BASELINE REPORT IRTOUN (RISE AGAIN) III
January 2018

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Acronym List

CSI: Coping Strategy Index

CSIFC: Coping Strategy Index related to Food Consumption

CSIL: Coping Strategy Index related to Livelihoods

HDDS: Household Dietary Diversity Score

HHI: Household Hunger Index

IGA: Income Generating Activity

VSLA: Village Savings and Loan Association

WFP: World Food Program

Executive Summary

Overview of the baseline study

Since February 2014, Mercy Corps has implemented the Irtoun program ("Rise Again") with financial support from USAID/OFDA and FFP, to enhance food security and economic resilience of communities recovering from conflicts in the Ansongo circle in the Gao region. The program's activities were extended in 2016 with Irtoun II in the Timbuktu and Gourma Rharous circles in the Timbuktu region. Despite gains in the first two programs (Irtoun I/II), the region continues to face high levels of food insecurity and economic vulnerability due to the continuing threat of violent conflict, banditry and climate shocks.

Irtoun III is designed to improve food security, reduce the risk of conflict and enhance the resilience of conflict-affected households. More specifically, Irtoun III will work in the same municipalities covered by Irtoun II, continuing to support agricultural groups and VSLAs to strengthen the local capacities of agricultural production and livestock breeding as well as to restore their means of subsistence.

The baseline study consists of two components: a quantitative household survey to collect data on key indicators, and a qualitative survey to answer some of the questions in the study. The results of the baseline study will be used for the following purposes:

1. Establish benchmarks for key Irtoun III indicators;
2. Assist the project team in establishing realistic target levels for the improvement of these indicators over a period of twenty-four months;
3. Inform the project team about household livelihoods, the role of livestock, favorable economic opportunities, and other opportunities to ease recovery from the crisis and equip communities with the tools they need to sustain their wellbeing.

The study looked at the following aspects: number of months of household food self-sufficiency, household dietary diversity, domestic hunger index, adaptation strategy index, sources of income, etc.

The survey sample was designed to be statistically representative of households in the project intervention area. The two-stage cluster design provided a sample of 834 households. For the qualitative part of the survey, six villages were interviewed through focus groups. Questionnaires were developed and finalized based on indicators and consultations with the project team. Fieldwork, including training, data collection and data entry, took place in January 2018.

Key Findings of the Study

Respondents' Characteristics

With regard to the gender of heads of households, just over two-thirds of heads of households are men (72%) compared to 28% of households headed by women.

The average age of heads of household in the Irtoun III intervention area is 48 years old. This average age is essentially the same between women and men (the difference is not statistically significant: $t = -817$ and $p = 0.414$).

With regard to the level of education, the majority of heads of household in the project have no level of education (39.2%). The second largest group of heads of household have attended nothing but Koranic school (31.9%). Relatively few heads of household have reached formal levels of school education or adult literacy.

Ethnically, the project area is almost completely Sonrhaï, with 83.7% of heads of households belonging to this ethnic group. In Ansongo, the Sonrhaï are even more dominant (87.4%).

Demographically, the average number of people per household is 8.24 over the entire intervention area, with a slightly increasing trend in Gourma-Rarhous (8.5%) and Timbuktu (8.49). Households composed of seven people are the most common within the project area. Overall, and at the level of each specific area, the least populated household is composed of two (2) people and the most populated has up to fourteen (14) individuals.

As for the presence of displaced persons in households, 10% of the households surveyed (83 households) are hosting at least one displaced person. Of these households, 30% (25 households) are in Ansongo compared to 70% (58 households) in Gourma-Rarhous and Timbuktu, with an average of 2.5 persons per household and a minimum number of one person and a maximum of 20 people welcomed into the home.

In terms of the cultural environment, before the crisis, communities had very important cultural events on a regular basis. These events reinforce social cohesion, fraternity, mutual aid and tolerance. The events are mainly traditional dances that are organized during ceremonies and celebrations (tam-tam, takamba, songs etc.) and inter and intra-community meetings.

Perceived Increase in the Number of Months of Household Food Self-Sufficiency

Overall, 98% of the households responding to this question said that access and use of improved seeds and other agricultural inputs would allow for an increase in the number of months of food security in their households. With support for improved seeds and other modern agricultural inputs, households foresee an average increase of 3.88 months over the current four-month coverage provided by their agricultural production. If this perception is accurate, households participating in Irtoun-III will potentially double their food self-sufficiency (from about 4 months to 7-8 months).

Months of Household Food Supply

In the last twelve months preceding this study, households in the project intervention area had, on average, six months of adequate food supply (food supply meaning a household's own production, reserve, purchases, collection, etc.).

To this end, the project must aim to significantly increase the number of months of adequate food supply for households. To do this, the project is proposed to target the average supply of the upper tercile (one third), an average target of 8 months of adequate food supply for all beneficiary households.

Household Dietary Diversity Score (HDDS)

The overall average HDDS is 6.2 indicating a dietary diversity that is barely acceptable. The dietary diversity of households has an average of at least six groups that have been consumed by households during the 24 hours preceding the present study. Female-headed households have a greater dietary diversity than those headed by men, with a statistically significant difference ($p = 0.002$).

As a target, it is recommended that the project plan to raise this average HDDS to at least eight by the end of the implementation of Irtoun III. The project should accomplish this by increasing households' awareness that consuming foods such as beans, vegetables, etc. (food that is generally more accessible than meat and can be/are produced by households) increases the chances of being food secure.

Household Hunger Index (HHI)

Overall, 55% of households suffer from moderate or severe hunger, with a higher prevalence among female-headed households (68%) and geographically in the Gourma- Rarhous circle (62%). The HHI is based on perceptions of hunger over the last four weeks and is therefore sensitive to the season in which the survey is conducted. In the case of this survey, data was collected during the month of January 2018.

Coping Strategy Index related to Food Consumption (CSIFC)

In the period of this study, there is relatively low frequency of use of adverse coping strategies for food consumption among households in the project intervention area. The average score is 14.6 for the entire area, indicating a low use of coping strategies. Nonetheless, this indicator still shows that during the period of this study, female-headed households made use of strategies more frequently than male-headed households: Female-headed households showed an average score of 16.7 vs 13.8 for men (statistically significant difference with a value of $p = 0.004$).

Coping Strategy Index related to Livelihoods (CSIL)

The baseline showed a relatively low average value for livelihoods-related coping strategies (12.8), indicating that households are not using a large number of coping strategies related to livelihoods. Still, the situation was more difficult for female-headed households (average of 16.7) than male-headed households (average of 11.2). In the Timbuktu region, households are using more coping strategies than in other areas. 33% of households had used at least one stress-level strategy in the past 30-days (selling household goods such clothing, jewelry, radio, etc; buying food on credit or using savings; spending savings to meet basic needs); while 29% of households reported using crisis-level strategies (selling productive assets, consuming seed stocks, removing children from school) or emergency-level strategies (selling house or land, begging, selling off female animals, entire household migrating).

Peaceful, Safe and Secure Communities.

26% of respondents describe their community as peaceful, safe and secure. This indicates that on a global scale, only a small percentage of household heads believe that their community or village is peaceful, safe and secure. The low level of this indicator reflects the shared trauma that the inhabitants face due to the fragility of the local security situation.

Respondent Perception of Conflict Management

The Likert scale was used to evaluate the respondents' perception on this topic. Using this technique, a series of four statements were posed to each respondent, asking the respondent to respond with whether or not they agreed with each statement. The noted trends are:

- The majority of respondents agree that customary leaders are able to prevent and/or resolve disagreements in their community throughout the intervention area.
- The overwhelming majority of respondents agree that government authorities are able to prevent and/or resolve disagreements in their community.
- The overwhelming majority of respondents agree that women/women's groups are able to prevent and/or resolve disagreements in their community.
- The overwhelming majority of respondents agree that youth/youth groups are able to prevent and/or resolve disagreements in their community.

Impact of the Crisis on the Income of Women and Men

One of the main sources of income for women are IGAs. According to focus group participants, women no longer practice Income Generating Activities (IGAs) like before because of lack of access or very limited access to the market (especially intercommunity markets). The occurrence of robberies and rapes are so frequent that women do not even leave to search for wood like they used to, out of fear of being attacked and/or raped.

Introduction

Since the beginning of the crisis in Mali in 2012, the conflict has had a profound impact on the population of the northern region of the country, causing displacement, disrupting livelihoods and preventing households from meeting their basic needs. Although a peace agreement was signed in June 2015, implementation has been slow and the political commitment to long-term peace by all is in question. Violence continues across the North, including attacks by Islamist groups, bandits and other armed actors targeting the Malian army, MINUSMA, humanitarian actors and the civilian population.

Faced with this situation, a large part of the population, especially the most vulnerable households, are unable to resume their livelihoods due to the loss of means of production, limited access to financial resources to buy seeds and other inputs, and interrupted market systems. Mercy Corps assessments in December 2016 showed that 63% of those polled in Timbuktu, Gourma-Rharous and Ansongo had moderate or severe hunger. Meanwhile, food recalls in the last 24 hours showed extremely limited dietary diversity, including only two different food groups that were consumed in the previous day. Women-headed households are particularly vulnerable to food insecurity: 83% of these households experience moderate hunger.

To help alleviate this difficult situation, Mercy Corps, with support from USAID/OFDA, has already implemented two phases of the IRTOUN project (1 & 2). Based on the successes of these earlier phases, Mercy Corps has sought and obtained the continued support of USAID/OFDA to implement Irtoun III in the same areas of Gao and Timbuktu. For a period of 24 months, Irtoun III will respond to the immediate needs of the most vulnerable households affected by conflict through direct cash or cash injections, building local agricultural capacity and supporting the population in meeting their basic food security needs and recovering their livelihoods. In the Ansongo and Gourma-Rharous circles, Mercy Corps will help other marginalized households and communities severely affected by conflict, population movements and drought, specifically targeting newly repatriated refugees, internally displaced persons and their families, and host communities with immediate financial assistance and livelihood recovery activities.

The aim of Irtoun III is for conflict-affected households to be able to meet their immediate needs, and restore and diversify their livelihoods leading to enhanced food security, improved intra- and inter-community conflict reduction, and increased resilience to shocks. Strategically, these households must resume and diversify agricultural activities, and expand and diversify income-generating activities to meet their needs, all the while being prepared to cope with shocks,

In line with its minimum program management standards and in line with its commitment with USAID/OFDA, Mercy Corps is undertaking the Irtoun III baseline study internally. This baseline study is the first phase of the pre-post evaluation cycle. The second phase will include the final evaluation, which will be conducted in two years (after the end of the project).

This baseline study has two components: (1) a representative household survey of the potential target population to collect key effect/impact indicators; and (2) a qualitative study to collect additional data on farmer/livestock contribution to household income, economic opportunities, conflict and livelihoods, gender relations, and so on. The results of the baseline study will be used for the following purposes:

1. Establish benchmarks for key outcome and impact indicators;
2. Assist the project team in establishing target levels for improvement of these indicators during the project cycle within two years of implementation; and
3. Inform the project team of the current status of dietary diversity, the place of agriculture in household income, relevant opportunities, and current gender relations so that it can refine its implementation strategy and improve its effectiveness.

This report begins with an overview of the methods of the household survey and the qualitative survey. The results of the household survey are then presented for each indicator. The results of the qualitative

study are incorporated into these results to provide more context and understanding. After the results, the report ends with the main conclusions and recommendations.

Methodology

2.1. Household Survey Method

A. Study design and objectives

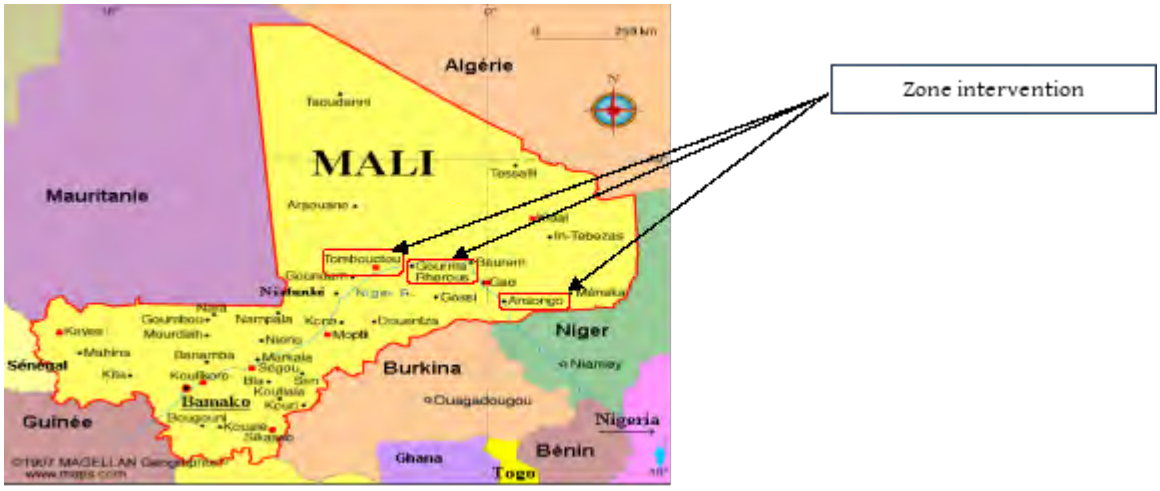
The main objective of the household survey, which constitutes the potential beneficiary population of the project, is to assess the status of the main indicators before project implementation. The reference levels will be used to calculate/assess the change in these indicators at the end of Irtoun III's two-year cycle, when the same survey will be conducted again in the project areas. This pre-post model will measure the change in indicators between the baseline and final evaluation.

B. Sampling

The size of the sample obtained using the moderate or severe hunger level indicator provides enough households to measure target changes for all other indicators. The following criteria were used to calculate the sample size:

n = sample size
deff = cluster effect (2)
z = confidence interval (95%)
p = proportion of households with moderate or severe hunger (50%)
e = margin of error (5%)
r = nonresponse rate (10%).

Based on these criteria, the maximum sample size is 825 households. A more detailed description of the sampling methodology can be found in the SOW (attached in French).



The sampling frame of the project was built from all villages selected for intervention by the implementation team. The team provided the final list of communities.

The sampling of 825 households was carried out in two stages: first, the sampling of geographical clusters (villages), or 'first degree', and secondly the sampling of households in 'second degree' communities.

The first-degree sample of 25 communities was selected using the systematic random sampling method based on the list of 50 implementation communities provided by the team in a step of 2 (i.e. one out of two villages). Table 1 below shows the total number of villages per district and commune as well as the number of households sampled.

Selection of second-degree households was completed when field teams entered each community/village. For each village, since the list of households was not available and the time was not enough for the teams to draw up a nominative list, the teams observed the following steps:

- Ask the village chief, or any other local authority, the total number of households in the community;
- Determine the appropriate sampling interval required to obtain 33 households, using the number of households reported by the village chief;
- Place oneself in a landmark in the village and start surveying the households drawn using the systematic random draw method.

Table 1: Village and Households Sampled by Commune

Region	Circle	Number of Villages selected for Intervention	Number of Villages involved in Baseline Study	Number of Households Surveyed
Gao	Ansongo	6	3	99
		10	5	165
		12	6	198
Timbuktu	Gourma Rharous	2	1	33
		7	4	132
		3	1	33
		3	2	66
		3	1	33
		3	2	66

The systematic sampling method was used to select households. This method involved (1) randomly choosing a starting point between 1 and n (the sampling interval), with household mentions 1, 2, ... n starting at one end or a benchmark in the cluster/town; (2) conducting an interview in the first household represented by the random starting point; and (3) choose an nth household afterwards for an interview (where n is the sampling interval and is equal to the total number of households in the village, divided by 33), until all 33 households are covered. Investigators and their supervisors were trained to implement the systematic sampling method before entering the field. Global Positioning System (GPS) units were used to capture longitude and latitude for each interviewed household. However, unfortunately for some households, these geographic coordinates could not be recorded due to the poor performance of some tablets or mobile phones used to record the data.

For each household, a questionnaire was used to question the household head (or their representative in case of absence or physical disability).

C. Questionnaire

The household questionnaire (see annexes) was developed through a series of consultations with the country office team, the FANTA guides.

The questionnaire consists of separate modules covering the following topics:

- Module 0: Introduction and Informed Consent
- Module 1: Household Characteristics
- Module 2: Travel Information
- AMC1 Module: Participation in Previous Mercy Corps Activities
- Module 3: Number of Months of Food Self-Sufficiency

- Module 4: Household Dietary Diversity Score
- Module 5: Household Hunger Index
- Module 6: Coping Strategy Index
- Module 7: Livelihoods and Sources of Income
- Module 8: Peaceful, Safe and Secure Communities

D. Field Steps

Investigator training and pre-test: For training purposes and field data collection, a brief checklist was developed for investigators and supervisors.

The training session for the investigators and the pretest took place on January 11-13, 2018. This training encompassed the roles and responsibilities of enumerators and supervisors, rules, behavioral principles, and techniques for randomly choosing households and respondents. This also included the review of the entire questionnaire, question by question.

Field data collection: The data collection team consists of two M&E assistants at the Gao and Timbuktu regions and 15 investigators who were mobilized and/or recruited for the two-week collection period. The survey was conducted in the local language according to the specificity of each area.

The data was collected using tablets via the ONA platform. This allowed the collectors to exercise the maximum amount of control on the data collection starting with the conception of the models in order to minimize errors.

E. Data Analysis

Calculation of household indicators and characteristics: The different modules listed above were used to calculate the specific indicators and different characteristics of households and household heads.
Indicator definition and tabulation: Indicators were calculated according to the tabulation methods or reference sheets developed by FANTA, some of which were created using the compendium of PAM indicators.

2.2. Qualitative Survey Method

A. Design and Objectives

The overarching goal of the qualitative component of the baseline study is to elucidate and contextualize the results of the household survey. More specifically, the qualitative component aims to uncover and answer certain questions in the study through looking at factors such as the contribution of agriculture/livestock to household income, the different economic opportunities available to women and men, conflict and how it affects livelihoods, the socio-economic environment, gender relations, etc.

B. Sampling and Community Selection

For the qualitative study component, the sampling strategy is based on the object or purpose. This meant that the M&E team targeted communities and individuals according to a number of criteria in order to achieve the component's objective. Two main criteria are used in the process of choosing the circle and the individuals.
All three circles were sampled, with two selected villages per circle. At the village level, two focus groups, one for women and one for men, were conducted separately, i.e. 12 focus groups in total.

C. Participant Selection

The household survey focused on primary respondents who are heads of households (female or male) or their representative. This same category was also the main focus of qualitative data collection for focus

group participation. In this qualitative component, the collection teams worked with the following categories of respondents or participants:

- Focus group men: head of household or another household member acting as a representative.
- Focus group women: female head of household and/or women members of VSLA groups.

D. Focus Group Discussion Guide

Given the experiences of responses from group discussions, female/male household heads were able to answer questions about different aspects explored in this qualitative component. For this purpose, a single discussion guide was developed and used for discussions with women and men separately.

Aspects included in the discussion guide include:

- Agriculture/livestock in terms of contribution to household income;
- Economic opportunities;
- Conflict and livelihoods;
- Socio-cultural and economic environment;
- Gender relations.

E. Field Data Collection

Qualitative data was collected at the same time alongside the household questionnaire. In each village, the teams agree to start first with the focus groups and then finish with household surveys or vice-versa according to the realities of the village.

F. Data Preparation, Coding and Analysis

After returning from the field, the data collected on paper was entered in Excel by the M&E assistant and then transmitted to the M&E officer to be codified, clustered, analyzed, and interpreted by crossing it with the quantitative household data when possible.

2.3. Study Limitations and Encountered Difficulties.

The limitations and encountered difficulties during this basic study are summarized below:

Limited amount of time to conduct multiple studies at a time: a combination of expected delays in conducting the baseline study and accidental coinciding with the start-up of other projects required that several baseline studies were conducted at a time. This resulted in added pressure to design and validate tools, conduct field collection, etc. in a relatively short time.

Security Constraints: The volatility of the security situation did not allow the teams to evolve as they wish, given that they were not allowed to camp in the villages. This has resulted in an extension of collection time without allowing investigators to live in communities for long enough to report certain trends/information based on their informal observations and interactions with communities.

The insufficient number of tablets available to investigators at forced them to use their own or other staff members' personal phones to fill this gap. This process of using tablets and phones of all kinds prevented us from efficiently collecting the geographical coordinates of the households surveyed.

Timing for Analysis and Reporting: The tight timeline between the end of data collection and the final report did not leave enough time for in-depth analysis and evaluation of the wealth of data collected from the household questionnaires and qualitative study. Quantitative analysis focused on the development of

indicators, with only a little analysis focused on qualitative data. However, this qualitative analysis may continue even after the completion of this report if there is information that might still be useful in the implementation of activities.

Results

In this section of the report, the results of the baseline study are presented according to the two categories of content: (1) household characteristics, (2) indicators calculated at the household level. Additionally, the relevant results of the qualitative study are included.

3.1. Household Characteristics

This section presents the demographic characteristics of households and household heads surveyed. 817 household interviews were conducted in the project intervention area, in two regions, including 451 interviews in the Ansongo district, 167 in Gourma-Rarhous and 199 in Timbuktu.

Table 2: Respondents' decision to participate in the survey.

		# of respondents who decided to participate in the survey	Total
Region	Gao	451	451
	Gourma-rarhous	167	167
	Timbuktu	199	199
Total		817	817

As the table opposite shows, all heads of households or their representatives agreed to be interviewed and participate in this basic survey. If this 100% participation was completely motivated by sincere will (without any ulterior motives) it demonstrates a good potential for collaboration with the households in participating in project activities, which could contribute immensely to the durability of the program's investments. On the other hand, this willingness to participate may also be due to a wait-and-see attitude, or else related to local customs, which dictate that refusing an interview with a stranger is considered to be an impolite rejection.

Table 3: Gender of Heads of Households

			Women	Men	Total
Region	Gao	Count	91	360	451
		% within region	20.2%	79.8%	100.0%
	Timbuktu	Count	141	224	366
		% within region	38.5%	61.2%	100.0%
Total		Count	232	584	817
		% within region	28.4%	71.5%	100.0%

Just over two-thirds of households are headed by men (72%), compared to 28% of households headed by women. This proportion of female heads of household is still significant - in the context of the Sahel, the percentage of women-headed households does not generally exceed 10%-15%. At the Timbuktu level (in the project intervention area), 39% of households are headed by women compared to 20% in Gao. What can explain why women carry such a burden to support their households in Timbuktu?
In general, and according to several findings in Africa, women heads of households suffer more in terms of household management than men. The project can and must then deliberate targeting this vulnerable demographic in its interventions.

Table 4: Age of Household Heads

Statistics		Global	Women	Men	Ansongo	Gourma-Rarhous	Timbuktu
N	Valid	816	232	584	451	166	199
	Missing	1	0	0	0	1	0
Average		48.05	47.44	48.30	47.17	47.61	50.82
Standard Deviation		13.607	12.783	13.924	13.482	14.933	12.476
Minimum		15	16	15	15	18	20
Maximum		97	85	97	97	87	82

The average age of household heads in this Irtoun III intervention area is 48 years old. This age is roughly the same regardless of gender (the difference is not statistically significant: t = -817 and p = 0.414), but when looking at different regions things begin to vary. In Timbuktu, there heads of households tend to be more elderly than in Ansongo or Gourma-Rarhous.

When it comes to extremity of age, both the youngest and the oldest heads of households were recorded in Ansongo.

Table 5: Education Level of Household Heads

Level of Education	Global		Women		Men		Ansongo		Rarhous		Timbuktu	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Literate	64	7.8	29	12.5	35	6.0	16	3.5	24	14.4	24	12.1
No Education	320	39.2	112	48.3	208	35.6	170	37.7	67	40.1	83	41.7
Koranic School	261	31.9	60	25.9	201	34.4	129	28.6	51	30.5	81	40.7
Primary School	111	13.6	22	9.5	89	15.2	85	18.8	15	9.0	11	5.5
Secondary School	50	6.1	8	3.4	42	7.2	41	9.1	9	5.4	0	0.0
University	10	1.2	1	0.4	9	1.5	10	2.2	0	0.0	0	0.0
Total	817	100.0	232	100.0	584	100.0	451	100.0	167	100.0	199	100.0

There is a significant predominance of household heads with no level of education (39.2%) in the project area. After this category, the second largest group of household heads have only attended Coranic School (31.9%). Percentages of heads of households who have had a formal school education or adult literacy courses is relatively low.

In this situation where heads of households have relatively low levels of education, women are more often left behind, with 48.3% who have no level of education in comparison to 35.6% of men. The same trend appears with Koranic School attendance, with 34.4% of men compared to 25.9% women.

From a geographical point of view, the proportion of heads of households without any level of education is much higher in Timbuktu than in Ansongo or Gourma-Rarhous. The same is true for Koranic School, with 36.1% of heads of households in Timbuktu having attended, in comparison to 28.6% in Ansongo.

However, when it comes to formal education, in Ansongo there are far more heads of household who have attended Primary School (9.0%) than in Gourma-Rarhous and Timbuktu is a presence of heads of primary level households far more than Gourma-Rarhous and Timbuktu (5.5%). This can perhaps be

attributed to the higher number of youth heads of households in Ansongo in comparison to the two other circles.

Table 6: Ethnicities of Heads of Households

Ethnicity	Global		Ansongo		Gourma-Rarhous		Timbuktu	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%
Arab	1	0.1	1	0.2	0	0.0	0	0.0
Other	11	1.3	3	0.7	2	1.2	6	3.0
Bambara	2	0.2	0	0.0	1	0.6	1	0.5
Dogon	5	0.6	5	1.1	0	0.0	0	0.0
Moorish	1	0.1	0	0.0	0	0.0	1	0.5
Peulh	28	3.4	21	4.7	2	1.2	5	2.5
Sonrhaï	684	83.7	394	87.4	145	86.8	145	72.9
Tuareg	84	10.3	27	6.0	16	9.6	41	20.6
Total	817	100.0	451	100.0	167	100.0	199	100.0

The intervention area of the project is almost completely Sonhraï with 83.7% of heads of households belonging to this ethnic group. This ethnic group is much more dominant in Ansongo (87.4%) than the other circles.

After the Sonhraï come the Tuareg, who represent 10% of the whole intervention area and who are more present in Timbuktu and Gourma-Rarhous, where they respectively represent 20.6% and 9.6% of heads of households.

In addition to these two dominant ethnic groups, there are other ethnic groups that are in the minority such as the Peuhls, the Bozos, the Mossis and the Bellahs.

Table 7: Household Demographics

	Total Household Members				Total Number of Infants				Total_mem_men_invalides			
Statistics	Global	Ansongo	Gourma-Rarhous	Timbuktu	Gobal	Ansongo	Gourma-Rarhous	Timbuktu	Global	Ansongo	Gourma-Rarhous	Timbuktu
N Valid	810	448	166	196	321	162	76	83	68	22	23	23
Missing	7	3	1	3	496	289	91	116	749	429	144	176
Average	8.24	8.03	8.50	8.48	3.0748	3.2593	3.0789	2.7108	2.5147	2.8636	2.6087	2.0870
Mode	7	7	7	7	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Standard Deviation	2.873	2.921	3.051	2.567	1.35116	1.59796	1.05531	0.94392	1.13942	1.69861	0.89133	0.28810
Minimum	2	2	2	3	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Maximum	14	14	14	14	9.00	9.00	6.00	6.00	8.00	8.00	5.00	3.00
Sum	6671	3597	1411	1663	987.00	528.00	234.00	225.00	171.00	63.00	60.00	48.00

The table above shows the demographic characteristics of households. The average number of people per household is 8.24 over the entire intervention area, with a slightly increasing trend in Gourma-Rarhous (8.5%) and Timbuktu (8.49). The most common number of people per household in the intervention area is seven (7). Overall, and at the level of each specific area, the least populated household was composed of two (2) people and the most populated had up to fourteen (14) individuals.

A focus was made on the presence of children under 5 in the project area. In total, 987 children under 5 years of age were counted in all the households surveyed in this study. According to the collected data, children under 5 years old represents 15% of the population of these households. These children are present in 39% of households, ie 321 out of 817 households. Among these 321 households, there are on average 3 children under 5 years per household. In Ansongo, there tended to be more children under 5 years than in Gourma-Rarhous or Timbuktu.

We also noted the existence of some people with disabilities in certain households in the area. 8.3% of households had a member with a disability. Thus, there are a total of 171 people with disabilities from 68 households, including 22 households containing 63 people with disabilities in Ansongo and 46 households with 108 disabled people in Gourma-Rarhous and Timbuktu. For the households containing people with disabilities, there are an average of 2.5 people with disabilities per household.

Based on the above characteristics, it is recommended that Irtoun III and its targeting strategy pay particular attention to households that are potentially more vulnerable (households with female heads and households with people with disabilities) in order to better to achieve the intervention's desired impact.

3.2. Information on Household Displacement

This section provides information on the different categories of households in the intervention area, the existence of IDPs within these households, and the most common explanations for their displacement.

Table 8: Household Categories

categorie_menage	Total		Gao		Timbuktu	
	Frequency	%	Frequency	%	Frequency	%
Indigenous	776	95.0	427	94.7	349	95.4
Displaced Indigenous	2	0.2	2	0.4	0	0.0
Repatriated Indigenous	5	0.6	5	1.1	0	0.0
Repatriated and Displaced Indigenous	1	0.1	1	0.2	0	0.0
Returned Indigenous	7	0.9	7	1.6	0	0.0
Other	1	0.1	0	0.0	1	0.3
Displaced	7	0.9	2	0.4	5	1.4
Host	2	0.2	1	0.2	1	0.3
Repatriated	1	0.1	1	0.2	0	0.0
Returned	13	1.6	4	0.9	9	2.5
Total	817	100.0	451	100.0	366	100.0

Almost all households in the intervention zone are "indigenous" (95%). Households in the "returned" category represent 1.6%. Apart from the few "displaced" and "returned indigenous" households, the others are almost non-existent in the intervention zone. For the ten **displaced** households above, the reasons for their displacement are mainly those relating to insecurity and/or conflict.

Almost all household heads are from their respective regions. 54% are from Gao and 45% from Timbuktu. Only 1% are coming from Ménaka, with those coming from Bamako and Ségou making up less than one percent of all heads of households.

3.2.1. Existence of IDPs Hosted in Households

In 10% of households surveyed (83 households) there is at least one displaced person being hosted by household. Of these households, 30% (25 households) are in Ansongo compared to 70% (58 households) in Gourma-Rarhous and Timbuktu. The average number of hosted people per household is 2.5 persons, with a minimum number of one person and a maximum of 20 people being hosted

These displaced people come from within each region itself, that is, Gao and Timbuktu.

The main reasons that these people and households migrate are 1) insecurity due to the conflict that is raging in the zones (39%), and 2) the lack of cultivable land and/or available jobs (15%). Other reasons, such as searching for open pasture and searching for trade opportunities, are each a driving motivation at 12% and 10% respectively.

Almost all (93%) of these IDP households confirm that they are planning to return home. This shows a strong attachment to their origin despite the difficulties related to residual insecurity.

3.2.2. Socio-cultural Environment

Before the crisis, communities had very important cultural events. These events reinforce social cohesion, fraternity, mutual aid and tolerance. These are mainly traditional dances that are organized during ceremonies and celebrations (tam-tam, takamba, songs etc.) and inter and intra-community meetings.

For almost all focus group participants, the crisis had affected these very important cultural events. The radical armed groups had banned these events and activities during ceremonies, so we are now witnessing weddings or festivals with very few celebratory events/activities, fewer inter-community meetings, and fewer demonstrations like dances because of the ban against congregating in groups.

The decrease or absence of these cultural events may negatively affect social cohesion, interethnic mixing and the general culture of tolerance.

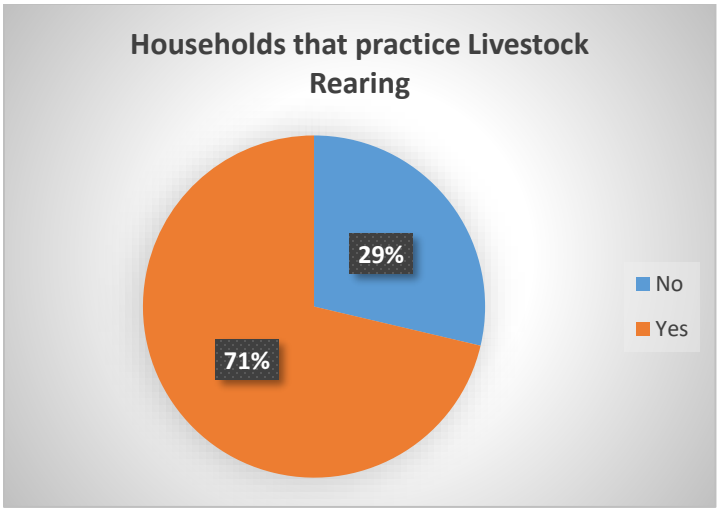
3.3. Household Indicators

In this section, quantitative and qualitative data is examined to calculate and describe the household indicators in the Irtoun III intervention area. The section begins with the number of months of food self-sufficiency, followed by discussion and other indicators such as dietary diversity score, household hunger scale etc.

3.3.1. Increase in the number of months of self-sufficiency perceived by households.

The projected increase in the number of months of food self-sufficiency, due to the distribution of seed and other improved agricultural inputs to households, is calculated for households engaged in at least one agricultural production activity. A series of questions was asked of these households - namely the type of agricultural production, the number of months usually covered by their production (without the project), the precise months of the year during which these households experience a difficulty, and their perception of the number of months that needed to be added to extend the typical food coverage.

3.3.1.1. Households that practice livestock breeding



Many households in the intervention zone practice livestock breeding. As shown in Figure 2, opposite, this activity is practiced by 71% of households.

Livestock activity is slightly more prevalent among households in Gao (72.3%) than in Timbuktu (69.9%).

3.3.1.1.1. Number and type of animals owned by households

Table 9: Type of animals raised by households

	Goats	Poultry	Sheep	Cows	Horses	Camels	Donkeys	Other
Average	3.99	4.48	3.59	3.30	1.42	2.40	1.79	1.00
Mode	2	7	2	2	1	1	1	1
Standard Deviation	2.025	2.235	1.904	2.153	0.859	2.271	0.982	0.000
Minimum	1	1	1	1	1	1	1	1
Maximum	7	7	7	7	5	7	7	1
Sum/Total	1835	1652	1548	1068	71	24	343	3

Overall, small ruminant and poultry farming predominate in these targeted intervention areas. Goats are the most common animals, with 71% of households them in this area. In total, 1,835 goats are raised among the surveyed households, with an average of around 4 goats per household. The most common number of goats per household is two. After goats comes poultry, with a population of at least 1652 heads and an average of nearly 4.5 heads per household for poultry breeders. In this category of households, the most common number of poultry per household is seven. After poultry comes sheep, with at least 1548 heads in the program area. Cattle and donkeys are ranked fourth and fifth with an average of 2 and 1 per household, respectively.

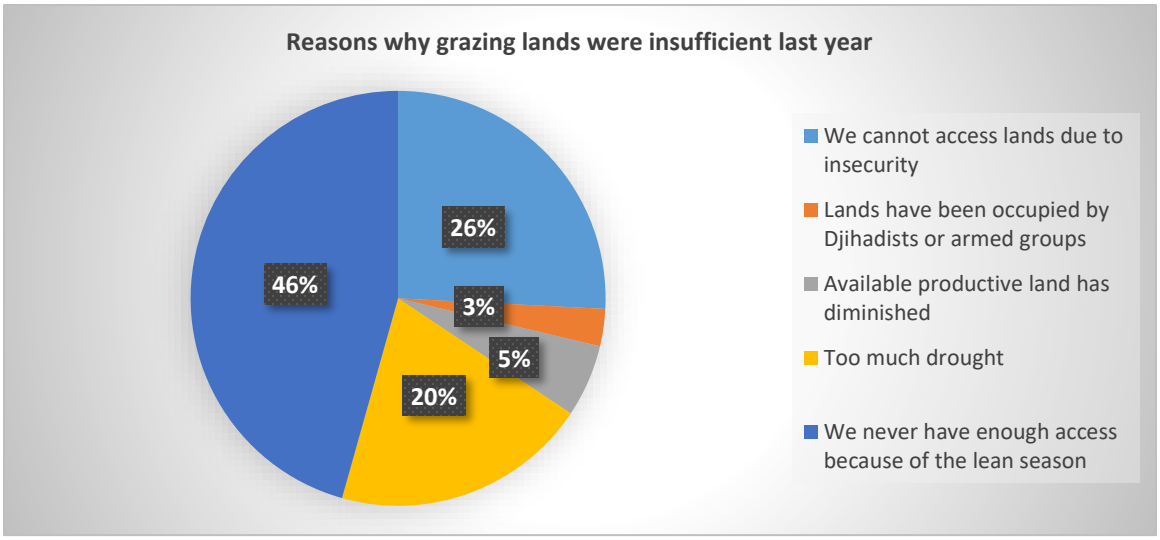
The predominance of small ruminant and poultry farming is explained by the fact that they are easy to breed without being too demanding in terms of space. Cattle and other large ruminants, while taking up more space, are easy to breed without being too demanding in terms of food. They multiply with relative speed, which offers an opportunity for households to sell one to two heads if necessary to meet their needs or to cope with an economic shock. The sedentary nature of these animals also contributes to their practicality.

In Irtoun III's intervention area, herd ownership is a sign of wealth. The word 'animal' in the local language, sonrhai, is almane (wealth). Culturally speaking, for the Sonhrai the imankoy (the rich) own herds of cattle, while the poor own poultry and goats which can eventually lead to wealth (by multiplying poultry and goats to purchase sheep, then later cattle).

3.3.1.1.2. Household access to pastures

A question was asked to households that breed animals about their access to pastures throughout last year to meet their livestock's feeding requirements. Only 32% of households with livestock had adequate access to pasture to meet the consumption needs of their animals during the twelve months preceding this study. Over the same period, up to 68% did not have sufficient access to pasture for their animals' annual food needs.

As can be seen in Figure 3 below, not having sufficient access to pastures is normal for households that didn't have access in the past twelve months. Because of the repetitive or annual lean period, these households claim to have never had access to sufficient food for their animals throughout an entire year. This lean season was supported by the poor distribution of rainy seasons in the northern regions of Mali.



Insecurity is the second cause (26%) of livestock breeders' lack of sufficient access to sufficient pastures. Armed groups are not only threatening security by stealing animals, but also by driving riverside populations out of grazing areas and denying them access to pastures. Additionally, in some areas armed groups are imposing taxes in exchange for access to pastures.

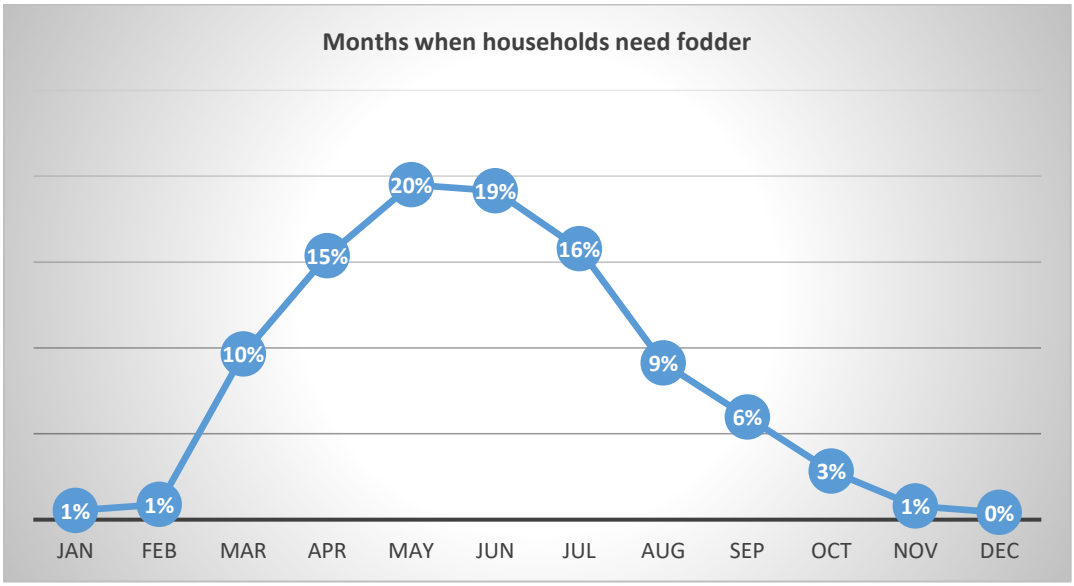
Cyclical drought, a serious environmental threat, has also been a major contributor to the 20% of livestock breeders who cannot access pastures.

Although livestock in general, and small ruminants in particular, is a promising activity for building resilience and livelihoods for households, the constraints mentioned above may prevent or discourage many households from adopting or practicing this important activity.

3.3.1.1.3. Period of fodder need by households during the last year

Since about 2/3 of the livestock-raising households did not have sufficient access to pasture for their animals during the last year, those same households were in great need of pastures or feed in order to take care of their animals.

Over a good period of about six months last year, these households had enormous needs for feeding their animals. Starting in March 2017 (figure 4 below), this inability to feed their animals affected a large number of livestock breeders. This need continued to grow until it reached its peak throughout the period of May-June-July. During this period, the month of May was the most glaring in terms of level of need.



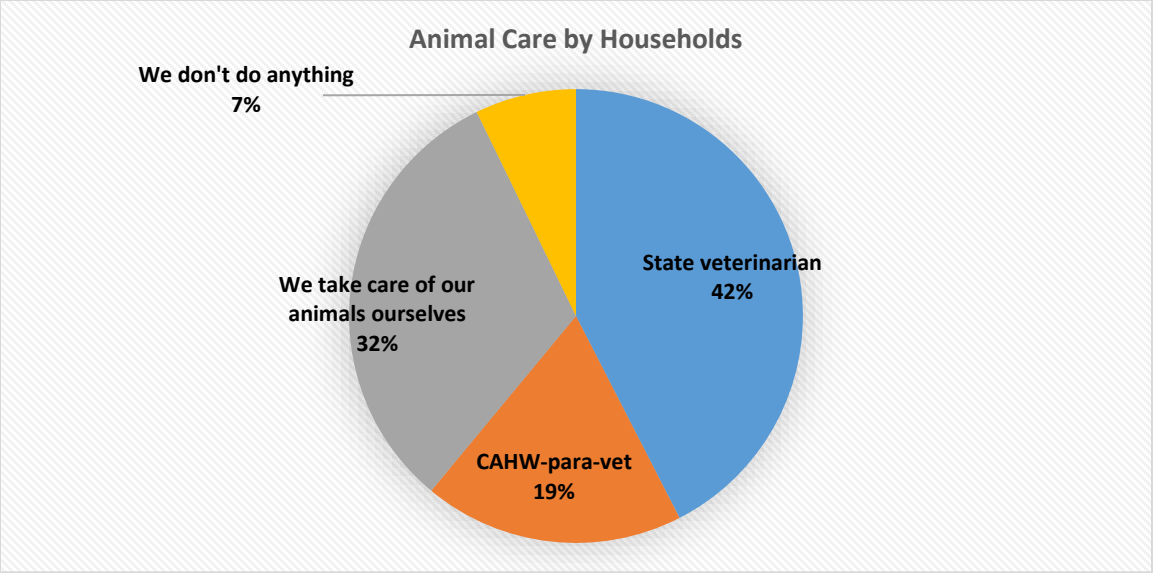
To meet these enormous needs for animal feed, households used several strategies. The main focus was on the purchase of fodder (63%), followed by fodder collection and harvest (21%), a contribution or the management of fodder by an NGO (Mercy Corps and/or other) (12%), or, finally, through trade (3%).

This feeding situation has become structural since the end of the 1980s because of the reduction of the wintering period and the lengthening of the lean season. This is why wintering sinstead of June before) stops already in mid-September (instead of October).

For these households that did not have sufficient access to pastures, 80% reported that the lean period of the past year was normal. On the other hand, 11% reported that it was worse than normal, and 9% reported it as better than normal.

An intervention aimed at providing livestock feed or setting up feed shops for the benefit of households during this period of scarcity (April-July) could reinforce the practice of livestock breeding for these households.

3.3.1.1.4. Animal Health



Households raising animals use a variety of strategies or means to ensure the health of their livestock.

These strategies range from no action to using state veterinary services. Through Figure 5 above, we note that households most often use state veterinarians to ensure animal health, which indicates good accessibility and quality of service.

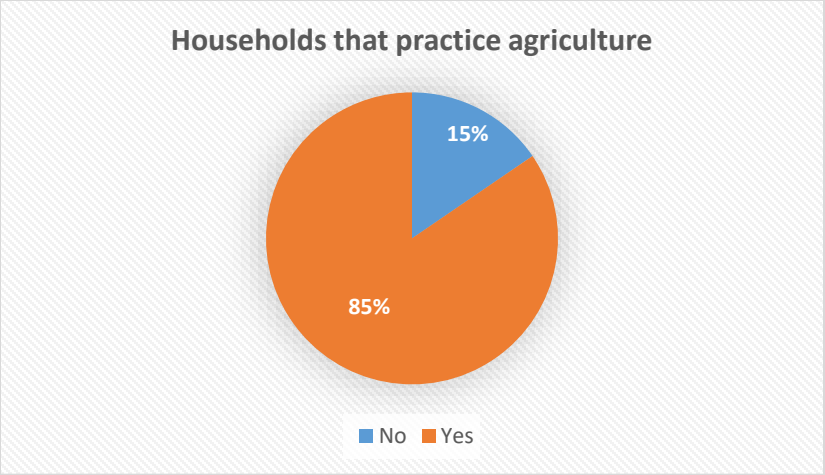
Despite the use of agents, many households (32%) administer treatment themselves to ensure the health of their animals. In 19% of cases, households call on community animal health workers (CAHWs).

In terms of access to animal products for animals, more than half of households raising animals have access to these products (55%), compared to 45% who do not have this access. This phenomenon can be partly explained by the difficulty of site accessibility by the veterinary services (material and logistic means), the security situation, the lack of means of conservation of the products, etc.

In terms of geographical area, in Gao, these households access much more products with 79% versus only 23% in Timbuktu. The question that arises is why such a difference in access to pharmaceuticals for animals? The isolation of Timbuktu in terms of the access road and the distance to a border and departure of the veterinary representatives of the crisis are the reasons for this important difference. Another explanation could lie in previous interventions that made efforts to strengthen the capacity of para-veterinary agents in Gao. CAHWs come from the community and participate in the treatment of animals in their community.

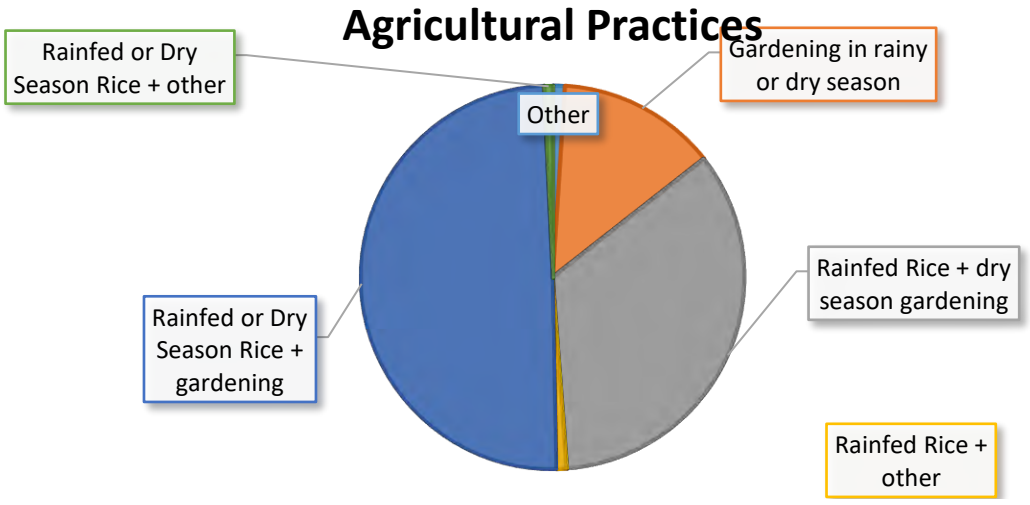
Overall, and in terms of animal health, there are still some practices that may be less interesting or even risky in certain measures (32% treating their own animals and 7% doing nothing about animal health), for lack of to know-how. To improve animal health, it would be interesting to conduct a barrier analysis, if possible, to identify the causes and barriers that make some households resort to these somewhat dangerous strategies in their livestock management. Once the barriers are known, they will be easier to overcome in order to significantly improve animal health and at the same time also increase the demand for animal health professionals in these areas.

3.3.1.2. Agricultural production practiced by households



Households in the intervention zone practice even more agricultural production activities than livestock raising. These same trends occur in each of the circles. In Ansongo , 83% of households practice agriculture and 70% raise livestock. In Gourma-Rarhous and Timbuktu, households engaged in agriculture account for 86% and with 70% who practice livestock farming.
There are several practices of agricultural production common in these communities:

The largest number of households (42%) who practice farming do rainfed and off-season rice production, coupled with market gardening. After this dominant category of agricultural households, come those who exclusively produce rainfed and off-season rice. They represent 29% of households. Specifically, at the level of each region, the predominance of these same categories of agricultural households persists in Ansongo / Gao where 53% of households practice rice production in the rainy season as well as market gardening, where 28% of farmers in Timbuktu have the same mix of practices. In Timbuktu, more often (34%) households grow only rain-fed and off-season rice.



The same trend of the predominance of cereal production (rice, millet, etc.) is confirmed by qualitative data where this type of production and market gardening constitute the main agricultural activities of the members of this zone. According to the qualitative data, the vast majority of the interviews highlight the existence of a difference between men and women in agricultural production. There are many more women involved in market gardening, and men are more present in the production of cereals such as rice

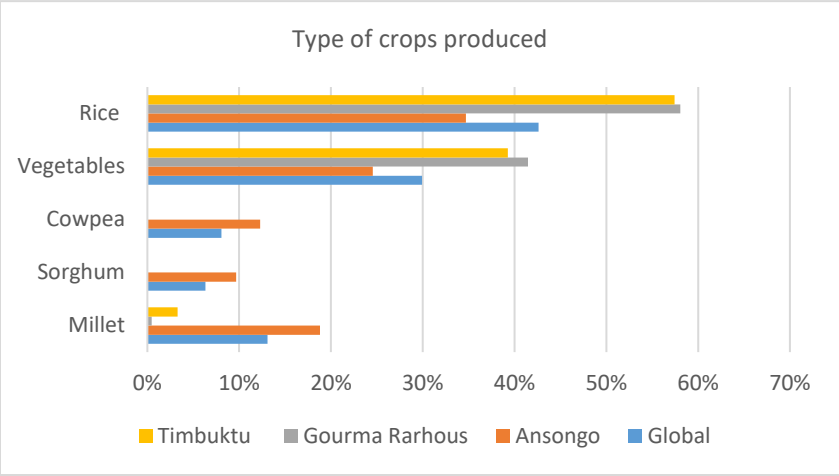
and millet. Nevertheless, some opinions have stated that there is no difference between men and women in terms of production.

Why this dominance of men in grain production? Women are actively involved in the various agricultural activities in the communities (sowing, plant maintenance, weeding, harvesting, transportation, storage, etc.) However the men have control over grain production, as they are the landowners and have the responsibility to supply the family breadbasket.

The typology of cultures produced in these areas is presented in Figure 8 below.

The typology of the crops produced through the above modes of production is summarized in rice production, market gardening, millet, cowpea and sorghum.

In the entire project area, rice is by far the most produced crop by households. After rice, households also engage in market gardening (lettuce, cabbage, tomato, onion etc.). In Ansongo, millet, cowpea and sorghum are also produced: this can be explained by the shortening of the duration of rains. Nowadays the rainfall campaign rarely allows dry crops to complete their cycle (especially since for most varieties the cycle is 70 to 90 days).



The project must take into account these specificities in its seed support component and other modern agricultural inputs.

This situation is certainly due to the sedentary nature of these areas and their inhabitants, in addition to the very important agricultural potential (along the river) that abounds in these geographical areas.

An intervention aimed at strengthening and further modernizing rice production (rainfed and off-season) in particular and market gardening in general could have a greater impact, since these activities are the most dominant in agricultural production habits of households in these project areas.

Agriculture and livestock are the main activities on which the livelihoods of households in these areas are based. An intervention to strengthen these activities may have a much better chance of strengthening and protecting the livelihoods of these majority Sonrai populations.

3.3.1.3. Household access to community water infrastructure

Nearly two out of three households have access to an infrastructure / water source to support their farming or livestock activities in this project area. Overall, 66% of households had access versus 34% who did not.

At the regional level, agricultural households in the Timbuktu area (74%) have access to water for their agricultural production compared to 59% in Gao.

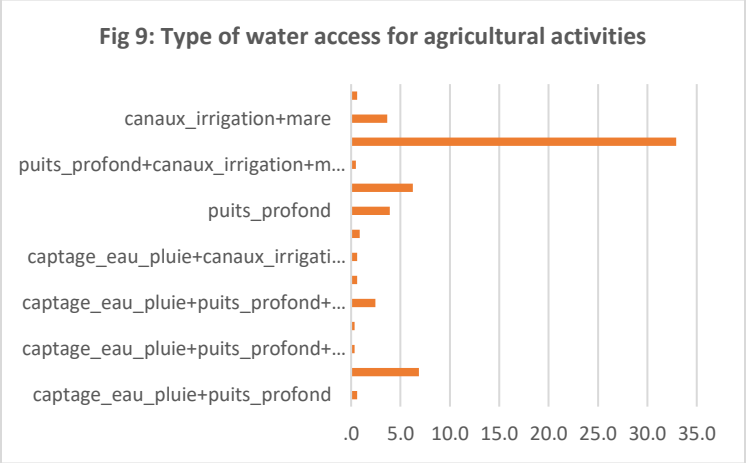
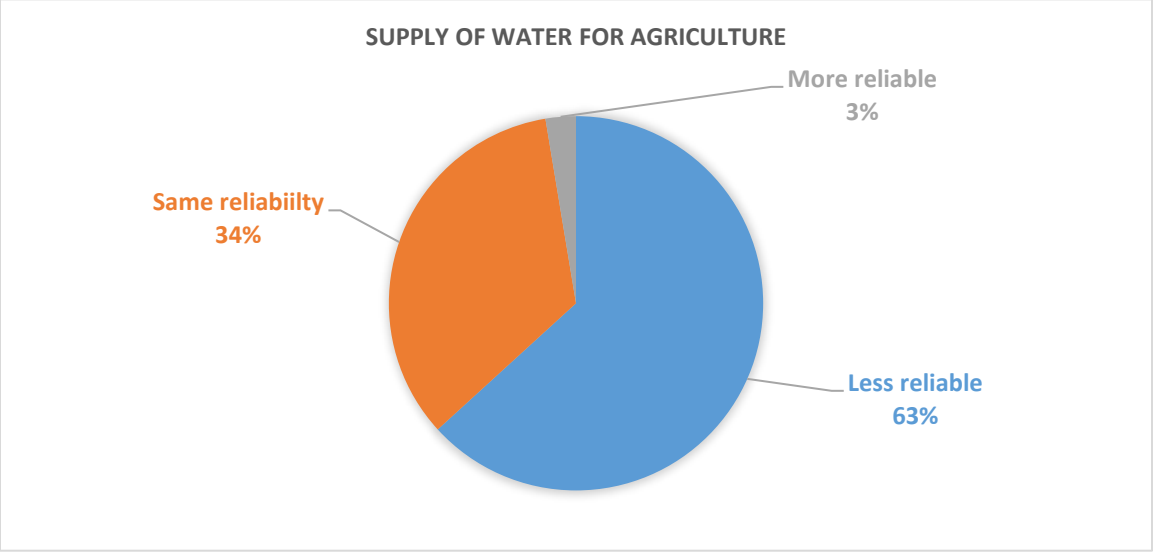


Figure 9 shows us that irrigation canals are the most used infrastructure for these households to undertake agricultural production. also common is the combined use of rainwater and deep wells and those combining the use of deep wells with irrigation canals.The combination of irrigation canals and shallow ponds is also practiced in the area.

The strong dominance of the use of irrigation canals as water infrastructure in the context of agricultural production is certainly due to the geographical situation of several villages. These include villages located along or nearby the river, where agricultural lands can be exploited along the river banks. This case is more important in the area of Gourma Rharous and Timbuktu.

3.3.1.4. Reliability of access to a supply of water for agricultural activities

The reliability of the water supply for agricultural production was examined through our household assessment, which shows that overall the water supply was less reliable or less regular during the production season .This low reliability was felt much more by Gao's households than those of Timbuktu.



3.3.1.5. Environmental impact having a negative impact on agricultural production.

Table 10: Farming Households Experiencing an Environmental Incident

Environmental Incidents	Total		Gao		Timbuktu	
	Frequency	%	Frequency	%	Frequency	%
No	248	36%	37	10%	211	67%
Yes	440	64%	336	90%	104	33%
Total	688	100 %	373	100 %	315	100 %

Over the last twelve months preceding this baseline study, 64% of households experienced at least one environmental incident having a negative impact on agricultural activities.Households in Ansongo were much more affected than those in Timbuktu with 90% and 33% respectively.

Zooming on the typology of these environmental incidents that negatively affected households' agricultural activities in the past year, the most common incidents are shown in Figure 11 above.

The most common incidents with the biggest impact on agricultural production included crops being destroyed by birds, drought, and irregular rainfall.

3.3.1.6. Number of months of a household's food covered by own harvest

Table 11: Average number of months of household food supply

Statistics		overall	Female HoH	Male HoH	Ansongo	Gourma-Rarhous	Timbuktu
#	Valid	755	205	549	416	153	186
	Missing	6	27	35	35	14	13
Average		**3.58**	**3.31**	**3.68**	**4.06**	**2.92**	**3.03**
Median		3.00	3	3	4.00	3.00	3.00
Mode		3	3	3	3	3	3
(gap-type)		1679	1.59	1703	1916	1.085	1,050
Minimum		0	1	0	0	1	1
Maximum		12	9	12	12	7	6

To assess this variable relating to the food self-sufficiency experienced by households thanks to their agricultural production, for all the households in the intervention zone, their agricultural production alone ensures them an average of 3.58 months of food self sufficiency.

Depending on the gender of household heads, male-headed households have nearly four months of food supply from their production, while those headed by women have only three months of food supply provided by their own harvest. This difference is statistically significant ($t = -2.731$ and $p = 0.006$).

Geographically, Ansongo's agricultural production allows 4 months of supply on average as compared with Gourma-Rarhous and Timbuktu, which only produce 3 months' supply of food on average. This may be due to more diversity of agricultural production seen at Ansongo, where in addition to rice cultivation and market gardening, households in this area also produce millet, sorghum and cowpea. This state of affairs may support a hypothesis that the household that diversifies its agricultural production may be more likely to experience food self-sufficiency.

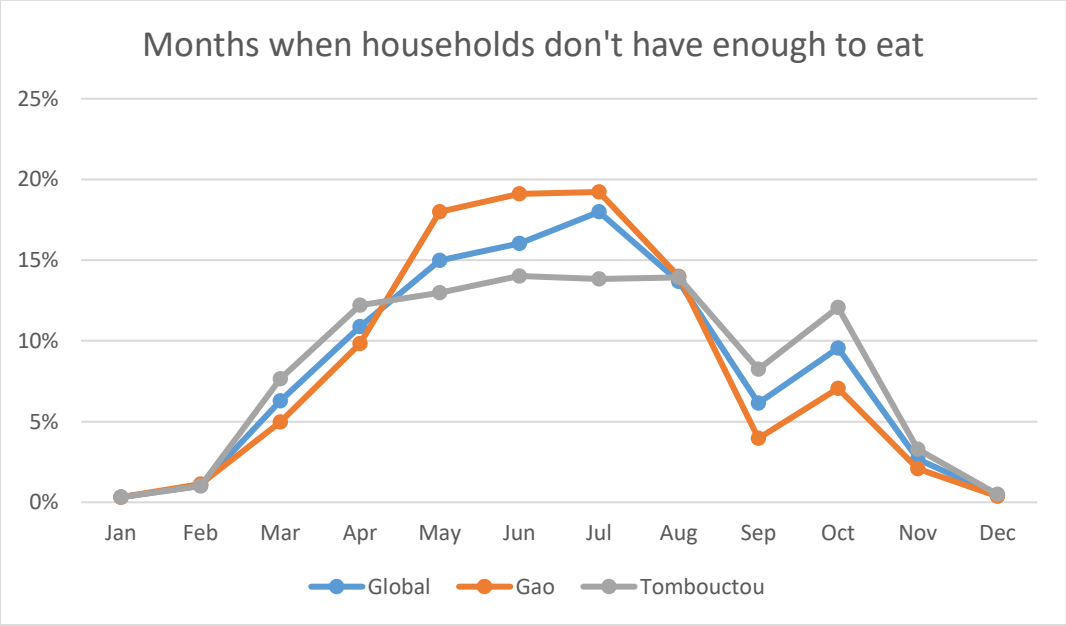
3.3.1.7. Use made of household agricultural production

According to the focus group discussions on the main uses that households make of their own crop production or harvest, five uses were cited including two most commonly. Household agricultural production is used primarily for self-consumption by households to meet their food needs. After self-consumption, a good part of the production is also sold to meet other needs that are either material or ceremonial. One part is given to the parents / relative and another party used for the payment of either a tax or to repay a debt to traders. Finally, a small percentage of harvest is used to purchase livestock.

3.3.1.8. Number of lean season months for households during the past year

Almost all the households in the intervention area experienced, during the last twelve months, periods when they did not have enough food to meet the needs of their families. Up to 92% of households found themselves in such a situation. This situation was more crucial in Ansongo and Gourma-Rarhous where respectively 93% and 95% of households were in such a situation, compared with 85% in Timbuktu.

Figure 12 below shows the months during which households did not have enough food to meet the needs of their families. Each respondent was asked to name the months during which their household did not have enough food to cover their needs. It appears that the months of May, June, July and August were the months during which access was very difficult.



3.3.1.9. Months of Adequate Household Food Supply

Food access depends on the ability of households to obtain food from their own production, food reserves, purchases, collection or transfers of food from family, community members, government or

donor agencies. Household access to food also depends on the resources available to family members and the steps they must take to obtain these resources, especially the exchange of other goods and services. This indicator in question and that of dietary diversity are indicators of the impact of household food access.

The following table shows the reverential for this indicator for the IRTOUN III project

Table 12: Average Number of Months Adequate Food Supply for Households

Statistics	Global	Female HoH	Male HoH	Ansongo	Gourma-Rarhous	Timbuktu
#	817	232	584	451	167	199
	0	0	0	0	0	0
Number of months of food supply Median	**5.99**	**5.02**	**6.38**	**7.05**	**4.63**	**4.73**
Mode	9	4	9	9	4	6
(gap-type)	2726	2688	2645	2617	1.845	2547
Minimum	0	0	0	0	0	0
Maximum	10	10	10	10	10	10

In the last twelve months preceding this study, households in the project intervention area had, on average, six months of adequate food supply. With all means of households (own production, reserve, purchase, collection or transfer etc.).This confirms the trend shown in the figure above, or for about 6 months, these households did not have access to enough food to cover their needs.

Female-headed households have lower food coverage than male-headed households ($p = 0.000$) .And in terms of geographical zoning, the area of Ansongo is much better than those of Gourma-Rarhous and Timbuktu.

To this end, the project must aim to significantly increase the number of months of adequate food supply for households. To do this, the project is proposed to target the average supply of the upper tercile (one third), an average target of 8 months of adequate food supply for all beneficiary households.

For activities aimed at strengthening the capacity of households to meet their food needs, the project can target female household heads and geographically more between Gourma-Rarhous and Timbuktu where this indicator is the weakest.

3.3.1.10. Perceived increase in the number of months of household self-sufficiency by households

To calculate this indicator, households were asked how they perceived the number of months that can be added to the number of current months of their coverage / self-sufficiency, in case there is an improved seed distribution, seed support, or other agricultural inputs.

Overall, 98% of the households responding to this question said that access and use of improved seeds and other agricultural inputs allows for an increase in the number of months of food supply in their household.

Table 13: Average number of months of increased coverage received by households

Statistics		Global	Female HoH	Male HoH	Ansongo	Gourma-Rarhous	Timbuktu
#	Valid	675	171	503	364	138	173
	Missing	142	61	81	87	29	26

Average	**3.88**	**4.12**	**3.80**	**3.96**	**4.04**	**3.59**
Median	3.00	3.00	3.00	3.00	3.00	3.00
Mode	2	2	2	2	2	2
(gap-type)	2462	2637	2399	2724	2.313	1926

With support for improved seeds and other modern agricultural inputs, households foresee an average increase of 3.88 months over the current four-month coverage of their agricultural production. In summary, if their perception is true with this support, the households will know between 7 to 8 months of food self-sufficiency thanks to the intervention of the project. However, since water is the driving force of agricultural production, this period coincides with the withdrawal of water from the riverbed within km of the parcels of market gardening. Perhaps it is necessary to think about the development alternative solutions to continued water access for agriculture.

This average number of more months of food supply is the target that IRTOUN III should aim to achieve (bring the average number of months of household food self-sufficiency to 8).

3.3.2. Household Dietary Diversity Score (HDDS)

The HDDS is based on the number of different food groups consumed by the head of household or by any other household member in the last 24 hours. All 12 food groups are derived from the Food and Agriculture Organization of the United Nations. HDDS varies from 0 to 12, with lower numbers indicating less dietary diversity. Although the HDDS gives an indication of the food groups consumed in the household, the HDDS should not be interpreted as a nutritional indicator reflecting the quality of the diet, but rather as an indicator of access to food. Thus, it serves as a proxy for socio-economic status.

The results for the HDDS are presented in the table below. The overall average HDDS is 6.2 indicating a dietary diversity that is relatively poor.

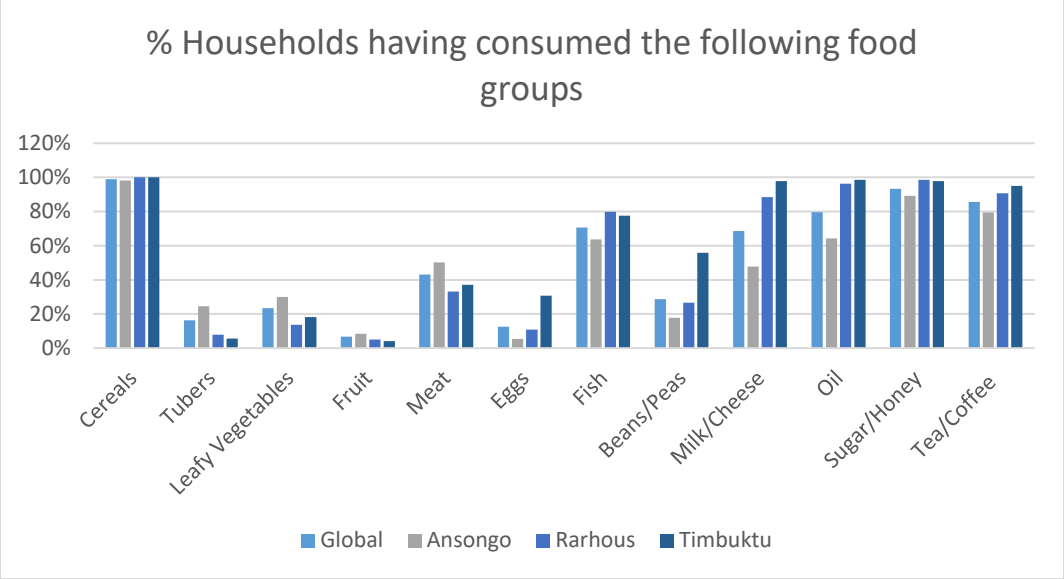
Table 14: Average household dietary diversity score (HDDS)

Statistics	Global	Female HoH	Male HoH	Ansongo	Gourma-Rarhous	Timbuktu
Average	**6.28**	**6.64**	**6.12**	**5.79**	**6.51**	**7.18**
Mode	6	6	7	5	6	6
(gap-type)	1902	1671	1975	2.182	1230	1271

The dietary diversity of households shows that on average households have consumed 6 food groups during the 24 hours preceding the present study. Female-headed households have a greater dietary diversity than those headed by men. Statistically significant difference ($p = 0.002$).

Also, households in Timbuktu have a good food diversification compared to Gourma-Rarhous and Ansongo.

As shown in Figure 13 below, about 99% of households consume cereal-based foods such as wheat, maize, rice, sorghum and / or millet. Sugar / honey or tea / coffee is the second most consumed food group, followed by oil, milk / cheese and fish.



As a target, it is recommended that the project plan to raise this average HDDS to at least 8 by the end of the implementation of IRTOUN III, by increasing the awareness of households to consume foods such as beans, vegetables, etc. leaves that are generally more accessible than meat and can be / are produced by households.

3.3.3. Household Hunger Scale (HHS)

Household hunger was measured using the HHS, a perceptual scale of food deprivation. The scale includes three components that measure inadequate access to household food, each item being divided into a question of occurrence (one episode occurring in the last four weeks or 30 days) and a question of frequency of occurrence (how many times during the last four weeks). The answers to the questions are coded and summed into a numerical score (with a possible minimum score of 0 and a possible maximum score of 6) representing one of three levels of hunger: (1) Little or no hunger (HHS score = 0 at 1); (2) moderate hunger (HHS score = 2 to 3); and (3) severe hunger (HHS score = 4 to 6).

Table 15: Household Hunger Scale

Indicator	Global	Female HoH	Male HoH	Ansongo	Gourma-Rarhous	Timbuktu
% household with little or no hunger	46%	32%	51	47%	37%	49%
% household with moderate hunger	47%	58%	42%	42%	54%	49%
% household with severe hunger	8%	10%	7%	10%	8%	2%
% household with moderate and / or severe hunger	**55%**	**68%**	**49%**	**52%**	**62%**	**51**

The results for the HHS are shown in Table 15 above. Overall, 55% of households suffer from moderate or severe hunger, with a higher prevalence at female- headed households (68%) and geographically at the Gourma- Rarhous circle (62%). The HHS is based on perceptions of hunger over the past four weeks and is therefore sensitive to the season in which the survey is conducted. In the case of this survey, data was collected during the month of January 2018.

As this indicator has to change negatively or decrease, it would be difficult to predict a very realistic target for a two-year intervention. But considering the effort that will be made under

IRTOUN III, we recommend targeting a reduction of 10 percentage points for this indicator at the end of the project, ie an overall prevalence level of 45% of households with moderate or severe hunger levels.

3.3.4. Household Coping Strategy Index (CSI)

The Coping Strategy Index (CSI) is an indicator used to compare the difficulties faced by households by measuring the frequency and severity of the behaviors they face in the event of a food shortage.

Strategies are divided into two types: strategies that affect food consumption and strategies that affect the livelihoods of the concerned households.

3.3.4.1. Coping Strategy Index related to Food Consumption (CSIFC)

The consumption-based strategy index (CSIFC) measures behaviors [1] adopted by households when they have difficulty meeting their food needs. This indicator assesses whether there has been a change in the consumption patterns of a given household. It is calculated using strategies based on standard food consumption and severity weighting. The advantage of the CSI is that it measures the same set of behaviors and uses the same universal weights. By always measuring the same behaviors, the CSIFC has greater applicability, so it can be used to compare the severity of crises and it helps with geographic targeting.

For the calculation of this index at the level of each household, for each adaptation strategy, the frequency score (0 to 7) is multiplied by the universal severity weight. The weighted frequency scores are summed into a final score (CSIFC). The minimum possible CSIFC value is 0 and the maximum is 56. A higher score indicates that more frequent and/or more severe coping strategies are being used by households. The table below gives the average CSI score for Irtoun III's intervention areas for this period of the study (January 2018).

Table 16: Average CSIFC Score

Statistics		Global	Women	Men	Ansongo	Gourma-Rarhous	Timbuktu
#	Valid	817	232	584	451	167	199
	Missing	0	0	0	0	0	0
CSIFC Average		**14.67**	**16.72**	**13.86**	**18.00**	**11.65**	**9.67**
Mode		3	3	7	7	17	3
Standard Deviation		12.711	13.371	12.369	14.942	7.529	7.269
Minimum		0	1	0	0	0	1
Maximum		56	56	56	56	43	37

As can be seen, in this period of the study, the frequency of using coping strategies related to food consumption were relatively low in the project intervention area. The average score is 14.6 for the entire area.

Although overall somewhat weak, this indicator still shows that during the period of this study, female-headed households made more use of strategies more frequently than those led by men. The average score

was 16.7 for female head of household, while the average score for men was 13.8 (statistically significant difference with a value of p = 0.004).

This index (CSI) is sensitive to seasonality, and can change quickly over a short period of time. It is therefore a sensitive indicator that can be included in regular monitoring activities - although the timing of data collection needs to be taken into account due to possible seasonal biases (eg, lean period, period harvesting, etc.). The frequency and timing of follow-up surveys depend on the context. However, because of its sensitivity, it is important to ensure that the next measurement or collection (final assessment) of this indicator coincides with the same season as this baseline study.

The following targets are recommended for the project:

Indicator	Baseline	Target
CSI Global Average	14.67	<=14
CSI Average for Women	16.72	<=14
CSI Average for Men	13.86	<=13

3.3.4.2. Coping Strategies Index related to Livelihoods (CSIL)

The Coping Strategies Index related to Livelihoods is an indicator that is used to better understand the long-term resilience of households.

In general terms, the livelihoods and economic status of households are determined by income, expenditures and assets. By understanding the behaviors that households have adopted to cope with recent crises, such as the sale of productive assets, we can get a rough idea of how difficult their current situation is and how likely they will be able to cope with challenges in the future. The higher this score, the more it indicates a use of severe coping strategies.

As shown in Table 17 below, and like the CSI related to food consumption, this index is relatively low - on average 12.8 for the entire intervention area. The smaller the number, the lower the indicated use of severe coping strategies by households.

By looking at the sex of household heads, we note that the situation is slightly harder for female heads of household (average of 16.7) in comparison to men (average of 11.2), with a significant statistical difference (p = 0.000). In terms of geographical areas in Timbuktu, households use a little more severe adaptation strategies than other areas

Table 17: Average Coping Strategies Index (CSI) related to Livelihoods Score

Statistics		Global	Women	Men	Ansongo	Gourma-Rarhous	Timbuktu
#	Valid	817	232	584	451	167	199
	Missing	0	0	0	0	0	0
CSIL Average		**12.87**	**16.97**	**11.20**	**11.84**	**13.28**	**14.85**
Mode		9	38	9	0	7	38
Standard Deviation		11.225	12.510	10.196	10.138	11.307	13.114

According to the recorded number of households organized by type of used strategies, we have:

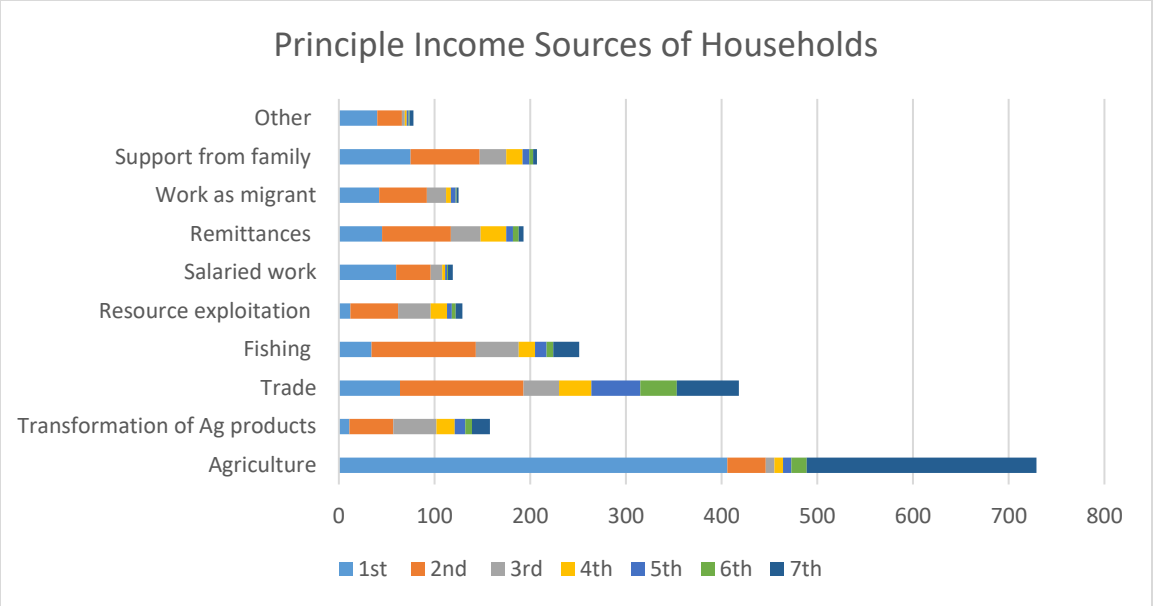
Prevalence of households using livelihood-related strategies			
Neutral	**Stress**	**Crisis**	**Emergency**
9%	33%	29%	29%

According to this classification of household prevalence by groups or categories of coping strategies, we see that in the 30 days leading up to the present study, the greatest number of households (33%) used at least one stress-based strategy. These strategies look like selling household goods/capital (radios, furniture, TVs, jewlery, clothing etc.), buying food in credit or loans, spending savings, and borrowing money). Crisis strategies (selling means of production, consuming seed stocks, removing children from school, reducing health-related expenses) and emergency strategies (selling the house or land, begging, selling female animals, migrating the whole household) were each used up to 29%. These percentages indicate a high degree of household fragility in this area. To this end, to protect these households and their livelihoods, we propose that the project adopt the following targets:

	Baseline	**Target**
% of households using neutral coping strategies	9%	>30%
% of households using stress-related coping strategies	33%	<33%
% of households using crisis coping strategies	29%	<20%
% of households using emergency coping strategies	29%	<17%

3.3.5. Livelihoods and sources of household income

To assess the households' livelihoods and sources of income, Mercy Corps posed a series of questions to each participating household. Through these questions, each household cited sources of income in order of important (from 'contributes the most' to 'contributes the least'). The following results were collected during the survey.



Each household numbered their sources of income from 1-7. Figure 14, above, shows that agriculture is the main source of income for more than 55% of households in the area. After agriculture is, respectively, trade, fishing, support from relatives, sending funds etc. The qualitative data collected showed the same tendencies, where agriculture and livestock make up the most important shares of household income in the intervention zone.

These main sources of income for households have not changed or are the same for 92% of households (753 out of households 817). For the few households whose sources have changed, the reasons are primarily the lack of opportunities to trade, in most cases due to insecurity, and the decline in agricultural production caused by the drought.

Contrary to what the vast majority of households think in individual surveys, focus group discussions have claimed there has been a negative impact on livelihoods in the last five years. Insecurity has diminished the ability to freely trade because of fear of being attacked during a trip to a market or being robbed and looted at home. For people who have remote fields, the lack of security reduces the amount of time they're able to spend in their fields, which reduces their ability to produce crops. Cattle theft has also affected several households.

For the vast majority of focus group participants, the above negative impacts on livelihoods are often sources of conflict. How can these impacts become causes of conflict? Some people are ready to fight to protect their assets from robbery or theft. There is also the feeling of intra- and inter-communal mistrust created by the continuously diminishing livelihoods, which can also cause conflict.

As for the diversification of income sources, up to 45% of households say that they sometimes diversify and/or change sources of income. The most important way in which these households have diversified is the practice of petty trading. After trade, several households also became involved in the manufacture of mats as a diversification activity, followed by fishing. Instead of relying exclusively on agriculture, which is increasingly reducing in production, several households have undertaken small-scale businesses/IGRs (such as selling wood, coal, etc.).

Migration : In the focus groups, migration is cited as the second most important means of income diversification after small businesses. Primarily a strategy for dealing with food insecurity, labor

migration is a means of alleviating chronic poverty and increasing income opportunities. It is well known that the decision to migrate may be related to several factors, including poor harvest, lack of food and limited income to cover household expenses, insecurity, and so on.

3.3.5.1. Participation in Mercy Corps activities

More than half of the households interviewed said they had participated, through the head of household or another family member, in at least one Mercy Corps-supported activity in their community prior to this project. This demonstrates the wide impact of the program's previous phases. The activities that most affected the beneficiaries in order of importance were: the distribution of vouchers for access to seeds, the creation and implementation of Village Savings and Loan Associations (VSLAs), the vouchers for livestock, sustained learning, Cash For Work (CFW) activities etc.

This is almost certainly due to the fact that the above-listed activities constitute the main activities that have been implemented by previous phases of Irtoun I & II in these intervention areas. What is very important to note at this point is that according to the perceptions of these beneficiaries, thanks to this help they received through participation in the above activities, supported by Mercy Corps, they consider themselves more apt to face the coming year or the year after, demonstrating a sense of resilience.

3.3.6. Economic opportunities

One of the key points to explore in this study was which economic opportunities are favorable to communities, particularly when it comes to markets. This element was brought up during focus group discussions.

Overall, according to participants, many economic opportunities within communities. Income generating activities such as dyeing, sewing, selling items such as wood, charcoal, and condiments, etc., are the most favorable economic opportunities according to the respondents. The next most favorable activities were fish farming, livestock fattening and processing agricultural products.

From a gender perspective, the economic opportunities that are more favorable to women in order of importance are: selling cosmetics (soap, ointments, etc.), handicrafts, processing agricultural products, small businesses, livestock fattening, and dyeing.

As for men, the cattle trade and livestock fattening, selling fodder, and fishing or selling fish were the most favorable.

In order to engage in economic opportunities, especially for women, there is a certain baseline level of competence and knowledge that is required. This looks like professional training, acquiring adequate materials, finding storage for products, etc.

3.3.7. Peaceful, safe and secure communities.

This indicator is measured using three separate questions on peace and security in the respondents' communities. The community is defined as a group of people living close to each other in a neighborhood, village or city depending on the target of the project.

Three questions were asked about the aspects of the indicator and the results of these questions were aggregated to calculate the indicator.

Respondents were asked to comment on the guarantor of safety in their community. before beginning the specific questions for calculating this indicator.

3.3.7.1. Entities guaranteeing the security of the population

According to the opinion of the heads of households in the program's overall implementation area , the primary entity for guaranteeing their safety remains the village chief. After the village chief comes armed groups, then the gendarmerie, the marie, and finally 'others'. This tendency does not seem to be the same for individual circles. In Ansongo, for example, respondents feel that the first guarantor of their security is armed groups, who come before the village chief and the gendarmerie. In Gourma-Rarhous and Timbuktu, the trend mirrors the global trend currently taking shape, except that the armed groups are barely perceived as guaranteeing security in these zones.

As for 'other' entities that guarantee security, the military/FAMA are the first to be recognized by households, followed by local youth, and finally the National Guard.

3.3.7.2. Levels of violence in communities

Respondents were asked to describe their community in relation to the level of violence experienced by the community. In 68% of cases, they found their community quite peaceful, as shown in the table below. The communities of Gourma-Rarhous and Timbuktu are perceived as being more peaceful than Ansongo, where about 39% of respondents described their community as experiencing a significant level of violence.

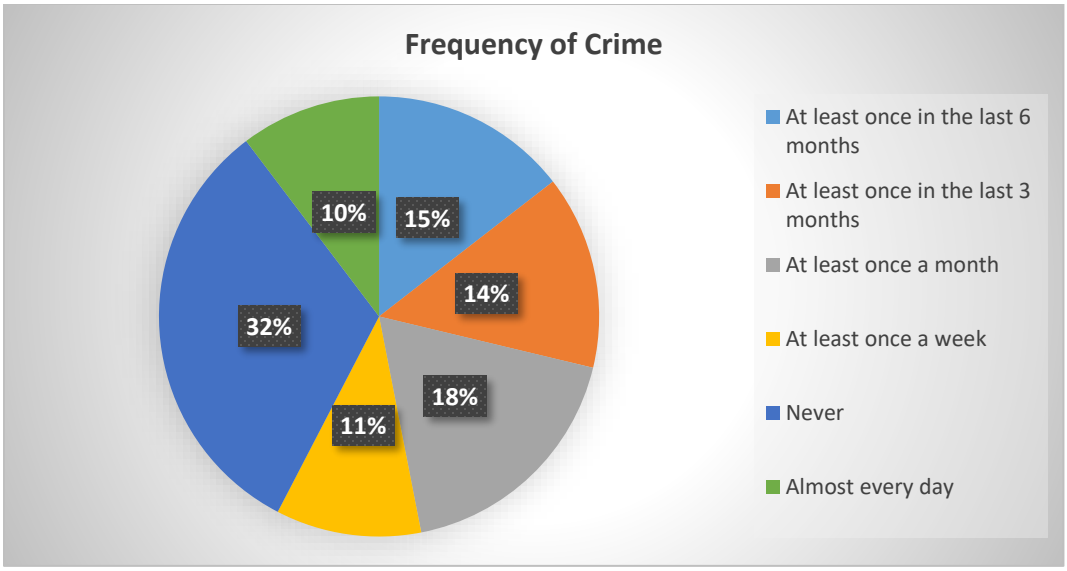
Table 18: Respondents' perception of the level of violence experienced in their communities

Households' Perceptions of the Community	Global	Ansongo	Gourma-Rarhous	Timbuktu
	%	%	%	%
Somewhat Peaceful	67.8	47.0	97.6	89.9
Neither Violent, nor Peaceful	5.4	5.1	1.2	9.5
Very Peaceful	1.1	1.3	1.2	0.5
Very Violent	4.0	7.3	0.0	0.0
Somewhat Violent	21.4	38.8	0.0	0.0
Total	100.0	100.0	100.0	100.0

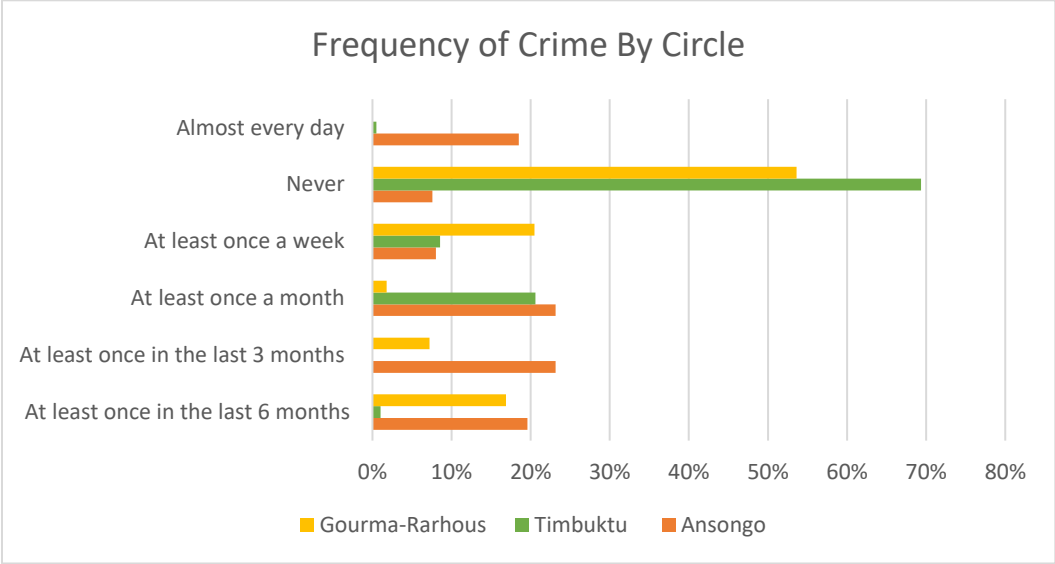
As for feelings of insecurity and fear of crime in the last six months, more than 40% of respondents said that in the last six months before this study, at least one member of their family felt insecure in their neighborhood or community. More than 20% rarely felt insecure, while more than 15% always felt insecure in the last six months.

For these same people, the main reasons they feel insecure are primarily because of jihadists (33%), followed by the presence of bandits in the community or the surrounding area (40%), the absence of police and security forces (27%), and intra- and inter-community tensions.

With regard to the frequency of fearing a crime taking place in the household, more than 50% reported they have never feared this scenario, in contrast to the little more than 20% who have.



Moving beyond fears and perceptions, each respondent was asked to rate the frequency of crime that had occurred in their neighborhood/community during the last 6 months. Overall, there are more respondents (32%) who reported zero occurrences of crime in their area. But in 18% of cases, crimes occurred at least once a month, 15% reported at least once in the last 6 months, 14% reported at least once a quarter, 11% at least once per week, and finally 10% said a crime occurred in their community almost every day. According to the different circles, the frequency of crimes is shown in Figure 20, below.



Ansongo experiences most the crimes, according to the different categories. The majority of respondents reported that crime occurred either "at least once a month" or "at least once in the last 3 months", as shown in the graph above. Just over 20% of respondents in this area reported that crimes occurred 'at least once a month'.

3.3.7.3. % of respondents who believe that their community is peaceful, safe and secure

% of people (heads of households) who believe that their community is peaceful, safe and productive.	26.1%

At 26%, this indicator represents only a small percentage of household heads who believe that their community or village is peaceful, safe and secure. This low percentage reflects the general level of awareness that the local inhabitants have of how fragile the state of security can be in their area.

As this indicator is based on the perceptions and the experiences of the community, it will be difficult to set a realistic target, especially without really knowing what the project will do to reinforce this feeling among beneficiaries. Assuming that the project will raise awareness enough to reinforce the perception of safety, the proposed target is 33%, which is 7 percentage points more than the current target of 26%.

3.3.8. Respondent perception of conflict management

The Likert scale was used to evaluate respondents' perceptions when it comes to conflict management. Using the Likert technique, a series of four statements is posed to each respondent. The respondents then respond with whether or not they agreed with each statement. These statements mainly concern four categories of actors that are typically involved in the prevention and/or management of conflicts. These include customary leaders, government authorities, women/women's groups, and youth/youth groups.

The results are as follows. In order to lay out all the information, there is a separate table for each of the four statements.

Table 19: Respondent's Belief in Customary Leaders' Capacity to Resolve Conflicts

		Customary leaders are able to prevent and/or resolve disagreements in my community.			Total
		Agree	Neither Agree Nor Disagree	Disagree	
	CERCLE (sig. 0.000)				
	Ansongo	390	4	55	449
Cercle	Gourma-Rharous	166	0	1	167
	Timbuktu	197	0	2	199
Total		**753**	**4**	**58**	**815**
	GENDER (sig. 0.141)				
Gender	Women	207	1	23	231
	Men	545	3	35	583
Total		**752**	**4**	**58**	**814**

The majority of respondents agree that customary leaders are able to prevent and/or resolve disagreements in their community throughout the intervention area. When disaggregated by location, however, the differences in responses are statistically significant. On the other hand, the difference presented when disaggregating the responses by gender was not significant.

Table 20: Respondent's Belief in Gov't Authorities' Capacity to Resolve Conflicts

		Local government authorities are able to prevent and/or resolve disagreements in my community.			Total
		Agree	Neither Agree Nor Disagree	Disagree	
	CERCLE (sig. 0.000)				
	Ansongo	363	32	54	449
Cercle	Gourma-Rharous	141	7	19	167
	Timbuktu	156	1	42	199
Total		**660**	**40**	**115**	**815**
	GENDER (sig. 0.005)				
Gender	Women	175	9	47	231
	Men	484	31	68	583
Total		**659**	**40**	**115**	**814**

The overwhelming majority of respondents agree that government authorities are able to prevent and/or resolve disagreements in their community. Depending on the cercle and the gender of the head of household, the differences in the responses are statistically significant. In other words, this perception of government authorities being trusted to resolve conflicts varies by who is giving the responses.

Table 21: Respondent's Belief in Women's Ability to Resolve Conflict

		Women/women's groups are able to prevent and/or resolve disagreements in my community			Total
		Agree	Neither Agree Nor Disagree	Disagree	
	CERCLE (sig. 0.000)				
Cercle	Ansongo	336	3	109	448
	Gourma-Rharous	127	7	33	167
	Timbuktu	134	0	65	199
Total		**597**	**10**	**207**	**814**
	GENDER (sig. 0.000)				
Gender	Women	145	7	79	231
	Men	451	3	128	582
Total		**596**	**10**	**207**	**813**

The overwhelming majority of respondents agree that women/women's groups are able to prevent and/or resolve disagreements in their community. This belief fluctuates depending on the geographic location and the gender of the respondent.

Table 22: Respondents' Belief in Youth's Ability to Resolve Conflict

		Youth/youth groups are able to prevent and/or resolve disagreements in my community.			Total
		Agree	Neither Agree Nor Disagree	Disagree	
	CERCLE (sig. 0.000)				
Cercle	Ansongo	367	2	78	447
	Gourma-Rharous	125	3	38	166
	Timbuktu	133	0	66	199
Total		**625**	**5**	**182**	**812**
	GENDER (sig. 0.000)				
Gender	Women	149	4	78	231
	Men	475	1	104	580
Total		**624**	**5**	**182**	**811**

The overwhelming majority of respondents agree that youth / youth groups are able to prevent and/or resolve disagreements in their community. This belief is different depending on the geographic location and the gender of the respondent.

Based on the responses to the statements above, the percentage of respondents who believe that the actors responsible for conflict management in their area are able to prevent and/or manage conflict, is as follows:

Table 23: Perceptions of the actors responsible for conflict management

Variable	Value
Total number of respondents **(A)**	815
Number of respondents who agree with D1 and D2 and D3 and D4 **(B)**	519
% of respondents who believe that the actors responsible for conflict management in their area are able to prevent and/or resolve conflicts in their community. **(B/A)**	64%

Nearly two out of three respondents believe that customary leaders, government authorities, women/women's groups and youth/youth groups are able to prevent or resolve conflict in their community.

This perception is important and reflects the high level of confidence that household leaders in this area have about the capacities of those responsible for conflict management. This perception is to be reinforced through the sensitization of the population and at the same time the training of the relevant actors on conflict management techniques. The project may target raising this proportion to 70% of households by the end of the implementation period.

3.3.9. Gender dynamics

This section was only included in the qualitative part of this study. The section evaluated gender dynamics in this crisis or post-crisis context. The investigated dynamics affect aspects such as the impact of the crisis on the income of women and men, the way crisis affects demographics, and so on.

3.3.9.1. Impact of the crisis on the income of women and men

According to the participants in the focus groups, women no longer practice IGAs as much as before because of lack of access or very limited access to the market (especially intercommunity markets). Another limiting factor is the occurrence of robberies and rapes - most women avoid leaving to search for wood as they used to do, out of fear of being attacked and/or raped.

As for men, they were more often victims of the robbery and animal kidnapping. Some were forced to abandon their cattle or fields to flee their villages. All of these factors are in addition to the quotidian limitation of moving between villages to participate in markets.

3.3.9.2. Demographic impact on households

This crisis has not been without impact on the demography of households in this area. Focus participants thought that the crisis has increased the number of female-headed households, due to the death of male heads of households. According to their estimate, in the villages affected in this study, there is an average of 54 households (598 households estimated by 11 focus group) that are led by women due to the above-stated crisis-related issue. This overwhelmingly increases the burden of maintaining households on women.

In addition to the increase in female-headed households, the crisis has also led to an increase in households headed by single men. There is an estimated average of 48 households headed by single men per village.

Although defining which households are headed by children is difficult, the focus group participants still think that the crisis has similarly increased the number of child-headed households. They estimated an average of 35 of child-headed households per village.

In these villages, some grandparents also saw their household responsibilities and burdens increase due to the conflict. For this type of household, due to the absence of the parents, the grandparents are forced to

take care of the grandchildren. The participants estimated an average of 107 households in this situation per village.

Finally, for the impact of the crisis on household demographics, some were forced to take in other households that were displaced by the crisis. An average of 62 households that are hosting IDPs are estimated per village.

The above demographic impacts of the crisis certainly play an important role in weakening the already highly affected livelihoods of all the above household categories. If this trend continues, it will be very difficult or even impossible for these households to get out of the cycle of poverty.

3.3.9.3. Change in certain factors for female heads of households

With regard to land tenure for women, there is a difference of opinion among the focus groups. For five of the focus groups, it is seen as completely possible for female heads of households to own land without necessarily having a husband. For three other groups, access to land is difficult for a female head of household without a husband. What is the reason for this difficulty in access according to this group of respondents? The investigators did not push to ask why land tenure was more or less accessible for single women, thus limiting our knowledge in this report. However, there is definitely a possibility for future exploration of this topic through focus group discussion in the same villages during activity implementation.

As for access to income opportunities and social networks, when a woman is single, six groups said that this had a positive affect. In other words, they have the same access as any individual when it comes to different economic opportunities and social networks within their community. On the other hand, the other six groups think that being single negatively affects women's access to these things. On the basis of these perceptions, it is easy to confirm that there is a general sentiment among some community members that single women should not have the same access to economic opportunities as others. This could be an important focus in conducting outreach activities, to potentially reverse this mindset.

3.3.9.4. How to deal with the current situation

There are several ways move forward with the situation, depending on whether it is a couple living with their children, a single man with or without children, or a single woman with or without children.

The support shared between spouses is the most important way that couples ensure harmony in their households. Husband and wife, everyone contributes the best to help each other and support the burden of maintaining the household. As for single men, they depend mainly on their parents, as well as by relying on their daily work which can act as a coping mechanism. For single women, their means for thriving are fairly restricted to parental support or support from loved ones.

3.3.9.5. The most appropriate means of support.

According to the different focus groups, the most appropriate way to assist men and women in getting back on their feet to be able to earn their living, is nearly identical for couples as well as single men and women.

Provide vocational training in order to master a trades or form of manual work, support people with materials necessary to conduct income-generating activities, and financial support are the three most

useful tools for support in order of importance. Using these tactics could allow these people to earn their living without being dependent on others.

3.3.10. Conclusion

Data from the Irtoun III baseline study was collected in January 2018 from approximately 817 households in the Ansongo, Gourma-Rarhous and Timbuktu districts. The household survey collected data on dietary diversity indicators, the household hunger index, household coping strategies, months of adequate household food supply, perceptions of conflict, and so on. Qualitative surveys collected additional data through group discussions with potential beneficiaries.

In line with the overall objective of the baseline study, the main findings and conclusions regarding the project impact and outcome indicators are described below. The results are very descriptive and static analyses too advanced that may require much more time, have not been made. Further analysis of the data is possible, and the survey databases are available for in-depth analysis if necessary.

3.3.10.1. Household Dietary Diversity Score (HDDS)

The overall SDAM score of 6.2 indicates average dietary diversity, with six of the twelve food groups consumed. Food diversity is lowest for male-headed households (HDDS = 6.1) compared to those headed by women. From a geographical standpoint, the dietary diversity in Ansongo is lower than the others (HDDS = 5.7).

Almost all households consume cereal-based foods such as rice, maize, sorghum and/or millet. Sugar/honey or tea/coffee is the second most consumed food group, followed by oil, milk/cheese and fish.

3.3.10.2. Household Hunger Index (HHI)

Household survey results indicate that more than half of households (55%) suffer from moderate or severe hunger, with a higher prevalence among female-headed households (68%). Geographically, this prevalence is higher in the Gourma-Rarhous cercle (62%). Factors of household hunger are related to access to and availability of food, which are influenced by seasonal conditions and sources of income.

3.3.10.3. Months of Household Food Self-Suffiency (MHFSS)

The results of the survey indicate that the average number of months of household food self-sufficiency is 5.9-6 months. But for women heads of households, it is 5 months. When divided geographically, food self-sufficiency is weaker in Gourma-Rarhous and Timbuktu (about 4.6 months). Food access depends on the ability of households to obtain food from their own production, food reserves, purchases, collection or transfers of food from family, community members, government or donor agencies. Household access to food also depends on the resources available to family members and the steps they must take to obtain these resources, especially the exchange of other goods and services.

3.3.10.4. Perceived increase in the number of months of household food self-sufficiency

The results of the study indicate an average increase of 3.8 months of household food self-sufficiency. According to household heads interviewed, with support for improved seeds and other modern agricultural inputs, they see an average increase of 3.8 months over the current 4-month average coverage period allowed by their agricultural production.

3.3.10.5. Coping Strategies Index related to Food Consumption (CSIFC)

The results indicate an average index of coping strategies based on household food consumption of 14.6. The minimum possible CSIFC value is 0 and the maximum is 56. A higher score indicates more frequent and/or more severe coping strategies being used by households. This average of 14.6 shows that there is a relatively low frequency of use of adaptation strategies related to food consumption by households in the project intervention area.

Although overall somewhat weak, this indicator still shows that during the period of this study, female-headed households made more use of strategies more frequently than those led by men. The average score for female heads of households is 16.7, against 13.8 for men (statistically significant difference with a value of $p = 0.004$).

3.3.10.6. Coping Strategies Index related to Livelihoods (CSIL)

The results indicate an average index of livelihoods-based coping strategies of 12.8 across the intervention area. The smaller the number, the lower the indicated use of severe coping strategies by households. According to the gender of household heads, we note that the situation is slightly harder for female heads of household (average of 16.7) than male heads of households (average of 11.2), significant difference ($p = 0.000$). In Timbuktu, households use a little more severe adaptation strategies than other areas.

3.3.10.7. Peaceful, safe and secure communities

The results indicate that 26% of household heads surveyed think their community is peaceful, safe and secure. This indicates that overall, only a small percentage of household heads believe that their community or village is peaceful, safe and secure. This relatively low percentage indicates a general awareness of the fragile state of each village.

3.3.10.8. Perception of participants on conflict management.

The results indicate that 64% of respondents believe that the actors responsible for conflict management in their area are able to prevent and/or resolve conflicts in their community. This perception is important and reflects the high level of confidence that household leaders in this area have about the capacities of those responsible for conflict management.

References

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