WFP EVALUATION

Niger, Resilience Learning in the Sahel

Impact Evaluation Baseline Report

WFP
World Food Programme
SAVING LIVES
CHANGING LIVES

i2i DIME
TRANSFORM DEVELOPMENT

January 2023

Acknowledgements

The work described in this report is the result of a collaboration between the World Food Programme (WFP) and the World Bank's Development Impact Evaluation (DIME) department. The study has been pre-registered in the American Economic Association Randomized Control Trials (AEA RCT) registry at: https://www.socialscienceregistry.org/trials/6851. The baseline data was collected by the Innovative Hub for Research in Africa (IHfRA). We are grateful to all individuals who contributed to data collection, and in particular the respondents for their time.

Contact:
Patrick Premand (ppremand@worldbank.org)
Jonas Heirman (jonas.heirman@wfp.org)

Disclaimer

Key personnel for the evaluation

WFP Office of Evaluation

Director of Evaluation	Andrea Cook
Evaluation Officer	Jonas Heirman
Impact Evaluation Officer	Hanna Paulose
Impact Evaluation Officer	Jennifer Waidler
Evaluation Analyst	Theresa Schneider
Evaluation Analyst	Ola ElToukhi

Development Impact Evaluation (DIME)

Principal Investigator	Patrick Premand
Resilience Window Manager	Marcus Holmlund
Research Officer	Chloë Fernandez
Research Assistant	Mariana Garcia Martinez
Research Assistant	Pulkit Bajpai
Field Coordinator	Abdoul-Aziz Adama
Field Coordinator	Dimanche Allo
Field Coordinator	Segla Bernus Emilien Akotenou

WFP country offices

Head of Programme Niger	Koffi Akakpo
Head of RAM Niger	Anna Law

Contents

List of figures

List of tables

Overview

This report presents the preliminary analysis of the data obtained from the baseline survey conducted in the Diffa, Dosso and Tahoua regions of Niger. The baseline survey was conducted during the first quarter of 2021 as part of the impact evaluation of the World Food Programme's (WFP's) Integrated Resilience Programme in Niger. The detailed inception report of the impact evaluation – *Niger, Resilience Learning in the Sahel: Impact evaluation* – can be found on the WFP website at: https://www.wfp.org/publications/niger-resilience-learning-sahel-impact-evaluation.

This section provides an overview of the programme, impact evaluation and key insights from the baseline study. Details of the impact evaluation design, and baseline statistics can be found in subsequent sections of the report.

1.1. Programme summary

The Integrated Resilience Programme in Niger aims to promote the capacities of communities to absorb 'shocks, adapt to risk, transform livelihoods and, more broadly, achieve sustained food security. The programme includes four main components: (i) food assistance for assets (FFA); (ii) school feeding; (iii) preventive and curative nutrition/health measures; and (iv) Smallholder Agriculture Market Support (SAMS). These are implemented in parallel with lean season support through seasonal cash transfers that aim to address the immediate needs of the most vulnerable people in the targeted communities.

FFA is used by the impact evaluation to identify communities that receive all four components of the resilience programme, following the WFP FFA programme guidance manual,[1] which describes the FFA core functions as the direct provision of food or cash-based transfers to meet the consumption needs of the most vulnerable (i.e., short-term access to food) as well as the construction/development of household and community assets that reduce the risk of disaster, strengthen livelihoods, and build resilience over time. That is, all activities under the programme are implemented in the same communities identified for FFA activities, or those near to them. The FFA programme consists of the direct provision of food or cash-based transfers in exchange for work on household and community assets that reduce the risk of disaster, strengthen livelihoods, and build resilience over time. The strong emphasis on asset creation and its impacts on people and communities distinguishes FFA from other forms of delivering food assistance (such as Food for Work or Cash for Work programmes).

The Niger impact evaluation focuses on new sites that were in the process of being

[1] WFP. 2016. *2016 – Food Assistance for Assets (FFA) for Zero Hunger and Resilient Livelihoods Manual*.

added to the resilience programme in 2021 in the regions of Diffa (communes of Foulatari, Goudoumaria, and N'Guelbély); Dosso (communes of Falwel, Loga, and Sokorbe); and Tahoua (communes of Allakaye, Bagaroua, Bambeye, Garhanga, Keita, Tabalak, and Tebaram), covering 4,714 households across 13 communes.

1.2. Window summary

The concept of resilience has gained attention because it recognizes the importance of addressing shorter-term humanitarian needs while also supporting communities to face future crises induced by climate change, conflict, and other factors. Many institutions, including the WFP and the World Bank, have increasingly used the concept as a basis for their programming. To strengthen resilience, organizations employ an integrated approach to programming, where multiple forms of support are provided to the same community over many years.

Rigorous evidence on how these interventions contribute to resilience is needed to improve programme design to address the root causes of food insecurity and malnutrition while meeting immediate food needs.

The Climate and Resilience Impact Evaluation Window aims to support programmes to generate this evidence. Windows are coordinated portfolios of four to six impact evaluations on a specific evidence area – in this case, climate and resilience.[2] They allow WFP country offices to learn what works in a way that informs their own programming, and contributes to a global evidence base by examining similar questions about resilience in multiple programming contexts.

The window supports resilience programme teams to design impact evaluations to understand how the integrated intervention packages and its activities contribute to resilience. The first pre-analysis plan for the window describes policy experiments to estimate how resilience is affected by varying livelihoods, education, health, and complementary activities. Within the window, resilience is measured using a two-pronged approach, measuring: 1) changes in key well-being outcomes and capacities at baseline and endline; and 2) food security, shocks and coping strategies every two months to detect changes across seasons, shocks and stressors.

Where possible, experiments under the window will test the causal impact on outcomes of components of livelihoods, health, and education interventions in isolation and together as a package. Coordinated data collection and experimental designs across six countries

[2] The windows are part of WFP's impact evaluation strategy and are coordinated by WFP's Office of Evaluation and the World Bank's Development Impact Evaluation Department (DIME) department.

allows for pooling impact estimates over these contexts to maximize and generalize evidence (including Democratic Republic of the Congo (DRC), Mali, Niger, Rwanda, and South Sudan, and two additional countries yet to be selected). Within countries, data on the timing and targeting modalities of delivery will produce actionable evidence to optimize programme impacts during the implementation period.

1.3. Impact evaluation questions

The impact evaluation of WFP's Integrated Resilience Programme in Niger will help in understanding how an integrated package of activities contributes to resilience. The Niger impact evaluation is also part of a broader research agenda for resilience in the Sahel, the Impact Evaluation for Resilience Learning in the Sahel initiative funded by Germany's Federal Ministry of Economic Cooperation and Development (BMZ), which includes a similar impact evaluation design and resilience measurement strategy in Mali.

The impact evaluation is designed as a cluster randomized control trial (RCT). The evaluation includes a baseline survey before the intervention, high-frequency surveys every two months during the intervention, and an endline survey afterwards.[3] Qualitative data will be used to understand how the programme is being implemented, and how the support provided is being perceived by beneficiaries.

Regional discussions, in-country consultations, and subsequent conversations with the programme and monitoring and evaluation teams have helped identify the priority impact evaluation question for the Niger country office. The impact evaluation focuses on the following question: What is the impact of the integrated WFP resilience package (FFA, SAMS, nutrition/health, and education) on the resilience of recipient households and communities?

The priority is to document the ability of households to maintain and improve food security and well-being in the face of shocks. The impact evaluation also assesses how the effectiveness of the WFP resilience package varies by households' initial poverty or food security levels within targeted communities.

1.4. Baseline survey process

The impact evaluation relies on a clustered randomized design for estimating the impact of the resilience programme. The resilience programme in Niger focuses on new sites that were added to the resilience programme in 2021 in the regions of Diffa (communes of Foulatari, Goudoumaria, and N'Guelbély); Dosso (communes of Falwel, Loga, and Sokorbe);

[3] Further details on the Integrated Resilience Programme and the impact evaluation design can be found in the *Impact Evaluation Inception Report*.

and Tahoua (communes of Allakaye, Bagaroua, Bambeye, Garhanga, Keita, Tabalak, and Tebaram). WFP pre-selected sites that met eligibility criteria for the Integrated Resilience Programme, as well as villages attached to each of these sites. The eligibility of sites was determined based on the programme's selection criteria, which included a vulnerability assessment and a technical assessment. Among eligible sites, a subset of sites was randomly selected to receive the Integrated Resilience Programme during the impact evaluation cycle.

The Niger sample includes 91 eligible FFA sites. The catchment areas around these sites contain 266 villages, including 91 primary villages (where the FFA sites are located) and 175 secondary villages (further away from these FFA sites).

At baseline, the Impact Evaluation Team sampled all primary villages (n=91) and one secondary village in sites with multiple secondary villages (67 in total). This gives us a total of 158 villages in the 91 studied sites. After completing a detailed households listing, 54 households per site were drawn into the baseline sample. The baseline multi-module household survey allows us to measure capacities such as household demographics, assets, and capabilities that are expected to predict food security dynamics. The baseline survey is also implemented with the larger resilience measurement framework in mind, which requires regular follow-up surveys with the baseline households.

The impact evaluation aims to measure resilience by observing actual dynamics of well-being (e.g., food security) over multiple time periods. This is achieved through shorter follow-up surveys every two months. This approach allows us to observe households' exposure to shocks, seasonality, and trends in well-being. This gives a more direct measurement of resilience, compared to constructing the resilience indices that may be associated with more favourable well-being dynamics.

The survey was developed with inputs from the WFP country office and extensively piloted with local communities to ensure that questions were fully relevant to the context. The duration of the baseline survey was around two hours. Data was collected using Android tablets running SurveyCTO data collection software. The baseline survey was implemented from January to March 2021. Overall, the data collection followed the timeline agreed with the country office, and the process did not face a significant challenges.

1.5. Key insights

Levels of food insecurity are high for a large percentage of households: 67 percent of households reported experiencing severe food insecurity on the Food Insecurity Experience Scale (FIES) over the previous 12 months, and 17 percent reported moderate food insecurity. Similarly, respondents have low levels of food consumption and diets lacking nutritional diversity.

Less than 24 percent of households have a female head. Most households are

subsistence farmers who have no formal education, and grow crops during the main agricultural season: 88 percent of households reported growing crops during the main agricultural season (between June and October), and only 4 percent of households reported growing crops in the off-season. Non-agricultural businesses are not very prevalent, with only 18 percent of households surveyed in Niger owning non-farm businesses.

The most common shocks experienced by households were: droughts/irregular rain (38 percent of households); high food prices (50 percent of households); and crop diseases (38 percent of households). Most households are also exposed to multiple shocks – households in the sample experienced an average of 2.8 shocks per year. The very precarious situation in which the surveyed population lives is underscored by the coping strategies they revert to when experiencing shocks: reducing food consumption and selling livestock.

This report verifies that the main outcomes of interest for the impact evaluation (such as food consumption, and food and nutrition security) are balanced between treatment and comparison sites at baseline. Therefore, this report records that the randomization process was successful in generating a valid comparison group to estimate counterfactual outcomes over time. This is a necessary step to ensure that the impact evaluation delivers rigorous estimates of the short- and medium-term impacts of FFA and the resilience package, including on the dynamics of welfare and food security over time.

Technical report

1. Introduction

In 2020, 155 million people in the world faced "crisis or worse" levels of food insecurity. Close to 115 million lived in countries affected by 'shocks' such as conflict or weather extremes.[4] In Niger, WFP estimates that 20 percent of the population cannot meet their food needs because of various social and environmental factors.[5] Conflict, forced population displacements, and climate change are identified as exacerbating food insecurity.[6] However, evidence is lacking on how development outcomes are affected by these shocks, and how WFP's programmes support populations to effectively respond.

The WFP Office of Evaluation, Asset Creation and Livelihood Unit, and the Climate and Disaster Risk Reduction Unit partnered with the World Bank's Development Impact Evaluation (DIME) department to create the Climate and Resilience Impact Evaluation Window. WFP's Impact Evaluation Strategy (2019–2026) focuses on delivering impact evaluations that contribute to global evidence as well as organizational learning. Impact evaluation windows help to achieve this strategy by focusing impact evaluation portfolios on priority evidence needs identified through literature reviews and extensive consultations.

The WFP Evaluation Policy 2022 defines impact evaluations as those that "measure changes in development outcomes of interest for a target population that can be attributed to a specific programme or policy through a credible counterfactual". They are usually undertaken during programme implementation over a multi-year period. WFP's ability to establish a credible counterfactual for its interventions depends on logistical and financial constraints. Impact evaluations are therefore restricted to looking at a set of questions that can be answered during a programme cycle using credible counterfactual designs.

The Climate and Resilience Impact Evaluation Window aims to understand how WFP's programmes contribute to the resilience of the populations supported. The first round of impact evaluations selected for this window aims to estimate the impacts of integrated packages of resilience activities on households' capacity to absorb shocks (absorptive capacity), adapt to increasing environmental or economic stressors (adaptive capacity), and improve well-being in the long term (transformative capacity). Given the shorter timeframes of WFP programme funding cycles, the impact evaluations initially focus on absorptive and adaptive capacities. Long-term transformative capacities may require more time and

[4] WFP. 2021. *Global Report on Food Crises: In brief.*
[5] WFP. 2015. *Niger Country Brief.* https://www.wfp.org/countries/niger
[6] WFP. 2021. *Global Report on Food Crises – 2021.*

additional data to measure. WFP's Integrated Resilience Programme in Niger consists of a range of activities, including food assistance for assets (FFA), nutrition support, school feeding, and Smallholder Agriculture Market Support (SAMS) activities.

The impact evaluation in Niger examines one main priority question for the WFP country teams: What is the impact of the integrated WFP resilience package (FFA, SAMS, nutrition/health, and education) on the resilience of recipient households and communities?

The main focus is on documenting the impacts on food security and related changes in well-being associated with households' resilience capacities. To identify the causal impact of the resilience programmes, the impact evaluation uses a clustered randomized control trial (RCT) design. Eligible sites are randomly assigned to either the treatment or comparison groups.

The impact evaluation measures key indicators through large-scale baseline and follow-up surveys. The surveys collect indicators related to consumption, food security, nutritional status, financial outcomes, assets, livelihoods, and coping strategies. In addition, a subset of food security indicators is measured through high-frequency surveys conducted every two months in a subsample of households. The evaluation directly assesses how the resilience programme affects households' ability to mitigate the effects of shocks on their food security and well-being. The impact evaluation also answers additional sub-questions, such as whether the effectiveness of the WFP's resilience package varies depending on a household's initial poverty and food security levels, or whether resilience programmes have any observable environmental impacts on site-level outcomes, such as vegetation indices around the sites where FFA activities recuperate land. Qualitative data will be used to understand how the programme is being implemented, and how the support provided through the programme is being perceived by the beneficiaries, generating additional insights about the patterns observed in the quantitative data.

This baseline report presents data from the baseline survey to provide information about the pre-programme situation of households in the study sample communities. The report begins by describing the research design and the impact evaluation strategy (Section 2). This is followed by descriptive statistics illustrating the baseline characteristics of sample households, including balance between randomized treatment and comparison groups (Section 3). Section 4 describes the process for targeting beneficiaries for key components of the resilience programmes, with emphasis on differences in baseline characteristics between targeted and non-targeted households. And Section 5 concludes with challenges and conclusions.

2. Impact evaluation design and sampling

Niger's resilience programme is aligned with the Country Strategic Plan (CSP) objectives and includes layered interventions such as: (i) food assistance for assets (FFA); (ii) nutrition/health; (iii) value chain and Smallholder Agriculture Market Support (SAMS); (iv) school feeding; and (v) lean season support through seasonal cash transfers.[7] The planning and prioritization of these interventions is supported and guided by the community-based participatory planning (CBPP) process.

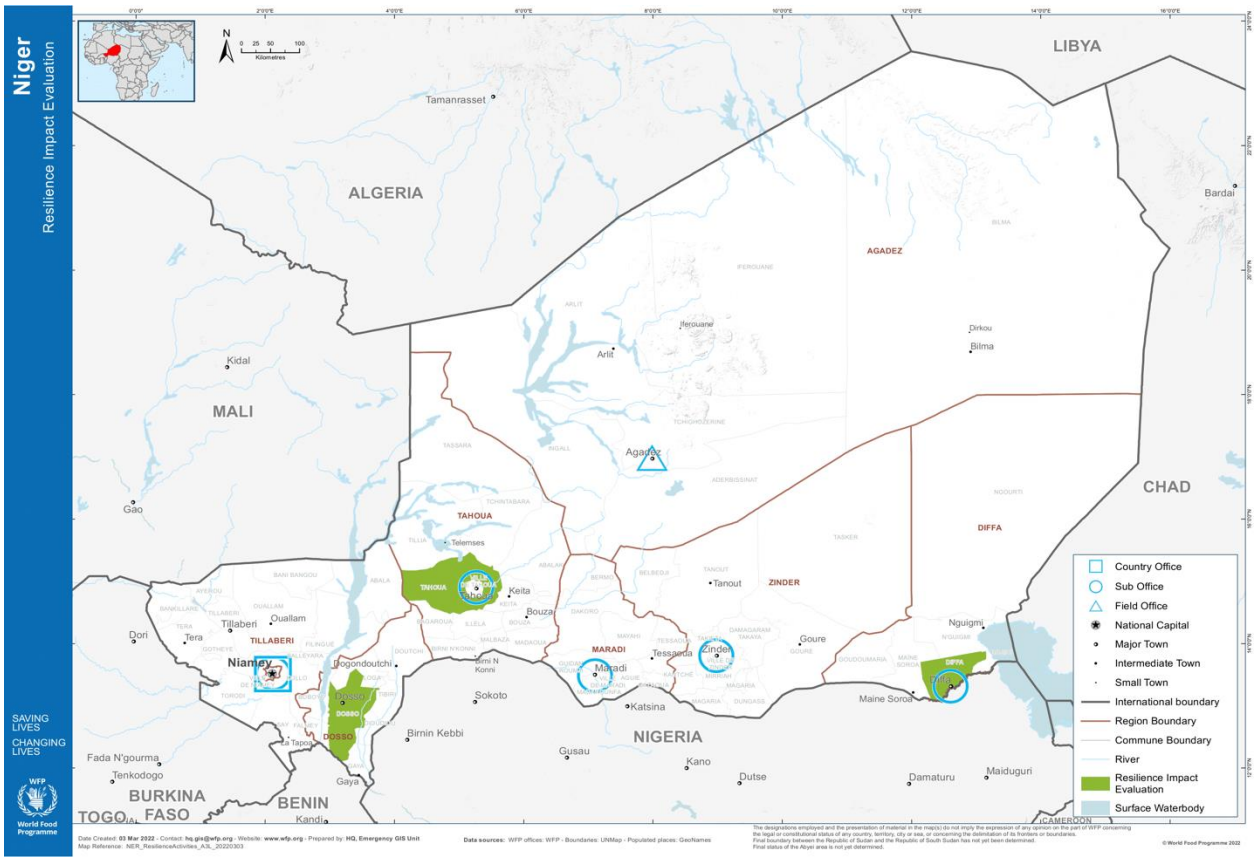
2.1. Treatment and comparison groups

In Niger, important entry points for programme targeting and implementation are the FFA sites or the villages. Many activities critical to the programme are implemented at the village level instead of at the household or individual level. Therefore, the impact evaluation uses a clustered randomized design where villages are assigned to treatment or control for estimating credible and unbiased treatment effects of the resilience package.

The Niger impact evaluation focuses on new sites that were being added to the resilience programme in 2021 in the regions of: Diffa (communes of Foulatari, Goudoumaria, and N'Guelbély); Dosso (communes of Falwel, Loga, and Sokorbe); and Tahoua (communes of Allakaye, Bagaroua, Bambeye, Garhanga, Keita, Tabalak, and Tebaram). WFP pre-selected sites that met eligibility criteria for the Integrated Resilience Programme, as well as villages closer to each of these sites. Site eligibility was based on the programme's selection criteria, which included a vulnerability assessment and a technical assessment. Among eligible sites, the impact evaluation involved randomly selecting a subset of sites to receive the Integrated Resilience Programme during the impact evaluation cycle. Respecting a sufficient sample size, the randomization eliminates any systematic differences between the treatment and comparison groups and thus creates a valid counterfactual.

[7] Further details on the Integrated Resilience Programme and the impact evaluation design can be found in the *Impact Evaluation Inception Report*.

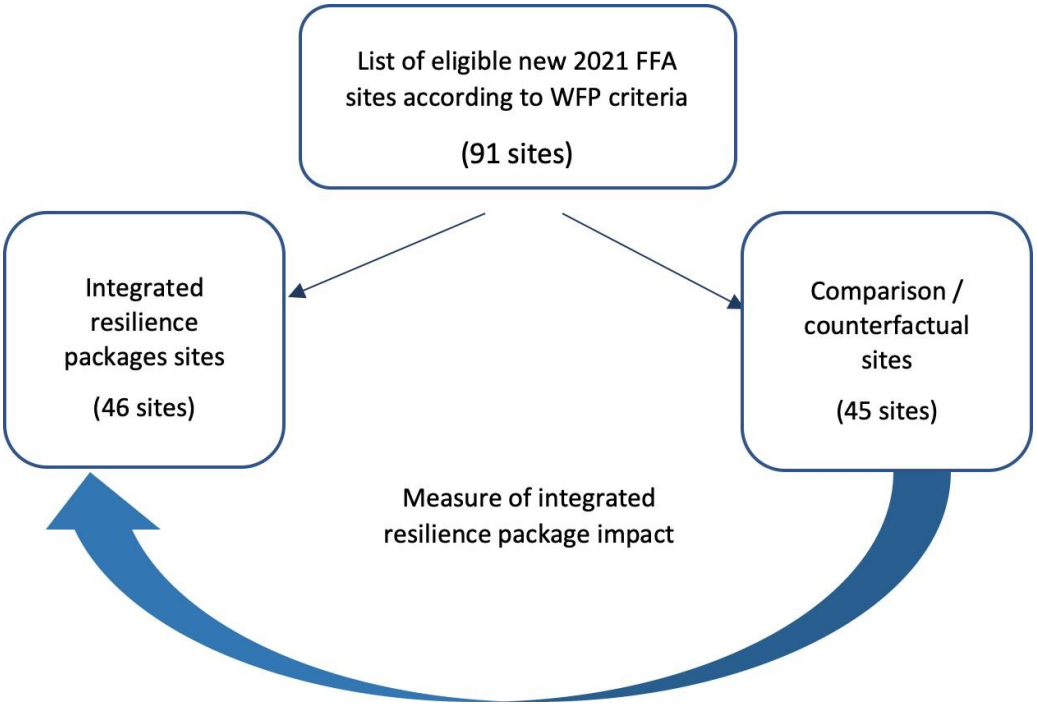
Figure 1: Map of the communes included in the impact evaluation in Niger



Since logistical difficulties and financial constraints do not allow the programme to provide support to all eligible sites, the random selection constitutes an objective and unbiased mechanism to decide which of the eligible sites will receive the programme first. The comparison sites might become eligible to receive the programme in the future, contingent on funding. Sites selected for the comparison group are therefore not prevented by WFP or the impact evaluation design from receiving any future support that may become available during or after the programme period.

The design is depicted in Figure 2. Randomization of treatment status among the pre-selected sites was stratified by communes and within site blocks that shared a similar number of households considered poor by the community (obtained from a community wealth ranking described further in Section 4). The stratification contributes to ensuring balance. It also provides some insurance against cases of non-compliance or possible security issues that may make some sites inaccessible over time. In this case the related strata could be dropped while maintaining the internal validity of the study (although at the cost of diminishing statistical power).

Figure 2: Resilience package experimental design in Niger



2.2. Study sample and data

The Niger sample includes 91 eligible FFA sites. The catchment areas around these sites contain 266 villages, including 91 primary villages (where the FFA sites are located) and 175 secondary villages (further away from the FFA sites). At the baseline, we sampled all primary villages and one secondary village in sites with multiple secondary villages. This gives us a total of 158 villages in the 91 studied sites.

Sample sizes were established based on calculations which indicated that surveying about 60 households per cluster in 91 clusters provided sufficient statistical power. Details of the sampling strategy and power calculations are provided in Section 4 of the inception report. After completing a detailed households listing (discussed in Section 4), 54 households per site were drawn into the baseline sample.[8] Out of the 4,892 sampled households, 4,714 were found and consented to be interviewed at baseline – a 96.4 percent response rate. Tables 1 and 2 provide the breakdown of the sample by region and commune, which is also illustrated in Figure 2.

[8] Each cluster needs 27 households to detect changes of 0.2 standard deviations in key outcomes. As such, the study was powered to support analysis between two subgroups.

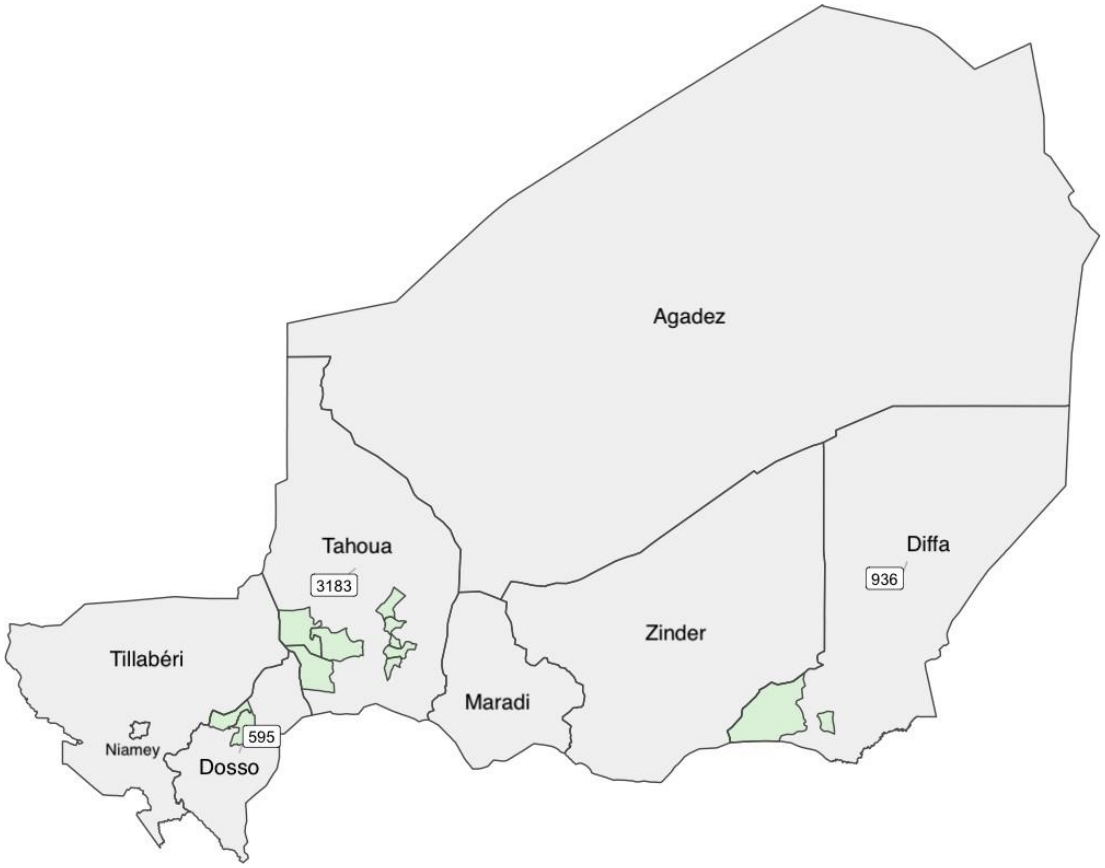
Table 1: Number of households interviewed in the baseline survey by region in Niger (comparison and treatment)

	Households	Share of total (%)
Diffa	936	19.86
Dosso	595	12.62
Tahoua	3183	67.52
Total	4 714	100.00

Table 2: Number of households interviewed in the baseline survey by commune in Niger (comparison and treatment)

Region	Commune	Sites	Households	Household share of total (%)
Tahoua	Allakaye	7	352	7.47
Tahoua	Bagaroua	20	1 125	23.87
Tahoua	Bambeye	8	397	8.42
Tahoua	Garhanga	2	104	2.21
Tahoua	Keita	10	543	11.52
Tahoua	Tabalak	8	451	9.57
Tahoua	Tebaram	4	211	4.48
Dosso	Falwel	1	53	1.12
Dosso	Loga	7	384	8.15
Dosso	Sokorbe	3	158	3.35
Diffa	Foulatari	6	207	4.39
Diffa	Goudoumaria	8	392	8.32
Diffa	N'Guelbély	7	337	7.15
Total	13	91	4 714	100.00

Figure 3: Number of households interviewed in the baseline survey by region, Niger



Note: The map displays the administrative regions of Niger and highlights (in green) the 13 communes where the impact evaluation was conducted.

2.3. Data source and tools

The baseline data collection relied on a multi-module household survey recording indicators in the following domains, which are aligned with the study objectives, impact evaluation inception report, and window pre-analysis plan:

1. Information about the household (household characteristics)
2. Main outcomes of interest
    - Food security (Food Consumption Score (FCS), food insecurity scale, and household dietary diversity score)
    - Consumption (food and non-food)
    - Income-generating activities: agriculture and livestock, wage employment, non-agriculture business
    - Shocks

- Coping strategies
- Financial outcomes

3. Additional outcomes

- Social capital
- Time use
- Psychosocial well-being
- Programme participation.

In line with the study design described in the inception report, the impact evaluation aims to measure resilience by observing welfare dynamics over multiple time periods. Therefore, resilience is measured in a dynamic way, by looking at outcomes (i.e., food security) at different points in time.[9] This approach allows us to observe households' exposure to shocks, seasonality, and trends in welfare, instead of relying on indices of characteristics that are believed to be associated with more favourable welfare dynamics.

The baseline survey measures capacities such as assets, and capabilities that are expected to be predictive of welfare. These will not be aggregated into indices until it can be achieved through observed food security dynamics in successive data collection rounds.[10]

As per the WFP Office of Evaluation's guidelines, a gender lens should be mainstreamed in all phases of the evaluation. At the baseline phase, the household survey recorded gender-sensitive indicators such as female locus of control, decision making, and dietary diversity. Additionally, all data are desegregated by sex and age to ensure that voices of men and women are heard and considered.

The questionnaire was developed with input from the WFP Country Office and extensively piloted with local communities in Niger to ensure that questions were gender sensitive and relevant to the context . The duration of the baseline survey was approximately two hours. Data was collected using Android tablets running the SurveyCTO data collection software. The Evaluation Team formulated extensive protocols to guide data collection for the enumerator teams. Training for enumerators was conducted in a classroom over two

[9] Consumption and food security outcomes are measured by Food Consumption Score (FCS), Food Insecurity Experience Scale (FIES), and expenditure, as explained in Annex 3 in the Inception Report. This approach to resilience measurement differs from previous resilience indices, which are static, and measure resilience at one point in time, or before and after an intervention.

[10] Common resilience indicators such as Resilience Index Measurement and Analysis (RIMA) are constructed by aggregating measures that are expected to predict welfare dynamics such as the ability to avoid poverty over time. Rather than construct these measures independently, the window approach is to directly measure welfare dynamics to determine empirically which capacities are associated with observed dynamics.

weeks, and included field pilots. The training protocols included gender considerations such as involving female enumerators in the data collection process. Also, the pilot testing of the instruments made sure that the questions were gender sensitive. During the data collection, high-frequency consistency and performance quality checks were conducted daily. These checks included flagging missing observations, duplicate observations, unusual survey duration, unusual number of “no-consent” responses, and other inconsistent patterns in the data. Any anomalies were immediately pointed out to the data collection team for correction. To ensure that data collection met the highest data quality standards, the team also performed a set of back-checks. This refers to drawing a random 10–20 percent sample of households and revisiting them to validate some of their answers. Cross-checking the data allowed us to provide immediate feedback to the field teams in case of divergences or other problems. The data collection followed the agreed timeline with the country office, and no significant challenges were faced.

3. Baseline balance and descriptive statistics

The main outcomes analysed in this report are selected based on the objectives of WFP's Integrated Resilience Programme: food security; consumption (food and non-food); income-generating activities; shocks; coping strategies; and financial outcomes. Other variables, such as financial support, time use, psychological well-being, and programme participation are presented for their relevance to the concept of resilience.

In this section, we show the baseline situation of households in the study sample. We first present a formal analysis of the balance (similarity) between treatment and comparison groups, as a validation of the randomization procedure underlying the impact evaluation strategy. We then present summary statistics of household demographics, main outcomes, and other outcomes of interest.

3.1. Balance of baseline outcomes across treatment groups

The internal validity of our experimental impact evaluation hinges on the randomized design described in Section 2. In this section, we examine the balance of covariates (e.g., household characteristics) and outcomes at baseline between treatment and comparison groups, to confirm the integrity of the design. Table 3 summarizes the standardized differences between treatment and comparison groups along key characteristics. A longer list of indicators is presented in the Annex Section 6.1, which systematically compares indicators between the treatment and comparison groups.

Overall, we observe a good balance of covariates between treatment and comparison groups. The treatment and comparison groups differ only on a few variables, as expected following a successful randomization. When imbalances are observed, they are often not statistically significant, or are of small magnitude. We also observe good balance when comparing site-level characteristics based on the household listing or planned assets, as documented in Table 4.[11] Overall, considering the level and magnitude of significance, the comparison and treatment groups are confirmed to be similar at baseline, and we will be able to estimate programme impacts through the difference in outcomes between

[11] There are a few statistically different variables between the two groups: a significantly higher means for the number of farm assets owned by the household, financial support index, and the number of shocks experienced. We observe significantly lower means in the treatment group for life satisfaction today and the percentage of households that received remittances.

treatment and comparison groups at the follow-up stage.

Table 3: Balance of baseline covariates in Niger

	Mean treatment	SD treatment	Mean control	SD control	Mean difference	t-test	p-values
Household size	6.63	3.72	6.61	3.58	0.03	(0.24)	(0.81)
% female household heads	23.91	42.66	23.61	42.48	0.30	(0.24)	(0.81)
Total household assets owned by household	2.07	2.01	2.12	1.96	-0.04	(-0.75)	(0.45)
Total farm assets owned by household	3.10	1.96	2.98	1.88	0.12*	(2.23)	(0.03)
% of household heads employed in the last 12 months	12.27	32.81	13.93	34.63	-1.66	(-1.68)	(0.09)
% of adults employed in the household	7.56	20.73	8.42	21.88	-0.87	(-1.39)	(0.16)
Per capita household wage income (monthly)	7 358.94	11 677.80	6 648.30	12 319.19	710.64	(0.80)	(0.42)
Household revenue from crop sales (annual)	19 056.07	226 336.83	28 324.82	391 276.28	-9 268.75	(-0.94)	(0.35)
Livestock count	8.26	9.74	8.42	10.21	-0.16	(-0.41)	(0.68)
Profit from livestock and products (last 6 months)	5 478.99	33 942.57	7 189.58	38 619.77	-1 710.58	(-1.61)	(0.11)
Food Consumption Score (FCS)	32.87	21.39	32.57	22.11	0.30	(0.47)	(0.64)
Household Dietary Diversity Score (HDDS)	3.45	1.89	3.47	1.93	-0.03	(-0.45)	(0.65)
Food Insecurity Experience Scale (FIES)	1.67	2.39	1.81	2.56	-0.14	(-1.95)	(0.05)
% Minimum Dietary Diversity for Women (MDD-W)	3.35	18.01	4.27	20.22	-0.92	(-1.17)	(0.24)
% Minimum Acceptable Diet (breastfed children)	0.41	6.38	0.44	6.65	-0.04	(-0.06)	(0.95)
% Minimum Acceptable Diet (non-breastfed children)	1.75	13.25	1.67	12.91	0.09	(0.04)	(0.97)
Household total consumption - Monthly	30 158.33	36 827.14	31 836.43	37 084.35	-1 678.10	(-1.56)	(0.12)
Food Expenditure Share (FES %)	50.21	32.85	51.38	32.69	-1.17	(-1.23)	(0.22)
Per-capita total consumption – monthly	5 314.67	6 851.21	5 585.39	6 717.90	-270.73	(-1.37)	(0.17)
Life satisfaction today (1-10)	3.10	1.73	3.21	1.73	-0.11*	(-2.23)	(0.03)
Cohen's Stress Index (0-40)	20.02	4.47	19.95	4.16	0.07	(0.54)	(0.59)
Female locus of control (0-10)	5.57	1.79	5.61	1.80	-0.04	(-0.33)	(0.74)
Number of shocks experienced	2.87	2.02	2.74	1.90	0.12*	(2.19)	(0.03)
Number of coping strategies used	1.48	1.73	1.40	1.68	0.08	(1.65)	(0.10)
% of households that used any savings mechanism	7.19	25.84	6.93	25.41	0.26	(0.35)	(0.73)
% of households that applied for a loan	38.09	48.57	37.22	48.35	0.87	(0.62)	(0.54)
% households that received remittances (from household member)	74.02	43.89	78.98	40.79	-4.96*	(-1.97)	(0.05)
% of households that received financial and non financial-transfers	4.27	20.23	4.34	20.38	-0.06	(-0.11)	(0.91)
Financial support index (FZ-score)	0.07	0.95	0.00	1.00	0.07*	(2.32)	(0.02)
Social cohesion and closeness to community Z-index	-0.00	1.00	0.00	1.00	-0.00	(-0.05)	(0.96)
Groups and collective action index (FZ-score)	2.45	113.90	0.00	1.00	2.45	(1.05)	(0.30)
Observations	2 363		2 351		4 714		

Asterisk *, ** and *** represent significance level at 10, 5 and 1% respectively

Table 4: Site-level balance in Niger

	Mean treatment	SD treatment	Mean control	SD control	Mean difference	t-test	p-values
Number of households	258.98	179.11	244.44	192.09	14.53	(0.37)	(0.71)
% of very poor and poor among ranked households	84.59	11.29	84.98	11.21	-0.39	(-0.16)	(0.87)
Number of households in primary village	172.37	131.82	184.78	167.47	-12.41	(-0.39)	(0.70)
Number of assets in planned FFA site	1.65	1.06	1.71	0.92	-0.06	(-0.28)	(0.78)
Planned FFA site has a water asset (%)	34.78	48.15	35.56	48.41	-0.77	(-0.08)	(0.94)
Observations	46		45		91		

Asterisk *, ** and *** represent significance level at 10, 5 and 1% respectively

3.2. Descriptive statistics

3.2.1. Household demographic characteristics

To understand the composition of the households in the sample (e.g., age, sex, etc.) we first examine household demographic characteristics. The majority of households in the Niger sample are headed by a male with no education. Table 5 (Panel A) shows that 24 percent of households are headed by a female. Only 18 percent of all household heads have completed primary education. As shown in Table 5 (Panel B) there are, on average, about seven members per household. A household in the sample typically owns approximately two assets. Mobile phones, carpets, mattresses, and chairs were the most common assets owned by households.

Table 5: Household characteristics in Niger

	Mean	SD	N
Panel A: Head of household			
% Female household head	23.76	42.57	4 714
% Household heads with any primary education	18.18	38.57	4 686
Household size	6.62	3.65	4 714
Panel B: Household			
% household with school-age children enrolled in school	30.00	34.81	4 118
Total household assets owned by household	2.09	1.98	4 714
Total farm assets owned by household	3.04	1.92	4 714
% households with a member who migrated	18.70	38.99	4 691

Note: Categorical variables are displayed as yes/no variables where a respondent answering 'yes' ascribes a value of 1, and 'no' a value of 0. THe mean value represents the proportion of the sample that belongs in a given category. For example, 24 percent of the sampled heads of household are women.

3.2.2. Gender dimensions

The data collected at the baseline is disaggregated by sex. This allows us to gain a better understanding of the status of women in the households surveyed. In the impact evaluation sample in Niger, less than 24 percent of the households are headed by women. In a subset of households, the baseline survey collected data on the Minimum Dietary Diversity for Women (MDD-W). Table 6 shows that less than 4 percent of women surveyed have achieved minimum dietary diversity and are likely to have an adequate micro-nutrient intake.

The baseline survey also measures female locus of control, an index used to see if

households headed by women believe that they have control over certain situations and experiences. A higher score on the index (ranging from 0-10) implies less control over a person's environment. As outlined in Table 15, the households headed by women in Niger, on average, scored 5.61 on the index.

3.2.3. Primary outcomes of interest

Food security

Food security is a key outcome of interest for the impact evaluation, as most of the activities under the resilience programme are geared towards improving food security either in the short term or the long term. Additionally, in the Climate and Resilience Window, resilience is analysed by studying the dynamics of food security over time. Indicators used to measure food security in the impact evaluation include food expenditure share, Food Consumption Score (FCS), Food Insecurity Experience Scale (FIES), and the Household Dietary Diversity Score (HDDS).

The FCS is calculated from the frequency of consumption of the different food groups over a seven-day period. A high FCS increases the likelihood that a household's food intake is adequate. Table 6 shows that, at the time of the survey, 51 percent of households in the Niger sample had a "poor" FCS score, with 17 percent borderline.

The HDDS is the sum of the different food groups (such as starches, vegetables, dairy products, and meat and poultry) consumed by the household during the previous seven days. It is intended to reflect the household's ability to access a variety of foods. The HDDS was, on average, classified as low diversity (see Table 6).[12]

The FIES is an index of eight questions that record the severity of food insecurity in the past 12 months, with 'yes/no' responses (e.g., "In the past 12 months, was there a time when you or others in your household worried about not having enough food to eat due to lack of money or other resources?"). Of the surveyed households, 67 percent reported experiencing severe food insecurity (FIES – severe) over the previous 12 months, and 17 percent reported moderate food insecurity.

Figure 4 shows the distribution for FCS and FIES. These findings suggest that most of the households in the sample are severely food insecure and have poor food consumption.

Table 6: Food security in Niger

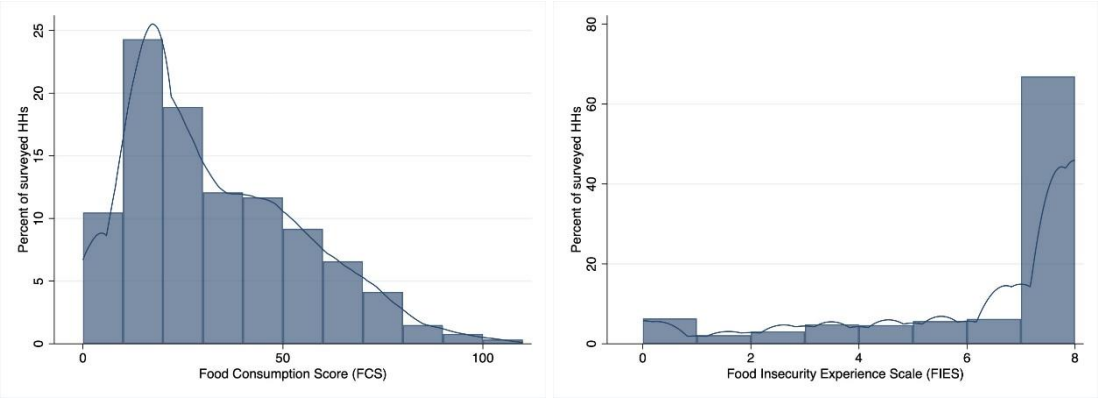
	Mean	SD	N
Panel A: Food Consumption Score (FCS)			
FCS	32.72	21.75	4 665

[12] A score below 5 is classified as low diversity.

% FCS poor (0-28)	51.32	49.99	4 714
% FCS borderline (28.5-42)	16.97	37.54	4 714
% FCS acceptable (Aabove 42)	31.71	46.54	4 714
Vitamin-A rich foods			
% never consumed	53.01	49.91	4 665
% consumed sometimes	24.54	43.04	4 665
% consumed at least daily	22.44	41.73	4 665
Protein-rich foods			
% never consumed	35.93	47.98	4 665
% consumed sometimes	34.81	47.64	4 665
% consumed at least daily	29.26	45.50	4 665
Heme iron-rich foods			
% never consumed	78.69	40.95	4 665
% consumed sometimes	19.23	39.41	4 665
% consumed at least daily	2.08	14.27	4 665
Panel B: Dietary diversity			
Household Dietary Diversity Score (HDDS)	3.46	1.91	4 665
% households low dietary diversity (0-4.5)	68.77	46.35	4 714
% households medium dietary diversity (4.5-6)	22.87	42.00	4 714
% households good dietary diversity (above 6)	8.36	27.68	4 714
% Minimum Dietary Diversity for Women (MDD-W)	3.80	19.14	2 418
% Minimum Acceptable Diet (breastfed children)	0.42	6.50	472
% Minimum Acceptable Diet (non-breastfed children)	1.71	13.02	117
Panel C: Subjective food insecurity			
Food Insecurity Experience Scale (FIES)	6.26	2.47	4 712
% households FIES food secure (0-3)	16.48	37.11	4 714
% households FIES moderate food insecurity (4-6)	16.61	37.22	4 714
% households FIES severe food insecurity (7-8)	66.91	47.06	4 714

Note: FCS ranges from 0 to 112, the HDDS ranges from 0 to 7. Higher FCS, HDDS, MDD-W and Minimum Acceptable Diet (MAD) values imply better food security outcomes. The FIES ranges from 0 to 8, based on respondents' yes/no answers to eight questions about food insecurity, with higher FIES scores indicating higher levels of food insecurity. FCS categories have been designed using the adjusted thresholds of Poor (0-28), Moderate (28.5-42) and Acceptable (above 42), following the recommendation of the World Bank country offices. The MDD-W and MAD indicators were only collected for a subset of households during the data collection.

Figure 4: Food consumption and food insecurity scores in Niger



Consumption

This module captures households' consumption of a list of food and non-food items. This gives us an indication of the poverty status of the household, as poorer households are more likely to spend a higher proportion of their income on food items.

Data is collected from households on their spending and consumption on food items and non-food items (clothing, hygiene, transportation, and so on) in the past month. This measure also records the quantity consumed, and whether items were obtained through purchase, own production, or gifts.

We then aggregated food and non-food consumption into a total consumption figure. The per capita indicators were calculated by dividing food consumption, non-food consumption, and total consumption by household size. While the total consumption indicators record household poverty status, the breakdown between food and non-food items can help us assess whether households participating in the resilience programme adjust their proportion of non- food items relative to food consumption.

Table 7 presents the average monthly household food, non-food, and total consumption in Niger. The average monthly household food consumption was West African CFA Franc (XOF is the ISO currency code) XOF 19,699.48, while household non-food consumption per month was XOF 10,537.73. The average monthly per capita consumption was XOF 5,449.69. On average, per capita household food consumption was higher than household non-food consumption, comprising 64 percent of per capita household consumption.

Figure 5 shows the distribution of food and non-food per capita consumption. The distributions have a long right tail as a smaller percentage of households spend more than XOF 4,000 and XOF 3,000 per capita on food and non-food items, respectively.[13]

[13] The humps in the right tails are due to winsorization of the top and bottom 2 percent of observations to minimize the influence of outliers. Winsorization refers to the process of replacing the extreme values of statistical data to limit the effect of the outliers.

Figure 5: Per capita food and non-food consumption in Niger

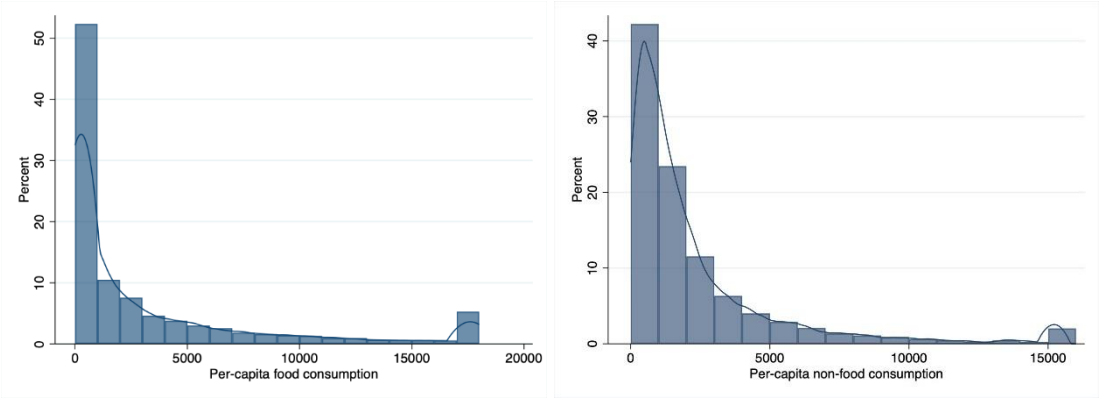


Table 7: Consumption in Niger

	Mean	SD	N
Household food consumption – monthly	19,699.48	29,505.06	4 714
Household non-food consumption – monthly	10,537.73	12,944.81	4 714
Household total consumption – monthly	30,995.25	36,961.25	4 714
Food expenditure share (FES %)	50.79	32.77	4 714
Per-capita food consumption – monthly	3,489.24	5,347.38	4 714
Per-capita non-food consumption – monthly	1,796.55	2,224.92	4 714
Per-capita total consumption – monthly	5,449.69	6,785.68	4 714

Note: Values are calculated in XOF and winsorized at the 2nd and 98th percentiles.

Income-generating activities

Table 8 presents the summary statistics for agricultural, wage, and non-agricultural income-generating activities. Panel A shows that 88 percent of households reported growing crops during the main agricultural season (between June and October), relative to only 4 percent of households that reported growing crops in the off-season. Among the households that grow crops, the average revenue from crop sales was XOF 13,788.40. Further, 54 percent of households reported rearing livestock, with an average livestock count of around eight animals or 1.1 tropical livestock units (TLU).[14]

Panel B shows that wage employment is rare in the sample. Only 15 percent of all household heads and, on average, 8 percent of all household adults, were involved in some wage employment in the 12 months prior to the baseline survey. Among those household

[14] The TLU is used to convert livestock to a single unit so different species from different sizes can be described by a single unit. The exchange ratios are as follows: pigs 0.2, chickens 0.01, cows 0.7, goats 0.1, and sheep 0.1.

heads who are employed with a wage, about 33 percent are employed in the agricultural sector, while 67 percent are employed in the non-agricultural sector.

Panel C shows that non-agricultural businesses are not very prevalent either. Ownership of non-farm household businesses is 18 percent among household surveyed in Niger. Of these, 25 percent operate agricultural businesses and 64 percent operate non-agricultural businesses. The average profit reported per month is FCFA 12,745.33.

Table 8: Income-generating activities in Niger

	Mean	SD	N
Panel A: Agriculture and livestock			
% households growing crops in main agri season	88.27	32.18	4 714
% households growing crops in off-season agri	4.05	19.72	4 714
Household revenue from crops sales (annual)	13 788.40	31 767.50	4 170
% households rearing livestock	53.94	49.85	4 703
Livestock count	8.34	9.97	2 537
Livestock count – tropical livestock units (TLU)	1.14	1.85	2 537
Profit from livestock and products (last 6 months)	7 406.41	19 155.08	2 537
Panel B: Wage employment			
% of households with any wage employment	15.53	36.22	4 714
% of adults employed in the household	7.99	21.31	4 714
Per capita household wage income (monthly)	6 992.94	12,009.48	732
% of household heads employed in the last 12 months	13.09	33.74	4 689
% of household heads employed in agri job	33.11	47.10	607
% of household heads employed in non-agri job	66.89	47.10	607
Number of months worked in the last 12 months	5.98	4.09	599
Panel C: Business			
% households that own a business	18.24	38.62	4 714
Number of businesses	1.27	0.83	860
Profit from business (monthly)	12 745.33	19,997.17	835
Type of business – agri (%)	24.65	43.12	860
Type of business – non-agri (%)	63.60	48.14	860
Number of months worked in household business	6.90	4.14	860

Note: Profits, revenue, per capita wage income are expressed in XOF and winsorized at the 2nd and 98th percentiles.

Shocks

To explore how food insecurity and poverty are affected by shocks, respondents were asked whether their household had been negatively affected by a list of 19 predefined shocks in the previous 12 months. As the survey was conducted between January and March 2021, the households will mainly be reporting on shocks that happened in 2020.

Table 9 shows that households in Niger faced 2.81 shocks, on average, throughout the year. The three most common shocks included rising food prices (experienced by 50 percent of households), drought/irregular rain (experienced by 38 percent of households), and crop/pests diseases (experienced by 38 percent of households).

Table 9: Shocks in Niger

	Mean	SD	N
Number of shocks experienced	2.81	1.96	4 714
Drought/irregular rain	38.08	48.56	4 714
Floods	32.58	46.87	4 714
Crop pests/diseases	38.29	48.61	4 714
Animal diseases	25.31	43.48	4 714
Rise in agricultural input prices	28.36	45.08	4 714
Lower prices for agricultural products	10.46	30.60	4 714
Rising food prices	50.40	50.00	4 714
Significant loss of non-farm household income (not related to accident or illness)	8.08	27.26	4 714
Serious illness or accident for a household member	27.17	44.49	4 714
Death of a household member	11.16	31.49	4 714
Divorce, separation	2.63	16.01	4 714
Religious conflict	0.38	6.17	4 714
Ethnic conflict	0.85	9.17	4 714
Other	6.94	25.41	4 714

Coping strategies

A coping strategies module was used to understand how households cope when facing important shocks. For example, households may resort to a wide range of costly or negative coping strategies when exposed to extreme shocks. These coping strategies could make them further vulnerable to future shocks or stressors. In the baseline survey, we asked for coping strategies that someone in the household resorted to during the past 12 months when experiencing shocks (from a predefined list).

The most commonly used strategies were reducing food consumption (53 percent of households) and selling livestock (21 percent of households) (see Table 10). Reducing food consumption could affect the nutritional status of the household, in particular, young children. This could subsequently lead to longer-term implications in terms of educational attainment and income status. Similarly, selling livestock, which is one income source, could leave the households poorer and more vulnerable in the long term. Additional analysis through follow-up surveys will be required to understand how resilience programmes can provide support in a way that reduces negative coping strategies that put households at risk in the longer term.

Table 10: Coping strategies in Niger

	Mean	SD	N
Number of coping strategies used	1.43	1.71	4 714
Stress coping strategies			
% households spent savings	14.13	34.84	4 614
% households sold livestock	21.06	40.78	4 629
% households sold food stocks	10.90	31.17	4 614
% households borrowed money	6.30	24.30	4 714
Crisis coping strategies			
% households reduced health/education spending	12.02	32.52	4 619
% households consumed seed stocks that were to be saved for next season	1.44	11.92	4 714
% households received help from relatives or friends	3.33	17.95	4 714
Emergency coping strategies			
% households sold a house or land	0.04	2.06	4 714
% households begged	0.55	7.41	4 714
% households migrated	3.08	17.27	4 714
Miscellaneous coping strategies			
% households reduced food consumption (quantity/meal; of meals/day)	52.51	49.94	4 660
% households withdrew children from school	6.72	25.04	4 626
% households sold productive assets or means of transport	0.78	8.83	4 714
% households purchased food on credit or borrowed food	1.80	13.31	4 714
% households used remittances	0.21	4.60	4 714

% households sold other household assets/goods	1.46	12.01	4 714
% households reduced non-food expenses	0.40	6.34	4 714
% households where members took on additional activities	0.34	5.82	4 714
% households received aid from government	0.23	4.83	4 714
% households received aid from NGOs	0.57	7.55	4 714
% households turned to God	6.07	23.87	4 714
% households used other coping strategies	1.00	9.94	4 714
Livelihood-based coping strategy category			
% households used stress coping strategy	32.41	46.81	4 714
% households used crisis coping strategy	15.78	36.46	4 714
% households used emergency coping strategy	3.67	18.80	4 714

Note: Households were asked about 22 coping strategies. Reduction in food consumption, spending savings, selling livestock or food stock, withdrawing children from school, reducing health/education expenditure were asked about explicitly; the remaining strategies were part of a longer list that households could self-report. To consider an even number of strategies from each category, several strategies from the self-reported issues were included in the Livelihood Coping Strategy Index (LCSI) based on Consolidated Approach for Reporting Indicators of Food Security (CARI) guidelines.

Financial outcomes

A household's financial activity can affect its capacity to manage risk and shocks. Respondents were asked about their household's current savings, the number of loans they have, their current outstanding debt, and transfers received and sent in the past 12 months.

Table 11 shows households' financial activity in the past 12 months: 7 percent reported using a saving instrument; 38 percent applied for a loan; and 4 percent received a transfer from a family member.

Table 11: Financial outcomes in Niger

	Mean	SD	N
% of households that used any savings mechanism	7.06	25.63	4 714
Total savings	331.86	1 617.24	4 714
% of households applied for a loan	37.65	48.46	4 714
Amount borrowed	13 582.51	30010.38	4 582
% of households received financial and non financial-transfers	4.31	20.30	4 714
Total transfers received	8 241.34	21 556.43	4 714
Amount transferred to family	22 632.86	40 876.38	211
% households received remittances (from household member)	76.41	.47	1 132

Note: Values are calculated in XOF and winsorized at the 2nd and 98th percentiles.

3.2.4. Other outcomes of interest

Financial support

Our financial support index assesses whether respondents can obtain funds in their community. This is an indication of the social support that households can count on in the event of a shock. The index consists of questions that ask whether respondents can raise funds from other people within their community, the probability of raising XOF 30,000 over the next month, and if they can count on the village to help in case of difficulties. These responses are standardized into a singular index using a Z-score that constitutes the financial support index.

As shown in Table 12, on average there are around five people a household head could ask for money. Among the households surveyed, 19 percent of households say that they could raise XOF 30,000 over the next month in case of need.

Table 12: Financial support in Niger

	Mean	SD	N
Number of people you could ask for money	5.18	6.36	4 526
Number of siblings you can ask for money	1.65	1.61	4 118
Number of family members you can ask for money	1.49	2.06	4 209
Number of friends you can ask for money	1.33	2.29	4 265
Number of other community members you can ask for money	1.10	2.67	4 293
Probability of raising funds	0.19	0.39	4 714
Financial support index (FZ-score)	0.03	0.97	4 714

Subjective resilience

Table 13 reports the Subjective Resilience Index. The index is built from nine questions that focus on specific resilience-related capacities, such as adaptive, transformative, absorptive, financial capital, social capital, and so on. The responses to these nine questions are recorded as ratings, capturing the extent of agreement or disagreement with each statement (ranging from 'strongly agree' to 'strongly disagree'). These responses are numerically converted where 'strongly disagree' equals 1 and 'strongly agree' equals 5, and they are summed together for each household to compute an overall subjectively evaluated resilience score (SERS). Households are then categorized based on their overall score – low subjective resilience (below 33), medium subjective resilience (33 to 65), or high subjective resilience (66 and above).

During the baseline survey, average SERS was computed as 40.31 and most households reported medium subjective resilience (57 percent), followed by low subjective resilience (34 percent), and high subjective resilience (9 percent). Within the climate and resilience window, the Subjective Evaluation Resilience Score (SERS) index was collected only in the Niger baseline survey.

Table 13: Subjectively evaluated resilience scores (SERs) in Niger

	Mean	SD	N
SER	40.31	18.61	4 714
% low subjective resilience (0-32)	34.30	47.48	4 714
% medium subjective resilience (33-65)	56.77	49.55	4 714
% high subjective resilience (above 66)	8.93	28.52	4 714

Time use

This section describes the types of activities performed by household heads at different times on the last day before the survey. Table 14 shows that, on the last day before the survey, from 09:00 to 15:00, most of the heads of households engaged in chores and work-related activities (32 percent and 28 percent, respectively). Between 19:00 and 22:00, 39 percent stated that they engaged in leisure activities, and after 22:00, 82 percent of respondents rested.

Table 14: Time use in Niger

	Mean	SD	N
Panel A: Activities at sunrise (06:00)			
Work	17.88	38.32	4 714
Chore	18.46	38.80	4 714
Leisure	15.29	36.00	4 714
Rest	13.81	34.50	4 714
Panel B: Activities in the morning (09:00)			
Work	28.43	45.11	4 714
Chore	32.39	46.80	4 714
Leisure	9.12	28.79	4 714
Rest	1.91	13.69	4 714
Panel C: Activities in the afternoon (15:00)			
Work	16.23	36.87	4 714
Chore	24.42	42.96	4 714
Leisure	18.24	38.62	4 714
Rest	5.85	23.48	4 714
Panel D: Activities in the evening (19:00)			
Work	3.16	17.50	4 714
Chore	13.45	34.12	4 714
Leisure	39.37	48.86	4 714
Rest	6.00	23.76	4714

Panel E: Activities at night (22:00)			
Work	0.62	7.82	4 714
Chore	1.21	10.93	4 714
Leisure	3.25	17.72	4 714
Rest	82.07	38.36	4 714

Note: Activities classified as work include household agricultural activities, non-agricultural self-employed jobs, paid agricultural and non-agricultural work, work on WFP programmes, and other unpaid work. Chores include childcare, collecting firewood or water, chopping, cooking, house- keeping, personal hygiene, and transportation. Leisure includes eating, playing sports, other leisure activities, visiting friends/family, and religious services. Rest includes sleeping. The values reported in the table are in percentages.

Psychosocial

To analyse survey respondents' psychological well-being, we look at the following indices:[15]

- Life satisfaction today and two years ago (1-10), where a higher score indicates greater life satisfaction and vice versa.
- Subjective social status (1-10). Respondents were asked to think that the top of the scale included people with more means and more education, and the bottom included people with the lowest status, where a higher score reflects greater subjective social status.
- Future expectations (3-30). This index is constructed from the total score of the three questions: "*Think of the youngest child of the household. What will his social position be when he turns 30? In two years, do you think your position will go up, down, or stay the same? In two years, do you think your satisfaction with life will go up, down, or stay the same?* A higher future expectation score indicates better expected future outcomes.
- Less depression (0-70). The Centre for Epidemiological Studies Depression Scale (CES-D-10) is a 10-item Likert scale questionnaire assessing depressive symptoms. Higher scores suggest greater severity of symptoms (risk of depression).
- Less disability (0-28). This index is constructed from the four questions of the SRQ-20[16] and detects psychological distress. Each answer can take the value of 0 to 7.
- Cohen's Stress Index (0-40). This index is a measure of the degree to which situations in the respondent's life are perceived as stressful. It is a set of ten questions. The higher the score, the greater the respondent's experience of stress.

[15] For a detailed discussion of the construction of these psychosocial indices in the Sahel context, see: Bossuroy, T. et al. 2021. *Pathways Out of Extreme Poverty: Tackling psychosocial and capital constraints with a multi-faceted social protection programme in Niger.* Policy Research Working Paper; No. 9562. Washington D.C. World Bank.

[16] Harding, T.W., et al. (1980) Mental Disorders in Primary Health Care: A Study of Their Frequency and Diagnosis in Four Developing Countries. Psychological Medicine, 10, 231-241.

- Self-efficacy (8-32). Drawn from eight questions, this index reflects respondents' confidence in their ability to exercise control over their own behaviour and their environment.
- Satisfaction with life (5-25). This index evaluates respondents' satisfaction as a whole and consists of a set of five statements. A higher score suggests greater life satisfaction.
- Female locus of control (0-10). This index is used to see how strongly households headed by women believe they have control over certain situations and experiences. A higher locus of control score implies a feeling of less control over one's environment.

The level of these indices is not necessarily meaningful in absolute terms. Therefore, we do not comment on the baseline levels of depression, stress, or self-efficacy. However, the study will document whether the programme impacts on any of these indices over time.

As shown in Table 15, we find that the average life satisfaction today index is 3.16 for the household head, where 1 indicates low life satisfaction and 10 indicates high life satisfaction. Life satisfaction two years ago has a very similar average, suggesting that life satisfaction among household heads is relatively stable, on average.[17] Satisfaction with life averaged around 11 out of 25, and the self-assessed social status averaged less than 3. Respondents do not seem to think that the future will be brighter, as the future expectations index averaged 15 out of 30.

Table 15: Psychosocial indices in Niger

	Mean	SD	N
Panel A: Household head			
Life satisfaction today (1-10)	3.16	1.73	4 714
Life satisfaction two years ago (1-10)	3.63	2.02	4 714
Subjective social status (1-10)	2.77	1.55	4 714
Future expectations (3-30)	14.88	5.33	4 714
Less depression (0-70)	29.23	11.75	4 695
Less disability (0-28)	8.63	5.69	4 689
Cohen's Stress Index (0-40)	19.99	4.32	4 708
Self-efficacy (8-32)	19.99	5.60	4 709
Satisfaction with life scale (5-25)	11.41	4.04	4 711
Panel B: Primary female decision maker			

[17] The life satisfaction today index is calculated from a Cantril ladder. The enumerators explain to respondents that, to answer, they should think that the top of the ladder represents the best possible life. The bottom of the ladder represents the worst possible life. The same goes for life satisfaction two years ago, where enumerators ask which step of the ladder respondents felt they were at in the past.

Female locus of control (0-10)	5.61	1.77	970

Note:

Locus of control was not collected from male heads of households. A higher locus of control score implies a feeling of less control over one's environment. Stress scores were calculated using the Perceived Stress Scale)[18]. Depression scores were calculated using the standard Patient Health Questionnaire (PHQ-9). Life satisfaction scores were calculated using the Satisfaction With Life Scale[19]

Programme participation/assistance received

Table 16 reports the proportion of households that benefited from various programmes in the 12 months prior to the baseline survey. The most common support that benefited households related to health, including vaccinations (28 percent of households), medication (16 percent of households), and care for children under 5 years old (15 percent of households).

Table 16: Assistance received in Niger

	Mean	SD	N
Food for work	7.06	25.63	4 714
Nutritional supplements	0.23	4.83	4 714
Public works paid for with agricultural inputs	0.42	6.50	4 714
School feeding	1.63	12.68	4 714
Schooling support	1.10	10.45	4 714
Free food	5.30	22.41	4 714
Government cash transfers	1.59	12.51	4 714
Pregnancy care programme	3.52	18.43	4 714
Care for children under 5 years old	15.25	35.96	4 714
Vaccination	27.51	44.66	4 714
Annual medical check-up	3.05	17.21	4 714
Medication	15.83	36.50	4 714
Medical treatment	3.63	18.70	4 714

Note: Households were asked about 13 safety nets received over the previous 12 months.

[18] Cohen, S., Kamarck, T. and Mermelstein, R. (1983) A Global Measure of Perceived Stress. Journal of Health and Social Behavior, 24, 385-396.

[19] Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. Journal of Personality Assessment, 46, 71-75.

4. Pre-baseline community wealth ranking and WFP programme targeting

To identify communities targeted for WFP resilience programme support, the assessment looked at food assistance for assets (FFA) activities. Within those communities, FFA beneficiaries are selected based on their level of vulnerability through a community targeting approach. While all households in the community benefit from school feeding or nutrition activities, only households identified as 'very poor' or 'poor' (based on a community targeting exercise based on the Household Economy Analysis (HEA) methodology[20] are selected to participate in FFA activities. In this section, we explain how a community wealth ranking was performed to mimic the HEA targeting exercise across treatment and comparison groups before the baseline survey was carried out and prior to the WFP targeting process. We then assess the baseline characteristics of households classified 'very poor' and 'poor' following the community wealth ranking. Finally, we compare results from the community pre-baseline wealth ranking with results from the WFP community targeting undertaken in treatment sites after the randomization.

4.1. Pre-baseline wealth ranking prior to baseline survey

The Niger baseline sample includes 91 FFA work sites. We sampled a primary village in each site, and one secondary village in sites with multiple secondary villages. This gives us a sample of 158 villages in the 91 sites.

Within the 158 villages, we undertook a door-to-door household listing, leading to the identification of 23,414 households (see Table 17 for a breakdown by region). We then drew a sample of 10,079 households (up to 80 households per village), which we asked community committees to rank in a process that mimics the HEA approach used by WFP for community targeting in Niger. The goal of the pre-baseline wealth ranking was to predict which households would be identified as FFA beneficiaries by WFP (typically households classified as very poor or poor), and to do so consistently across treatment and comparison areas.

[20] The HEA is a unique livelihoods-based framework designed to provide a clear and accurate representation of the inside workings of household economies at different levels of a wealth continuum and in different parts of the world.

Table 17: Number of households listed, ranked, and interviewed at baseline – across all 91 treatment and comparison sites (and the 158 sampled villages associated with these sites)

Region	Households listed	Households ranked	Households interviewed at baseline
Diffa	1 453	1 315	936
Dosso	3 139	1 551	595
Tahoua	18 822	7 213	3 183
Total	23 414	10 079	4 714

WFP and Development Impact Evaluation (DIME) worked together to develop a protocol for the listing and community wealth ranking, with the objective to come as close as possible to the WFP targeting process without raising expectations about programme participation. The steps followed the WFP targeting protocol[21] by creating three subcommittees to rank households using the same targeting tool as WFP implementing partners. The enumerators who facilitated the work of the subcommittees were trained by WFP trainers, using WFP content and targeting tools. The difference was that the process was a bit lighter: the committees ranked only a (random) sample of households instead of all households in the community. In addition, the process was not followed by a village-wide assembly with participation from commune leaders, and did not involve door-to-door verification of households for committee consensus on the ranking. This was to avoid raising expectations about upcoming programme participation.

As a result of the pre-baseline wealth ranking exercise, 4,755 households (47.2 percent) were considered very poor, 3,841 (38.1 percent) were considered poor, 1,222 (12.1 percent) were considered moderately poor, and 225 (2.3 percent) were considered well-off.[22] Table 18 provides the breakdown.

[21] "Note conceptuelle sur le ciblage participative des bénéficiaires."

[22] A total of 36 households (0.3 percent) could not be ranked due to a lack of consensus between the three committees performing the community wealth ranking.

Table 18: Number of households by pre-baseline wealth ranking, for all households ranked and for households in the baseline sample (treatment and comparison sites)

Poverty status	No. ranked	% ranked	No. sampled	% sampled
Very poor	4 755	47.20%	2 249	45.90 %
Poor	3 841	38.10%	1 890	38.60 %
Moderate	1 222	12.10%	616	12.60 %
Well-off	225	2.30%	125	2.60 %
No consensus	36	0.30%	12	0.30 %
Total	10 079	1	4 892	1

Among the ranked households, we drew a subsample of 54 households per site to be interviewed at baseline.[23] The 4,892 baseline sample households included 3,057 from primary villages (62.5 percent) and 1,835 from secondary villages (37.5 percent). Out of the 4,892 sampled households, 4,714 were successfully interviewed at baseline. The household sample was not stratified by poverty level, but we can document its breakdown by the poverty status elicited from the pre-baseline wealth ranking. Out of the 4,892 baseline sample households, 2,249 (45.9 percent) were considered very poor, 1,890 (38.6 percent) were considered poor, 616 (12.6 percent) were considered moderately poor, and 125 (2.6 percent) were considered well-off. Due to a lack of consensus in community committees, 12 households (0.3 percent) could not be ranked. Table 18 provides the breakdown of sample households by community wealth ranking. It is very similar to the full population ranked, highlighting the representativeness of the sample.

4.1.1. Baseline characteristics of households classified by the communities as poor and non-poor

Using the baseline survey, we can examine differences in characteristics between households classified by the communities as 'poor' (in categories 'very poor' or 'poor') and 'non-poor' (in categories 'moderate' and 'well-off'). This is helpful as it highlights the characteristics of households that are predicted to become FFA beneficiaries, compared to other households in the community that may participate in other activities of the resilience programme. This is similar to targeting

[23] Specifically, if there is only one village per site, all 54 households were drawn from the same villages. If there is one village with fewer than 54 households per site, all households in the village were drawn. If there are two villages drawn from the site, and both villages have more than 27 households, we draw 27 households per village. If there are two villages drawn from the site, but one village has fewer than 27 households, we draw all the households from the village and additional households are added from the second village to reach 54 households in the sample for the site. If there are two villages drawn from the site, and both have fewer than 27 households, all households are drawn into the sample.

efficiency analysis performed for other programmes in Niger, such as the Niger national cash transfer programme.[24] In addition, the analysis provides information on the characteristics of households that are considered poorer by the communities, which is relevant before analysing their future resilience through the dynamics of food security over time.

The results are presented in the Annex 6.3. There are significant differences between households classified by the community as poor (very poor and poor) and non-poor (moderate and well-off), particularly for socioeconomic characteristics and welfare indicators (Table 45). In general, households classified as poor have fewer economic activities, with the household head working less during the last 12 months (Table 46) and the days before the survey (Table 54). Households classified as poor are also less involved in (non-agricultural) businesses. These differences are associated with lower food security (Food Consumption Score, household dietary diversity, and food insecurity experience scale), as well as lower consumption expenditure, which ultimately is used to record household poverty status.

4.1.2. Correlation between pre-baseline wealth ranking and programme targeting

Following the baseline survey and randomization, WFP implemented a full targeting protocol in the 46 treatment sites. In this section, we analyse the consistency between the pre-baseline Wealth Ranking and the results of the WFP targeting exercise in treatment sites. For the 46 treatment sites, targeting data were provided by the WFP Country office and sub-offices for the 158 sample villages. Specifically, DIME shared the list of 11,913 households identified during the community listing in treatment villages. Then, WFP conducted the targeting and shared the targeting datasets back with DIME. 11,880 of the 11,913 households listed (99.7 percent) were uniquely identified and 33 households could not be identified by their corresponding ID in the WFP targeting dataset.[25] Among the 11,913 households of the full listing dataset, 11,358 (95.3 percent) were ranked during the WFP community targeting process. The remaining 555 households (4.7 percent) have missing ranking values.[26]

[24] See for instance: Premand, P. & Schnitzer, P. 2021. Efficiency, Legitimacy, and Impacts of Targeting Methods: Evidence from an experiment in Niger. *The World Bank Economic Review*, Volume 35(4); Schnitzer, P. & Stoeffler, Q. 2021. *Targeting for Social Safety Nets: Evidence from nine programs in the Sahel.* Policy Research Working Paper; No. 9816. Washington D.C. World Bank.

[25] In addition, there were 119 duplicate household IDs for 19 households that were corrected.

[26] The 555 households are: 312 (out of 643) from Diffa, 23 (out of 1,641) from Dosso, and 220 (out of 9,629) from Tahoua. Of the 555 households, 423 were not found by WFP when conducting the targeting, and there were 33 households for which the corresponding household ID was not found in the WFP targeting dataset.

Table 19: Correspondence between household classification in pre-baseline wealth ranking and WFP targeting data (treatment sites)

Community wealth ranking						
		WFP Targeting				
		VP	P	M	W	Missing
Pre-baseline wealth ranking	VP	1 497	461	364	34	185
	P	551	693	521	51	159
	M	98	83	352	45	45
	W	4	6	36	52	11

Note: VP = Very poor, P = Poor, M = Moderate, W = Well-off.

Table 20: Correspondence between household classification in pre-baseline and WFP targeting data (treatment sites, baseline sample only)

Community ranking						
		WFP targeting				
		VP	P	M	W	Missing
Baseline	VP	610	202	135	12	115
	P	262	317	227	19	92
	M	47	45	166	20	36
	W	2	3	19	24	7

Note: VP = Very poor, P = Poor, M = Moderate, W = Well-off.

The consistency between the results from the pre-baseline wealth ranking and the programme targeting data is lower than expected. Among the 5,248 households ranked in treatment sites, only 2,594 (1,497 + 693 + 352 + 52, or 2,594/5,248 = 49 percent) of all households are classified in the same category in both the pre-baseline wealth ranking and WFP targeting data (see observations in the diagonal in Table 19). Even when considering the broader categories of either poor or non-poor, 3,687 (1,497 + 461 + 551 + 693 + 352 + 45 + 36 + 52, or 3,687/5,248 = 70 percent) of all households are classified the same way as either poor (very poor or poor) or non-poor (moderate or well-off). Similarly, among the 2,360

baseline households ranked in the treatment group,[27] 1,117 (610 + 317 + 166 + 24, or 1,117/2,360 = 47 percent) are classified in the same category in both rankings (see observations in the diagonal in Table 20). Considering the broader categories of either poor or non-poor, 1,620 (610 + 202 + 262 + 317 + 166 + 20 + 19 + 24, or 1,620/2,360 = 69 percent) of all households are classified the same way as either poor (very poor or poor) or non-poor (moderate or well-off).

These results have two main implications. First, they show that the HEA community targeting process, which relies on a participatory approach, is not easily replicable. Even with the exact same training, tools, and largely the same protocol resulting in a high consensus in the ranking between committees within communities, the results are rather unstable. Second, from the impact evaluation standpoint, the pre-baseline wealth ranking was collected to facilitate subgroup analysis between poor and non-poor households in control and treatment group. Since the actual programme targeting was only conducted in the treatment group, this exercise does not generate similar categorization in the control group villages. Therefore, we cannot adjust the impact evaluation sample to reflect the actual programme targeting data. Given the limited overlap with actual programme targeting data, this subgroup analysis will be noisier. Treatment-on-the-treated estimates may be calculated if sufficiently precise monitoring data can be obtained on the benefits received. If the Impact Evaluation Team and the country office cannot provide reliable monitoring data, the endline analysis will rely on intent-to-treat estimates, which means comparing respondents living in sites targeted for the intervention with respondents from sites not targeted for the intervention. Finally, some interventions (e.g., school feeding, nutrition activities, etc.) are implemented at the site level and are expected to impact households across different groups. High frequency and endline data will collect information on programme participation to understand which households benefited from which intervention and take that into consideration in the analysis.

[27] We do not include three baseline households for which there was no consensus in the ranking.

5. Challenges and conclusions

5.1. Challenges

There are a few aspects of the process that need to be considered while interpreting the data from baseline, follow-up surveys and the endline in the future. First, household food security status is expected to vary across seasons and as they encounter shocks. Therefore, the timing of the support provided through each activity (e.g., food assistance for assets (FFA), nutrition, etc.) will be important. Second, there are activities that are implemented at the commune level (e.g., school feeding, some of the larger assets built through FFA), and it is likely that households from both comparison and treatment groups benefit from these activities. Also, it is not clear if all assets constructed during the impact evaluation timeframe, will be fully functional. Some assets may take three to five years to be productive and beneficial to the targeted population. The Impact Evaluation Team will document the location of these activities as much as possible.

Finally, the limited overlap between pre-baseline wealth ranking and the actual programme targeting datasets indicates that fewer households in the impact evaluation treatment group sample may receive activities such as FFA, thereby reducing the possibility to detect impacts. The Impact Evaluation Team will work with the country office to obtain any monitoring data that can help to identify which households and villages receive planned activities.

5.2. Conclusions

The initial phase of the implementation of the of impact evaluation design and the baseline survey have been completed successfully. This baseline report presents the descriptive analysis of the pre-programme situation and serves as a point of reference for the impact evaluation. The report describes deprived and vulnerable communities, highlighting the context in which WFP's resilience programme will seek to strengthen resilience. A large percentage of the households studied have high levels of food insecurity, low levels of food consumption, and diets lacking nutritional diversity. Most households are subsistence farmers who grow crops during the main agricultural season. The most common shocks were droughts, floods, high food prices, and crop diseases. But most households are also exposed to multiple shocks: households in the sample experienced an average of 2.8 shocks per year.

This report also verifies that the main outcomes of interest for the impact evaluation (such as food consumption, or food and nutrition security) are balanced between treatment and comparison sites at baseline, and thus documents that the randomization process was successful in generating a valid comparison group to estimate counterfactual outcomes over

time. This is a necessary step to ensure that the impact evaluation will deliver rigorous estimates of the short-term and medium-term impacts of FFA and the resilience package, including on the dynamics of welfare and food security over time.

6. Annex

6.1. Summary statistics by treatment status in Niger

Table 21: Household demographics by treatment in Niger

	Mean treatment	SD treatment	Mean control	SD control	Mean difference	t-test
Panel A: Head of household						
% Female household head	23.91	42.66	23.61	42.48	0.30	(0.24)
% household heads with any primary education	18.57	38.90	17.79	38.25	0.78	(0.70)
Panel B: Household						
Household size	6.63	3.72	6.61	3.58	0.03	(0.24)
% households with school-age children enrolled in school	29.66	34.33	30.34	35.28	-0.67	(-0.62)
Total household assets owned by household	2.07	2.01	2.12	1.96	-0.04	(-0.75)
Total farm assets owned by household	3.10	1.96	2.98	1.88	0.12*	(2.23)
% households with a member who migrated	18.95	39.20	18.44	38.79	0.51	(0.45)
Observations	2 363		2 351		4 714	

Note: *=p-value<0.1; **=p-value<0.05; ***=p-value<0.01

Table 22: Income-generating activities by treatment in Niger

	Mean treatment	SD treatment	Mean control	SD control	Mean difference	t-test
Panel A: Agriculture and livestock						
% households growing crops in main agri season	88.49	31.92	88.05	32.45	0.44	(0.47)
% households growing crops in off-season agri	3.77	19.04	4.34	20.38	-0.57	(-1.00)
Household revenue from crops sales (annual)	11 655.11	29 434.11	15 942.26	33 832.03	-4 287.15***	(-4.36)
% households rearing livestock	54.45	49.81	53.44	49.89	1.01	(0.69)
Livestock count	8.26	9.74	8.42	10.21	-0.16	(-0.41)
Livestock count – tropical livestock unit (TLU)	1.20	1.88	1.08	1.82	0.12	(1.61)
Profit from livestock and products (last 6 months)	6 572.21	17 833.09	8 263.95	20 396.71	-1691.74*	(-2.22)
Panel B: Wage employment						
% of households with any wage employment	15.02	35.74	16.04	36.70	-1.01	(-0.96)
% of adults employed in the household	7.56	20.73	8.42	21.88	-0.87	(-1.39)
Per capita household wage income (monthly)	7 358.94	11 677.80	6 648.30	12 319.19	710.64	(0.80)
% of households head employed in the last 12 months	12.27	32.81	13.93	34.63	-1.66	(-1.68)
% of households head employed in agri job	29.37	45.63	36.45	48.20	-7.08	(-1.86)
% of households head employed in non-agri job	70.63	45.63	63.55	48.20	7.08	(1.86)
Number of months worked in the last 12 months	6.06	4.14	5.92	4.06	0.14	(0.41)
Panel C: Business						
% household owns a business	17.90	38.34	18.59	38.91	-0.69	(-0.61)
Number of businesses	1.26	0.90	1.28	0.76	-0.02	(-0.33)
Profit from business (monthly)	11 398.33	1 8012.76	14 032.40	21 667.73	-2 634.06	(-1.91)
Type of business - agri (%)	25.77	43.79	23.57	42.49	2.20	(0.75)
Type of business - non-agri (%)	61.94	48.61	65.22	47.68	-3.28	(-1.00)
Number of months worked in household business	6.81	4.16	6.99	4.13	-0.17	(-0.62)
Observations	2 363		2 351		4 714	

Note: *=p-value<0.1; **=p-value<0.05; ***=p-value<0.01

Table 23: Food security by treatment in Niger

	Mean treatment	SD treatment	Mean control	SD control	Mean difference	t-test
Panel A: Food Consumption Score (FCS)						
FCS	32.87	21.39	32.57	22.11	0.30	(0.47)
% FCS Poor (0-28)	50.70	50.01	51.94	49.97	-1.24	(-0.85)
% FCS Borderline (28.5-42)	17.69	38.17	16.25	36.90	1.44	(1.32)
% FCS Acceptable (Above 42)	31.61	46.51	31.82	46.59	-0.20	(-0.15)
% Never Consumed	51.44	49.99	54.58	49.80	-3.15*	(-2.15)
Vitamin-A-rich foods						
% Consumed Sometimes	24.62	43.09	24.46	43.00	0.16	(0.13)
% Consumed At Least Daily	23.94	42.68	20.95	40.70	2.99*	(2.45)
% Never Consumed	36.12	48.05	35.73	47.93	0.39	(0.28)
Protein Rich Foods						
% Consumed Sometimes	34.32	47.49	35.30	47.80	-0.98	(-0.71)
% Consumed At Least Daily	29.56	45.64	28.96	45.37	0.59	(0.45)
% Never Consumed	79.24	40.57	78.15	41.33	1.09	(0.91)
Hem Iron Rich Foods						
% Consumed Sometimes	18.58	38.90	19.88	39.92	-1.30	(-1.13)
% Consumed At Least Daily	2.19	14.63	1.97	13.90	0.22	(0.52)
Household Dietary Diversity Score (HDDS)	3.45	1.89	3.47	1.93	-0.03	(-0.45)
Panel B: Dietary Diversity						
% households Low Dietary Diversity (0-4.5)	69.11	46.21	68.44	46.49	0.67	(0.49)
% households Medium Dietary Diversity (4.5-6)	22.47	41.75	23.27	42.26	-0.80	(-0.65)
% households Good Dietary Diversity(Above 6)	8.42	27.78	8.29	27.59	0.13	(0.16)
% Minimum Dietary Diversity for Women (MDD-W)	3.35	18.01	4.27	20.22	-0.92	(-1.17)
% Minimum Acceptable Diet (breastfed children)	0.41	6.38	0.44	6.65	-0.04	(-0.06)
% Minimum Acceptable Diet (non-breastfed children)	1.75	13.25	1.67	12.91	0.09	(0.04)
Panel C: Subjective Food Insecurity						
Food Insecurity Experience Scale (FIES)	6.33	2.39	6.19	2.56	0.14	(1.95)
% households FIES Food Secure (0-3)	15.23	35.94	17.74	38.21	-2.50*	(-2.32)
% households FIES Moderate Food Insecurity (4-6)	17.18	37.73	16.04	36.70	1.15	(1.06)
% households FIES Severe Food Insecurity (7-8)	67.58	46.82	66.23	47.30	1.36	(0.99)
Observations	2 363		2 351		4 714	

Note: *=p-value<0.1; **=p-value<0.05; ***=p-value<0.01

Table 24: Consumption by treatment in Niger

	Mean treatment	SD treatment	Mean control	SD control	Mean difference	t-test
Household food consumption - monthly	19 234.95	29 807.59	20 166.39	29 196.72	-931.44	(-1.08)
Household non-food consumption - monthly	10 272.57	12 516.25	10 804.25	13 359.08	-531.68	(-1.41)
Household total consumption - monthly	30 158.33	36 827.14	31 836.43	37 084.35	-1 678.10	(-1.56)
Food Expenditure Share (FES %)	50.21	32.85	51.38	32.69	-1.17	(-1.23)
Per-capita food consumption - monthly	3 402.59	5 415.56	3 576.34	5 277.67	-173.74	(-1.12)
Per-capita non-food consumption - monthly	1 748.59	2 150.30	1 844.75	2 296.94	-96.16	(-1.48)
Per-capita total consumption - monthly	5 314.67	6 851.21	5 585.39	6 717.90	-270.73	(-1.37)
Observations	2 363		2 351		4 714	

Note: *=p-value<0.1; **=p-value<0.05; ***=p-value<0.01

Table 25: Psychosocial by treatment in Niger

	Mean treatment	SD treatment	Mean control	SD control	Mean difference	t-test
Panel A: Household head						
Life satisfaction today (1-10)	3.10	1.73	3.21	1.73	-0.11*	(-2.23)
Life satisfaction two years ago (1-10)	3.65	2.03	3.62	2.01	0.03	(0.57)
Subjective social status (1-10)	2.75	1.55	2.80	1.55	-0.05	(-1.13)
Future expectations (3-30)	14.76	5.35	15.00	5.31	-0.24	(-1.52)
Less depression (0-70)	29.47	11.95	28.99	11.54	0.48	(1.39)
Less disability (0-28)	8.66	5.73	8.60	5.66	0.07	(0.40)
Cohen's Stress Index (0-40)	20.02	4.47	19.95	4.16	0.07	(0.54)
Self-efficacy (8-32)	20.08	5.78	19.91	5.41	0.17	(1.03)
Satisfaction with life scale (5-25)	11.41	4.11	11.42	3.96	-0.01	(-0.06)
Panel B: Primary female decision maker						
Female locus of control (0-10)	5.59	1.75	5.62	1.78	-0.03	(-0.24)
Observations	2 363		2 351		4 714	

Note: *=p-value<0.1; **=p-value<0.05; ***=p-value<0.01

Table 26: Shocks by treatment in Niger

	Mean treatment	SD treatment	Mean control	SD control	Mean difference	t-test
Number of shocks experienced	2.87	2.02	2.74	1.90	0.12*	(2.19)
Drought/irregular rain	39.06	48.80	37.09	48.32	1.97	(1.39)
Floods	33.39	47.17	31.77	46.57	1.62	(1.18)
Crop pests/diseases	40.50	49.10	36.07	48.03	4.43**	(3.13)
Animal diseases	26.49	44.14	24.12	42.79	2.37	(1.88)
Rise in agricultural input prices	28.44	45.12	28.29	45.05	0.15	(0.12)
Lower prices for agricultural products	10.45	30.60	10.46	30.61	-0.01	(-0.01)
Rising food prices	51.12	50.00	49.68	50.01	1.44	(0.99)
Significant loss of non-farm household income (not related to accident or illness)	8.46	27.84	7.70	26.66	0.76	(0.96)
Serious illness or accident for a household member	27.04	44.43	27.31	44.56	-0.27	(-0.20)
Death of a household member	11.13	31.46	11.19	31.53	-0.06	(-0.06)
Divorce, separation	2.67	16.11	2.59	15.90	0.07	(0.15)
Religious conflict	0.42	6.49	0.34	5.82	0.08	(0.46)
Ethnic conflict	0.93	9.61	0.77	8.72	0.17	(0.62)
Other	6.81	25.20	7.06	25.62	-0.25	(-0.33)
Observations	2 363		2 351		4 714	

Note: *=p-value<0.1; **=p-value<0.05; ***=p-value<0.01

Table 27: Coping strategies by treatment in Niger

	Mean treatment	SD treatment	Mean control	SD control	Mean difference	t-test
Number of coping strategies used	1.47	1.73	1.39	1.68	0.09	(1.74)
Stress coping strategies						
% households spend savings	14.34	35.05	13.93	34.63	0.41	(0.40)
% households sell livestock	22.56	41.80	19.56	39.67	3.00*	(2.50)
% households sell food stocks	11.70	32.15	10.10	30.13	1.61	(1.75)
% households borrowed money	6.31	24.31	6.30	24.29	0.01	(0.01)
Crisis Coping Strategies						
% households reduce health/education spending	12.67	33.27	11.36	31.74	1.32	(1.38)
% households consumed seed stocks that were to be saved for next season	1.31	11.38	1.57	12.45	-0.26	(-0.75)
% households received help from relatives or friends	3.72	18.94	2.93	16.88	0.79	(1.51)
Emergency Coping Strategies						
% households sold a house or land	0.00	0.00	0.09	2.92	-0.09	(-1.41)
% households begged	0.55	7.40	0.55	7.42	-0.00	(-0.01)
% households migrated	2.54	15.73	3.62	18.67	-1.08*	(-2.14)
Miscellaneous coping strategies						
% households reduce food consumption (quantity/meal; of meals/day)	53.59	49.88	51.42	49.99	2.16	(1.48)
% households withdraw children from school	7.24	25.91	6.21	24.13	1.03	(1.40)
% households sold productive assets or means of transport	0.80	8.93	0.77	8.72	0.04	(0.15)
% households purchased food on credit or borrowed food	1.61	12.58	2.00	14.00	-0.39	(-1.01)
% households used remittances	0.34	5.81	0.09	2.92	0.25	(1.89)
% households sold other household assets/goods	1.48	12.08	1.45	11.94	0.03	(0.10)
% households reduced non-food expenses	0.38	6.16	0.43	6.51	-0.04	(-0.24)
% households where members took on additional activities	0.34	5.81	0.34	5.82	-0.00	(-0.01)
% households received aid from government	0.21	4.60	0.26	5.05	-0.04	(-0.31)
% households received aid from non-governmental organization	0.47	6.81	0.68	8.22	-0.22	(-0.98)
% households turned to God	5.92	23.61	6.21	24.14	-0.29	(-0.41)
% households used other coping strategies	1.10	10.43	0.89	9.41	0.21	(0.72)
Livelihood-based coping strategy category						
% households that used stress coping strategy	33.64	47.26	31.18	46.33	2.47	(1.81)
% households that used crisis coping strategy	16.72	37.32	14.84	35.56	1.87	(1.76)
% households that used emergency coping strategy	3.09	17.31	4.25	20.18	-1.16*	(-2.13)
Observations	2 363		2 351		4 714	

Note: *=p-value<0.1; **=p-value<0.05; ***=p-value<0.01

Table 28: Financial outcomes by treatment in Niger

	Mean treatment	SD treatment	Mean control	SD control	Mean difference	t-test
% of households that used any savings mechanism	7.19	25.84	6.93	25.41	0.26	(0.35)
Total savings	327.00	1 588.17	336.74	1 646.27	-9.74	(-0.21)
% of households that applied for a loan	38.09	48.57	37.22	48.35	0.87	(0.62)
Amount borrowed	13 731.69	29 844.04	13 432.56	30 182.46	299.13	(0.34)
% of households that received financial and non-financial transfers	4.27	20.23	4.34	20.38	-0.06	(-0.11)
Total transfers received	8 218.36	21 591.13	8 264.43	21 526.06	-46.07	(-0.07)
Amount transferred to family	20 877.59	38 388.37	24 306.86	43 228.40	-3 429.27	(-0.61)
% households that received remittances (from household member)	74.02	43.89	78.98	40.79	-4.96*	(-1.97)
Observations	2 363		2 351		4 714	

Note: *=p-value<0.1; **=p-value<0.05; ***=p-value<0.01

Table 29: Subjective resilience scores (SERs) by treatment in Niger

	Mean treatment	SD treatment	Mean control	SD control	Mean difference	t-test
Subjective Resilience Score	40.61	19.03	40.00	18.18	0.61	(1.12)
% Low Subjective Resilience (0-32)	33.43	47.19	35.18	47.76	-1.74	(-1.26)
% Medium Subjective Resilience (33-65)	57.47	49.45	56.06	49.64	1.41	(0.98)
% High Subjective Resilience (above 66)	9.10	28.77	8.76	28.28	0.34	(0.40)
Observations	2 363		2 351		4 714	

Note: *=p-value<0.1; **=p-value<0.05; ***=p-value<0.01

Table 30: Time use by treatment in Niger

	Mean treatment	SD treatment	Mean control	SD control	Mean difference	t-test
Panel A: Activities at sunrise (06:00)						
Work	18.58	38.90	17.18	37.73	1.39	(1.25)
Chore	19.42	39.57	17.48	37.99	1.94	(1.72)
Leisure	16.38	37.01	14.21	34.92	2.17*	(2.07)
Rest	13.71	34.40	13.91	34.61	-0.20	(-0.20)
Panel B: Activities in the morning (09:00)						
Work	28.82	45.30	28.03	44.92	0.79	(0.60)
Chore	31.95	46.64	32.84	46.97	-0.89	(-0.65)
Leisure	10.24	30.33	8.00	27.13	2.24**	(2.68)
Rest	2.07	14.25	1.74	13.09	0.33	(0.83)
Panel C: Activities in the afternoon (15:00)						
Work	16.46	37.09	15.99	36.66	0.47	(0.44)
Chore	23.23	42.24	25.61	43.65	-2.37	(-1.90)
Leisure	19.89	39.93	16.59	37.21	3.30**	(2.94)
Rest	6.14	24.00	5.57	22.94	0.56	(0.82)
Panel D: Activities in the evening (19:00)						
Work	3.68	18.84	2.64	16.03	1.04*	(2.05)
Chore	12.82	33.44	14.08	34.79	-1.26	(-1.26)
Leisure	41.13	49.22	37.60	48.45	3.53*	(2.48)
Rest	5.80	23.37	6.21	24.14	-0.41	(-0.60)
Panel E: Activities at night (22:00)						
Work	0.85	9.16	0.38	6.18	0.46*	(2.04)
Chore	1.40	11.74	1.02	10.05	0.38	(1.18)
Leisure	3.39	18.09	3.11	17.35	0.28	(0.54)
Rest	82.23	38.24	81.92	38.49	0.30	(0.27)
Observations	2 363		2 351		4 714	

Note: *=p-value<0.1; **=p-value<0.05; ***=p-value<0.01

Table 31: Programme participation by treatment in Niger

	Mean treatment	SD treatment	Mean control	SD control	Mean difference	t-test
Food for work	6.86	25.28	7.27	25.98	-0.42	(-0.56)
Nutritional supplements	0.17	4.11	0.30	5.45	-0.13	(-0.91)
Public works paid for with agricultural inputs	0.30	5.44	0.55	7.42	-0.26	(-1.35)
School feeding	1.74	13.06	1.53	12.28	0.20	(0.55)
Schooling support	1.10	10.43	1.11	10.46	-0.01	(-0.02)
Free food	5.50	22.81	5.10	22.01	0.40	(0.61)
Government cash transfers	1.99	13.97	1.19	10.85	0.80*	(2.19)
Pregnancy care programme	4.02	19.65	3.02	17.12	1.00	(1.86)
Care for children under 5 years old	16.29	36.94	14.21	34.92	2.09*	(1.99)
Vaccination	27.42	44.62	27.61	44.71	-0.18	(-0.14)
Annual medical check-up	2.84	16.60	3.28	17.80	-0.44	(-0.88)
Medication	15.79	36.47	15.87	36.54	-0.08	(-0.08)
Medical treatment	3.85	19.25	3.40	18.13	0.45	(0.82)
Observations	2 363		2 351		4 714	

Note: *=p-value<0.1; **=p-value<0.05; ***=p-value<0.01

Table 32: Financial support by treatment in Niger

	Mean treatment	SD treatment	Mean control	SD control	Mean difference	t-test
Number of people you could ask for money	5.44	5.73	4.92	6.93	-0.53**	(-2.79)
Number of siblings you can ask for money	1.72	1.68	1.59	1.54	-0.12*	(-2.45)
Number of family members you can ask for money	1.57	2.10	1.41	2.01	-0.16*	(-2.45)
Number of friends you can ask for money	1.39	1.75	1.26	2.73	-0.13	(-1.78)
Number of other community members you can ask for money	1.14	2.24	1.05	3.06	-0.09	(-1.05)
Probability of raising funds	0.18	0.39	0.19	0.39	0.01	(0.72)
Financial support index (FZ-score)	0.07	0.95	0.00	1.00	-0.07*	(-2.32)
Observations	2 363		2 351		4 714	

Note: *=p-value<0.1; **=p-value<0.05; ***=p-value<0.01

6.2. Summary statistics by gender of household head

Table 33: Household demographics by gender of household head in Niger

	Mean male	SD male	Mean female	SD female	Mean difference	t-test
Panel A: Head of household						
% female household head	0.00	0.00	100.00	0.00	-100.00	(.)
% household heads with any primary education	20.37	40.28	11.19	31.54	9.18***	(7.91)
Panel B: Household						
Household size	7.15	3.79	4.94	2.54	2.21***	(22.37)
% household has school-age children enrolled in school	29.32	34.30	32.28	36.36	-2.96*	(-2.23)
Total household assets owned by household	2.28	2.05	1.50	1.61	0.78***	(13.27)
Total farm assets owned by household	3.33	1.89	2.10	1.71	1.23***	(20.52)
% households have a member who migrated	17.99	38.41	20.97	40.73	-2.98*	(-2.16)
Observations	3 594		1 120		4 714	

Note: *=p-value<0.1; **=p-value<0.05; ***=p-value<0.01

Table 34: Income-generating activities by gender of household head in Niger

	Mean male	SD male	Mean female	SD female	Mean difference	t-test
Panel A: Agriculture and livestock						
% households growing crops in main agri season	91.40	28.04	78.21	41.30	13.19***	(9.99)
% households growing crops in off-season agri	4.70	21.17	1.96	13.88	2.74***	(5.03)
Household revenue from crops sales (Annual)	14 105.46	31 841.10	12 601.32	31 480.05	1 504.13	(1.26)
% households rearing livestock	55.97	49.65	47.45	49.96	8.52***	(4.99)
Livestock count	9.04	10.54	5.67	6.80	3.37***	(8.94)
Livestock count – tropical livestock units (TLU)	1.26	1.97	0.68	1.19	0.58***	(8.55)
Profit from livestock and products (last 6 months)	8 261.78	20 193.53	4 175.03	14 134.99	4 086.75***	(5.37)
Panel B: Wage employment						
% of households with any wage employment	17.50	38.00	9.20	28.91	8.30***	(7.75)
% of adults employed in the household	8.58	21.34	6.10	21.12	2.48***	(3.42)
Per capita household wage income (monthly)	7 259.70	12 117.78	5 363.91	11 244.31	1 895.79	(1.57)
% of households head employed in the last 12 months	14.93	35.64	7.25	25.93	7.68***	(7.85)
% of households head employed in agri job	32.45	46.86	37.50	48.72	-5.05	(-0.87)
% of households head employed in non-agri job	67.55	46.86	62.50	48.72	5.05	(0.87)
Number of months worked in the last 12 months	6.17	4.12	4.72	3.72	1.45**	(3.19)
Panel C: Business						
% household owns a business	20.31	40.24	11.61	32.05	8.70***	(7.44)
Number of businesses	1.29	0.84	1.18	0.80	0.11	(1.50)
Profit from business (monthly)	13 933.54	21 141.69	6 059.33	9 128.67	7 874.21***	(6.93)
Type of business - agri (%)	23.56	42.47	30.77	46.33	-7.21	(-1.65)
Type of business - non-agri (%)	65.21	47.66	54.62	49.98	10.59*	(2.24)
Number of months worked in household business	6.88	4.13	7.00	4.24	-0.12	(-0.30)
Observations	3 594		1 120		4 714	

Note: *=p-value<0.1; **=p-value<0.05; ***=p-value<0.01

Table 35: Food security by gender of household head in Niger

	Mean male	SD male	Mean female	SD female	Mean difference	t-test
Panel A: Food Consumption Score (FCS)						
FCS	33.86	22.12	29.05	20.08	4.82***	(6.81)
% FCS Poor (0-28)	48.86	49.99	59.20	49.17	-10.34***	(-6.12)
% FCS Borderline (28.5-42)	17.47	37.98	15.36	36.07	2.12	(1.69)
% FCS Acceptable (above 42)	33.67	47.26	25.45	43.58	8.22***	(5.40)
Vitamin-A- rich foods						
% Never consumed	51.91	49.97	56.53	49.59	-4.61**	(-2.70)
% Consumed sometimes	25.15	43.40	22.59	41.84	2.56	(1.77)
% Consumed at least daily	22.93	42.05	20.88	40.66	2.05	(1.45)
Protein-rich foods						
% Never consumed	33.96	47.36	42.21	49.41	-8.25***	(-4.91)
% Consumed sometimes	35.65	47.90	32.13	46.72	3.52*	(2.18)
% Consumed at least daily	30.39	46.00	25.65	43.69	4.74**	(3.11)
Hem iron-rich foods						
% Never consumed	76.48	42.42	85.78	34.94	-9.30***	(-7.34)
% Consumed sometimes	21.24	40.91	12.78	33.40	8.46***	(6.97)
% Consumed at least daily	2.28	14.93	1.44	11.92	0.84	(1.92)
Panel B: Dietary diversity						
Household Dietary Diversity Score (HDDS)	3.57	1.93	3.10	1.80	0.48***	(7.58)
% households low dietary diversity (0-4.5)	66.67	47.15	75.54	43.01	-8.87***	(-5.89)
% households medium dietary diversity (4.5-6)	23.65	42.50	20.36	40.28	3.29*	(2.36)
% households good dietary diversity (above 6)	9.68	29.58	4.11	19.85	5.58***	(7.23)
Panel C: Subjective Food Insecurity						
Food Insecurity Experience Scale (FIES)	6.12	2.56	6.72	2.10	-0.60***	(-7.89)
% households FIES food secure (0-3)	18.48	38.82	10.09	30.13	8.39***	(7.56)
% households FIES moderate food insecurity (4-6)	16.94	37.52	15.54	36.24	1.41	(1.13)
% households FIES Severe Food Insecurity (7-8)	64.58	47.83	74.38	43.68	-9.80***	(-6.40)
Observations	3 594		1 120		4 714	

Note: *=p-value<0.1; **=p-value<0.05; ***=p-value<0.01

Table 36: Consumption by gender of household head in Niger

	Mean male	SD male	Mean female	SD female	Mean difference	t-test
Households food consumption - monthly	22 026.00	31 193.91	12 233.87	21 656.49	9 792.13***	(11.79)
Households non-food consumption - monthly	11 853.41	13 822.80	6 315.83	8 297.96	5 537.58***	(16.35)
Households total consumption - monthly	34 771.51	39 004.26	18 877.48	26 004.90	15 894.03***	(15.68)
Food Expenditure Share (FES %)	51.75	32.14	47.71	34.57	4.04***	(3.47)
Per-capita food consumption - monthly	3 703.51	5 479.35	2 801.68	4 838.56	901.83***	(5.27)
Per-capita non-food consumption - monthly	1 917.51	2 332.76	1 408.39	1 782.92	509.12***	(7.72)
Per-capita total consumption - monthly	5 808.51	7 012.19	4 298.26	5 857.54	1 510.25***	(7.17)
Observations	3 594		1 120		4 714	

Note: *=p-value<0.1; **=p-value<0.05; ***=p-value<0.01

Table 37: Psychosocial by gender of household head in Niger

	Mean male	SD male	Mean female	SD female	Mean difference	t-test
Panel A: Household head						
Life satisfaction today (1-10)	3.31	1.76	2.67	1.53	0.64***	(11.86)
Life satisfaction two years ago (1-10)	3.76	2.07	3.23	1.80	0.53***	(8.26)
Subjective social status (1-10)	2.91	1.58	2.32	1.36	0.60***	(12.31)
Future expectations (3-30)	15.36	5.38	13.32	4.85	2.04***	(11.99)
Less depression (0-70)	28.61	11.58	31.20	12.07	-2.58***	(-6.30)
Less disability (0-28)	8.37	5.65	9.48	5.77	-1.11***	(-5.64)
Cohen's Stress Index (0-40)	19.84	4.29	20.47	4.36	-0.64***	(-4.28)
Self-efficacy (8-32)	20.32	5.49	18.94	5.81	1.38***	(7.01)
Satisfaction with life scale (5-25)	11.59	4.10	10.83	3.76	0.77***	(5.82)
Observations	3 594		1 120		4 714	

Note: *=p-value<0.1; **=p-value<0.05; ***=p-value<0.01

Table 38: Shocks by gender of household head in Niger

	Mean male	SD male	Mean female	SD female	Mean difference	t-test
Number of shocks experienced	2.88	1.99	2.57	1.85	0.32***	(4.90)
Drought/irregular rain	40.48	49.09	30.36	46.00	10.13***	(6.33)
Floods	32.42	46.81	33.13	47.09	-0.71	(-0.44)
Crop pests/diseases	39.93	48.98	33.04	47.06	6.89***	(4.24)
Animal diseases	27.46	44.64	18.39	38.76	9.07***	(6.59)
Rise in agricultural input prices	29.16	45.46	25.80	43.77	3.36*	(2.22)
Lower prices for agricultural products	10.57	30.75	10.09	30.13	0.48	(0.47)
Rising food prices	50.86	50.00	48.93	50.01	1.93	(1.13)
Significant loss of non-farm household income (not related to accident or illness)	8.04	27.20	8.21	27.47	-0.17	(-0.18)
Serious illness or accident for a household member	27.10	44.45	27.41	44.63	-0.31	(-0.20)
Death of a household member	10.68	30.90	12.68	33.29	-1.99	(-1.78)
Divorce, separation	2.62	15.96	2.68	16.15	-0.06	(-0.11)
Religious conflict	0.45	6.66	0.18	4.22	0.27	(1.59)
Ethnic conflict	0.89	9.40	0.71	8.43	0.18	(0.59)
Other	7.54	26.41	5.00	21.80	2.54**	(3.23)
Observations	3 594		1 120		4 714	

Note: *=p-value<0.1; **=p-value<0.05; ***=p-value<0.01

Table 39: Coping strategies by gender of household head in Niger

	Mean male	SD male	Mean female	SD female	Mean difference	t-test
Number of coping strategies used	1.42	1.72	1.47	1.67	-0.05	(-0.92)
Stress coping strategies						
% households spend savings	14.25	34.96	13.76	34.47	0.48	(0.40)
% households sell livestock	23.17	42.20	14.32	35.05	8.85***	(6.95)
% households sell food stocks	11.93	32.42	7.59	26.49	4.34***	(4.48)
% households borrowed money	6.34	24.38	6.16	24.05	0.18	(0.22)
Crisis coping strategies						
% households reduce health/education spending	12.29	32.84	11.13	31.47	1.16	(1.05)
% households consumed seed stocks that were to be saved for next season	1.45	11.94	1.43	11.87	0.02	(0.04)
% households received help from relatives or friends	2.53	15.71	5.89	23.56	-3.36***	(-4.47)
Emergency coping strategies						
% households sold a house or land	0.03	1.67	0.09	2.99	-0.06	(-0.66)
% households begged	0.42	6.45	0.98	9.87	-0.56	(-1.80)
% households migrated	2.31	15.02	5.54	22.88	-3.23***	(-4.43)
Miscellaneous coping strategies						
% households reduced food consumption (quantity/meal; of meals/day)	51.15	49.99	56.86	49.55	-5.70***	(-3.34)
% households withdrew children from school	7.00	25.52	5.82	23.43	1.18	(1.43)
% households sold productive assets or means of transport	0.86	9.25	0.54	7.30	0.33	(1.22)
% households purchased food on credit or borrowed food	1.61	12.60	2.41	15.35	-0.80	(-1.58)
% households used remittances	0.17	4.08	0.36	5.97	-0.19	(-1.00)
% households sold other household assets/goods	1.47	12.06	1.43	11.87	0.05	(0.11)
% households reduced non-food expenses	0.36	6.00	0.54	7.30	-0.17	(-0.72)
% households where members took on additional activities	0.36	6.00	0.27	5.17	0.09	(0.51)
% households received aid from government	0.19	4.41	0.36	5.97	-0.16	(-0.84)
% households received aid from non-governmental organization	0.33	5.77	1.34	11.50	-1.01**	(-2.82)
% households turned to God	4.67	21.11	10.54	30.72	-5.86***	(-5.96)
% households used other coping strategies	0.86	9.25	1.43	11.87	-0.57	(-1.46)
Livelihood-based coping strategy category						
% households used a stress coping strategy	33.83	47.32	27.86	44.85	5.98***	(3.84)
% households used a crisis coping strategy	15.39	36.09	17.05	37.63	-1.67	(-1.31)
% households used an emergency coping strategy	2.75	16.37	6.61	24.85	-3.85***	(-4.87)
Observations	3 594		1 120		4 714	

Note: *=p-value<0.1; **=p-value<0.05; ***=p-value<0.01

Table 40: Financial outcomes by gender of household head in Niger

	Mean male	SD male	Mean female	SD female	Mean difference	t-test
% of households that used any savings mechanism	8.15	27.37	3.57	18.57	4.58***	(6.38)
Total savings	395.57	1769.56	127.41	952.11	268.16***	(6.54)
% of households that applied for a loan	38.95	48.77	33.48	47.21	5.47***	(3.36)
Amount borrowed	14 960.42	31 782.19	9 194.59	22 962.01	5 765.83***	(6.57)
% of households that received financial and non financial-transfers	3.76	19.02	6.07	23.89	-2.32**	(-2.96)
Total transfers received	7 784.39	21 332.66	9 707.63	22 205.59	-1 923.24*	(-2.55)
Amount transferred to family	23 341.40	41 542.16	16 545.82	34 869.27	6 795.58	(0.85)
% households received remittances (from household member)	76.29	42.56	76.72	42.33	-0.43	(-0.16)
Observations	3 594		1 120		4 714	

Note: *=p-value<0.1; **=p-value<0.05; ***=p-value<0.01

Table 41: Subjective resilience score (SERS) by gender of household head in Niger

	Mean male	SD male	Mean female	SD female	Mean difference	t-test
Subjective Resilience Score	41.26	18.40	37.25	18.95	4.01***	(6.23)
% Low Subjective Resilience (0-32)	31.36	46.40	43.75	49.63	-12.39***	(-7.41)
% Medium Subjective Resilience (33-65)	59.02	49.19	49.55	50.02	9.46***	(5.55)
% High Subjective Resilience (Above 66)	9.63	29.50	6.70	25.01	2.93**	(3.28)
Observations	3 594		1 120		4 714	

Note: *=p-value<0.1; **=p-value<0.05; ***=p-value<0.01

Table 42: Time use by gender of household head in Niger

	Mean male	SD male	Mean female	SD female	Mean difference	t-test
Panel A: Activities at sunrise (06:00)						
Work	21.34	40.98	6.79	25.16	14.56***	(14.32)
Chore	15.05	35.76	29.38	45.57	-14.32***	(-9.63)
Leisure	16.50	37.12	11.43	31.83	5.07***	(4.47)
Rest	12.80	33.41	17.05	37.63	-4.25***	(-3.39)
Panel B: Activities in the morning (09:00)						
Work	33.50	47.21	12.14	32.68	21.36***	(17.03)
Chore	25.63	43.66	54.11	49.85	-28.48***	(-17.18)
Leisure	9.91	29.88	6.61	24.85	3.30***	(3.69)
Rest	1.84	13.43	2.14	14.49	-0.31	(-0.63)
Panel C: Activities in the afternoon (15:00)						
Work	19.17	39.37	6.79	25.16	12.39***	(12.41)
Chore	20.51	40.38	36.96	48.29	-16.46***	(-10.33)
Leisure	19.70	39.78	13.57	34.26	6.13***	(5.02)
Rest	6.04	23.82	5.27	22.35	0.77	(0.99)
Panel D: Activities in the evening (19:00)						
Work	3.73	18.95	1.34	11.50	2.39***	(5.12)
Chore	11.05	31.35	21.16	40.86	-10.11***	(-7.61)
Leisure	40.82	49.16	34.73	47.63	6.09***	(3.71)
Rest	5.70	23.20	6.96	25.47	-1.26	(-1.48)
Panel E: Activities at night (22:00)						
Work	0.72	8.48	0.27	5.17	0.46*	(2.18)
Chore	1.17	10.75	1.34	11.50	-0.17	(-0.44)
Leisure	3.76	19.02	1.61	12.58	2.15***	(4.37)
Rest	80.86	39.35	85.98	34.73	-5.13***	(-4.17)
Observations	3 594		1 120		4 714	

Note: *=p-value<0.1; **=p-value<0.05; ***=p-value<0.01

Table 43: Programme participation by gender of household head in Niger

	Mean male	SD male	Mean female	SD female	Mean difference	t-test
Food for work	6.79	25.16	7.95	27.06	-1.16	(-1.27)
Nutritional supplements	0.31	5.52	0.00	0.00	0.31***	(3.32)
Public works paid for with agricultural inputs	0.50	7.06	0.18	4.22	0.32	(1.87)
School feeding	1.59	12.50	1.79	13.25	-0.20	(-0.45)
Schooling support	1.09	10.36	1.16	10.72	-0.08	(-0.21)
Free food	5.04	21.87	6.16	24.05	-1.12	(-1.40)
Government cash transfers	1.75	13.13	1.07	10.30	0.68	(1.80)
Pregnancy care programme	3.31	17.90	4.20	20.06	-0.89	(-1.32)
Care for children under 5 years old	14.86	35.57	16.52	37.15	-1.66	(-1.32)
Vaccination	27.82	44.82	26.52	44.16	1.31	(0.86)
Annual medical check-up	3.01	17.07	3.21	17.65	-0.21	(-0.35)
Medication	16.11	36.77	14.91	35.64	1.20	(0.98)
Medical treatment	3.76	19.02	3.21	17.65	0.54	(0.88)
Observations	3 594		1 120		4 714	

Note: *=p-value<0.1; **=p-value<0.05; ***=p-value<0.01

Table 44: Financial support by gender of household head in Niger

	Mean male	SD male	Mean female	SD female	Mean difference	t-test
Number of people you could ask for money	5.46	6.68	4.27	5.06	1.20***	(6.22)
Number of siblings you can ask for money	1.71	1.65	1.46	1.47	0.25***	(4.48)
Number of family members you can ask for money	1.53	2.11	1.38	1.89	0.14*	(2.05)
Number of friends you can ask for money	1.46	2.49	0.89	1.36	0.57***	(9.24)
Number of other community members you can ask for money	1.15	2.84	0.91	2.03	0.24**	(2.94)
Probability of raising fund	0.21	0.41	0.11	0.31	0.10***	(8.65)
Financial support index (FZ-score)	0.09	1.00	-0.16	0.84	0.25***	(8.39)
Observations	3 594		1 120		4 714	

Note: *=p-value<0.1; **=p-value<0.05; ***=p-value<0.01

6.3. Summary statistics by poverty status in Niger

Table 45: Household demographics by poverty status in Niger

	Mean poor	SD poor	Mean non-poor	SD non-poor	Mean difference	t-test
Panel A: Head of household						
% Female household head	25.58	43.64	13.90	34.61	11.68***	(8.04)
% household head with any primary education	18.42	38.77	16.87	37.48	1.55	(1.02)
Panel B: Household						
Household size	6.37	3.41	7.96	4.51	-1.59***	(-9.07)
% household has school-age children enrolled in school	30.12	35.07	29.42	33.39	0.70	(0.49)
Total household assets owned by household	1.99	1.85	2.66	2.53	-0.67***	(-6.87)
Total farm assets owned by household	2.97	1.88	3.43	2.10	-0.46***	(-5.49)
% households with a member who migrated	19.22	39.41	15.87	36.56	3.35*	(2.25)
Observations	3 980		734		4 714	

Note: *=p-value<0.1; **=p-value<0.05; ***=p-value<0.01

Table 46: Income-generating activities by poverty status in Niger

	Mean poor	SD poor	Mean non-poor	SD non-poor	Mean difference	t-test
Panel A: Agriculture and livestock						
% households growing crops in main agri season	87.71	32.83	91.28	28.23	-3.57**	(-3.06)
% households growing crops in off-season agri	3.82	19.17	5.31	22.45	-1.49	(-1.69)
Household revenue from crops sales (Annual)	13 526.41	31 497.76	15 152.16	33 126.94	-1 625.75	(-1.17)
% households rearing livestock	51.60	49.98	66.67	47.17	-15.07***	(-7.87)
Livestock count	7.37	8.81	12.41	13.07	-5.04***	(-8.10)
Livestock count – tropical livestock units (TLU)	0.95	1.59	1.91	2.52	-0.96***	(-8.01)
Profit from livestock and products (last 6 months)	6 406.77	17 585.52	11 603.67	24 255.31	-5 196.90***	(-4.46)
Panel B: Wage employment						
% of households with any wage employment	15.10	35.81	17.85	38.32	-2.75	(-1.80)
% of adults employed in the household	7.92	21.43	8.33	20.71	-0.41	(-0.49)
Per capita household wage income (Monthly)	6 361.74	10 978.85	9 888.78	15 633.12	-3 527.04*	(-2.45)
% of household head employed in the last 12 months	12.78	33.39	14.79	35.53	-2.01	(-1.42)
% of household head employed in agri job	34.60	47.62	26.17	44.16	8.43	(1.77)
% of household head employed in non-agri job	65.40	47.62	73.83	44.16	-8.43	(-1.77)
Number of months worked in the last 12 months	5.63	4.00	7.68	4.12	-2.05***	(-4.61)
Panel C: Business						
% households that own a business	17.86	38.31	20.30	40.25	-2.44	(-1.52)
Number of businesses	1.23	0.70	1.46	1.27	-0.23*	(-2.13)
Profit from business (monthly)	12 074.31	18 890.61	15 912.00	24 384.12	-3 837.69	(-1.79)
Type of business – agri (%)	25.32	43.51	21.48	41.20	3.84	(1.02)
Type of business – non-agri (%)	61.46	48.70	73.83	44.11	-12.36**	(-3.05)
Number of months worked in household business	6.79	4.12	7.43	4.21	-0.64	(-1.70)
Observations	3 980		734		4 714	

Note: *=p-value<0.1; **=p-value<0.05; ***=p-value<0.01

Table 47: Food security by poverty status in Niger

	Mean poor	SD poor	Mean non-poor	SD non-poor	Mean difference	t-test
Panel A: Food Consumption Score (FCS)						
FCS	31.83	21.32	37.50	23.38	-5.67***	(-6.10)
% FCS Poor (0-28)	52.84	49.93	43.05	49.55	9.79***	(4.91)
% FCS Borderline (28.5-42)	17.01	37.58	16.76	37.37	0.25	(0.17)
% FCS Acceptable (above 42)	30.15	45.90	40.19	49.06	-10.04***	(-5.14)
% Never consumed	54.08	49.84	47.26	49.96	6.82***	(3.39)
Vitamin-A-rich foods						
% Consumed sometimes	24.42	42.97	25.21	43.45	-0.78	(-0.45)
% Consumed at least daily	21.50	41.09	27.53	44.70	-6.03***	(-3.39)
% Never consumed	37.41	48.39	27.95	44.90	9.46***	(5.16)
Protein-rich foods						
% Consumed sometimes	34.82	47.64	34.79	47.66	0.02	(0.01)
% Consumed at least daily	27.78	44.80	37.26	48.38	-9.48***	(-4.92)
% Never consumed	79.19	40.60	76.03	42.72	3.16	(1.85)
Hem iron-rich foods						
% Consumed sometimes	18.91	39.16	20.96	40.73	-2.05	(-1.26)
% Consumed at least daily	1.91	13.68	3.01	17.11	-1.11	(-1.65)
Household Dietary Diversity Score (HDDS)	3.38	1.90	3.87	1.92	-0.48***	(-6.28)
Panel B: Dietary diversity						
% households Low Dietary Diversity (0-4.5)	69.97	45.84	62.26	48.51	7.71***	(3.99)
% households Medium Dietary Diversity (4.5-6)	22.31	41.64	25.89	43.83	-3.57*	(-2.05)
% households Good Dietary Diversity (above 6)	7.71	26.68	11.85	32.35	-4.14**	(-3.27)
% Minimum Dietary Diversity for Women (MDD-W)	3.42	18.18	5.93	23.65	-2.51	(-1.94)
% Minimum Acceptable Diet (breastfed children)	0.25	5.04	1.28	11.32	-1.03	(-0.79)
% Minimum Acceptable Diet (non-breastfed children)	1.01	10.05	5.56	23.57	-4.55	(-0.80)
Panel C: Subjective Food Insecurity						
Food Insecurity Experience Scale (FIES)	6.41	2.35	5.48	2.92	0.93***	(8.12)
% households FIES Food Secure (0-3)	14.45	35.16	27.52	44.69	-13.07***	(-7.51)
% households FIES Moderate Food Insecurity (4-6)	16.51	37.13	17.17	37.73	-0.66	(-0.44)
% households FIES Severe Food Insecurity (7-8)	69.05	46.24	55.31	49.75	13.73***	(6.95)
Observations	3 980		734		4 714	

Note: *=p-value<0.1; **=p-value<0.05; ***=p-value<0.01

Table 48: Consumption by poverty status in Niger

	Mean poor	SD poor	Mean non-poor	SD non-poor	Mean difference	t-test
Household food consumption - monthly	18 118.98	28 021.66	28 269.51	35 325.04	-10 150.53***	(-7.37)
Household non-food consumption - monthly	10 023.40	12 495.27	13 326.63	14 854.38	-3 303.23***	(-5.67)
Household total consumption - monthly	28 857.85	35 212.81	42 584.95	43 516.74	-13 727.10***	(-8.07)
Food Expenditure Share (FES %)	49.85	32.92	55.89	31.47	-6.03***	(-4.74)
Per-capita food consumption - monthly	3 334.23	5 273.76	4 329.78	5 660.41	-995.55***	(-4.42)
Per-capita non-food consumption - monthly	1 770.19	2 225.35	1 939.45	2 218.66	-169.26	(-1.90)
Per-capita total consumption - monthly	5 263.35	6 703.06	6 460.07	7 137.71	-1 196.72***	(-4.21)
Observations	3 980		734		4 714	

Note: *=p-value<0.1; **=p-value<0.05; ***=p-value<0.01

Table 49: Psychosocial by poverty status in Niger

	Mean poor	SD poor	Mean non-poor	SD non-poor	Mean difference	t-test
Panel A: Household head						
Life satisfaction today (1-10)	3.06	1.69	3.67	1.85	-0.61***	(-8.35)
Life satisfaction two years ago (1-10)	3.55	2.00	4.08	2.09	-0.52***	(-6.29)
Subjective social status (1-10)	2.68	1.51	3.26	1.69	-0.58***	(-8.73)
Future expectations (3-30)	14.64	5.29	16.17	5.36	-1.54***	(-7.14)
Less depression (0-70)	29.67	11.79	26.81	11.24	2.86***	(6.28)
Less disability (0-28)	8.81	5.71	7.68	5.50	1.12***	(5.05)
Cohen's Stress Index (0-40)	20.12	4.31	19.27	4.30	0.85***	(4.91)
Self-efficacy (8-32)	19.77	5.61	21.22	5.34	-1.45***	(-6.72)
Satisfaction with life scale (5-25)	11.30	3.95	12.00	4.44	-0.70***	(-4.00)
Panel B: Primary female decision maker						
Female Locus of Control (0-10)	5.61	1.78	5.60	1.65	0.01	(0.05)
Observations	3 980		734		4 714	

Note: *=p-value<0.1; **=p-value<0.05; ***=p-value<0.01

Table 50: Shocks by poverty status in Niger

	Mean poor	SD poor	Mean non-poor	SD non-poor	Mean difference	t-test
Number of shocks experienced	2.80	1.95	2.86	2.03	-0.06	(-0.71)
Drought/irregular rain	36.88	48.26	44.55	49.74	-7.67***	(-3.85)
Floods	33.07	47.05	29.97	45.85	3.09	(1.67)
Crop pests/diseases	38.57	48.68	36.78	48.25	1.78	(0.92)
Animal diseases	24.07	42.76	32.02	46.69	-7.95***	(-4.29)
Rise in agricultural input prices	28.34	45.07	28.47	45.16	-0.13	(-0.07)
Lower prices for agricultural products	10.78	31.02	8.72	28.23	2.06	(1.79)
Rising food prices	50.23	50.01	51.36	50.02	-1.14	(-0.57)
Significant loss of non-farm household income (not related to accident or illness)	8.52	27.92	5.72	23.24	2.80**	(2.90)
Serious illness or accident of a household member	27.39	44.60	26.02	43.91	1.37	(0.77)
Death of a household member	11.18	31.52	11.04	31.35	0.15	(0.12)
Divorce, separation	2.64	16.03	2.59	15.89	0.05	(0.08)
Religious conflict	0.38	6.13	0.41	6.38	-0.03	(-0.12)
Ethnic conflict	0.85	9.20	0.82	9.01	0.04	(0.10)
Other	6.91	25.36	7.08	25.67	-0.17	(-0.17)
Observations	3 980		734		4 714	

Note: *=p-value<0.1; **=p-value<0.05; ***=p-value<0.01

Table 51: Coping strategies by poverty status in Niger

	Mean poor	SD poor	Mean non-poor	SD non-poor	Mean difference	t-test
Number of coping strategies used	1.44	1.71	1.38	1.69	0.06	(0.88)
Stress coping strategies						
% households spend savings	14.28	34.99	13.33	34.02	0.95	(0.68)
% households sell livestock	19.87	39.90	27.52	44.69	-7.66***	(-4.30)
% households sell food stocks	10.90	31.16	10.93	31.22	-0.03	(-0.02)
% households borrowed money	6.38	24.45	5.86	23.50	0.52	(0.55)
Crisis coping strategies						
% households reduce health/education spending	12.02	32.52	12.02	32.54	-0.00	(-0.00)
% households consumed seed stocks that were to be saved for next season	1.53	12.29	0.95	9.73	0.58	(1.42)
% households received help from relatives or friends	3.59	18.61	1.91	13.69	1.69**	(2.88)
Emergency coping strategies						
% households sold a house or land	0.05	2.24	0.00	0.00	0.05	(1.41)
% households begged	0.58	7.58	0.41	6.38	0.17	(0.64)
% households migrated	3.14	17.44	2.72	16.29	0.42	(0.63)
Miscellaneous coping strategies						
% households reduce food consumption (quantity/meal; of meals/day)	53.42	49.89	47.59	49.98	5.83**	(2.89)
% households withdraw children from school	6.74	25.07	6.64	24.91	0.10	(0.10)
% households sold productive assets or means of transport	0.78	8.79	0.82	9.01	-0.04	(-0.11)
% households purchased food on credit or borrowed food	1.98	13.95	0.82	9.01	1.17**	(2.92)
% households used remittances	0.25	5.01	0.00	0.00	0.25**	(3.17)
% households sold other household assets/goods	1.33	11.46	2.18	14.61	-0.85	(-1.49)
% households reduced non-food expenses	0.38	6.13	0.54	7.37	-0.17	(-0.58)
% households where members took on additional activities	0.40	6.33	0.00	0.00	0.40***	(4.01)
% households received aid from government	0.28	5.25	0.00	0.00	0.28***	(3.32)
% households received aid from non-governmental organization	0.58	7.58	0.54	7.37	0.03	(0.11)
% households turned to God	6.43	24.54	4.09	19.81	2.34**	(2.83)
% households used other coping strategies	1.03	10.10	0.82	9.01	0.21	(0.58)
Livelihood-based coping strategy category						
% households used stress coping strategy	31.83	46.59	35.56	47.90	-3.72	(-1.94)
% households used crisis coping strategy	16.08	36.74	14.17	34.90	1.91	(1.35)
% households used emergency coping strategy	3.77	19.05	3.13	17.43	0.64	(0.89)
Observations	3 980		734		4 714	

Note: *=p-value<0.1; **=p-value<0.05; ***=p-value<0.01

Table 52: Financial outcomes by poverty status in Niger

	Mean poor	SD poor	Mean non-poor	SD non-poor	Mean difference	t-test
% of households used any savings mechanism	6.86	25.28	8.17	27.42	-1.32	(-1.21)
Total savings	320.47	1 589.44	393.60	1 760.25	-73.13	(-1.05)
% of households applied for a loan	38.17	48.59	34.88	47.69	3.29	(1.71)
Amount borrowed	13 243.62	29 095.40	15 418.41	34 513.73	-2 174.79	(-1.58)
% of households received financial and non-financial transfers	4.45	20.62	3.54	18.50	0.91	(1.20)
Total transfers received	7 775.53	20 592.12	10 767.09	26 045.73	-2 991.56**	(-2.95)
Amount transferred to family	21 156.32	37 567.30	27 387.30	50 222.94	-6 230.98	(-0.81)
% households received remittances (from household member)	76.11	42.66	78.26	41.38	-2.15	(-0.61)
Observations	3 980		734		4 714	

Note: *=p-value<0.1; **=p-value<0.05; ***=p-value<0.01

Table 53: Subjective resilience scores (SERs) by poverty status in Niger

	Mean poor	SD poor	Mean non-poor	SD non-poor	Mean difference	t-test
Subjective Resilience Score	39.84	18.59	42.82	18.52	-2.98***	(-4.00)
% Low Subjective Resilience (0-32)	35.28	47.79	29.02	45.42	6.26***	(3.40)
% Medium Subjective Resilience (33-65)	56.33	49.60	59.13	49.19	-2.80	(-1.41)
% High Subjective Resilience (above 66)	8.39	27.73	11.85	32.35	-3.46**	(-2.72)
Observations	3 980		734		4 714	

Note: *=p-value<0.1; **=p-value<0.05; ***=p-value<0.01

Table 54: Time use by poverty status in Niger

	Mean poor	SD poor	Mean non-poor	SD non-poor	Mean difference	t-test
Panel A: Activities at sunrise (06:00)						
Work	17.54	38.03	19.75	39.84	-2.22	(-1.39)
Chore	18.84	39.11	16.35	37.01	2.50	(1.66)
Leisure	15.18	35.88	15.94	36.63	-0.76	(-0.52)
Rest	14.15	34.85	11.99	32.51	2.16	(1.63)
Panel B: Activities in the morning (09:00)						
Work	26.86	44.33	36.92	48.29	-10.06***	(-5.25)
Chore	33.07	47.05	28.75	45.29	4.32*	(2.36)
Leisure	9.30	29.04	8.17	27.42	1.12	(1.01)
Rest	1.93	13.78	1.77	13.20	0.16	(0.31)
Panel C: Activities in the afternoon (15:00)						
Work	15.40	36.10	20.71	40.55	-5.31***	(-3.31)
Chore	24.77	43.18	22.48	41.77	2.29	(1.36)
Leisure	18.34	38.71	17.71	38.20	0.63	(0.41)
Rest	5.95	23.67	5.31	22.45	0.64	(0.71)
Panel D: Activities in the evening (19:00)						
Work	3.02	17.10	3.95	19.49	-0.94	(-1.22)
Chore	13.37	34.03	13.90	34.61	-0.53	(-0.38)
Leisure	39.67	48.93	37.74	48.51	1.93	(0.99)
Rest	6.13	23.99	5.31	22.45	0.82	(0.90)
Panel E: Activities at night (22:00)						
Work	0.53	7.25	1.09	10.39	-0.56	(-1.40)
Chore	1.18	10.80	1.36	11.60	-0.18	(-0.39)
Leisure	3.09	17.31	4.09	19.81	-1.00	(-1.28)
Rest	82.44	38.06	80.11	39.95	2.33	(1.46)
Observations	3 980		734		4 714	

Note: *=p-value<0.1; **=p-value<0.05; ***=p-value<0.01

Table 55: Programme participation by poverty status in Niger

	Mean poor	SD poor	Mean non-poor	SD non-poor	Mean difference	t-test
Food for work	7.46	26.28	4.90	21.61	2.56**	(2.84)
Nutritional supplements	0.23	4.75	0.27	5.22	-0.05	(-0.22)
Public works paid for with agricultural inputs	0.43	6.52	0.41	6.38	0.02	(0.07)
School feeding	1.66	12.77	1.50	12.16	0.16	(0.32)
Schooling support	0.98	9.85	1.77	13.20	-0.79	(-1.55)
Free food	5.58	22.95	3.81	19.17	1.76*	(2.22)
Government cash transfers	1.56	12.39	1.77	13.20	-0.21	(-0.41)
Pregnancy care programme	3.54	18.49	3.41	18.15	0.14	(0.19)
Care for children under 5 years old	15.68	36.36	12.94	33.59	2.74*	(2.00)
Vaccination	27.71	44.76	26.43	44.13	1.28	(0.72)
Annual medical check-up	3.07	17.24	3.00	17.06	0.07	(0.10)
Medication	15.78	36.46	16.08	36.76	-0.30	(-0.20)
Medical treatment	3.74	18.99	3.00	17.06	0.75	(1.07)
Observations	3 980		734		4 714	

Note: *=p-value<0.1; **=p-value<0.05; ***=p-value<0.01

Table 56: Financial support by poverty status in Niger

	Mean poor	SD poor	Mean non-poor	SD non-poor	Mean difference	t-test
Number of people you could ask for money	5.12	6.49	5.52	5.57	0.40	(1.68)
Number of siblings you can ask for money	1.64	1.63	1.77	1.52	0.13	(1.95)
Number of family members you can ask for money	1.48	2.04	1.55	2.17	0.07	(0.74)
Number of friends you can ask for money	1.30	2.37	1.46	1.81	0.15	(1.91)
Number of other community members you can ask for money	1.08	2.76	1.17	2.11	0.09	(0.92)
Probability of raising fund	0.18	0.38	0.24	0.43	0.07***	(3.86)
Financial support index (FZ-score)	0.01	0.97	0.14	0.96	0.12**	(3.15)
Observations	3 980		734		4 714	

Note: *=p-value<0.1; **=p-value<0.05; ***=p-value<0.01

6.4. Summary statistics by village type in Niger

Table 57: Household demographics by village type in Niger

	Mean primary	SD primary	Mean secondary	SD secondary	Mean difference	t-test
Panel A: Head of Household						
% Female households head	23.33	42.30	24.47	43.01	-1.14	(-0.88)
% household head with any primary education	20.41	40.31	14.45	35.17	5.96***	(5.31)
households **B: Household**						
Household size	6.65	3.70	6.57	3.56	0.07	(0.67)
% households with school-age children enrolled in school	32.16	35.09	26.47	34.06	5.70***	(5.15)
Total household assets owned by households	2.16	2.06	1.98	1.84	0.18**	(3.04)
Total farm assets owned by households	3.10	1.95	2.95	1.87	0.15**	(2.64)
% households with a member who migrated	19.45	39.59	17.43	37.95	2.02	(1.74)
Observations	2 957		1 757		4 714	

Note: *=p-value<0.1; **=p-value<0.05; ***=p-value<0.01

Table 58: Income-generating activities by village type in Niger

	Mean primary	SD primary	Mean secondary	SD secondary	Mean difference	t-test
Panel A: Agriculture and Livestock						
% households growing crops in main agri season	88.47	31.95	87.93	32.58	0.53	(0.55)
% households growing crops in off-season agri	4.70	21.17	2.96	16.95	1.74**	(3.10)
Household revenue from crops sales (annual)	15 734.36	33 980.17	10 492.35	27 314.13	5 242.01***	(5.46)
% households rearing livestock	53.47	49.89	54.74	49.79	-1.26	(-0.84)
Livestock count	8.36	9.99	8.30	9.94	0.06	(0.15)
Livestock count – tropical livestock unit (TLU)	1.14	1.85	1.14	1.85	-0.01	(-0.11)
Profit from livestock and products (last 6 months)	7 720.81	19 448.60	6 889.08	18 660.57	831.73	(1.07)
Panel B: Wage Employment						
% of households with any wage employment	17.01	37.58	13.03	33.68	3.98***	(3.75)
% of adults employed in the household	8.79	22.26	6.65	19.55	2.14***	(3.45)
Per capita household wage income (monthly)	7 200.53	12 534.30	6 536.98	10 779.40	663.54	(0.73)
% of household heads employed in the last 12 months	14.25	34.96	11.16	31.49	3.09**	(3.12)
% of households heads employed in agri job	29.95	45.86	39.90	49.10	-9.94*	(-2.37)
% of households heads employed in non-agri job	70.05	45.86	60.10	49.10	9.94*	(2.37)
Number of months worked in the last 12 months	6.15	4.17	5.62	3.92	0.53	(1.51)
Panel C: Business						
% household owns a business	18.84	39.11	17.25	37.79	1.59	(1.38)
Number of businesses	1.25	0.76	1.32	0.95	-0.07	(-1.12)
Profit from business (monthly)	13 129.50	20 341.10	12 045.78	19 369.56	1 083.72	(0.76)
Type of business – agri (%)	26.39	44.11	21.45	41.12	4.94	(1.64)
Type of business – non-agri (%)	62.48	48.46	65.68	47.56	-3.20	(-0.94)
Number of months worked in household business	6.88	4.19	6.95	4.06	-0.07	(-0.25)
Observations	2 957		1 757		4 714	

Note: *=p-value<0.1; **=p-value<0.05; ***=p-value<0.01

Table 59: Food security by village type in Niger

	Mean primary	SD primary	Mean secondary	SD secondary	Mean difference	t-test
Panel A: Food Consumption Score (FCS)						
FCS	32.99	21.92	32.26	21.47	0.72	(1.10)
% FCS poor (0-28)	51.64	49.98	50.77	50.01	0.87	(0.58)
% FCS borderline (28.5-42)	16.27	36.91	18.16	38.56	-1.89	(-1.65)
% FCS acceptable (above 42)	32.09	46.69	31.08	46.29	1.02	(0.73)
% never consumed	52.28	49.96	54.25	49.83	-1.97	(-1.31)
Vitamin-A-rich foods						
% consumed sometimes	24.56	43.05	24.51	43.03	0.05	(0.04)
% consumed at least daily	23.16	42.19	21.24	40.91	1.92	(1.53)
% never consumed	35.89	47.98	35.99	48.01	-0.11	(-0.07)
Protein-rich foods						
% consumed sometimes	34.42	47.52	35.48	47.86	-1.06	(-0.73)
% consumed at least daily	29.70	45.70	28.53	45.17	1.17	(0.85)
% never consumed	77.66	41.66	80.42	39.69	-2.76*	(-2.26)
Hem Iron-rich foods						
% consumed sometimes	19.98	39.99	17.97	38.40	2.01	(1.70)
% consumed at least daily	2.36	15.18	1.61	12.58	0.75	(1.83)
Household Dietary Diversity Score (HDDS)	3.44	1.88	3.49	1.97	-0.05	(-0.83)
Panel B: Dietary diversity						
% households low dietary diversity (0-4.5)	69.33	46.12	67.84	46.72	1.48	(1.06)
% households medium dietary diversity (4.5-6)	23.10	42.15	22.48	41.76	0.62	(0.49)
% households good dietary diversity (above 6)	7.58	26.46	9.68	29.57	-2.10*	(-2.45)
% Minimum Dietary Diversity for Women (MDD-W)	4.31	20.32	2.89	16.76	1.42	(1.85)
% Minimum Acceptable Diet (breastfed children)	0.32	5.70	0.61	7.81	-0.29	(-0.41)
% Minimum Acceptable Diet (non-breastfed children)	2.50	15.71	0.00	0.00	2.50	(1.42)
Panel C: Subjective Food Insecurity						
Food Insecurity Experience Scale (FIES)	6.31	2.41	6.19	2.57	0.12	(1.55)
% households FIES food secure (0-3)	15.69	36.38	17.81	38.27	-2.12	(-1.88)
% households FIES moderate food insecurity (4-6)	17.08	37.64	15.82	36.51	1.26	(1.13)
% households FIES severe food insecurity (7-8)	67.23	46.95	66.36	47.26	0.87	(0.61)
Observations	2 957		1 757		4 714	

Note: *=p-value<0.1; **=p-value<0.05; ***=p-value<0.01

Table 60: Consumption by village type in Niger

	Mean primary	SD primary	Mean secondary	SD secondary	Mean difference	t-test
Household food consumption – monthly	19 589.73	29 334.36	19 884.20	29 797.62	-294.47	(-0.33)
Household non-food consumption – monthly	11 159.25	13 416.60	9 491.73	12 040.86	1 667.53***	(4.40)
Household total consumption – monthly	31 496.83	37 181.78	30 151.10	36 582.11	1 345.73	(1.21)
Food Expenditure Share (FES %)	49.51	32.62	52.95	32.92	-3.44***	(-3.49)
Per-capita food consumption – monthly	4 553.12	7 455.81	4 588.14	7 481.83	-35.02	(-0.15)
Per-capita non-food consumption – monthly	2 486.11	3 188.71	2 076.86	2 765.99	409.25***	(4.60)
Per-capita total consumption – monthly	7 287.14	9 732.49	6 877.15	9 351.47	409.99	(1.42)
Observations	2 957		1 757		4 714	

Note: *=p-value<0.1; **=p-value<0.05; ***=p-value<0.01

Table 61: Psychosocial by village type in Niger

	Mean primary	SD primary	Mean secondary	SD secondary	Mean difference	t-test
Panel A: Household head						
Life satisfaction today (1-10)	3.20	1.76	3.09	1.68	0.11*	(2.16)
Life satisfaction two years ago (1-10)	3.67	2.03	3.58	2.00	0.09	(1.50)
Subjective social status (1-10)	2.83	1.60	2.66	1.46	0.17***	(3.72)
Future expectations (3-30)	14.99	5.44	14.68	5.15	0.31*	(1.96)
Less depression (0-70)	29.52	11.82	28.73	11.63	0.79*	(2.24)
Less disability (0-28)	8.62	5.69	8.64	5.70	-0.02	(-0.10)
Cohen's Stress Index (0-40)	20.05	4.35	19.89	4.26	0.16	(1.23)
Self-efficacy (8-32)	19.94	5.59	20.08	5.62	-0.14	(-0.84)
Satisfaction with life scale (5-25)	11.50	4.07	11.27	3.98	0.23	(1.87)
Panel B: Primary female decision maker						
Female locus of control (0-10)	5.66	1.67	5.52	1.92	0.13	(1.09)
Observations	2 957		1 757		4 714	

Note: *=p-value<0.1; **=p-value<0.05; ***=p-value<0.01

Table 62: Shocks by village type in Niger

	Mean primary	SD primary	Mean secondary	SD secondary	Mean difference	t-test
Number of shocks experienced	2.81	1.97	2.82	1.97	-0.01	(-0.17)
Drought/irregular rain	33.92	47.35	45.08	49.77	-11.16***	(-7.58)
Floods	33.85	47.33	30.45	46.03	3.40*	(2.43)
Landslides/erosion	1.79	13.27	0.57	7.52	1.22***	(4.04)
Hail/frost	0.03	1.84	0.17	4.13	-0.14	(-1.31)
Crop pests/diseases	40.07	49.01	35.29	47.80	4.79***	(3.29)
Animal diseases	24.72	43.15	26.29	44.04	-1.57	(-1.20)
Rise in agricultural input prices	28.71	45.25	27.77	44.80	0.94	(0.69)
Lower prices for agricultural products	10.21	30.29	10.87	31.14	-0.66	(-0.71)
Rising food prices	50.83	50.00	49.69	50.01	1.14	(0.76)
Significant loss of non-farm household income (not related to accident or illness)	7.95	27.05	8.31	27.61	-0.36	(-0.44)
Serious illness or accident for a household member	28.17	44.99	25.50	43.60	2.67*	(2.01)
Death of a household member	11.13	31.45	11.21	31.56	-0.09	(-0.09)
Divorce, separation	2.77	16.42	2.39	15.28	0.38	(0.81)
Theft of money, property or harvest	4.36	20.43	5.29	22.40	-0.93	(-1.42)
Land conflict	0.37	6.09	0.17	4.13	0.20	(1.35)
Militia group activity	0.34	5.81	0.51	7.14	-0.17	(-0.87)
Religious conflict	0.34	5.81	0.46	6.73	-0.12	(-0.61)
Ethnic conflict	0.64	7.99	1.20	10.87	-0.55	(-1.85)
Other to specified	0.47	6.87	0.46	6.73	0.02	(0.09)
Observations	2 957		1 757		4 714	

Note: *=p-value<0.1; **=p-value<0.05; ***=p-value<0.01

Table 63: Coping strategies by village type in Niger

	Mean Primary	SD Primary	Mean Secondary	SD Secondary	Mean difference	t-test
Number of coping strategies used	1.44	1.71	1.42	1.71	0.02	(0.46)
Stress coping strategies						
% households spend savings	14.79	35.51	13.03	33.67	1.76	(1.69)
% households sell livestock	20.68	40.51	21.70	41.23	-1.02	(-0.82)
% households sell food stocks	11.82	32.29	9.37	29.15	2.45**	(2.65)
% households borrowed money	5.31	22.43	7.97	27.09	-2.66***	(-3.47)
Crisis coping strategies						
% households reduce health/education spending	12.47	33.04	11.26	31.62	1.21	(1.23)
% households consumed seed stocks that were to be saved for next season	1.49	12.11	1.37	11.61	0.12	(0.34)
% households received help from relatives or friends	3.92	19.42	2.33	15.10	1.59**	(3.13)
Emergency coping strategies						
% households sold a house or land	0.03	1.84	0.06	2.39	-0.02	(-0.35)
% households begged	0.54	7.34	0.57	7.52	-0.03	(-0.12)
% households migrated	2.60	15.93	3.87	19.29	-1.27*	(-2.32)
Miscellaneous coping strategies						
% households reduce food consumption (quantity/meal; of meals/day)	52.74	49.93	52.13	49.97	0.61	(0.40)
% households withdraw children from school	7.01	25.54	6.24	24.20	0.77	(1.02)
% households sold productive assets or means of transport	0.71	8.40	0.91	9.50	-0.20	(-0.73)
% households purchased food on credit or borrowed food	1.66	12.77	2.05	14.17	-0.39	(-0.95)
% households used remittances	0.30	5.51	0.06	2.39	0.25*	(2.13)
% households sold other household assets/goods	1.66	12.77	1.14	10.61	0.52	(1.50)
% households reduced non-food expenses	0.34	5.81	0.51	7.14	-0.17	(-0.87)
% households where members took on additional activities	0.20	4.50	0.57	7.52	-0.37	(-1.85)
% households received aid from government	0.27	5.20	0.17	4.13	0.10	(0.73)
% households received aid from non-governmental organization	0.61	7.78	0.51	7.14	0.10	(0.43)
% households turned to God	6.05	23.85	6.09	23.92	-0.04	(-0.05)
% households used other coping strategies	0.81	8.97	1.31	11.37	-0.50	(-1.57)
Livelihood-based coping strategy category						
% households used stress coping strategy	31.76	46.56	33.52	47.22	-1.77	(-1.25)
% households used crisis coping strategy	16.84	37.43	14.00	34.71	2.84**	(2.64)
% households used emergency coping strategy	3.18	17.55	4.50	20.73	-1.32*	(-2.23)
Observations	2 957		1 757		47 14	

Note: *=p-value<0.1; **=p-value<0.05; ***=p-value<0.01

Table 64: Financial outcomes by village type in Niger

	Mean primary	SD primary	Mean secondary	SD secondary	Mean difference	t-test
% of households used any savings mechanism	7.41	26.19	6.49	24.64	0.92	(1.21)
Total savings	341.33	1652.16	315.92	1 557.05	25.41	(0.53)
% of households applied for a loan	37.40	48.40	38.08	48.57	-0.67	(-0.46)
Amount borrowed	14 278.48	31 144.53	12 417.97	27 980.30	1 860.51*	(2.09)
% of households received financial and non financial-transfers	5.01	21.81	3.13	17.42	1.87**	(3.25)
Total transfers received	8 930.48	22 505.16	7 081.52	19 809.84	1 848.96**	(2.94)
Amount transferred to family	26 600.38	46 138.42	12 876.66	20 628.74	13 723.72**	(2.98)
% households received remittances (from household member)	76.95	42.14	75.27	43.20	1.68	(0.62)
Observations	2 957		1 757		4 714	

Note: *=p-value<0.1; **=p-value<0.05; ***=p-value<0.01

Table 65: Time use by village type in Niger

	Mean primary	SD primary	Mean secondary	SD secondary	Mean difference	t-test
Panel A: Activities at sunrise (06:00)						
Work	17.59	38.08	18.38	38.75	-0.80	(-0.69)
Chore	18.90	39.16	17.70	38.18	1.20	(1.04)
Leisure	15.66	36.35	14.68	35.40	0.97	(0.90)
Rest	13.87	34.56	13.72	34.41	0.15	(0.14)
Panel B: Activities in the morning (09:00)						
Work	28.47	45.14	28.34	45.08	0.13	(0.10)
Chore	31.65	46.52	33.64	47.26	-1.98	(-1.40)
Leisure	9.27	29.00	8.88	28.45	0.39	(0.45)
Rest	2.10	14.33	1.59	12.53	0.50	(1.26)
Panel C: Activities in the afternoon (15:00)						
Work	16.54	37.16	15.71	36.40	0.83	(0.75)
Chore	23.84	42.62	25.38	43.53	-1.54	(-1.19)
Leisure	18.26	38.64	18.21	38.61	0.05	(0.04)
Rest	5.92	23.60	5.75	23.28	0.17	(0.24)
Panel D: Activities in the evening (19:00)						
Work	3.52	18.42	2.56	15.80	0.96	(1.89)
Chore	12.38	32.94	15.25	35.96	-2.88**	(-2.74)
Leisure	39.30	48.85	39.50	48.90	-0.20	(-0.14)
Rest	6.02	23.79	5.98	23.71	0.04	(0.06)
Panel E: Activities at night (22:00)						
Work	0.68	8.20	0.51	7.14	0.16	(0.72)
Chore	1.12	10.51	1.37	11.61	-0.25	(-0.74)
Leisure	3.38	18.08	3.02	17.11	0.37	(0.69)
Rest	81.37	38.94	83.27	37.34	-1.90	(-1.66)
Observations	2 957		1 757		4 714	

Note: *=p-value<0.1; **=p-value<0.05; ***=p-value<0.01

Table 66: Programme participation by village type in Niger

	Mean primary	SD primary	Mean secondary	SD secondary	Mean difference	t-test
Food for work	7.24	25.91	6.77	25.14	0.46	(0.61)
Nutritional supplements	0.27	5.20	0.17	4.13	0.10	(0.73)
Public works paid for with agricultural inputs	0.41	6.36	0.46	6.73	-0.05	(-0.25)
School feeding	2.47	15.52	0.23	4.77	2.24***	(7.29)
Schooling support	1.25	11.12	0.85	9.20	0.40	(1.33)
Free food	5.78	23.35	4.50	20.73	1.29*	(1.96)
Government cash transfers	1.45	11.97	1.82	13.38	-0.37	(-0.95)
Pregnancy care programme	3.92	19.42	2.85	16.63	1.08*	(2.02)
Care for children under 5 years old	15.52	36.22	14.80	35.52	0.72	(0.67)
Vaccination	29.39	45.56	24.36	42.94	5.03***	(3.80)
Annual medical check-up	3.69	18.85	1.99	13.98	1.69***	(3.52)
Medication	16.64	37.25	14.46	35.18	2.18*	(2.01)
Medical treatment	4.06	19.74	2.90	16.79	1.16*	(2.14)
Observations	2 957		1 757		4 714	

Note: *=p-value<0.1; **=p-value<0.05; ***=p-value<0.01

Table 67: Financial support by village type in Niger

	Mean primary	SD primary	Mean secondary	SD secondary	Mean difference	t-test
Number of people you could ask for money	5.20	6.74	5.16	5.66	-0.04	(-0.23)
Number of siblings you can ask for money	1.63	1.62	1.69	1.60	0.06	(1.17)
Number of family members you can ask for money	1.50	2.07	1.47	2.03	-0.04	(-0.54)
Number of friends you can ask for money	1.34	2.62	1.30	1.61	-0.04	(-0.67)
Number of other community members you can ask for money	1.10	2.95	1.09	2.13	-0.01	(-0.15)
Probability of raising fund	0.19	0.40	0.17	0.38	-0.02	(-1.95)
Financial support index (FZ-score)	0.05	1.00	0.01	0.93	-0.04	(-1.39)
Observations	2 957		1 757		4 714	

Note: *=p-value<0.1; **=p-value<0.05; ***=p-value<0.01

7. Acronyms

CBPP	community-based participatory planning
CSP	Country strategic plan
DIME	Development Impact Evaluation
FCS	Food Consumption Score
FCS-N	Food Consumption Score - Nutrition
FFA	food assistance for assets
FIES	Food Insecurity Experience Scale
HDDS	Household Dietary Diversity Score
HEA	Household Economy Analysis
OEV	Office of Evaluation (World Food Programme)
PAP	Pre-analysis plan
PHQ9	Patient Health Questionnaire-9
RCT	Randomized Control Trial
SAMS	Smallholder Agriculture Market Support
SERS	subjectively evaluated resilience score
WFP	World Food Programme

Office of Evaluation

World Food Programme

Via Cesare Giulio Viola 68/70 00148 Rome, Italy

T +39 06 65131

wfp.org/independent-evaluation