Others<br>[Specify ]  |
|  | Others<br>[Specify ]  |
|  | Others<br>[Specify ]  |

|  |           |           |           |
|--|-----------|-----------|-----------|
| <b>Question 4.2:</b> Has the proportion of resilient HHs in their community <u>increased</u> , <u>declined</u> or <u>stayed the same</u> in the last 5 years? Why? |           |           |           |
| <b>4.2a: Proportion of resilient HHs</b> (circle one)  | Increased | No change | Decreased |
| <b>4.2b: Reasons</b>   |           |           |           |

|   |  |   |
|---|--|---|
| <b>Question 4.3:</b> Can you recommend a household who is resilient? (poll for show of hands) |  |   |
| <b>Number of participants with recommendation:</b>  |  | <b>INSTRUCTION:</b> If at least one recommendation, invite them to speak with the facilitator after the discussion. |

| SECTION 5: INTERVENTIONS TO BUILD RESILIENCE   |   |
|--|---|
| <b>Question 5.1:</b> What <u>interventions/services/changes/actions</u> have made the most difference in increasing resilience in this community in the last five years? This list need not be limited to aid/humanitarian support provided by the government or NGOs but could also include the communities' own efforts or those provided by the private sector (e.g., improved mobile phone coverage). (Check box next to all that apply) |   |
|  | a. Business (skill development, improved business environment, etc.)                              |
|  | b. Credit/loan/saving: access to formal or informal services (village savings, micro-banks, etc.) |
|  | c. Education: Hardware (construction/refurbishment of school facilities, etc.)                    |
|  | d. Education: Software (staffing/quality improvement, scholarships, bursaries provision, etc.)    |
|  | e. Empowerment (improved community organization/self-help group, gender equality, etc.)           |
|  | f. Environment (natural resources management, land rehabilitation, reforestation, etc.)           |
|  | g. Farming: labor & non-labour inputs/technology/techniques and subsidy                           |
|  | h. Farming: irrigation  |
|  | i. Farming: improved market access  |
|  | j. Fishing (improved market, fishing inputs, etc.)  |

|  |   |
|--|---|
|  | k. Food and/or other relief item distribution   |
|  | l. Governance/Peace (less/no corruption, decision-making/conflict resolution structure, etc.) |
|  | m. Health: hardware (construction/refurbishment of health facilities, etc.)                   |
|  | n. Health: software (improvements in health services and staffing)                            |
|  | o. Housing (e.g. support in building safe and strong shelter)                                 |
|  | p. Job/Employment/Labour (e.g. increased formal/informal job opportunities)                   |
|  | q. Livestock: qualitative (production improvement through fodder, animal health, etc.)        |
|  | r. Livestock: quantitative (increase herd size, restocking of livestock, etc.)                |
|  | s. Livestock: improved market access  |
|  | t. Road (construction, improvement, etc.)   |
|  | u. Social Assistance/Productive safety net (social cash transfer, cash for work, etc.)        |
|  | v. Telecommunication (e.g. mobile phone coverage extension)                                   |
|  | w. WASH: improved water quality and quantity (boreholes, taps, piping, tanks, dams, etc.)     |
|  | x. WASH: improved access to basic sanitation  |
|  | Others <i>[Specify ]</i>  |
|  | Others <i>[Specify ]</i>  |
|  | Others <i>[Specify ]</i>  |

**Question 5.2:** Which of these PAST OR ONGOING interventions/services/changes/actions have contributed most to building this community's resilience, in order of benefit? Explain how and why it has most effectively built resilience.

**INSTRUCTIONS:** Announce the interventions checked from the previous page. Guide them in selecting the one that most contributed to resilience. Record it in the table below. Then guide the participants through a conversation to discuss the reason for its impact (record this in the table below).

|   | 5.2a: Priority interventions | 5.2b: Explanation |
|---|------------------------------|-------------------|
| 1 |                              |                   |
| 2 |                              |                   |
| 3 |                              |                   |

**Question 5.3:** Who provided or established each of these interventions/services/changes/actions?

|   |  |
|---|--|
| 1 |  |
| 2 |  |
| 3 |  |



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|  |                                     |                          |
|--|-------------------------------------|--------------------------|
| <b>Question 5.4:</b> What <u>three (3) ADDITIONAL OR NEW</u> interventions/services/changes/actions would you prioritize in order to build your community's resilience in the future?                |                                     |                          |
| <b>INSTRUCTIONS:</b> Record each in the table below. As each one is identified, guide the participants through a conversation to discuss the reason for its impact (record this in the table below). |                                     |                          |
|  | <b>5.4a: Proposed interventions</b> | <b>5.4b: Explanation</b> |
| 1  |                                     |                          |
| 2  |                                     |                          |
| 3  |                                     |                          |

|  |  |
|--|--|
| <b>SECTION 6: COMMENTS/INPUTS</b>  |  |
| <b>Question 6.1:</b> Do you have any other thoughts on how we can help households in this community become more resilient? |  |
|  |  |

**CLOSING:** Dismiss focus group with gratitude for participation. Again invite those who wish to refer a resilient household to meet with you privately at this time. [names and phone numbers of referred households can be recorded in the space above or on the back of this sheet]



## Annex E: RHKII Interview Guide

### WELCOME, INTRODUCTION, AND EXPLANATION

1. Welcome and thank participants for their time.
2. Provide a brief introduction and explain the interview overview:
  - **Who will conduct the interview:** This assessment is being carried out by graduate students from the University of Notre Dame in the US in partnership with Catholic Relief Services. We seek general information relevant to the whole community, unrelated to any particular household, program, or service.
  - **Why should KII be conducted:** We want to assist households in realizing their hopes and visions for becoming more resilient in the future. By learning about the challenges you face and how you cope with them, we can help CRS create better programs in the future.
  - **Why were you selected:** You have been asked to come and talk with us today as part of a wider assessment going on in the states of Sokoto, Kebbi, Adamawa, Borno, Yobe, and FCT to understand the factors/challenges that affect resilience. Your community members recommended that we speak with you because of how well you cope with shocks and crises.
  - **How KII will help:** This conversation will provide valuable insights on how households respond to shocks, allowing us to identify unique strategies that make your household more resilient than others in the community.

### CONSENT SCRIPT

You may choose not to take part in the study or may choose to leave the study at any time. Deciding not to participate or leaving the study later will not result in any penalty or loss of benefits to which you are entitled and will not affect your relationship with the University of Notre Dame or Catholic Relief Services (CRS). If you have any concerns, you may choose not to participate.

The purpose of this study is to learn what worked well and what didn't work well in the Feed the Future Nigeria project between 2013-2018. We also want to know about the shocks Nigerian communities face and how communities cope with them. This study will help CRS develop future programs to help people more effectively.

You were nominated by your community during focus group discussion as a possible participant because you were either involved in CRS's Feed the Future Nigeria Livelihoods project from 2013-2018, or because you know the challenges Nigerian households face and the resources available to them.

The study is being conducted by Emma Hokoda, Colleen Maher, and Nancy Obonyo, graduate students at the University of Notre Dame in the United States. The study is being funded by the University of Notre Dame and Catholic Relief Services.

If you agree to participate, you will be one of 30 key informants. We will record your responses on our mobile devices. The activity should take approximately 30 minutes of your time. You will not be paid for participating in this study.

For your protection from COVID, we will maintain a 2 m space between us. At any point during the survey, you can tell me that you feel uncomfortable or that you do not want to answer a particular question. You

can stop participating in the interview at any time. Your identity will not be disclosed or attached to your answers in any way. The investigators will be careful to keep your personal information confidential.

For questions about the study, you can contact Catholic Relief Services. For questions about your rights as a research participant, to discuss problems, complaints, or concerns about this study, you can also contact the University of Notre Dame. Their phone numbers are listed here. [Give the subject a callback card]

### VERIFICATION SECTION

Before we begin, I want to make sure you understand your rights:

- What should you do if you feel uncomfortable during the conversation? [verify understanding]
- Will your decision to participate affect your relationship with CRS? [verify understanding]

### PARTICIPANT'S CONSENT

Now, we would like to ask you if you agree to participate in this study:

- Can you confirm that you are at least 18 years of age? [Pause for a verbal response]
- Do you agree to participate? [Pause for a verbal response]

*If participants consent to be recorded, begin recording now.*

| SECTION 0. FGD COMMUNITY INFORMATION |                           |                            |            |           |
|--------------------------------------|---------------------------|----------------------------|------------|-----------|
| 0.1: Interviewer                     | 0.2: Community or Village | 0.3: Local Government Area | 0.4: State | 0.5: Date |
|                                      |                           |                            |            |           |

| SECTION 1. BASIC HOUSEHOLD INFORMATION |                                     |        |
|--|-------------------------------------|--------|
| 1.1: Household size (include subject)  | 1.2: Head of Household (circle one) |        |
|  | Male                                | Female |

|  |   |                              |                          |                       |
|--|---|------------------------------|--------------------------|-----------------------|
| <b>1.3: What is the <u>highest level of education</u> attained by an adult in your household?</b> (Circle one) |   |                              |                          |                       |
| No formal education: illiterate  | No formal education: can read and write | Some primary school          | Completed primary school | Some secondary school |
| Completed secondary school   | Some tertiary education                 | Completed tertiary education | Other: (specify)         |                       |

|  |  |                                |                                     |   |
|--|--|--------------------------------|-------------------------------------|---|
| <b>SECTION 2: SOURCES OF INCOME/LIVELIHOODS</b>  |  |                                |                                     |   |
| <b>Question 2.1:</b> (a) Please state <u>ALL</u> sources of income generated by your household members in the past year (2022), including seasonal activities. (b) Among these, which sources are the most important to your household's ability to cope with shocks/crises, in order of importance? |  |                                |                                     |   |
| <b>Instructions:</b> Circle ALL sources of income. Write a ① ② ③ next to the most important sources. If the livelihood is purely non-cash subsistence-based, please circle only "subsistence."   |  |                                |                                     |   |
| Subsistence  | Crop farming: rain-fed                     | Crop farming: irrigation       | Livestock: sale of animal(s)        | Livestock: livestock products (e.g., milk, hides, manure) |
| Fishing  | Self-employment/small business/petty trade | Wage income: formal employment | Wage income: informal, casual labor | Remittances   |
| Rental Income: land  | Rental Income: property                    | Other: (specify)               |                                     |   |

|  |    |                   |     |        |         |               |          |
|--|----|-------------------|-----|--------|---------|---------------|----------|
| <b>Question 2.2a:</b> Does your household receive social assistance/productive safety net (e.g., cash transfer) support regularly? If so, how often? (circle the appropriate response) |    |                   |     |        |         |               |          |
| Yes  | No | <b>Frequency:</b> | N/A | Weekly | Monthly | Semi-Annually | Annually |

**Question 2.2b:** Did your household receive aid (i.e., food/item) in the past five years? If so, how many times? (circle the appropriate response)

|     |    |         |     |     |     |   |             |
|-----|----|---------|-----|-----|-----|---|-------------|
| Yes | No | Number: | N/A | 1-2 | 3-4 | 5 | More than 5 |
|-----|----|---------|-----|-----|-----|---|-------------|

**NOTES:**

### SECTION 3: PATHWAYS TO RESILIENCE

**Question 3.0:** In previous discussions with members of your community, your household was identified as 'resilient'. What is a 'resilient' household?

Do you think your household is resilient?

If yes, why?

Yes

If no, why not?

No

(use ALT questions)

**Question 3.1:** What are the key factors or characteristics that make your household resilient?

ALT: What are the key factors or characteristics that would make a household resilient? (circle all that apply)

|   |                                  |                                     |  |                          |
|---|----------------------------------|-------------------------------------|--|--------------------------|
| Access to finance (formal/informal)           | Access to healthcare             | Cash/food support                   | Crop farming: techniques/technology/inputs | Crop farming: irrigation |
| Crop farming: subsidy                         | Education (schooling, knowledge) | Fishery income                      | Land ownership/access                      | Livestock ownership      |
| Off-farm income (business, employment, labor) | Remittances                      | Support of community/family/friends | Other: (specify)                           |                          |



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|  |                   |                     |                  |               |
|--|-------------------|---------------------|------------------|---------------|
| <p><b>Question 3.2:</b> Please explain the <u>steps or process</u> that your household followed to become resilient?<br/>         ALT: What <u>steps or process</u> should a household take to become resilient?</p> |                   |                     |                  |               |
|  |                   |                     |                  |               |
| <p><b>Question 3.3:</b> Please think of all the shocks/crises which hit your community in the past five years. How resilient was your household during these periods? Why?</p>                                       |                   |                     |                  |               |
| Always resilient   | Usually resilient | Sometimes resilient | Rarely resilient | Not resilient |
| <p><b>Explanation:</b></p>   |                   |                     |                  |               |

| SECTION 4: PRIORITY RESILIENCE-BUILDING INTERVENTIONS   |   |
|---|---|
| <p><b>Question 4.1:</b> Based on your experiences, what types of interventions/services/changes/actions would best enable households in your community to cope and prepare well with shocks/crises? What are the top three?</p> |   |
| <p>Instructions: Write a ① ② ③ next to answers that best match the subject's responses.</p>   |   |
|   | Business (skill development, improved business environment, etc.)                                       |
|   | Credit/loan/saving: access to formal or informal services (village savings, micro-banks, "Osusus" etc.) |
|   | Social safety nets  |
|   | Education: hardware (construction/refurbishment of school facilities, etc.)                             |
|   | Education: software (e.g., staffing/quality improvement, scholarships, bursaries provision, etc.)       |
|   | Empowerment (improved community organization/self-help group, gender equality, etc.)                    |
|   | Environment (natural resources management, land rehabilitation, reforestation, etc.)                    |
|   | Farming: labor & non-labor inputs/technology/techniques and subsidy                                     |

|   |  |
|---|--|
|   | Farming: irrigation  |
|   | Farming: improved market access  |
|   | Fishing (improved market, fishing inputs, etc.)  |
|   | Food and/or other relief item distribution   |
|   | Governance/Peace (less/no corruption, decision-making/conflict resolution structure, etc.) |
|   | Health: hardware (construction/refurbishment of health facilities)                         |
|   | Health: software (e.g. improvements to health services and staffing)                       |
|   | Housing (e.g. support in building safe and strong shelters)                                |
|   | Job/Employment/Labor (e.g., increased formal/informal job opportunities)                   |
|   | Livestock: qualitative (production improvement through fodder, animal health, etc.)        |
|   | Livestock: quantitative (increase herd size, restocking of livestock, etc.)                |
|   | Livestock: improved market access  |
|   | Road (construction, improvement, etc.)   |
|   | Social assistance/productive safety net (social cash transfer, cash for work, etc.)        |
|   | Telecommunication (e.g., mobile phone coverage extension)                                  |
|   | WASH: improved water quality and quantity (boreholes, taps, piping, tanks, dams, etc.)     |
|   | WASH: improved access to basic sanitation  |
|   | Other [ <i>Specify</i> ]   |
|   | Other [ <i>Specify</i> ]   |
|   | Other [ <i>Specify</i> ]   |
|   | Other [ <i>Specify</i> ]   |
| <b>Question 4.1b:</b> Why/how does [insert choice ①] help build resilience? |  |

|   |
|---|
|   |
| <b>Question 4.1c:</b> Why/how does [insert choice ②] help build resilience? |
|   |
| <b>Question 4.1d:</b> Why/how does [insert choice ③] help build resilience? |
|   |

|                     |
|---------------------|
| <b>OTHER NOTES:</b> |
|                     |

**CLOSING:** Thank the subject for their participation.

## Annex F: LLKII Interview Guide

### WELCOME, INTRODUCTION, AND EXPLANATION

1. Welcome and thank the participant for his/her time.
2. Provide a brief introduction and explain the interview overview:
  - **Who will conduct the interview:** This assessment is being carried out by graduate students from the University of Notre Dame in the US in partnership with Catholic Relief Services. We seek general information relevant to the whole community, unrelated to any particular household, program, or service.
  - **Why should KII be conducted:** We want to assist communities in realizing their hopes and visions for becoming more resilient in the future. By learning about the challenges your community faces and how you cope with them, we can help CRS create better programs in the future.
  - **Why you were selected:** You have been asked to come and talk with us today as part of a wider assessment going on in the states of Sokoto, Kebbi, Adamawa, Borno, Yobe, and FCT to understand the factors/challenges that affect resilience.
  - **How KII will help:** This conversation will provide valuable insights on how communities respond to shocks, allowing us to identify unique strategies that contribute to building and maintaining community resilience, how the community handles shocks, and the interventions that have greatly improved community resilience.

### CONSENT SCRIPT

You may choose not to take part in the study or may choose to leave the study at any time. Deciding not to participate or leaving the study later will not result in any penalty or loss of benefits to which you are entitled and will not affect your relationship with the University of Notre Dame or Catholic Relief Services (CRS). If you have any concerns, you may choose not to participate.

The purpose of this study is to learn what worked well and what didn't work well in the Feed the Future Nigeria project between 2013-2018. We also want to know about the shocks Nigerian communities face and how communities cope with them. This study will help CRS develop future programs to help people more effectively.

You were selected as a possible participant because you were either involved in CRS's Feed the Future Nigeria Livelihoods project from 2013-2018, or because you know the challenges Nigerian households face and the resources available to them.

The study is being conducted by Emma Hokoda, Colleen Maher, and Nancy Obonyo, graduate students at the University of Notre Dame in the United States. The study is being funded by the University of Notre Dame and Catholic Relief Services.

If you agree to participate, you will be one of 30 key informants. We will record your responses on our mobile devices. The activity should take approximately 30 minutes of your time. You will not be paid for participating in this study.

For your protection from COVID, we will maintain a 2 m space between us. At any point during the survey, you can tell me that you feel uncomfortable or that you do not want to answer a particular question. You can stop participating in the interview at any time. Your identity will not be disclosed or



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attached to your answers in any way. The investigators will be careful to keep your personal information confidential.

For questions about the study, you can contact Catholic Relief Services. For questions about your rights as a research participant, to discuss problems, complaints, or concerns about this study, you can also contact the University of Notre Dame. Their phone numbers are listed here. [Give the subject a callback card]

### VERIFICATION SECTION

Before we begin, I want to make sure you understand your rights:

- What should you do if you feel uncomfortable during the conversation? [verify understanding]
- Will your decision to participate affect your relationship with CRS? [verify understanding]

### PARTICIPANT'S CONSENT

Now, we would like to ask you if you agree to participate in this study:

- Can you confirm that you are at least 18 years of age? [Pause for a verbal response]
- Do you agree to participate? [Pause for a verbal response]

*If participants consent to be recorded, begin recording now.*

| SECTION 0. INTERVIEW DETAILS |                              |                                  |               |              |
|------------------------------|------------------------------|----------------------------------|---------------|--------------|
| 0.1:<br>Interviewer          | 0.2: Community<br>or Village | 0.3: Local<br>Government<br>Area | 0.4:<br>State | 0.5:<br>Date |
|                              |                              |                                  |               |              |

| SECTION 1. BASIC LEADER INFORMATION                      |  |
|--|--|
| 1.1: What is your role in this community<br>or locality? | 1.2: How long have you held this position? |
|  |  |

| SECTION 2: QUESTION PROMPTS   |  |
|---|--|
| 1. What shocks or stressors have affected the community or locality you represent in the past five years?<br>PROBE: Which had the most significant impact on the population?  |  |
| 2. Are any specific groups or vulnerable populations particularly susceptible to these shocks and stressors?<br>PROBE: What factors contributed to their vulnerability?   |  |
| 3. What lessons or insights have been learned from these shocks and stressors that can inform households' resilience-building efforts?  |  |
| 4. What role did the local government play in promoting household resilience to these shocks and stressors?<br>PROBE: What strategies or actions can they take to encourage and support households in their community?    |  |
| 5. What role did local community leaders play in promoting household resilience to these shocks and stressors?<br>PROBE: What strategies or actions can they take to encourage and support households in their community? |  |

|  |
|--|
|  |
| <p>6. What role did NGOs and other humanitarian organizations play in promoting household resilience to these shocks and stressors?</p> <p>PROBE: What programs and initiatives can they offer to encourage and support households in their community?</p>   |
|  |
| <p>7. Are there any examples of successful community-led projects or initiatives that helped households in this area be more resilient to these shocks and stressors?</p> <p>PROBE: What strategies did they use to foster community engagement and participation in these projects or initiatives?</p>  |
|  |
| <p>8. [As time allows] What strategies or initiatives did households adopt to be more resilient to these shocks and stressors?</p> <p>PROBE: Are there any specific resources, tools or technologies you recommend to households seeking to improve their resilience?</p>  |
|  |
| <p>9. [As time allows] From your perspective, what are the most important factors contributing to building and maintaining a household's resilience in Northern Nigeria?</p> <p>PROBE: In your experience, what are some common challenges or barriers that households face when trying to build and maintain their resilience? How can these be overcome?</p> |

|  |
|--|
|  |
| 10. [As time allows] Do you have any final comments to share on how we can build greater household resilience in Northern Nigeria? |
|  |

CLOSING: Thank the subject for their participation.

## Annex G: IPKII Interview Guide

### WELCOME, INTRODUCTION, AND EXPLANATION

1. Welcome and thank the participant for their time.
2. Provide a brief introduction and explain the interview overview:
  - **Who will conduct the interview:** This assessment is being carried out by graduate students from the University of Notre Dame in the US in partnership with Catholic Relief Services. We seek general information relevant to the whole community, unrelated to any particular household, program, or service.
  - **Why should KII be conducted:** We want to assist CRS in designing more effective programs by gathering insights on what worked, what didn't, and what changes can be implemented for greater impact.
  - **Why you were selected:** You have been asked to come and talk with us today as part of a wider assessment going on in the states of Sokoto, Kebbi, Adamawa, Borno, Yobe, and FCT to understand the factors/challenges that affect resilience.
  - **How KII will help:** This conversation will provide valuable insights on how communities respond to shocks, allowing us to identify unique strategies that contribute to building and maintaining community resilience, how the community handles shocks, and the interventions that have greatly improved community resilience.

### CONSENT SCRIPT

You may choose not to take part in the study or may choose to leave the study at any time. Deciding not to participate or leaving the study later will not result in any penalty or loss of benefits to which you are entitled and will not affect your relationship with the University of Notre Dame or Catholic Relief Services (CRS). If you have any concerns, you may choose not to participate.

The purpose of this study is to learn what worked well and what didn't work well in the Feed the Future Nigeria project between 2013-2018. We also want to know about the shocks Nigerian communities face and how communities cope with them. This study will help CRS develop future programs to help people more effectively.

You were selected as a possible participant because you were either involved in CRS's Feed the Future Nigeria Livelihoods project from 2013-2018, or because you know the challenges Nigerian households face and the resources available to them.

The study is being conducted by Emma Hokoda, Colleen Maher, and Nancy Obonyo, graduate students at the University of Notre Dame in the United States. The study is being funded by the University of Notre Dame and Catholic Relief Services.

If you agree to participate, you will be one of 60 key informants. We will record your responses on our mobile devices. The activity should take approximately 30 minutes of your time. You will not be paid for participating in this study.

At any point during the interview, you can tell me that you feel uncomfortable or that you do not want to answer a particular question. You can stop participating in the interview at any time. Your identity will not

be disclosed or attached to your answers in any way. The investigators will be careful to keep your personal information confidential.

For questions about the study, you can contact Catholic Relief Services. For questions about your rights as a research participant, to discuss problems, complaints, or concerns about this study, you can also contact the University of Notre Dame. You can reach Notre Dame's compliance through: +009-1-574-631-1416.

### VERIFICATION SECTION

Before we begin, I want to make sure you understand your rights:

- What should you do if you feel uncomfortable during the conversation? [verify understanding]
- Will your decision to participate affect your relationship with CRS? [verify understanding]

### PARTICIPANT'S CONSENT

Now, we would like to ask you if you agree to participate in this study:

- Can you confirm that you are at least 18 years of age? [Pause for a verbal response]
- Do you agree to participate? [Pause for a verbal response]

| SECTION 1. BASIC INTERVIEWEE INFORMATION                          |  |
|---|--|
| 1.1: What organization do you work with?<br>What's your position? | 1.2: How long have you held this position? |
|   |  |

| SECTION 2: QUESTION PROMPTS   |
|---|
| 1. What was your role during the FTF project, and what activities were you involved in?     |
|   |
| 2. How does the Feed the Future project compare to other projects you have worked on since? |

|   |
|---|
|   |
| 3. Are there any key lessons learned from this project that could be applied to future projects? Were there any project strategies or activities implemented that you believe to be important in building resilience in northern Nigeria? |
|   |
| 4. What do you think were FTFs' greatest strengths? What were the project's weaknesses? How do you think these weaknesses and strengths affected the project's overall performance?   |
|   |
| 5. What aspects of the project would you do differently if given the opportunity? Were there any missed opportunities or overlooked areas that could have been addressed better?  |
|   |
| 6. Did the project achieve its intended goals? If so, why do you think the project was able to be successful? If not, what factors contributed to the gap between the objectives and outcomes?  |
|   |
| 7. Do you believe the project's outcomes will be sustained in the long run? Was the sustainability and exit plan successful?  |
|   |

|                        |
|------------------------|
|                        |
| 8. Any final thoughts? |
|                        |

CLOSING: Thank the subject for their participation.



## Annex H: Resilience Capacity Index (TANGO Light) Calculation Methodology

The research team used the *Resilience and Resilience Capacities Measurement Options Methodological Guide: A Guide for Calculating Resilience Capacity* from USAID, REAL, and TANGO international to guide the calculation of our Resilience Capacity Index (RCI).<sup>5</sup> The questions implemented in the household survey were formulated from the TANGO Light Approach with slight modifications detailed below.

### 1) Bonding Social Capital Index:

The research team made two modifications to this index.

- To shorten the overall survey length, question 2 regarding a household's ability to give help to people living within their community was removed.
- To make survey coding and analysis easier, instead of allowing respondents to select multiple responses for question 1, the survey was coded so that respondents would select one of the multiple responses options. If the respondent selected "no one," this answer would be coded as 0. A new binary variable was developed for this index equal to 0 for "no one" and equal to 1 for another other response.

### 2) Bridging Social Capital Index

The research team made two modifications to this index.

- To shorten the overall survey length, question 2 regarding a household's ability to give help to people living outside of their community was removed.
- To make survey coding and analysis easier, instead of allowing respondents to select multiple responses for question 1, the survey was coded so that respondents would select one of the multiple-response options. If the respondent selected "no one," this answer would be coded as 0. A new binary variable was developed for this index equal to 0 for "no one" and equal to 1 for another response.

### 3) Local government responsiveness.

No changes made.

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<sup>5</sup> TANGO International. (2018). *Methodological Guide: A Guide for Calculating Resilience Capacity*. Produced by TANGO International as part of the Resilience Evaluation, Analysis and Learning (REAL) Associate Award.

#### **4) Access to cash savings.**

No changes made.

#### **5) Asset ownership—consumer durables.**

No changes made.

#### **6) Asset ownership—productive assets.**

No changes made.

#### **7) Education/training.**

No changes made.

#### **8) Access to formal safety nets.**

In the process of modifying the household survey, this indicator was changed to: “Are there any programs or activities from the government or NGOs that help households in this village when they are faced with shocks?” with the responses: (3) There are many programs or places and they are easy to access, (2) There are a few programs or places but they are easy to access, (1) There are few programs or places and they are difficult to access, (0) There are no programs or places for assistance.

This new indicator doesn’t specifically report whether a household received support from a formal safety net, but rather, captures the availability of formal safety nets.

#### **9) Access to humanitarian assistance.**

Typically, the light approach contains an additional variable called the Women’s Empowerment in Agriculture Index. However, the WEA-I is a questionnaire set that takes 30 minutes per adult respondent. Because of the significant additional time burden of this indicator, it was omitted from this study.

#### **RCI Calculation**

See [Annex C, Section 7](#) for the coding of specific questions contributing to the above variables. All nine (9) variables were transformed into a 0-10 scale and summed to form the Light Approach Resilience Capacity Index (RCI). This index was then rescaled from 0-90 to a 0-100 scale.

## Annex I: Self-evaluated Resilience Score

The Self-Evaluated Resilience Score (SERS) asks respondents to self-evaluate their household resilience level through a series of capacity-related statements. The statements are designed to be simple and straightforward, ensuring that respondents can clearly understand and provide a well-reasoned response. There are nine total statements evaluators can choose from. SERS is meant to be flexible, allowing evaluators to tailor it to their own needs and mold it to suit a range of different resilience frameworks. Respondents score their level of agreement with each capacity statement using a Likert scale from 1 = strongly disagree to 5 = strongly agree.

Six of the nine SERS statements were selected:

- During times of hardship, your household can change its primary source of income or source of livelihood, if needed (transformative capacity)
- If threats to your household became more frequent and intense, you would still find a way to get by. (adaptive capacity)
- During times of hardship, your household can access the financial support you need, your household can rely on the support of family and friends when you need help. (financial capital and social capital)
- Your household has learned important lessons from past hardships that will help you better prepare for future threats. (learning)
- Your household is fully prepared for any future natural disasters that may occur in your area. (anticipatory capacity)
- Your household receives useful information warning you about future risks in advance. (early warning).

All the resilience capacities equally are weighted equally in this study; alterations to weighting are possible in future analyses. The technical guidance document on resilience measurement from BRACED (Building Resilience and Adaptation to Climate Extremes and Disasters), a program of DFID,<sup>6</sup> can be helpful in this regard.

### SERS Calculation

To calculate the SERS, responses to the statements are simply summed for the household. SERS scores thus range from 5 to 30 (six SERS questions). See [Annex C](#), [Section 8](#) for the specific questions used for these six SERS statements.

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<sup>6</sup> Jones, Lindsey. "A how-to guide for subjective evaluations of resilience" BRACED, Resilience Intel. September 2019.

## Annex J: FGD Codebook

| Code Group | Code Group Name      | Code | Code Name                                | Description   |
|------------|----------------------|------|--|---|
| A          | Demographics         | A1   | Male                                     | Participants are Male   |
|            |                      | A2   | Female                                   | Participants are Female   |
|            |                      | A3   | Young Adults                             | Participants include at least one young adult   |
|            |                      | A4   | Middle-aged                              | Participants include at least one middle-aged person  |
|            |                      | A5   | Older adults                             | Participants include at least one older adult   |
|            |                      | A6   | Pastoral                                 | Participants earn their living through pastoral activities  |
|            |                      | A7   | Crop-farming                             |   |
|            |                      | A8   | Agro-pastoral                            |   |
|            |                      | A9   | Fishery                                  |   |
|            |                      | A10  | Urban (business/trade/employment based): |   |
|            |                      | A11  | Other occupation                         |   |
|            |                      | A12  | Adamawa                                  |   |
|            |                      | A13  | Borno                                    |   |
|            |                      | A14  | FCT                                      |   |
|            |                      | A15  | Kebbi                                    |   |
|            |                      | A16  | Sokoto                                   |   |
|            |                      | A17  | Yobe                                     |   |
| B          | Shocks and Stressors | B1   | Drought                                  | Participants report experiencing drought, including lack of rain, unpredictable rain patterns, or lack of water for plants, animals, and humans |



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|   |                       |     |                            |  |
|---|-----------------------|-----|----------------------------|--|
|   |                       | B2  | Flood                      | Participants report experiencing floods, including too much rain, crops and buildings destroyed by water               |
|   |                       | B3  | Human disease              | Participants report experiencing human disease, including communicable and non-communicable diseases                   |
|   |                       | B4  | Conflict                   | Participants report experiencing conflict, including farmer/herdsmen clashes, terrorists and insurgents, kidnapping    |
|   |                       | B5  | Economic                   | Participants report experiencing economic shocks, including currency changes, inflation, unemployment, subsidy removal |
|   |                       | B6  | Other shock                | Participants report experiencing a shock other than those listed above   |
|   |                       | B7  | Impact--Significantly More | The impact of the shock experienced was significantly more in the last 12 months than in the previous 5 years          |
|   |                       | B8  | Impact--More               | The impact of the shock experienced was more in the last 12 months than in the previous 5 years                        |
|   |                       | B9  | Impact--Same               | The impact of the shock experienced was the same in the last 12 months as in the previous 5 years                      |
|   |                       | B10 | Impact--Less               | The impact of the shock experienced was less in the last 12 months than in the previous 5 years                        |
|   |                       | B11 | Impact--Significantly Less | The impact of the shock experienced was significantly less in the last 12 months than in the previous 5 years          |
|   |                       | B12 | Food insecurity            | The participants report experiencing acute or chronic food insecurity  |
|   |                       | B13 | Thieves                    | The participants report experiencing losses and fear due to thieves coming to their community                          |
| C | Resilience Statements | C1  | Cash transfers             | Needy households in the community receive cash transfers.  |



|  |  |     |   |  |
|--|--|-----|---|--|
|  |  | C2  | Community skills/Organizing   | Community would have the skills and organizational structures to plan and implement solutions to their own problems.   |
|  |  | C3  | Diversified incomes/entrepreneurs   | Households in the community would diversify their sources of income by involving in alternative economic activities (e.g. small businesses, trading).                        |
|  |  | C4  | Early warning/disaster preparedness                                       | Community has a functioning system to manage disasters and receive reliable early warning information in a timely manner.  |
|  |  | C5  | Education -- basic (mandatory)  | All children in the community would be able to complete basic/mandatory education (e.g. primary [and secondary])   |
|  |  | C6  | Education – Higher (e.g. University, College, Technical, Tertiary, Adult) | People in the community have access to pursue higher education (e.g. university, collage, technical, tertiary, adult education)  |
|  |  | C7  | Electricity   | Community would have access to affordable electricity supply.  |
|  |  | C8  | Environment / forest / tree / natural resources                           | Local forests/trees, rangelands and other natural resources are well managed so that they do not become degraded over time.  |
|  |  | C9  | Farm practices / inputs   | Farmers would be more productive and profitable (e.g. would have inputs like quality tools, oxen, fertilizers, knowledge of good farming practices).                         |
|  |  | C10 | Fishing practices / inputs  | Fishers would be more productive and profitable (i.e., would have [access to] inputs like modern fishing gears and knowledge of sustainable fishing/fish farming practices). |
|  |  | C11 | Food for humans   | All households in the community would be able to feed themselves well every day.   |
|  |  | C12 | Governance / No corruption  | Community would be served by efficient and non-corrupt community leaders and management structures   |

|  |  |     |                                |   |
|--|--|-----|--------------------------------|---|
|  |  | C13 | Healthcare for animals         | Community has access to quality affordable animal health services whenever they need them.  |
|  |  | C14 | Healthcare for humans          | Community would have access to quality and affordable basic health care locally.  |
|  |  | C15 | Housing / shelter              | Everyone in the community would live in good quality housing.   |
|  |  | C16 | Irrigation                     | Farmers would be irrigating land to improve the production of crops for consumption and sale.   |
|  |  | C17 | Jobs / employment / wage labor | There would be many opportunities for jobs/paid employment offered for households in the community.   |
|  |  | C18 | Land ownership                 | Everyone in the community has secure access/ownership of land/property.   |
|  |  | C19 | Livestock herds                | Households in the community would have large enough herds to sustainably support their families.  |
|  |  | C20 | Loan / saving / credit         | People have good access to affordable credit and would be saving money (banks/ microfinance institutions /community savings and credit groups). |
|  |  | C21 | Markets                        | Community would have easy access to well-functioning markets to buy goods and sell their produce.   |
|  |  | C22 | Peace / security               | The whole community would enjoy continual peace and security.   |
|  |  | C23 | Relief                         | Needy households in the community receive relief support.   |
|  |  | C24 | Roads                          | There would be quality roads to the community.  |
|  |  | C25 | Sanitation / latrines          | Everyone in the community would have access to good sanitation and latrine.   |
|  |  | C26 | Telecommunication              | There is reliable mobile phone network in and around the entire community all the time.   |

|  |                                     |     |   |  |
|--|-------------------------------------|-----|---|--|
|  |                                     | C27 | Transport / vehicles  | It would be common to own a motorbike, vehicle or other means of motor transport or have stable access to these. |
|  |                                     | C28 | Water for humans  | The whole community would have access to sufficient, good quality water at all times of the year.                |
|  |                                     | C29 | Water for livestock   | Livestock in the community have access to sufficient water at all times of the year.                             |
|  |                                     | C30 | Women / gender empowerment  | Women would be fully involved in local development and leadership.   |
|  |                                     | C31 | Other Resilience Statement  | Participants identified a resilience statement outside of those listed   |
|  |                                     | C32 | First priority  | Participants voted the co-occurring code first priority  |
|  |                                     | C33 | Second priority   | Participants voted the co-occurring code second priority   |
|  |                                     | C34 | Third priority  | Participants voted the co-occurring code third priority  |
|  | Resilient Household Characteristics | D1  | Be entrepreneurial and engage in own income-generating activity (e.g., small business, trade, etc.) | Participants identify being entrepreneurial as important to household resilience                                 |
|  |                                     | D2  | Have a member who has employment / wage labor   | Participants identify having a household involved in formal employment as important to household resilience      |
|  |                                     | D3  | Practice irrigated farming  | Participants identify practicing irrigated agriculture as important to household resilience                      |
|  |                                     | D4  | Own livestock or have large herd size   | Participants identify owning livestock as important to household resilience                                      |
|  |                                     | D5  | Have good quality housing/shelter   | Participants identify having good quality housing/shelter as important to household resilience                   |
|  |                                     | D6  | Own / have secure access to (large) land  | Participants identify having land tenure as important to household resilience                                    |



|   |                    |     |  |   |
|---|--------------------|-----|--|---|
|   |                    | D7  | Have transportation assets (e.g. bicycle, motorcycle, vehicle, etc.) | Participants identify having reliable transportation as important to household resilience           |
|   |                    | D8  | Be food secure   | Participants identify being food secure as important to household resilience                        |
|   |                    | D9  | Other resilience characteristics                                     | Participants identify other resilience characteristics other than those above                       |
|   |                    | D10 | % Resilient increased  | The % of community identified as resilient has increased over the last 5 years                      |
|   |                    | D11 | % Resilient same   | The % of community identified as resilient has remained constant over the last 5 years              |
|   |                    | D12 | % Resilient decreased  | The % of community identified as resilient has decreased over the last 5 years                      |
|   |                    | D13 | Use different farming practices                                      | Participants identified the use of improved farming practices as important to household resilience  |
|   |                    | D14 | Participate in SILC  | Participants identified participation in SILC as important to household resilience                  |
| E | Past Interventions | E1  | Business   | Past interventions included business support such as skills or financial training                   |
|   |                    | E2  | Credit/loan/saving   | Past intervention included credit/loan/saving (not including SILC)                                  |
|   |                    | E3  | Education: Hardware  | Past intervention included education support, included training of teachers, supplies, or buildings |
|   |                    | E4  | <del>Education: Software</del>                                       | merged with E4  |
|   |                    | E5  | Empowerment  | Past interventions included an empowerment component, especially woman-specific interventions       |
|   |                    | E6  | <del>Environment</del>   | Deleted   |
|   |                    | E7  | Farming: labor and inputs  |   |



|   |                      |     |  |   |
|---|----------------------|-----|--|---|
|   |                      | E8  | Farming: irrigation                        |   |
|   |                      | E9  | Farming: improved market access            |   |
|   |                      | E10 | Fishing                                    |   |
|   |                      | E11 | Food and/or other relief item distribution |   |
|   |                      | E12 | Governance/Peace                           |   |
|   |                      | E13 | Health: hardware                           |   |
|   |                      | E14 | Health: software                           |   |
|   |                      | E15 | Housing                                    |   |
|   |                      | E16 | Job/Employment/Labour                      |   |
|   |                      | E17 | Livestock: qualitative                     |   |
|   |                      | E18 | Livestock: quantitative                    |   |
|   |                      | E19 | Livestock: improved market access          |   |
|   |                      | E20 | Road                                       |   |
|   |                      | E21 | Social Assistance/Productive safety net    |   |
|   |                      | E22 | Telecommunication                          |   |
|   |                      | E23 | WASH: improved water quality and quantity  |   |
|   |                      | E24 | WASH: improved access to basic sanitation  |   |
|   |                      | E25 | Vigilante group (community-based)          |   |
|   |                      | E26 | SILC                                       |   |
| F | Future Interventions | F1  | Farm inputs                                | Participants identify farm inputs (including seed, fertilizer, and tools) as being important future resilience building |



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|   |                 |     |                                |   |
|---|-----------------|-----|--------------------------------|---|
|   |                 | F2  | Farm skills                    | Participants identify farm skills (including extension agents, farm training, and other skills building interventions) as important to future resilience building |
|   |                 | F3  | Employment                     | Participants identify employment opportunities as important to future resilience building   |
|   |                 | F4  | Women / gender empowerment     | Participants identify women and gender empowerment (such as woman-specific training) as important to future resilience building                                   |
|   |                 | F5  | Pay vigilantes                 | Participants identify paying vigilantes (generally young men in the community tasked with keeping the community safe) as important to future resilience building  |
|   |                 | F6  | Electricity                    | Participants identify access to reliable electricity (such as NEPA) as important to future resilience building  |
|   |                 | F7  | Markets                        | Participants identify access to markets as important to future resilience building  |
|   |                 | F8  | Water                          | Participants identify access to safe water for humans or for farming as important to future resilience building   |
|   |                 | F9  | Roads                          | Participants identify navigable roads connecting the community to larger towns and markets as important to future resilience building                             |
|   |                 | F10 | Food assistance                | Participants identify food assistance as important to future resilience building  |
|   |                 | F11 | Cash transfers                 | Participants identify cash transfers as important to future resilience building   |
|   |                 | F12 | Business                       |   |
|   |                 | F13 | Education                      |   |
|   |                 | F14 | Housing                        |   |
| G | Government/ NGO | G1  | Government perception positive |   |

|   |             |    |  |  |
|---|-------------|----|--|--|
|   |             | G2 | Government perception negative         |  |
|   |             | G3 | NGO perception positive                |  |
|   |             | G4 | NGO perception negative                |  |
|   |             | G5 | FTF Sustainability positive            |  |
|   |             | G6 | FTF Sustainability negative            |  |
|   |             | G7 | FTF Perception positive                |  |
|   |             | G8 | FTF Perception negative                |  |
| H | Quotes      | H1 | Quote: Resilience                      |  |
|   |             | H2 | Quote: Local Government                |  |
|   |             | H3 | Quote: FTF Intervention                |  |
|   |             | H4 | Quote: Shocks                          |  |
|   |             | H5 | Quote: Community Resilience Definition |  |
| J | Transcriber | J1 | Aliyu                                  |  |
|   |             | J2 | Glory                                  |  |
|   |             | J3 | Tabitha                                |  |
|   |             | J4 | Gladys                                 |  |
|   |             | J5 | Haruna                                 |  |
|   |             | J6 | Musa                                   |  |

## Annex K: RHKII Codebook

| Code Group | Code Group Name | Code | Code Name                               | Description   | Comment |
|------------|-----------------|------|---|---|---------|
| A          | Demographics    | A1   | Male                                    | Participant is male   |         |
|            |                 | A2   | Female                                  | Participant is female   |         |
|            |                 | A3   | HH Size 1-5                             | Household size is between 1 and 5 people                                      |         |
|            |                 | A4   | HH Size 6-10                            | Household size is between 6 and 10 people                                     |         |
|            |                 | A5   | HH Size 10+                             | Household size is greater than 10 people                                      |         |
|            |                 | A6   | Adamawa                                 |   |         |
|            |                 | A7   | Borno                                   |   |         |
|            |                 | A8   | FCT                                     |   |         |
|            |                 | A9   | Kebbi                                   |   |         |
|            |                 | A10  | Sokoto                                  |   |         |
|            |                 | A11  | Yobe                                    |   |         |
| B          | Education       | B1   | No formal education: illiterate         | No formal education, cannot read or write                                     |         |
|            |                 | B2   | No formal education: can read and write | No formal education, can read and write (this includes Arabic education only) |         |
|            |                 | B3   | Some primary school                     | Attended but did not complete primary school                                  |         |
|            |                 | B4   | Completed primary school                | Completed primary school  |         |
|            |                 | B5   | Some secondary school                   | Attended but did not complete secondary school                                |         |
|            |                 | B6   | Completed secondary school              | Completed secondary school  |         |



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|   |            |     |  |   |                       |
|---|------------|-----|--|---|-----------------------|
|   |            | B7  | Some tertiary education  | Attended a program such as adult education, college or university, or formal vocational training but did not complete |                       |
|   |            | B8  | Completed tertiary education   | Completed a program such as adult education, college or university, or formal vocational training                     |                       |
|   |            | B9  | <del>Other education</del>   | Participant reports other educational experience that does not fit the above categories                               | B9 was deleted        |
| C | Livelihood | C1  | <del>Subsistence</del>   | Participates in small-scale subsistence farming   | C1 was deleted        |
|   |            | C2  | Crop farming: rain-fed   | Participates in rain-fed seasonal farming for sale outside of the household   |                       |
|   |            | C3  | <del>Crop farming: irrigation</del>                                  | Participates in irrigated, dry-season farming for sale outside of the household                                       | C3 was merged into C2 |
|   |            | C4  | Livestock: sale of animal(s)   | Participates in breeding and sale of animals  |                       |
|   |            | C5  | <del>Livestock: livestock products (e.g., milk, hides, manure)</del> | Participates in sale of livestock products  | C5 was deleted        |
|   |            | C6  | <del>Fishing</del>   | Participates in fresh- or salt-water fishing  | C6 was deleted        |
|   |            | C7  | Self-employment/small business/petty trade                           | Participates in small business ventures (includes market stalls and hawking)  |                       |
|   |            | C8  | Wage income: formal employment                                       | Receives money from formal sources, such as corporate or government jobs  |                       |
|   |            | C9  | <del>Wage income: informal, casual labor</del>                       | Received money from informal sources, such as day labor   | C9 was merged into C8 |
|   |            | C10 | <del>Remittances</del>   | Receives money from friends or relatives living elsewhere   | C10 was deleted       |
|   |            | C11 | <del>Rental Income: land</del>                                       | Receives money from land rental   | C11 was deleted       |

|   |            |     |                                     |  |                 |
|---|------------|-----|-------------------------------------|--|-----------------|
|   |            | C12 | <del>Rental Income: property</del>  | Receives money from property rental  | C12 was deleted |
|   |            | C13 | <del>Other livelihood</del>         | Participates in other livelihood not described above   | C13 was deleted |
|   |            | C14 | Cash assistance yes                 | Household received cash assistance from government or NGO in any amount  |                 |
|   |            | C15 | Cash assistance no                  | Household has never received cash assistance from government or NGO in any amount  |                 |
|   |            | C16 | Food/NFI assistance yes             | Household has received food or non-food items from government or NGO (gifts or assistance from friends and family are excluded)          |                 |
|   |            | C17 | Food/NFI assistance no              | Household has never received food or non-food items from government or NGO   |                 |
| D | Resilience | D1  | Perceived resilient yes             | The household agrees that they are resilient; they perceive themselves to have some level of resilience                                  |                 |
|   |            | D2  | Perceived resilient no              | The household does not agree that they are resilient; they do not perceive themselves as having a level of resilience                    |                 |
|   |            | D3  | Access to finance (formal/informal) | The household attributed their resilience to their ability to access finance or credit (through banks, micro-lending, SILC groups, etc.) |                 |
|   |            | D4  | Access to healthcare                | The household attributed their resilience to their access primary healthcare in their village  | D4 was deleted  |
|   |            | D5  | Cash/food support                   | The household attributed their resilience to their ability to access relief funds and items, such as food, cash, or non-food items       | D5 was deleted  |

|  |  |     |   |   |                       |
|--|--|-----|---|---|-----------------------|
|  |  | D6  | Crop farming: techniques/ technology/inputs   | The household attributed their resilience to their capacity to use improved farming tools (including mechanized equipment or hand tools), inputs (including seed and fertilizer), and practices (such as climate smart agriculture) |                       |
|  |  | D7  | <del>Crop farming: irrigation</del>           | The household attributed their resilience to their capacity to use irrigation for crop production   | D7 was merged with D6 |
|  |  | D8  | <del>Crop farming: subsidy</del>              | The household attributed their resilience to their access to crop subsidies   | D8 was deleted        |
|  |  | D9  | Education (schooling, knowledge)              | The household attributed their resilience to either their formal education (schooling) or their knowledge of financial, business, other skills  |                       |
|  |  | D10 | <del>Fishery income</del>                     |   | D10 was deleted       |
|  |  | D11 | Land ownership/access                         | The household attributed their resilience to their access to land or their ownership of the land  | D11 was deleted       |
|  |  | D12 | Livestock ownership                           | The household attributed their resilience to their ownership of livestock herds   |                       |
|  |  | D13 | Off-farm income (business, employment, labor) | The household attributed their resilience to their off-farm income, including petty trade, wage labor, or self-employment   |                       |
|  |  | D14 | <del>Remittances</del>                        | The household attributed their resilience to their income received as remittances   | D14 was deleted       |
|  |  | D15 | Support of community/family/ friends          | The household attributed their resilience to the support received from social networks  |                       |
|  |  | D16 | Other resilience factors                      | The household attributed their resilience to the support received from sources other than those listed  |                       |



|   |               |    |  |  |  |
|---|---------------|----|--|--|--|
| E | Interventions | E1 | Business (skill development, improved business environment, etc.)  |  |  |
|   |               | E2 | Credit/loan/saving: access to formal or informal services (village savings, micro-banks, "Esusus" etc.)      |  |  |
|   |               | E3 | <del>Social safety nets</del>  |  | E3 was deleted   |
|   |               | E4 | Education  |  | E4 was renamed from Education: Hardware ((construction/refurbishment of school facilities, etc.) |
|   |               | E5 | <del>Education: software (e.g., staffing/quality improvement, scholarships, bursaries provision, etc.)</del> |  | E5 was merged into E4  |
|   |               | E6 | Empowerment (improved community organization/self-help group, gender equality, etc.)                         |  |  |
|   |               | E7 | <del>Environment (natural resources management, land rehabilitation, reforestation, etc.)</del>              |  | E7 was deleted   |
|   |               | E8 | Farming: labor & non-labor inputs/technology/techniques and subsidy  |  |  |



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|  |  |     |  |  |                           |
|--|--|-----|--|--|---------------------------|
|  |  | E9  | Farming: irrigation  |  | E9 was deleted            |
|  |  | E10 | Farming: improved market access  |  | E10 was deleted           |
|  |  | E11 | Fishing (improved market, fishing inputs, etc.)  |  | E11 was deleted           |
|  |  | E12 | Food and/or other relief item distribution   |  |                           |
|  |  | E13 | Governance/Peace (less/no corruption, decision-making/conflict resolution structure, etc.) |  |                           |
|  |  | E14 | Health: hardware (construction/refurbishment of health facilities)                         |  |                           |
|  |  | E15 | Health: software (e.g. improvements to health services and staffing)                       |  |                           |
|  |  | E16 | Housing (e.g. support in building safe and strong shelters)                                |  | E16 was deleted           |
|  |  | E17 | Job/Employment/Labor (e.g., increased formal/informal job opportunities)                   |  |                           |
|  |  | E18 | Livestock: qualitative (production improvement through fodder, animal health, etc.)        |  | E18 was renamed Livestock |
|  |  | E19 | Livestock: quantitative (increase herd size, restocking of livestock, etc.)                |  | E19 was merged with E18   |
|  |  | E20 | Livestock: improved market access  |  | E20 was deleted           |



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|   |             |     |  |  |   |
|---|-------------|-----|--|--|---|
|   |             | E21 | Road (construction, improvement, etc.)   |  |   |
|   |             | E22 | <del>Social assistance/productive safety net (social cash transfer, cash for work, etc.)</del> |  | E22 was deleted   |
|   |             | E23 | Telecommunication (e.g., mobile phone coverage extension)                                      |  |   |
|   |             | E24 | WASH   |  | E24 was renamed from WASH: improved water quality and quantity (boreholes, taps, piping, tanks, dams, etc.) |
|   |             | E25 | <del>WASH: improved access to basic sanitation</del>   |  | E25 was deleted   |
|   |             | E26 | Other resilience-building interventions  |  |   |
| F | Quotes      | F1  | Quote: FTF Interventions   |  |   |
|   |             | F2  | Quote: Local Government  |  |   |
|   |             | F3  | Quote: Resilience  |  |   |
|   |             | F4  | Quote: Shocks  |  |   |
|   |             | F5  | Quote: Community Resilience Definition   |  |   |
| H | Action Type | H1  | <del>Anticipatory</del>  |  | H1 was deleted  |
|   |             | H2  | <del>Reactive</del>  |  | H2 was deleted  |
| G | Transcriber | G1  | Aliyu  |  |   |

|  |  |    |         |  |  |
|--|--|----|---------|--|--|
|  |  | G2 | Glory   |  |  |
|  |  | G3 | Tabitha |  |  |
|  |  | G4 | Gladys  |  |  |
|  |  | G5 | Haruna  |  |  |
|  |  | G6 | Musa    |  |  |

## Annex L: LLKII Codebook

| Code Group | Code Group Name      | Code | Code Name              | Description   |
|------------|----------------------|------|------------------------|---|
| A          | Demographics         | A1   | Adamawa                | Interview took place in Adamawa   |
|            |                      | A2   | Borno                  | Interview took place in Borno   |
|            |                      | A3   | FCT                    | Interview took place in FCT   |
|            |                      | A4   | Kebbi                  | Interview took place in Kebbi   |
|            |                      | A5   | Sokoto                 | Interview took place in Sokoto  |
|            |                      | A6   | Yobe                   | Interview took place in Yobe  |
| B          | Shocks and Stressors | B1   | Drought                | Participant mentions drought, lack of rainfall, or variation in rainfall patterns                                 |
|            |                      | B2   | Flood                  | Participant mentions flood, too much rain, or water destroying crops or buildings                                 |
|            |                      | B3   | Boko Haram             | Participant mentions Boko Haram or insurgents   |
|            |                      | B4   | Thieves/kidnaping      | Participant mentions thieves, kidnappers, or cattle rustlers  |
|            |                      | B5   | Economic shock         | Participant mentions economic issues such as unemployment, rising prices, currency changes, subsidy removal, etc. |
|            |                      | B6   | Lack of land ownership | Participant mentions lack of land tenure, inheritance, or difficulty in accessing land                            |
|            |                      | B7   | Lack of healthcare     | Participant mentions lack of healthcare, such as distance to hospital, lack of trained professionals              |
|            |                      | B8   | Lack of education      | Participant mentions lack of education hardware or software (includes Arabic school and Western school)           |
|            |                      | B9   | Lack of water          | Participant mentions lack of water, spoiled borehole, etc.  |
|            |                      | B10  | Other shocks           | Other uncategorized shocks  |
|            |                      | B11  | Herdsman               | Participant mentions conflict or crop damage by Fulani herdsman   |
|            |                      | B12  | Diseases               | Participants mention diseases like cholera  |

|   |                        |     |                                   |   |
|---|------------------------|-----|-----------------------------------|---|
|   |                        | B13 | Insecurity                        |   |
| C | Vulnerable groups      | C1  | Women                             |   |
|   |                        | C2  | Youth                             |   |
|   |                        | C3  | Elderly                           |   |
|   |                        | C4  | Disabled                          |   |
|   |                        | C5  | Ethnic group                      |   |
| D | Previous interventions | D1  | Vigilante group (community-based) | Community organizes a group of youths to serve as vigilantes  |
|   |                        | D2  | Water                             | Previous interventions included water access such as boreholes, wells, cisterns, etc.                               |
|   |                        | D3  | Farming skills                    | Previous interventions included extension agent outreach or farming skills programming                              |
|   |                        | D4  | Infrastructure                    | Previous interventions included roads, ditches, modern toilets, hospitals etc.                                      |
|   |                        | D5  | Cash transfer                     | Previous interventions included cash transfer (one-time or continuous)  |
|   |                        | D6  | Farm inputs                       | Previous interventions included provision of farming inputs such as seed, fertilizer, tools                         |
|   |                        | D7  | SILC                              | Previous interventions included formation of SILC groups  |
|   |                        | D8  | Education                         | Previous interventions included education hardware or software  |
|   |                        | D9  | Skills acquisition                | Previous interventions included skills acquisition training, such as tailoring, making bean cake, making soap, etc. |
| E | Government/ NGO        | E1  | NGO negative                      | Participant expresses a negative view towards NGOs  |
|   |                        | E2  | NGO positive                      | Participant expresses a positive view towards NGOs  |
|   |                        | E3  | FTF positive                      | Participant expresses a positive view towards FTF programs and sustainability                                       |
|   |                        | E4  | FTF negative                      | Participant expresses a negative view towards FTF programs and sustainability                                       |
|   |                        | E5  | Government                        | Participant expresses a negative view towards   |

|   |                      |     |                                |  |
|---|----------------------|-----|--------------------------------|--|
|   |                      |     | negative                       | government support   |
|   |                      | E6  | Government positive            | Participant expresses a positive view towards government support   |
|   |                      | E7  | No support received            | The village received no support from government or NGO (according to participant)  |
|   |                      | E8  | Cash/food/NFI support received | The village received cash/food/NFI support   |
|   |                      | E9  | Other support received         | The village received other support such as SILC, infrastructure, or livelihoods training   |
|   |                      | E10 | Lack of capacity               | Participants express their limited capacity to help the communities they serve in.   |
| F | Future Interventions | F1  | Farming inputs                 | The participant identifies farming inputs, such as fertilizer and seeds, modern farming equipment as a priority for resilience building. |
|   |                      | F2  | Education                      | The participant identifies education hardware or software as priority for resilience building  |
|   |                      | F3  | Employment opportunities       | The participant identifies employment opportunities, including entrepreneurial endeavors, as priority for resilience building            |
|   |                      | F4  | Security                       | The participant identifies security, including paying vigilantes or peacebuilding, as priority for resilience building                   |
|   |                      | F5  | Cash Transfer                  | The participant identifies cash transfers as priority for resilience building  |
|   |                      | F6  | Food assistance                | The participant identifies food assistance as priority for resilience building   |
|   |                      | F7  | Roads                          | The participant identifies roads (creation or improvement) as priority for resilience building   |
|   |                      | F8  | Healthcare                     | The participant identifies healthcare hardware or software as priority for resilience building   |
|   |                      | F9  | Plant trees                    | The participant identifies planting trees and reforestation as priority for resilience building  |
|   |                      | F10 | Housing/building               | The participant identifies construction of housing/repair of damaged buildings as priority for resilience building                       |
|   |                      | F11 | Capital/lending/saving         | The participant identifies access to credit and business capital as priority for resilience building                                     |
|   |                      | F12 | Water                          | The participant identifies access to clean drinking  |

|   |              |     |  |   |
|---|--------------|-----|--|---|
|   |              |     |  | water and/or irrigation water as priority for resilience building   |
|   |              | F13 | Empowerment                            | Empowerment (improved community organization/self-help group, gender equality, etc.)  |
|   |              | F14 | Market                                 | The participant mentioned the need to have a local market to enable income diversification through various businesses; that way, the village members do not over-rely on agriculture. |
|   |              | F15 | Local government Strengthening         | The participant expressed the need for the central government to train the local government on the issue of insecurity.   |
| G | Quotes       | G1  | Quote: Transformative                  | The participant mentions transformative resilience actions taken by the community   |
|   |              | G2  | Quote: Community resilience definition | The participant mentions locally relevant definitions of resilience   |
|   |              | G3  | Quote Resilience                       | The participant mentions resilience actions taken by the community/actions that should be taken for resilience building   |
| H | Transcribers | H1  | Glory                                  |   |
|   |              | H2  | Aliyu                                  |   |
|   |              | H3  | Tabitha                                |   |
|   |              | H4  | Haruna                                 |   |
|   |              | H5  | Gladys                                 |   |





## Annex M: IPKII Codebook

|                              |   |
|------------------------------|---|
| Role                         | Program Manager   |
|                              | Chief of party  |
|                              | Head of office  |
|                              | Activity Lead (Agri, Livelihoods, Nutrition, Government Strengthening)    |
|                              | Activity Officer (Agri, Livelihoods, Nutrition, Government Strengthening) |
|                              | Technical Advisor(Agri, Livelihoods, Nutrition, Government Strengthening) |
|                              | Field Officer (Assessment officer)  |
|                              | Chief of resilience   |
| Comparison to other projects | Scale   |
|                              | Impact  |
|                              | Funding   |
|                              | Community engagement  |
|                              | Sustainability  |
| Lessons learned              | Community engagement  |
|                              | Capacity building   |
|                              | Partnership   |
|                              | Monitoring and evaluation   |
|                              | Sustainability  |
| Project strengths            | Scale   |
|                              | Diversification of activities   |
|                              | Funding   |
|                              | Community engagement  |



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|                                      |                              |
|--------------------------------------|------------------------------|
|                                      | Shareholder engagement       |
|                                      | Technical expertise          |
| Project Weaknesses                   | Staff turnover               |
|                                      | Community participation      |
|                                      | Monitoring and Evaluation    |
|                                      | Sustainability and exit plan |
|                                      | Coordination challenges      |
| Areas of improvement                 | Governance                   |
|                                      | Project design               |
|                                      | Implementation strategies    |
|                                      | Sustainability and exit plan |
|                                      | Community engagement         |
|                                      | Gender inclusion             |
|                                      | Government inclusion         |
|                                      | Technological challenges     |
| Goal Achievements                    | Fully achieved               |
|                                      | Partially achieved           |
|                                      | Not achieved                 |
| Factors influencing goal achievement | Community participation      |
|                                      | Project design               |
|                                      | Staff turnover               |
|                                      | Coordination                 |
|                                      | External factors             |
| Long-term sustainability             | High                         |
|                                      | Average                      |

|  |                     |
|--|---------------------|
|  | Low                 |
| Evaluation of sustainability and exit plan | Effective           |
|  | Partially effective |
|  | Not effective       |



[keough.nd.edu/i-Lab](https://keough.nd.edu/i-Lab)

The **Integration Lab (i-Lab)** is part of the **University of Notre Dame's** new **Keough School of Global Affairs**. This interdisciplinary ecosystem leverages innovative approaches and deep partnerships to respond to critical global challenges. The i-Lab offers a distinctive curricular sequence, designed to build momentum over the full two-year arc of the Keough School's Master of Global Affairs, preparing students to be effective professionals capable of operating within a global landscape that requires highly integrated mindsets and wide-ranging professional skillsets. The centerpiece of this student journey is the i-Lab's **Global Partner Experience (GPE)**, a year-long engagement where students work with a partner organization both on campus and in the field, through a collaboration designed to not only enrich the student's professional development, but also deliver tangible results to the partner organization.



**Emma Hokoda**

**SUSTAINABLE  
DEVELOPMENT**

Emma Hokoda holds a B.S. in Environmental Studies from Santa Clara University. She has contributed to climate action and community development in the public and nonprofit sectors. Her research and work explores the intersection of sustainable development, climate resilience, and environmental justice.

**UNITED STATES**



**Nancy Obonyo**

**SUSTAINABLE  
DEVELOPMENT**

Nancy Obonyo, an MBA and Chemical Engineering graduate, worked in Thailand before joining Notre Dame. Her focus is on developing and executing programs suited to specific local contexts. Drawing from her firsthand experiences, she recognizes that initiatives often fail due to a lack of local context understanding.

**KENYA**



**Colleen Maher**

**SUSTAINABLE  
DEVELOPMENT**

Colleen Maher earned her B.A. in English at Oklahoma State University before serving in Peace Corps Cambodia. Colleen then worked with refugee farmers in Kansas City. Colleen is interested in promoting resilience through qualitative evaluation and storytelling, elevating the voices of the most vulnerable.

**UNITED STATES**