Baseline Study of the ViMPlus Resilience Food Security Activity (RFSA) in Burkina Faso: Final Report

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The Implementer-Led Evaluation & Learning (IMPEL) Associate Award works to improve the design and implementation of Bureau for Humanitarian Assistance (BHA)-funded resilience food security activities (RFSAs) through implementer-led evaluations and knowledge sharing. Funded by the United States Agency for International Development (USAID) BHA, IMPEL will gather information and knowledge in order to measure performance of RFSAs, strengthen accountability, and improve guidance and policy. This information will help the food security community of practice and USAID to design projects and modify existing projects in ways that bolster performance, efficiency, and effectiveness. IMPEL is a seven-year activity (2019-2026) implemented by Save the Children (lead), TANGO International, Tulane University, Causal Design, and Innovations for Poverty Action.

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ACRONYMS

ANC	Antenatal care
BHA	Bureau for Humanitarian Assistance
DEMI-E	*Développement pour un Mieux Être*
DFAP	Development Food Assistance Program
DHS	Demographic and Health Survey
ECVM/A	Niger National Survey On Household Living Conditions and Agriculture
FAO	Food and Agriculture Organization
FCS	Food Consumption Score
FEWS NET	Famine Early Warning Systems Network
FFP	Food for Peace
FMNR	Farmer-managed natural resource generation
GIEWS	Global Information and Early Warning System
IMPEL	Implementer-Led Evaluation and Learning Associate Award
IP	Implementing partner
MDD-C	Minimum Dietary Diversity – Children
MDD-W	Minimum Dietary Diversity – Women
NRM	Natural resource management
OFDA	Office of Foreign Disaster Assistance
ORT	Oral rehydration therapy
RFSA	Resilience Food Security Activity
RISE	Resilience in the Sahel-Enhanced
PBS	Population-based survey
TANGO	Technical Assistance to NGOs
ToT	Training of trainers
USAID	United States Agency for International Development
VSLA	Village Savings and Loan Association
WASH	Water, sanitation, and hygiene
WFP	World Food Program

ANNEX 3: 2020 BURKINA FASO BHA RFSA BASELINE STUDY PERSONNEL

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ANNEX 4: SUMMARY OF DATA TREATMENT AND ANALYSIS

Introduction

This annex provides information about the procedures used to clean and weight data and compute indicators from the 2020 baseline survey of the Bureau for Humanitarian Assistance (BHA) Resilience Food Security Activity (RFSA) in Burkina Faso. It also outlines the descriptive, inferential, and econometric data analysis that was conducted.

Data Collection Mode and Data Transmission Procedures

The 2020 BL household survey data for the Bureau for Humanitarian Assistance (BHA) Resilience Food Security Activity (RFSA) in Burkina Faso were collected using Computer-Assisted Personal Interviewing (CAPI) by TANGO's local partner, Bagna Solutions. Tablets were loaded with the Open Data Kit (ODK) data entry application developed at TANGO for BHA surveys. Enumerators entered data directly into the tablets and team leads reviewed and edited interviews in the field prior to transmission to a secure server. Completed interviews were uploaded to a TANGO cloud server via secure transmission.

ODK Data Entry Training

All enumerators, team leads, field supervisors, and local independent survey monitors participated in the training and pilot pre-test prior to the start of fieldwork to ensure thorough understanding the of the survey protocols, instrument, and the successful use of tablets during data collection. Pre-fieldwork ODK data entry training focused on the following:

- Basic use of tablets, including how to turn devices on/off; scrolling; swiping and charging batteries.
- Navigation of the ODK form including how to start, edit, save, and upload interviews, and moving between modules.
- Review of ODK-specific formatting and notation that provide instructions to the enumerators.
- Review of different types of responses and entering responses, including programmed numeric and alpha responses, open-ended numeric and text responses, and multiple responses.
- Mock interviews, including starting/stopping the interview, reading questions, entering different types of responses, and entering household roster information.
- Workflow, including assigning interviews, sending completed enumerator to team leads, reviewing saved interviews and uploading finalized interviews to the server.

Field Quality Control Procedures

TANGO ensures high-quality data through a strong emphasis on training field staff, monitoring data collection and quality control during fieldwork. Quality control procedures established in the field include:

Fieldwork oversight: Assignment of one team lead to oversee every five enumerators. The team lead should observe at least one interview per day/enumerator during the fieldwork, with the heaviest observation at the beginning and end. Local survey monitors, hired directly by TANGO, provided an additional layer of quality control independent of the Bagna field supervisors. Survey monitors

accompanied the data collection teams throughout the period of fieldwork, overseeing fieldwork and providing feedback to Bagna supervisors to communicate back to Team Leads. TANGO convened daily de-briefs with the survey monitors to review issues encountered and how they were addressed.

Inconsistency checks: The ODK data entry application includes respondent eligibility checks, checks for questionnaire skip patterns and filters, valid response range checks and other quality control checks.

Data review: Team Leads reviewed saved interviews daily to identify any missing or problematic data items before uploading the completed interviews to the server.

Re-interviews: During fieldwork, team leads randomly selected households interviewed to conduct a short re-interview of the roster and compare the results to the questionnaire completed by the enumerator.

Completion of interviews: Enumerators made up to three visits to the household to interview a respondent and planned one to two visits with respondents to successfully complete the interview, when necessary.

Data Processing Quality Control Procedures

The ODK data entry program was initially designed based on the English-language version of the questionnaire and incorporates valid data ranges, skip rules, filters, and consistency checks. After the English version of the electronic form was tested and validated, the French translation was added. The following quality control checks were used during the data processing cycle:

Data Capture (During field work/in the field)

- Identifier integrity: ODK data entry forms were prefilled with geographic identifiers (region, commune, and village) and household identifiers (name of household head and unique household ID) using information from the household listing files. This step ensures that the correct identifier is associated with each record and that the correct household that was sampled is interviewed.
- Correct member selection: The ODK form was designed to auto-fill the respondent selection items with the names and line numbers of eligible members based on information collected from the household roster. This step ensures the correct identification and selection of eligible household members for each module.
- Range checks for close-ended numeric responses: The program ensures that only values within that range of numeric values listed in the ODK dictionary can be entered.
- Range checks for alphabetic responses: The ODK program is fitted so that only letters listed in the response options can be entered.
- Multiple responses: For questions that allow multiple responses to be selected, the ODK program is fitted so that responses that must appear in isolation from any other response do not appear in combination with any other letter/number.
- “Other” responses: For questions that allow “other” responses, the program is designed to ensure that responses requiring an "other" text entry are not skipped.
- Blank responses: The ODK program is design so that fields cannot be left blank. Enumerators cannot move on to the next question without entering a valid response. The ODK dictionary includes pre-programmed codes for respondents who don’t know (usually ‘8’) and respondents who refuse to answer (usually ‘9’).

- Skips: If a skip is present, then based on the respondent's answer to the question, the skip will be applied by the ODK program. Responses that are skipped (i.e., valid skips) will be designated as missing (".") by the ODK program.
- Filters: If a question should not be asked, for example, it will be skipped. For example, children 24 months or older are not asked about their food and liquid intake and pregnant women are not asked about current use of contraception. In such cases, the question or set of questions will be skipped over.

Structure Checks (during fieldwork at TANGO offices)

Data were downloaded from the server daily and the total number of completed surveys for that day and the aggregated number of completed surveys across all collection days were confirmed with the local field collection teams. The household response rate was tracked and flagged to field teams if it dropped below 95 percent. The numbers of eligible children ages 0-4 years and women ages 15-49 years were checked to ensure they are within range of the expected values. Age data were also checked for age displacement and age heaping. In addition, data from select modules were reviewed to ensure that the modules were completed correctly and that "no" responses for skip orders were not unexpectedly high.

Consistency Checks (after completion of fieldwork at TANGO offices)

Following the completion of field work and receipt of final datasets from Bagna Solutions, TANGO performed additional checks and data cleaning protocols that included: (a) consistency checks for information recorded in more than one module (e.g., age, sex, marital status, and work status); and (b) checks on numeric responses to identify and address outliers; and (c) recoding "other" text responses and to available response codes if applicable.

Handling of Missing Data and "Don't know" Responses

Missing data points are not included in calculations for BHA indicators (i.e., they are excluded from the denominator and numerator). "Don't Know" responses are recoded to the null value and included in the denominator, i.e., "Yes," "No" and "Don't Know" responses are included in the denominator, but only "Yes" responses are counted in the numerator.

BHA Indicator Definitions

The questionnaire used for the baseline survey was streamlined from the core BHA population-based household questionnaire to reflect a "Baseline Lite" approach, with more limited but critical lower-level indicators.[1] Questions and response options were adapted to the country context, such as those that involve food in modules C, D and E, and F. The survey was also contextualized to capture information on different improved agricultural practices promoted in the RFSA area. A COVID-19 module was added to collect information on knowledge and adoption of COVID-19 mitigation practices, the impacts of COVID-19 on households' livelihoods and food security, as well as coping strategies to manage those impacts. Another module was incorporated to collect information on household participation in the RFSA given

[1] The survey tool did not collect anthropometric measurements for children or women, or consumption expenditures data for households.

that RFSA interventions commenced before the baseline study could be conducted (due to delays from the COVID-19 pandemic) and that some life-saving activities and essential services may have continued throughout the COVID-19 pandemic. Table 1 illustrates the indicators measured, the level of disaggregation as prescribed in the FFP Handbook supplement on indicator tabulations, and reference documents providing the indicator definition and method of calculation.

Table 1: Indicators Measured in the 2020 "Baseline Lite" Survey of the BHA RFSAs in Burkina Faso

Indicator	Disaggregation Level	Reference Documents	
		Indicator Description/Reference Sheet[1]	Indicator Tabulation Instructions[2]
FOOD SECURITY			
Percentage of households with poor, borderline, and adequate Food Consumption Score (FCS) Mean FCS	Gendered household type*	FFP Indicators Handbook Part 1, pp. 13–16	Supplement to Part I, pp. 17–19
WATER, SANITATION AND HYGIENE			
Percentage of households using basic drinking water services	Gendered household type	FFP Indicators Handbook Part 1, pp. 54–56	Supplement to Part I, pp. 55
Percentage of households with access to a basic sanitation service	Gendered household type	FFP Indicators Handbook Part 1, pp. 60–61	Supplement to Part I, pp. 56
Percentage of households with soap and water at a hand–washing station on premises	Gendered household type	FFP Indicators Handbook Part 1, pp. 64–65	Supplement to Part I, pp. 57
AGRICULTURE			
Percentage of farmers who used financial services (savings, agricultural credit and/or agricultural insurance) in the past 12 months	Sex	FFP Indicators Handbook Part 1, pp. 67–69	Supplement to Part I, pp. 71

Indicator	Disaggregation Level	Reference Documents	
Percentage of farmers who used improved storage practices in the past 12 months	Sex		
Proportion of producers who have applied targeted improved management practices or technologies**	Commodity Sex Age (15–29, 30+) Management Practice or Technology Type	FFP Indicators Handbook Part 1, pp. 73–77	Supplement to Part I, pp. 71–72
Yield of targeted agricultural commodities within target areas[2]	Crops: commodity, farm size, sex, age (15–29, 30+) Livestock: commodity, production system, sex, age Aquaculture: commodity, sex, age	FFP Indicators Handbook Part 1, pp. 78–82	Supplement to Part I, pp. 72–74
WOMEN'S HEALTH AND NUTRITION			
Percentage of women of reproductive age consuming a diet of minimum diversity (MDD–W)	Age: <19, 19+ years	FFP Indicators Handbook Part 1, pp. 39–41	Supplement to Part I, pp. 46–47
Percent of births receiving at least four antenatal care (ANC) visits during pregnancy	None	FFP Indicators Handbook Part 1, pp. 42–43	Supplement to Part I, p. 47
Contraceptive prevalence rate (CPR)	Traditional, modern	FFP Indicators Handbook Part 1, pp. 49–50	Supplement to Part I, p. 49
Percent of women in union who have knowledge of modern family planning methods that can be used to delay or avoid pregnancy	Age: 15–19, 20–29 and 30–49	FFP Indicators Handbook Part 1, pp. 44–45	Supplement to Part I, pp. 47–48

Indicator	Disaggregation Level	Reference Documents	
Percent of women in union who made decisions about modern family planning methods in the past 12 months	Decision-making: Alone, jointly, spouse Ages: 15-19, 20-29, 30-49	FFP Indicators Handbook Part 1, pp. 46-48	Supplement to Part I, p. 48
CHILD HEALTH AND NUTRITION			
Prevalence of children 6-23 months consuming a diet of minimum diversity (MDD-C)	Sex	FFP Indicators Handbook Part 1, pp. 26-27	Supplement to Part I, pp. 32–33
Percent of children under age five (0-59 months) who had diarrhea in the prior two weeks	Sex	FFP Indicators Handbook Part 1, pp. 28-29	Supplement to Part I, pp. 33–34
Percentage of children under age five (0-59 months) with diarrhea treated with Oral Rehydration Therapy (ORT)	Sex	FFP Indicators Handbook Part 1, pp. 30-31	Supplement to Part I, p. 34
GENDER – CASH			
Percent of women/men in union who earned cash in the past 12 months	Sex Age: Female 15–19, 20–29, 30–49, ≥50; Male 15–19, 20–29, 30–49, ≥50	FFP Indicators Handbook Part 1, pp. 94–96	Supplement to Part I, p. 86
Percent of women in union and earning cash who report participation in decisions about the use of self-earned cash[4]	Age: 15–19, 20–29, 30–49, ≥50	FFP Indicators Handbook Part 1, pp. 97–98	Supplement to Part I, p. 86
Percent of women in union and earning cash who report participation in decisions about the use of spouse/partner's self-earned cash[4]	Age: 15–19, 20–29, 30–49, ≥50	FFP Indicators Handbook Part 1, pp. 99–100	Supplement to Part I, p. 86
Percent of men in union and earning cash who report spouse/partner participation in decisions about the use of self-earned cash[4]	Age: 15–19, 20–29, 30–49, ≥50	FFP Indicators Handbook Part 1, pp. 101–102	Supplement to Part I, p. 87

Indicator	Disaggregation Level	Reference Documents	
GENDER ACCESS TO CREDIT AND GROUP PARTICIPATION			
Percent of women/men who are members of a community group	Sex Age: Female 15–19, 20–29, 30–49, ≥50; Male 15–19, 20–29, 30–49, ≥50	FFP Indicators Handbook Part 1, pp. 108–110	Supplement to Part I, p. 93
Percent of women/men in a union with access to credit	Age: Female 15–19, 20–29, 30–49; Male 15–19, 20–29, 30–49, ≥50	FFP Indicators Handbook Part 1, pp. 104–105	Supplement to Part I, p. 92
Percent of women/men in a union who make decisions about credit	Decision actors: Alone, jointly Sex Age: Female 15–19, 20–29, 30–49, ≥50; Male 15–19, 20–29, 30–49, ≥50	FFP Indicators Handbook Part 1, pp. 106–107	Supplement to Part I, pp. 92–93
RESILIENCE–RELATED			
Proportion of households that believe local government will respond effectively to future shocks and stresses	Gendered household type	FFP Indicators Handbook Part 1, pp. 126–127	
Index of social capital at the household level	Social capital components: overall index, bonding sub-index, bridging sub-index Gendered household type	FFP Indicators Handbook Part 1, pp. 117–119	Resilience and Resilience Capacities Measurement Options Full Approach Methodological Guide, pp. 29–30
Proportion of households participating in group-based savings, micro-finance or lending programs	Financing type Gendered household type	FFP Indicators Handbook Part 1, pp. 115–116	Supplement to Part I, pp. 121–122

NOTES: * Following FFP indicator descriptions, FTF defines four gendered household types: households with i) female and male adults, ii) adult female, no adult male, ii) adult male, no adult female, and iv) child, no adults. USAID, 2020. Food for Peace Indicators Handbook. Part I: Indicators for Baseline and Endline Surveys for Development Food Security Activities. May.

**This applies to crops and livestock of interest. For Burkina Faso, the crops of interest are sorghum, cowpeas, rice and onions. The livestock of interest are goats, sheep, and poultry.

[1] Available at: https://www.usaid.gov/food-assistance/documents/ffp-indicators-handbook-part-i-indicators-baseline-and-endline-surveys-dfsa.

[2] Available at: https://www.usaid.gov/food-assistance/documents/ffp-indicators-handbook-supplement-part-1.

[3] The survey collected information on agricultural yield; however, due to measurement challenges, particularly in relation to size of farmland and weight of livestock, no further analysis of the yield data was performed. Therefore, indicator estimates for agricultural yield are omitted from the report and Annex 5.

[4] Due to the ODK program skip logic, indicators on gender and cash could not be calculated. The program skip logic resulted with the exclusion of: (i) respondents who worked for a combination of cash and in-kind, whereas all cash earners (i.e., respondents who worked for cash OR cash and in-kind) should have been interviewed; and (2) respondents who reported not discussing their earnings with anyone, whereas information on self-earned cash decision-making should have been asked to all eligible respondents regardless of whether they discuss their earnings.

Description of Promoted Agricultural Practices

This section describes the improved agricultural practices and technologies promoted by the RFSA.

Table 2: Targeted Improved Crop Practices - Sorghum, Cowpeas, Rice and Onions

Targeted Improved Management Practice/technology	Description
Crop genetics	
Use of improved seeds	Involves using varieties bred by local or international research institutions (e.g., ICRISAT), and private seed companies (like the seed farm Amaté) mostly for the following characteristics – yield, drought tolerance, disease resistance, ease of preservation, taste, etc.
Cultural practices/technologies	
Control of sida cordifolia growth	Sida cordifolia is an invasive weed and not palatable by animals. It is mainly found in pasture areas and animals' corridors. There are several means of control: physical, chemical, and biological. In Burkina Faso, the combination of physical and biological control is most practiced. Sida cordifolia can also serve as an indicator of soil fertility in farmland. It can be used to identify spots where the application of fertilizer can be used. Thus, this practice leverages local knowledge to manage the use of limited resources to improve agricultural productivity.
Crop rotations	Involves changing the type of crop that is grown on a piece of land in order to maintain soil fertility and/or break pest and disease cycles. In typical smallholder

Targeted Improved Management Practice/technology	Description
	farming systems, cereal crops (maize, sorghum, millet) are rotated with nitrogen fixing legumes such as beans, soybeans, and groundnuts.
Crop association (inter-cropping)	Traditional farming technique that involves growing more than one crop on the same piece of land or in the same hole to mitigate some production risks (e.g., pests, drought, etc.). Examples of intercropping involve planting or cereal (e.g., millet) intercropped with a legume (such as cowpeas). Intercropped crops may be planted in the same row, alternated rows, or alternate strips.
Sowing after useful rain	In the Sahel, useful rains usually occur in the month of June and range between 15 mm and 20 mm. This practice avoids the loss of seedlings and wasted seeds. It supports a local system for monitoring rainfall and raising community awareness on climate information.
Improved pest and disease management practices/technologies	
Delay of seedlings until third or fourth rains to control pests	Agricultural technique used to prevent pest attacks which usually invade crops at the first sowing. This practice allows the farmer to save their seeds. The adoption of this practice depends on the date of rains installations as the delay must not be too long due to the short timeframe and the uncertainty of rainfall in the Sahel region.
Seed treatment with fungicides	Mixing seeds with fungicide before sowing. The technique makes it possible to prevent and fight against attacks by fungi and other parasites. It is recommended to prevent attacks of telluric parasite, and when the crawler and grasshopper attacks occur during the plant lifting.
Improved soil-related fertility and conservation practices/technologies	
Zaï pits	Traditional agricultural technique used to cultivate and rehabilitate hard or heavily degraded soil. Holes are dug by hand, and are approximately 20 to 40 cm in diameter, 20 cm deep and spaced 90 cm apart. Zaï pits act as micro catchments within the field for collecting runoff water and minimizing erosion. During crop production, inputs such as fertilizers/manure, seed, water, and lime all concentrate in the prepared hole as opposed to being spread over an area in furrow cultivation. This concentration of growth enhancing factors around the plant significantly increases yield. Refers to a conservation farming technique that involves making holes in the field. During crop production, inputs such as fertilizers/manure, seed, water, and lime all concentrate in the prepared hole as opposed to being spread over an area in furrow cultivation. This concentration of growth enhancing factors around the plant significantly increases yield.

Targeted Improved Management Practice/technology	Description
Organic manure	Use of manure for fertilization of soil. Organic manure typically refers to cow dung, chicken droppings, goat or sheep droppings or any other waste produced by domesticated animals.
Phosphatic manure	Manure composed mainly of phosphate. Natural phosphate is available and produced in the Tahoua region. Phosphate is the element which has the largest deficit in soils in Burkina Faso. Phosphorus deficiency in the soil reduces and inhibits symbiotic nitrogen fixation by legumes. On the other hand, its presence helps to facilitate growth through better metabolism of sugars at the time of reproduction, thus increasing crop yields, and quality of fruits and seeds. For cereals, it promotes the production of flowers, panicles and grains per panicle.
Compost	Use of compost for the maintenance and improvement of the structure of the soil. Compost is fermented vegetable matter which is partially decomposed by mineralizing micro-organisms. Composting is a practice of making compost from various plants.
Micro-doses of fertilizer	Localized application of a fertilizer (manure, compost, or mineral) in small quantities, most often during sowing or the very early phase of plant lifting. The input can be manual or mechanized. Fertilizer that is applied to a single planting station (i.e., hole where the seed is placed) is measured with a three-finger pinch or a soft drink/beer bottle top – level at the top as opposed to heaping (approximately 6-gram dose). This technique replaces the practice of spreading fertilizer over the entire farm. It is, therefore, less costly and allows for more efficient use of fertilizer. This technique is well-suited to millet and sorghum crops. The technology improves tolerance of sorghum and pearl millet to drought and temperature stress and can boost productivity by enhancing nutrient uptake and root and seedling growth.
Agricultural half-moons	Water catchment/water-trapping technique used to increase infiltration and retention of runoff water. Holes in the shape of a semi-circle or earth embankments are used to capture and store run-off rainwater. Half-moons can be constructed in a variety of sizes, with a range of both radius and bund dimensions. The half-moons are staggered and spaced 10 x 10 m apart. Construction is always by hand. Demi-lunes are lined with manure and compost, and seeds are placed in and around them. Half-moon is a water catchment/water-trapping technique where holes in the shape of a semi-circle or earth embankments are used to capture and store run-off rainwater. The demi-lunes are lined with manure and compost, and seeds are placed in and around them.
Improved climate adaptation/climate risk management practices/technologies	

Targeted Improved Management Practice/technology	Description
Use of climate information	Use of climate information or data (rainfall depth, occurrence of drought pockets, early installation, late rains, early withdrawal of rain) to help farmers make decisions (e.g., time of sowing, choice of varieties, labor schedules, etc.) to secure production. Climate information can also indicate whether vital infrastructure – such as roads and communications systems, essential for market access – are likely to be impacted. This information is accessible through CILSS bulletins, the National Directorate of Metrology, or for rainfall depths, locally with the installation of rain gauges. Community radios play an important role in the dissemination of information, and more recently cell phones are also used for this purpose.
Other improved practices/technologies	
Performing at least three weedings	Involves removing or suppressing weeds in a cropped piece of land using mechanical tools and equipment or hand hoeing during the rainy season (three to four months-cycle).

Table 3: Targeted Improved NRM Practices – All Farmers

Targeted Improved Natural Resource Management Practice/Technology	Description
Farmer managed natural regeneration (FMNR)	Involves farmers selecting and pruning growth from stumps of fallen but living trees, and/or seedlings that emerge naturally in a way that encourages the shoots' growth into straight tree trunks. It is a particular sub-set of agroforestry and constitutes one way of stimulating the recreation of parkland agroforestry systems where these have been degraded. It allows reforestation of soils, enrichment of fields and fights against the wind.
Delimitation of animal corridors and pasture areas	Biological or mechanical technique which makes it possible to delineate and protect grazing areas and passage corridor. The delineation and protection of transhumance corridors are increasingly seen as critical to maintaining livestock mobility in agropastoral areas by allowing passage through areas of increasing cropping pressure. This technique also aids in reducing conflicts between farmers and breeders.
Protection of ponds against silting up	Agricultural technique allowing the construction of half-moons and other soil conservation structures upstream from the water point to avoid silting up by runoff and wind.

Targeted Improved Natural Resource Management Practice/Technology	Description
Functional community-based conflict management mechanisms	There are two types of community-based mechanisms dedicated to conflict management: (i) informal committees established by communities themselves upon a social agreement, and (ii) formal committees so-called COFOB (community-based land commissions) established by the government and/or development partners. These community-based committees carry out sensitization around natural resources management based on law and regulations; assist farmers and herders to protect their lands/fields; and serve as the very first actors that intervene to mitigate conflicts and facilitate agreement between protagonists. Community-based approaches will empower local community groups and institutions by building capacity for managing investment decisions and project planning, execution and monitoring using a process that emphasizes inclusive participation and management.

Table 4: Targeted Improved Post-Harvest Handling and Storage Practices - Sorghum, Cowpeas, Rice and Onions

Post-Harvest Handling and Storage Practice/Technology	Description
Locally made storage structures such as sheet metal silos	Structure used in agriculture for the bulk storage of grain.
Sealed/airtight bags	Any storage container that can be sealed in a way that creates an airtight environment inside the container thus inhibiting spoilage.
Community storage facilities, including warehouse receipting	Community-based improved storage structures such as warehouses that inhibit spoilage and pest damage and allow farmers to deposit their surplus crops for future domestic consumption or surplus sale.
Use of solar or fuel-powered dryers to reduce post-harvest moisture	Post-harvest techniques whereby harvested crops are dried using solar of fuel-powered dryers. These techniques help reduce post-harvest loss due to growth of aflatoxin-producing and other molds.
Seed or grain treatment techniques including botanical pest control agents or phytosanitary irradiation	Pest control technique to reduce loss of seeds of grains. Botanical pest control agents are plant-based pesticides. They are considered safer/less toxic than common synthetic chemicals because they degrade rapidly from sunlight, air, proper moisture. Phytosanitary irradiation uses ionizing radiation to disinfect fruit and vegetable commodities of surface pests.

Post-Harvest Handling and Storage Practice/Technology	Description
Grain treatment with agro-chemicals	Pesticides applied to protect crops from damaging influences, such as plant diseases or insects. It will protect grain from moisture and other contamination/adulteration.
Triple bags for cowpea grain preservation	Technique in which the grain is hermetically stored in two heavy-duty plastic bags that are then placed in an outer woven jute or polypropylene bad.
Other post-harvest practices that reduce pre-storage losses	Post-harvest practice other than those listed that are used to reduce post-storage losses.

Table 5: Targeted Improved Livestock Practices – Goats and Sheep

Improved Livestock Management Practice	Description
Improved fodder production	Fodder production refers to the exercise of deliberately planting certain types of grasses in your pastures to improve the quality and quantity of your natural grasslands. In this case, we want to investigate whether the farmer either used legumes or oilseeds to produce fodder (food given to livestock), or practiced veld reinforcement by planting legumes, grasses or oilseeds to increase the nitrogen content of the soil.
Use of licking and/or multi-nutritional block	Use of complementary feed for livestock that supplements the mineral and protein deficiencies of animals, especially during the dry period when the feed is poor in nutrients. The multi-nutritional block is made from local fodder such as millet stalks, pods of *Faidherbia albida,* cottonseed meal, bran, minerals, and binders (gum Arabic / cassava flour). The licking stone made locally is mainly composed of mineral salts (sodium chloride), cement, and bran.
Animal selection	The choice of the best species and the right breed depending resistant to dry conditions and the farmers' objectives (production of meat, milk, leather, etc...).
Vaccinations	Use of vaccines for livestock to prevent disease.
Antiparasitic treatments	Combat parasites through administering products by oral route (Albendazole) or injectable route (*Iver mectin,*).
Veterinary monitoring of food quality and quantity over time	Monitoring of the quantity and quality of by-products derived from animals (e.g., milk, meat, cheese).

Improved Livestock Management Practice	Description
Weight monitoring	Regular weighing of animals to assess the growth of animals against the food provided.
Optimum weight-market price criteria for the sale decision	Seeking information on livestock prices on the market through the Livestock Market Information System (SIM-B), community radios, National Network of Burkina Faso Chamber of Agriculture (RECA), etc... This assists the herder to make timely decisions about buying or selling livestock.
Use of para-veterinary services for goats and sheep	Used or consulted with public or government animal workers for veterinary services such as prevention/treatment of livestock disease, production, artificial insemination, etc.

Table 6: Targeted Improved Livestock Practices - Poultry

Targeted Improved Livestock Management Practice	Description
Use of improved poultry variety/breed	Process of choosing animals that meet the requirements of the breeding objective and will pass traits onto their progeny, e.g., choice of the best locally adaptable poultry species for egg and pulp production.
Use of improved feed	Use of a diverse, vitamin-rich diet for poultry. Generally, thus is a mixture of food rich in calcium and protein. Improved feed is expected to improve the production of eggs and pulp.
Use of improved shelters	Construction of cages, sheds, or pens (enclosures for holding livestock) using local material to house livestock. The shelter be airy and waterproof. The place should also be lit to facilitate the consumption of food for a long time.
Vaccinations	Use of vaccines for livestock to prevent disease.
Use of veterinary products and services (antibiotics, vitamins, etc.)	Used or consulted with public or government animal workers for veterinary services such as prevention/treatment of livestock disease, production, artificial insemination, etc.

Data Analysis

One dataset will be prepared for the 2020 baseline survey with a RFSA variable to facilitate analysis by RFSA area. The baseline study includes the following analyses:

- Key demographic characteristics of the study population

- Calculation of BHA indicators and disaggregation by key sub-groups as defined by BHA (e.g., gendered household type, age, sex, decision actor, etc…)
- Descriptive analyses of the components of composite indicators
- Bivariate analyses to explore associations among key variables based on the project theory of change
- Additional econometric analyses

All analyses are conducted using Stata Version 15. Results are weighted to reflect the full target population and for the RFSA area. Details of the analyses for the baseline study are provide below.

Sociodemographic Characteristics of the Study Population

The baseline report provides an overview of the size and sociodemographic characteristics of the population in the RFSA area. This includes the percentage and number of individuals in the following key target population groups:

- Individuals (15+ years), total and by sex
- Cash earners (15 + years), total and by sex
- Farmers (15+ years), total and by sex
- Women of reproduction age (15-49 years)
- Married or in a union
- With a live birth in the past 5 years
- Children under 5 years, total and by sex
- Children 6 -23 months, total and by sex

This analysis also includes the following household-level statistics:

- Average household size (number of persons)
- Average number of working age persons (15+ years) per household
- Percent of households with children under 5 years of age
- Percent of households with a child 6-23 months of age
- Percent of female-headed households
- Gendered household type (percent and number of households)
- **Calculation and Tabulation of Indicators**

All indicators are generated using relevant sampling weights to represent the full target population and tabulated for the RFSA area as specified in Table 1. Point estimates with 95 percent confidence intervals and variance estimations using Taylor series expansion were derived for all indicators for the RFSA area. The variance estimation considers the design effect associated with the complex sampling design.

Descriptive Analyses

The table below summarizes the descriptive analyses conducted for the 2020 baseline study of the BHA RFSA in Burkina Faso.

Table 7: Summary of descriptive analyses conducted for the 2020 baseline study of the BHA RFSA in Burkina Faso

Socio-Demographic Characteristics of the Study Area
Estimated population in the RFSA area
Household characteristics in the RFSA area
Percentage of households receiving social assistance among direct and indirect RFSA participants, by type of assistance
FOOD CONSUMPTION
Percent of households consuming FCS food groups and frequency of consumption in days
AGRICULTURE
Percentage of farmers by age, in total and by farmers' sex, by commodity
Percentage of farmers by type of land access and farm size, in total and by farmers' sex and age
Percentage of farmers by area cultivated, in total and by farmers' sex and age, by commodity
Percentage of farmers using financial services by type of financial service, in total and by farmers' sex
Percentage of farmers who applied targeted improved post-harvest handling and storage practices, in total and by farmers' sex and age, by commodity
Percentage of farmers who applied targeted improved crop and NRM practices and technologies by type, in total and by farmers' sex and age, by commodity
Percentage of farmers who applied targeted improved livestock management practices and technologies by type, in total and by farmers' sex and age, by commodity
WATER, SANITATION, AND HYGIENE (WASH)
Household sanitation, water, and knowledge of critical moments for handwashing
MATERNAL AND CHILD HEALTH AND NUTRITION (MCHN)
Percentage of women 15-49 years of age by food groups consumed
Use of antenatal care services (ANC)
Percentage of non-pregnant women 15-49 years who are married or in a union and using a contraceptive method by type of method
Percentage of children 6-23 months by food groups consumed
GENDER ACCESS TO CREDIT AND COMMUNITY PARTICIPATION
Percentage of women and men in a union participating in community groups, by type of group

RESILIENCE
Component of household social capital index
COVID-19 AWARENESS, MITIGATION PROTOCOLS, IMPACTS, AND COPING STRATEGIES
COVID-19 awareness and adoption of COVID-19 mitigation protocols
Percentage of households who experienced COVID-19 impacts on livelihoods, by type of impact
Percentage of households who experienced COVID-19 impacts on food security, by type of impact
Coping strategies for COVID-19 impacts on livelihoods
Coping strategies for COVID-19 impacts on food security

Note: Results are provided for the RFSA area. Sampling weights included.

Bivariate Analyses

Select bivariate analyses were conducted to explore relationships between key indicators and between indicators and important household and individual characteristics. These analyses are intended to provide useful information to help identify sub-groups on which to focus or to help inform program design by illustrating the factors that are associated with the indicators. Differences in means or proportions between groups or correlations are tested using appropriate statistical test of differences (such as t-test or chi square test). Table 8 summarizes the bivariate analyses conducted for the 2020 baseline study of the BHA RFSA in Burkina Faso.

Table 8: Summary of bivariate analyses conducted for the 2020 baseline study of the BHA RFSA in Burkina Faso

	Outcome indicators			Intermediate indicators	
	(I)	**(II)**	**(III)**	**(IV)**	**(V)**
	FCS	MDD-W	MDD-C	Diarrhea	Agri. practices[1]
Women's characteristics					
Age		X			
Education level		X			
Pregnancy status		X			
Participation in cash-earning activities		X			
Child's characteristics					
Sex			X		
Age			X		
Household sociodemographic characteristics					
Number of children 0-4 years	X	X	X		
Number of children 5-17 years	X	X	X		
Number of adult females	X	X	X		
Number of adult males	X	X	X		
Male-headed household	X	X	X		
Household head age in years	X	X	X		

	Outcome indicators			Intermediate indicators	
Household head education level	X	X	X		
Gendered household type	X	X	X		
Household food security					
Food consumption score/group		X	X		
Percent of harvest completed	X	X	X		
Household WASH status					
Basic sanitation facility				X	
Water source				X	
Water treatment				X	
Handwashing station with water soap/ash/cleaning agent				X	
Knowledge of 3 of the 6 critical moments for handwashing				X	
Household livestock holding					
Household raises sheep	X	X	X		
Household raises goat	X	X	X		
Household raises poultry	X	X	X		
Use of agriculture-related financial service					
Use of any agriculture-related financial service	X	X	X		X
Participation in agriculture-related savings scheme	X	X	X		X
Borrowed agricultural credit	X	X	X		X
Has agricultural insurance	X	X	X		X
Access to community-based savings or credit groups					
Participation in group-based savings, microfinance, or lending programs	X	X	X		X

	Outcome indicators			Intermediate indicators	
Participation in group-based saving programs	X	X	X		X
Participation in group-based credit programs	X	X	X		X
Use of targeted improved crop management practices[1]					
Crop genetics practices/technologies					
Use of improved seeds	X	X	X		
Cultural practices/technologies					
Control of sida cordifolia growth	X	X	X		
Crop association	X	X	X		
Crop rotation	X	X	X		
Sowing after useful rain	X	X	X		
Improved natural resources or ecosystem management practices/technologies					
Farmer managed natural regeneration (fmnr)	X	X	X		
Delimitation of animal corridors and pasture areas	X	X	X		
Protection of ponds against silting up	X	X	X		
Functional community-based conflict management mechanisms	X	X	X		
Improved pest and disease management practices/technologies					
Delay of seedlings until third or fourth rains to control pests	X	X	X		
Seed treatment with fungicides	X	X	X		
Improved soil-related fertility and conservation practices/technologies					
Zai pits	X	X	X		
Organic manure	X	X	X		
Phosphatic manure	X	X	X		

	Outcome indicators			Intermediate indicators	
Compost	X	X	X		
Microdoses of fertilizer	X	X	X		
Improved agriculture water management non-irrigation-based practices/technologies					
Agricultural half-moons	X	X	X		
Improved climate adaptation/climate risk management practices/technologies					
Use of climate information (rain forecast, disaster risks, etc.)	X	X	X		
Improved post-harvest handling and storage practices/technologies					
Locally made storage structures such as sheet metal silos	X	X	X		
Sealed/airtight bags	X	X	X		
Community storage facilities, including warehouse receipting	X	X	X		
Use of solar or fuel-powered dryers to reduce post-harvest moisture	X	X	X		
Seed or grain treatment techniques including botanical pest control agents or phytosanitary irradiation	X	X	X		
Grain treatment with agro-chemicals	X	X	X		
Triple bags for cowpea grain preservation	X	X	X		
Other post-harvest practices that reduce pre-storage losses	X	X	X		
Other improved practices/technologies					
Performing at least three weedings	X	X	X		
Improved livestock management practices or technologies					
Improved fodder production	X	X	X		
Use of licking and/or multi-nutritional block	X	X	X		

	Outcome indicators			Intermediate indicators	
Animal selection	X	X	X		
Vaccinations	X	X	X		
Antiparasitic treatments	X	X	X		
Veterinary monitoring of food quality and quantity over time	X	X	X		
Weight monitoring	X	X	X		
Optimum weight-market price criteria for the sale decision	X	X	X		
Use of para-veterinary services for sheep and sheep	X	X	X		
Use of improved poultry variety/breed	X	X	X		
Use of improved feed	X	X	X		
Use of improved shelters	X	X	X		
Use of veterinary products and services (antibiotics, vitamins, etc.)	X	X	X		
Exposure to COVID-19 impacts					
Household livelihood/income was impacted by COVID-19	X	X	X		
Household food security was impacted by COVID-19	X	X	X		
Participation in social assistance activities					
Direct participation in RFSA activities	X	X	X	X	X
Receipt of food rations	X	X	X		
Participation in nutrition trainings/meetings	X	X	X		
Participation in agriculture-related trainings/meetings	X	X	X		X

	Outcome indicators	Intermediate indicators

Notes:
[1] Bivariate analysis of each type of improved management practice was performed for each commodity separately.

Results are provided for the RFSA area. Sampling weights included. Some variables were subsequently omitted from the multivariate analyses to reduce multicollinearity.

Econometric Modeling

Multivariate analyses were performed to assess the correlates of household food consumption score (FCS), and the percentage of women and children achieving a diet of minimum diversity (see Table 9). These outcome indicators were selected for additional analyses to help inform the design of future interventions. Multivariate regression models included village fixed effects and key socio-economic and intervention-specific factors as covariates to explore whether intervention-specific factors may influence the outcome indicators, while controlling for background socio-economic factors and village-specific influences that are unrelated to the RFSA.

Table 9: Summary of multivariate analyses conducted for the 2020 baseline study of the BHA RFSA in Burkina Faso

FOOD CONSUMPTION
OLS regression of household food consumption score
MATERNAL AND CHILD HEALTH AND NUTRITION (MCHN)
Logistic regression of women's minimum dietary diversity (MDD-W)

Data Used in the Analysis

The data used in these analyses were collected in the 2020 baseline survey of the BHA RFSA in Burkina Faso. The survey collected standard information on household and respondent characteristics; food security; adoption of improved agricultural practices and technologies; access to and use of financial services; children's health and nutrition; and women's health and nutrition. The analyses are restricted to cases with complete information on the dependent and explanatory variables; cases with missing values for one or more variables are excluded.

Definitions of Variables

Dependent Variables

The main outcomes of interest are the food consumption score (FCS), the percentage of women achieving a diet of minimum diversity (MDD-W), and the percentage of children achieving a diet of minimum diversity (MDD-C).

The survey asked respondents "How many days did you or members of your household eat [FOOD] during the past seven days either inside or outside your home?"; enumerators repeated this question

for each of the food groups relevant to this study: cereals, tubers, meat, meat, poultry, fish, dairy and milk, legumes, vegetables, and fruits.[2] The FCS is calculated as the weighted sum of those frequencies. Higher weights are assigned to more nutrition, micronutrient dense foods.[3] The resulting score ranges from 0 to 112. Using World Food Programme (WFP) thresholds households are then categorized into three FCS groups based on standard thresholds: poor food consumption (<21); borderline food consumption (21.5 – 35); and acceptable food consumption (>35).

MDD-W was calculated based on questions about the food groups consumed by the woman in the day or night prior to the interview. Each woman 15-49 years was asked "Yesterday, during the day or night, did you eat or drink any [FOOD]?"; enumerators repeated this question for each of the ten food groups relevant to this indicator. A woman is considered to achieve an MDD-W is she consumed at least 5 of the 10 food groups during the period day.

Similarly, MDD-C was calculated based on interviews with the child's primary caregiver who was asked questions about different food groups consumed by the child in the day or night prior to the interview. A child is considered to achieve an MDD-C is they consumed 5 or more of the 8 food groups.

Explanatory Variables

The analyses controlled for individual, household and intervention-specific factors that can influence household food consumption and women and children's diets. The selection of covariates is based on a simplified theory of change as well as data availability. The working hypothesis for these analyses is that if household access to and use of financial services is improved and application of improved agricultural practices is enhanced, then household agricultural productivity and income will rise and improvements in food security and women and children's diets should be achieved.

Control variables included household and individual sociodemographic characteristics such as the age, sex, and education level of the household head; gendered household type; household size; and household livestock holdings. Models of women's dietary diversity controlled for women's age, education level, pregnancy status and participation in cash-earning opportunities. Models of children's dietary diversity control for child age and sex.

The models also control for several key interventions promoted by the RFSAs that aim to increase household food security and dietary diversity through increased food production, food availability, and economic resources: taking out an agricultural loan; participating in an ag-related savings scheme; participating in a community-based savings group; participating in a community-based credit group; and applying improved management practices (crop, NRM, post-harvest handling and storage, and livestock). These variables are included to better understand their potential role in improving food security and women and children's diets.

This analytical approach assumes that if a single household member participates in a particular practice, e.g., taking agricultural credit, participating in group-based savings, or adopting an improved agricultural

[2] Cereals and tubers are combined under one food group as "staples." Meat, fish, and poultry are combined under one group as "Meat." For additional details refer to the FFP Indicators Handbook Part 1: Indicators for Baseline and Endline Surveys for Development Food Security Activities.
[3] For additional details refer to the FFP Indicators Handbook Part 1.

technology or technique, then the benefits of this practice accrue to the household as a whole. To conduct this analysis, information collected at the individual level was collapsed to create a single record for each household.[4] Information on livestock holdings, use of agriculture-related financial services, and the application of improved management practices was collected through interviews with individual farmers in the household, with a recall period spanning the 12 months prior to the survey.[5] A household is considered to have taken out agricultural credit or participated in an agriculture-related savings scheme if any farmer in the household reported taking out an agriculture loan or participating in an agriculture savings scheme in the 12 months prior to the survey. A household is considered to use an improved management practice if at least one farmer reported using any targeted practice for any of the crops or livestock of interest. Similarly, a household is considered to raise livestock if at least one farmer reported raising any of the livestock of interest. Participation in community-based credit and savings group was collected by asking the survey respondent whether any member of the household took out a loan or borrowed from a community-based group or held their savings in a community-based group in the 12 months prior to the survey. Because these measures were collected on the household level it was not necessary to perform any additional aggregation.

Given that data collection extended into the first week of the harvest period and food consumption including diversity of diets, is expected to be higher in the harvest period compared to the lean season, the models control for the percent of harvest completed. Dummy variables were included for participation in social assistance such as receipt of food rations, participation in nutrition and agriculture meetings and trainings. Because RFSA interventions began before the survey could be conducted, the models control for potential differences between direct and indirect RFSA participants. A dummy variable is included for households in which any member participated in the RFSA. The designation of the household as a direct beneficiary is based on the household survey respondent's reply and is not verified using project documents. Village dummy variables are included to capture variations in macro- or systems-level factors that can affect outcomes such as markets, prices, infrastructure, and availability of services (e.g., health, veterinary, extension, etc…).

The multivariate models included all variables that are expected to influence the outcome indicator regardless of the results of the bivariate associations. In some cases, associations that are statistically insignificant in the bivariate analysis can become significant in the multivariate analysis (and vice versa). Variables that are highly correlated with each other were omitted. For example, household size was included in lieu of dummies accounting for the number of adult males, adult females, children under 15, and children 15 and over.

Statistical Methods

FCS was analyzed using ordinary least squares (OLS regression) technique. This method was adopted after preliminary analysis indicated that using ordered logistic regression to analyze FCS groups is not suitable because of the violation of the parallel regression assumption, and that a generalized ordered

[4] For the analyses of children and women's dietary diversity, this information was linked back to the household to which the woman or child belongs.

[5] Enumerators interviewed all farmers with access to a plot of land over which they make decisions and farmers with livestock over which they make decisions. In this study, characterizing farmers as having access to a plot of land does not require legal ownership of the land. Similarly, identifying farmers as having livestock does not require that they own the livestock, but they should be able to make decisions about their management or how to dispose, store, or sell production.

logistic regression is not suitable because there are relatively too few cases in the *poor* FCS group (n=84) compared to the other two groups (*borderline*, n=272; *acceptable*, n=1,534).

Logistic regression models were used to analyze the correlates of the percentage of women and children achieving a diet of minimum diversity. The results are reports as odds ratios (OR).

The overall sequence of the econometric analyses starts with a base model that includes household and individual characteristics. Next, intervention-specific factors are added, first those related to access to financial services followed by adoption of improved management practices. The final model includes village dummy variables to control for village-specific influences that are unrelated to the RFSA.

Post-estimation tests were performed to check for model misspecification and goodness of fit as well as multicollinearity. Variables were omitted to reduce collinearity and improve overall model fit.[6] The analyses account for the two-stage stratified cluster sampling design. All analyses were conducted using STATA 15.

One limitation of multivariate regression is that it does not address selection bias. The sample of households with higher FCS and the samples of women and children who achieve a diet of minimum diversity are not a random selection of households or individuals. Observed and unobserved heterogeneity in their characteristics results in self-selection bias. Examples of observed heterogeneity are when households with a higher FCS are systematically more likely to be educated or when women with an MDD-W are systematically more likely to participate in cash-earning opportunities. Unobserved heterogeneity arises if households that achieve an acceptable FCS are more likely to engage in risk-taking behavior (e.g., trying a new agricultural technique) or are more likely have a growth-oriented mindset (e.g., participate in technical capacity building trainings/meetings). Thus, the positive effects of adopting intervention-specific practices, such as accessing financial services or applying improved management practices, may be overstated using ordinary multivariate regression even if these factors are controlled for because selection bias can result when the distribution of the characteristics of households with higher FCS differ from those with lower FCS. Similarly, selection bias can arise if the distribution of the characteristics of women (or children) achieving an MDD differ from those who do not.

Household Weights

Household weights were applied for household level indicators derived from modules C, F, H and R and included in the construction of individual weights for all other modules.

Household design weights were calculated based on the separate sampling probabilities for each sampling stage and for each cluster (village).

P_{1hi}= first-stage sampling probability of the i-th cluster in stratum h

[6] Multivariate analysis of the percentage of children achieving a diet of minimum diversity (MDD-C) was conducted on the full sample controlling for RFSA area. Many of the covariates, particularly intervention-specific factors such as adoption of improved management practices, take on the value ‘0’ (i.e., they are not adopted by the child’s households) or there are very few observations with the value ‘1.’

P_{2hi}= second-stage sampling probability within the i-th cluster (household selection).

The probability of selecting cluster *i* in the sample is: $P_{1hi}=\frac{m_h \times N_{hi}}{N_h} \times b_{hi}$

The second-stage probability of selecting households in cluster *i* is: $P_{2hi} = {}^{n_{hi}}/_{L_{hi}}$

Where:

m_h= number of sample clusters selected in stratum h.

N_{hi}= total households in the frame for the i-th sample cluster in stratum h.

N_h= total households in the frame in stratum h.

b_{hi}= the number of selected segments[7] divided by the total number of segments in the i-th sample cluster in stratum h

n_{hi} = number of sample households selected for the i-th sample cluster in stratum h.

L_{hi}= number of households listed in the household listing for the i-th sample cluster in stratum h.

The overall selection probability of each household in cluster *i* of stratum *h* is the product of the selection probabilities of the two (or three) stages:

$$P_{hi} = P_{1hi} \times P_{2hi} = \frac{m_h \times N_{hi}}{N_h} \times b_{hi} \times {}^{n_{hi}}/_{L_{hi}}$$

The household design weight for each household in cluster *i* of stratum *h* is the inverse of its overall selection probability:

$$W_{hi} = \frac{1}{P_{hi}} = \frac{N_h \times L_{hi}}{m_h \times N_{hi} \times n_{hi} \times b_{hi}}$$

The household sampling weight is calculated using the household design weight corrected for household non-response in each of the selected clusters. Response rates are calculated at the cluster level as ratios of the number of interviewed households divided by the number of selected households. The household sampling weight is calculated by dividing the household design weight by the household response rate.

Individual Weights

Individual sampling weights will be applied for indicators derived from modules D (children), E (women of reproductive age), G (farmers), J (cash earners), KF (youngest female in a union), and KM (partners of youngest female in a union). Since all eligible individuals will be selected for each Module the probability of selecting eligible individuals within sampled households is always one. Therefore, the individual weights will consist of an individual non-response adjustment only. The individual nonresponse adjustment will be applied using the inverted proportion of the total number of completed interviews for each group divided by the total number of eligible individuals for each group. This non-response adjustment is calculated at the RFSA level. The final individual weights will then be computed as the product of the household weights and the individual nonresponse adjustment.

ANNEX 5: BHA BURKINA FASO BASELINE INDICATORS – VIMPLUS

Indicators, 95% Confidence Intervals and Base Population [Burkina Faso, 2020]

Table 10: BHA Burkina Faso Baseline Indicators – VimPlus

	Indicator Value	Confidence Interval		Number of Records	Weighted Population	Standard Deviation	Standard Error	DEFT
		Lower	Upper					
FOOD SECURITY INDICATORS								
Percentage of households with poor food consumption score (FCS)	2.4	0.7	4.2	749	116,146	15.4	0.84	1.5
Male and female adults	2.3	0.7	3.9	710	107,979	15.1	0.78	1.4
Adult female, no adult male	5.7	0.0	15.1	30	6,318	19.8	4.6	1.3
Adult male, no adult female	^	^	^	9	1,849	^	^	^
Child, no adults	NA	NA	NA	NA	NA	NA	NA	NA
Percentage of households with borderline FCS	14.2	9.5	19.0	749	116,146	35.0	2.31	1.8
Male and female adults	14.4	10.1	18.8	710	107,979	35.5	2.10	1.6
Adult female, no adult male	12.5	0.0	29.7	30	6,318	28.4	8.3	1.6
Adult male, no adult female	^	^	^	9	1,849	^	^	^
Child, no adults	NA	NA	NA	NA	NA	NA	NA	NA
Percentage of households with adequate FCS	83.3	77.2	89.5	749	116,146	37.3	2.98	2.2
Male and female adults	83.3	77.7	88.9	710	107,979	37.7	2.72	1.9
Adult female, no adult male	81.8	58.1	105.5	30	6,318	33.1	11.5	1.9
Adult male, no adult female	^	^	^	9	1,849	^	^	^
Child, no adults	NA	NA	NA	NA	NA	NA	NA	NA
WASH INDICATORS								
Percentage of households using a basic water service	NA	NA	NA	NA	NA	NA	NA	NA
Distance/Time from service	NA	NA	NA	NA	NA	NA	NA	NA
On premises	NA	NA	NA	NA	NA	NA	NA	NA
≤ 30-minute roundtrip	NA	NA	NA	NA	NA	NA	NA	NA
Gendered household type	NA	NA	NA	NA	NA	NA	NA	NA
Male and female adults	NA	NA	NA	NA	NA	NA	NA	NA

	Indicator Value	Confidence Interval		Number of Records	Weighted Population	Standard Deviation	Standard Error	DEFT
		Lower	Upper					
Adult female, no adult male	NA	NA	NA	NA	NA	NA	NA	NA
Adult male, no adult female	NA	NA	NA	NA	NA	NA	NA	NA
Child, no adults	NA	NA	NA	NA	NA	NA	NA	NA
Percentage of households with access to a basic sanitation facility	27.4	21.6	33.3	748	116,061	44.7	2.85	1.7
Male and female adults	27.2	20.4	34.1	709	107,895	45.0	3.31	2.0
Adult female, no adult male	38.9	24.1	53.7	30	6,318	41.8	7.2	0.9
Adult male, no adult female	^	^	^	9	1,849	^	^	^
Child, no adults	NA	NA	NA	NA	NA	NA	NA	NA
Percentage of households with soap and water at a handwashing station on premises	58.7	48.8	68.6	353	56,735	49.3	4.78	1.8
Male and female adults	59.1	47.9	70.3	338	54,247	50.0	5.41	2.0
Adult female, no adult male	^	^	^	12	2,040	^	^	^
Adult male, no adult female	^	^	^	3	448	^	^	^
Child, no adults	NA	NA	NA	NA	NA	NA	NA	NA
AGRICULTURAL INDICATORS								
Percentage of farmers who used financial services in the past 12 months	49.4	28.1	70.8	1,077	191,131	50.0	10.34	6.8
Male	49.9	30.3	69.6	719	124,132	50.7	9.53	5.0
Female	48.5	22.8	74.2	358	66,999	48.7	12.46	4.8
Percentage of farmers who used improved storage practices in the past 12 months	31.6	23.8	39.4	954	164,958	46.5	3.80	2.5
Male	36.9	28.9	44.9	684	117,353	49.0	3.89	2.1
Female	18.5	11.8	25.3	270	47,605	38.6	3.28	1.4
Proportion of producers who have applied targeted improved management practices or technologies								
Sorghum								
Crop genetics practices/technologies								
Use of improved seeds	6.7	3.4	9.9	751	125,507	25.0	1.6	1.7
Cultural practices/technologies								
Control of sida cordifolia growth	0.2	0.0	0.5	751	125,507	3.9	0.2	1.1

	Indicator Value	Confidence Interval		Number of Records	Weighted Population	Standard Deviation	Standard Error	DEFT
		Lower	Upper					
Crop association	20.0	13.1	27.0	751	125,507	40.0	3.4	2.3
Crop rotation	3.0	0.4	5.5	751	125,507	17.0	1.2	2.0
Sowing after useful rain	62.6	51.9	73.4	751	125,507	48.4	5.2	2.9
Improved natural resources or ecosystem management practices/technologies								
Farmer managed natural regeneration (fmnr)	27.9	17.3	38.4	751	125,507	44.9	5.1	3.1
Delimitation of animal corridors and pasture areas	33.4	27.0	39.8	751	125,507	47.2	3.1	1.8
Protection of ponds against silting up	35.0	24.8	45.2	751	125,507	47.7	4.9	2.8
Functional community-based conflict management mechanisms	4.0	1.2	6.9	751	125,507	19.7	1.4	1.9
Recovery of degraded lands	5.0	3.2	6.8	751	125,507	21.8	0.9	1.1
Develop low or market gardens	1.8	0.0	3.8	751	125,507	13.3	1.0	2.0
Improved pest and disease management practices/technologies								
Delay of seedlings at third or fourth rains to control pests	2.6	0.0	5.4	751	125,507	16.0	1.3	2.3
Seed treatment with fungicides	5.8	0.0	13.3	751	125,507	23.5	3.6	4.2
Improved soil-related fertility and conservation practices/technologies								
Zai pits	62.5	55.1	69.9	751	125,507	48.4	3.6	2.0
Organic manure	70.4	63.9	77.0	751	125,507	45.7	3.2	1.9
Phosphatic manure	17.3	7.4	27.3	751	125,507	37.9	4.8	3.5
Compost	12.3	8.2	16.4	751	125,507	32.9	2.0	1.7
Microdoses of fertilizer	0.6	0.0	1.4	751	125,507	7.4	0.4	1.5
Improved agriculture water management non-irrigation-based practices/technologies								
Agricultural half-moons	8.3	3.3	13.4	751	125,507	27.7	2.5	2.4
Improved climate adaptation/climate risk management practices/technologies								
Use of climate information (rain forecast, disaster risks, etc.)	0.0	^	^	751	125,507	^	^	^
Improved post-harvest handling and storage practices/technologies								

	Indicator Value	Confidence Interval		Number of Records	Weighted Population	Standard Deviation	Standard Error	DEFT
		Lower	Upper					
Locally made storage structures such as sheet metal silos	4.8	0.8	8.8	723	120,421	21.4	1.9	2.4
Sealed/airtight bags	17.9	14.1	21.7	723	120,421	38.3	1.8	1.3
Community storage facilities, including warehouse receipting	3.2	0.8	5.6	723	120,421	17.6	1.2	1.8
Use of solar or fuel-powered dryers to reduce post-harvest moisture	0.0	^	^	723	120,421	^	^	^
Seed or grain treatment techniques including botanical pest control agents or phytosanitary irradiation	0.6	0.0	1.2	723	120,421	7.5	0.3	1.1
Grain treatment with agro-chemicals	0.4	0.0	0.9	723	120,421	6.4	0.2	0.9
Triple bags for cowpea grain preservation	5.3	2.5	8.1	723	120,421	22.4	1.3	1.6
Other post-harvest practices that reduce pre-storage losses	1.5	0.2	2.9	723	120,421	12.3	0.7	1.4
Other improved practices/technologies								
Performing at least three weedings	12.5	7.3	17.6	751	125,507	33.1	2.5	2.1
Use of modern agricultural equipment	5.8	0.0	13.3	751	125,507	23.5	3.6	4.2
Use of agricultural credit to increase production	6.7	3.4	9.9	751	125,507	25.0	1.6	1.7
Cowpeas								
Crop genetics practices/technologies								
Use of improved seeds	8.1	3.4	12.8	822	143,945	27.4	2.3	2.4
Cultural practices/technologies								
Control of sida cordifolia growth	0.1	0.0	0.3	822	143,945	3.7	0.1	0.8
Crop association	16.4	11.6	21.2	822	143,945	37.0	2.3	1.8
Crop rotation	1.6	0.0	3.3	822	143,945	12.5	0.8	1.9
Sowing after useful rain	67.9	58.4	77.4	822	143,945	46.7	4.6	2.8
Improved natural resources or ecosystem management practices/technologies								
Farmer managed natural regeneration (fmnr)	24.5	15.1	33.9	822	143,945	43.0	4.6	3.0
Delimitation of animal corridors and pasture areas	33.7	27.3	40.1	822	143,945	47.3	3.1	1.9
Protection of ponds against silting up	32.4	19.4	45.4	822	143,945	46.8	6.3	3.9
Functional community-based conflict management mechanisms	3.8	0.4	7.2	822	143,945	19.1	1.6	2.4

	Indicator Value	Confidence Interval		Number of Records	Weighted Population	Standard Deviation	Standard Error	DEFT
		Lower	Upper					
Recovery of degraded lands	4.6	3.3	5.9	822	143,945	21.0	0.6	0.9
Develop low or market gardens	1.2	0.0	2.3	822	143,945	10.7	0.6	1.5
Improved pest and disease management practices/technologies								
Delay of seedlings at third or fourth rains to control pests	4.0	0.0	8.3	822	143,945	19.6	2.1	3.0
Seed treatment with fungicides	8.2	1.3	15.1	822	143,945	27.5	3.3	3.5
Improved soil-related fertility and conservation practices/technologies								
Zai pits	26.8	16.8	36.9	822	143,945	44.3	4.9	3.1
Organic manure	67.4	58.0	76.8	822	143,945	46.9	4.6	2.8
Phosphatic manure	18.1	9.7	26.4	822	143,945	38.5	4.0	3.0
Compost	9.7	3.8	15.6	822	143,945	29.6	2.9	2.8
Microdoses of fertilizer	0.7	0.0	1.5	822	143,945	8.5	0.4	1.3
Improved agriculture water management non-irrigation-based practices/technologies								
Agricultural half-moons	5.5	0.1	10.9	822	143,945	22.8	2.6	3.3
Improved climate adaptation/climate risk management practices/technologies								
Use of climate information (rain forecast, disaster risks, etc.)	0.1	0.0	0.2	822	143,945	2.6	0.1	0.8
Improved post-harvest handling and storage practices/technologies								
Locally made storage structures such as sheet metal silos	1.4	0.1	2.7	806	141,401	11.7	0.6	1.6
Sealed/airtight bags	16.1	11.3	20.9	806	141,401	36.8	2.3	1.8
Community storage facilities, including warehouse receipting	2.3	0.1	4.5	806	141,401	14.9	1.1	2.0
Use of solar or fuel-powered dryers to reduce post-harvest moisture	0.6	0.0	1.5	806	141,401	7.4	0.4	1.7
Seed or grain treatment techniques including botanical pest control agents or phytosanitary irradiation	0.9	0.0	2.0	806	141,401	9.6	0.5	1.5
Grain treatment with agro-chemicals	1.8	0.1	3.5	806	141,401	13.3	0.8	1.7
Triple bags for cowpea grain preservation	8.4	4.7	12.0	806	141,401	27.7	1.8	1.8

	Indicator Value	Confidence Interval		Number of Records	Weighted Population	Standard Deviation	Standard Error	DEFT
		Lower	Upper					
Other post-harvest practices that reduce pre-storage losses	0.1	0.0	0.2	806	141,401	2.6	0.1	0.8
Other improved practices/technologies								
Performing at least three weedings	12.0	7.9	16.2	822	143,945	32.6	2.0	1.8
Use of modern agricultural equipment	8.2	1.3	15.1	822	143,945	27.5	3.3	3.5
Use of agricultural credit to increase production	8.1	3.4	12.8	822	143,945	27.4	2.3	2.4
Rice								
Crop genetics practices/technologies								
Use of improved seeds	3.3	0.0	6.5	114	17,936	17.8	1.5	0.9
Cultural practices/technologies								
Respect of cultural calendar	47.4	32.3	62.5	114	17,936	50.2	7.2	1.5
Nursery preparation	3.4	0.0	6.9	114	17,936	18.2	1.7	1.0
Improved natural resources or ecosystem management practices/technologies								
Farmer managed natural regeneration (fmnr)	20.4	3.0	37.9	114	17,936	40.5	8.3	2.2
Delimitation of animal corridors and pasture areas	46.2	25.5	66.8	114	17,936	50.1	9.9	2.1
Protection of ponds against silting up	54.2	35.1	73.4	114	17,936	50.0	9.1	2.0
Functional community-based conflict management mechanisms	8.3	0.0	16.7	114	17,936	27.6	4.0	1.6
Recovery of degraded lands	2.2	0.0	4.9	114	17,936	14.8	1.3	0.9
Develop low or market gardens	9.9	0.7	19.0	114	17,936	30.0	4.4	1.6
Improved pest and disease management practices/technologies								
Weed control	15.5	3.9	27.0	114	17,936	36.3	5.5	1.6
Pest control	17.4	8.3	26.5	114	17,936	38.1	4.4	1.2
Improved soil-related fertility and conservation practices/technologies								
Organic manure	78.6	62.5	94.8	114	17,936	41.2	7.7	2.0
Phosphatic manure	38.7	23.3	54.2	114	17,936	48.9	7.4	1.6
Compost	31.7	20.6	42.8	114	17,936	46.7	5.3	1.2

	Indicator Value	Confidence Interval		Number of Records	Weighted Population	Standard Deviation	Standard Error	DEFT
		Lower	Upper					
Microdoses of fertilizer	13.5	0.0	29.0	114	17,936	34.3	7.4	2.3
Soil preparation	8.7	0.0	21.0	114	17,936	28.3	5.8	2.2
Improved agriculture water management non-irrigation-based practices/technologies								
Water management	19.7	9.5	29.9	114	17,936	39.9	4.9	1.3
Improved climate adaptation/climate risk management practices/technologies								
Use of climate information (rain forecast, disaster risks, etc.)	0.6	0.0	2.0	114	17,936	8.0	0.7	0.9
Improved post-harvest handling and storage practices/technologies								
Locally made storage structures such as sheet metal silos	0.6	0.0	1.9	108	16,928	7.7	0.6	0.8
Sealed/airtight bags	20.8	11.4	30.2	108	16,928	40.8	4.5	1.1
Community storage facilities, including warehouse receipting	5.2	0.8	9.6	108	16,928	22.3	2.1	1.0
Use of solar or fuel-powered dryers to reduce post-harvest moisture	7.4	0.0	18.3	108	16,928	26.4	5.2	2.0
Seed or grain treatment techniques including botanical pest control agents or phytosanitary irradiation	4.0	0.0	9.4	108	16,928	19.7	2.6	1.3
Grain treatment with agro-chemicals	2.9	0.0	6.2	108	16,928	16.8	1.6	1.0
Triple bags for cowpea grain preservation	15.0	3.7	26.3	108	16,928	35.9	5.4	1.6
Other post-harvest practices that reduce pre-storage losses	0.0	^	^	108	16,928	^	^	^
Other improved practices/technologies								
Use of modern agricultural equipment	2.2	0.0	4.9	114	17,936	14.7	1.3	0.9
Use of agricultural credit to increase production	1.1	0.0	3.4	114	17,936	10.4	1.1	1.1
Onions								
Crop genetics practices/technologies								
Use of improved seeds	0.0	^	^	39	0.0	^	^	^
Cultural practices/technologies								
Control of sida cordifolia growth	0.0	^	^	39	5,750	^	^	0.0
Crop association	3.5	0.0	11.6	39	5,750	18.6	3.5	1.2

	Indicator Value	Confidence Interval		Number of Records	Weighted Population	Standard Deviation	Standard Error	DEFT
		Lower	Upper					
Crop rotation	3.5	0.0	11.6	39	5,750	18.6	3.5	1.2
Sowing after useful rain	18.8	0.0	39.9	39	5,750	39.6	9.1	1.4
Improved natural resources or ecosystem management practices/technologies								
Farmer managed natural regeneration (fmnr)	22.2	8.1	36.2	39	5,750	42.1	6.1	0.9
Delimitation of animal corridors and pasture areas	57.1	25.3	88.8	39	5,750	50.1	13.8	1.7
Protection of ponds against silting up	29.6	1.1	58.2	39	5,750	46.3	12.4	1.7
Functional community-based conflict management mechanisms	12.0	0.0	28.7	39	5,750	33.0	7.2	1.4
Recovery of degraded lands	13.6	0.0	33.4	39	5,750	34.7	8.6	1.5
Develop low or market gardens	8.9	0.0	20.4	39	5,750	28.8	5.0	1.1
Improved pest and disease management practices/technologies								
Delay of seedlings at third or fourth rains to control pests	8.5	0.0	24.3	39	5,750	28.2	6.9	1.5
Seed treatment with fungicides	^	^	^	39	^	^	^	^
Improved soil-related fertility and conservation practices/technologies								
Zai pits	17.1	0.0	39.4	39	5,750	38.1	9.7	1.6
Organic manure	50.1	36.3	63.9	39	5,750	50.7	6.0	0.7
Phosphatic manure	54.1	8.3	99.8	39	5,750	50.5	19.8	2.5
Compost	8.6	0.0	19.9	39	5,750	28.4	4.9	1.1
Microdoses of fertilizer	6.8	0.0	17.5	39	5,750	25.5	4.6	1.1
Improved agriculture water management non-irrigation-based practices/technologies								
Agricultural half-moons	6.7	0.0	16.4	39	5,750	25.4	4.2	1.0
Improved climate adaptation/climate risk management practices/technologies								
Use of climate information (rain forecast, disaster risks, etc.)	3.4	0.0	11.0	39	5,750	18.3	3.3	1.1
Improved post-harvest handling and storage practices/technologies								
Locally made storage structures such as sheet metal silos	0.0			37	5,446	0.0		0.0

	Indicator Value	Confidence Interval		Number of Records	Weighted Population	Standard Deviation	Standard Error	DEFT
		Lower	Upper					
Sealed/airtight bags	3.6	0.0	11.5	37	5,446	18.8	3.4	1.1
Community storage facilities, including warehouse receipting	1.8	0.0	6.5	37	5,446	13.4	2.0	0.9
Use of solar or fuel-powered dryers to reduce post-harvest moisture	0.0	^	^	37	5,446	^	^	^
Seed or grain treatment techniques including botanical pest control agents or phytosanitary irradiation	0.0	^	^	37	5,446	^	^	^
Grain treatment with agro-chemicals	0.0	^	^	37	5,446	^	^	^
Triple bags for cowpea grain preservation	0.0	^	^	37	5,446	^	^	^
Other post-harvest practices that reduce pre-storage losses	0.0	^	^	37	5,446	^	^	^
Other improved practices/technologies								
Performing at least three weedings	12.2	1.2	23.3	39	5,750	33.2	4.8	0.9
Use of modern agricultural equipment	3.4	0.0	11.0	39	5,750	18.3	3.3	1.1
Use of agricultural credit to increase production	8.7	0.0	19.2	39	5,750	28.6	4.5	1.0
Goats								
Improved fodder production	4.1	0.3	8.0	464	80,904	19.9	1.9	2.0
Use of licking and/or multi-nutritional block	8.9	2.6	15.2	464	80,904	28.5	3.0	2.3
Animal selection	12.5	6.5	18.4	464	80,904	33.1	2.9	1.9
Vaccinations	95.4	92.0	98.8	464	80,904	21.1	1.6	1.7
Antiparasitic treatments	29.4	24.8	34.0	464	80,904	45.6	2.2	1.1
Veterinary monitoring of food quality and quantity over time	1.2	0.0	2.4	464	80,904	10.9	0.6	1.1
Weight monitoring	3.1	0.0	6.4	464	80,904	17.2	1.6	2.0
Optimum weight-market price criteria for the sale decision	0.0	^	^	464	80,904	^	^	^
Use of para-veterinary services for goats and sheep	1.8	0.0	3.6	464	80,904	13.3	0.9	1.4
Sheep								
Improved fodder production	4.0	0.0	8.1	545	103,153	19.5	2.0	2.4
Use of licking and/or multi-nutritional block	11.3	6.9	15.6	545	103,153	31.6	2.1	1.6
Animal selection	11.7	6.3	17.2	545	103,153	32.2	2.6	1.9

	Indicator Value	Confidence Interval		Number of Records	Weighted Population	Standard Deviation	Standard Error	DEFT
		Lower	Upper					
Vaccinations	96.1	92.8	99.5	545	103,153	19.3	1.6	1.9
Antiparasitic treatments	30.5	25.1	35.9	545	103,153	46.1	2.6	1.3
Veterinary monitoring of food quality and quantity over time	2.4	1.4	3.4	545	103,153	15.4	0.5	0.7
Weight monitoring	3.9	0.0	8.7	545	103,153	19.4	2.3	2.8
Optimum weight-market price criteria for the sale decision	0.2	0.0	0.6	545	103,153	4.3	0.2	1.1
Use of para-veterinary services for goats and sheep	2.2	0.0	4.7	545	103,153	14.6	1.2	1.9
Poultry								
Use of improved poultry variety/breed	6.6	2.5	10.7	430	76,933	24.8	2.0	1.7
Use of improved feed	7.6	2.7	12.4	430	76,933	26.5	2.3	1.8
Use of improved shelters	14.0	9.8	18.3	430	76,933	34.8	2.1	1.2
Vaccinations	94.9	90.3	99.5	430	76,933	22.1	2.2	2.1
Use of veterinary products and services (antibiotics, vitamins, etc.)	4.7	2.4	7.1	430	76,933	21.3	1.1	1.1
WOMEN'S HEALTH AND NUTRITION INDICATORS								
Percentage of women of reproductive age consuming a diet of minimum diversity (MDD-W)	61.7	54.5	68.8	1,525	270,029	48.6	3.46	2.8
15-19 years	57.3	46.4	68.3	374	69,717	48.2	5.30	2.1
20-49 years	63.2	56.3	70.1	1,151	200,312	48.7	3.34	2.3
Percent of births receiving at least 4 antenatal care (ANC) visits during pregnancy	61.3	52.2	70.3	898	152,491	48.7	4.37	2.7
Contraceptive prevalence rate (CPR)	24.8	17.7	31.9	1,057	176,777	43.2	3.45	2.6
Modern	24.6	17.4	31.7	1,057	176,777	43.1	3.48	2.6
Traditional	0.4	0.0	0.8	1,057	176,777	6.0	0.20	1.1
Percent of women in union who have knowledge of modern family planning methods that can be used to delay or avoid pregnancy	69.4	46.6	92.2	245	44,610	46.2	11.03	3.7
15-19 years	87.5	77.9	97.0	159	25,575	33.2	4.60	1.7
20-29 years	93.5	89.0	98.1	516	90,967	24.6	2.22	2.1
30-49 years	92.8	89.8	95.8	541	85,340	25.9	1.46	1.3
Percent of women in union who made decisions about modern family planning methods in the past 12 months	69.4	46.6	92.2	245	44,610	46.2	11.03	3.7

	Indicator Value	Confidence Interval		Number of Records	Weighted Population	Standard Deviation	Standard Error	DEFT
		Lower	Upper					
Decision Actors								
Alone	53.2	28.0	78.5	245	44,610	50.0	12.24	3.8
Jointly	16.2	7.8	24.5	245	44,610	36.9	4.04	1.7
Age								
15-19 years				14	2,483			
20-29 years	68.2	42.1	94.2	110	21,498	46.8	12.63	2.8
30-49 years	69.4	48.6	90.3	121	20,629	46.3	10.1	2.4
CHILDREN'S HEALTH AND NUTRITION INDICATORS								
Percentage of children 6-23 months consuming a diet of minimum dietary diversity (MDD-C)	50.8	44.0	57.5	405	65,600	50.1	3.27	1.3
Male	56.2	39.3	73.0	195	30,678	49.3	8.17	2.3
Female	46.0	31.9	60.1	210	34,922	48.5	6.82	2.0
Percentage of children under age 5 with diarrhea in the last two weeks (Total)	20.4	14.2	26.6	1,406	217,404	40.3	3.00	2.8
Male	21.9	15.2	28.6	678	104,766	41.4	3.23	2.0
Female	19.0	12.7	25.3	728	112,638	39.2	3.06	2.1
Percentage of children under age 5 with diarrhea treated with ORT (Total)	80.3	73.3	87.3	338	44,297	39.8	3.41	1.6
Male	78.2	68.9	87.4	177	22,927	44.4	4.48	1.3
Female	82.6	76.3	88.9	161	21,370	40.4	3.05	1.0
GENDER - CASH								
Percent of women/men in union who earned cash in the past 12 months								
Male	45.9	35.2	56.6	964	169,031	49.9	5.19	3.2
15-19 years	^	^	^	13	1,906	^	^	^
20-29 years	49.0	37.5	60.6	208	35,712	50.5	5.59	1.6
30-49 years	55.6	41.5	69.7	434	79,873	48.5	6.83	2.9
≥50 years	29.3	23.2	35.4	309	51,540	46.7	2.94	1.1
Female	19.1	10.7	27.6	1,475	246,439	39.3	4.10	4.0
15-19 years	15.5	8.2	22.9	174	27,711	37.1	3.57	1.3
20-29 years	18.0	9.5	26.5	546	94,008	37.9	4.13	2.5
30-49 years	23.2	11.8	34.7	575	90,888	43.4	5.55	3.1

	Indicator Value	Confidence Interval		Number of Records	Weighted Population	Standard Deviation	Standard Error	DEFT
		Lower	Upper					
≥50 years	14.0	7.6	20.5	180	33,832	32.7	3.12	1.3
Percent of women in union and earning cash who report participation in decisions about the use of self-earned cash	NA	NA	NA	NA	NA	NA	NA	NA
15-19 years	NA	NA	NA	NA	NA	NA	NA	NA
20-29 years	NA	NA	NA	NA	NA	NA	NA	NA
30-49 years	NA	NA	NA	NA	NA	NA	NA	NA
≥50 years	NA	NA	NA	NA	NA	NA	NA	NA
Percent of women in union and earning cash who report participation in decisions about the use of spouse/partner's self-earned cash	NA	NA	NA	NA	NA	NA	NA	NA
15-19 years	NA	NA	NA	NA	NA	NA	NA	NA
20-29 years	NA	NA	NA	NA	NA	NA	NA	NA
30-49 years	NA	NA	NA	NA	NA	NA	NA	NA
≥50 years	NA	NA	NA	NA	NA	NA	NA	NA
Percent of men in union and earning cash who report spouse/partner participation in decisions about the use of self-earned cash	NA	NA	NA	NA	NA	NA	NA	NA
15-19 years	NA	NA	NA	NA	NA	NA	NA	NA
20-29 years	NA	NA	NA	NA	NA	NA	NA	NA
30-49 years	NA	NA	NA	NA	NA	NA	NA	NA
≥50 years	NA	NA	NA	NA	NA	NA	NA	NA
GENDER - CREDIT AND GROUP PARTICIPATION								
Percent of women/men who are members of a community group								
Male	77.1	71.1	83.2	638	113,605	42.0	2.92	1.8
15-19 years				7	1,085			
20-29 years	77.7	69.1	86.2	150	27,003	41.5	4.14	1.2
30-49 years	76.0	69.9	82.1	317	57,955	42.2	2.97	1.3
≥50 years	78.9	66.1	91.6	164	27,563	42.1	6.20	1.9
Female	73.5	66.2	80.8	711	114,540	44.2	3.54	2.1
15-19 years	71.3	55.8	86.8	136	20,945	46.3	7.51	1.9
20-29 years	74.5	68.2	80.9	336	55,829	42.9	3.08	1.3

	Indicator Value	Confidence Interval		Number of Records	Weighted Population	Standard Deviation	Standard Error	DEFT
		Lower	Upper					
30-49 years	72.0	64.0	80.1	218	34,347	45.4	3.90	1.3
≥50 years	^	^	^	21	3,420	^	^	^
Percent of women/men in a union with access to credit								
Male	29.4	22.7	36.0	638	113,605	45.6	3.21	1.8
15-19 years				7	1,085			
20-29 years	41.1	25.6	56.6	150	27,003	49.0	7.51	1.9
30-49 years	27.7	18.3	37.0	317	57,955	44.2	4.53	1.8
≥50 years	22.2	11.7	32.8	164	27,563	42.8	5.10	1.5
Female	27.1	21.5	32.6	711	114,540	44.5	2.69	1.6
15-19 years	27.9	18.5	37.2	136	20,945	45.9	4.53	1.2
20-29 years	25.3	18.8	31.7	336	55,829	42.8	3.12	1.3
30-49 years	29.6	22.1	37.1	218	34,347	46.2	3.65	1.2
≥50 years	^	^	^	21	3,420	^	^	^
Percent of men in a union who make decisions about credit	89.4	79.4	99.5	217	33,375	30.8	4.85	2.3
Decision Actors								
Alone	70.1	53.9	86.4	217	33,375	45.9	7.84	2.5
Jointly	19.3	10.9	27.6	217	33,375	39.5	4.03	1.5
Age								
15-19 years	^	^	^	1	101	^	^	^
20-29 years	75.4	53.5	97.2	57	11,108	43.5	10.44	1.8
30-49 years	99.4	98.0	100.7	112	16,036	8.0	0.65	0.9
≥50 years	88.7	78.3	99.2	47	6,129	31.9	5.04	1.1
Percent of women in a union who make decisions about credit	73.1	65.0	81.2	200	31,006	44.4	3.91	1.2
Decision Actors								
Alone	37.5	21.3	53.7	200	31,006	48.5	7.86	2.3
Jointly	35.6	20.3	51.0	200	31,006	48.0	7.44	2.2
Age								
15-19 years	69.6	53.4	85.8	37	5,841	46.6	7.71	1.0
20-29 years	69.9	57.8	81.9	84	14,097	46.2	5.83	1.2
30-49 years	79.8	67.4	92.1	72	10,164	40.5	5.99	1.3

	Indicator Value	Confidence Interval		Number of Records	Weighted Population	Standard Deviation	Standard Error	DEFT
		Lower	Upper					
≥50 years	^	^	^	7	904	^	^	^
RESILIENCE-RELATED								
Proportion of households that believe local government will respond effectively to future shocks and stresses	89.6	86.5	92.6	749	116,146	30.6	1.47	1.3
Male and female adults	89.8	86.8	92.9	711	108,069	30.5	1.50	1.3
Adult female, no adult male	^	^	^	29	6,228	^	^	^
Adult male, no adult female	^	^	^	9	1,849	^	^	^
Child, no adults	NA	NA	NA	NA	NA	NA	NA	NA
Index of social capital at the household level (overall index)	66.8	63.5	70.1	749	116,146	34.9	1.61	1.3
Male and female adults	68.0	64.7	71.2	711	108,069	35.0	1.58	1.2
Adult female, no adult male	^	^	^	29	6,228	^	^	^
Adult male, no adult female	^	^	^	9	1,849	^	^	^
Child, no adults	NA	NA	NA	NA	NA	NA	NA	NA
Component								
Bonding sub-index	71.2	67.8	74.6	749	116,146	35.8	1.64	1.3
Bridging sub-index	62.4	58.1	66.8	749	116,146	39.5	2.11	1.5
Proportion of households participating in group-based savings, micro-finance or lending programs	4.8	3.4	6.1	749	116,146	21.3	0.65	0.8
Male and female adults	5.1	3.5	6.7	711	108,069	22.3	0.78	0.9
Adult female, no adult male	^	^	^	29	6,228	^	^	^
Adult male, no adult female	^	^	^	9	1,849	^	^	^
Child, no adults	NA	NA	NA	NA	NA	NA	NA	NA
Financing type								
Savings	3.6	1.8	5.3	749	116,146	18.6	0.85	1.3
Credit	1.6	0.5	2.7	749	116,146	12.5	0.55	1.2

NA : Not available

^ Results not statistically reliable, n<30.

NOTES:

1 Number of records for improved storage practices may differ from that of other improved practices because questions on the use of improved practices were generally asked as part of the main agriculture module while questions on the use of improved storage practices were asked separately as part of the module on crop yield. The number of responding farmers differ across the two modules.

ANNEX 6: DESCRIPTIVE STATISTICAL TABLES

Table 11: Estimated Population in the RFSA Area

	ViMPlus
Total population	1,143,709
Male	544,188
Female	599,521
Adults age 15 or older	566,283
Male	253,946
Female	312,337
Cash earners (age 15 or older)	166,920
Male	103,180
Female	63,740
Farmers (age 15 or older)	191,131
Male	124,132
Female	66,999
Women of reproductive age (15-49 years)	270,895
Women 15-49 years who are married or in a union	205,885
Women 15-49 years with a live birth within the past five years	152,491
Children under 5 years of age	217,404
Male	104,766
Female	112,638
Children 6-23 months of age	65,600
Male	30,678
Female	34,922

Source: BHA 2020 Burkina Faso baseline survey weighted population estimates.
NOTES: As stipulated by USAID's Feed the Future (FTF) guideline, adults for gendered household type are defined as individuals 18 years of age or older. For the interviews and all other analyses, the age for adults is 15 or older.
^ Results not statistically reliable, n<30.

Table 12: Household Characteristics

	ViMPlus
Gendered household type (Number of households)[1]	116,236
Male and female adults	108,069
Female adult(s) only	6,318
Male adult(s) only	1,849
Child(ren) only (no adults)	^
Gendered household type (Percentage of households)	100.0
Male and female adults	93.0
Female adult(s) only	5.4
Male adult(s) only	1.6
Child(ren) only (no adults)	^
Average household size (Number of persons)	9.8
Average number of adults 15 years of age or older per household	4.9
Percentage of households with children under 5 years of age	81.6
Percentage of households with a child 6-23 months of age	42.9
Household headship (Percentage female)	13.7
Number and percent of responding households	750
Male and female adults	711 (94.8%)
Female adult(s) only	30 (4.6%)
Male adult(s) only	9 (1.2%)
Child(ren) only (no adults)	0 (0%)

NOTES: As stipulated by USAID's Feed the Future (FTF) guideline, adults for gendered household type are defined as individuals 18 years of age or older. For the interviews and all other analyses, the age for adults is 15 or older.
^ Results not statistically reliable, n<30.

Table 13: Activity Participation

	ViMPlus		
	No. of HHs	%	Sig.[a]
Household participation in BHA RFSA activities[1]	750	59.5	
Male and female adults	711	61.0	*
Adult female, no adult male	30	44.2	
Adult male, no adult female	9	^	
Child, no adults	0	^	
Received food rations[2]	485	48.5	
Male and female adults	468	48.5	ns
Adult female, no adult male	13	^	
Adult male, no adult female	4	^	
Child, no adults	0	^	
Participated in nutrition trainings/meetings[2]	485	57.5	
Male and female adults	468	57.5	ns
Adult female, no adult male	13	^	
Adult male, no adult female	4	^	
Child, no adults	0	^	
Participated in agriculture-related trainings/meetings[2]	485	64.3	
Male and female adults	468	63.4	ns
Adult female, no adult male	13	^	
Adult male, no adult female	4	^	
Child, no adults	0	^	
Participated in trainings or events on open defecation, sanitation, hygiene, water quality or handwashing[2]	485	72.9	
Male and female adults	468	71.7	ns
Adult female, no adult male	13	^	
Adult male, no adult female	4	^	
Child, no adults	0	^	
Participated in other trainings or activities	485	13.5	
Male and female adults	468	13.9	ns
Adult female, no adult male	13	^	
Adult male, no adult female	4	^	
Child, no adults	0	^	
Household participation in any social assistance activities[3]	750	84.9	
Male and female adults	711	85.5	ns
Adult female, no adult male	30	84.6	
Adult male, no adult female	9	^	
Child, no adults	0	^	
Received food rations	750	47.0	
Male and female adults	711	46.6	ns

	ViMPlus		
Adult female, no adult male	30	62.8	
Adult male, no adult female	9	^	
Child, no adults	0	^	
Participated in nutrition trainings/meetings	750	42.3	
Male and female adults	711	43.5	*
Adult female, no adult male	30	28.1	
Adult male, no adult female	9	^	
Child, no adults	0	^	
Participated in agriculture-related trainings/meetings	750	53.4	
Male and female adults	711	54.7	*
Adult female, no adult male	30	44.1	
Adult male, no adult female	9	^	
Child, no adults	0	^	
Participated in trainings or events on open defecation, sanitation, hygiene, water quality or handwashing	750	65.4	
Male and female adults	711	66.1	ns
Adult female, no adult male	30	62.5	
Adult male, no adult female	9	^	
Child, no adults	0	^	
Participated in other trainings or activities	750	9.0	
Male and female adults	711	9.4	
Adult female, no adult male	30	0.0	
Adult male, no adult female	9	^	
Child, no adults	0	^	

NOTES: A household is considered to be participating in a social assistance activity if the respondent or any household member reported receiving or participating in the social assistance activity.
^ Results not statistically reliable, n<30.
[1] Includes only households who reported participating in one of the BHA RFSAs.
[2] Includes households who reported participating in one of the BHA RFSAs and who also reported receiving/participating in the specific type of intervention. Because households that participated in RFSA activities may also be participating in other donor activities, these estimates are only proxy measures of RFSA participation is specific activities.
[3] Includes all households who reported participating in any social development assistance activity.

Table 14: Food Consumption Score (FCS) Components

	ViMPlus		
	Poor FCS	Borderline FCS	Acceptable FCS
Percentage of HHs by FCS group	2.4	14.2	83.3
Staples			
Percent of HHs consuming food item			
Bread, biscuits, couscous, rice, pasta, sorghum, millet, etc.	100.0	99.5	98.7
Potatoes, yam, cassava, sweet potato, miritchi, garin rogo, other roots or tubers	0.0	11.1	26.3
Frequency of consumption in days (mean)			
Bread, biscuits, couscous, rice, pasta, sorghum, millet, etc.	4.8	5.8	6.1
Potatoes, yam, cassava, sweet potatoes, miritchi, garin rogo, other roots or tubers	0.0	0.3	0.6
Pulses			
Percent of HHs consuming food item	56.3	96.8	99.1
Frequency of consumption in days (mean)	1.2	3.5	5.4
Vegetables			
Percent of HHs consuming food item	21.7	21.2	27.7
Frequency of consumption in days (mean)	0.4	0.6	0.8
Fruit			
Percent of HHs consuming food item	21.7	27.0	52.3
Frequency of consumption in days (mean)	0.3	0.5	1.4
Meat and Fish			
Percent of HHs consuming food item			
Beef, pork, lamb, goat, rabbit, chicken, organ meats, etc.	0.0	19.1	52.5
Eggs	0.0	4.3	17.4
Fresh or dried fish or shellfish	12.5	44.7	84.4
Frequency of consumption in days (mean)			
Beef, pork, lamb, goat, rabbit, chicken, organ meats, etc…	0.0	0.3	1.3
Eggs	0.0	0.1	0.5
Fresh or dried fish or shellfish	0.2	0.9	3.8
Milk and Dairy			
Percent of HHs consuming food item	3.3	10.6	36.2
Frequency of consumption in days (mean)	0.1	0.2	1.3
Sugar			
Percent of HHs consuming food item	49.9	62.6	83.9

	ViMPlus		
Frequency of consumption in days (mean)	1.5	2.0	4.2
Oil			
Percent of HHs consuming food item	47.3	49.3	80.7
Frequency of consumption in days (mean)	1.3	1.2	2.6
Condiments			
Percent of HHs consuming food item	56.3	56.2	70.3
Frequency of consumption in days (mean)	1.9	2.0	3.7
Number of responding households	26	121	602

NOTES: FCS is a composite score based on dietary diversity, food frequency and relative nutritional value of the different food groups. Values are then weighted and summed to obtain the FCS. Households are categorized into consumption groups based on pre-established thresholds: Poor (0 - 21); borderline (21.5 - 35); and acceptable (>35). For more detailed refer to Supplement to Part 1 - FFP Baseline/Endline Questionnaire and Indicator Tabulations for Development Food Security Activities.

Table 15: Mean Food Consumption Score (FCS) by Gendered Household Type

	ViMPlus	
	No. of HHs	**Mean**
Food Consumption Score		
All households	749	53.5
Male and female adults	710	53.5
Female adult(s) only	30	51.5
Male adult(s) only	9	57.6
Child(ren) only (no adults)	0	^

NOTES: FCS is a composite score based on dietary diversity, food frequency and relative nutritional value of the different food groups. Values are then weighted and summed to obtain the FCS. For more detailed refer to Supplement to Part 1 - FFP Baseline/Endline Questionnaire and Indicator Tabulations for Development Food Security Activities.

Table 16: Percentage of Sorghum Farmers by Background Characteristics, in Total and by Farmers' Sex and Age

	ViMPlus		
	Total	Male	Female
Total	100.0	100.0	100.0
Age[1]			
15-19	0.7	1.4	0.8
20-24	5.6	7.6	6.0
25-29	7.6	8.5	7.8
30-34	14.7	5.8	12.6
35-39	13.2	8.5	12.1
40-44	13.5	10.6	12.8
45-49	9.6	14.7	10.8
50-54	10.1	14.5	11.2
55-59	5.8	14.1	7.8
60+	19.3	14.3	18.1
Number of responding sorghum farmers	580	171	751

[1]Differences in the age distribution by sex are not statistically significant.

Table 17: Percentage of Cowpea Farmers by Background Characteristics, in Total and by Farmers' Sex and Age

	ViMPlus		
	Total	Male	Female
Total	100.0	100.0	100.0
Age			
15-19	1.5	0.8	3.0
20-24	7.9	6.4	11.6
25-29	7.8	6.6	11.0
30-34	13.6	14.7	11.0
35-39	12.8	14.9	7.6
40-44	11.9	12.5	10.5
45-49	9.9	9.7	10.1
50-54	10.4	9.4	12.7
55-59	7.0	5.8	9.9
60+	17.3	19.1	12.5
Number of responding cowpea farmers	822	599	223

[1]Differences in the age distribution by sex are not statistically significant.

Table 18: Percentage of Rice Farmers by Background Characteristics, in Total and by Farmers' Sex and Age

	ViMPlus		
	Total	Male	Female
Total	100.0	100.0	100.0
Age			
15-19	^	^	^
20-24	7.0	6.8	8.6
25-29	12.1	12.6	8.6
30-34	10.9	11.2	8.6
35-39	8.8	9.4	5.1
40-44	11.4	11.7	9.4
45-49	11.5	12.0	8.6
50-54	5.6	6.4	0.0
55-59	11.0	5.8	47.0
60+	21.6	24.1	4.3
Number of responding rice farmers	114	100	14

^ Results not statistically reliable, n<30.
[1]Differences in the age distribution by sex are not statistically significant.

Table 19: Percentage of Onion Farmers by Background Characteristics, in Total and by Farmers' Sex and Age

	ViMPlus		
	Total	Male	Female
Total	100.0	100.0	100.0
Age[1]			
15-19	^	^	^
20-24	10.1	0.0	39.5
25-29	3.5	4.7	0.0
30-34	29.1	32.2	20.2
35-39	11.9	11.5	13.2
40-44	3.5	2.4	6.6
45-49	17.5	18.8	13.6
50-54	5.3	7.1	0.0
55-59	5.2	4.5	7.0
60+	13.9	18.7	0.0
Number of responding onion farmers	39	26	13

^ Results not statistically reliable, n<30.
[1]Differences in the age distribution by sex are not statistically significant.

Table 20: Percentage of Goat Farmers by Background Characteristics, in Total and by Farmers' Sex and Age

	ViMPlus		
	Total	Male	Female
Total	100.0	100.0	100.0
Age			
15-19	1.6	1.7	1.3
20-24	5.9	5.4	7.2
25-29	7.3	7.4	7.2
30-34	12.8	12.4	13.7
35-39	13.4	14.6	10.7
40-44	12.6	12.2	13.5
45-49	12.5	11.2	15.6
50-54	10.1	10.7	8.7
55-59	8.2	6.6	12.1
60+	15.5	17.9	10.0
Number of responding goat farmers	464	340	124

[1]Differences in the age distribution by sex are not statistically significant.

Table 21: Percentage of Sheep Farmers by Background Characteristics, in Total and by Farmers' Sex and Age

	ViMPlus		
	Total	Male	Female
Total			
Age			
15-19	1.3	1.1	1.5
20-24	8.7	6.6	13.5
25-29	10.3	11.1	8.5
30-34	10.9	11.4	9.8
35-39	13.8	14.2	13.0
40-44	12.5	13.9	9.4
45-49	7.9	7.0	10.0
50-54	9.9	11.2	6.9
55-59	8.9	6.9	13.5
60+	15.7	16.7	13.7
Number of responding sheep farmers	545	393	152

[1]Differences in the age distribution by sex are not statistically significant.

Table 22: Percentage of Poultry Farmers by Background Characteristics, in Total and by Farmers' Sex and Age

	ViMPlus		
	Total	Male	Female
Total	100.0	100.0	100.0
Age			
15-19	0.9	0.9	0.8
20-24	7.7	7.2	10.5
25-29	7.4	7.8	5.3
30-34	9.5	11.4	0.8
35-39	12.7	12.9	11.9
40-44	14.3	13.9	16.5
45-49	10.2	9.4	13.9
50-54	11.5	10.2	17.8
55-59	8.1	7.4	11.5
60+	17.6	19.0	11.0
Number of responding poultry farmers	430	357	73

[1]Differences in the age distribution by sex are not statistically significant.

Table 23: Percentage of Farmers by Land Ownership Status and Farm Size, in Total and by Farmers' Sex and Age

	ViMPlus						
	Total	Male	Female	Sig.[a]	15-29	30+	Sig.[a]
Land ownership							
Owned	95.5	94.4	98.4	*	92.7	96.2	ns
Rented	4.2	5.5	1.2	*	7.3	3.6	ns
Share-cropped	0.1	0.2	0.0	ns	0.0	0.1	ns
None	0.1	0.0	0.4	ns	0.0	0.1	ns
Farm size (Ha)							
<0.5	6.0	1.5	17.5	***	18.9	3.2	***
≥0.5-<1.0	12.5	7.6	25.0	*	13.4	12.4	ns
≥1.0-<2.5	55.9	57.3	52.4	ns	52.0	56.8	ns
≥2.5-<5.0	19.8	25.6	5.1	***	14.1	21.0	*
≥5.0-<7.5	4.5	6.2	0.0	*	1.7	5.1	*
≥7.5-<10.0	0.4	0.5	0.0	ns	0.0	0.4	ns
≥10.0	0.9	1.3	0.0	ns	0.0	1.1	ns
Number of responding farmers	943	682	261		190	753	

	ViMPlus

NOTES:
[a] Significance tests were performed to determine whether an association exists between the outcome indicator (land ownership and land size) and the disaggregate variable (sex and age). Associations found to be statistically significant are indicated by level: * p<0.05, ** p<0.01, *** p<0.001; ns=not significant.

Table 24: Percentage of Sorghum Farmers by Area Cultivated, in Total and by Farmers' Sex and Age

	ViMPlus						
	Total	Male	Female	Sig.[a]	15-29	30+	Sig.[a]
Farm size (Ha)							
<0.5	10.6	7.2	21.5	**	14.4	9.9	ns
≥0.5-<1.0	20.5	14.2	40.9	***	23.5	20.0	ns
≥1.0-<2.5	55.2	61.0	36.1	***	55.5	55.1	ns
≥2.5-<5.0	9.7	12.7	0.0	**	4.5	10.6	*
≥5.0-<7.5	1.4	1.8	0.4	ns	1.1	1.5	ns
≥7.5-<10.0	0.4	0.4	0.4	ns	1.1	0.3	ns
≥10.0	2.2	2.7	0.8	ns	0.0	2.6	ns
Number of responding sorghum farmers	713	552	161		116	597	

NOTES:
[a] Significance tests were performed to determine whether an association exists between the outcome indicator (area cultivated) and the disaggregate variable (sex and age). Associations found to be statistically significant are indicated by level: * p<0.05, ** p<0.01, *** p<0.001; ns=not significant.

Table 25: Percentage of Cowpea Farmers by Area Cultivated, in Total and by Farmers' Sex and Age

	ViMPlus						
	Total	Male	Female	Sig.[a]	15-29	30+	Sig.[a]
Farm size (Ha)							
<0.5	27.7	20.0	47.1	***	43.3	24.5	*
≥0.5-<1.0	30.3	28.1	35.9	ns	28.8	30.7	ns
≥1.0-<2.5	34.4	42.7	13.5	***	26.6	35.9	*
≥2.5-<5.0	4.9	6.6	0.8	***	1.3	5.6	*
≥5.0-<7.5	0.5	0.7	0.0	ns	0.0	0.6	ns
≥7.5-<10.0	0.1	0.0	0.3	ns	0.0	0.1	ns
≥10.0	2.1	1.9	2.5	ns	0.0	2.5	ns
Number of responding cowpea farmers	767	559	208		145	622	

NOTES:
[a] Significance tests were performed to determine whether an association exists between the outcome indicator (area cultivated) and the disaggregate variable (sex and age). Associations found to be statistically significant are indicated by level: * p<0.05, ** p<0.01, *** p<0.001; ns=not significant.

Table 26: Percentage of Rice Farmers by Area Cultivated, in Total and by Farmers' Sex and Age

	ViMPlus						
	Total	Male	Female	Sig.[a]	15-29	30+	Sig.[a]
Farm size (Ha)							
<0.5	42.1	35.9	82.1	*	55.3	39.3	ns
≥0.5-<1.0	14.3	14.4	13.4	ns	0.0	17.4	*
≥1.0-<2.5	34.3	39.0	4.5	**	37.8	33.6	ns
≥2.5-<5.0	7.3	8.5	0.0	ns	6.9	7.4	ns
≥5.0-<7.5	1.9	2.2	0.0	ns	0.0	2.3	ns
≥7.5-<10.0	…	…	…		…	…	
≥10.0	…	…	…		…	…	
Number of responding rice farmers	101	88	13		20	81	

NOTES:
[a] Significance tests were performed to determine whether an association exists between the outcome indicator (area cultivated) and the disaggregate variable (sex and age). Associations found to be statistically significant are indicated by level: * p<0.05, ** p<0.01, *** p<0.001; ns=not significant.

Table 27: Percentage of Onion Farmers by Area Cultivated, in Total and by Farmers' Sex and Age

	ViMPlus						
	Total	Male	Female	Sig.[a]	15-29	30+	Sig.[a]
Farm size (Ha)							
<0.5	50.1	^	^		^	41.6	
≥0.5-<1.0	9.1	^	^		^	10.6	
≥1.0-<2.5	29.9	^	^		^	35.0	
≥2.5-<5.0	5.4	^	^		^	6.4	
≥5.0-<7.5	5.4	^	^		^	6.4	
≥7.5-<10.0	…	…	…		…	…	
≥10.0	…	…	…		…	…	
Number of responding onion farmers	36	23	13		6	30	

NOTES:
^ Results not statistically reliable, n<30.
[a] Significance tests were performed to determine whether an association exists between the outcome indicator (area cultivated) and the disaggregate variable (sex and age). Associations found to be statistically significant are indicated by level: * p<0.05, ** p<0.01, *** p<0.001; ns=not significant.

Table 28: Percentage of Onion Farmers by Area Cultivated, in Total and by Farmers' Sex and Age

	ViMPlus						
	Total	Male	Female	Sig.[a]	15-29	30+	Sig.[a]
Farm size (Ha)							
<0.5	50.1	31.2	100.0		100.0	41.6	
≥0.5-<1.0	9.1	12.5	0.0		0.0	10.6	
≥1.0-<2.5	29.9	41.3	0.0		0.0	35.0	
≥2.5-<5.0	5.4	7.5	0.0		0.0	6.4	
≥5.0-<7.5	5.4	7.5	0.0		0.0	6.4	
≥7.5-<10.0	…	…	…		…	…	
≥10.0	…	…	…		…	…	
Number of responding onion farmers	36	23	13		6	30	

NOTES:
^ Results not statistically reliable, n<30.
[a] Significance tests were performed to determine whether an association exists between the outcome indicator (area cultivated) and the disaggregate variable (sex and age). Associations found to be statistically significant are indicated by level: * p<0.05, ** p<0.01, *** p<0.001; ns=not significant.

Table 29: Percentage of Farmers Using Financial Services by Type of Financial Services, in Total and by Farmers' Sex

	ViMPlus			
	Total	Male	Female	Sig.[a]
Any financial services	49.4	49.9	48.5	ns
Savings	45.4	45.6	45.1	ns
Credit	14.3	14.1	14.8	ns
Insurance	0.9	0.5	1.6	ns
Percentage of farmers not using any financial services	49.4	49.9	48.5	ns
Number of responding farmers	1077	719	358	

NOTES:
[a] Significance tests were performed to determine whether an association exists between the outcome indicator (use of financial services) and the disaggregate variable (sex). Associations found to be statistically significant are indicated by level: * p<0.05, ** p<0.01, *** p<0.001; ns=not significant.

Table 30: Percentage of Sorghum Farmers who Applied one or More Promoted Improved Storage Practices, in Total and by Farmers' Sex and Age

	ViMPlus						
	Total	Sex			Age		
		Male	Female	Sig.[a]	15-29	30+	Sig.[a]
Improved post-harvest handling and storage practices/technologies							
Locally made storage structures such as sheet metal silos	4.8	5.3	3.0	ns	5.3	4.7	ns
Sealed/airtight bags	17.9	18.2	16.8	ns	25.1	16.6	ns
Community storage facilities, including warehouse receipting	3.2	4.0	0.4	**	3.5	3.2	ns
Use of solar or fuel-powered dryers to reduce post-harvest moisture	…	…	…		…	…	
Seed or grain treatment techniques including botanical pest control agents or phytosanitary irradiation	0.6	0.7	0.0	ns	0.0	0.7	ns
Grain treatment with agro-chemicals	0.4	0.5	0.0	ns	0.6	0.4	ns
Triple bags for sorghum grain preservation	5.3	5.5	4.5	ns	7.6	4.9	ns
Other post-harvest practices that reduce pre-storage losses	1.5	2.0	0.0	ns	0.0	1.8	ns
Number of responding sorghum farmers who stored their harvest[1]	751	580	171		115	608	

NOTES:
[a] Significance tests were performed to determine whether an association exists between the outcome indicator (agricultural practice) and the disaggregate variable (sex and age). Associations found to be statistically significant are indicated by level: * p<0.05, ** p<0.01, *** p<0.001; ns=not significant.
[1] Number of records for improved storage practices may differ from that of other improved agricultural practices because questions on the use of improved practices were generally asked as part of the main agriculture module while questions on the use of improved storage practices were asked separately as part of the module on crop yield. The numbers of responding farmers differ across the two modules.

Table 31: Percentage of Cowpea Farmers who Applied one or More Promoted Improved Storage Practices, in Total and by Farmers' Sex and Age

	ViMPlus						
	Total	Sex			Age		
		Male	Female	Sig.[a]	15-29	30+	Sig.[a]
Improved post-harvest handling and storage practices/technologies							
Locally made storage structures such as sheet metal silos	1.4	1.8	0.3	*	0.4	1.6	ns
Sealed/airtight bags	16.1	18.4	10.4	**	18.2	15.7	ns
Community storage facilities, including warehouse receipting	2.3	3.2	0.0	ns	0.0	2.7	ns
Use of solar or fuel-powered dryers to reduce post-harvest moisture	0.6	0.4	1.0	ns	0.8	0.5	ns
Seed or grain treatment techniques including botanical pest control agents or phytosanitary irradiation	0.9	1.0	0.7	ns	0.9	0.9	ns
Grain treatment with agro-chemicals	1.8	2.1	1.0	ns	1.2	1.9	ns

	ViMPlus						
Triple bags for cowpea grain preservation	8.4	9.9	4.4	ns	8.8	8.3	ns
Other post-harvest practices that reduce pre-storage losses	0.1	0.0	0.2	ns	0.0	0.1	ns
Number of responding cowpea farmers who stored their harvest	822	599	223		154	652	

NOTES:
[a] Significance tests were performed to determine whether an association exists between the outcome indicator (agricultural practice) and the disaggregate variable (sex and age). Associations found to be statistically significant are indicated by level: * p<0.05, ** p<0.01, *** p<0.001; ns=not significant.
[1] Number of records for improved storage practices may differ from that of other improved agricultural practices because questions on the use of improved practices were generally asked as part of the main agriculture module while questions on the use of improved storage practices were asked separately as part of the module on crop yield. The numbers of responding farmers differ across the two modules.

Table 32: Percentage of Rice Farmers who Applied one or More Promoted Improved Storage Practices, in Total and by Farmers' Sex and Age

	ViMPlus						
	Total	Sex			Age		
		Male	Female	Sig.[a]	15-29	30+	Sig.[a]
Improved post-harvest handling and storage practices/technologies							
Locally made storage structures such as sheet metal silos	0.6	0.7	0.0	ns	0.0	0.7	ns
Sealed/airtight bags	20.8	22.0	12.8	ns	22.7	20.3	ns
Community storage facilities, including warehouse receipting	5.2	6.0	0.0	ns	2.9	5.8	ns
Use of solar or fuel-powered dryers to reduce post-harvest moisture	7.4	8.6	0.0	ns	0.0	9.3	ns
Seed or grain treatment techniques including botanical pest control agents or phytosanitary irradiation	4.0	4.6	0.0	ns	2.8	4.3	ns
Grain treatment with agro-chemicals	2.9	3.3	0.0	ns	0.0	3.6	ns
Triple bags for rice grain preservation	15.0	17.3	0.0	ns	2.8	18.1	ns
Other post-harvest practices that reduce pre-storage losses	…	…	…	ns	…	…	ns
Number of responding rice farmers who stored their harvest	108	94	14		24	84	

NOTES:
[a] Significance tests were performed to determine whether an association exists between the outcome indicator (agricultural practice) and the disaggregate variable (sex and age). Associations found to be statistically significant are indicated by level: * p<0.05, ** p<0.01, *** p<0.001; ns=not significant.
[1] Number of records for improved storage practices may differ from that of other improved agricultural practices because questions on the use of improved practices were generally asked as part of the main agriculture module while questions on the use of improved storage practices were asked separately as part of the module on crop yield. The numbers of responding farmers differ across the two modules.

Table 33: Percentage of Onion Farmers who Applied one or More Promoted Improved Storage Practices, in Total and by Farmers' Sex and Age

	ViMPlus						
	Total	Sex			Age		
		Male	Female	Sig.[a]	15-29	30+	Sig.[a]
Improved post-harvest handling and storage practices/technologies							
Locally made storage structures such as sheet metal silos	…	…	…	…	…	…	…
Sealed/airtight bags	3.6	4.9	0.0	ns	0.0	4.2	ns
Community storage facilities, including warehouse receipting	1.8	2.4	0.0	ns	0.0	2.1	ns
Use of solar or fuel-powered dryers to reduce post-harvest moisture	…	…	…	…	…	…	…
Seed or grain treatment techniques including botanical pest control agents or phytosanitary irradiation	…	…	…	…	…	…	…
Grain treatment with agro-chemicals	…	…	…	…	…	…	…
Triple bags for cowpea grain preservation	…	…	…	…	…	…	…
Other post-harvest practices that reduce pre-storage losses	…	…	…	…	…	…	…
Number of responding onion farmers who stored their harvest	37	24	13		6	33	

NOTES:
^ Results not statistically reliable, n<30.
[a] Significance tests were performed to determine whether an association exists between the outcome indicator (agricultural practice) and the disaggregate variable (sex and age). Associations found to be statistically significant are indicated by level: * p<0.05, ** p<0.01, *** p<0.001; ns=not significant.
[1] Number of records for improved storage practices may differ from that of other improved agricultural practices because questions on the use of improved practices were generally asked as part of the main agriculture module while questions on the use of improved storage practices were asked separately as part of the module on crop yield. The numbers of responding farmers differ across the two modules.

Table 34: Percentage of Sorghum Farmers who Applied one or More Promoted Improved Management Practices and Technologies, in Total and by Farmers' Sex and Age

	ViMPlus						
	Total	Sex			Age		
		Male	Female	Sig.[a]	15-29	30+	Sig.[a]
Crop genetics practices/technologies							
Use of improved seeds	6.7	8.0	2.4	ns	10.3	6.0	ns
Cultural practices/technologies							
Control of sida cordifolia growth	0.2	0.2	0.0	ns	0.0	0.2	ns
Crop association	20.0	18.1	26.2	ns	20.9	19.9	ns
Crop rotation	3.0	2.9	3.3	ns	3.4	2.9	ns
Sowing after useful rain	62.6	63.8	58.7	ns	66.1	62.0	ns

	ViMPlus						
Improved natural resources or ecosystem management practices/technologies							
Farmer managed natural regeneration (fmnr)	27.9	31.2	17.0	ns	27.5	28.0	ns
Delimitation of animal corridors and pasture areas	33.4	35.4	26.8	ns	44.1	31.6	*
Protection of ponds against silting up	35.0	38.3	23.9	ns	39.5	34.2	ns
Functional community-based conflict management mechanisms	4.0	5.1	0.7	*	2.1	4.4	ns
Recovery of degraded lands	5.0	6.2	1.0	**	4.0	5.1	ns
Develop low or market gardens	1.8	2.2	0.3	ns	2.1	1.7	ns
Improved pest and disease management practices/technologies							
Delay of seedlings at third or fourth rains to control pests	2.6	2.4	3.3	ns	3.2	2.5	ns
Seed treatment with fungicides	5.8	6.1	4.9	*	7.4	5.6	ns
Improved soil-related fertility and conservation practices/technologies							
Zai pits	62.5	67.8	44.8	***	54.9	63.8	*
Organic manure	70.4	68.7	76.0	ns	70.4	70.4	ns
Phosphatic manure	17.3	18.6	13.1	ns	16.4	17.5	ns
Compost	12.3	13.2	9.4	ns	10.2	12.7	ns
Microdoses of fertilizer	0.6	0.7	0.0	ns	0.0	0.7	ns
Improved agriculture water management non-irrigation-based practices/technologies							
Agricultural half-moons	8.3	10.4	1.4	***	10.9	7.9	ns
Improved climate adaptation/climate risk management practices/technologies							
Use of climate information (rain forecast, disaster risks, etc.)	…	…	…		…	…	…
Other improved practices/technologies							
Performing at least three weedings	12.5	13.9	7.8	ns	17.3	11.6	*
Use of modern agricultural equipment	15.0	16.6	9.7	**	12.8	15.4	ns
Use of agricultural credit	0.3	0.4	0.0	ns	1.6	0.1	*
Number of responding sorghum farmers	751	580	159				

NOTES: Crop rotation is considered both an improved pest and disease management practice and a cultural practice.
[a] Significance tests were performed to determine whether an association exists between the outcome indicator (agricultural practice) and the disaggregate variable (sex and age). Associations found to be statistically significant are indicated by level: * p<0.05, ** p<0.01, *** p<0.001; ns=not significant.

Table 35: Percentage of Cowpea Farmers who Applied one or More Promoted Improved Management Practices and Technologies by Category and Type, in Total and by Farmers' Sex and Age

	ViMPlus						
	Total	Sex			Age		
		Male	Female	Sig.[a]	15-29	30+	Sig.[a]
Crop genetics practices/technologies							
Use of improved seeds	8.1	8.0	8.4	ns	12.7	7.2	ns
Cultural practices/technologies							
Control of sida cordifolia growth	0.1	0.1	0.2	ns	0.0	0.2	ns
Crop association	16.4	15.7	18.1	ns	15.8	16.5	ns
Crop rotation	1.6	1.6	1.5	ns	1.3	1.7	ns
Sowing after useful rain	67.9	66.8	70.7	ns	71.5	67.2	ns
Improved natural resources or ecosystem management practices/technologies							
Farmer managed natural regeneration (fmnr)	24.5	29.7	11.3	*	20.2	25.4	ns
Delimitation of animal corridors and pasture areas	33.7	35.2	30.0	ns	44.5	31.5	ns
Protection of ponds against silting up	32.4	36.4	21.9	ns	33.5	32.1	ns
Functional community-based conflict management mechanisms	3.8	5.0	0.7	**	1.2	4.3	ns
Recovery of degraded lands	4.6	6.1	0.7	**	3.0	4.9	ns
Develop low or market gardens	1.2	1.3	0.7	ns	2.0	1.0	ns
Improved pest and disease management practices/technologies							
Delay of seedlings at third or fourth rains to control pests	4.0	4.1	3.8	ns	5.1	3.8	ns
Seed treatment with fungicides	8.2	7.4	10.5	*	11.6	7.5	*
Improved soil-related fertility and conservation practices/technologies							
Zai pits	26.8	32.2	13.2	***	22.0	27.8	ns
Organic manure	67.4	65.5	72.4	ns	66.9	67.5	ns
Phosphatic manure	18.1	21.2	9.9	*	14.4	18.8	ns
Compost	9.7	10.2	8.5	ns	11.3	9.4	ns
Microdoses of fertilizer	0.7	0.9	0.4	ns	0.0	0.9	ns
Improved agriculture water management non-irrigation-based practices/technologies							
Agricultural half-moons	5.5	7.0	1.5	*	5.1	5.5	ns
Improved climate adaptation/climate risk management practices/technologies							
Use of climate information (rain forecast, disaster risks, etc.)	0.1	0.1	0.0	ns	0.0	0.1	ns
Other improved practices/technologies							

	ViMPlus						
Performing at least three weedings	12.0	14.6	5.6	ns	12.8	11.9	ns
Use of modern equipment	21.9	25.0	14.2	***	14.4	23.5	ns
Use of agricultural credit	0.3	0.4	0.0	ns	0.0	0.3	ns
Number of responding cowpea farmers	822	599	223		159	663	822

NOTES: Crop rotation is considered both an improved pest and disease management practice and a cultural practice.
[a] Significance tests were performed to determine whether an association exists between the outcome indicator (agricultural practice) and the disaggregate variable (sex and age). Associations found to be statistically significant are indicated by level: * p<0.05, ** p<0.01, *** p<0.001; ns=not significant.

Table 36: Percentage of Rice Farmers who Applied one or More Promoted Improved Management Practices and Technologies by Category and Type, in Total and by Farmers' Sex and Age

	ViMPlus						
	Total	Sex			Age		
		Male	Female	Sig.[a]	15-29	30+	Sig.[a]
Crop genetics practices/technologies							
Use of improved seeds	3.3	3.7	0.0	ns	0.0	4.0	ns
Cultural practices/technologies							
Cultural calendar	3.4	3.9	0.0	ns	0.0	4.2	ns
Nursery preparation	47.4	46.3	55.6	ns	40.4	49.1	ns
Improved natural resources or ecosystem management practices/technologies							
Farmer managed natural regeneration (fmnr)	20.4	22.2	8.6	ns	34.0	17.2	ns
Delimitation of animal corridors and pasture areas	46.2	49.5	23.0	ns	54.7	44.1	ns
Protection of ponds against silting up	54.2	58.8	23.0	ns	43.4	56.8	ns
Functional community-based conflict management mechanisms	8.3	9.5	0.0	ns	0.0	10.2	ns
Recovery of degraded lands	2.2	2.5	0.0	ns	2.9	2.1	ns
Develop low-lying or market gardens	9.9	10.7	4.3	ns	11.3	9.5	ns
Improved pest and disease management practices/technologies							
Weed control	15.5	17.1	4.3	ns	14.3	15.7	ns
Pest control	17.4	20.0	0.0	ns	20.1	16.8	ns
Improved soil-related fertility and conservation practices/technologies							
Soil preparation	78.6	83.0	48.7	ns	82.9	77.6	ns
Organic manure	38.7	42.5	12.8	ns	28.7	41.1	ns
Phosphatic manure	31.7	36.3	0.0	ns	28.3	32.5	ns
Compost	13.5	15.5	0.0	ns	5.6	15.4	ns
Mineral fertilizer	8.7	3.2	47.0	**	2.8	10.1	ns

	ViMPlus						
Improved agriculture water management non-irrigation-based practices/technologies							
Water management	19.7	21.3	8.6	ns	11.3	21.7	ns
Improved climate adaptation/climate risk management practices/technologies							
Use of climate information (rain forecast, disaster risks, etc.)	0.6	0.7	0.0	ns	0.0	0.8	ns
Other improved practices/technologies							
Use of modern agricultural equipment	2.2	1.9	4.3	ns	5.8	1.3	ns
Use of agricultural credit	1.1	1.2	0.0	ns	0.0	1.3	ns
Number of responding rice farmers	114	100	14		24	90	

NOTES: Crop rotation is considered both an improved pest and disease management practice and a cultural practice.
[a] Significance tests were performed to determine whether an association exists between the outcome indicator (agricultural practice) and the disaggregate variable (sex and age). Associations found to be statistically significant are indicated by level: * p<0.05, ** p<0.01, *** p<0.001; ns=not significant.

Table 37: Percentage of Onion Farmers who Applied one or More Promoted Improved Management Practices and Technologies by Category and Type, in Total and by Farmers' Sex and Age

	ViMPlus						
	Total	Sex			Age		
		Male	Female	Sig.[a]	15-29	30+	Sig.[a]
Crop genetics practices/technologies							
Use of improved seeds	^	^	^	^	^	^	^
Cultural practices/technologies							
Control of sida cordifolia growth	^	^	^	^	^	^	^
Crop association	3.5	4.7	0.0	ns	0.0	4.0	ns
Crop rotation	3.5	4.7	0.0	ns	0.0	4.0	ns
Sowing after useful rain	18.8	23.0	6.6	ns	0.0	21.7	ns
Improved natural resources or ecosystem management practices/technologies							
Farmer managed natural regeneration (fmnr)	22.2	18.5	32.9	ns	49.6	17.8	ns
Delimitation of animal corridors and pasture areas	57.1	51.3	73.7	ns	49.6	58.3	ns
Protection of ponds against silting up	29.6	39.8	0.0	ns	12.4	32.3	ns
Functional community-based conflict management mechanisms	12.0	16.2	0.0	ns	0.0	13.9	ns
Recovery of degraded lands	13.6	18.3	0.0	ns	0.0	15.8	ns
Develop low-lying or market gardens	8.9	7.4	13.2	ns	12.4	8.3	ns
Improved pest and disease management practices/technologies							

	ViMPlus						
Delay of seedlings at third or fourth rains to control pests	8.5	2.3	26.3	*	12.4	7.9	ns
Seed treatment with fungicides	^	^	^	^	^	^	^
Improved soil-related fertility and conservation practices/technologies							
Zai pits	17.1	16.2	19.7	ns	37.2	13.9	ns
Organic manure	50.1	46.8	59.6	ns	75.2	46.2	ns
Phosphatic manure	54.1	54.1	54.0	ns	25.6	58.5	*
Compost	8.6	7.0	13.2	ns	0.0	10.0	ns
Microdoses of fertilizer	6.8	9.2	0.0	ns	0.0	7.9	ns
Improved agriculture water management non-irrigation-based practices/technologies							
Agricultural half-moons	6.7	6.8	6.6	ns	0.0	7.8	ns
Improved climate adaptation/climate risk management practices/technologies							
Use of climate information (rain forecast, disaster risks, etc.)	3.4	4.5	0.0	ns	0.0	3.9	ns
Other improved practices/technologies							
Performing at least three weedings	12.2	16.5	0.0	ns	12.4	12.2	ns
Use of modern agricultural equipment	12.2	14.1	6.6	ns	24.8	10.2	ns
Use of agricultural credit	1.7	2.3	0.0	ns	0.0	2.0	ns
Number of responding onion farmers	39	26	13		6	33	

NOTES: Crop rotation is considered both an improved pest and disease management practice and a cultural practice.
^ Results not statistically reliable, n<30.
[a] Significance tests were performed to determine whether an association exists between the outcome indicator (agricultural practice) and the disaggregate variable (sex and age). Associations found to be statistically significant are indicated by level: * p<0.05, ** p<0.01, *** p<0.001; ns=not significant.

Table 38: Percentage of Goat Farmers who Applied one or More Promoted Improved Management Practices and Technologies by Category and Type, in Total and by Farmers' Sex and Age

	ViMPlus						
	Total	Sex			Age		
		Male	Female	Sig.[a]	15-29	30+	Sig.[a]
Improved livestock management practices or technologies							
Improved fodder production	4.1	5.7	0.4	**	1.6	4.5	ns
Use of licking and/or multi-nutritional block	8.9	12.0	1.6	***	10.5	8.6	ns
Animal selection	12.5	13.8	9.3	ns	7.4	13.4	ns
Vaccinations	95.4	94.7	96.9	ns	94.3	95.5	ns
Antiparasitic treatments	29.4	31.7	23.9	ns	23.1	30.5	ns
Veterinary monitoring of food quality and quantity over time	1.2	1.2	1.2	ns	2.4	1.0	ns
Weight monitoring	3.1	2.4	4.5	ns	2.4	3.2	ns
Optimum weight-market price criteria for the sale decision	…	…	…		…	…	
Use of para-veterinary services for goats and sheep	1.8	0.9	4.0	ns	0.0	2.1	ns
Number of responding goat farmers	464	340	124		74	390	

NOTES:
[a] Significance tests were performed to determine whether an association exists between the outcome indicator (agricultural practice) and the disaggregate variable (sex and age). Associations found to be statistically significant are indicated by level: * p<0.05, ** p<0.01, *** p<0.001; ns=not significant.

Table 39: Percentage of Sheep Farmers who Applied one or More Promoted Improved Management Practices and Technologies by Category and Type, in Total and by Farmers' Sex and Age

	ViMPlus						
	Total	Sex			Age		
		Male	Female	Sig.[a]	15-29	30+	Sig.[a]
Improved livestock management practices or technologies							
Improved fodder production	4.0	5.7	0.0	ns	1.4	4.6	ns
Use of licking and/or multi-nutritional block	11.3	14.2	4.6	**	9.3	11.8	ns
Animal selection	11.7	15.2	4.0	*	5.6	13.3	*
Vaccinations	96.1	95.2	98.2	ns	97.8	95.7	ns
Antiparasitic treatments	30.5	33.0	24.8	ns	31.3	30.3	ns
Veterinary monitoring of food quality and quantity over time	2.4	3.5	0.0	*	1.4	2.7	ns
Weight monitoring	3.9	3.2	5.6	ns	2.8	4.2	ns
Optimum weight-market price criteria for the sale decision	0.2	0.3	0.0	ns	0.0	0.2	ns
Use of para-veterinary services for goats and sheep	2.2	0.3	6.4	***	0.5	2.6	ns

	ViMPlus						
Number of responding sheep farmers	545	393	152		122	401	

NOTES:
[a] Significance tests were performed to determine whether an association exists between the outcome indicator (agricultural practice) and the disaggregate variable (sex and age). Associations found to be statistically significant are indicated by level: * p<0.05, ** p<0.01, *** p<0.001; ns=not significant.

Table 40: Percentage of Poultry Farmers who Applied one or More Promoted Improved Management Practices and Technologies by Category and Type, in Total and by Farmers' Sex and Age

	ViMPlus						
	Total	Sex			Age		
		Male	Female	Sig.[a]	15-29	30+	Sig.[a]
Improved livestock management practices or technologies							
Use of improved poultry variety/breed	6.6	8.0	0.0	ns	3.2	7.2	ns
Use of improved feed	7.6	9.1	0.0	ns	5.6	7.9	ns
Use of improved shelters	14.0	16.5	2.0	**	16.4	13.6	ns
Vaccinations	94.9	94.8	95.3	ns	97.1	94.5	ns
Use veterinary products and services	4.7	5.1	3.1	ns	0.8	5.5	*
Number of responding poultry farmers	430	357	73		67	363	

NOTES:
[a] Significance tests were performed to determine whether an association exists between the outcome indicator (agricultural practice) and the disaggregate variable (sex and age). Associations found to be statistically significant are indicated by level: * p<0.05, ** p<0.01, *** p<0.001; ns=not significant.

Table 41: Household Sanitation and Drinking Water

	ViMPlus
Improved, not shared sanitation facility	27.4
Flush to piped sewer system	…
Flush to septic tank	0.1
Flush to pit latrine	…
Ventilated improved pit latrine	1.3
Pit latrine with slab	25.4
Composting toilet	0.8
Improved, shared sanitation facility	28.2
Flush to piped sewer system	…
Flush to septic tank	…
Flush to pit latrine	…
Ventilated improved pit latrine	1.6
Pit latrine with slab	26.6
Composting toilet	0.1
Non-improved sanitation facility	43.9
Flush to somewhere else	…
Flush to don't know where	…

	ViMPlus
Latrine Without Slab/Open Pit	7.0
Bucket toilet	1.0
Hanging toilet/latrine	0.3
No Facility/Bush/Field	35.8
Improved source of drinking water	97.0
Piped water into dwelling	…
Piped water into yard/plot	…
Piped to neighbor	…
Public tap/Standpipe	36.4
Tube well or borehole	50.1
Protected well	6.2
Protected spring	0.7
Rainwater	1.0
Tanker truck	2.7
Cart with small tank	…
Bottled water	…
Non-improved source of drinking water	3.0
Unprotected well	0.9
Unprotected spring	1.4
Surface water (river/dam/ lake/ponds/stream/canal/irrigation channel)	0.7
Distance/time from source[1]	
On premises	1.5
≤ 30-minute roundtrip	24.3
31+ minute roundtrip	74.1
Water production	
Produces at least 20 liters per person per day	53.8
Water availability	
Water available from the source all year round	NA
Water unavailable for a day or longer in the past two weeks	31.8
Meets four of the five criteria for basic water source[2]	8.9
Water treatment	
Does something to make water safer to drink	9.7
Handwashing station with water and soap/ash[3]	58.7
Water observed at handwashing station	66.1
Cleaning agent	
Soap or ash observed at handwashing station	64.8
Mud or sand observed at handwashing station	2.2
Other cleaning agent	
No cleaning agent observed at handwashing station	34.1
Knowledge of critical moments for handwashing	
Risk of fecal contact	
Before eating	98.8
Before cooking/food prep	20.9
Before breastfeeding/feeding a child	4.8
Food handling	
After defecation	45.0
After cleaning the toilet	5.9
After diaper change/child defecation	2.6
When hands are dirty	51.2
Number of responding households	748

	ViMPlus
NA = Not available [1] Number of responding households is 748. [2] Refers to households that meet the following criteria: uses an improved water source; water source is on the premises or obtainable in 30 minutes or less roundtrip; water source was not unavailable for a day or longer in the past two weeks; and water source produces at least 20 liters per day per person. Number of households with complete information for all four criteria is 745. [3] This indicator is based on observation. Of the 748 households interviewed, enumerators were able to observe the handwashing stations of 353 households.	

Table 42: Percentage of Women 15-49 Years of Age by Food Groups Consumed

	ViMPlus
Nuts and seeds	1.5
Eggs	11.9
Dairy products	22.1
Other vitamin-A rich fruits and vegetables	38.4
Other fruits	38.7
Other vegetables	65.6
Meat, poultry, fish	72.8
Pulses	80.1
Dark green leafy vegetables	90.5
Grains, roots and tubers	99.7
Number of responding women 15-49 years	1,525
NOTE: A woman of reproductive age is considered to consume a minimum dietary diversity if she consumed at least five of 10 specific food groups during the previous day and night.	

Table 43: Use of Antenatal Care Services (ANC)

	ViMPlus
Percent of births receiving at least four ANC visits during pregnancy[1]	61.3
Improved, not shared sanitation facility	1,725
ANC provider[2]	
Doctor	0.4
Nurse	11.5
Midwife	68.5
Health officer	33.7
Health extension worker	…
Traditional birth attendant	…
Other	…
Number of ANC visits[3]	
4+ visits	61.5

	ViMPlus
Timing of first ANC visit received[3]	
During first 3 months of pregnancy	74.3
After 3 months	25.7
Number of women 15-49 who received any ANC care	897

NOTE: Use of antenatal care (ANC) refers to the last live birth that occurred in the five years prior to the survey.
[1]Refers to women who attended at least four ANC visits with a skilled health personnel during the most recent pregnancy that resulted in a live birth in the five years preceding the survey. Skilled health personnels include doctors, nurses, midwives, health officers and health extension workers.
[2] Multiple responses allowed. Total may add up to more than 100 percent.
[3] Includes only women who received at least one ANC visit during their most recent live birth in the five years prior to the survey.

Table 44: Percentage of Non-Pregnant Women 15-49 Years who are Married or in a Union and Using a Contraceptive Method by Type of Method

	ViMPlus
Modern methods	24.6
Female sterilization	…
Male sterilization	…
Inter-uterine device	0.1
Injectables	11.6
Implants	10.9
Pill	1.8
Condom	0.9
Female condom	0.2
Emergency contraception	…
Standard days method	0.4
Lactational amen. method	0.4
Other modern methods	0.1
Traditional methods	0.4
Rhythm	…
Withdrawal	0.1
Other traditional methods	0.3
Does not use any form of contraception	75.2
Number of responding non-pregnant women 15-49 years married or in a union	1,057

NOTE: Multiple responses for type of contraceptive method used was allowed. Totals may add up to more than 100 percent.

Table 45: Percentage of Children 6-23 Months by Food Groups Consumed

	ViMPlus
Eggs	37.2
Legumes and nuts	38.5
Flesh foods (meat, fish, poultry, and liver/organ meats)	40.2
Other fruits and vegetables	47.8
(milk, yogurt, cheese)	48.2
Vitamin-A rich fruits and vegetables	63.1
Grains, roots, and tubers	82.6
Breastmilk	93.5
Number of children 6-23 months	405

NOTE: A child 6-23 months is considered to consume a minimum dietary diversity if s/he consumed at least five of the eight food groups during the previous day and night.

Table 46: Household Social Capital

	ViMPlus
	% of HHs
Components of bonding social capital	
Ability to receive support from relatives living inside the community during times of need	79.6
Ability to provide support to relatives living inside the community during times of need[1]	75.6
Ability to receive support from non-relatives living inside the community during times of need	65.7
Ability to provide support to non-relatives living inside the community during times of need[1]	63.7
Components of bridging social capital	
Ability to receive support from relatives living outside of the community during times of need	75.0
Ability to provide support to relatives living outside of the community during times of need	70.4
Ability to receive support from non-relatives living outside of the community during times of need	52.7
Ability to provide support to non-relatives living outside of the community during times of need	51.6
Number of responding households	749

NOTE: Social capital refers to the ability to households to receive and provide financial or food support during difficult times. For both bonding and bridging social capital, an additive index ranging from 0 to 4 is calculated with a score of 0 for “no” , "don't know" and 1 for “yes” for each of the questions responses. The bonding social capital index considers the ability of households to give and receive support from relative and non-relative living inside of the community while the bridging social capital index consider the ability of households to provide and get support from relative and non-relatives living outside of the community. The values are normalized and scaled to a 0 to 100 scale by dividing by four then multiplying by 100. The Index of social capital indicator is the average of the two indices and ranges from 0 to 100.

[1] Includes households who report they can receive support from relatives/non-relatives during difficult times. Households who reported they cannot receive support were not asked whether they can provide support in return.

Table 47: Percentage of Women and Men in a Union Participating in Community Groups, by Type of Group

	ViMPlus	
	Males	**Females**
Agricultural/livestock/fisheries producer's group	38	22.9
N	496	504
Water users' group	24.5	16.7
N	406	408
Forest users' group	14.8	7.8
N	332	342
Credit or microfinance group	12.1	13.1
N	196	198
Savings group	6.4	10.5
N	113	129
Mutual help or insurance group	32.1	15.8
N	102	112
Trade and business association	17.6	10.7
N	189	180
Civic group	38.4	6.8
N	261	324
Local government	10.2	6.8
N	299	324
Religious group	65	55.8
N	555	607
Mother's group	3	42.4
N	443	510
Youth group	27/9	8.7
N	407	415
Sports group	23	4.1
N	302	298
Communal grazing land users' group	14.7	9.6
N	176	187
Communal natural resources group	11.8	9
N	192	200
Disaster planning group	15.4	11.1
N	141	137

	ViMPlus	
Safe spaces	22.8	20.4
N	255	267
Conflict resolution group	29.9	17.7
N	375	388
Other women's group	N/A	12.5
N		13

NOTE: Based on the responses of the youngest female in a union and her spouse/partner. The number of respondents (N) includes women and men who indicated that the group exists in their community. Results are unreliable for cases n<30; they are included for illustrative purposes only.

Table 48: COVID-19 awareness and adoption of COVID-19 mitigation protocols

	ViMPlus		
	No. of HHs	**%**	**Sig.[a]**
Awareness of COVID-19			
All households	750	99.8	
Male and female adults	711	99.8	ns
Female adult(s) only	30	100.0	
Male adult(s) only	9	100.0	
Child(ren) only (no adults)	0	^	
Adoption of COVID-19 mitigation protocols[1]			
Handwashing with water and soap			
All households	738	92.0	
Male and female adults	699	91.5	ns
Female adult(s) only	30	100.0	
Male adult(s) only	9	95.1	
Child(ren) only (no adults)	0	^	
Wearing a face cover/mask			
All households	738	86.2	
Male and female adults	699	86.6	ns
Female adult(s) only	30	77.9	
Male adult(s) only	9	90.6	
Child(ren) only (no adults)	0	^	
Maintaining one meter distance from others			
All households	738	56.1	
Male and female adults	699	57.0	ns
Female adult(s) only	30	41.0	
Male adult(s) only	9	61.6	
Child(ren) only (no adults)	0	^	
Limiting contact with non-HH members			
All households	738	47.0	
Male and female adults	699	46.6	ns
Female adult(s) only	30	48.6	
Male adult(s) only	9	61.6	

	ViMPlus		
Child(ren) only (no adults)	0	^	
Other practices			
All households	738	1.1	
Male and female adults	699	1.1	ns
Female adult(s) only	30	0.0	
Male adult(s) only	9	0.0	
Child(ren) only (no adults)	0	^	
Do nothing			
All households	738	1.0	
Male and female adults	699	0.0	ns
Female adult(s) only	30	0.0	
Male adult(s) only	9	0.9	
Child(ren) only (no adults)	0	^	

NOTES:
^ Results not statistically reliable, n<30.
[a] Significance tests were performed to determine whether an association exists between the outcome indicator (COVID-19 awareness and adoption of COVID-19 mitigation protocols) and the disaggregate variable (gendered household type). Associations found to be statistically significant are indicated by level: * p<0.05, ** p<0.01, *** p<0.001; ns=not significant.
[1] Includes households that are aware of the COVID-19 virus and reported doing something to protect themselves. Multiple responses allowed. Totals may add up to more than 100 percent.

Table 49: Percentage of Households who Experienced COVID-19 Impacts on Livelihoods by Type of Impact

	ViMPlus
Inability to access market to buy inputs (restrictions or market closed)	41.7
Inability to access market to sell livestock and livestock products (movement restrictions or market closed)	33.7
Inability to farm and/or care for livestock due to sickness of household member	5.4
Constrained access to farmland	8.6
Constrained access to grazing pasture	3.4
Constrained access to water	18.4
Shortage of crop inputs (seeds, fertilizer, pesticides)	2.5
Shortage of livestock inputs (feed and veterinary services)	2.8
Increase in price of crop inputs	13.2
Increase in price of livestock inputs	10.7
Increase in transportation costs	13.4
Increase in storage costs	3.8
Decrease in price of products sold	9.2
Increase in price of products sold	24.3
Decrease in demand for products	6.3
Difficulty accessing financial services and credit	0.6
Labor shortages (lack of labor to help with farming, herding, and processing)	0.7
Inability to engage with other community members in asset-building activities	4.7
Lost employment	13.3
Looting/theft	0.1
No longer receiving remittances	1.3
Inability to access health care	0.8

	ViMPlus
Illness	0.3
Death	…
Reduction in income	28.5
Inability to repay loans	0.7
Other impact on income	1.7
Not applicable/Livelihood not affected by COVID-19	11.2
Don't know/refused	1.3
Number of responding households	747
NOTES: Includes only households that are aware of COVID-19. Multiple responses allowed. Totals may add up to more than 100 percent.	

Table 50: Percentage of Households who Experienced COVID-19 Impacts on Food Security by Type of Impact

	ViMPlus
Movement restrictions or market closed	80.3
Transportation costs too expensive/no public transport	31.9
Traders are absent from the markets	37.6
Products not available in the market	44
Price of foods increased	64.4
Delay in food/cash transfer	2.3
Other impact on food security	0.3
Not applicable/Food security not affected by COVID-19	5.9
Don't know/refused	1.2
Number of responding households	747
NOTES: Includes only households that are aware of COVID-19. Multiple responses allowed. Totals may add up to more than 100 percent.	

Table 51: Coping strategies for COVID-19 impacts on livelihoods

	ViMPlus
Livestock and land holdings	
Sold livestock at lower price (no demand due to lockdowns or other restrictions)	24.0
Sold livestock	18.0
Sent livestock in search of pasture	5.8
Slaughtered livestock	2.8
Leased out land	0.2
Crops	
Consumed food that in normal times would sell	12.0
Sold food at a lower price (no demand due to lockdowns or other restrictions)	7.5
Stored unsold crops	5.8
Donated/gift unsold crops	1.6
Threw out unsold crops	1.2
Migration	
Migrate (only some family members)	1.2
Migrate (the whole family)	0.1
Sent children or an adult to stay with relatives/others	…
Reduce current expenditure	

	ViMPlus
Took children out of school	43.4
Reduced non-essential household expenses	20.2
Reduced food consumption (quantity/meal; # meal/day)	17.6
Got food on credit from a local merchant	3.1
Moved to less expensive housing	…
Acquiring more food or money	
Used savings to feed the family	9.8
Received emergency food aid from the government or NGO	5.0
Used own savings to pay for other household necessities	4.6
Used savings to pay for health-care expenses	2.0
Relied on remittances from a relative that migrated	1.3
Received permanent direct support food from the government or NGO	1.1
Received emergency cash transfer from the government or NGO	0.9
Used savings to buy livestock	0.5
Took out a loan (with interest) from a (formal) bank	0.4
Took out a loan (no interest) from friends or relatives outside of the community	0.3
Unconditional gift of money (not remittances) or food from family, friends, church/mosque or other group outside of community	0.3
Sent children to work for money (e.g., domestic service)	0.3
Unconditional gift of money (not remittances) or food from family, friends, church/mosque, or other group within community	0.3
Used savings to pay for education costs	0.3
Received permanent direct support cash transfer from the government or NGO	0.3
Took up new/additional work (casual labor, wage labor)	0.2
Took out a loan (with interest) from an MFI/RUSACCO	0.1
Took out a loan (no interest) from friends or relatives within the community	0.7
Sold household items (e.g., radio, bed)	…
Took out a loan (with interest) from a money-lender	…
Sold productive assets (e.g., plough, water pump)	…
Used savings to buy productive inputs	…
Participated in government or NGO food-for-work or cash-for-work activities (conditional)	…
Used own savings to pay for repairs to dwelling or structures	…
Coronavirus-specific	
Washed hands with water and soap	18.3
Quarantine	16.6
Washed hands more frequently	10.3
Avoided contact with sick member	3.7
Sought help at a health clinic	1.7
Used physical separation to distance sick member from others	0.7
Other	
Engaged in spiritual efforts (e.g., prayed, sacrifices, etc.)	1.3
Did nothing	5.7
Other (specify)	0.3
Don't know/Refused	…
Number of responding households	635

NOTES: Includes only households that are aware of COVID-19 and experienced impacts to their livelihoods due to COVID-19. Multiple responses allowed. Totals may add up to more than 100 percent.

Table 52: Coping Strategies for COVID-19 Impacts on Food Security

	ViMPlus
Livestock and land holdings	
Sold livestock at lower price (no demand due to lockdowns or other restrictions)	26.0
Sold livestock	14.5
Sent livestock in search of pasture	5.3
Slaughtered livestock	2.5
Leased out land	…
Seeds	
Consumed saved seeds	21.5
Consumed saved crops from household's prior harvest	5.0
Migration	
Sent children or an adult to stay with relatives/others	1.6
Migrate (only some family members)	0.7
Migrate (the whole family)	0.2
Reduce current expenditure	
Took children out of school	39.6
Reduced food consumption (quantity/meal; # meal/day)	32.1
Reduced non-essential household expenses	27.3
Got food on credit from a local merchant	3.6
Moved to less expensive housing	0.5
Acquiring more food or money	
Used savings to feed the family	14.9
Used own savings to pay for other household necessities	6.2
Received emergency food aid from the government or NGO	6.2
Used savings to pay for health-care expenses	1.9
Relied on remittances from a relative that migrated	1.7
Used savings to pay for education costs	1.2
Took up new/additional work (casual labor, wage labor)	1.0
Used own savings to pay for repairs to dwelling or structures	0.8
Received permanent direct support food from the government or NGO	0.7
Sent children to work for money (e.g., domestic service)	0.5
Took out a loan (with interest) from a (formal) bank	0.4
Received emergency cash transfer from the government or NGO	0.4
Used savings to buy livestock	0.3
Unconditional gift of money (not remittances) or food from family, friends, church/mosque, or other group within community	0.2
Received permanent direct support cash transfer from the government or NGO	0.2
Took out a loan (with interest) from a money-lender	0.1
Sold productive assets (e.g., plough, water pump)	0.1
Unconditional gift of money (not remittances) or food from family, friends, church/mosque or other group outside of community	0.1
Participated in government or NGO food-for-work or cash-for-work activities (conditional)	0.1
Took out a loan (with interest) from an MFI/RUSACCO	0.1
Took out a loan (no interest) from friends or relatives within the community	1.2
Sold household items (e.g., radio, bed)	…
Took out a loan (no interest) from friends or relatives outside of the community	…
Used savings to buy productive inputs	…
Other	
Engaged in spiritual efforts (e.g., prayed, sacrifices, etc.)	0.3

	ViMPlus
Did nothing	7.4
Other (specify)	…
Number of responding households	692
NOTES: Includes only households that are aware of COVID-19 and experienced impacts to their food security due to COVID-19. Multiple responses allowed. Totals may add up to more than 100 percent.	

ANNEX 7: BHA BURKINA FASO BIVARIATE AND MULTIVARIATE STATISTICAL TABLES

Table 53: Percentage of households by food consumption score (FCS) groups and household characteristics

	ViMPlus				
		Poor FCS	Borderline FCS	Acceptable FCS	
	No. of HHs	%	%	%	Sig.[a]
Percentage of households by FCS groups	**720**	**2.5**	**13.7**	**83.8**	
Access to or use of financial services[1]					
Accessed at least one ag-related financial service (credit, savings, insurance)					
No	405	3.3	17.5	79.2	ns
Yes	315	1.7	10.2	88.1	
Took out a loan (ag credit, in cash or in-kind)					
No	616	2.3	13.2	84.5	ns
Yes	104	3.3	17.0	79.7	
Saved cash					
No	443	3.7	18.6	77.7	ns
Yes	277	1.0	8.1	90.9	
Insured ag production against loss (insurance)					
No	712	2.5	13.8	83.7	ns
Yes	8	0.0	7.7	92.3	
HH participates in group-based savings, microfinance or lending programs					
No	700	2.6	13.9	83.7	ns
Yes	20	0.0	8.4	91.6	
HH participates in group-based saving programs					
No	686	2.6	14	83.5	ns
Yes	34	0.0	9.4	90.6	
HH participates in group-based credit programs					
No	702	2.5	13.8	83.7	ns
Yes	18	0.0	9.4	90.6	
Livestock holdings[2]					
Raised at least one type of livestock					
No	169	4.2	23.7	72.1	*
Yes	551	2.0	11.1	86.9	
Raised goats					
No	336	3.8	17.1	79.1	*
Yes	384	1.3	10.9	87.8	
Raised sheep					
No	293	2.8	18.6	78.7	ns
Yes	427	2.3	10.8	86.9	
Raised poultry					
No	345	3.5	17.9	78.6	*
Yes	375	1.5	10.0	88.5	

	ViMPlus				
Adoption of targeted improved crop management practices[3]					
Used at least one improved crop management practice - any crop					
No	25	3.7	20.9	75.4	ns
Yes	695	2.4	13.6	84.0	
Dug zai pits					
No	247	2.6	15.3	82.0	ns
Yes	473	2.4	12.9	84.7	
Dug agri half-moons					
No	619	2.5	14.8	82.6	ns
Yes	101	2.1	5.0	92.9	
Applied organic manure					
No	192	3.3	14.8	81.9	ns
Yes	528	2.2	13.4	84.4	
Applied phosphatic manure					
No	525	2.3	13.3	84.4	ns
Yes	195	3.1	15.2	81.7	
Applied compost					
No	632	2.6	13.2	84.2	ns
Yes	88	1.8	17.0	81.1	
Applied microdoses of fertilizer					
No	706	2.5	13.9	83.6	ns
Yes	14	0.0	4.8	95.2	
Controlled sida cordifolia growth					
No	717	2.4	13.8	83.8	ns
Yes	3	25.0	0.0	75.0	
Performed at least 3 weedings					
No	612	2.5	14	83.5	ns
Yes	108	2.1	12.4	85.5	
Delayed seedlings until 3rd/4th rains to control pests					
No	675	2.4	13.9	83.7	ns
Yes	45	3.4	10.1	86.5	
Sowed after useful rain					
No	227	1.5	13.3	85.2	ns
Yes	493	3.0	13.9	83.1	
Performed crop association					
No	578	2.9	13.7	83.5	ns
Yes	142	1.1	14.0	84.9	
Performed crop rotation					
No	689	2.5	13.7	83.7	ns
Yes	31	0.0	14.2	85.8	
Used Seed treatment w/fungicides					
No	684	2.7	14.4	82.9	ns
Yes	36	0.0	5.0	95.0	
Used improved seeds					
No	662	2.7	14	83.3	ns
Yes	58	0.8	11.3	87.9	
Used climate information					
No	718	2.5	13.8	83.8	ns
Yes	2	0.0	0.0	100.0	
Used modern agricultural equipment					
No	620	3.1	15.6	81.3	*

	ViMPlus				
Yes	100	0.0	6.1	93.9	
Used agricultural credit					
No	716	2.5	13.8	83.7	ns
Yes	4	0.0	0.0	100.0	
Adoption of targeted improved post-harvest handling and storage practice/technique[4]					
Used at least one improved post-harvest handling/storage practice - any crop					
No	414	2.6	11.1	86.3	ns
Yes	306	2.3	17.8	79.9	
Used locally made storage structure- any crop					
No	663	2.2	13	84.9	*
Yes	57	7.7	27.2	65.1	
Used sealed/airtight bags - any crop					
No	491	3.2	11.5	85.3	ns
Yes	229	0.8	19	80.2	
Used community storage facility - any crop					
No	673	2.3	14.1	83.6	ns
Yes	47	5.6	7.1	87.3	
Used solar/fuel-powered dryers - any crop					
No	711	2.5	13.5	84.0	ns
Yes	9	0.0	31.5	68.5	
Used seed/grain treatment pest control tech. - any crop					
No	704	2.3	13.6	84.0	ns
Yes	16	8.4	19.7	71.9	
Used agrochemical grain treatment - any crop					
No	698	2.5	13.6	83.9	ns
Yes	22	0.0	18.1	81.9	
Used triple bags - any crop					
No	628	2.8	12.6	84.5	ns
Yes	92	0.0	20.7	79.3	
Used other post-harvest practices - any crop					
No	714	2.5	13.9	83.5	ns
Yes	6	0.0	0	100.0	
Used at least one improved livestock management practice - any livestock[5]					
No	185	4.5	24.2	71.3	*
Yes	535	1.9	10.6	87.5	
Household harvest for the current season					
Household harvested crops in the current season					
Did not harvest any crops	580	1.9	13.4	84.7	ns
Less than 25 percent	102	8.2	16.2	75.6	
25 - 50 percent	33	0.0	13.2	86.8	
More than 50 percent	5	0.0	20	80.0	
Impact of COVID-19 on household livelihood/food security					
Household livelihood was impacted by COVID-19					
No	108	3.9	17	79.1	ns
Yes	612	2.3	13.3	84.5	
Household food security was impacted by COVID-19					

	ViMPlus				
No	54	4.6	14	81.4	ns
Yes	666	2.3	13.7	84.0	
Participation in social assistance programs					
HH participated in the RFSA					
No	249	2.2	12.9	84.9	ns
Yes	471	2.7	14.3	83.1	
HH received food rations - any donor					
No	376	2.9	15.1	82.5	ns
Yes	344	2.0	10.4	87.6	
HH participated in nutrition trainings/meetings - any donor					
No	370	2.4	15.1	82.5	ns
Yes	350	2.6	11.8	85.6	
HH participated in agriculture-related trainings/meetings - any donor					
No	284	3.4	14.1	82.5	ns
Yes	426	1.7	13.4	84.8	
Food rations					
Did not receive any food rations	376	2.9	16.8	80.3	(ref.)
Received food rations through BHA RFSA[6]	240	1.9	10.5	87.6	ns
Received food rations through other social assistance programs[7]	104	2.1	10.2	87.7	ns
Nutrition trainings/meetings					
Did not participate in any nutrition trainings/meetings	370	2.4	15.1	82.5	(ref.)
Participated in nutrition trainings/meetings through BHA RFSA	291	3.2	13.1	83.7	ns
Participated in nutrition trainings/meetings through other social assistance programs[7]	59	0.0	6.7	93.3	ns
Agriculture trainings/meetings					
Did not participate in any ag trainings/meetings	294	3.4	14.1	82.5	(ref.)
Participated in ag trainings/meetings through BHA RFSA	327	2.0	14.0	84.0	ns
Participated in ag trainings/meetings through other social assistance programs[7]	99	1.0	12.0	87.0	ns
Number of responding households	720	25	117	578	

NOTES: Sample restricted to households with data available across all covariates.

[a] Significance tests were performed to determine whether an association exists between the outcome indicator (FCS groups) and the disaggregate variables. Associations found to be statistically significant are indicated by level: * p<0.05, ** p<0.01, *** p<0.001; ns=not significant.

[1] A household is considered to access or use a financial service if at least one member accessed or used the services. For ag-related measures of use of financial services, a household is considered to have used a financial service if any farmer reported taking out an agriculture loan, participating in an agriculture saving scheme, or taking out agricultural insurance. Similarly, a household is considered to have accessed group-based savings, loans or microfinance if any member in the household participated in a community-based savings group or community based-lending or microfinance group.

[2] A household is considered to raise at least one livestock if at least one farmer reported raising any of the livestock of interest (goats, sheep, and poultry).

	ViMPlus
[3] A household is considered to be using at least one improved crop management practices if at least one farmer reported using any of the promoted practices for any one of the crops of interest (sorghum, cowpeas, and rice). [4] A household is considered to be using at least one improved post-harvest practice if at least one farmer reported using any of the promoted practices for any one of the crops of interest (sorghum, cowpeas, and rice). [5] A household is considered to be using at least one improved livestock management practices if at least one farmer reported using any of the promoted practices for any one of the livestock of interest (goats, sheep, or poultry). [6] Defined as households who reported participating in the RFSA and receiving/participating in the specific intervention (e.g., food rations, nutrition trainings/meetings, ag trainings/meetings). [7] Defined as households who reported not participating in the RFSA but reported receiving/participating in the specific intervention (e.g., food rations, nutrition trainings/meetings, ag trainings/meetings).	

Table 54: Mean Household Food Consumption Score (FCS) by Household Characteristics and Practices

	ViMPlus		
	N	Mean FCS	Sig.[a]
All households	**720**	**53.5**	
Access to or use of financial services[1]			
Accessed at least one ag-related financial service (credit, savings, insurance)			
No	405	50.0	†
Yes	315	56.7	
Took out a loan (ag credit, in cash or in-kind)			
No	616	53.3	ns
Yes	104	54.4	
Participated in agri-related savings scheme			
No	443	49.8	*
Yes	277	57.6	
Insured ag production against loss (insurance)			
No	712	53.4	ns
Yes	8	62.9	
HH participated in group-based savings, microfinance or lending programs			
No	686	52.7	†
Yes	34	68.0	
HH participated in group-based saving programs			
No	700	52.7	*
Yes	20	73.2	
HH participated in group-based credit programs			
No	702	53.4	ns
Yes	18	55.3	
Livestock holdings[2]			
Raised at least one type of livestock			
No	169	49.8	†
Yes	551	54.4	
Raised goats			
No	336	51.0	*
Yes	384	55.6	
Raised sheep			
No	293	51.4	†

	ViMPlus		
Yes	427	54.7	
Raised poultry			
No	345	52.1	†
Yes	375	54.7	
Adoption of targeted improved crop management practices[3]			
Used at least one improved crop management practice - any crop			
No	25	54.1	ns
Yes	695	53.5	
Dug zai pits			
No	247	55.4	ns
Yes	473	52.5	
Dug agri half-moons			
No	619	53.6	ns
Yes	101	52.6	
Applied organic manure			
No	192	54.5	ns
Yes	528	53.1	
Applied phosphatic manure			
No	525	54.0	ns
Yes	195	51.7	
Applied compost			
No	632	53.8	ns
Yes	88	51.3	
Applied microdoses of fertilizer			
No	706	53.5	ns
Yes	14	52.7	
Controlled sida cordifolia growth			
No	717	53.5	†
Yes	3	38.0	
Performed at least 3 weedings			
No	612	52.7	ns
Yes	108	57.6	
Delayed seedlings at 3rd/4th rains to control pests			
No	675	53.2	ns
Yes	45	58.1	
Sowed after useful rain			
No	227	55.3	ns
Yes	493	52.5	
Performed crop association			
No	578	52.8	ns
Yes	142	52.4	
Performed crop rotation			
No	689	53.6	ns
Yes	31	49.1	
Used Seed treatment w/fungicides			
No	684	52.6	***
Yes	36	64.8	
Used improved seeds			
No	662	53.0	ns
Yes	58	57.2	
Used climate information			
No	718	53.4	†

	ViMPlus		
Yes	2	61.8	
Used modern agricultural equipment			
No	620	52.2	ns
Yes	100	58.5	
Used agricultural credit			
No	716	53.5	ns
Yes	4	52.0	
Adoption of targeted improved post-harvest handling and storage practices[4]			
Used at least one improved post-harvest handling/storage practice - any crop			
No	414	55.9	**
Yes	306	49.7	
Used local made storage - any crop			
No	663	54.0	**
Yes	57	43.7	
Used sealed/airtight bags - any crop			
No	491	55.5	*
Yes	229	48.6	
Used community storage facility - any crop			
No	673	54.0	***
Yes	47	44.6	
Used solar/fuel-powered dryers - any crop			
No	711	53.5	ns
Yes	9	49.3	
Used seed/grain treatment pest control tech. - any crop			
No	704	53.7	†
Yes	16	43.8	
Used agrochemical grain treatment - any crop			
No	698	53.6	ns
Yes	22	48.5	
Used triple bags - any crop			
No	628	53.6	ns
Yes	22	48.5	
Used other post-harvest practices - any crop			
No	714	53.5	ns
Yes	6	49.7	
Adoption of targeted improved livestock practices[5]			
Used at least one improved livestock management practice - any livestock			
No	185	49.3	*
Yes	535	54.7	
Completion of harvest for the 2020 season			
Percentage of harvest completed by the household in the current season			
Did not harvest any crops in the current season	580	54.1	ns
Less than 25 percent	102	48.6	
25 - 50 percent	33	53.2	
More than 50 percent	5	54.5	
Impact of COVID-19 on household livelihood/food security			
Household livelihood was impacted by COVID-19			
No	108	51.2	ns
Yes	612	53.8	

	ViMPlus		
Household food security was impacted by COVID-19			
No	54	52.8	ns
Yes	666	53.5	
Participation in social assistance programs			
HH participated in the RFSA			
No	249	54.6	ns
Yes	471	52.7	
HH received food rations - any donor			
No	376	53.0	ns
Yes	344	54.0	
HH participated in nutrition trainings/meetings - any donor			
No	370	52.8	ns
Yes	350	54.3	
HH participated in agriculture-related trainings/meetings - any donor			
No	294	52.6	ns
Yes	426	54.2	
Food rations by RFSA participation status			
Did not receive any food rations	376	53.0	(ref.)
Received food rations through BHA RFSA[6]	240	53.6	ns
Received food rations through other social assistance programs[7]	104	54.5	ns
Nutrition trainings/meetings by RFSA participation status			
Did not participate in any nutrition trainings/meetings	370	52.8	(ref.)
Participated in nutrition trainings/meetings through BHA RFSA[6]	291	53.1	ns
Participated in nutrition trainings/meetings through other social assistance programs[7]	59	59.2	†
Agriculture trainings/meetings by RFSA participation status			
Did not participate in any ag trainings/meetings	294	52.6	(ref.)
Participated in ag trainings/meetings through BHA RFSA[6]	327	53.2	ns
Participated in ag trainings/meetings through other social assistance programs[7]	99	56.9	ns

[a] Significance tests were performed to determine whether an association exists between the outcome indicator (FCS groups) and the disaggregate variables. Associations found to be statistically significant are indicated by level: * p<0.05, ** p<0.01, *** p<0.001; † < 0.1; ns=not significant.

[1] A household is considered to access or use a financial service if at least one member accessed or used the services. For ag-related measures of use of financial services, a household is considered to have used a financial service if any farmer reported taking out an agriculture loan, participating in an agriculture saving scheme, or taking out agricultural insurance. Similarly, a household is considered to have accessed group-based savings, loans or microfinance if any member in the household participated in a community-based savings group or community based-lending or microfinance group.

[2] A household is considered to raise at least one livestock if at least one farmer reported raising any of the three livestock of interest (goats, sheep, and poultry).

[3] A household is considered to be using at least one improved crop management practices if at least one farmer reported using any of the promoted practices for any one of the crops of interest (sorghum, cowpeas, and rice).

[4] A household is considered to be using at least one improved post-harvest practice if at least one farmer reported using any of the promoted practices for any one of the crops of interest (sorghum, cowpeas, and rice).

	ViMPlus
[5] A household is considered to be using at least one improved livestock management practices if at least one farmer reported using any of the promoted practices for any one of the livestock of interest (goats, sheep, or poultry).	
[6] Defined as households who reported participating in the RFSA and receiving/participating in the specific intervention (e.g., food rations, nutrition trainings/meetings, ag trainings/meetings).	
[7] Defined as households who did not report participating in the RFSA but reported receiving/participating in the specific intervention (e.g., food rations, nutrition trainings/meetings, ag trainings/meetings).	

Table 55: Multivariate Logistic Regression of Women's Minimum Dietary Diversity (MDD-W)

	Model 1	Model 2	Model 3	Model 4
Variables	OR	OR	OR	OR
Women's characteristics				
Women's age (ref.: 15-19 years)	.			
20 - 29 years	1.483	1.511	1.481	1.484
30-49 years	1.500+	1.556*	1.592*	1.588*
Women's education (ref.: none or less than primary)				
Primary	1.330	1.288	1.202	1.201
Secondary or higher	1.793*	1.707*	2.005*	1.970*
Pregnancy status (ref.: currently pregnant)				
Ever pregnant but not currently	0.757	0.744	0.823	0.800
Never pregnant	0.879	0.932	0.991	0.970
Participation in income generating activities (ref.: does not participate in cash-earning activities)	1.501*	1.449*	1.432*	1.447*
Household socio-demographic characteristics				
Gendered household type (ref.: Female and Male Adults)				
Female Adult Only	3.515+	4.122+	4.458*	4.373*
Male Adult Only	-	-	-	-
Female-headed household (ref.: male-headed household)	0.528	0.505	0.497*	0.480*
Age of household head (ref.: 18-24 years)				
25-34 years	0.508	0.526	0.458	0.451
35-44 years	0.449+	0.436+	0.334+	0.329+
45+ years	0.408	0.414	0.306	0.297
Education of household head				
Primary or higher (ref.: primary or none)	2.790***	2.701***	3.052**	2.774*
Household size (2-37)	1.014	1.010	1.001	1.002
COVID-19 impact on household (ref.: was not impacted)				
Not applicable/no impact	2.870*	2.803*	1.873*	1.800+
Not applicable/food security unaffected	0.208**	0.197**	0.315*	0.299*
Household food consumption				
Household harvested crops in current season (ref.: did not harvest any crops)				
Harvested less than 25 percent	0.512	0.463	0.421	0.437
Harvest 25 - 50 percent	1.673	1.501	1.214	1.235
Harvest more than 50 percent	0.291	0.258	0.142*	0.151*
Household livestock holdings (ref.: did not raise livestock)				
Raised goats	1.820**	1.744**	2.014**	2.020**
Raised sheep	1.250	1.240	1.182	1.139
Raised poultry	2.197*	2.140+	2.406***	2.324***
Household use of or access to financial services				
Took out an agricultural loan (ref.: did not take out an ag-loan)		1.866**	2.122***	2.109***
Participated in an agricultural savings scheme (ref.: did not participate in ag-savings scheme)		1.180	1.495	1.532

	Model 1	Model 2	Model 3	Model 4
Participated in group-based saving programs (ref.: did not participate)		1.980	1.897	1.904
Participated in group-based credit programs (ref.: did not participate)		1.592	2.073	2.216
Household adoption of targeted improved crop practices[1]				
Dug zai pits			1.316	1.284
Dug agri half-moons			0.975	0.957
Applied organic manure			0.327*	0.335*
Applied phosphatic manure			1.373	1.333
Applied compost			0.770	0.788
Applied microdoses of fertilizer			1.240	1.319
Controlled sida cordifolia growth			5.603+	4.645
Performed at least 3 weedings			0.537*	0.500*
Delayed seedlings until 3rd/4th rains to control pests			4.552*	4.436*
Sowed after useful rain			1.005	0.943
Performed crop association			0.567*	0.566*
Performed crop rotation			0.812	0.756
Used Seed treatment w/fungicides			1.127	1.271
Used improved seeds			0.404+	0.398+
Used modern ag equipment			3.617*	3.367+
Used ag credit			0.165*	0.163**
Household adoption of targeted improved post-harvest handling and storage practices[1]				
Used local made storage			0.322*	0.316*
Used sealed/airtight bags			1.164	1.117
Used community storage facility			0.485	0.468
Used solar/fuel-powered dryers			5.600*	5.104*
Used seed/grain treatment pest control technique			1.378	1.267
Used agrochemical grain treatment			0.612	0.641
Used triple bags			0.826	0.793
Household adoption of targeted improved post-harvest handling and storage practices[1]				
Used at least one improved livestock management practice			1.105	1.161
Household participation in social assistance				
Participated in a BHA RFSA (ref.: HH did not participate in a RFSA)				0.946
Received food rations - any donor (ref.: did not receive food rations)				0.813
Participated in nutrition trainings/meetings - any donor (ref.: did not participate)				1.514
Participated in agriculture-related trainings/meetings - any donor (ref.: did not participate)				1.049
Constant	0.328	0.301+	0.444	0.551
Number of women 15-49 years	1,462	1,462	1,459	1,459

* p<0.05, ** p<0.01, *** p<0.001; † < 0.1
NOTES: Analytical sample was restricted to women 15-49 with data available across all covariates. A misspecification-link and Hosmer-Lemeshow tests were conducted and suggest adequate model specification and fit.
[1] Reference category includes households that did not adopt the targeted improved practice.

Table 56: OLS Regression of Household Food Consumption Score, ViMPlus

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	Coef.	Coef.	Coef.	Coef.	Coef.	Coef.
Household socio-demographic characteristics						
Female-headed household (ref.:male-headed)	0.846	-0.708	0.278	1.140	1.480	1.822
Age of household head (18-98 years)	-0.055	-0.039	-0.048	-0.053	-0.056	-0.058
Gendered household type (ref.: Male and Female Adults)						
Female adult only	-7.028+	-4.147	-3.773	-5.793	-6.341	-7.236*
Male adult only	2.988	3.734	5.763+	-2.462	-3.004	-1.062
Household size (1-37)	-0.215	-0.306*	-0.351*	-0.221	-0.251	-0.188
Household use of or access to financial services						
Took out an agricultural loan (ref.: did not take out an ag-loan)		0.471	0.216	-0.557	-0.372	-0.841
Participated in an agricultural savings scheme (ref.: did not participate in ag-savings scheme)		4.259	3.233	4.082*	3.973*	3.686*
Participated in group-based saving programs (ref.: did not participate)		19.975*	19.882*	23.384*	23.497*	24.358**
Participated in group-based credit programs (ref.: did not participate)		1.535	1.426	2.492	3.322	2.757
Household livestock holdings (ref.: did not raise livestock)						
Raised goats			4.021*	2.498+	2.584+	2.490
Raised sheep			-0.278	-0.174	-0.535	-0.709
Raised poultry			2.551+	1.431	0.891	0.757
Household adoption of targeted improved crop practices[1]						
Dug zai pits				-1.226	-1.187	-2.179
Dug agri half-moons				-0.719	-0.098	-1.504
Applied organic manure				-3.985*	-3.770*	-3.116*
Applied phosphatic manure				1.311	1.725	1.351
Applied compost				-3.204	-2.862	-2.280
Applied microdoses of fertilizer				5.550	5.668	7.097+
Controlled sida cordifolia growth				-13.228+	-11.868+	-14.172**
Performed at least 3 weedings				2.916	3.435	2.603
Delayed seedlings until 3rd/4th rains to control pests				8.508***	9.079***	8.520**
Sowed after useful rain				-4.231*	-3.671*	-4.505*
Performed crop association				-4.601**	-4.466*	-4.465*
Performed crop rotation				0.090	0.776	0.213
Used Seed treatment w/fungicides				10.897***	10.802***	12.746***
Used improved seeds				-2.146	-2.299	-4.253*
Used climate information				20.802***	20.684***	20.751***
Used modern ag equipment				4.040	4.658+	4.004*
Used ag credit				0.525	0.968	1.630

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Household adoption of targeted improved post-harvest handling and storage practices[1]						
Used local made storage				-6.753+	-5.828	-6.163+
Used sealed/airtight bags				-2.034	-2.413	-2.593
Used community storage facility				-5.156*	-4.675*	-5.490**
Used solar/fuel-powered dryers				-3.668	-2.421	-4.336
Used seed/grain treatment pest control technique				-9.840*	-10.227**	-11.650**
Used agrochemical grain treatment				3.093	3.221	3.658+
Used triple bags				3.483	3.501	2.894
Household adoption of targeted improved livestock management practices[1]						
Used at least one improved livestock management practice				1.756	2.519	2.870
Household impact due to shock exposure (COVID-19)						
Household livelihood impacted by COVID-19 (ref.: household livelihood not impacted by COVID-19)					2.487	1.183
Household food security impacted by COVID-19 (ref.: household food security not impacted by COVID-19)					-1.238	-1.677
Household harvested crops in current season (ref.: did not harvest any crops)						
Harvested less than 25 percent					-6.671*	-6.606*
Harvest 25 - 50 percent					-1.374	-0.979
Harvest more than 50 percent					0.861	-0.389
Household participation in social assistance						
Participated in a BHA RFSA (ref.: HH did not participate in a RFSA)						0.162
Received food rations - any donor (ref.: did not receive food rations)						-0.674
Participated in nutrition trainings/meetings - any donor (ref.: did not participate)						5.439**
Participated in agriculture-related trainings/meetings - any donor (ref.: did not participate)						2.266+
Constant	60.398***	57.971***	55.899***	62.121***	60.348***	59.219***
Number of households	720	720	720	720	720	720
R-squared	0.157	0.217	0.237	0.339	0.348	0.372

* p<0.05, ** p<0.01, *** p<0.001; † < 0.1
NOTES: Household FCS ranges from 0 to 112. Analytical sample was restricted to households with data available across all covariates.
All models include village dummies. Coefficients not shown.
[1] Reference category includes households that did not adopt the targeted improved practice.

Table 57: Percentage of Sorghum Farmers Applying Targeted Improved Crop and Post-Harvest Practices by Use of Agricultural-Related Financial Services

ViMPlus										
	All farmers	Used any agri-related financial services			Obtained agri-credit			Participated in agri-saving schemes		
	%	Yes	No	Sig.[a]	Yes	No	Sig.[a]	Yes	No	Sig.[a]
Improved crop management practices										
Use of improved seeds	6.7	10.3	3.3	***	13.7	5.6	**	11.4	3.2	***
Control of sida cordifolia growth	0.2	0.0	0.3	ns	0.0	0.2	ns	0.0	0.3	ns
Crop association	20.0	19.3	20.7	ns	11.7	21.3	*	19.2	20.6	ns
Crop rotation	3.0	2.5	3.4	ns	1.3	3.2	ns	2.6	3.2	ns
Sowing after useful rain	62.6	61.6	63.6	ns	74.0	60.9	ns	61.7	63.3	ns
Farmer managed natural regeneration (fmnr)	27.9	34.9	21.5	*	49.4	24.6	*	35.3	22.5	*
Delimitation of animal corridors and pasture areas	33.4	36.7	30.4	ns	21.1	35.3	ns	39.6	28.9	ns
Protection of ponds against silting up	35.0	27.0	42.2	*	22.4	36.9	ns	27.4	40.5	ns
Functional community-based conflict management mechanisms	4.0	2.6	5.3	ns	5.2	3.9	ns	2.2	5.4	ns
Recovery of degraded lands	5.0	5.7	4.4	ns	6.5	4.7	ns	5.5	4.6	ns
Develop low-lying or market gardens	1.8	1.0	2.5	ns	3.6	1.5	*	1.0	2.4	ns
Delay of seedlings until third or fourth rains to control pests	2.6	0.2	4.9	***	0.6	2.9	*	0.0	4.5	ns
Seed treatment with fungicides	5.8	8.4	3.5	*	0.0	6.7	ns	9.5	3.2	**
Zai pits	62.5	69.5	56.1	*	70.5	61.2	ns	70.7	56.5	*
Organic manure	70.4	75.2	66.1	*	81.3	68.8	*	75.1	67.0	ns
Phosphatic manure	17.3	13.5	20.9	ns	26.1	16.0	ns	12.2	21.1	ns
Compost	`	12.2	12.4	ns	4.1	13.6	ns	12.9	11.9	ns
Microdoses of fertilizer	0.6	0.3	0.8	ns	1.2	0.5	ns	0.4	0.7	ns
Agricultural half-moons	8.3	8.8	7.9	ns	7.9	8.4	ns	8.4	8.3	ns
Use of climate information (rain	^	^	^	ns	^	^		^	^	

ViMPlus										
forecast, disaster risks, etc.)										
Performing at least three weedings	12.5	15.9	9.4	ns	40.9	8.1	***	16.0	9.9	**
Use modern agricultural equipment	15.0	19.8	10.6	*	25.2	13.4	ns	22.3	9.6	ns
Use agricultural credit	0.3	0.7	0.0	ns	0.7	0.3	ns	0.8	0.0	ns
Number of responding sorghum farmers	751	303	448		102	649		262	489	
Improved post-harvest practices										
Locally made storage structures such as sheet metal silos	4.8	6.7	3.1	ns	4.3	4.9	ns	6.7	14.6	**
Sealed/airtight bags	17.9	15.7	19.9	ns	17.6	17.9	ns	7.0	4.2	ns
Community storage facilities, including warehouse receipting	3.2	2.6	3.8	ns	4.8	3.0	ns	1.3	3.8	*
Use of solar or fuel-powered dryers to reduce post-harvest moisture	^	^	^		^	^		0.1	0.2	
Seed or grain treatment techniques including botanical pest control agents or phytosanitary irradiation	0.4	0.7	0.2	ns	1.2	0.5	ns	0.9	0.2	ns
Grain treatment with agro-chemicals	0.6	0.8	0.3	ns	1.8	0.2	*	2.1	0.4	***
Triple bags for cowpea grain preservation	5.3	6.8	3.9	ns	7.8	4.9	ns	0.2	0.6	ns
Other post-harvest practices that reduce pre-storage losses	1.5	1.7	1.4	ns	0.0	1.8	ns	2.0	2.7	ns
Number of responding sorghum farmers	723	294	429		99	624		257	466	

ViMPlus
NOTES: [a] Significance tests were performed to determine whether an association exists between the outcome indicator (use of targeted improved practice) and the disaggregate variables. Associations found to be statistically significant are indicated by level: * p<0.05, ** p<0.01, *** p<0.001; ns=not significant.

Table 58: Percentage of Cowpea Farmers Applying Targeted Improved Crop and Post-Harvest Practices by Use of Agricultural-Related Financial Services

Vim Plus										
	All farmers	Used any agri-related financial services			Obtained agri-credit			Participated in agri-saving schemes		
	%	Yes	No	Sig.[a]	Yes	No	Sig.[a]	Yes	No	Sig.[a]
Improved crop management practices										
Use of improved seeds	8.1	13.0	3.4	***	24.5	5.7	***	14.0	3.3	***
Control of sida cordifolia growth	0.1	0.3	0.0	ns	1.1	0.0	***	0.3	0.0	ns
Crop association	16.4	14.6	18.1	ns	8.9	17.5	*	14.2	18.2	ns
Crop rotation	1.6	1.4	1.8	ns	1.2	1.7	ns	1.5	1.7	ns
Sowing after useful rain	67.9	69.3	66.6	ns	71.9	67.3	ns	69.6	66.5	ns
Farmer managed natural regeneration (fmnr)	24.5	30.8	18.3	*	56.3	19.8	*	30.9	19.2	*
Delimitation of animal corridors and pasture areas	33.7	38.7	28.8	*	18.1	36.0	ns	41.2	27.5	**
Protection of ponds against silting up	32.4	25.1	39.4	*	20.3	34.1	ns	25.0	38.4	ns
Functional community-based conflict management mechanisms	3.8	2.6	4.9	ns	3.7	3.8	ns	2.5	4.8	ns
Recovery of degraded lands	4.6	4.5	4.7	ns	4.8	4.6	ns	4.4	4.8	ns
Develop low-lying or market gardens	1.2	0.8	1.5	ns	3.3	0.9	*	0.8	1.5	ns
Delay of seedlings until third or fourth rains to control pests	4.0	0.1	7.8	ns	0.5	4.5	**	0.0	7.3	*

Vim Plus										
Seed treatment with fungicides	8.2	11.0	5.6	ns	0.0	9.5	ns	12.0	5.1	*
Zai pits	26.8	23.3	30.3	ns	27.7	26.7	ns	23.2	29.8	ns
Organic manure	67.4	71.8	63.1	ns	62.9	68.1	ns	71.5	64.1	ns
Phosphatic manure	18.1	15.1	20.9	ns	32.1	16.0	ns	14.7	20.8	ns
Compost	`	10.7	8.7	ns	1.6	10.9	*	11.8	8.0	ns
Microdoses of fertilizer	0.7	0.8	0.7	ns	0.0	0.8	ns	0.9	0.6	ns
Agricultural half-moons	5.5	4.9	6.1	ns	5.1	5.5	ns	4.5	6.3	ns
Use of climate information (rain forecast, disaster risks, etc.)	0.1	0.1	0.0	ns	0.0	0.1	ns	0.1	0.0	ns
Performing at least three weedings	12.0	16.8	7.4	*	49.0	6.6	***	16.8	8.1	ns
Use modern agricultural equipment	21.9	30.2	13.8	***	31.7	20.5	ns	33.1	12.8	***
Use agricultural credit	0.3	0.6	0.0	ns	0.6	0.2	ns	0.6	0.0	ns
Number of responding cowpea farmers	822	331	491		105	717		294	528	
Improved post-harvest practices										
Locally made storage structures such as sheet metal silos	1.4	1.8	1.0	ns	1.1	1.4	ns	1.8	1.0	ns
Sealed/airtight bags	16.1	14.2	18.0	ns	17.2	16.0	ns	14.3	17.7	ns
Community storage facilities, including warehouse receipting	2.3	2.3	2.2	ns	2.1	2.3	ns	2.3	2.3	ns
Use of solar or fuel-powered dryers to reduce post-harvest moisture	0.6	0.7	0.4	ns	1.6	0.4	**	0.2	0.9	ns
Seed or grain treatment techniques including botanical pest control agents or	0.9	1.3	0.6	ns	1.6	0.8	ns	1.4	0.5	ns

Vim Plus										
phytosanitary irradiation										
Grain treatment with agro-chemicals	1.8	1.1	2.5	ns	1.7	1.8	ns	1.0	2.5	ns
Triple bags for cowpea grain preservation	8.4	8.1	8.6	ns	9.9	8.1	ns	8.6	8.1	ns
Other post-harvest practices that reduce pre-storage losses	0.1	0.1	0.0	ns	0.0	0.1	ns	0.2	0.0	ns
Number of responding cowpea farmers who stored their harvest	806	328	478		104	702		291	515	

NOTES:
[a] Significance tests were performed to determine whether an association exists between the outcome indicator (use of targeted improved practice) and the disaggregate variables. Associations found to be statistically significant are indicated by level: * p<0.05, ** p<0.01, *** p<0.001; ns=not significant.

Table 59: Percentage of Rice Farmers Applying Targeted Improved Crop and Post-Harvest Practices by Use of Agricultural-Related Financial Services

ViMPlus										
	All farmers	**Used any agri-related financial services**			**Obtained agri-credit**			**Participated in agri-saving schemes**		
	%	**Yes**	**No**	**Sig.[a]**	**Yes**	**No**	**Sig.[a]**	**Yes**	**No**	**Sig.[a]**
Improved crop management practices										
Use of improved seeds	3.3	3.0	3.6	ns	7.9	2.0	ns	0.0	6.2	*
Respect of cultural calendar	3.4	4.2	2.5	ns	3.1	3.5	ns	4.8	2.1	ns
Nursery preparation	47.4	40.3	56.1	ns	33.3	51.2	ns	34.2	59.3	ns
Farmer managed natural regeneration (fmnr)	20.4	31.4	7.3	*	56.3	11.0	**	28.6	13.1	ns
Delimitation of animal corridors and pasture areas	46.2	48.2	43.7	ns	42.3	47.2	ns	49.8	42.9	ns
Protection of ponds against silting up	54.2	38.2	73.5	ns	37.2	58.7	ns	35.9	70.7	ns
Functional community-based conflict management mechanisms	8.3	3.0	14.5	***	2.6	9.7	ns	3.5	12.5	*
Recovery of degraded lands	2.2	0.0	4.9	ns	0.0	2.8	ns	0.0	4.2	ns
Develop low-lying or market gardens	9.9	5.1	15.6	**	13.5	8.9	ns	5.9	13.4	ns
Weed control	15.5	12.2	19.4	ns	10.9	16.7	ns	11.8	18.8	ns
Pest control	17.4	10.1	26.2	ns	10.4	19.3	ns	9.4	24.7	ns
Soil preparation	78.6	76.0	81.8	ns	84.4	77.1	ns	75.8	81.2	ns
Organic manure	38.7	28.0	51.5	ns	26.2	42.0	ns	27.7	48.7	ns

ViMPlus										
Phosphatic manure	`	28.1	36.1	ns	37.0	30.3	ns	27.7	35.3	ns
Compost	13.5	5.9	22.6	ns	5.2	15.7	ns	6.8	19.5	ns
Mineral fertilizer	8.7	15.0	1.2	*	8.0	8.9	ns	14.9	3.2	ns
Water management	19.7	6.2	35.9	***	10.9	22.0	ns	6.0	32.0	**
Use of climate information (rain forecast, disaster risks, etc.)	0.6	1.2	0.0	ns	3.1	0.0	ns	1.4	0.0	ns
Use modern agricultural equipment	2.2	3.0	1.2	ns	0.0	2.8	ns	3.5	1.0	ns
Use agricultural credit	1.1	2.0	0.0	ns	5.2	0.0	ns	2.3	0.0	ns
Number of responding rice farmers	114	64	50		29	85		54	60	
Improved post-harvest practices										
Locally made storage structures such as sheet metal silos	0.6	1.1	0.0	ns	3.1	0.0	ns	1.2	0.0	ns
Sealed/airtight bags	20.8	19.0	22.9	ns	21.0	20.7	ns	19.6	22.0	ns
Community storage facilities, including warehouse receipting	5.2	1.0	10.2	*	3.0	5.7	ns	1.1	9.3	*
Use of solar or fuel-powered dryers to reduce post-harvest moisture	7.4	0.0	16.5	*	0.0	9.2	ns	0.0	15.0	*
Seed or grain treatment techniques including botanical pest control agents or phytosanitary irradiation	4.0	1.0	7.6	ns	0.0	5.0	ns	1.1	6.9	ns
Grain treatment with agro-chemicals	2.9	2.1	3.8	ns	6.0	2.1	ns	2.3	3.5	ns
Triple bags for cowpea grain preservation	15.0	8.6	22.8	ns	9.6	16.3	ns	9.4	20.7	ns
Other post-harvest practices that reduce pre-storage losses										
Number of responding rice farmers who stored their harvest	108	61	47		26	82		54	54	

NOTES:
[a] Significance tests were performed to determine whether an association exists between the outcome indicator (use of targeted improved practice) and the disaggregate variables. Associations found to be statistically significant are indicated by level: * p<0.05, ** p<0.01, *** p<0.001; ns=not significant.

Table 60: Percentage of Onion Farmers Applying Targeted Improved Crop and Post-Harvest Practices by Use of Agricultural-Related Financial Services

ViMPlus										
	All farmers	Used any agri-related financial services			Obtained agri-credit			Participated in agri-saving schemes		
	%	Yes	No	Sig.[a]	Yes	No	Sig.[a]	Yes	No	Sig.[a]
Improved crop management practices										
Use of improved seeds	na	na	na		na	na		na	na	
Control of sida cordifolia growth	na	na	na		na	na		na	na	
Crop association	3.5	7.3	0.0	ns	0.0	4.1	ns	7.5	0.0	ns
Crop rotation	3.5	0.0	6.7	ns	0.0	4.1	ns	0.0	6.5	ns
Sowing after useful rain	18.8	28.3	10.0	ns	32.5	16.2	ns	29.4	9.6	ns
Farmer managed natural regeneration (fmnr)	22.2	39.1	6.5	ns	10.8	24.2	ns	40.6	6.3	ns
Delimitation of animal corridors and pasture areas	57.1	64.5	50.2	ns	67.1	55.2	ns	67.0	48.5	ns
Protection of ponds against silting up	29.6	36.5	23.3	ns	12.9	32.7	ns	37.8	22.5	ns
Functional community-based conflict management mechanisms	12.0	17.8	6.7	ns	32.5	8.3	ns	18.4	6.5	ns
Recovery of degraded lands	13.6	21.1	6.7	ns	32.5	10.1	ns	21.8	6.5	ns
Develop low-lying or market gardens	8.9	11.2	6.7	ns	34.6	4.1	ns	11.6	6.5	ns
Delay of seedlings until third or fourth rains to control pests	8.5	10.6	6.5	ns	11.2	8.0	ns	7.3	9.5	ns
Seed treatment with fungicides	na	na	na		na	na		na	na	
Zai pits	17.1	25.0	9.7	ns	0.0	20.2	ns	26.0	9.4	ns
Organic manure	50.1	64.2	37.1	ns	32.9	53.3	ns	62.9	39.1	ns
Phosphatic manure	54.1	39.9	67.2	ns	45.8	55.6	ns	37.6	68.3	ns
Compost	`	3.5	13.3	ns	0.0	10.2	ns	3.6	12.9	ns
Microdoses of fertilizer	6.8	0.0	13.1	ns	0.0	8.1	ns	0.0	12.7	ns
Agricultural half-moons	6.7	0.0	13.0	ns	0.0	8.0	ns	0.0	12.6	ns
Use of climate information (rain forecast, disaster risks, etc.)	3.4	7.0	0.0	ns	21.7	0.0	ns	7.3	0.0	ns
Performing at least three weedings	12.2	18.2	6.7	ns	45.4	6.1	ns	18.9	6.5	ns
Use modern agricultural equipment	12.2	21.8	3.2	ns	24.1	10.0	ns	18.9	6.4	ns
Use agricultural credit	1.7	3.6	0.0	ns	11.2	0.0	ns	0.0	3.2	ns
Number of responding onion farmers	39	18	21		6	33		17	22	
Improved post-harvest practices										
Locally made storage structures such as sheet metal silos	na	na	na		na	na		na	na	

ViMPlus										
Sealed/airtight bags	3.6	0.0	7.2	ns	0.0	4.3	ns	0.0	7.0	ns
Community storage facilities, including warehouse receipting	1.8	3.5	0.0	ns	0.0	2.1	ns	3.6	0.0	ns
Use of solar or fuel-powered dryers to reduce post-harvest moisture	na	na	na		na	na		na	na	
Seed or grain treatment techniques including botanical pest control agents or phytosanitary irradiation	na	na	na		na	na		na	na	
Grain treatment with agro-chemicals	na	na	na		na	na		na	na	
Triple bags for peanut grain preservation	na	na	na		na	na		na	na	
Other post-harvest practices that reduce pre-storage losses	na	na	na		na	na		na	na	
Number of responding onion farmers who stored their harvest	37	18	19		6	31		17	20	

NOTES:
[a] Significance tests were performed to determine whether an association exists between the outcome indicator (use of targeted improved practice) and the disaggregate variables. Associations found to be statistically significant are indicated by level: * p<0.05, ** p<0.01, *** p<0.001; ns=not significant.

Table 61: Percentage of Goat Herders Applying Targeted Improved Livestock Practices by Use of Agricultural-Related Financial Services

ViMPlus										
	All farmers	**Used any agri-related financial services**			**Obtained agri-credit**			**Participated in agri-saving schemes**		
	%	**Yes**	**No**	**Sig.[a]**	**Yes**	**No**	**Sig.[a]**	**Yes**	**No**	**Sig.[a]**
Improved livestock management practices										
Improved fodder production	4.1	5.1	3.0	ns	5.0	3.9	ns	5.0	3.2	ns
Use of licking and/or multi-nutritional block	8.9	8.3	9.5	ns	6.4	9.4	ns	8.3	9.5	ns
Animal selection	12.3	12.6	12.5	ns	8.6	13.3	ns	11.9	13.0	ns
Vaccinations	95.5	95.2	95.4	ns	90.8	96.3	ns	96.8	94.0	ns
Antiparasitic treatments	24.8	34.4	29.4	ns	9.4	33.5	*	25.5	33.0	ns
Veterinary monitoring of food quality and quantity over time	2.3	0.0	1.2	ns	1.4	1.2	ns	2.0	0.5	ns
Weight monitoring	1.2	5.1	3.1	*	0.0	3.7	ns	1.3	4.6	*
Optimum weight-market price criteria for the sale decision	3.0	0.5	1.8	ns	0.0	2.2	ns	3.3	0.5	*
Use of para-veterinary services for goats and sheep	1.5	3.3	2.4	ns	2.1	2.4	ns	1.4	3.2	ns

ViMPlus										
Number of responding goat herders	464	191	273		59	405		169	295	

NOTES:
[a] Significance tests were performed to determine whether an association exists between the outcome indicator (use of targeted improved practice) and the disaggregate variables. Associations found to be statistically significant are indicated by level: * p<0.05, ** p<0.01, *** p<0.001; ns=not significant.

Table 62: Percentage of Sheep Herders Applying Targeted Improved Livestock Practices by Use of Agricultural-Related Financial Services

ViMPlus										
	All farmers	**Used any agri-related financial services**			**Obtained agri-credit**			**Participated in agri-saving schemes**		
	%	**Yes**	**No**	**Sig.[a]**	**Yes**	**No**	**Sig.[a]**	**Yes**	**No**	**Sig.[a]**
Improved livestock management practices										
Improved fodder production	4.0	3.3	4.8	ns	3.6	4.0	ns	3.1	5.0	ns
Use of licking and/or multi-nutritional block	11.3	8.6	14.7	ns	6.7	12.3	ns	8.5	14.3	ns
Animal selection	11.7	9.6	14.5	ns	6.7	12.9	ns	9.4	14.4	ns
Vaccinations	96.1	97.9	93.9	ns	95.9	96.2	ns	98.3	93.8	ns
Antiparasitic treatments	30.5	27.2	34.7	ns	10.0	35.1	ns	27.5	33.8	ns
Veterinary monitoring of food quality and quantity over time	2.4	2.9	1.7	ns	6.2	1.6	*	3.2	1.6	ns
Weight monitoring	3.9	2.4	5.9	ns	0.5	4.7	*	2.6	5.4	ns
Optimum weight-market price criteria for the sale decision	0.2	0.3	0.0	ns	0.0	0.2	ns	0.4	0.0	ns
Use of para-veterinary services for sheep	2.2	2.0	2.4	ns	0.5	2.5	ns	2.1	2.2	ns
Number of responding sheep herders	545	235	310		77	468		22	89	

NOTES:
[a] Significance tests were performed to determine whether an association exists between the outcome indicator (use of targeted improved practice) and the disaggregate variables. Associations found to be statistically significant are indicated by level: * p<0.05, ** p<0.01, *** p<0.001; ns=not significant.

Table 63: Percentage of poultry farmers applying targeted improved livestock practices by use of agricultural-related financial services

ViMPlus										
	All farmers	Used any agri-related financial services			Obtained agri-credit			Participated in agri-saving schemes		
	%	Yes	No	Sig.[a]	Yes	No	Sig.[a]	Yes	No	Sig.[a]
Improved livestock management practices										
Use of improved poultry variety/breed	6.6	7.6	5.0	ns	3.7	7.3	ns	7.5	5.4	ns
Use of improved feed	7.6	9.9	4.1	*	1.2	9.2	*	10.6	3.7	*
Use of improved shelters	14.0	14.7	13.0	ns	5.0	16.3	ns	15.4	12.3	ns
Vaccinations	94.9	96.3	92.8	ns	92.5	95.5	ns	97.8	91.2	*
Use of veterinary products and services (antibiotics, vitamins, etc.)	4.7	5.3	3.9	ns	3.8	5.0	ns	5.7	3.5	ns
Number of responding poultry farmers	430	206	224		70	360		185	245	

NOTES:
^ Results not statistically reliable, n<30.
[a] Significance tests were performed to determine whether an association exists between the outcome indicator (use of targeted improved practice) and the disaggregate variables. Associations found to be statistically significant are indicated by level: * p<0.05, ** p<0.01, *** p<0.001; ns=not significant.

Table 64: Percentage of Women 15-49 Years Achieving a Diet Of Minimum Diversity by Individual and Household Characteristics

	ViMPlus		
	No. of women	%	Sig.[a]
All women 15-49 years	**1,465**	**62.2**	
Women's characteristics			
Age			
15-19 years	362	57.9	ns
20 - 29 years	543	64.5	
30-49 years	560	62.9	
Educational level			
Never attended school	1,241	60.9	ns
Preschool	1	^	
Primary	122	60.5	
Secondary 1st cycle	92	68.0	
Secondary 2nd cycle	9	^	
Higher education	0	^	
Pregnancy status			
Currently pregnant	158	64.9	ns
Ever pregnant but not currently	972	62.1	
Never pregnant	335	61.4	
Participation in income-generating activities			
Cash or combination of cash & in-kind	305	70.4	ns
In-kind or unpaid	413	58.8	
Does not work	747	60.5	

	ViMPlus		
Participation in income generating activities			
Does not participate in cash earning activities	1,160	59.9	*
Participates in cash earning activities	305	70.4	
Household socio-demographic characteristics			
Gendered household type			
Both	1,422	62.2	ns
Female Only	40	62.0	
Male Only	3	^	
Child Only	0	^	
Household head sex			
Male	1,334	64.0	**
Female	131	49.2	
Household head age			
17-24 years	69	73.0	ns
25-34 years	259	61.7	
35-44 years	345	63.7	
45+ years	792	60.9	
Household head educational level			
Never attended school	1,275	59.5	**
Preschool	5	^	
Primary	137	71.0	
Secondary 1st cycle	45	91.4	
Secondary 2nd cycle	1	^	
Higher education	2	^	
Number of adult females (18+) in household other than woman			
No other adult woman	214	65.1	ns
One other adult female	396	64.7	
Two other adult females	384	63.4	
Three other adult females	226	51.6	
Four or more other adult females	245	64.2	
Number of adult males in household			
No adult males	40	62.0	ns
One adult male	656	61.5	
Two adult males	350	64.2	
Three adult males	206	63.8	
Four or more adult males	213	60.5	
Number of children under five			
None	160	61.3	ns
One	341	71.6	
Two	357	56.8	
Three	236	60.5	
Four	168	53.7	
Five or more	203	64.3	
Number of children 5-17 years			
None	60	60.1	ns
One	108	61.3	
Two	143	53.8	
Three	167	67.7	
Four	246	62.3	

	ViMPlus		
Five or more	741	63.0	
Household food security			
Food consumption score groups			
Poor food consumption (0-21)	53	31.5	***
Borderline food consumption (21.5-35)	217	40.3	
Acceptable food consumption (35.5-112)	1,195	66.4	
Household harvested crops in the current season			
Did not harvest any crops in the current season	1,214	62.2	ns
Less than 25 percent	182	61.3	
25 - 50 percent	64	64.4	
More than 50 percent	5	^	
Household agricultural status[1]			
Accessed at least one ag-related financial service (credit, savings, insurance)			
No	814	60.7	ns
Yes	651	63.5	
Took out a loan (ag credit, in cash or in-kind)			
No	1,251	61.3	ns
Yes	214	67.3	
Saved cash			
No	897	58.5	ns
Yes	568	66.3	
Insured ag production against loss (insurance)			
No	1,449	62.4	ns
Yes	16	46.6	
Raised at least one type of livestock[2]			
No	305	52.5	*
Yes	1,160	64.4	
Raised goats			
No	630	55.9	*
Yes	835	67.2	
Raised sheep			
No	540	61.5	ns
Yes	925	62.6	
Raised poultry			
No	639	53.2	ns
Yes	826	69.4	
Used at least one improved crop management practice[3]			
No	37	60.1	ns
Yes	1,428	62.2	
Dug zai pits			
No	485	58.0	ns
Yes	980	64.4	
Dug agri half-moons			
No	1,250	61.1	ns
Yes	215	71.0	
Applied organic manure			
No	368	68.6	ns
Yes	1,097	60.2	
Applied phosphatic manure			
No	1,036	60.4	ns

	ViMPlus		
Yes	429	67.5	
Applied compost			
No	1,276	61.7	ns
Yes	189	65.0	
Applied microdoses of fertilizer			
No	1,430	61.9	ns
Yes	35	78.7	
Controlled sida cordifolia growth			
No	1,460	62.2	ns
Yes	5	50.0	
Performed at least three weedings			
No	1,239	62.8	ns
Yes	226	58.9	
Delayed seedlings at 3rd/4th rains to control pests			
No	1,384	61.5	ns
Yes	81	77.2	
Sowed after useful rain			
No	398	63.4	ns
Yes	1,067	61.7	
Performed crop association			
No	1,142	65.9	**
Yes	323	50.8	
Performed crop rotation			
No	1,390	62.5	ns
Yes	75	53.3	
Used seed treatment w/fungicides			
No	1,411	61.4	ns
Yes	54	75.6	
Used improved seeds			
No	1,342	61.6	ns
Yes	123	67.4	
Used climate information			
No	1,462	62.1	ns
Yes	3	100.0	
Used modern agricultural equipment			
No	1,225	59.2	ns
Yes	240	71.1	
Used agricultural credit			
No	1,453	62.4	ns
Yes	12	43.4	
Used at least one type of improved post-harvest practice/technique[4]			
No	822	61.0	ns
Yes	643	64.0	
Used local made storage			
No	1,333	62.9	ns
Yes	132	52.2	
Used sealed/airtight bags			
No	992	61.8	ns
Yes	473	63.2	
Used community storage facility			
No	1,334	62.0	ns

	ViMPlus		
Yes	131	65.0	
Used solar/fuel-powered dryers			
No	1,439	61.9	ns
Yes	26	74.4	
Used seed/grain treatment pest control tech.			
No	1,435	62.0	ns
Yes	30	71.8	
Used agrochemical grain treatment			
No	1,420	62.3	ns
Yes	45	57.6	
Used triple bags			
No	1,289	61.3	ns
Yes	176	68.6	
Used other post-harvest practices			
No	1,452	61.8	ns
Yes	13	76.5	
Used at least one improved livestock mgmt. practice[5]			
No	334	50.9	*
Yes	1,131	65.0	
Impact of COVID-19 on household livelihood/food security			
Household livelihood was impacted by COVID-19			
No	225	48.1	ns
Yes	1,240	64.3	
Household food security was impacted by COVID-19			
No	90	74.1	ns
Yes	1,375	61.4	
Household resilience capacities			
Participation in group-based savings, microfinance or lending programs			
No	1,416	61.6	ns
Yes	49	75.8	
Participation in group-based saving programs			
No	1,417	61.8	ns
Yes	48	82.2	
Participation in group-based credit programs			
No	1,386	61.4	ns
Yes	79	76.6	
Participation in social assistance activities			
Participation in BHA RFSAs			
No	519	61.1	ns
Yes	946	62.9	
Receipt of food rations (any donor/program)			
No	770	63.2	ns
Yes	695	61.1	
Participation in nutrition trainings/meetings (any donor/program)			
No	760	57.7	*
Yes	705	68.6	

	ViMPlus		
Participation in agriculture-related trainings/meetings (any donor/program)			
No	628	56.8	ns
Yes	837	67.0	
Receipt of BHA RFSA food rations[6]			
Did not receive any food rations	770	63.2	(ref.)
Received food rations through BHA RFSA	480	61.8	ns
Received food rations through other social assistance programs	215	59.8	ns
Participation in BHA RFSA nutrition trainings/meetings[7]			
Did not participate in any nutrition trainings/meetings	760	57.7	(ref.)
Participated in nutrition trainings/meetings through BHA RFSA	592	69.2	ns
Participated in nutrition trainings/meetings through other social assistance programs	113	65.5	ns
Participation in BHA RFSA agriculture-related trainings/meetings[8]			
Did not participate in any ag trainings/meetings	628	56.8	(ref.)
Participated in ag trainings/meetings through BHA RFSA	644	68.9	ns
Participated in ag trainings/meetings through other social assistance programs	193	62.1	ns

NOTES: A woman of reproductive age is considered to consume a minimum dietary diversity if she consumed at least five of 10 specific food groups during the previous day and night. Sample restricted to women with data available across all covariates.

^ Results not statistically reliable, n<30.

[a] Significance tests were performed to determine whether an association exists between the outcome indicator (MDD-W) and the select women and household characteristics that are associated with women's dietary diversity. Associations found to be statistically significant are indicated by level: * p<0.05, ** p<0.01, *** p<0.001; ns=not significant.

[1] Household agriculture status measures were calculated by aggregating the results of farmers to the household level. A household is considered to adopt a practice if at least one farmer in the household reported the practice.

[2] A household is considered to raise at least one livestock if at least one farmer reported raising any of the three livestock of interest (goats, sheep, and poultry).

[3] A household is considered to be using at least one improved crop management practice if at least one farmer reported using any of the promoted practices for any one of the three crops of interest (sorghum, cowpeas, and onions).

[3] A household is considered to be using at least one improved crop management practice if at least one farmer reported using any of the promoted practices for any one of the three crops of interest (sorghum, cowpeas, and onions).

[4] A household is considered to be using at least one improved post-harvest practice if at least one farmer reported using any of the promoted practices for any one of the four crops of interest (sorghum, cowpeas, rice and onions).

[5] A household is considered to be using at least one improved livestock management practices if at least one farmer reported using any of the promoted practices for any one of the three livestock of interest (goats, sheep, or poultry).

[6] Includes households that reported participating in BHA RFSA activities and also reported receiving food rations. Because households that participated in RFSA activities may also be participating in other donor activities, these estimates are only proxy measures of participation in sector-specific RFSA activities.

	ViMPlus
[7] Includes households that reported participating in BHA RFSA activities and also reported participating in nutrition trainings/meetings. Because households that participated in RFSA activities may also be participating in other donor activities, these estimates are only proxy measures of participation in sector-specific RFSA activities. [8] Includes households that reported participating in BHA RFSA activities and also reported participating in agriculture trainings or meetings. Because households that participated in RFSA activities may also be participating in other donor activities, these estimates are only proxy measures of participation in sector-specific RFSA activities.	

Table 65: Multivariate Logistic Regression of Women's Minimum Dietary Diversity (MDD-W)

	Model 1	Model 2	Model 3	Model 4
Variables	OR	OR	OR	OR
Women's characteristics				
Women's age (ref.: 15-19 years)	.			
20 - 29 years	1.483	1.511	1.481	1.484
30-49 years	1.500+	1.556*	1.592*	1.588*
Women's education (ref.: none or less than primary)				
Primary	1.330	1.288	1.202	1.201
Secondary or higher	1.793*	1.707*	2.005*	1.970*
Pregnancy status (ref.: currently pregnant)				
Ever pregnant but not currently	0.757	0.744	0.823	0.800
Never pregnant	0.879	0.932	0.991	0.970
Participation in income generating activities (ref.: does not participate in cash-earning activities)	1.501*	1.449*	1.432*	1.447*
Household socio-demographic characteristics				
Gendered household type (ref.: Female and Male Adults)				
Female Adult Only	3.515+	4.122+	4.458*	4.373*
Male Adult Only	-	-	-	-
Female-headed household (ref.: male-headed household)	0.528	0.505	0.497*	0.480*
Age of household head (ref.: 18-24 years)				
25-34 years	0.508	0.526	0.458	0.451
35-44 years	0.449+	0.436+	0.334+	0.329+
45+ years	0.408	0.414	0.306	0.297
Education of household head				
Primary or higher (ref.: primary or none)	2.790***	2.701***	3.052**	2.774*
Household size (2-37)	1.014	1.010	1.001	1.002
COVID-19 impact on household (ref.: was not impacted)				
Not applicable/no impact	2.870*	2.803*	1.873*	1.800+
Not applicable/food security unaffected	0.208**	0.197**	0.315*	0.299*
Household food consumption				
Household harvested crops in current season (ref.: did not harvest any crops)				
Harvested less than 25 percent	0.512	0.463	0.421	0.437
Harvest 25 - 50 percent	1.673	1.501	1.214	1.235
Harvest more than 50 percent	0.291	0.258	0.142*	0.151*
Household livestock holdings (ref.: did not raise livestock)				
Raised goats	1.820**	1.744**	2.014**	2.020**
Raised sheep	1.250	1.240	1.182	1.139
Raised poultry	2.197*	2.140+	2.406***	2.324***
Household use of or access to financial services				
Took out an agricultural loan (ref.: did not take out an ag-loan)		1.866**	2.122***	2.109***

	Model 1	Model 2	Model 3	Model 4
Participated in an agricultural savings scheme (ref.: did not participate in ag-savings scheme)		1.180	1.495	1.532
Participated in group-based saving programs (ref.: did not participate)		1.980	1.897	1.904
Participated in group-based credit programs (ref.: did not participate)		1.592	2.073	2.216
Household adoption of targeted improved crop practices[1]				
Dug zai pits			1.316	1.284
Dug agri half-moons			0.975	0.957
Applied organic manure			0.327*	0.335*
Applied phosphatic manure			1.373	1.333
Applied compost			0.770	0.788
Applied microdoses of fertilizer			1.240	1.319
Controlled sida cordifolia growth			5.603+	4.645
Performed at least 3 weedings			0.537*	0.500*
Delayed seedlings until 3rd/4th rains to control pests			4.552*	4.436*
Sowed after useful rain			1.005	0.943
Performed crop association			0.567*	0.566*
Performed crop rotation			0.812	0.756
Used Seed treatment w/fungicides			1.127	1.271
Used improved seeds			0.404+	0.398+
Used modern ag equipment			3.617*	3.367+
Used ag credit			0.165*	0.163**
Household adoption of targeted improved post-harvest handling and storage practices[1]				
Used local made storage			0.322*	0.316*
Used sealed/airtight bags			1.164	1.117
Used community storage facility			0.485	0.468
Used solar/fuel-powered dryers			5.600*	5.104*
Used seed/grain treatment pest control technique			1.378	1.267
Used agrochemical grain treatment			0.612	0.641
Used triple bags			0.826	0.793
Household adoption of targeted improved post-harvest handling and storage practices[1]				
Used at least one improved livestock management practice			1.105	1.161
Household participation in social assistance				
Participated in a BHA RFSA (ref.: HH did not participate in a RFSA)				0.946
Received food rations - any donor (ref.: did not receive food rations)				0.813
Participated in nutrition trainings/meetings - any donor (ref.: did not participate)				1.514
Participated in agriculture-related trainings/meetings - any donor (ref.: did not participate)				1.049
Constant	0.328	0.301+	0.444	0.551
Number of women 15-49 years	1,462	1,462	1,459	1,459

* p<0.05, ** p<0.01, *** p<0.001; † < 0.1
NOTES: Analytical sample was restricted to women 15-49 with data available across all covariates. A misspecification-link and Hosmer-Lemeshow tests were conducted and suggest adequate model specification and fit.
[1] Reference category includes households that did not adopt the targeted improved practice.

Table 66: Percentage of Children 6-23 Months Achieving a Diet Of Minimum Diversity by Individual and Household Characteristics

	ViMPlus		
	No. of children	%	Sig.[a]
All children 6-23 months	**390**	**52.8**	
Child characteristics			
Sex			
Male	190	56.6	ns
Female	200	49.3	
Age			
6-8 months	57	21.7	***
9-11 months	53	39.1	
12-17 months	149	63.9	
18-23 months	131	59.4	
Household socio-demographic characteristics			
Gendered household type			
Both	379	53.7	ns
Female Only	10	21.4	
Male Only	1	100.0	
Child Only			
Household head sex			
Male	364	55.4	ns
Female	26	26.5	
Household head age			
18-24 years	14	50.6	ns
25-34 years	103	50.6	
35-44 years	93	46.0	
45+ years	180	57.6	
Household head educational level			
Never attended school	333	52.6	ns
Primary	40	48.9	
Secondary 1st cycle	15	58.5	
Secondary 2nd cycle	1	0.0	
Higher education	1	100.0	
Number of adult females in household			
One adult female or none	84	43.6	ns
Two adult females	107	54.4	
Three adult females	85	53.3	
Four or more adult females	114	56.6	
Number of adult males in household			
One adult male or none	199	48.7	ns
Two adult males	74	52.3	
Three adult males	60	71.2	
Four or more adult males	57	50.1	
Number of children under five other than child			
None	69	59.6	ns
One other child under five	109	42.8	
Two other children under five	77	59.7	

	ViMPlus		
Three other children under five	58	48.4	
Four or more other children under five	77	56.5	
Number of children 5-17 years			
None	30	48.8	ns
One child	35	49.9	
Two children	48	62.4	
Three children	44	44.0	
Four children	55	46.2	
Five or more children	178	56.7	
Household food security			
Food consumption score groups			
Poor food consumption (0-21)	18	34.0	ns
Borderline food consumption (21.5-35)	68	34.9	
Acceptable food consumption (35.5-112)	304	56.5	
Household harvested crops in the current season			
Did not harvest any crops in the current season	318	51.2	**
Less than 25 percent	51	74.5	
25 - 50 percent	20	23.4	
More than 50 percent	1	0.0	
Household agricultural status[1]			
Accessed at least one ag-related financial service (credit, savings, insurance)			
No	214	51.2	ns
Yes	176	54.2	
Took out a loan (ag credit, in cash or in-kind)			
No	341	52.4	ns
Yes	49	55.6	
Saved cash			
No	227	49.5	ns
Yes	163	56.1	
Insured ag production against loss (insurance)			
No	387	53.0	ns
Yes	3	25.0	
Raised at least one type of livestock[2]			
No	80	41.0	ns
Yes	310	54.9	
Raised goats			
No	164	48.3	ns
Yes	226	55.7	
Raised sheep			
No	149	55.9	ns
Yes	241	51.3	
Raised poultry			
No	170	49.9	ns
Yes	220	55.0	
Used at least one improved crop management practice[3]			
No	12	55.1	ns
Yes	378	52.8	
Dug zai pits			
No	132	47.6	ns
Yes	258	55.7	

	ViMPlus		
Dug agri half-moons			
No	339	52.5	ns
Yes	51	55.7	
Applied organic manure			
No	109	48.6	ns
Yes	281	54.2	
Applied phosphatic manure			
No	277	49.5	ns
Yes	113	62.5	
Applied compost			
No	326	49.6	ns
Yes	64	65.8	
Applied microdoses of fertilizer			
No	379	52.8	ns
Yes	11	56.5	
Controlled sida cordifolia growth			
No	390	52.8	ns
Yes	390	52.8	
Performed at least three weedings			
No	318	55.5	ns
Yes	72	41.3	
Delayed seedlings at 3rd/4th rains to control pests			
No	366	53.8	*
Yes	24	30.9	
Sowed after useful rain			
No	107	51.8	ns
Yes	283	53.2	
Performed crop association			
No	307	53.7	ns
Yes	83	50.2	
Performed crop rotation			
No	374	53.2	ns
Yes	16	39.1	
Used seed treatment w/fungicides			
No	368	51.0	*
Yes	22	71.3	
Used improved seeds			
No	356	52.8	ns
Yes	34	53.2	
Used climate information			
No	390	52.8	ns
Yes	390	52.8	
Used modern agricultural equipment			
No	321	47.8	***
Yes	69	66.1	
Used agricultural credit			
No	389	52.9	ns
Yes	1	0.0	
Used at least one type of improved post-harvest practice/technique[4]			
No	218	54.2	ns
Yes	172	50.7	

	ViMPlus		
Used local made storage			
No	348	53.6	ns
Yes	42	42.5	
Used sealed/airtight bags			
No	272	51.2	ns
Yes	118	58.0	
Used community storage facility			
No	360	52.7	ns
Yes	30	55.7	
Used solar/fuel-powered dryers			
No	384	52.7	ns
Yes	6	62.0	
Used seed/grain treatment pest control tech.			
No	383	53.0	ns
Yes	7	44.9	
Used agrochemical grain treatment			
No	378	53.0	ns
Yes	12	44.1	
Used triple bags			
No	347	52.7	ns
Yes	43	54.4	
Used other post-harvest practices			
No	386	53.1	ns
Yes	4	45.5	
Used at least one improved livestock mgmt. practice[5]			
No	92	39.1	*
Yes	298	55.8	
Impact of COVID-19 on household livelihood/food security			
Household livelihood was impacted by COVID-19			
No	59	45.2	ns
Yes	331	54.1	
Household food security was impacted by COVID-19			
No	33	75.8	*
Yes	357	50.5	
Household resilience capacities			
Participation in group-based savings, microfinance or lending programs			
No	378	53.4	ns
Yes	12	38.2	
Participation in group-based saving programs			
No	378	53.4	ns
Yes	12	38.2	
Participation in group-based credit programs			
No	380	53.3	ns
Yes	10	30.5	
Participation in social assistance activities			
Participation in BHA RFSAs			
No	139	48.9	ns
Yes	251	55.7	
Receipt of food rations (any donor/program)			

	ViMPlus		
No	204	51.0	ns
Yes	186	54.7	
Participation in nutrition trainings/meetings (any donor/program)			
No	218	49.7	ns
Yes	172	58.3	
Participation in agriculture-related trainings/meetings (any donor/program)			
No	160	48.9	ns
Yes	230	56.4	
Receipt of BHA RFSA food rations[6]			
Did not receive any food rations	204	51.0	(ref.)
Received food rations through BHA RFSA	126	55.3	ns
Received food rations through other social assistance programs	60	53.8	ns
Participation in BHA RFSA nutrition trainings/meetings[7]			
Did not participate in any nutrition trainings/meetings	218	49.7	(ref.)
Participated in nutrition trainings/meetings through BHA RFSA	144	56.2	ns
Participated in nutrition trainings/meetings through other social assistance programs	28	67.9	ns
Participation in BHA RFSA agriculture-related trainings/meetings[8]			
Did not participate in any ag trainings/meetings	160	48.9	(ref.)
Participated in ag trainings/meetings through BHA RFSA	176	57.7	ns
Participated in ag trainings/meetings through other social assistance programs	54	53.5	ns

NOTES: A child 6-23 months is considered to consume a minimum dietary diversity if s/he consumed at least five of the eight food groups during the previous day and night. Sample restricted to children with data available across all covariates.

Results not statistically reliable, n<30.

[a] Significance tests were performed to determine whether an association exists between the outcome indicator (MDD-C) and the select children and household characteristics that are associated with children's dietary diversity. Associations found to be statistically significant are indicated by level: * p<0.05, ** p<0.01, *** p<0.001; ns=not significant.

[1] Household agriculture status measures were calculated by aggregating the results of farmers to the household level. A household is considered to adopt a practice if at least one farmer in the household reported the practice.

[2] A household is considered to raise at least one livestock if at least one farmer reported raising any of the three livestock of interest (goats, sheep, and poultry).

[3] A household is considered to be using at least one improved crop management practices if at least one farmer reported using any of the promoted practices for any one of the four crops of interest (sorghum, cowpeas, rice and onions).

[4] A household is considered to be using at least one improved post-harvest practice if at least one farmer reported using any of the promoted practices for any one of the four crops of interest (sorghum, cowpeas, rice and onions).

[5] A household is considered to be using at least one improved livestock management practices if at least one farmer reported using any of the promoted practices for any one of the three livestock of interest (goats, sheep, or poultry).

	ViMPlus

[6] Includes households that reported participating in BHA RFSA activities and also reported receiving food rations. Because households that participated in RFSA activities may also be participating in other donor activities, these estimates are only proxy measures of participation in sector-specific RFSA activities.

[7] Includes households that reported participating in BHA RFSA activities and also reported participating in nutrition trainings/meetings. Because households that participated in RFSA activities may also be participating in other donor activities, these estimates are only proxy measures of participation in sector-specific RFSA activities.

[8] Includes households that reported participating in BHA RFSA activities and also reported participating in agriculture trainings or meetings. Because households that participated in RFSA activities may also be participating in other donor activities, these estimates are only proxy measures of participation in sector-specific RFSA activities.

Table 67: Prevalence of Diarrhea among Children under Five by Household WASH Status

	ViMPlus		
	No. of children	**%**	**Sig.[a]**
Improved, not shared sanitation facility			
Household does not use a basic sanitation facility	1,003	21.3	ns
Household uses a basic sanitation facility	397	17.7	
Total	1,400		
Water source[1]			
Household does not use an improved water source	55	33.3	*
Household uses an improved water source	1,345	19.9	
Total	1,400		
Meets four of the five criteria for basic water source[2]			
Household does not meet 4 of the 5 criteria for basic water source	1,293	20.0	ns
Household meets 4 of the 5 criteria for basic water source	102	24.3	
Total	1,395		
Water treatment[3]			
Household does not treat water prior to drinking	1,240	19.9	ns
Household treats water prior to drinking	160	23.3	
All children under five	1,400		
Handwashing station with water and soap or another cleansing agent			
Household does not have a handwashing station with water and soap or another cleansing agent	317	26.9	ns
Household has a handwashing station with water and soap or another cleansing agent	334	20.2	
Total	651		
Knowledge of 3 of the 6 critical moments for handwashing[4]			

	ViMPlus		
Household does not know 3 of the 6 critical moments for handwashing	1,154	21.3	ns
Household knows 3 of the 6 critical moments for handwashing	246	15.5	
Total	1,400		

NOTES:
[a] Significance tests were performed to determine whether an association exists between the outcome indicator (diarrhea) and the disaggregate variable (WASH). Associations found to be statistically significant are indicated by level: * p<0.05, ** p<0.01, *** p<0.001; ns=not significant.
[1] Does not include other criteria for basic water source - namely, water source is on the premises or obtainable in 30 minutes or less roundtrip; water source was not unavailable for a day or longer in the past two weeks; and water source produces at least 20 liters per day per person.
[2] Refers to households that meet the following criteria: uses an improved water source; water source is on the premises or obtainable in 30 minutes or less roundtrip; water source was not unavailable for a day or longer in the past two weeks; and water source produces at least 20 liters per day per person.
[3] Households were not asked to report method of treating water prior to drinking therefore this estimate does not distinguish between correct and incorrect water treatment practices.
[4] Critical moments for handwashing include (1) before eating; (2) before breastfeeding or feeding the child; (3) before cooking or preparing food; (4) after using the toilet/latrine; (5) after cleaning or changing the diaper of a child who defecated; and (6) after cleaning the toilet or pot.

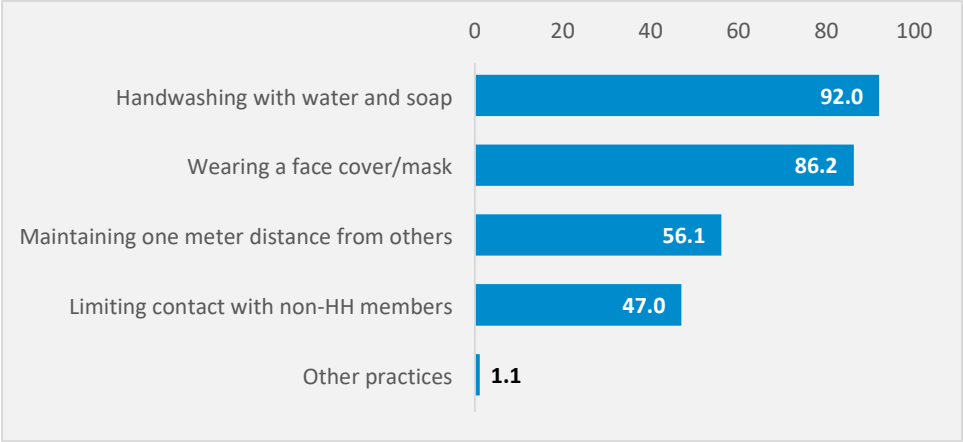
ANNEX 8: COVID-19 KNOWLEDGE, PRACTICES, IMPACTS AND COPING STRATEGIES

Given the assumption that COVID-19 would have a major impact on baseline results, the survey included a COVID module in order to provide context and inform the interpretation of baseline-endline comparisons later on.

Knowledge of COVID-19 and Adoption of Mitigation Practices

Awareness of the COVID-19 pandemic is widespread across the RFSA area (99.8 percent). Most households in the RFSA area take measures to mitigate the spread of COVID-19. Figure 1 illustrates the extent of adoption of COVID-19 mitigation protocols. Washing hands with water and soap was the most cited COVID-19 mitigation practice (92 percent). However, the percentage of households with a handwashing station with water and soap/ash, based on enumerator observation, is somewhat lower (58.7 percent; see Section 3.5.3), which calls into question the validity of respondents' responses regarding their adoption of handwashing practices. These findings suggest the possibility of respondents reporting what they think enumerators hope to hear or consider acceptable rather than the actual behavior of their household members. Household participation in WASH-related meetings/trainings was fairly widespread (72.9 percent) (see Annex 6, Table A6.3); these meetings could be one forum in which households were sensitized on the importance of handwashing to mitigate the spread of COVID-19.

Figure 1: Adoption of COVID-19 mitigation protocols (% HHs)



Impact of COVID-19 on Livelihoods and Food Security

Survey questions in the COVID-19 module were worded with reference to COVID-19, e.g., "How has COVID-19 affected your household's livelihoods /income?" However, an important caveat for interpreting the results is that the baseline survey did not collect information on other shocks (e.g., conflict shocks, climate shocks). It is reasonable to assume that other shocks pre-dating or ongoing during the pandemic had similar impacts on livelihoods and food security, and/or that their impacts

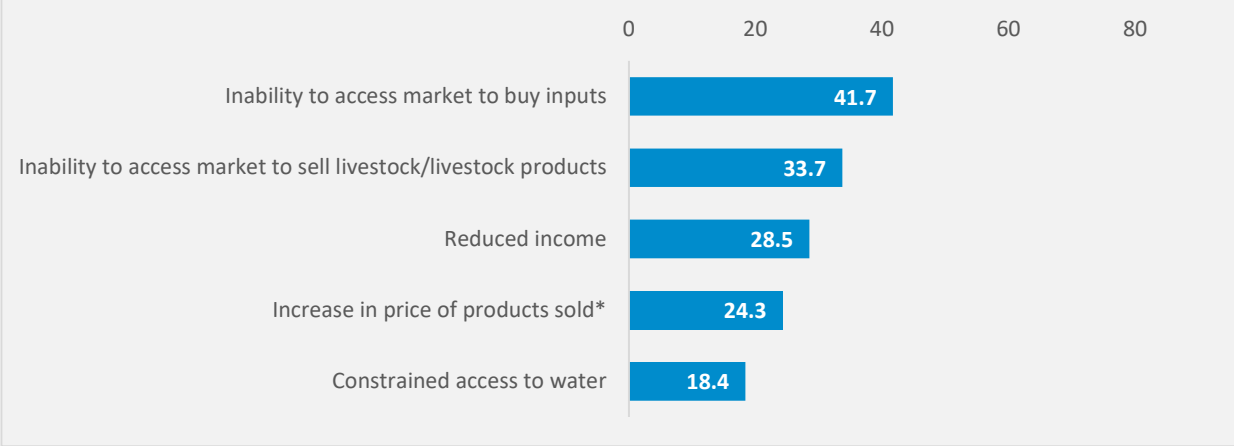
were exacerbated by the pandemic. During the period in question, the RFSA area was characterized by conflict and insecurity, which likely had a substantial impact on livelihoods and food security. As a project stakeholder noted, attacks of armed groups on markets led to people's avoidance of markets and a shift in commerce closer to people's homes, and while the pandemic may have added to people's fears, COVID-19 may not have been the primary factor limiting mobility and economic activity. However, while acknowledging the importance of the security context, given the data collected for the baseline, it is not possible to definitively attribute impacts across the range of possible shocks households were experiencing at that time.

Most households reported that their livelihoods were impacted by COVID-19 (87.5 percent). Similarly, the majority of households stated that the pandemic had impacts on their food security (92.9 percent).

Livelihoods

Figure 2 illustrates the five most common COVID-19 impacts on livelihoods in the RFSA area (refer to Annex 6, Table A6.18 for additional information).[8] About four in ten households (41.7 percent) were unable to access markets to buy inputs because of restrictions or market closures. Similarly, more than one-third of households (33.7 percent) were unable to access markets to sell livestock and livestock products because of COVID-related closures and restrictions. Roughly one-quarter of households lost income (28.5 percent) or were impacted by increasing food prices (24.3 percent). Just 18.4 percent of households experienced constrained access to water. The percentage of households not experiencing COVID-19 related livelihood impacts was 11.8 percent (see Annex 6, Table A6.18).

Figure 2: Top five COVID-19 related impacts on households' livelihoods (% HHs)



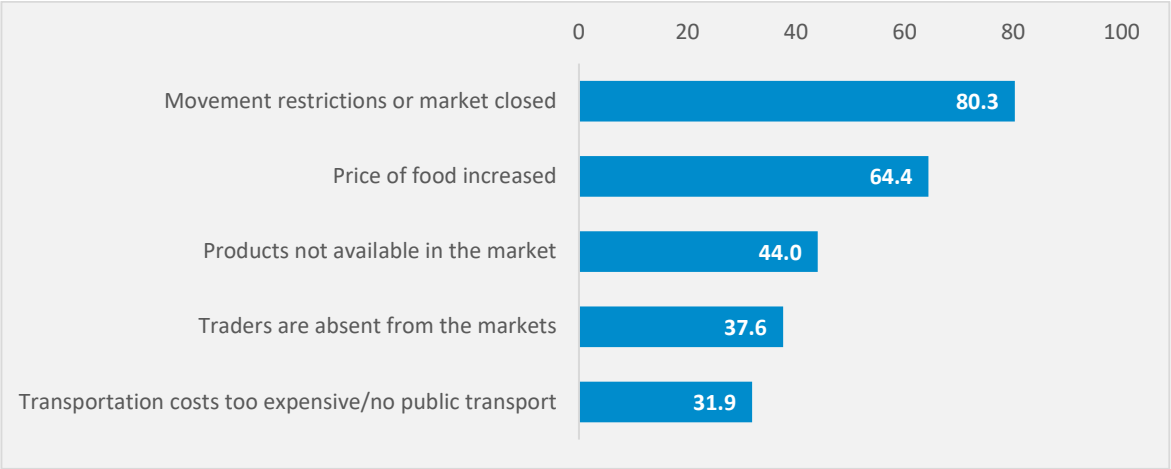
Note: All indicators listed are understood to have negative (harmful) impacts on livelihoods except for the one marked with an asterisk, which has a positive impact.

[8] Household respondents who reported being aware of the COVID-19 pandemic were asked "How has COVID-19 affected your household's livelihoods?" Multiple responses were allowed. Enumerators were trained to probe for the various ways in which COVID-19 may impact households' livelihoods, for example by influencing market access (due to movement restrictions or market closures), price of inputs or products sold, demand for products, and ability to hire labor. COVID-19 can also constrain access to productive resources (e.g., land, water) and services (e.g., extension services, financial services, storage).

Food Security

The five most common food security impacts of COVID-19 are illustrated in Figure 3 (see Annex 6, Table A6.19 for additional information).[9] The majority of households were unable to acquire food items due to movement restrictions (80.3 percent). Two-thirds of households (64.4 percent) cited increases in food prices as having an impact on their food security. Lack of product availability, absence of traders from markets, and increase in transportation costs were also among the main factors that impacted household food security. Few households' food security was unaffected by the COVID-19 pandemic (5.9 percent; see Annex 6, table A6.19).

Figure 3: Top five COVID-19 related impacts on households' food security (% HHs)



Coping Strategies Adopted by Households to Address COVID-19 Impacts

As noted above, all survey questions in the COVID-19 module include a reference to COVID-19. The coping strategies questions, for example, are "How has your household coped with the impacts of COVID-19 on your livelihoods/income?" (a similar question relates to coping and food security). Again, when interpreting the results, it is important to acknowledge that the coping strategies reported may have been adopted in response to insecurity/conflict or other shocks, in addition to COVID-19. While the questions about coping strategies to address impacts on food security and livelihoods were asked separately, the results were similar for both (see Figure 4).

The most common strategy to cope with the adverse impacts of COVID-19 on food security and livelihoods was taking children out of school. One-third of households reduced food consumption to deal with the impacts on their food security (see Figure 5). To cope with the impacts of food security and

[9] Household respondents who reported being aware of the COVID-19 pandemic were asked "How has COVID-19 affected your household's food security?" Multiple responses were allowed. Enumerators were trained to probe for the various direct and indirect ways in which COVID-19 may impact households' food security. For example, household food security can be affected if households are unable to access markets due to market closures or movement restrictions. It can also result from traders being absent from the market, and changes in the availability of food and/or essential items, changes in food prices, increase in the cost of transportation to travel to markets, or delays in receiving cash or food assistance.

livelihoods, around one-quarter of households sold livestock at a lower price and 20-30 percent cut down on non-essential household expenses. Other coping strategies included selling livestock, consuming saved seeds, and washing hands (see Annex 6, Table A6.20 and Table A6.21).

Figure 4: Coping strategies for addressing livelihood and food security impacts of COVID-19 (% HHs)