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FEED THE FUTURE PROGRAMME D'APPUI A LA RENTABILISATION DE L'ELEVAGE

Baseline Assessment

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ACRONYMS AND ABBREVIATIONS

ARSSI	Ability to Recover from Shocks and Stressors Index
CASEC	Conseil d'Administration de la Section Communale
CNSA	Coordination Nationale de la Sécurité Alimentaire
COP	Chief of Party
COR	Contracting Officer's Representative
DCOP	Deputy Chief of Party
DDA	Departmental Agricultural Directorate
DO	Development Objectives
FAO	Food and Agriculture Organization of the United Nations
FAMV	La Faculté d'Agronomie et de Médecine Vétérinaires
FGD	Focus Group Discussion
FTF	Feed the Future
GOH	Government of Haiti
GYI	Gender and Youth Inclusion
KII	Key Informant Interview
LMSRA	Livestock Market Systems Resilience Assessment
MARDNR	Ministère de l'Agriculture des Ressources Naturelles et du Développement Rural
MEL	Monitoring, Evaluation & Learning
MIF	Market Ignition Fund
MSD	Market Systems Development
MSME	Micro, Small and Medium-sized Enterprises
MUSO	Mutuelles de Solidarité
NGO	Non-governmental Organizations

PMELP	Project Monitoring, Evaluation and Learning Plan
RFZ	Resilience Focus Zones
SIB	Système d'Identification du Bétail
SDE	Section d'Enumeration (Enumeration Areas)
TOC	Theory of Change
PARE	Programme d'Appui à la Rentabilisation de l'Elevage
US	United States
USG	United State Government
USAID	United States Agency for International Development
Venture37	Land O'Lakes Venture37

I. EXECUTIVE SUMMARY

Land O'Lakes Venture37 (Venture37) conducted a Baseline Assessment for the five-year Programme d'Appui à la Rentabilisation de l'Élevage (PARE) project, funded by the United States Agency for International Development (USAID). PARE focuses on enhancing household and community resilience in Haiti's Northern and Southern Resilience Focus Zones (RFZs) by bolstering the livestock market system, particularly within the cattle, goat/sheep, and poultry value chains.

The Baseline Assessment study was conducted by the PARE Monitoring, Evaluation & Learning (MEL) team in collaboration with the Haitian research firm AGIRED. This study utilized a mixed-method approach that collected quantitative data from a representative sample of smallholder livestock producer households in the Northern and Southern RFZs through a Producer Household Survey as well as qualitative data from producers, community leaders and other stakeholders.

The purpose of the Baseline Assessment is to document the current status of livestock producers and their communities in the Northern and Southern RFZ in terms of their management practices, yield and sales and to understand households' resilience capacities and coping mechanisms to shock. The Baseline Assessment, in cooperation with the simultaneous Livestock Market Systems Resilience Analysis (LMSRA) study and Gender and Youth Analysis Report will provide recommendations to refine or set program targets and identify potential areas of intervention needed to support producers and communities.

A summary of findings is below. In addition, PARE indicators which have baseline values that are informed by the Baseline Assessment are included throughout this report in their relevant sections, and are also attached in *Annex 2. Indicator Table*.

I.1 Summary of Findings

Distribution of livestock value chains

- The majority of households in the baseline sample (78%) keep goats/sheep, followed by cattle (56%) and poultry (52%).
- On average, respondent households in the sample reared two of the three target value chains. About a third (35%) of households engaged in just one of the target value chains, 45% engaged in two and 20% engaged in all three.
- Almost all (96% of cattle producers, 93% of goat/sheep producers and 100% of poultry producers) are smallholder farmers according to the Feed the Future (FTF) definition of smallholder¹.
- The average current herd size of cattle was 2.5, with a minimum of 1 and a maximum of 50. 92% of producers had a herd size of 5 or less. The average total herd size over the past year was 3.7.
- The average current herd size of goat/sheep was 5.1, with a minimum size of 1 and a maximum size of 45. 92% of producers had a herd size of 10 or less. The average total herd size over the past year was 8.1.
- The average flock size was 9.0 birds with a minimum of 1 and a maximum of 60. 83% had a flock size of 15 or fewer birds. The average total flock over the past year was 20.5.
- Most livestock consisted of local breeds, with 95% of cattle herds, 97% of goat/sheep herds and 89% of poultry herds comprised of local animals.

¹ From Feed the Future Indicator Handbook: Smallholder producer is one who holds 5 hectares or less of arable land or equivalent units of livestock, i.e. cattle: 10 beef cows; dairy: two milking cows; sheep and goats: five adult ewes/does; camel meat and milk: five camel cows; pigs: two adult sows; chickens: 20 layers and 50 broilers. The farmer does not have to own the land or livestock.

Management practices

- Livestock was almost universally owned within the household with 2% of cattle producing households and 1% of goat/sheep producing households having an owner outside of the household.
- Tethering was the most common method for feeding and housing cattle and goat/sheep (88% of cattle producers and 86% of goat/sheep producers fed their cattle through a tethering system).
- Almost all (97%) of poultry producers fed and housed their animals in the barnyard or homestead area, and only 3% kept their birds in a chicken coop or enclosure.
- Obtaining a sufficient quantity of feed was the most pressing challenge for producers. The provision of additional feed was not widespread, with 61% of cattle producers and 64% of goat/sheep producers providing additional feed, including fresh grasses and crop residue. In addition, 16% of poultry producers gave supplemental feed to their birds.
- Accessing sufficient water is another challenge, as 74% of cattle producers and 25% of goat/sheep producers walk their animals to a water source.
- The rate of providing animal health treatments is low, with 41% of cattle producers, 37% of goat/sheep producers and 47% of poultry producers treating their animals for disease or administering preventative health measures.
- Vaccination rates are similarly low, as 52% of cattle producers, 65% of goat/sheep producers and only 9% of poultry producers have given vaccines to their animals in the past year, despite the persistent challenge of disease. These vaccinations are typically recommended on an annual basis.
- Overall, 84% of producers have applied a defined improved management practice, but producers averaged 1.5 improved practices, indicating that while the majority implemented one or two good management practices, they are not implementing them in a universal manner.

Yield and Sales

- Beef yield of all producer households, including those who with a yield of 0, averaged 26.5 kilograms/herd. Of producers who engaged in any offtake activity, the average yield was 98.3 kg/herd, representing 47% of the total herd.
- Goat/sheep yield averaged 1.9 kg/herd kilograms/herd amongst all producers. Of just producers who engaged in offtake activities, average yield was 5.2 kilograms/herd, representing 34% of the total herd.
- Poultry averaged 0.6 kilograms/flock amongst all producer households. Of producers who engaged in any offtake activity, this average was 1.3 kilograms/flock, representing 30% of the total flock.
- Milk yield averaged 493 liters per cow and egg yield averaged 53 eggs per hen.
- Overall annual sales from target livestock commodities averaged \$205 USD per household. This average includes the 40% of producer households who made no sales of any target livestock product in the past year. Amongst producers who sold a livestock commodity in the past year, annual sales averaged \$442 USD.
- Cattle sales averaged \$243 USD amongst all cattle producers, goat/sheep sales averaged \$60 amongst all goat/sheep producers and poultry averaged \$16.
- Amongst just those who sold, cattle sales averaged \$892 USD, goat/sheep sales averaged \$178 USD and poultry sales averaged \$64 USD.
- Only 10% of cattle producing households sold milk, which averaged \$23 l amongst those who sold milk, and \$23 annually across all cattle producers.
- 6% of poultry producer sold eggs, averaging \$59 USD among those who sold them.

- Producers noted that the price for livestock commodities, aside from eggs, has risen recently and that those with livestock to sell can benefit.

Major constraints

- Drought was identified as one of the most significant challenges livestock producers face in all departments, affecting their ability to procure enough feed and water for their livestock and contributing to disease.
- Disease was another recurring issue, particularly for goats/sheep and poultry. It was the primary driver for a high rate of loss for poultry and identified as the most pressing problem for goat/sheep producers.
- Theft of cattle and goats was another persistent issue mentioned by producers throughout both quantitative and qualitative fieldwork, with theft leading to loss of cattle and goats.
- Access to credit for livestock activities was identified as another major constraint, with producers struggling to access loans to invest in their livestock activities, contributing to their inability to implement improved practices at scale.

Access to Services and Inputs

- Very few producers (3% of cattle, 3% of goat/sheep and 1% of poultry) have accessed formal training or extension services in the past year.
- 71% of producers feel that they can access animal health workers, though they note that this access requires significant time and money.
- 30% of producers feel that they are able to access veterinary medicines.
- Markets are somewhat accessible to producers, who overwhelmingly sell in local markets. Some note that the distance is significant and 59% feel that they have sufficient access to markets for selling animals.
- 76% of households have been exposed to critical information in the past year, with rainfall and weather information being the most common (60%) followed by market prices (41%).
- For many topics, mass media, including newspapers, radio and television, was the most common source, with informal networks of friends and family and word of mouth being other frequent sources of information.
- Less than half of producers (44%) feel that they could access a loan, and fewer (38%) of households have taken a loan in the past year. The most common sources of loans were informal, with village savings/credit group as the most common, followed by friends or relatives. 10% of households took a loan from a formal lender in the past year, emphasizing the difficulty that livestock producers have in accessing formal credit.

Household Resilience

- Out of a list of 21 shocks, households experienced an average of 7.8 in the past year, with the most common being a sharp increase in the price of food (94%) and increase in agricultural inputs (87%), as well as youth unemployment (80%).
- Drought was felt to be the most severe of these top shocks, with 57% citing it as having an extremely severe impact on household income and 52% on food consumption.
- In terms of absorptive resilience capacities, cash savings is low, with 37% of households holding savings, primarily kept at home. The availability of government or NGO aid is also low. However, ownership of livestock assets was high.

- Adaptive resilience strategies relied most on households' ability to diversify their livelihoods, with an average of 3 income sources per household. Crop production was the most common at 58% with 47% earning income from the sale of livestock commodities in the past year.
- Transformative resilience capacities available for households were low, with little access to general services like electricity (32%), though access to markets was, particularly local markets, was higher at 59%.
- The coping strategies that households employed most often to deal with shocks and stresses was reducing their household expenses (53%) and reducing their food for consumption (40%)
- Only 14% of households sold their livestock in the past year to deal with a shock, which is often a last resort.

Geographic Differences

- There were marked geographic differences in the distribution of livestock, due to the agro-ecological zones found in each of the 4 departments found in the study.
- Similarly, management practices differed by department as well, with producers in Nord Est most likely to practice open grazing due to the higher availability of land.
- Producers in Sud perceived higher access to animal health workers, and this is reflected in a higher rate of providing animal health treatments and vaccines to their cattle and goats/sheep. Producers in Nord also had the highest rate of providing vaccines. Centre saw the lowest rates of vaccination and provision of animal health treatments.
- Producers in Sud also practiced intentional breeding for cattle, goats/sheep and poultry at a higher rate than those in other departments, particularly Nord, which had the lowest rate of intentional breeding.

II. INTRODUCTION

2.1 Project Background

PARE is a 5-year, \$23 million project funded by the United States Agency for International Development (USAID). PARE is implemented by Venture37 in partnership with Heifer International (Heifer) and Papyrus S.A. (Papyrus) from January 9, 2023 – January 8, 2028. The program aims to increase the resilience of households and communities in 4 Departments (Nord, Nord-Est, Sud and Centre) and 34 communes in the Northern and Southern RFZs of Haiti through the improvement of the livestock market system. PARE will focus on inclusive commercialization of the cattle, goat, sheep, and poultry value chains.

PARE will take a market systems development (MSD) approach to reach its goal. PARE will foster livestock market system resilience through strategically partnering with diverse, existing public and private sector market actors to implement livestock systems innovations that support PARE's objectives. The PARE approach places Haitian partners at the center of implementation and will strategically utilize a \$3.6 million Market Ignition Fund (MIF) as a flexible tool to build capacity and buy down risk for market actor investment in inclusive livestock sector growth. The three main objectives that PARE will achieve are:

Objective 1: Improve productivity of the livestock sector in the Resilience Focus Zones. PARE will improve livestock productivity in the RFZs by strengthening the private sector to support farmers to adopt on-farm productivity-enhancing technologies and management practices that are climate smart, contextually adapted and specific to each livestock species. Innovative partnership models, grants and private sector co-financing mechanisms deployed through the MIF will be at the core of building more sustainable extension systems and assisting producers and communities to build more resilience in the face of shocks. Importantly, outcomes from Objective 2 related to access to inputs and services are necessary

components for the achievement of this objective. Partners will include private actors such as agro-dealers, end buyers, agro-vets, research universities and NGOs.

Objective 2: Increase the accessibility of inputs and services in the livestock market system.

PARE will improve producer access to inputs and services in four key areas: Provision of animal stock inputs and services, livestock nutrition inputs, animal health products and services, access to market information, and access to financial services. PARE will explore business models that provide embedded service provision as well as the expanded networks for input providers. Potential partners could include agro-dealers, cooperatives, end market buyers, aggregators and financial institutions.

Objective 3: Improve marketing and private sector engagement in the sector. To achieve this, PARE will engage the private sector to increase utilization of available financial products, enhance their ability to produce higher-value products for rural and urban markets, and access the inputs and services they need to invest further in the sector and increase profitability. Interventions will include light-touch approaches such as improving linkages through regional platforms, and heavier-touch such as co-investment grants in improved infrastructure and packaging materials for slaughterhouses, meat packers and mini-dairy networks to improve quality and marketing campaigns.

2.2 Haiti Context

Agriculture is an important sector in Haiti, employing just under half of Haiti's workforce and contributing to over 20% of Haiti's GDP in 2022². Livestock is a key component of the agriculture sector with about 75% of households owning some type of livestock³. Haiti has a large livestock population, with nearly 5.8 million chickens, 1.5 million cattle, and over 2 million goats and sheep.⁴ The prevalence of livestock across the country, in addition to the growing demand for animal sourced foods in Haiti provides an opportunity for economic investment and expansion of the sector. Currently, a significant portion of Haiti's animal-sourced foods are imported from outside of Haiti, some of which could be produced locally. Some existing public and private sector actors are interested in further investment in the livestock sector.

In recent years, Haiti has suffered numerous natural disasters and crises. The assassination of President Jovenel Moïse in July 2021 plunged the country into political turmoil and further weakened the government's ability to respond to other crises and pursue its agenda for sustainable development. Gangs have rapidly expanded their territory and blocked key road arteries, making travel to and from the capital dangerous and stifling trade to/from Port au Prince. A magnitude 7.2 earthquake in August 2021 in Les Cayes killed more than 2,200 people and injured over 12,000, causing widespread damage to infrastructure and housing, and leaving many people displaced. Flooding in June 2023 displaced thousands more, particularly in Grand Anse, Sud Est, Nippes, Nord Ouest, Centre and Ouest departments. In addition, some crises have had a particular effect on specific departments. In the Nord Est, recent drought has significantly affected livestock and agricultural activities. Sud is also more prone to hurricanes, including the 2016 Hurricane Matthew, and subsequent flooding. These crises will be kept in consideration throughout the discussion of data in this report.

2.3 Baseline Purpose and Objectives

The purpose of the Baseline Assessment was to document the current status of livestock producers in the Northern and Southern RFZs of Haiti. By doing this, the Baseline Assessment will help:

² World Bank Open Data. Agriculture, forestry and fishing, value added (% of GDP- Haiti.

<https://data.worldbank.org/indicator/NV.AGR.TOTL.ZS?locations=HT>

³Coello, B., Oseni, G., Savrimootoo, T., & Weiss, E. (2014). Rural development in Haiti.

⁴ FAO Stat 2020. <https://www.fao.org/faostat/en/#home>

- Set or validate baseline values for relevant program outputs and outcome indicators at the household level.
- Provide recommendations based on findings on:
 - Refining or setting PARE indicator targets
 - Potential areas of intervention needed to support livestock producers

Concurrently, PARE carried out a Gender & Youth Inclusion (GYI) analysis. Both the Baseline Assessment and GYI analysis drew from the same data sources. The GYI analysis findings will be shared in a separate report.

III. BASELINE METHODOLOGY

3.1 Study Design

The Baseline Assessment study was conducted by the PARE MEL team in partnership with AGIRED. The PARE MEL team led the study design, analysis and reporting while AGIRED managed all fieldwork data collection. This study utilized a mixed-method approach using quantitative and qualitative data collection methods to achieve the objectives described above. The quantitative component included a cross-sectional population-level producer household survey among households that produce at least one of the 3 target value chains (cattle, goats/sheep, poultry).

Focus Group Discussions (FGD) with producers and Key Informant Interviews (KII) with community leaders, government officials, extension officers, and other stakeholders were conducted to provide qualitative data to give additional insights, nuance and complexity.

3.2 Study Area, Population and Sample Design

3.2.1 STUDY AREA

As a Market Systems Development (MSD) activity, PARE's interventions are not pre-determined but instead rely on co-creation with partners. Therefore, at Baseline, it is not possible to create a precise list of program participants. Through partner co-creations, the PARE Program will target the Northern and Southern RFZs which include 34 communes across 4 departments – 3 departments in the Northern RFZ (Nord, Nord Est and Centre) and 1 department (Sud) in the Southern RFZ. These communes are listed below in Table 0.

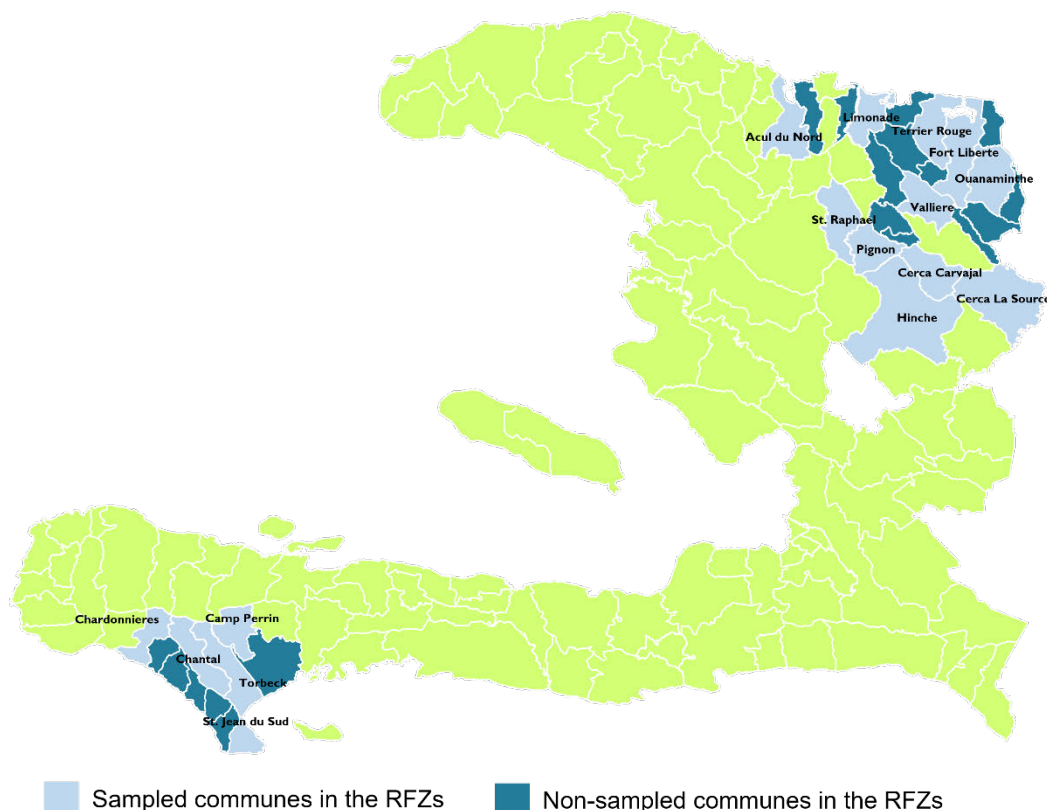
The Baseline Assessment was population-based and conducted in the same geographic areas that PARE will target for activities, as the goal was to establish a baseline of livestock producers in the program areas. Ultimately, 16 communes were selected for this study using the methods described below in *Section 3.1.1. Sampling Approach for Producer Household Survey*. Selected communes are noted below in Table 0. Figure 1 provides a map of both sampled and non-sampled communes in the Northern and Southern RFZs.

Table 0. Communes included in Baseline Assessment

Department	RFZ Communes	Selected for Baseline study
Nord	Acul du Nord	Yes
	La Victoire	No
	Limonade	Yes
	Pignon	Yes
	Plaine du Nord	No
	Quartier Morin	No
	Ranquitte	No
	Saint Raphaël	Yes

Nord Est	Capotille	No
	Caracol	No
	Carice	No
	Ferrier	No
	Fort-Liberté	Yes
	Mont-Organisé	No
	Ouanaminthe	Yes
	Perches	No
	Sainte Suzanne	No
	Terrier Rouge	Yes
	Trou du Nord	No
	Vallières	Yes
Centre	Cerca Carvajal	Yes
	Cerca la Source	Yes
	Hinche	Yes
Sud	Arniquet	No
	Camp-Perrin	Yes
	Chantal	Yes
	Chardonnières	Yes
	Côteaux	No
	Les Cayes	No
	Port-à-Piment	No
	Port-Salut	No
	Roche-à-Bâteau	No
	Saint Jean du Sud	Yes
	Torbeck	Yes

Figure 1. Map of communes included in Baseline Assessment



3.2.2 STUDY POPULATION

Livestock producer households are the primary unit of analysis for quantitative data collection. Households were defined as “a group of people living together under the same roof and sharing from the same pot of food”. This is a widely accepted definition of household and shared by the Coordination Nationale de la Sécurité Alimentaire (CNSA) and the Food and Agriculture Organization of the United Nations (FAO). While the concept of household in Haiti is more nuanced and complex, this standard definition was selected as the most efficient and appropriate for the purposes of this study. Randomly selected households were considered eligible for this study if they had produced (at any scale) the target livestock in the past year.

For the quantitative producer household survey, a member of each household 18 years of age or older was selected to respond on behalf of the household. This respondent is defined as “the person most knowledgeable about the care and raising of livestock in this household”. The definition was deliberately selected, rather than head of household, to increase the number of women respondents, especially in the small ruminant and poultry value chains, where women are typically the primary producers.

For qualitative fieldwork, different targeted producers within the household (women, youth, etc.) were purposely selected for the FGDs. For the KIIs, community leaders were recruited from the local areas in which the quantitative survey was conducted and included leaders of producer associations and cooperatives, NGOs and other community institutions related to livestock. A full list of KII participants is included in *Annex 3 Summary of Qualitative Instruments for FGDs and KIIs*.

3.3 Sampling Design

3.3.0 OVERVIEW OF SAMPLE DESIGN

As an MSD project, given that interventions are not pre-determined but rely on co-creation with partners, at Baseline, PARE does not know who the precise participants will be. Thus, the Baseline Assessment will be based on the estimated population of livestock producer households in the RFZs to provide a contextualized snapshot of conditions at Baseline, but follow up data collection will be targeted at program participants. The quantitative Producer Household Survey used a multi-stage stratified sample with random selection of primary sampling units and secondary sampling units. The qualitative FGDs and KIs utilized purposive sampling to ensure that a wide range of relevant stakeholders and perspectives were included.

3.3.1 SAMPLE SIZE FOR PRODUCER HOUSEHOLD SURVEY

The sample size was calculated considering the variability and size of the population of household producers, the sampling design, the confidence level, and the response rate. The team used the results of the General Census of Agriculture of the Ministère de l'Agriculture des Ressources Naturelles et du Développement Rural (MARNDR)⁵, which was carried out in 2009, to estimate the study population (total number of agricultural producers in the targeted departments). Table I below illustrates this population in each of the 4 departments amongst the 34 targeted communes in the RFZ, which are listed in Table 0.

Agricultural producer households were selected as the population of interest for several reasons. While the census does specify the number of households for whom livestock is a principal activity, PARE aims to also target smallholder livestock producers with only a few animals currently, for whom livestock production is not a principal activity. Furthermore, as noted in the USAID/HAITI Economic Growth and Agriculture Development: Gender Analysis Report⁶, most rural households in Haiti practice some form of traditional small-scale livestock farming and livestock is typically a complement to crop production. Thus, agricultural households were found to be a suitable proxy for the type of households that this survey is targeting. Noted below in study limitations, the census was conducted in 2009, making the information dated. However, in the absence of recent census data and given the current lack of quality population and livestock data in Haiti, this limitation was accepted.

Given geographic, economic and socio-political differences across the four departments included in the study, as well as a desire to compare results across departments, the sample was designed to be statistically significant at the department level and each department was considered as a separate population with equal allocation of sample allotted.

To calculate the sample size, parameters were set in terms of a margin of error of 5% and a confidence level of 95%. The standard sample size formula⁷ below was applied to each department independently. These recommended sample sizes are listed below in Table I. A margin of 10%, to account for non-response and outliers was added to each department and the final sample size was rounded up for an easily communicated number for the field team. The final sample size was calculated as n=425 in each department, with a total sample size of n=1700, as shown below in Table I.

⁵ Ministère de l'agriculture des ressources naturelles et du développement rural (MARNDR). *Synthèse nationale des résultats du recensement général de l'agriculture (RGA)*, 2009. Annex 1 : Exploitants et exploitations agricoles, Tableau 11.5 : Nombre total d'exploitations, répartition des exploitations par commune et selon l'activité principale de l'exploitant (in each respective district report)

⁶ Banyan Global. 2022. *USAID/Haiti Economic Growth and Agricultural Development: Gender Analysis Report*.

⁷ Rea, L. M., & Parker, R. A. *Designing and Conducting Survey Research: A Comprehensive Guide*. San Francisco, CA: Jossey-Bass Publishers. 1997.

$$n = \frac{Z^2 * p * (1 - p) / e^2}{1 + \left(Z^2 * p * \frac{(1-p)}{e^2 * N} \right)}$$

Where:
 Z = 1.96
 p = 0.5
 N= Population of department
 e = 0.05

Table 1. Sample size calculation

Department	Population of agricultural households in 34 RFZ communes	Initial sample size of producer households	+ 10% margin	Final rounded sample size of producer households
Nord	38,743	380	38	425
Nord-Est	37,189	380	38	425
Centre	34,949	380	38	425
Sud	48,975	381	38	425
Total	159,856	1,512		1,700

This sample size is also above the “rule of thumb” minimum acceptable sample size of n=384 for a population above 5,000 with a 5% margin of error. Since it is highly likely based on information in the Agricultural Census that the population of livestock producers in each department is above 5,000, this rule of thumb sample size provides additional assurance that the selected sample size is sufficiently large for the purposes of this study.

3.3.2 SAMPLING STAGES

Four stages of sampling were used to allocate the total sample to different strata. In the first stage, a sample of the 34 PARE target communes listed in Table 0 was selected. To maximize time and efficiency and with respect to budget, 16 was selected as the number of communes and was considered a reasonable sample of communes as it represents half (50%) of the universe of 34 communes. The sample of 16 communes was then allocated across the 4 departments. This allocation was proportional to the population of livestock in PARE communes in each department, using animal population data from the MARNDR 2009 Agricultural Census⁸. The resulting allocation of communes is illustrated below in Table 2. Finally, the communes themselves were selected. This selection was purposive based on the importance of livestock to the commune, using population data from the MARNDR 2009 Agricultural Census on proportion of livestock and expert knowledge of the PARE team.

⁸ Ministère de l’agriculture des ressources naturelles et du développement rural (MARNDR). *Synthèse nationale des résultats du recensement général de l’agriculture (RGA)*, 2009. Annex 1 : Exploitants et exploitations agricoles, Tableau 11.2 : Nombre total d’exploitations, répartition des exploitations par commune et selon l’activité principale de l’exploitant (in each respective district report)

Next, the sample was allocated to the first stage cluster, defined here as enumeration areas, or Sections d'Enumération (SDEs). As there is no reliable sampling base on producer households in communal sections concerned by the survey, the General Population and Housing Census (RGPH), 2003⁹ with a partial update in 2011 was used as the sampling frame and the census EAs were used as the primary sampling unit.

A standard of 17 households per SDE was set for all SDEs to simplify the sampling strategy to enable easier fieldwork management and thus higher quality data. Given that the number of household interviews allocated to each department was 425, the number of SDEs per department was established as 25 ($425/17 = 25$) for a total of 100 SDEs.

The 25 SDEs per department were allocated to each selected commune based on proportion of livestock amongst selected communes in the department. Before this allocation, SDEs that were identified as urban were removed from the universe of SDEs. Table 2 illustrates the final distribution. SDEs were then randomly selected from each commune.

Finally, households were defined as the secondary sampling unit. Households were selected using the random walk method. In the final stage, respondents were selected from within households, using the criteria described above in *Section 3.1.2 Study Population*.

Table 2. Allocation of sample

Department	Selected Communes	# SDEs allocated	Total # household interviews allocated
Nord	Acul du Nord	9	153
	Limonade	5	85
	Pignon	6	102
	Saint-Raphaël	5	85
	TOTAL	25	425
Nord Est	Fort-Liberté	5	85
	Ounaminthe	9	153
	Terrier-Rouge	8	136
	Vallières	3	51
	TOTAL	25	425
	Cerca Carvajal	2	34
	Cerca la Source	8	136
	Hinche	15	255

⁹ <https://microdata.worldbank.org/index.php/catalog/1626/related-materials>

	TOTAL	25	425
Sud	Camp-Perrin	5	85
	Chantal	7	119
	Chardonnières	4	68
	Saint-Jean du Sud	4	68
	Torbeck	5	85
	TOTAL	25	425
TOTAL	16	100	1700

3.3.3 SAMPLING FOR QUALITATIVE FGDs AND KIIs

The qualitative FGDs and KIIs utilized purposive sampling to ensure that a wide range of relevant stakeholders and perspectives are included. 48 FGDs with producers, 45 KIIs with community leaders and 20 KIIs with other stakeholders were allocated. Producers were recruited for FGDs from the same areas as the quantitative household survey. The data collection team convened three FGDs per commune, including one with a general group of producers, one with women producers and one with youth producers, for a total of 48. Producers were purposively selected to represent a range of livestock value chains and size of production. Community leaders for KIIs were also purposively selected from the target population. This sample of 45 was distributed across each commune in each department. Other stakeholders in the livestock value chain were distributed evenly across each of the four departments for a total of 20.

3.4 Data Collection Tools

3.4.1 PRODUCER HOUSEHOLD SURVEY

The quantitative Producer Household Survey Questionnaire was developed by the PARE MEL team based on the relevant PARE Indicators for the baseline as well as technical consultations and a desk review of relevant literature. The questionnaire includes all required data points for PARE indicators measured in the Producer Baseline.

The questionnaire included 14 separate modules, though respondents only received the relevant livestock production module for the livestock their household raises. Table 3 below illustrates the questionnaire topics and lines of questioning. Where possible, questions include don't know and refuse options to minimize non-response and improve data quality. The questionnaire was translated from English to Haitian Creole by the AGIRED team. It was then programmed into Kobo Collect by the AGIRED team and tested for quality by AGIRED and the PARE MEL team. The full questionnaire can be found in *Annex 4 Data Collection Tools*.

Table 3. Lines of questioning in quantitative questionnaire

Topic	Lines of questioning
Demographics	Respondent Demographics
	Household Demographics
Livestock production and sales (one section for each value chain, with goats and sheep combined)	Production and yield of animals
	Sales and income of livestock
	Production and sales of animal product (milk/eggs)
	Livestock rearing practices
Shocks and Stresses	Exposure to shocks
	Severity of shocks
	Coping strategies
Assets and Access	Asset ownership
	Access to infrastructure, services & markets
	Access to financial Resources
Household income and Investment	Income
	Investment

3.4.2 DISCUSSION GUIDES FOR QUALITATIVE FIELDWORK

Discussion Guides for qualitative fieldwork were developed based on the quantitative questionnaire as well as the desk review of relevant literature and technical consultations. Different discussion guides were created for each type of FGD and KII. The goal of the qualitative research was to deepen PARE's understanding of key issues by providing additional nuance and complexity through non-numeric data. Qualitative guides have been created with this goal in mind and focus on questions of “why” and “how”. Discussion guides can be found in *Annex 4 Data Collection Tools*.

3.5 Data Collection

3.5.1 DATA COLLECTION TEAM

Data collection was carried out by AGIRED and included a team of two regional coordinators, four supervisors and 34 local enumerators. Two regional enumerator trainings (one in the north and one in the south) were conducted for three days each, followed by a one-day pilot and debrief. Training focused on the survey methodology, a detailed review of the survey instrument, and best practices in ensuring high-quality data collection. The PARE MEL Manager attended the trainings and the initial days of data collection.

Data collection was conducted face-to-face in Haitian Creole by AGIRED's team of trained enumerators using tablets for computer-assisted personal interviews (CAPI). Each tablet was programmed with the survey collection software Kobo Collect. The PARE MEL Manager provided remote daily oversight of fieldwork.

Selected communal sections were informed one week in advance about the objectives of the survey and the sampling methodology. An official letter was sent to the local guides to disseminate information with households and facilitate the penetration of the field team. 12 SDEs (12% of total sample of SDEs) were replaced due to security issues, lack of households in the SDE, or difficulty in traveling to location. Replacement was done using a rigorous replacement protocol to ensure that replaced SDEs were randomly selected.

3.5.2 DATA COLLECTION TIMING

The fieldwork activities were conducted from April 24th to July 14th, 2023. The questionnaire asked respondents to recall values for the previous year, from April 2022 to April 2023.

3.5.3 FINAL SAMPLE ACHIEVED

AGIRED completed 2,112 total interviews, which were all reviewed by the fieldwork coordinators and AGIRED statistician. Of those, 548 were rejected for reasons of non-compliance such as the inconsistency of the information provided by respondent, and 1,683 (80%) were accepted. The final sample distribution is illustrated in Table 4.

The PARE team conducted a t-test to determine whether the planned sample distribution differs significantly from achieved sample distribution. The t-test determined that there is no statistically significant difference. Therefore, the sample was not weighted.

Table 4. Final sample achieved compared to planned sample

Department	Selected Communes	Planned Sample		Achieved Sample	
		# SDEs	Total # household interviews	# SDEs	Total # household interviews
Nord	Acul du Nord	9	153	9	151
	Limonade	5	85	5	84
	Pignon	6	102	6	98
	Saint-Raphaël	5	85	5	85
	TOTAL	25	425	25	418
Nord Est	Fort-Liberté	5	85	5	83
	Ounaminthe	9	153	9	151
	Terrier-Rouge	8	136	8	136
	Vallières	3	51	3	47
	TOTAL	25	425	25	417

Centre	Hinche	15	255	15	255
	Cerca Carvajal	2	34	2	34
	Cerca la Source	8	136	8	135
	TOTAL	25	425	25	424
Sud	Camp-Perrin	5	85	5	85
	Chardonnières	4	68	4	68
	Chantal	7	119	7	118
	Saint-Jean du Sud	4	68	4	68
	Torbeck	5	85	5	85
	TOTAL	25	425	25	356
TOTAL		100	1700	100	1683

3.6 Data Analysis

3.6.1 QUANTITATIVE DATA ANALYSIS

The PARE MEL team used descriptive statistics such as counts, proportions, and means to look for common trends and patterns in the data. To the extent possible, PARE disaggregated these descriptive statistics to reveal differences across project geography and type of livestock value chain (gender and age of producers is considered in the accompanying GYI Analysis report). Quantitative analysis was performed in Excel, STATA and Python. To support the quantitative analysis, qualitative methods were used to provide insights into connections between different practices being used and desired outcomes such as yield and sales. Finally, baseline values of relevant project indicators were calculated and disaggregated as required in the Project Monitoring and Evaluation Plan (PMELP).

A thorough data cleaning process was conducted that checked data for a range of issues including data completeness, validity and consistency. During the cleaning process, four data issues were identified, and a protocol was developed to address these issues.

- (1) During the data cleaning and analysis process, an outlier analysis was performed on all numeric variables. A floor and ceiling of 3 times the interquartile range was established to identify extreme outliers. Outliers were removed, except for cases where the variable was required in a calculation and missing values needed to be filled in. In these cases, outliers were replaced with the average of the variable after outliers were removed. which were removed.
- (2) Respondents were asked to identify the average price received for a single unit of different agricultural commodities sold including cattle, milk, goats/sheep, poultry and eggs. Analysis determined that in many instances respondents erroneously multiplied the price of a single unit sold by the total quantity sold. This miscalculation was not applied consistently. To rectify this issue, the MEL team first examined producers who sold only one unit of the commodity and identified this group as responding with reliable data. For this group, the normal outlier check was executed and imputed any extreme outliers with the average value. This was necessary (as opposed to removing) as price data is required for the calculation of annual sales. For producers who sold more than one unit of the commodity, PARE divided the price reported by the number of units to

calculate the price of one unit. The team then compared this to the outlier range determined for the group who sold only one unit. For any prices that remained outside of the floor and ceiling determined for those who sold one unit, PARE imputed with the average price of the producers who sold only one unit.

- (3) To calculate milk production, respondents were asked to report on the total lactation period of their cows in milk over the past year in terms of number of days. An inspection of this variable revealed that some producers did not adequately understand the question about lactation days and provided unreliable and impossible responses. The PARE team implemented a data protocol to identify these unreliable responses and replace them with a standardized lactation period of 6 months (180 days) within the year. This standardized lactation period is based on expert advisement and data from the FAO STAT 2020.¹⁰
- (4) In the yield calculation for goat and sheep, a translation error in the question item that asked about gifting/trading of goats and sheep led producers to mistakenly understand it as sales. Thus, they double counted this offtake activity, leading to an artificially high yield. This was rectified by removing the gifting/trading activity from the yield calculation. Based on the low rate of gifting/trading of other livestock value chains and follow up questioning of the field team, it is assumed that this activity was very low and that the resulting corrected yield is accurate.

3.6.2 QUALITATIVE DATA ANALYSIS

Qualitative data analysis identified and substantiated critical themes and issues that emerged during quantitative data collection. To analyze the qualitative data efficiently, impartially, and consistently, the PARE MEL team used a structured summary form of the FGDs KIs and identified key themes and mapped them to the evaluation questions. Emerging qualitative results were synthesized using pattern analysis methods that identified themes in responses. Where relevant, PARE differentiated results by value-chain type, as well as by respondents' gender and location.

3.7 Challenges Faced and Limitations

The sampling size calculation was based on the 2009 MARNDR Agricultural Census. As noted above, this census is outdated and the definition of the target population is based on agricultural households, so assumptions were made in terms of extrapolating agricultural households to livestock producing households. In addition, the sampling design utilized the 2003 General Population Census and accompanying SDEs as the sampling frame, though this was updated in 2011. This sampling frame also focused on the general population, not specifically the agricultural population. These considerations affect the overall quality of the sampling design and its associated bias.

Data collection coincided with the rainy season as well as the beginning of the hurricane season. In addition, the sample included many rural and hard-to-access areas. Heavy rain and flooding in early June 2023 affected enumerators' ability to travel and delayed fieldwork by a week and a half. In addition, fuel scarcity further slowed down the anticipated fieldwork timeline. Due to the current political crisis and gang activity in Haiti, respondents in many rural areas had increased suspicion of outsiders. Field teams worked with local guides to help overcome this issue.

Most of the data collected for the farmer household survey are self-reported. Limitations of self-reported data include the potential for exaggeration or omission of information; inaccurate recall; the potential for respondents to give responses they perceive as desirable, expected, or acceptable; reporting of untruthful information; and reduced validity if respondents do not fully understand a question. Enumerators were

¹⁰ FAO Stat 2020. <https://www.fao.org/faostat/en/#home>

trained in techniques to help mitigate these types of measurement bias. Where possible, enumerators observed the environment of the livestock farming, to improve data quality.

The reliability of self-reported data is particularly challenging for questions related to livestock yield. This issue was discussed with AGIRED prior to the start of fieldwork, and several steps were taken to minimize the effect of errors associated with self-reported estimates. One particular area that was identified was respondents' inability to report on the average weight of each different type and gender of their livestock, which is required to calculate the yield indicator. To mitigate this issue, AGIRED conducted a separate data collection exercise in markets local to the data collection, whereby they weighed and measured the different types and genders of livestock. AGIRED collected 470 observations of animal weight. The average of each type of livestock was used to calculate yield.

IV. FINDINGS

This section presents the main quantitative and qualitative findings from cattle, goat/sheep, and poultry producers in the sampled communes across the four departments of the USAID Haiti RFZs.

This section is structured as follows: first, an overview of the socio-demographic makeup of the sample provides a context for findings. Then, the production, sales and management practices in each livestock value chain (cattle, goats and sheep, and poultry) are described, followed by a final summary of livestock production. Next, the broader market dynamics that affect livestock producers are examined in terms of access to inputs, services, financial resources and information. Finally, household resilience is examined through the lenses of exposure to shocks and stressors, coping strategies and resilience capacities, asset ownership and investment and income. Data is disaggregated by department and, where relevant, by livestock value chain, to better understand trends across geography and type of livestock. The gender and age dynamics of livestock production is investigated in detail in the accompanying Gender and Youth Inclusion (GYI) Analysis. This report concludes with a summary of findings, learnings, and recommendations for future phases of the evaluation.

Benchmarking key baseline variables, especially for production and sales, against other published data can yield important insights into the situation of livestock producers in Haiti and further refine PARE targets for project indicators. The PARE team conducted a literature review, including a search of published data from NGOs, government programs and other organizations working in the livestock sector, to find relevant and current benchmarking data and this is included where possible. However, there is a dearth of current secondary references and data on smallholder livestock producers in Haiti. This baseline assessment can start to fill that gap.

As described above in *Section 3.4.2 Data Collection Timing*, respondents were asked to recall their previous year and values throughout the report refer to the time period of April 2022 to April 2023. All monetary values are in USD using the following exchange rate: 1 USD = 140 HTG.¹¹

4.1 Overview of Sample

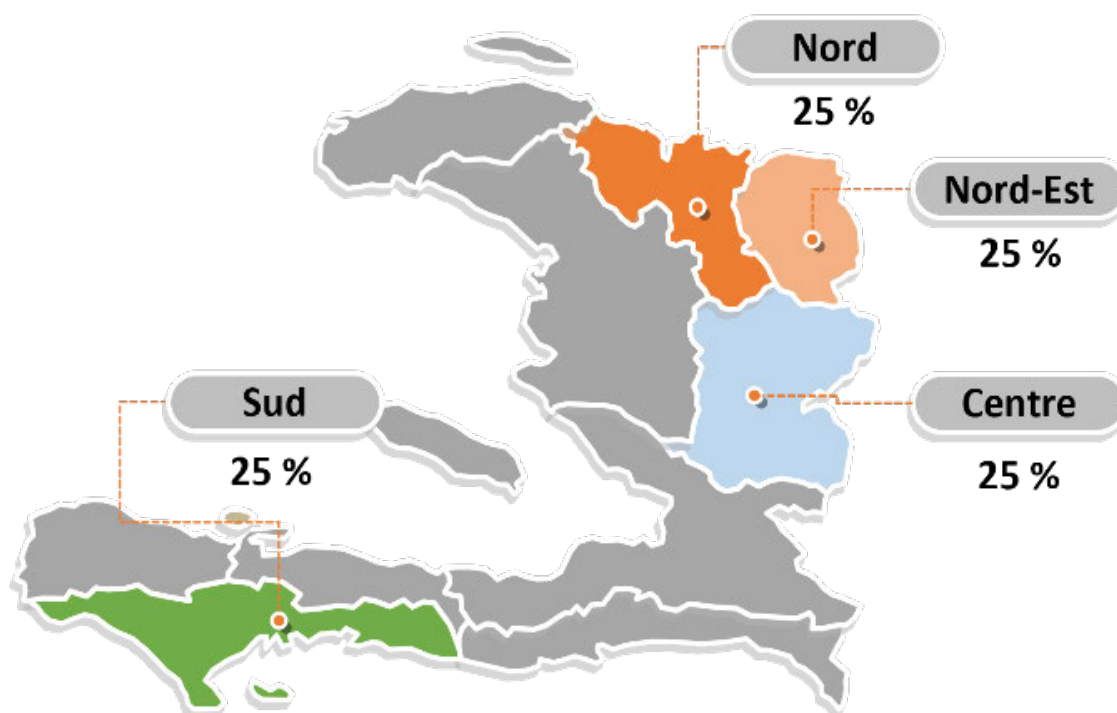
This section describes the socio-demographic characteristics of the sampled population for all households, disaggregating by department and livestock value chain where relevant.

4.1.1 GEOGRAPHIC DISTRIBUTION

¹¹ <https://www.xe.com/currencyconverter/convert/?Amount=1&From=USD&To=HTG>

As discussed in *Section 3.2 Sampling Design*, the sample was allocated equally among the four departments of the USAID RFZs, with three departments (Nord, Nord Est and Centre) in the Northern RFZ and one department (Sud) in the Southern RFZ, to better enable cross-department comparison (see Figure 2).

Figure 2. Distribution of sample by department



4.1.2 SOCIO-DEMOGRAPHIC CHARACTERISTICS BY DEPARTMENT

As detailed in *Section 3.2 Sampling Design*, the sampling unit for the study was producer households, but the respondent group was selected based on their designation as the person most knowledgeable about the production of livestock in their households. Some questionnaire items used the respondent producer as the unit of analysis and asked about their individual experiences. Other items collected data on household-level variables, for which the producer responded on behalf of the household. This approach allows this analysis to examine sex and age through a number of lenses, both at the individual level and the household level.

Table 5 presents information, by department, on the demographics of the respondents as well as the family structure and education of households in the study sample. Almost half (44%) of the respondents were female producers, though their participation in different livestock value chains differed as described below in Table 5. This is aligned with findings from the 2022 USAID/Haiti Gender Analysis Report which notes that women participate in all aspects of farming on their homesteads and their management of livestock is likely much higher than the 38% reported in official data.¹² There was a higher proportion of female respondents in Centre, at 54%, likely due to the higher proportion of goat/sheep and poultry producers which are traditionally more female-dominated, sampled in that department as shown below in Figure 3. 14% of the sample included youth producers, defined as those under the age of 30 (and also over the age

¹² Banyan Global. 2022. *USAID/Haiti Economic Growth and Agricultural Development: Gender Analysis Report*.

of 18, the minimum age included in the study). A deeper look into the dynamics of gender and age in the livestock sector is included in the associated GYI Analysis.

Households averaged approximately five or six people across all regions. About a third, 34%, of all households, had a female head of household. In terms of educational attainment, almost one third (30%) of heads of households have no formal schooling. Only 23% have been educated beyond the primary school level.

Table 5. Socio-demographic characteristics of sample by department

Demographic Characteristics	Total Sample	Nord	Nord Est	Centre	Sud
<i>n</i>	1683	418	417	424	424
Respondent demographics					
% of female respondents	44%	42%	40%	54%	40%
Average age of respondent	47	47	48	46	46
% of youth (18 – 29) respondents	14%	12%	12%	17%	16%
Family structure					
Average # of household members	5.7	5.5	5.3	6.2	5.9
% of households with a female head of household	34%	28%	29%	46%	31%
Education of head of household					
No school/cannot read or write	30%	31%	26%	36%	27%
Primary	47%	47%	47%	49%	44%
Secondary	20%	19%	23%	12%	24%
University, vocational or technical degree	3%	2%	4%	2%	5%

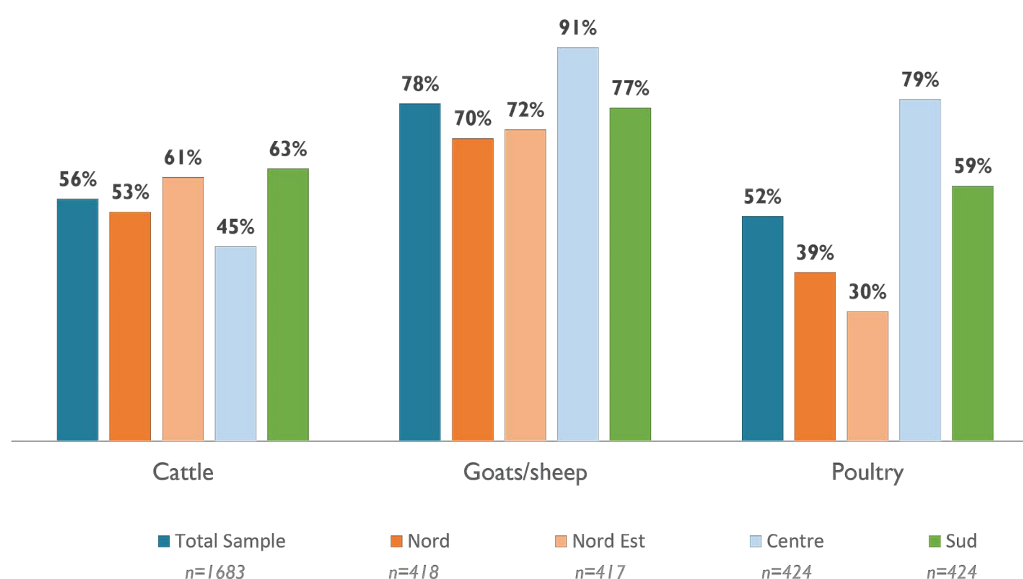
4.1.3 LIVESTOCK VALUE CHAINS

Households were eligible for the survey if they were involved in at least one of the three target value chains of PARE in the past year: cattle (for either beef or dairy), goats/sheep, or poultry. Goats and sheep were considered as a single livestock value chain due to the similarities in management. Poultry production included not only chickens for eggs or meat, but other birds including pigeons, guinea fowl or turkey. Further discussion on the characteristics of producer households and herds across each livestock value chain is below.

As described in *Section 3.2 Sampling Design*, sample locations considered the incidence of livestock production to ensure that the survey adequately represented livestock producers across the three target value chains, but quotas were not implemented for particular value chains. Most rural households in Haiti

practice some form of traditional small-scale livestock production¹³ and the baseline data thus represents the natural occurrence of household livestock production in the sampled areas of those who practice some form of livestock production. As detailed in Figure 3 below, the majority of households in the baseline sample (78%) keep goats/sheep, followed by cattle (56%) and poultry (52%). This distribution is heavily influenced by geographic region, with cattle production most likely to occur in Nord Est and Sud, and goats/sheep in Centre and Sud and poultry in Centre.

Figure 3. Distribution of sample by target livestock value by department



On average, respondent households in the sample reared two of the three target value chains. About a third (35%) of households engaged in just one of the target value chains, 45% engaged in two and 20% engaged in all three. Table 6 illustrates the mix of livestock production amongst sampled producer households. It is common practice for rural Haitian households to practice a combination of livestock production, to diversify their income sources and reduce risk. Goats and sheep are most likely raised in addition to poultry or cattle. Households are least likely to produce poultry alone, but most likely to produce poultry in combination with goats/sheep.

Interestingly, despite Sud having a large proportion of cattle producers overall, as seen above in Figure 3, cattle-only production is concentrated in Nord and Nord Est. Households in Centre are more likely to rear all three of the target livestock chains than households in other departments.

¹³ Socio-Digital Research Group. 2018. *Baseline, Value Chains, and NOTAB Information Network*.

Table 6. Distribution of target livestock value chain by department*

Demographic Characteristics	Total Sample	Nord	Nord Est	Centre	Sud
Households engaged in <i>only cattle</i> production	12%	19%	18%	1%	8%
Households engaged in <i>only goat/sheep</i> production	17%	22%	24%	11%	11%
Households engaged in <i>only poultry</i> production	6%	8%	5%	5%	7%
Households engaged in <i>both cattle and goat/sheep</i> production	19%	19%	27%	9%	22%
Households engaged in <i>both cattle and poultry</i> production	4%	2%	5%	3%	8%
Households engaged in <i>both goat/sheep and poultry</i> production	21%	17%	10%	39%	19%
Households engaged in production of <i>all 3 livestock</i>	20%	12%	12%	32%	25%
<i>n</i> ¹	1683	418	417	424	424

¹Sample n is the unweighted count of all households that responded to this item in the survey.

*There was a significant difference between departments at the 0.05 level using a chi-square test

The type of livestock production is determined by a number of factors, including region, household income, and gender of producer.¹⁴ As Table 7 illustrates, the livestock value chains that households rear are highly related to the gender of producers. Women are involved in managing all of the target livestock value chains, though their participation differs across type of livestock. As the 2022 USAID/Haiti Gender Analysis Report notes, women are progressively becoming more involved in livestock production, even of cattle, than in years past.

Women are least likely to manage cattle, with 11% female-only management, though when combined with their joint management by men, 36% of households have some female participation in cattle management. A slightly higher percentage of households (14%) have female-only ownership and 34% of households have cattle that are partially or jointly owned by women.

Women are more involved in the goat/sheep value chain, with 42% of households owned entirely or partially by women (compared to 36% for cattle) and also 42% managed entirely or partially by women (compared to 34% for cattle). Of the households with female-only ownership of goats/sheep, the majority (74%) is also managed by women only, with only 3% managed by men and the remainder (21%) managed by both men and women together.

Women are most involved in the management of poultry, with 37% of households' poultry being managed by women alone and 60% of households involving either women alone or with women and men. Poultry has the most gender equitable ownership as the birds in 59% of poultry-producing households are owned

¹⁴ Banyan Global. 2022. *USAID/Haiti Economic Growth and Agricultural Development: Gender Analysis Report*.

entirely or partially by women., compared to 34% for cattle and 42% of goats/sheep. Further details on the gendered aspects of ownership and management can be found in the accompanying GYI analysis.

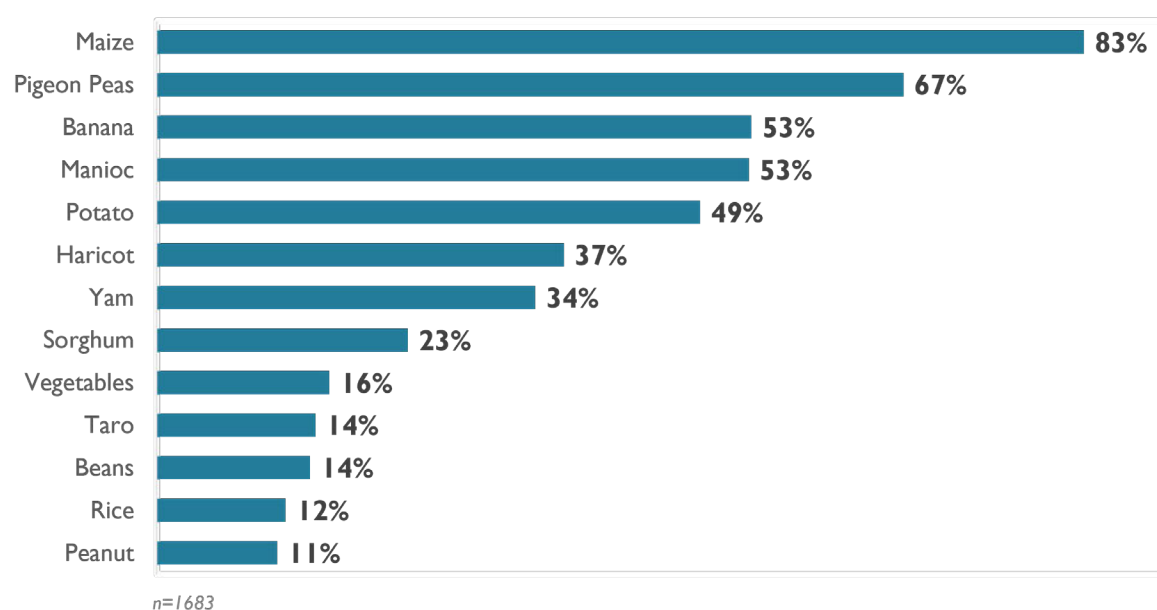
Table 7. Livestock value chain by sex

Livestock value chain	Female only	Male only	Both male and female	Outside of household	n
Management of livestock					
Cattle	11%	62%	25%	2%	938
Goats/sheep	23%	55%	19%	1%	1309
Poultry	37%	39%	23%	0%	876
Ownership of livestock					
Cattle	14%	56%	20%	9%	938
Goats/sheep	27%	52%	15%	4%	1309
Poultry	38%	40%	21%	0%	876

4.1.4 OTHER AGRICULTURAL ACTIVITIES

Livestock production in Haiti is most commonly done alongside crop cultivation. Of the livestock producers in this study, 92% also produce crops. The top crops cultivated are maize (83%) and pigeon peas (67%), as shown in Figure 4 below.

Figure 4. Crop cultivation



4.2 Overview of Cattle Producers and Their Herds

This section discusses the characteristics of cattle producers included in the sample, including those that produce solely cattle as well as a combination of cattle and another type of livestock. Cattle producers comprise 56% of the total sample population of this baseline study. This section will first examine cattle herd composition and management practices, which provide valuable baseline data that enable PARE to improve the equitable adoption of productivity-enhancing management practices, an important component

of *Objective 1: Improve productivity of the livestock sector in the Resilience Focus Zone* of the PARE Results Framework. This section then analyzes the current production and sale of beef and cow milk, which will support PARE in improving the sale of safe, hygienic livestock products under *Objective 3: Improve marketing and private sector engagement in the sector*.

4.2.1 CURRENT CATTLE HERD COMPOSITION AND SIZE

As illustrated in Table 8, cattle producers maintained an average current herd size of 2.5, which aligns with the national statistics on livestock which estimate the average herd size of a Haitian farmer at 2 cattle¹⁵.

Herd sizes ranged across departments, with producers in Nord Est keeping the largest herds at almost 4 cattle and those in Sud with the smallest herds at 1.8. In addition, households that produce cattle only had larger average herd sizes than those who also raised other types of livestock.

Table 8. Total average herd size of cattle

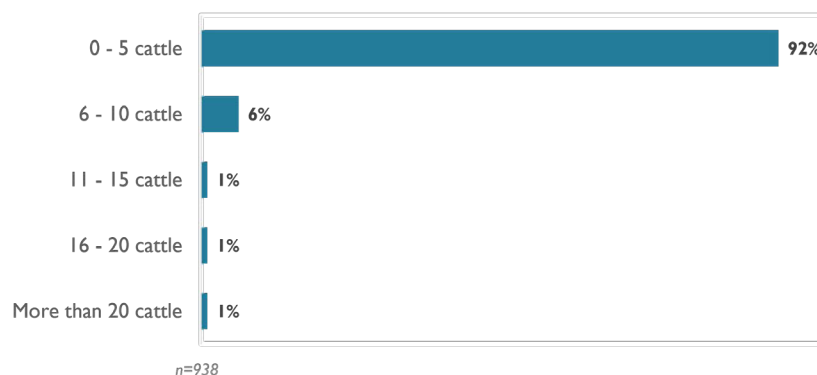
By department					
	Total Sample	Nord	Nord Est	Centre	Sud
Total average herd size	2.5	2.4	3.6	2.0	1.8
<i>n</i>	938	221	256	192	269
By livestock value chain					
	Total Sample	Cattle only	Cattle + goats/ sheep	Cattle + poultry	All livestock value chains
Total average herd size	2.5	3.1	2.5	2.0	2.2
<i>n</i>	938	200	323	74	341

Within this average, the majority of producers were clustered into a herd size of under 5 cattle, with a maximum herd size of 50, shown in Figure 5. Using the Feed the Future (FTF) definition of a smallholder farmer¹⁶, almost all (96%) of producers in the sample are considered smallholders, with a few producers operating at a larger scale. In addition, 17% of producers did not currently have any cattle in their herd, as they had sold or slaughtered all of their cattle over the past year. Any differences in distribution across departments follow the trends noted above in Table 8.

¹⁵ Ministère de l'agriculture des ressources. 2010. Programme National de Développement de la Production et Transformation du Lait en Haïti.

¹⁶ From Feed the Future Indicator Handbook: Smallholder producer is one who holds 5 hectares or less of arable land or equivalent units of livestock, i.e., cattle: 10 beef cows; dairy: two milking cows; sheep and goats: five adult ewes/does; camel meat and milk: five camel cows; pigs: two adult sows; chickens: 20 layers and 50 broilers. The farmer does not have to own the land or livestock.

Figure 5. Distribution of cattle herd size



While the data above refers to the number of cattle currently in producers' herds, it does not account for all cattle that left the herd throughout the year in various offtake activities, in the form of loss, sale or slaughter. These offtake activities are discussed in subsequent sections. The total herd size that producers reared over the past year averaged 3.7 cattle, with a range from 1 to 50. .

Household cattle herds were predominantly composed of local breeds. When looking at the composition of the herd, 95% of all cattle are local breeds and 5% are improved. Traditionally, producers tend to prefer local breeds to improved breeds because they are more affordable, can be better adapted to the local environment, and are more familiar with their care and needs.

Table 9 illustrates the percentage of producers who manage improved or local breeds, which mirrors the herd composition percentages above. Almost all (97%) of producers keep some local breeds, while 8% keep improved breeds. 3% kept only improved breeds. The management of different breeds was consistent across departments and livestock combinations, with two exceptions. Producers in Centre and those that raise cattle in addition to poultry were more likely to own improved breeds (13% and 12% respectively).

The higher prevalence of improved breeds in Centre could potentially be driven by the fact that the Centre department is home to more commercial and specialized cattle production and political decisions within the department influence breeding¹⁷.

Table 9. Percentage producers who manage improved and local cattle breeds

	Improved cattle breeds	Local cattle breeds	n
Total Sample	8%	97%	938
By department*			
Nord	7%	96%	221
Nord Est	8%	100%	256
Centre	13%	94%	192
Sud	4%	98%	269

¹⁷ Expert interview with PARE DCOP

By livestock value chain			
Cattle only	7%	98%	200
Cattle + goats/sheep	6%	98%	323
Cattle + poultry	12%	96%	74
All livestock value chains	9%	96%	341

*There was a significant difference between departments at the 0.05 level using a chi-square test

In terms of total herd composition, on average, 41% of herds are cows, 33% are heifers, 19% are bulls and 8% are calves. In terms of the specific makeup of current herds, Table 10 illustrates the average number of each gender of cattle among all cattle producers. Cows are the most common type of cattle, averaging 1.1, followed by heifers 0.8 and bulls at 0.5. A few individual producers also held local castrated bulls/steer (one respondent) and improved calves (four respondents), but these represented less than 1% of the total sample and are not included in the table.

As discussed in more detail below in *Section 4.2.8 Beef Production and Sales* and *Section 4.2.9 Milk Production and Sales*, when considering the purpose of their cattle, 82% of cattle producers raised cattle solely for beef, 1% solely for milk and 17% a combination of both. Thus, we expect to see a mixture of both male and female cattle, with slightly more female cattle as they can produce both milk and meat. In addition, during FGDs with producers, they noted that there is a local preference to keep females, which farmers acknowledge can lead to breeding issues.

"We farmers still prefer to sell males and keep females. As a result, there are too many females and sometimes a shortage of males. There is a high risk of inbreeding because many calves have the same bull as their father." - FGD with producers in Vallières

Producers in Nord Est average a higher number of cows at 1.8, likely due to the higher rate of milk production in that department, discussed in more detail below in *4.2.9 Milk Production and Sales*.

Table 10. Average number of each type of cattle

Disaggregates	Av. # cows	Av. # heifers	Av. # bulls	Av. # calves	Av. Total # cattle	n
Total herd	1.1	0.8	0.5	0.2	2.5	938
By department						
Nord	1.0	0.8	0.5	0.3	2.4	221
Nord Est	1.8	1.0	0.6	0.2	3.6	256
Centre	0.9	0.7	0.3	0.2	2.0	192
Sud	0.6	0.6	0.5	0.1	1.8	269

By livestock value chain						
Cattle only	1.4	0.8	0.6	0.2	3.1	200
Cattle + goats/sheep	1.1	0.8	0.5	0.2	2.5	323
Cattle + poultry	0.8	0.6	0.5	0.2	2.0	74
All livestock value chains	0.9	0.7	0.4	0.2	2.2	341

4.2.2 CATTLE FEEDING AND NUTRITION PRACTICES

Good nutrition management is essential for the health and productivity of smallholder cattle farmers. It can help to ensure that animals have access to adequate and nutritious feed, which can lead to increased milk production, improved weight gain, and better resistance to disease. Good nutrition management can also help to reduce feed costs and improve the environmental impact of livestock production.

The feeding and nutrition practices that producers employ are dependent on the available resources, the climate, and the needs of the animals. As PARE forms partnerships, it aims to promote improved practices in feeding and nutrition. *PARE Indicator # 10: Number of individuals in the agricultural and food system who have applied improved management practices or technologies with USG assistance (FTF EG.3.2-24)* measures the total number of agriculture and food system actors participating a USG-funded activity who have applied improved management practices and/or technologies promoted by the USG anywhere within the agriculture and food system during the reporting year.

Feeding and nutrition comprise one element of this indicator and improved feeding and nutrition practices are noted throughout this section. The full *PARE Indicator #10* and its disaggregates are presented below in *Section 4.5 Summary of Livestock Production and Sales*.

Obtaining a sufficient quantity of feed was cited as a critical constraint for producers – as described below in *Section 4.2.11 Challenges in Cattle Production*, 89% of cattle producers identified access to enough feed as a challenge they faced in rearing cattle, and 53% named it their most pressing challenge. As producers noted in qualitative fieldwork, lack of feed is directly connected to the recurring drought.

“We are experiencing a situation of lack of food for animals, especially during the drought period. But this period becomes longer every year. Even now, in the month of July, food for the animals is scarce. Since December until now, it’s been 7 months. Previously, at this time, the fields would be covered with growing foodstuffs. Now we still have to wait to be able to plant. Those who planted lost everything. Even grass does not grow. Where the rain does not fall and the animals suffer from malnutrition in July.” – FGD with producers in Cerca Cavajal.

As shown in Table 11, producers almost exclusively (88%) fed their cattle through tethering, a system whereby producers tie up their animals and they eat the grass available around them. For many producers, they practice “tethered grazing” whereby they allow the tethered animal to graze a specific area.

“We lead the animals with a rope to graze. Sometimes we plant grass (Napier) and even corn in some cases to feed the animals during the dry season. Sometimes we bring the animals back home where they are fed with crop residues and harvested grass. These are traditional local practices.” – FGD with producers in Chantal

Tethering can restrict cattle’s movement, contributing to overgrazing a limited space while providing limited access to diverse forage, resulting in nutritional deficiencies unless supplemental feed or forage is provided. In FGDs, some producers noted that accidents with tethered cattle, whereby they fall and strangle themselves, is a recurrent issue. At the same time, smallholder producers find advantages to tethering, as

it can be less labor intensive than other methods, can help control reproduction, can help reduce theft – a significant issue facing cattle producers – and can ease conflict over land.¹⁸ In FGDs, cattle producers across multiple communes and departments echoed this sentiment, stating that they prefer the control that tethering offers. They are able to better protect the crops in their area and control their animals' reproduction.

A small group of producers (5% overall) fed their animals in enclosures, a fenced area delineated by posts in which animals are restricted from leaving by either barbed wire or xerophytic plants with thorns.

Like tethering, enclosures give the producer more control over an animal's health and productivity and makes it easier to monitor the cattle, while reducing the risk of accident or other hazard. At the same time, it can be more expensive than other methods, as it requires the initial investment of an enclosure. This practice is counted under feeding for *PARE Indicator # 10: Improved management practices*.

Another small group (4%) allow their cattle to open graze, where they roam freely to eat. This is practiced more commonly during times of drought when forage may not be as available. While this method allows cattle to eat a more natural diet, it is seldom practiced because of the lack of land available for open grazing due to deforestation, erosion from continued grazing, and recent natural disasters¹⁹, as well as heightened risk of theft, accidents and land conflict. In FGDs, producers in some departments, such as Centre, noted that this practice is not allowed and any animals caught will be killed, hence the preference for tethering. In addition, other noted that open grazing comes with a lack of security, so they also avoid it. In addition, the reduction of open grazing has been an objective of recent projects, such as the USAID Reforestation Project²⁰, in order to reduce erosion of land and improve reforestation.

Finally, only a few producers (1%) practice intensive cattle production, wherein cattle are housed, and food is brought directly to them. This practice is counted under feeding for *PARE Indicator #10: Improved management practices*.

In reviewing the disaggregation by department and combination of livestock, it is clear that enclosures and open grazing are utilized more often by producers in Nord Est (17% and 13% respectively) than in other departments. Given the higher availability of land for grazing in this department, this difference is expected.

Cattle-only producers are more likely to practice enclosures (14%) and open grazing (13%) in place of tethering than those who raise other value chains in addition to cattle. Given their larger herd sizes, these producers may invest more heavily in their cattle, since they are not diversified with other livestock.

¹⁸ Chemonics. 2021. *Gender and Resilience: How Inclusive Participation in Cattle Management Strengthens Women's Resilience in Northern Haiti*.

¹⁹ Chemonics. 2021. *Gender and Resilience: How Inclusive Participation in Cattle Management Strengthens Women's Resilience in Northern Haiti*.

²⁰ Ibid

Table 11. Cattle feeding practices

	Tethering	Enclosure	Open grazing	Intensive	Don't know	n
Total Sample	88%	5%	4%	1%	1%	938
By department*						
Nord	98%	1%	1%	0%	0%	221
Nord Est	63%	17%	13%	5%	2%	256
Centre	98%	0%	0%	0%	2%	192
Sud	99%	0%	0%	0%	0%	269
By livestock value chain*						
Cattle only	74%	14%	9%	3%	1%	200
Cattle + goats/sheep	87%	5%	5%	1%	1%	232
Cattle + poultry	97%	0%	0%	0%	0%	74
All livestock value chains	96%	1%	1%	1%	1%	341

*There was a significant difference between departments at the 0.05 level using a chi-square test

*There was a significant difference between livestock value chains at the 0.05 level using a chi-square test

Providing sufficient quantity and quality of nutrition as well as the right mix of nutrients through forage or supplemental feeds is critical to ensure the health and productivity of the cattle. Given the prevalence of the tethering systems employed by the majority of cattle producers in the baseline assessment, it is imperative that producers provide additional nutrition to their cattle through forage or supplemental feeds.

As shown in Table 12, 61% of all cattle producers reported supplying their animals with additional feed including fresh grasses, crop residue and hay. Producers in Centre were least likely to provide additional forage.

Only 1% of producers gave their cattle supplement feed, which came in the form of molasses. Among those who fed their cattle in an enclosure, the rate of giving forage or supplement feed did not differ between those who tethered and those who fed their animals in an enclosure. Among those who openly grazed their cattle, only 44% provided additional nutrition.

As producers explained during FGDs, due to drought, finding enough forage for their cattle became difficult, and they had to travel longer distances. In addition, there was a sharp increase in the price of fodder, which further exacerbated this issue.

“This year (for the dry season), we traveled a much greater distance to find enough to feed our cattle, in addition to the increase in the price of fodder.” – FGD with producers, Limonade.

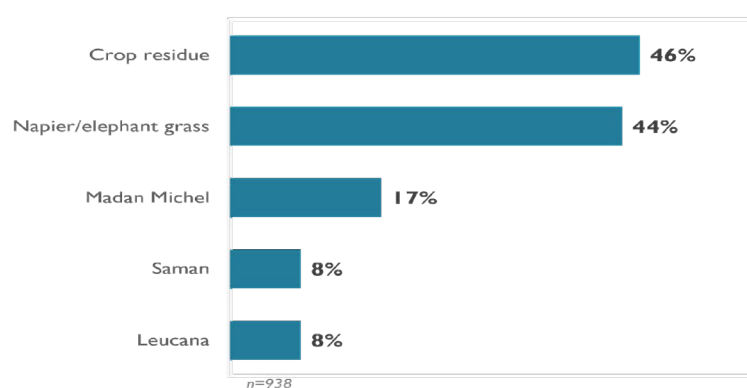
For producers who fed their cattle in an enclosure or through intensive feeding, if they provided additional nutrition to cattle they are counted under nutrition for *PARE Indicator # 10: Improved management practices*.

Table 12. Provided additional nutrition to cattle

	Provided Supplemental feed	Provided forage	Provided any additional nutrition (forage or supplemental feed)	n
Total Sample	1%	61%	61%	938
By department				
Nord	0%	62%	62%	221
Nord Est	1%	61%	61%	256
Centre	0%	44%	44%	192
Sud	1%	73%	73%	269
By livestock value chain				
Cattle only	0%	59%	59%	200
Cattle + goats/sheep	2%	62%	62%	323
Cattle + poultry	0%	70%	70%	74
All livestock value chains	1%	60%	60%	341

Figure 6 presents the top types of forage provided by cattle producers. They relied primarily on crop residues and a variety of fresh forage. The type of fresh forage used differed by department, depending on what is available in each geographic zone. In addition to these most common types of forage, 2% used hay. No producers reported utilizing silage, as this is not a common practice in Haiti except for research or development facilities such as Ferme bonvizyon and the Faculty of Agronomy (FAMV/Damien) experiment with silage. During KII with stakeholders, a respondent from the Departmental Agricultural Directorate (DDA) in Sud remarked that they had heard of a silage experiment in Torbeck and were interested in learning more, indicating that while silages is not currently practiced, there is local interest.

In addition to the forage and supplemental feed 13% of producers gave their cattle leftover kitchen waste.

Figure 6. Top types of forage provided

4.2.3 CATTLE WATERING PRACTICES

Two prolonged drought periods in 2019 and 2021 have had devastating effects on livestock production. In FGDs, cattle producers noted the negative impacts of drought on the availability of water. Additionally, as discussed below in Section 4.8.1 *Shocks and Stressors*, drought is the 3rd most common shock, and its impact was felt to be the most severe among all shocks.

“The sun is falling. There is not much rain. For example, there was a drought of more than 6 months. So there is less grass and the animals cannot find enough water. This sometimes leads to their death.” – FGD with producers, Chardonnières

Producers employed one of two primary techniques for providing water for their cattle – either taking their animals to the nearest water point (74%) or bringing water to their animals (21%), as shown in Table 13 below. Water access was dependent on geography, with 96% of producers in Centre taking their animals to the nearest water point and 41% of producers in Nord bringing water to their animals.

Only 1% of producers had a waterpoint or water tank in their house area. For those who tether or keep their cattle in an enclosure, this is important to ensure that cattle have consistent and adequate access to water without further taxing their energy through travel to water sites.

The amount of water required by cattle varies, depending on age, size, stage of production, milk production and the environment. Table 14 below illustrates the volume of water that cattle consume for producers who are able to bring water to their cattle.

Table 13. Watering techniques for cattle

	Waterpoint/ tank at house area	Bring water to animals	Take animals to nearest water point	Animals go to a water source	n
Total Sample	1%	21%	74%	4%	938
By department*					
Nord	0%	41%	58%	0%	221
Nord Est	1%	30%	55%	13%	256
Centre	0%	4%	96%	0%	192
Sud	3%	7%	90%	0%	269
By livestock value chain*					
Cattle only	2%	37%	54%	7%	200
Cattle + goats/sheep	1%	25%	70%	4%	232
Cattle + poultry	1%	5%	92%	1%	74
All livestock value chains	1%	11%	87%	1%	341

*There was a significant difference between departments at the 0.05 level using a chi-square test

*There was a significant difference between livestock value chains at the 0.05 level using a chi-square test

Table 14. Average volume of water consumed daily per cattle

Average volume of water	Of those who bring water to animals
1 to 20 liters	24%
21 to 40 liters	28%
41 to 60 liters	16%
61 to 80 liters	7%
81 to 100 liters	5%
More than 100 liters	20%
<i>n</i>	196

While producers and stakeholders repeatedly cited drought as one of their critical issues during qualitative interviews, only 3% of cattle producers selected access to water as their top challenge. This is likely due to the fact that, during FGDs, producers linked drought to their other top issues, such as lack of sufficient quantity of feed. Thus, access to water remains a critical constraint to cattle production, especially given the lack of producers applying good practices around in this area.

Water provision is another practice that comprises *PARE Indicator # 10: Improved management practices*. If cattle producers have a waterpoint or water tank in their home area, or producers who bring water to their cattle were able to provide more than 20 liters of water daily per cattle, they are counted under water provision in *PARE Indicator #10: Improved management*. More details on the full results of this indicator can be found below in *Section 4.5 Summary of Livestock Production and Sales*.

4.2.4 CATTLE HOUSING PRACTICES

In line with feeding, producers also overwhelmingly (87%) housed their animals through tethering in their yards, as shown in Table 15. As with feeding, producers keep their cattle housed by tether as it is a low-labor method that does not require infrastructure investment. A small fraction of producers (6%) kept their cattle outside in the open, risking theft, which is a major concern discussed below in *Section 4.2.10 Challenges in Cattle Production*.

“We enter our animals in the yard to increase security during the night. The cattle are tethered.” – FGD with producers in Hinche

5% of producers housed their cattle in a fenced-in structure with no roof, which requires some investment in infrastructure and helps deter theft.

Similar disaggregate trends are seen in housing as in feeding, with those in Nord Est more likely to house cattle out in the open (19%) or in a fenced in pen structure with no roof (18%), again likely due in part to higher availability of land for such practices. In addition, cattle-only producers also utilize less tethering in favor of housing outside in the open, as cattle-only producers are the majority of producer types in Nord. Cattle-only producers are more likely to utilize a fenced in structure with no roof (14%) than producers of other combinations of livestock. Again, aligned with feeding, this may be because cattle only producers are more willing to invest in infrastructure for their sole source of livestock.

Table 15. Housing practices for cattle

	Tethered	Outside in open	Fenced in pen structure with no roof	Fenced in field	n
Total Sample	87%	6%	5%	1%	938
By department*					
Nord	96%	1%	0%	1%	221
Nord Est	59%	19%	18%	2%	256
Centre	99%	1%	0%	0%	192
Sud	98%	1%	0%	0%	269
By livestock value chain*					
Cattle only	71%	10%	14%	3%	200
Cattle + goats/sheep	86%	8%	5%	0%	232
Cattle + poultry	95%	5%	0%	0%	74
All livestock value chains	97%	2%	1%	0%	341

*There was a significant difference between departments at the 0.05 level using a chi-square test

*There was a significant difference between livestock value chains at the 0.05 level using a chi-square test

Housing is an additional practice that comprises *PARE Indicator # 10: Improved management practices*. If cattle producers housed their cattle in a fenced in structure, they are counted under water provision in *PARE Indicator #10: Improved management*. More details on the full results of this indicator can be found below in *Section 4.5 Summary of Livestock Production and Sales*.

4.2.5 CATTLE HEALTH MANAGEMENT

Animal health management is a key practice to improve productivity of cattle. Just under half (46%) of cattle producers administered some form of animal health management in the past year to their herd, resulting in more than half not administering any form of medical treatment, as illustrated in Table 16. However, compared to producers of other livestock, cattle producers were more likely to invest in animal health treatments (57%) compared to goat and sheep (8%) or poultry (38%), likely due to the higher value that cattle hold.

Producers in Sud, however, were able to practice health management at a higher rate (65%) than other departments, particularly Centre, where only 13% of producers administered health treatments. Only 35% of producers who raised all three value chains administered health treatments, potentially because they were less specialized.

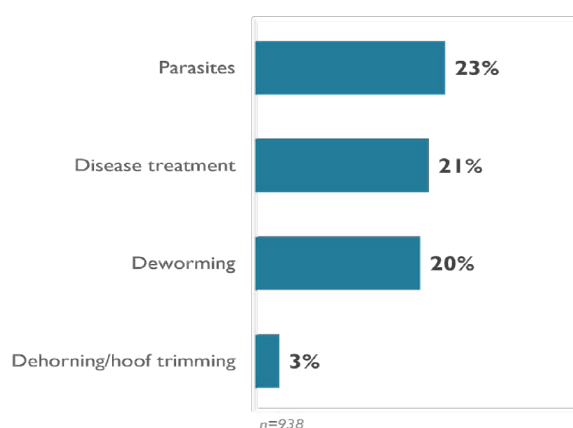
Table 16. Administered animal health treatments to cattle

By department					
	Total Sample	Nord	Nord Est	Centre	Sud
Producers administered animal health treatment to their cattle	46%	51%	46%	13%	65%
<i>n</i>	938	221	256	192	269
By livestock value chain					
	Total Sample	Cattle only	Cattle + goats/ sheep	Cattle + poultry	All livestock value chains
Producers administered animal health treatment to their cattle	46%	53%	52%	53%	35%
<i>n</i>	938	200	323	74	341

Among possible animal health practices, producers primarily treated parasites (23%), treated for disease when necessary (21%) and dewormed their cattle (20%), as shown in Figure 7. In KIIs with local leaders in the community, they noted that beyond the typical diseases that producers face, recent drought had exacerbated the situation.

“Animals weakened by drought are more vulnerable to diseases and parasites. There are more cases of anthrax and viral diseases than before.” - KII with community leader, Nord Est

Figure 7. Type of animal health management treatment given to cattle



Vaccination rates followed a similar pattern, as evidenced in Table 17. Half of producers (52%) gave their cattle a vaccine in the past year, with the highest frequency in Sud and lowest in Centre. The recommended rate of vaccinations such as anthrax is yearly. More discussion on access to animal health services and veterinary medicine and its impact on the provision of vaccines and application of good animal health practices is discussed below in *Section 4.6.4 Access to Animal Health Services and Products*.

Table 17. Provided a vaccine for cattle

By department					
	Total Sample	Nord	Nord Est	Centre	Sud
Gave cattle a vaccine	52%	69%	46%	20%	67%
<i>n</i>	938	221	256	192	269
By livestock value chain					
	Total Sample	Cattle only	Cattle + goats/ sheep	Cattle + poultry	All livestock value chains
Gave cattle a vaccine	52%	59%	54%	54%	46%
<i>n</i>	938	200	323	74	341

Among cattle producers, 65% provided their cattle with either a health treatment or a vaccine and 28% provided both – thus it appears that many producers who invested in their cattle’s health elected to give either a health treatment or a vaccine. Animal health is a practice considered under *PARE Indicator # 10: Improved management practices*. The provision of either any animal health management practice or a vaccination is counted under Animal Health in *PARE Indicator #10: Improved management practices*.

4.2.6 CATTLE BREEDING

Producers relied primarily on intentional breeding with a local bull (67%), with a smaller group practicing intentional breeding with an improved buck (7%), as illustrated in Table 18. No producers reported using artificial insemination for their cattle. Additionally, about a quarter of producers (26%) did not use any breeding practice in the past year, instead relying on natural breeding.

Producers who rely on natural breeding tend to also openly graze their cattle and house them in the open. Accordingly, it can be seen that the highest rate of producers not relying on any intentional breeding practice was in Nord (38%) and amongst cattle only-producers (39%), where the highest rate of open grazing occurs. In fact, amongst only producers who openly graze their cattle, 67% did not use any intentional breeding practice. Intentional breeding with an improved animal or use of artificial insemination are practices counted under *PARE Indicator #10: Improved management practices*.

Table 18. Type of cattle breeding practice used

	Intentional breeding with improved bull	Intentional breeding with local bull	Artificial insemination	No practice used	n
Total Sample	7%	67%	0%	26%	938
By department*					
Nord	4%	57%	0%	38%	221
Nord Est	7%	60%	0%	36%	256
Centre	13%	64%	0%	25%	192
Sud	5%	86%	0%	9%	269
By livestock value chain*					
Cattle only	7%	54%	0%	39%	200
Cattle + goats/sheep	4%	66%	0%	29%	232
Cattle + poultry	9%	74%	0%	19%	74
All livestock value chains	9%	75%	0%	16%	341

*There was a significant difference between departments at the 0.05 level using a chi-square test

*There was a significant difference between livestock value chains at the 0.05 level using a chi-square test

During FGDs, producers noted that they would like to see more services available for breeding, particularly for cattle. To practice any intentional breeding with improved species requires an investment of time and money that many breeders cannot afford.

“Breeders who have improved breed bulls do not live in the town, so you have to travel far with the cow and once you arrive, you have to pay a lot for the crossbreeding.” – FGD with producers in Cerca Cavajal

Producers further explained that there is not enough good breeding stock available for cattle and that some are particularly interested in the Zébu variety. Some producers, especially in Centre where there are more improved breeds, have seen others benefit from improved breeds and they recommended that a distribution project with improved breeds would benefit them greatly.

Even though it is still rare, one can notice results from the introduction of improved breed males. We see animals that are more beautiful and better developed, animals that we did not see 10 years ago. – FGD with producers in Hinche.

4.2.7 CATTLE RECORD KEEPING

Record keeping is an important practice to increase professionalism and improve management of cattle. As shown in Table 19, few producers (11%) currently keep records of their cattle management. Producers in Sud, however, did have a substantially higher rate of record keeping (22%), especially compared to Centre

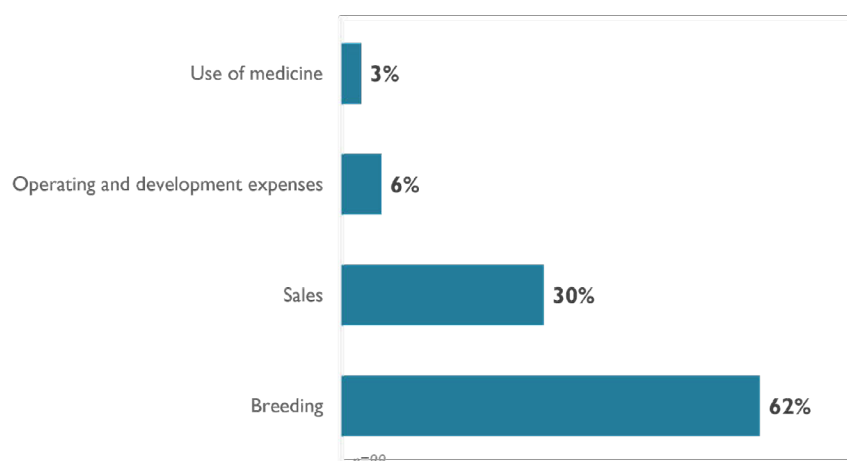
(1%). Combined with the higher application of other animal management practices in Sud, it appears that producers in this department are slightly more professionalized than their counterparts in other departments, though Sud did maintain the smallest herd size. Additionally, Sud has a high proportion of those who keep all three value chains, which also had a low rate of record keeping.

Table 19. Kept records on cattle

By department					
	Total Sample	Nord	Nord Est	Centre	Sud
% of households who kept cattle records	11%	10%	7%	1%	22%
<i>n</i>	938	221	256	192	269
By livestock value chain					
	Total Sample	Cattle only	Cattle + goats/ sheep	Cattle + poultry	All livestock value chains
% of households who kept cattle records	11%	12%	14%	11%	6%
<i>n</i>	938	200	323	74	341

In terms of the type of records kept, listed in Figure 8, of those that kept any records, the most common types of records were for breeding, followed by sales. Few farmers kept records of their expenses (6%), exacerbated by the one-third (27%) of respondents who cannot read or write.

Figure 8. Type of records kept on cattle (of those who kept records)



The keeping of any records is counted in *PARE Indicator #10: Improved management practices*, which is discussed in full below in *Section 4.5 Summary of Livestock Production and Sales*.

4.2.8 BEEF YIELD

Beef herd productivity is expressed as yield. *PARE Indicator #11: Yield of targeted agricultural commodities among program participants with USG assistance (Standard EG.3-10)* measures the yield of beef as well as the yield of the other PARE target agricultural commodities including milk, goat/sheep meat, chicken meat and eggs. The full baseline results of this indicator and its disaggregates are discussed below in *Section 4.5 Summary of Livestock Production and Sales*. Yield is a measure of the **total output of production** of cattle divided by the **total number of units of production**.

The numerator of the yield indicator, **total output of production**, is calculated as the quantity of offtake, which includes the entire weight of all animals that were sold, slaughtered, gifted or exchanged in the past year. Average weights of each type of cattle sourced from a market weighting exercise were applied to each offtake activity, with weights ranging from 117 kilograms to 260 kilograms. Table 20 below illustrates the rate of these offtake activities by producer households. Offtake was primarily driven by sales, with 28% of producers selling any cattle in the past year. Only a few individual producers slaughtered or gifted/traded their cattle in the past year. There was little variation across department or livestock combination. Overall, 28% of cattle producing households engaged in at least one offtake activities, leaving 72% with no offtake activities at all in the past year.

Table 20. Offtake of cattle by activity

Type of offtake	% of producers did this activity in past year
Sold any cattle in the past year	28%
Slaughtered any cattle in the past year	0.4%
Gifted/traded any cattle in the past year	0.3%
Did any offtake activity in the past year	28%
<i>n</i>	938

The denominator of the yield indicator, **total number of units of production** for cattle, is the total number of animals in the herd during the past year. The yield calculation is expressed as kg/herd. Note that the “total number of units in production” reflects not just the animals kept in the current herd, but all of the cattle that the household managed throughout the year. For cattle producers, this averaged 3.7 cattle.

The yield indicator counts all producer households, even if they did not sell, slaughter or gift/trade any animals in the entire year. Yield is expressed as an average across all producer households, so the 72% of households with no offtake activities, who effectively have a yield of 0, are included in this average. One of the goals of PARE is to stimulate greater productivity through increased leverage of livestock herds, and thus PARE hopes to incentivize those who currently don’t offtake their animals to participate in an offtake activity, which would lead to an increased average yield overall.

Table 21 below illustrates the average yield across the total sample, as well as by department and livestock value chain. Of all producer households in the sample, the average yield was 26.5 kg/herd. This represents an average offtake (sold, slaughtered, gifted or exchanged) of 13% of the total cattle in the herd during the past year. The average number of cattle offtaken was 0.5, with an average total kilograms of 109.6 kilograms

of offtake. As shown in Table 20, producers in Sud produced a slightly higher yield at 31.6 kg/herd and those in Centre produced the lowest, at 16.9 kg/herd. Households with only cattle as well as those with cattle and goats/sheep also had higher yields than those that raised poultry too.

When examining just the 28% of producers who participated in any offtake activity in the past year, the average yield is 98.3 kg/herd. This represents an average offtake of 47% of the total herd, with an average of 1.9 animals offtaken and 406.9 kilograms of offtake.

Table 21. Beef yield (kg/herd)

By department					
	Total Sample	Nord	Nord Est	Centre	Sud
Average beef yield	26.5	25.1	29.7	16.9	31.6
<i>n</i>	938	221	256	192	269
By livestock value chain					
	Total Sample	Cattle only	Cattle + goats/sheep	Cattle + poultry	All livestock value chains
Average beef yield	26.5	30.3	30.7	25.6	20.5
<i>n</i>	938	200	323	74	341

4.2.9 CATTLE SALES

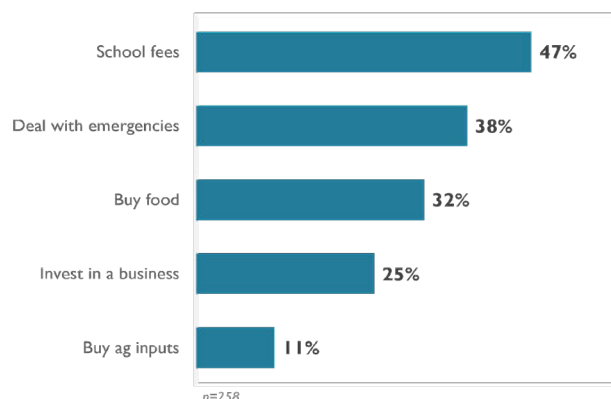
As described above in Table 20, 28% of cattle producing households sold cattle in the past year, with the remaining 72% not selling any of their cattle herd. When considering sales in this past year, it is important to consider the larger social, political and economic context. For example, the recent political instability and road blockages limit access to markets and have created a sense of uncertainty. As noted in the LMSRA, some abattoirs have stopped operations as there is insufficient demand and purchasing power from their customer base in Port au Prince. In addition, cattle are the most stable way for smallholders to manage savings, and the rise in uncertainty may be influencing producers to hold on to their savings for the moment. Producers typically only sell their cattle when they have a large expense or financial challenge.

As detailed in Figure 9, the 28% of producers who sold cattle did so for a number of reasons, including for school fees (47% of those who sold), to deal with emergencies (38% of those who sold) and to buy food (38% of those who sold). Large livestock like cattle has traditionally been used as a form of savings to cope with emergencies or to invest, two uses which producers in this study confirmed in Figure 9 below and in qualitative interviews.

“If you have cattle, it allows you to pay for your children’s education and solve many problems. You can even build a house thanks to livestock.” – FGD with producers in Ounaminthe

However, as extreme or crises conditions normalize, households often shift their livelihoods strategies and begin to use cattle as part of their household's livelihood system, to meet annual expenses like school fees and even, increasingly, to meet household food needs, as seen here.²¹

Figure 9. Reasons for sale of cattle



Of the 28% of producers who sold cattle, they earned an average of \$892 USD in the past year, as demonstrated in Table 22. Amongst the group of all cattle producers, including the 72% with a sales value of \$0 USD, this average was \$243 USD. Sales values were not widely distributed, with only 7% of all cattle producers earning over \$1000 USD from annual sales of beef.

Producers explained during qualitative interviews that the price for cattle in local markets was currently very high. However, there is no system fixing prices and they could fluctuate severely.

“A cattle that sold for a thousand or two thousand gourdes in my father’s time can sell for more than a hundred thousand gourdes today.” – FGD with producers in Cerca Cavajal

Table 22. Annual value of sales of cattle (USD)

By department					
	Total Sample	Nord	Nord Est	Centre	Sud
Average annual sales of cattle (of those that sold cattle)	\$892	\$790	\$1,199	\$615	\$837
<i>n</i>	258	56	75	48	79
Average annual sales (of all cattle producers)	\$243	\$200	\$351	\$150	\$240
<i>n</i>	938	221	256	192	269

²¹ Baro, M. (2002). Food insecurity and livelihood systems in Northwest Haiti. *Journal of political ecology*, 9(1), 1-34.

By livestock value chain					
	Total Sample	Cattle only	Cattle + goats/ Sheep	Cattle + poultry	All livestock value chains
Average annual sales of cattle (of those that sold cattle)	\$892	\$987	\$970	\$905*	\$722
<i>n</i>	258	64	96	17	81
Average annual sales (of all cattle producers)	\$60	\$316	\$285	\$196	\$169
<i>n</i>	258	200	323	74	341

*Low base size

PARE Indicator #15: Value of annual sales of producers and firms receiving USG assistance (Standard EG.3.2-26) measures the value in U.S. dollars of the total amount of sales of products and services by USG-assisted farms and firms during the reporting year. Data from this baseline assessment will inform the targets for this indicator for the portion of sales that comes from producers, from the sale of targeted agricultural commodities including cattle, milk, goats/sheep, poultry and eggs. The full baseline results for this indicator and its disaggregates are discussed below *Section 4.5 Summary of Livestock Production and Sales*.

4.2.10 MILK PRODUCTION AND SALES

Among cattle producers, only 18% produced any milk in the past year, as illustrated in Table 23. 17% of producers produced both meat and dairy and 1% dairy only, to comprise the 18%.

Variation was found in terms of the overall livestock combinations of the household: households that reared only cattle were substantially more likely to produce milk (27%) than those that raised cattle in combination with other target livestock. This was true for those in Nord as well (40%) of whom a large portion are cattle-only breeders.

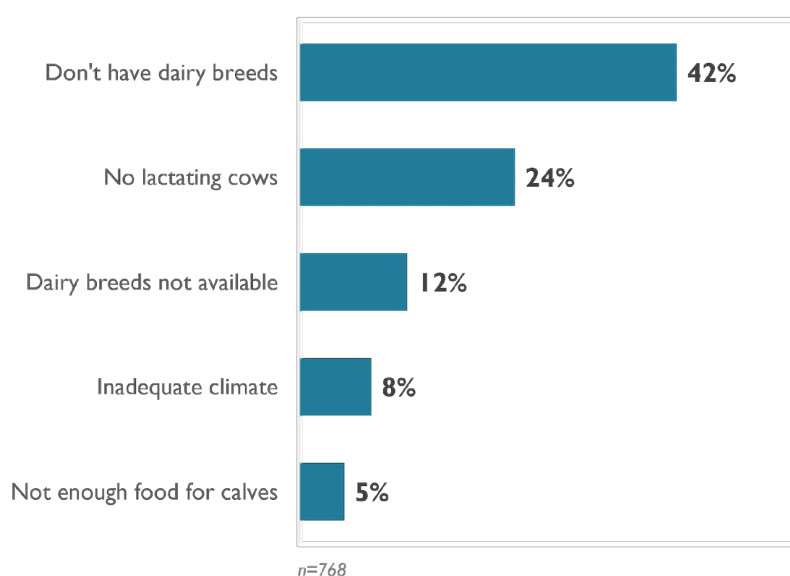
Table 23. Produced cow milk

By department					
	Total Sample	Nord	Nord Est	Centre	Sud
% of households who produced milk	18%	40%	8%	11%	13%
<i>n</i>	938	221	256	192	269

By livestock value chain					
	Total Sample	Cattle only	Cattle + goats/ sheep	Cattle + poultry	All livestock value chains
% of households who produced milk	18%	27%	16%	15%	15%
<i>n</i>	938	200	323	74	341

The reasons for not producing milk varied across producers and departments, as pictured in Figure 10. Choosing not to own any dairy breeds was the most prominent response (42%). General barriers or challenges to producing milk made up the other reasons, including lack of lactating cows (24%) and the unavailability of dairy breeds (12%).

Figure 10. Reasons for not producing cow milk



On average, cattle producers that produced milk had 1.5 cows in milk in their herd. This was consistent across those who bred cattle only and those who bred other livestock value chains as well. Cows produced an average of 3.3 liters of milk per day, slightly more than the amount noted in the 2021 USAID Gender and Resilience study which focused only on Northern Haiti²².

Milk yield is calculated with total output measured in liters of milk produced in the past year divided by the total production, which is the maximum number of producing cows during the past year. Of those who produced milk, the average annual yield of milk was 493 liters/milking cow,²³ as shown below in Table 24.

²² USAID. 2021. Gender and Resilience: *How Inclusive Participation in Cattle Management Strengthens Women's Resilience in Northern Haiti*.

²³ This figure was calculated by multiplying the average liters of milk/day produced per cow by the number of lactation days within the year by the number of cows in milk. During the data cleaning process, it became apparent that some

Milk yield is counted in PARE Indicator #11 Yield of targeted agricultural commodities and discussed below in Section 4.5 Summary of Livestock Production and Sales.

Table 24. Milk yield (liters/milking cows) of those who produced milk

By department					
	Total Sample	Nord	Nord Est	Centre	Sud
Average milk yield (liters/milking cows)	493	522	490*	354*	510
<i>n</i>	167	89	20	22	36
By livestock value chain					
	Total Sample	Cattle only	Cattle + goats/ sheep	Cattle + poultry*	All livestock value chains
Average milk yield (liters/milking cows)	493	546	512	575*	398
<i>n</i>	167	53	53	11	50

*Low base size

Of the 18% of producers who produced milk in the past year, 58% of producers sold some portion of it. When viewed over the whole sample population of cattle producers, this equates to 10% of all cattle producers selling milk. This indicates that not only are few cattle producers also producing dairy, but even fewer are producing milk for sale. This was echoed in FGDs with producers in some areas, who explained that there was little infrastructure and support for milk producers to sell their wares.

“The milk trade is almost non-existent, it is not easy to find it. On the other side, when you have it, it is not always easy to find someone who wants to buy it. We should better organize the milk trade and the storage of milk in good hygienic conditions with refrigeration.” – FGD with producers in Cerca Cavajal

Of the total liters of milk produced in a household (that sold milk), an average of 50% was sold, with the remainder being used for home consumption.

Of those that sold milk in the past year, they earned \$231 USD. Amongst the entire group of cattle producers, households earned an average of \$23 USD from sales of milk, as displayed in Table 25. Despite

producers did not sufficiently understand the question about lactation days and provided unreliable responses. The PARE team implemented a data protocol to identify these unreliable responses and replace them with a standardized lactation period of 6 months (180 days) within the year. This standardized lactation period is based on expert advisement and data from the FAO STAT 2020.

the dearth of cattle producers selling milk, those who did noted during FGDs the high prices that milk can currently fetch.

“The price of milk is very high in the area (250 HTG per gallon). If it could be produced in quantity, it would allow for making a lot of money.” – FGD with producers in Torbeck

Milk sales in Nord Est were particularly low, averaging \$63 USD. This reflects findings from the LMSRA that noted that dairy cooperatives in Nord Est, such as Lèt Agogo near Ouanaminthe are receiving almost no milk from producers due to drought, and that this condition has persisted over the past year.

Sales from milk, as well as other agricultural commodities, contribute to *PARE Indicator #15: Value of annual sales of producers*.

Table 25. Annual value of sales of milk (USD)

By department					
	Total Sample	Nord	Nord Est	Centre	Sud
Average annual sales of milk (of those who sold milk)	\$231	\$286	\$63*	\$156*	\$154*
<i>n</i>	97	65	11	11	10
Average annual sales of milk (of all cattle producers)	\$23	\$82	\$3	\$9	\$6
<i>n</i>	938	221	256	192	269
By livestock value chain					
	Total Sample	Cattle only	Cattle + goats/ sheep	Cattle + poultry	All livestock value chains
Average annual sales of milk (of those who sold milk)	\$231	\$215	\$275	\$158*	\$204
<i>n</i>	97	34	34	6	23
Average annual sales of milk (of all cattle producers)	\$23	\$34	\$29	\$13	\$14
<i>n</i>	938	200	323	74	341

*Low base sizes

4.2.11 CHALLENGES IN CATTLE PRODUCTION

Loss of cattle was an acute challenge faced by farmers in the past year. As illustrated in Table 26, almost a quarter of producers (22%) lost some of their cattle in the past year. This particularly affected Nord Est where 38% of producers lost cattle, compared to Sud where only 9% lost any. Cattle-only producers also lost more cattle than other groups.

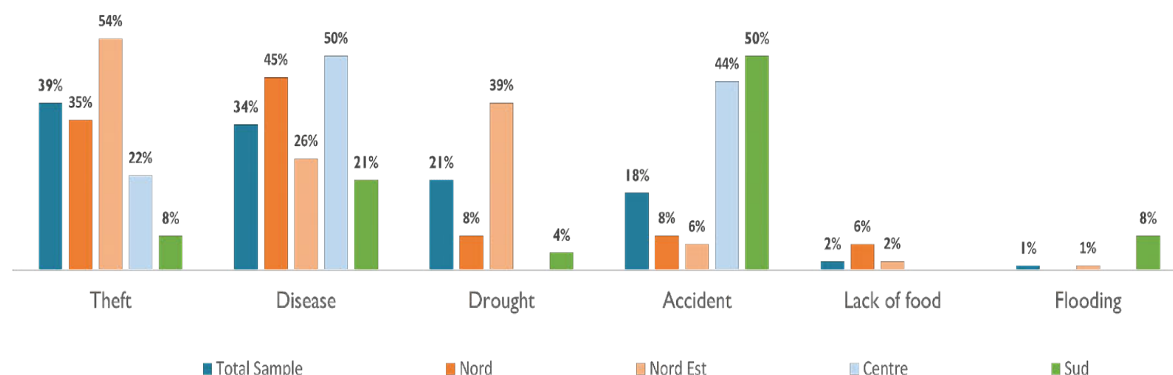
The loss of cattle averaged 13% of the total herd size over the past year. Of those who lost cattle, they lost an average of 2.6 animals.

Table 26. Percentage of cattle producers who lost cattle in the past year

By department					
	Total Sample	Nord	Nord Est	Centre	Sud
% of cattle producers who lost cattle in the past year	22%	23%	38%	17%	9%
<i>n</i>	938	221	256	192	269
By livestock value chain					
	Total Sample	Cattle only	Cattle + goats/ sheep	Cattle + poultry	All livestock value chains
% of cattle producers who lost cattle in the past year	22%	32%	24%	11%	16%
<i>n</i>	938	200	323	74	341

Figure 11 illustrates the underlying causes for loss of cattle in the past year, which span environmental and regional issues. Theft was the driving force behind loss of cattle, with 39% of producers citing this as the reason. Theft was most pronounced in Nord Est at 54% and least pronounced in Sud at 8%. Disease was the next most common reason for loss, particularly affecting producers in Nord Est (45%) and Centre (50%). Drought contributed to 39% of loss in Nord Est, while accidents were a major cause of loss in Centre (44%) and Sud (50%). In FGDs, producers overwhelmingly cited these issues as the most pressing.

Figure 11. Reasons for loss of cattle



When asked what the biggest challenge they faced in rearing cattle, depicted in Figure 12, producers coalesced around a few significant issues primarily related to access to inputs, including obtaining enough feed (45%), access to veterinary services (7%) and drugs (7%), which will be discussed in more detail below in *Section 4.6.4 Access to Animal Health Services and Products*. Accessing finance and capital was also a major issue (8%) which is discussed in *Section 4.7.2 Resilience Capacities*.

In addition, theft was the second highest (11%) challenge mentioned by cattle producers, as well as goat/sheep producers. In qualitative interviews, producers and stakeholders noted that the *Système d'Identification du Bétail (SIB)* was in place and producers could get rings put on their cattle for identification, but that this service cost extra money and time that they were not always able to invest. They also noted that this system did not deter theft and was a pressing issue. Theft was particularly acute in Nord Est (54% compared to an average of 39% elsewhere) likely because of the higher rate of open grazing.

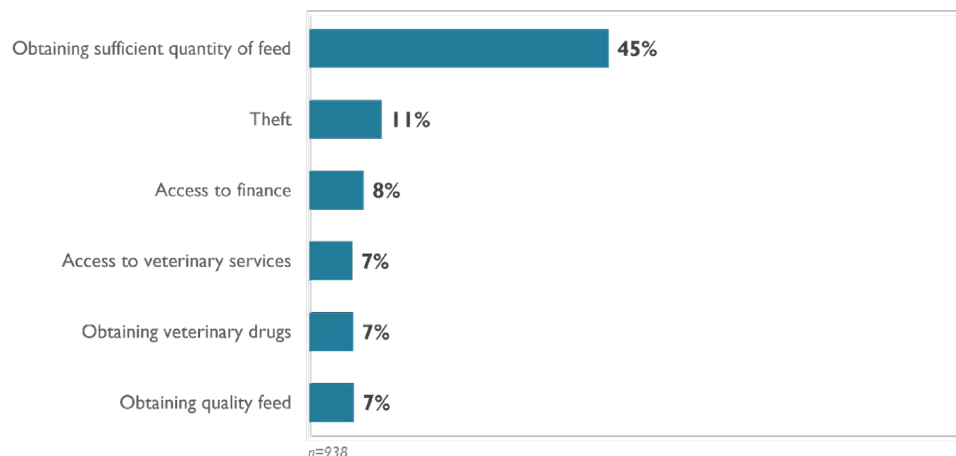
“This problem is almost on par with drought. It really is as if a cyclone had passed through the town. Almost every day you hear that such and such a peasant has lost animals to night thieves.” – FGD with producers in Cerca Cavajal

Producers explained that not only were petty thieves stealing their animals, but some suspect SIB and CASEC agents to also be involved in the theft.

To combat theft, some producers mentioned that they now set up surveillance brigades at night, but these come with their own risks.

“We set up a surveillance brigade to fight against the theft of our cattle. This practice works at a certain level but, taking into account the fact that thieves are sometimes armed with firearms, it is not sufficient to combat this scourge.” – FGD with producers in Limonade

Figure 12. Biggest challenge faced in production of cattle



4.3 Overview of Goat/Sheep Producers and Their Herds

Goat and sheep producers were 78% of the total sample – the largest livestock value chain included in this baseline study. This section discusses the characteristics of goat and sheep producers included in the sample, including those that produce solely goats and sheep as well as a combination of goats/sheep and another type of livestock. Goats and sheep were considered together as a single livestock value chain in the Baseline Assessment due to their similarities as ruminant animals raised for meat with similar feeding habits and environmental requirements.

Following the structure from the section above on cattle producers, this section will first examine goat/sheep herd composition and management practices, then the production and sale of goats/sheep.

4.3.1 CURRENT GOAT/SHEEP HERD COMPOSITION AND SIZE

Of the goat and sheep producers in the baseline, goats are the predominant type of small ruminant – 83% of producers raise goats only, 4% raise sheep only and 13% raise both goats and sheep (see Table 27). Sheep are primarily raised in Sud, where 48% of producers raise both and 16% raise sheep only.

Qualitative interviews revealed departmental trends related to the adoption of goat and sheep farming. In Centre, producers noted that goat farming has increased substantially, especially due to trade with the Dominican Republic. In Sud, goat and sheep rearing has been increasing in recent years as it has expanded in popularity beyond an activity just for youth due to the reduced expenses required compared to cattle.

“Currently goat and sheep farming are more important than cattle. These species were reserved for young people, now everyone is interested in them. They pay for the children’s schooling.” – KII with Community Leader, Saint Jean du Sud

Meanwhile, some producers in Nord and Nord Est noted that sheep have been decreasing, due to diseases as well as their vulnerability to predators like dogs.

Table 27. Goat and sheep production

	Total Sample	Nord	Nord Est	Centre	Sud
Raise goats only	83%	98%	98%	99%	37%
Raise sheep only	4%	1%	0%	0%	16%
Raise both goats and sheep	13%	1%	2%	1%	48%
<i>n</i>	1309	294	302	385	328

As shown in Table 28, amongst the sampled goat/sheep producer households, the average current herd size is 5.1, with producers in Nord Est maintaining larger herds that average 6.7. Current herd sizes ranged from a minimum of 1 to a maximum of 45.

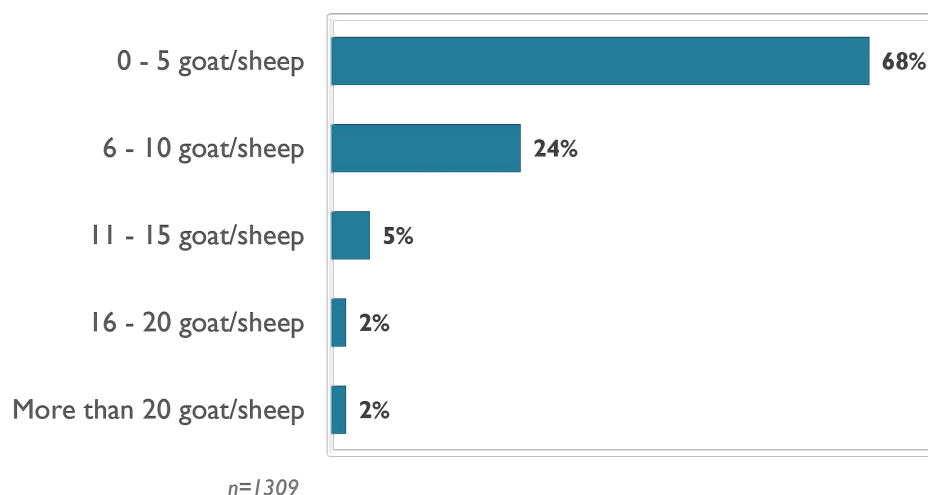
Table 28. Total average goat/sheep herd size

By department					
	Total Sample	Nord	Nord Est	Centre	Sud
Total average herd size	5.1	4.1	6.7	5.0	4.8
<i>n</i>	1309	294	302	385	328
By livestock value chain					
	Total Sample	Goats/sheep only	Goats/sheep + Cattle	Goats/sheep + poultry	All livestock value chains
Total average herd size	5.1	4.7	6.0	4.0	5.9
<i>n</i>	1309	284	323	361	341

Herd sizes are clustered into two groups, as shown in Figure 13, with the majority (68%) of producers managing herds of 5 or fewer, but a quarter (24%) with larger herds of 6-10. There are also a handful of larger producers (9%) with herd sizes up to a maximum of 45. Using the FTF definition of smallholder

farmers²⁴, almost all (93%) of goat/sheep producers in the sample are considered smallholders, with a few producers operating at a larger scale.

Figure 13. Distribution of goat/sheep herd size



While the data above refers to the number of goats and sheep currently in producers' herds, it does not account for all goats and sheep that left the herd throughout the year, in the form of loss, selling or slaughtering. These dynamics are discussed in subsequent sections. The total herd size that goat/sheep producers reared over the past year was 8.1 goats and sheep, which ranged from a minimum of 1 to a maximum of 84.

Like cattle, smallholder producers in Haiti tend to overwhelmingly keep local breeds, for many of the same reasons. Additionally, local breeds of goats are preferred for consumption due to local taste. Household goat and sheep herds were almost exclusively comprised of local breeds, with 97% of all goats/sheep local and the remaining 3% improved.

Table 29 illustrates the percentage of producers who manage improved or local breeds. Almost all producers (99%) have some local breeds in their herds, while a small minority (5%) keep improved breeds. 1% keep only improved breeds.

Production of different goat/sheep types was consistent across departments, with one exception. Producers in Centre were more likely to manage improved breeds (11%) than in other departments. Following the same trend as cattle, specialized breeding is more prevalent in the Centre department and producers there are more likely to acquire improved breeds²⁵.

²⁴ From Feed the Future Indicator Handbook: Smallholder producer is one who holds 5 hectares or less of arable land or equivalent units of livestock, i.e. cattle: 10 beef cows; dairy: two milking cows; sheep and goats: five adult ewes/does; camel meat and milk: five camel cows; pigs: two adult sows; chickens: 20 layers and 50 broilers. The farmer does not have to own the land or livestock.

²⁵ Expert interview with PARE DCOP.

Table 29. Percentage of producers who manage improved and local cattle breeds

	Improved goat/sheep breeds	Local goat/sheep breeds	<i>n</i>
Total Sample	5%	99%	1309
By department			
Nord	3%	99%	294
Nord Est	1%	100%	302
Centre	11%	98%	385
Sud	3%	100%	328
By livestock value chain			
Goats/sheep only	7%	98%	284
Goats/sheep + cattle	6%	98%	323
Goats/sheep + poultry	12%	96%	361
All livestock value chains	9%	96%	341

When looking at the gender of goats/sheep within the current herds of producers, herds are highly female, with half (51%) comprised of does, slightly more than a third are kids (36%) and remaining 13% are bucks.

In terms of the specific makeup of current herds, Table 30 demonstrates the percentage of producers who keep each type of goat/sheep as well as the average number of each type of goat/sheep among all goat/sheep producers. Does are the most common type of goat/sheep, with an average of 2.5 among all producers, followed by kids at 1.9. Households have an average of 0.8 bucks per herd. Producers in Nord Est have higher rates of bucks at 1.3, as well as all types of goats/sheep, as they have the largest herds.

Table 30. Average number of each type of goat/sheep

Disaggregates	Av. # does	Av. # bucks	Av. # kids	Av. Total # goats/sheep	<i>n</i>
Total herd	2.5	0.8	1.9	5.1	1309
By department*					
Nord	1.9	0.6	1.5	4.1	294
Nord Est	3.0	1.3	2.4	6.7	302
Centre	2.4	0.4	2.2	5.0	385
Sud	2.6	0.8	1.5	4.8	328

By livestock value chain*					
Goats/sheep only	2.3	0.8	1.7	4.7	284
Goats/sheep + cattle	3.0	1.0	1.9	6.0	323
Goats/sheep + poultry	1.9	0.4	1.7	4.0	361
All livestock value chains	2.7	0.8	2.4	5.9	341

*There was a significant difference between departments at the 0.05 level using a chi-square test

*There was a significant difference between livestock value chains at the 0.05 level using a chi-square test

4.3.2 GOAT/SHEEP FEEDING AND NUTRITION PRACTICES

As shown in Table 31, goat and sheep producers chiefly fed their animals through tethering (86%), though a small group in Nord Est, mostly of goat and sheep-only producers also used open grazing and enclosures, and a handful employed intensive feeding practices. A study on the goat value chain conducted by HEKS EPER²⁶ noted that producers tend to apply minimal management to their goats through the tether system and free-range mostly occurs for short periods after harvests.

Producers in Centre noted during FGDs that the practice of open grazing was not permitted in their commune, aligning with the low rate there compared to Nord Est.

“There is no free grazing in our commune. If we see an animal in the wild, we will capture it and take it to the CASEC office or to the town hall. If it is a goat that has entered a peasant’s field, the latter has the right to kill the goat and keep the head.” – FGD with producers Cerca Cavajal.

Table 31. Goat and sheep feeding practices

	Tethering	Enclosure	Open grazing	Intensive	n
Total Sample	86%	4%	6%	2%	1309
By department*					
Nord	93%	4%	3%	0%	294
Nord Est	49%	15%	23%	10%	302
Centre	98%	0%	1%	0%	385
Sud	99%	0%	1%	0%	328
By livestock value chain*					
Goats/sheep only	73%	9%	12%	4%	284
Goats/sheep + cattle	82%	6%	8%	3%	323
Goats/sheep + poultry	92%	2%	3%	2%	361
All livestock value chains	94%	1%	3%	1%	341

*There was a significant difference between departments at the 0.05 level using a chi-square test

*There was a significant difference between livestock value chains at the 0.05 level using a chi-square test

²⁶ Schwartz, Timothy. 2109. *Goat Ethnographic Value Chain in Haiti*. <https://timothyschwartzhaiti.com/goats-in-haiti/>

Goat/sheep feeding, along with cattle feeding, is included in feeding practices in *PARE Indicator # 10: Improved management practices*. Those who fed their goats/sheep through enclosures or intensive practices were counted under this indicator.

With the tethering system employed by the majority of goat and sheep producers, providing additional nutrition is an important component to improving productivity. Slightly over one-third (37%) of goat and sheep producers identified sufficient quantity of feed as the most pressing constraint they face, which is significantly lower than the 89% of cattle producers who identified feed as the largest challenge, indicating that while it remains an issue for goat and sheep producers, it is not as acute as for cattle.

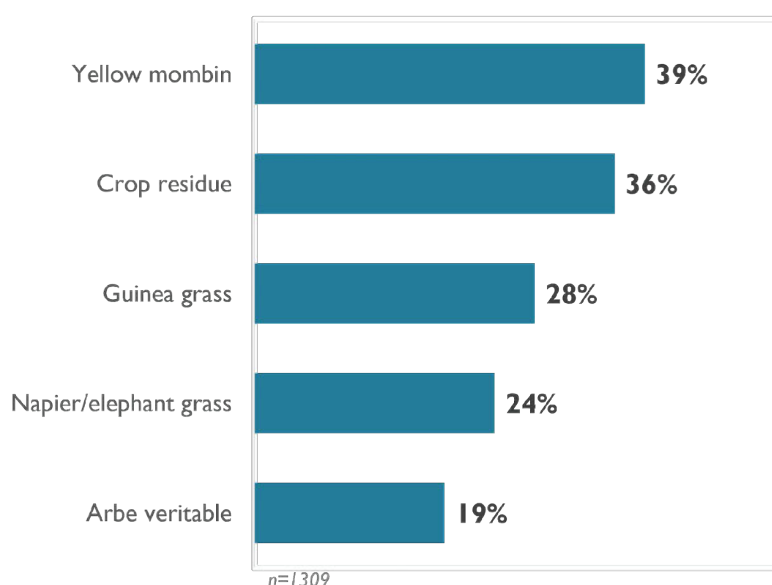
As shown below in Table 32, more than half (64%) of goat and sheep producers provided additional feed to their animals, with the highest rates in Sud (74%).

Table 32. Provided additional nutrition to goats/sheep

	Provided Supplemental feed	Provided forage	Provided any additional nutrition (forage or supplemental feed)	n
Total Sample	1%	64%	64%	1309
By department				
Nord	1%	59%	59%	294
Nord Est	1%	68%	68%	302
Centre	1%	57%	57%	385
Sud	1%	74%	74%	328
By livestock value chain				
Goats/sheep only	1%	61%	61%	284
Goats/sheep + cattle	1%	62%	62%	323
Goats/sheep + poultry	0%	66%	66%	361
All livestock value chains	0%	68%	68%	341

Figure 14 presents the top types of additional nutrition provided to goats and sheep, which included different types of fresh grasses, depending on what was available in the area as well as crop residue (36%). Not counted in additional nutrition because of the low nutritional quality was another 20% of producers who fed their goats/sheep leftover kitchen scraps and 36% who fed them various leaves such as mango, banana and gum.

Figure 14. Supplemental feed provided to goats and sheep



As with cattle, goat/sheep nutrition makes up part of the data counted in *PARE Indicator # 10: Improved management practices*. For producers who fed their goats/sheep in an enclosure or through intensive feeding, if they provided additional nutrition to cattle, either with fresh forage or with supplemental feed, they are counted under improved alimentation practice for *PARE Indicator # 10: Improved management practices*.

4.3.3 GOAT/SHEEP WATERING PRACTICES

Table 33 illustrates the techniques goat/sheep producers used to water their herds. Goat and sheep producers mainly brought water to their animals (57%), particularly those producers in Centre (88%), while a quarter took their animals to the nearest water point (25%), especially those in Sud. Only 6% of producers maintained a waterpoint or tank in their homestead area. The local geography and availability of water sources largely determined their watering technique.

Table 33. Watering techniques for goats and sheep

	Waterpoint/ tank at house area	Bring water to animals	Take animals to nearest water point	Animals go to a water source	n
Total Sample	6%	57%	25%	9%	1309**
By department*					
Nord	5%	60%	26%	8%	294
Nord Est	15%	38%	14%	27%	302
Centre	2%	88%	8%	0%	385
Sud	5%	37%	53%	2%	328

By livestock value chain*					
Goats/sheep only	5%	58%	25%	10%	284
Cattle + goats/sheep	9%	46%	31%	11%	323
Goats/sheep + poultry	5%	67%	19%	6%	361
All livestock value chains	7%	57%	25%	9%	341

** 1% of households did not provide any water and 2% did not know

*There was a significant difference between departments at the 0.05 level using a chi-square test

*There was a significant difference between livestock value chains at the 0.05 level using a chi-square test

Providing fresh water to goats, especially those tethered or enclosed, is integral to their well-being. Table 34 below illustrates the average volume of water that goats and sheep consumed daily, by the water technique employed.

Table 34. Average volume of water consumed per goat/sheep daily

Average volume of water	Of those who bring water to animals
1 to 5 liters	52%
6 to 10 liters	28%
11 to 15 liters	9%
16 to 20 liters	4%
21 to 25 liters	4%
<i>n</i>	750

Despite the documented effects of drought on livestock, at present, only 1% of producers cited obtaining a sufficient quantity of water as the most pressing constraint, with 9% of goat and sheep producers noting it as a problem at all.

Goats/sheep are also counted under the water provision practice in *PARE Indicator # 10: Improved management practices*. Goat/sheep producers who have a waterpoint or water tank in their home area or producers who bring water to their goats/sheep and were able to provide more than 5 liters of water daily are counted under water provision in *PARE Indicator #10: Improved management*. More details on the full results of this indicator can be found below in *Section 4.5 Summary of Livestock Production and Sales*.

4.3.4 GOAT/SHEEP HOUSING PRACTICES

As with feeding, tethering, where producers tie up their livestock in the open, was also the most common type of housing provided for goats and sheep, with 84% of producers employing this method, depicted in Table 35. Those in Nord Est will also leave their goats outside in the open (37%) untied, which is almost non-existent in other departments. Producers explained during FGDs that due to the threat of theft, they are aware that they should house their goats, but do not have the infrastructure available. As noted in the

LMSRA, this practice of leaving goats in the open is part of disputes related to theft of pasture resources and tensions from animals eating crops.

“We do not have shelter for our animals, even though we know it is necessary, especially to protect the goats against the rain and against thieves and predators.” – FGDs with producers in Hinche

Aligned with this finding, goat and sheep producers in Nord Est were also more likely than other departments to cite theft as their most pressing challenge (13% in Nord Est compared to 9% overall average), due to the proximity to the Dominican Republic and the smuggling of goats, as noted in qualitative interviews.

Table 35. Goat and sheep housing practices

	Tethering	Outside in open	Fenced pen no roof	Fenced pen roof	Fenced in field	n
Total Sample	84%	10%	4%	1%	1%	1309
By department						
Nord	93%	3%	1%	1%	1%	294
Nord Est	44%	37%	16%	2%	1%	302
Centre	98%	1%	1%	0%	0%	385
Sud	98%	2%	0%	0%	0%	328
By livestock value chain						
Goats/sheep only	68%	20%	8%	2%	1%	284
Cattle + goats/sheep	80%	13%	5%	1%	0%	323
Goats/sheep + poultry	92%	6%	2%	0%	1%	361
All livestock value chains	94%	4%	2%	0%	0%	341

As with cattle, goat/sheep housing contributes to the final data in *PARE Indicator # 10: Improved management practices*. Producers who housed their goat/sheep in a fenced pen, either with or without a roof, were counted in this indicator.

4.3.5 GOAT/SHEEP HEALTH MANAGEMENT

In line with observations about the minimal management invested in goats and sheep²⁷, Table 36 highlights that only a third (37%) of goat and sheep producers have provided health treatments of any kind to their animals in the past year. Interestingly, those that keep goats and sheep only were least likely to provide

²⁷ Schwartz, Timothy. 2109. *Goat Ethnographic Value Chain in Haiti*. <https://timothyschwartzhaiti.com/goats-in-haiti/>

these treatments, compared to cattle-only producers who tend to provide better care for their animals, likely due to the difference in value of these animals.

Following geographic trends in cattle production, goat and sheep producers in Sud practiced health management at a higher rate (67%) than other departments, especially Centre (17%).

Table 36. Administered animal health management in past year

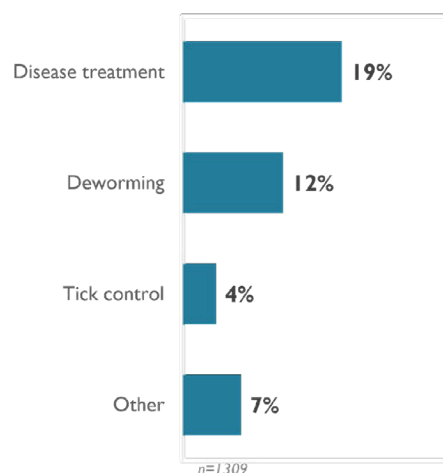
By department*					
	Total Sample	Nord	Nord Est	Centre	Sud
% of producers who administered animal health treatments to goats/sheep	37%	39%	33%	17%	62%
<i>n</i>	1309	294	302	385	328
By livestock value chain*					
	Total Sample	Goats/sheep only	Cattle + goats/sheep	Goats/sheep + poultry	All value chains
% of producers who administered animal health treatments to goats/sheep	37%	32%	41%	35%	39%
<i>n</i>	1309	284	323	361	341

*There was a significant difference between departments at the 0.05 level between departments using a chi-square test

*There was a significant difference between livestock value chains at the 0.05 level between departments using a chi-square test

The most common types of treatments given, seen in Figure 15, were for diseases (19%), as well as deworming (12%). Other than tick control (4%) no other preventative health treatments were given.

Figure 15. Type of animal health management treatments given



During FGDs, producers noted that their goats are especially susceptible to diseases and that their lack of shelter exacerbates this issue.

“When the rain does not fall, the animals are weak and diseases can attack them easily. When the rain falls, it is especially the goats who suffer from it. They can’t stand the rain and develop diarrhea. They can even go blind, and then they die. We have no shelter for the goats to take refuge.” – FGD with producers in Cerca Cavajal

Goats can suffer from a number of afflictions and should be vaccinated. For vaccines such as anthrax, a yearly dose is recommended. Vaccination rates among the sampled households followed a similar pattern to other health treatments, as evidenced in Table 37. Over one-third (39%) gave their goats and sheep a vaccine in the past year. Among the different departments, the highest frequency was in Sud and the lowest was in Centre. This regional difference is interesting when compared to findings from the LMSRA that posits that markets in Sud have struggled to access veterinary medicine and inputs due to trade limitations in Port au Prince. Further discussion on access to veterinary services and medicine can be found below in Section 4.6.6 Access to Animal Health Services and Products.

Table 37. Provided a vaccine for goats/sheep

By department					
	Total Sample	Nord	Nord Est	Centre	Sud
% of producers gave vaccine to goats/sheep	39%	61%	29%	18%	54%
<i>n</i>	1309	294	302	385	328
By livestock value chain					
	Total Sample	Goats/ sheep only	Cattle + goats/sheep	Goats/sheep + poultry	All livestock value chains
% of producers gave vaccine to goats/sheep	39%	31%	50%	33%	43%
<i>n</i>	1309	284	323	361	341

Among goat/sheep producers, 52% provided their animals with either a health treatment or a vaccine and 14% provided both, leaving a portion of producers who are either investing in treatments for their goats/sheep or a vaccine, instead of both.

Animal health is a practice considered under *PARE Indicator # 10: Improved management practices*. The provision of either any animal health management practice or a vaccination to goats and sheep is counted under Animal Health in *PARE Indicator #10: Improved management practices*.

4.3.6 GOAT/SHEEP BREEDING

A majority of producers note that they intentionally breed their goats and sheep with local bucks (70%) as opposed to improved bucks (2%), mirroring the tendency for producers to keep local breeds over

improved breeds. A large portion (24%) also do not employ any deliberate strategy for breeding – often these animals will become bred on their own when a male breaks loose.²⁸ Interestingly, producers of goats and sheep only are the most likely (38%) to not use an intentional breeding practice, further supporting the idea that, unlike cattle-only producers, these households are not focused on breeding these animals.

Producers in Centre and Nord Est noted that they have seen improved breeds of goats (specifically the BOR) introduced in the department and that they have been impressed by the results.

“There is a breed of goats with big ears, an improved breed. This breed produces more kids per litter and the animals have a lot more meat. The results of introducing improved breed males are starting to show. We should have more.” – FGD with producers in Hinche.

Table 38. Type of breeding practice used for goats and sheep

	Intentional breeding with improved buck	Intentional breeding with local buck	Artificial insemination	No practice used	n
Total Sample	2%	70%	0%	24%	1309
By department*					
Nord	2%	62%	0%	35%	294
Nord Est	1%	66%	0%	32%	302
Centre	3%	62%	0%	23%	385
Sud	3%	89%	0%	6%	328
By livestock value chain*					
Goats/sheep only	1%	56%	0%	38%	284
Cattle + goats/sheep	2%	73%	0%	23%	323
Goats/sheep + poultry	2%	73%	0%	19%	361
All livestock value	3%	74%	0%	17%	341

*There was a significant difference at 0.05 level between departments using a chi-square test

*There was a significant difference at 0.05 level between livestock value chains using a chi-square test

4.3.7 GOAT/SHEEP RECORD KEEPING

Record keeping not only aids producers in improving their productivity and profitability, but it is an indicator of the level of professionalism and specialization in which producers approach their livestock management. Table 39 depicts the percentage of goat/sheep producers who keep records. Few producers (8%) currently keep records of their goat and sheep management, though those in Sud were far more likely to keep records (22%) than in other areas, especially compared to Centre (0%).

²⁸ Schwartz, Timothy. 2109. *Goat Ethnographic Value Chain in Haiti*. <https://timothyschwartzhaiti.com/goats-in-haiti/>

As with cattle producers, those in Sud appear slightly more professionalized in their livestock management, with higher rates of record keeping, potentially linked to their higher rates of literacy than in other departments.

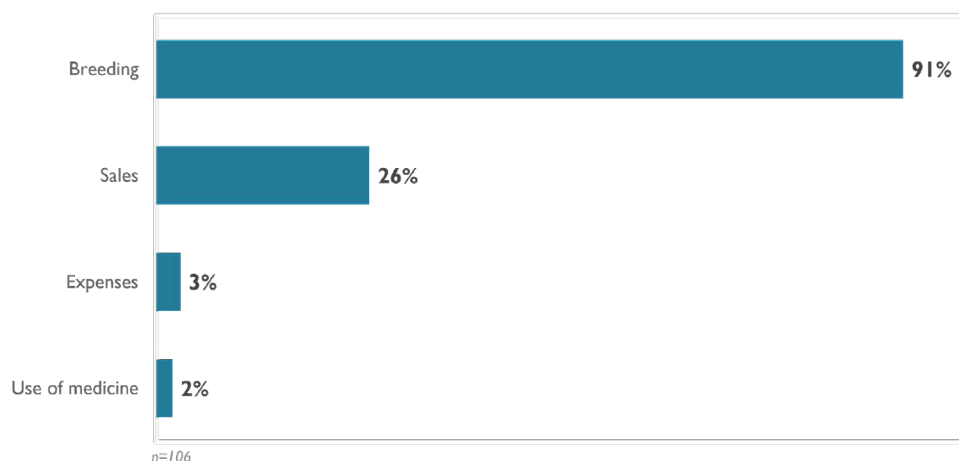
Record keeping for goat and sheep production is counted under *PARE Indicator # 10: Improved management practices*.

Table 39. Kept records on goat and sheep production

By department					
	Total Sample	Nord	Nord Est	Centre	Sud
% of households who kept goat and sheep records	8%	10%	2%	0%	22%
<i>n</i>	1309	294	302	385	328
By livestock value chain					
	Total Sample	Goats/ sheep only	Cattle + goats/sheep	Goats/sheep + poultry	All livestock
% of households who kept goat and sheep records	8%	9%	13%	7%	5%
<i>n</i>	1309	284	323	361	341

Figure 16 lists the type of records kept of those that kept any records. Breeding was the most common (91%), followed by sales (26%). Producers who used an intentional breeding practice also had a higher rate of keeping records. Few farmers kept records of their expenses (3%) or their application of medicine (2%), underscoring the more casual approach to goat and sheep management.

Figure 16. Type of records kept (of those who kept records)



4.3.8 GOAT/SHEEP YIELD

Goat and sheep yield is included in *PARE Indicator #11: Yield of targeted agricultural commodities* and is calculated in the same manner as beef, as a measure of the total offtake of goats and sheep divided by the total number of animals in the herd during the past year, including all those that entered and left the herd through various means. As discussed above in *Section 4.3.1 Current Goat/Sheep Herd Composition and Size*, the total size of goat/sheep herds throughout the year averaged 8.1.

Table 40 below illustrates the rate of various offtake activities in which goat/sheep producer households engaged in the past year. Offtake was primarily driven by sales, with 34% of households selling any goat/sheep in the past year. Overall, 35% of households participated in at least one offtake activity, with the remaining 64% not engaging in any offtake activities.

Table 40. Offtake of goats/sheep by activity

Type of offtake	% of producers did this activity in past year
Sold any goats/sheep in the past year	34%
Slaughtered any goats/sheep in the past year	5%
Gifted/traded any goats/sheep in the past year	0%*
Did any offtake activity in the past year	36%
<i>n</i>	938

*Due to an error in translation discussed above in *Section 3.6 Data Analysis*, gifting/trading was excluded from this analysis. Actual gifting/trading of goats and sheep, as with other livestock value chains, is likely very low and will not substantially affect the yield calculation.

The yield indicator counts all producer households, even if they did not sell, slaughter or gift/trade any goats/sheep in the entire year. Yield is expressed as an average across all producer households, so the 64% of households with no offtake activities, who effectively have a yield of 0, are included in this average. As shown in Table 41, of all the goat and sheep producers in the sample, the average yield was 1.9 kg/herd. This offtake represented 12% of the total herd during the past year. Producers' offtake averaged 1.3 goats/sheep with an average offtake of 40.2 kilograms. Producers in Centre produced a slightly higher yield at 2.4 kg/herd and those in Sud produced the lowest, at 1.4 kg/herd. Households with cattle in addition to goats/sheep also had higher yields than those that raised just goats and sheep. Interestingly, from the data presented above, producers in Sud appeared to practice more good management practices with goats and sheep than those in Centre, but had a lower yield.

When examining just the 36% of producers who engaged in any offtake activities, the average yield is 5.2 kg/herd. This represents an average offtake of 34% of the total herd, with an average of 3.7 animals and 111.3 kilograms offtaken.

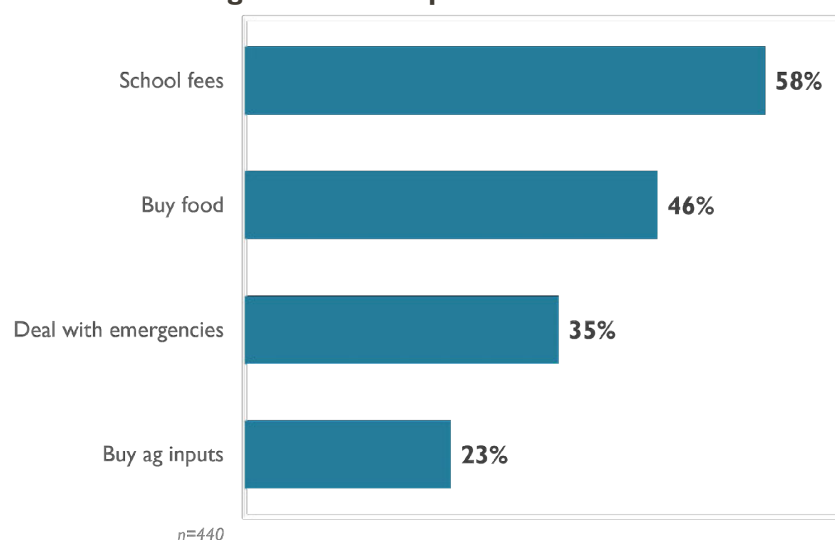
Table 41. Goat/sheep yield (kg/herd)

By department					
	Total Sample	Nord	Nord Est	Centre	Sud
Average goat/sheep yield	1.9	1.8	1.8	2.4	1.4
<i>n</i>	1309	294	302	385	328
By livestock value chain					
	Total Sample	Goats/ sheep only	Cattle + goats/sheep	Goats/sheep + poultry	All livestock value chains
Average goat/sheep yield	1.9	1.4	2.1	1.9	2.1
<i>n</i>	1309	284	323	361	341

4.3.9 GOAT/SHEEP SALES

Offtake of goat/sheep was driven by sales, with 34% of producers selling their goats/sheep in the past year according to Table 40. Goats are often referred to as “the bank of the peasants” because they often act as a savings account for households. As detailed in Figure 17, producers primarily sold goats and sheep for school fees (58%) and to buy food (46%). They used goats and sheep for these household expenses at a higher rate than cattle producers did (47% and 38% respectively), as goats tend to be regarded as a more liquid form of savings and asset than cattle. Goats and sheep also provided a bulwark against shocks, with 35% using them to deal with an emergency.

Figure 17. Reasons for sale of goats and sheep



Looking at the sampled population of all goat and sheep producers, they earned an average of \$60 USD in the past year, as demonstrated in Table 42. When examining just the 34% who sold any of their herd, they earned an average of \$178 USD, with maximum earnings of \$2,174 USD. As with cattle, producers noted that the price for goats in local markets has increased.

“A goat used to sell for 25 gourdes in my youth, but now it's between 10,000 and 15,000 gourdes. That's the main reason why everyone is interested in livestock.” – FGD with producers in Ouanaminthe

Producers in Nord Est earned the highest average at \$322 USD, despite Centre having the highest yield. This is likely linked to the availability of cross-border trade with the Dominican Republic available to producers in Nord Est. In fact, producers in Nord Est sold more goats/sheep (average 5.7) than those in Centre (2.9). Producers in Sud had the lowest annual sales at an average \$120 USD, also due to trade access, as the Port au Prince market has been diminished due to roadblocks in Martissant.

Table 42. Annual value of sales of goat/sheep (USD)

By department					
	Total Sample	Nord	Nord Est	Centre	Sud
Average annual sales of goat/sheep (of those that sold goat/sheep)	\$178	\$138	\$322	\$146	\$120
<i>n</i>	440	98	95	175	72
Average annual sales (of all goat and sheep)	\$60	\$46	\$101	\$66	\$26
<i>n</i>	1309	294	302	385	328
By livestock value chain					
	Total Sample	Goats/sheep only	Goats/ Sheep + cattle	Goats/ Sheep + poultry	All livestock value chains
Average annual sales of goat/sheep (of those that sold goat/sheep)	\$178	\$158	\$283	\$143	\$139
<i>n</i>	440	78	106	124	132
Average annual sales (of all goat and sheep producers)	\$60	\$43	\$93	\$49	\$54
<i>n</i>	258	284	323	361	341

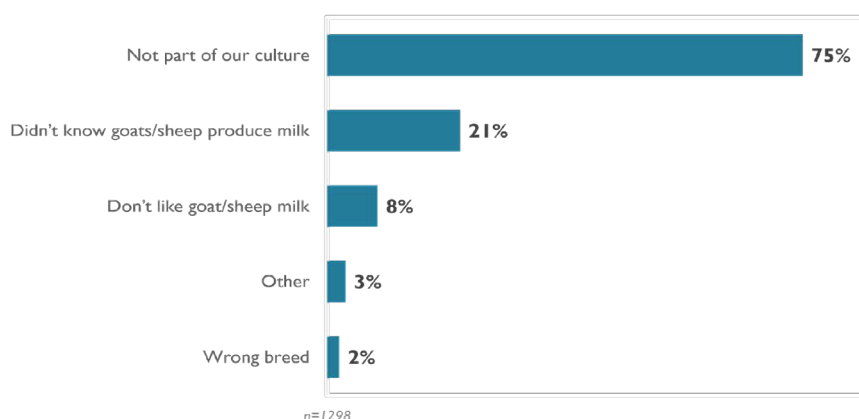
*Low base size

The total annual sales of goats/sheep is counted in *PARE Indicator #15: Value of annual sales of producers and firms receiving USG assistance (Standard EG.3.2-26)* along with sales of the other targeted agricultural commodities. The full baseline results for this indicator and its disaggregates are discussed below in *Section 4.5 Summary of Livestock Production and Sales*.

Goat milk in Haiti is extremely limited, and goats are almost universally slaughtered for meat.²⁹ This was reflected in the baseline assessment, where only a single producer responded that they produced goat milk.

The reasons for not producing milk, shown in Figure 18, included a range of answers, all coalescing around the larger point that this practice is not culturally accepted nor widely known. Other studies have noted that the practice of milking goats is frowned upon and goat milk is considered unclean.³⁰

Figure 18. Reasons for not producing goat milk



4.3.10 CHALLENGES IN GOAT/SHEEP PRODUCTION

Loss of goats and sheep was a persistent problem faced by producers in the past year. As illustrated in Table 43, almost half of producers (45%) lost some of their goats and sheep in the past year, a higher rate than cattle (22%).

This particularly affected Nord Est where 55% of producers lost goats and sheep, likely linked to the higher rate of housing goats and sheep outside in the open in Nord Est.

Table 43. Percentage of goat/sheep producers who lost goats/sheep in the past year

By department					
	Total Sample	Nord	Nord Est	Centre	Sud
% of goat/sheep producers who lost goat/sheep in the past year	45%	47%	55%	51%	28%
n	1309	294	302	385	328

²⁹ Schwartz, Timothy. 2109. *Goat Ethnographic Value Chain in Haiti*. <https://timothyschwartzhaiti.com/goats-in-haiti/>

³⁰ Socio-Digital Research Group. 2018. *Baseline, Value Chains, and NOTAB Information Network*.

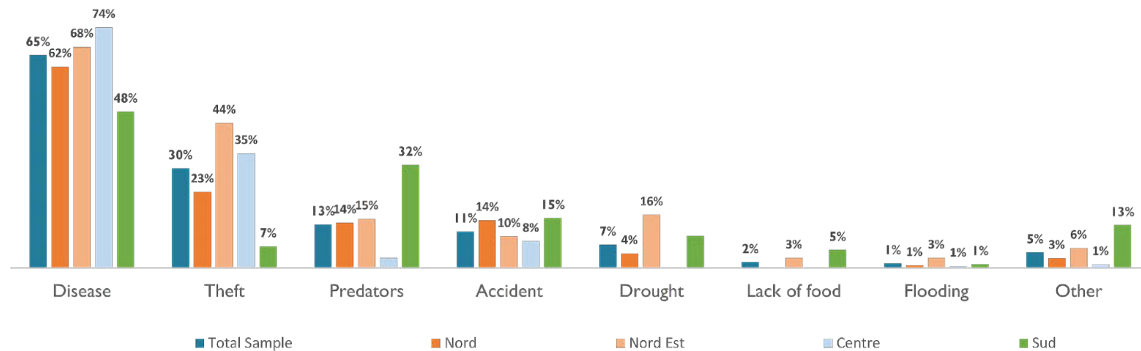
By livestock value chain					
	Total Sample	Goats/sheep only	Cattle + goats/sheep	Goats/sheep + poultry	All livestock value chains
% of goat/sheep producers who lost goat/sheep in the past year	45%	44%	41%	46%	51%
n	1309	284	323	361	341

Figure 19 illustrates the underlying causes for loss of goats and sheep in the past year, which span environmental and regional issues. Disease and theft were the driving forces behind loss of goats and sheep, with 65% of producers citing disease and 30% citing theft. During FGDs, producers in Sud particularly cited predators like dogs as a recurring issue with their goats.

As community leaders noted in KIIs, producers have little recourse to solve these issues, particularly theft, which most affects Nord Est and attack by predators, which is most pervasive in Sud.

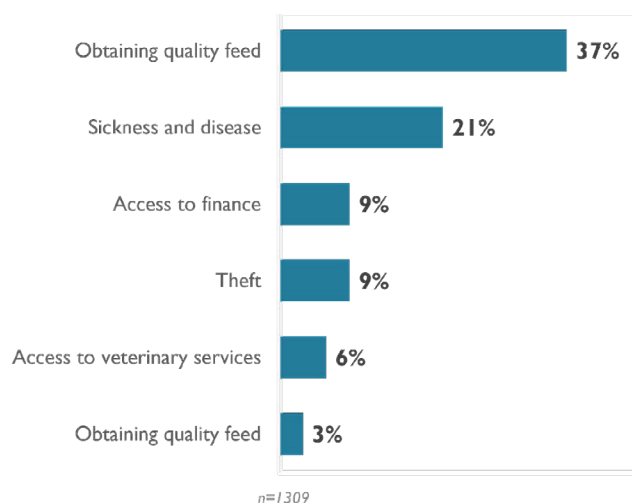
"The difficulties encountered in animal husbandry are diseases, theft of animals, and the attack of animals by dogs. I don't know of any particular practice to address these issues. I suggest that we give support to breeders to help them build fences to limit thefts." – KII with Community Leader, Chardonnières

Figure 19. Reasons for loss of goats/sheep



When asked what the biggest challenge they faced in rearing goats and sheep, depicted in Figure 20, producers noted a few significant issues, primarily accessing feed (37%) and sickness and disease (21%). These issues are reflected in the feeding practices used as well as the reasons for loss of animals, discussed above.

Figure 20. Biggest challenge faced in production of goats and sheep



4.4 Overview of Poultry Producers and Their Flocks

This penultimate section on production covers poultry producers included in the baseline. Poultry was defined to include not only chickens, but other birds including pigeons, ducks, guinea fowl and turkey. Following the sections on cattle and goats/ sheep, this section depicts baseline data around poultry flocks and poultry management practices, followed by data on productivity and sales of chicken meat and eggs.

While this study is focused on backyard poultry, due to the sample of smallholder producers, it is important to acknowledge the larger market trends in commercial poultry. As detailed in the LMSRA, the commercial poultry sector is in decline due to the crisis centered in Port au Prince. Inputs such as chicken feed and day-old chicks are blocked and large operators in the outskirts of Port au Prince, such as Haiti Broilers, (a day-old chick producer) went out of business. In addition, the offtake market is diminished due to gang blockades/extortion. The situation in the North is slightly better due trade with the Dominican Republic, but even in the Northern RFZ stakeholders along the commercial poultry value chain face issues related to border closures, inflation, fuel crisis, gourde devaluation, consumer demand, and the import of cheap Dominican eggs.

4.4.1 CURRENT POULTRY FLOCK COMPOSITION AND SIZE

Poultry producers, including those who raised solely poultry as well as poultry in combination with other value chains, comprised 52% of the total sample.

In FGDs with producers, they noted that despite recent advances in the poultry sector in terms of intensification and greater commercialization, it is now in decline, largely due to disease as well as the effects of the current socio-economic crisis. This was echoed in the LMSRA which described how the poultry market system is struggling and, in many ways, has become more fragile compared to the other livestock market systems.

“Henhouses for broiler chickens have also emerged but given the current situation, this sector has almost disappeared.” – FGDs with producers in Limonade

Poultry producers captured in the baseline assessment have an average flock size of 9 birds, which is relatively consistent across departments and slightly larger for households who keep other livestock in addition to poultry (see Table 44). All poultry producers (100%) are considered smallholder under the

FTF³¹ definition. As illustrated in Figure 21, producer households were split into those with smaller flocks under 5 birds (40%) and those with 6 to 10 birds (32%). The average of 9 was affected by a small but impactful group of larger producers with flocks over 20. The largest flock included in the sample was 60 birds and the minimum was 1.

This household average is on par with data extrapolated from FAO Stats and World Bank population data that suggest that the average flock size of all poultry is 9 birds. In addition, as discussed in *Section 4.4.10 Challenges in Poultry Production*, loss of poultry due to disease and predators, is a very common occurrence and can often wipe out an entire flock and producers must then repopulate. Thus, the size of their flock is often in flux and some studies have demonstrated that median flock sizes that producers *usually* have is 11 to 20.³² Thus, national data and other benchmarks can't fully capture the dynamic nature of flock sizes.

While the data below in Table 44 refers to the number of birds currently in producers' flocks, it does not account for all poultry that left the herd throughout the year, in the form of loss, selling or slaughtering. These dynamics are discussed in subsequent sections. The total flock size that producers reared over the past year was 20.5 birds with a maximum of 295.

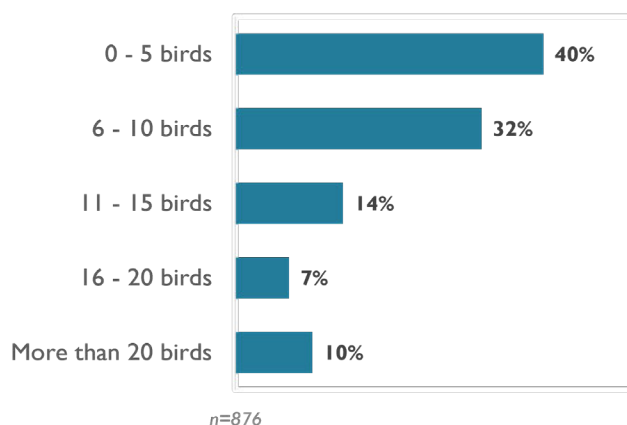
Table 44. Total average flock size

By department					
	Total Sample	Nord	Nord Est	Centre	Sud
Total average flock size	9.0	8.9	9.5	9.6	8.2
<i>n</i>	876	165	127	335	249
By livestock value chain					
	Total Sample	Poultry only	Cattle + poultry	Poultry + goats/sheep	All value chains
Total average flock size	7.4	7.4	8.6	8.2	10.6
<i>n</i>	876	100	74	361	341

³¹ From *Feed the Future Indicator Handbook*: Smallholder producer is one who holds 5 hectares or less of arable land or equivalent units of livestock, i.e., cattle: 10 beef cows; dairy: two milking cows; sheep and goats: five adult ewes/does; camel meat and milk: five camel cows; pigs: two adult sows; chickens: 20 layers and 50 broilers. The farmer does not have to own the land or livestock.

³² Schwartz, Timothy. 2109. *Chicken & Egg (Poultry) Ethnographic Value Chain in Haiti*. <https://timothyschwartzhaiti.com/eggs-in-haiti/>

Figure 21. Distribution of poultry size



Poultry flocks were comprised predominantly of local breeds, with 89% of all birds in the flock being local chickens, 4% improved chickens and 7% other birds. Other birds included pigeons, ducks, turkey and guinea fowl.

When looking at the percentage of producers who manage each type of bird, as shown in Table 45, almost all (96%) of poultry producers currently keep local chickens, while 16% also keep other birds. A small group (7%) keep improved chickens. Some producers noted that the availability of improved breeds of chickens is new.

"We have improved breed chickens, which is something new. We are slowly progressing to improve the breeds." – FGD with producers in Vallières

Though local chickens are slow growers and not ideally suited for egg production, they are excellent foragers and possess a hardiness that is useful in tropical environments.³³ Additionally, there is high local demand for free-range, "country chickens" in Haiti.

Table 45. Percentage producers who manage improved and local poultry

	Improved chickens	Local chickens	Other birds	n
Total Sample	7%	96%	16%	876
By department				
Nord	13%	94%	18%	165
Nord Est	6%	91%	18%	127
Centre	5%	98%	20%	335
Sud	4%	98%	9%	249

³³ Padhi, M. K. 2016. Importance of indigenous breeds of chicken for rural economy and their improvements for higher production performance. *Scientifica*, 2016.

By livestock value chain				
Poultry only	9%	96%	10%	100
Poultry + cattle	8%	92%	14%	74
Poultry + goats/sheep	5%	98%	13%	361
All livestock value chains	7%	96%	22%	341

The composition of the flock, in terms of different breeds of chickens was consistent across departments as well as within combination of value chains. Averages of each type of bird are displayed in Table 46.

When considering the purpose of poultry, 82% of poultry producers raised poultry solely for meat and 6% solely for eggs, with 12% raising their birds for both purposes. Given these purposes, we expect to see a mixture of both male and female birds, with slightly more female birds.

In terms of the specific makeup of the current flock, Table 47 illustrates the average number of each type of bird. Chicks are the most common birds in producers' flocks, averaging almost 4 (3.8) per flock. A substantial portion of flocks are also hens, with an average of 3 per flock. Producers also average 1.1 cocks and 1.1 other birds in their flocks. Producers in Centre held a higher number of chicks.

Table 46. Average number of each type of poultry

Disaggregates	Av. # cocks	Av. # hens	Av. # chicks	Av. # other birds	Av. Total # birds	n
Total flock	1.1	3.0	3.8	1.1	9.0	876
By department*						
Nord	1.0	2.9	3.7	1.3	8.9	165
Nord Est	1.6	3.0	3.0	1.9	9.5	127
Centre	0.7	2.9	4.7	1.3	9.6	335
Sud	1.4	3.1	3.3	0.4	8.2	249
By livestock value chain						
Poultry only	1.1	2.7	3.0	0.6	7.4	100
Poultry + cattle	1.1	2.8	3.2	1.4	8.6	74
Poultry + goats/sheep	0.9	2.7	3.7	0.9	8.2	361
All livestock value chains	1.3	3.4	4.4	1.5	10.6	341

*There was a significant difference between departments at the 0.05 level using a chi-square test

Day-old chicks are an important input for poultry producers. The purchase of improved day-old chicks can lead to more improved birds within a flock. As shown in Table 47, amongst poultry producers, only 9% have purchased improved chicks in the past year. In addition to cost, one driver of this could be the lack of availability of day-old chick stock, as Haitian input suppliers struggle to produce a sufficient quantity of baby chicks to meet national market demands.³⁴

Purchase of improved chicks was higher in Nord, where 14% of producers purchased chicks, compared to Sud at 4% where trade of these inputs is more restricted due to the crisis.

Table 47. Purchase of improved chicks

Purchased improved chicks	Total Sample	Nord	Nord Est	Centre	Sud
% of poultry producer households who purchased improved chicks in the past year	9%	14%	6%	12%	4%
<i>n</i>	876	165	127	335	249

4.4.2 POULTRY FEEDING AND NUTRITION PRACTICES

As shown in Table 48, producers almost exclusively fed their poultry by letting them free range in the homestead area (97%), with a very small group (2%), mainly in the Nord Est, utilizing a chicken coop. Free ranging is preferred as it allows producers to minimize their investment in their birds, feeding them only enough to prevent them from abandoning the homestead area³⁵

Table 48. Poultry feeding practices

	Free in the barnyard or homestead area	Enclosure	<i>n</i>
Total Sample	97%	3%	876
By department*			
Nord	96%	4%	165
Nord Est	92%	7%	127
Centre	98%	1%	335
Sud	98%	1%	249

³⁴ Banyan Global. 2022. *USAID/Haiti Economic Growth and Agricultural Development: Gender Analysis Report*.

³⁵ Schwartz, Timothy. 2019. Chicken & Egg (Poultry) Ethnographic Value Chain in Haiti. <https://timothyschwartzhaiti.com/eggs-in-haiti/>

By livestock value chain			
Poultry only	92%	7%	100
Cattle + poultry	96%	3%	74
Poultry + goats/sheep	97%	2%	361
All livestock value chains	98%	2%	341

*There was a significant difference between departments at the 0.05 level using a chi-square test

Producers who fed their poultry in a chicken coop are counted under feeding for *PARE Indicator # 10: Improved management practices*.

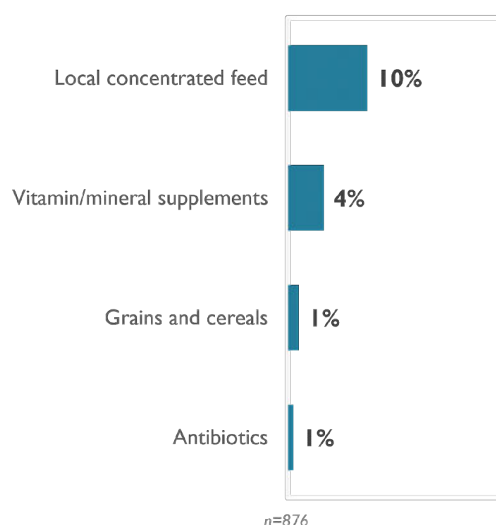
As with the other value chains, feed for poultry is one of the greatest constraints. Healthy chickens require high protein feed, which is expensive and difficult to procure. Nearly half (44%) of poultry producers noted that obtaining feed is a problem they face and 17% cited it as their most pressing issue. Supplemental feed is important to the health and productivity of chickens, yet only 16% of producers fed their poultry some type of supplemental feed, as illustrated in Table 50.

Table 49. Provided supplemental feeds to poultry

By department					
	Total Sample	Nord	Nord Est	Centre	Sud
Producers gave supplemental feed to poultry	16%	17%	20%	2%	33%
<i>n</i>	876	165	127	335	249
By livestock value chain					
	Total Sample	Poultry only	Cattle + poultry	Poultry + goats/sheep	All livestock value chains
Producers gave supplemental feed to poultry	16%	24%	15%	16%	15%
<i>n</i>	876	100	74	361	341

Figure 22 presents the top types of supplemental feed provided by poultry producers. Local concentrated feed was the most common, with 10% of all poultry producers supplying this to their birds. Vitamins and mineral supplements were the next most common source, though only 4% of producers invested in these.

Figure 22. Supplemental feed provided to poultry



Producers who fed their poultry any type of supplemental feed are counted under nutrition for PARE indicator # 10: improved management practices.

4.4.3 POULTRY WATERING PRACTICES

Water quantity was not flagged as a major constraint by producers, with only 4% noting it as a problem at all and none citing it as the most pressing challenge they face. Table 50 presents the different water techniques employed by poultry producers. Given that chickens primarily range freely in the homestead area, many producers utilize some form of tank or water system in their household (33%) or bring the water directly to the birds (41%), while the rest allow their poultry to access water sources themselves (19%) or do not provide any water at all (5%), allowing the birds to find their own. In addition to the table below, 1% said that they pipe fed the cage.

Table 50. Watering techniques for poultry

	Household water service	Bring water to animals	Animals go to a water source by themselves	Do not give water	n
Total Sample	33%	41%	19%	5%	876
By department*					
Nord	52%	25%	21%	2%	165
Nord Est	48%	13%	9%	24%	127
Centre	34%	53%	11%	1%	335
Sud	13%	49%	34%	3%	249

By livestock value chain*					
Poultry only	34%	38%	25%	1%	100
Cattle + poultry	32%	32%	24%	8%	74
Poultry + goats/sheep	34%	45%	16%	4%	361
All livestock value chains	33%	40%	21%	6%	341

*There was a significant difference between departments at the 0.05 level using a chi-square test

*There was a significant difference between livestock value chains at the 0.05 level using a chi-square test

For households who have a water service, the majority provide water to their chickens directly with one to two liters of water a day, as in Table 51. The amount of water required depends on factors such as the age of the birds, diet and their breeds, as well as environmental conditions.

Table 51. Average volume of water consumed daily per bird

Average volume of water	Of those with a household water service
1 liter	52%
2 liters	24%
3 liters	13%
4 or more liters	11%
<i>n</i>	292

If poultry producers have a waterpoint or water tank in their home area or producers who bring water to their cattle were able to provide more than two liters of water daily per bird, they are counted under water provision in *PARE Indicator #10: Improved management*.

4.4.4 POULTRY HOUSING PRACTICES

As discussed above in poultry feeding practices, poultry producers tend to rely on free-range feeding with few investing in chicken coops or other structures. Housing practices follow suit, as shown in Table 52. About half of producers allow their chickens to live in their homestead area (48%) and the other half completely outside in the open (43%). A small minority have built pen structures (6%), particularly in the Nord Est, with fewer still tethering their birds (3%).

This free-range system comes with risks including theft, predators and conflicts with neighbors if chickens wander too far, however most producers employ it as it requires less investment and daily care.

Table 52. Housing practices for poultry

	In homestead/ barn area	Outside in open	Pen structure no roof	Pen structure with roof	Tether- ed	<i>n</i>
Total Sample	48%	43%	4%	2%	3%	876
By department*						
Nord	52%	41%	3%	2%	2%	165
Nord Est	43%	26%	24%	6%	0%	127
Centre	64%	34%	0%	1%	0%	335
Sud	27%	64%	0%	1%	8%	249
By livestock value chain						
Poultry only	46%	42%	5%	2%	5%	100
Cattle + poultry	38%	53%	5%	0%	4%	74
Poultry + goats/sheep	53%	39%	3%	2%	3%	361
All livestock value chains	46%	45%	5%	2%	1%	341

*There was a significant difference between departments at the 0.05 level using a chi-square test

Producers who housed their chickens in a pen structure, either with or without a rood, were counted under housing in *PARE Indicator #10: Improved management*.

4.4.5 POULTRY HEALTH MANAGEMENT

Poultry are especially susceptible to disease, which can decimate entire flocks. Good health management for poultry is essential to mitigate risk and poultry should ideally be vaccinated, dewormed and provided with preventative antibiotics, as well as being debeaked. As indicated in Table 53, just under half (47%) of poultry producers administered some form of animal health management in the past year to their flock, with more producers in Nord (79%) investing in health treatments. Other published studies cited only 28% of producers providing treatment for birds when they are ill³⁶, however the scope of the question asked in this baseline study was broader, as it included treatments such as debeaking and the provision of antibiotics, likely leading to the higher rate.

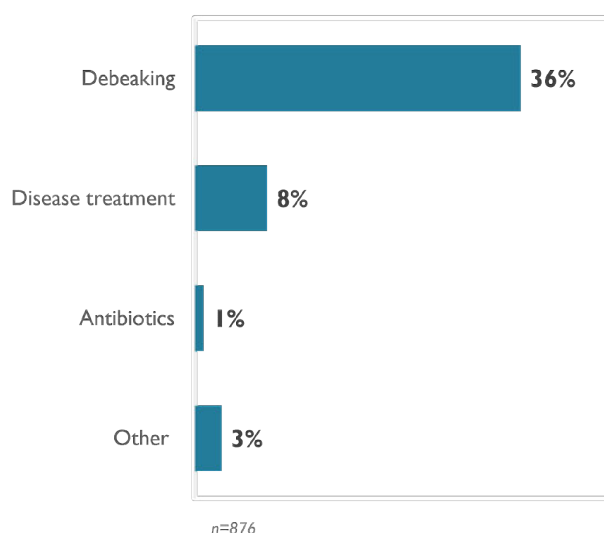
³⁶ Schwartz, Timothy. 2109. *Chicken & Egg (Poultry) Ethnographic Value Chain in Haiti*. <https://timothyschwartzhaiti.com/eggs-in-haiti/>

Table 53. Administered animal health treatments to poultry

By department					
	Total Sample	Nord	Nord Est	Centre	Sud
Producers administered animal health treatment to their poultry	47%	79%	54%	21%	58%
<i>n</i>	876	165	127	335	249
By livestock value chain					
	Total Sample	Poultry only	Cattle + poultry	Poultry + goats/shee	All livestock
Producers administered animal health treatment to their poultry	47%	51%	47%	42%	51%
<i>n</i>	876	100	74	361	341

Figure 23 depicts the types of animal health management that poultry producers engaged in during the past year. The most common type of treatment given was debeaking, at 36%. A small group of producers (8%) reported that they had treated for disease, and a very few (1%) accessed antibiotics.

Figure 23. Type of animal health management treatment given to poultry



During qualitative interviews, producers and stakeholders explained how some producers used traditional solutions to deal with poultry diseases.

“Breeders use homemade solutions such as coffee powder to fight against poultry diseases.” – KII with DDAS/MARNDR in Sud

New Castle, coccidiosis and avian flu are the most common diseases affecting poultry and vaccinations are critical to protect against illness and death. Table 54 illustrates vaccination rates of poultry producers in the past year. Vaccination rates of poultry are very low, with only 9% of producers reporting that they provided their poultry with a vaccine in the past year, though this was much higher in Nord at 21%. This rate is lower compared to other benchmarked values, with one 2019 national study estimating that 29% had vaccinated their poultry.³⁷ This discrepancy may be due to a few factors. First, the baseline study asked if producers had vaccinated their birds within the past year, not ever, as in the benchmarked study. Secondly, given the political instability and difficulty in travel in 2023, producers may have been more limited in access vaccines this past year.

Table 54. Provided a vaccine for poultry

By department					
	Total Sample	Nord	Nord Est	Centre	Sud
Gave poultry a vaccine	9%	21%	4%	6%	7%
<i>n</i>	876	165	127	335	249
By livestock value chain					
	Total Sample	Poultry only	Cattle + poultry	Poultry + goats/sheep	All livestock value chains
Gave poultry a vaccine	9%	3%	5%	9%	11%
<i>n</i>	876	100	74	361	341

Producers who administered with a health treatment or a vaccine to their poultry were counted under animal health in *PARE Indicator #10: Improved management*.

4.4.6 POULTRY BREEDING

Table 55 illustrates the different breeding practices utilized by poultry producers over the past year. Just as poultry producers primarily keep local breeds, they also almost universally breed with local cocks (68%). However, a quarter (27%) do not employ any intentional breeding practice. Use of a breeding practice is highest in Sud, where 89% of producers do some form of breeding.

³⁷ Schwartz, Timothy. 2109. *Chicken & Egg (Poultry) Ethnographic Value Chain in Haiti*. <https://timothyschwartzhaiti.com/eggs-in-haiti/>

Table 55. Type of poultry breeding practice used

	Intentional breeding with improved cock	Intentional breeding with local cock	Artificial insemination	No practice used	<i>n</i>
Total Sample	1%	68%	0%	27%	876
By department*					
Nord	2%	59%	0%	38%	165
Nord Est	0%	71%	0%	26%	127
Centre	0%	56%	0%	39%	335
Sud	2%	87%	0%	9%	249
By livestock value chain*					
Poultry only	1%	47%	0%	47%	100
Cattle + poultry	3%	69%	0%	26%	74
Poultry + goats/sheep	1%	71%	0%	22%	361
All livestock value chains	2%	70%	0%	27%	341

*There was a significant difference between departments at the 0.05 level using a chi-square test

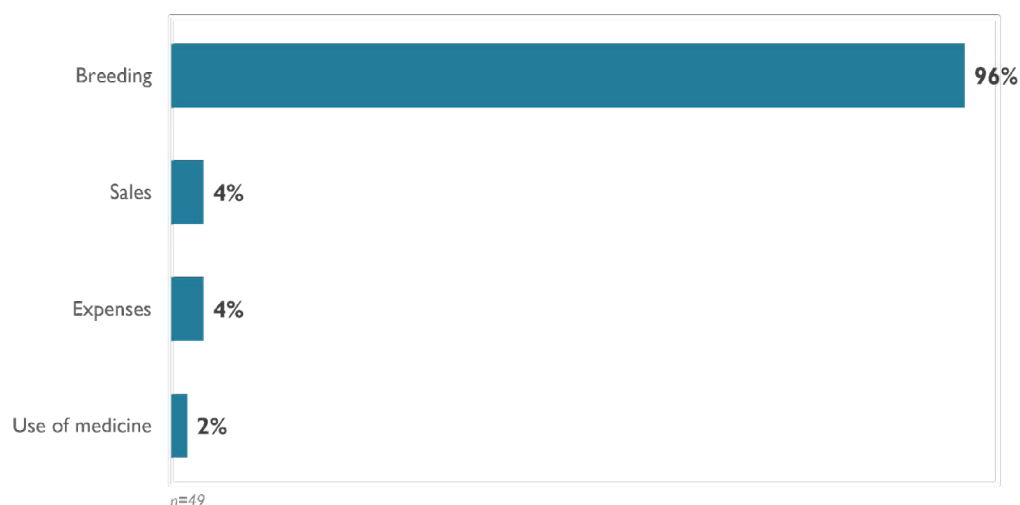
*There was a significant difference between livestock value chains at the 0.05 level using a chi-square test

4.4.7 POULTRY RECORD KEEPING

Given the backyard nature of poultry farming in Haiti, it is not surprising that only 6% of poultry producers reported keeping records of their poultry production, as shown in Table 56. The few that kept records did so almost exclusively on breeding practices, as shown in Figure 24. Producers in Sud and Nord had the highest rate of record-keeping, likely linked to their higher rate of intentional breeding, especially with improved stock.

Table 56. Kept records on poultry

By department					
	Total Sample	Nord	Nord Est	Centre	Sud
% of households who kept poultry records	6%	12%	2%	0%	11%
<i>n</i>	876	165	127	335	249
By livestock value chain					
	Total Sample	Poultry only	Cattle + poultry	Poultry + goats/sheep	All livestock value chains
% of households who kept poultry records	6%	7%	5%	7%	4%
<i>n</i>	876	100	74	361	341

Figure 24. Type of records kept on poultry (of those who kept records)

Producers who kept any records on their poultry production were counted in *PARE Indicator #10: Improved management*.

4.4.8 POULTRY YIELD

Poultry meat yield is calculated in the same manner as cattle and goat/sheep yield, with the total output of production (expressed as offtake in slaughter, gifting and trading, and sales) over the maximum flock size in the past year (average of 20.1 birds). The yield calculation for poultry includes offtake of chickens, as well as other birds.

As illustrated below in Table 57, 51% of poultry-producing households engaged in any offtake activities in the past year, with slaughtering being the most common at 39%. The remaining 49% of producers did not engage in any offtake activities in the past year. Average weights of each type of bird were applied to each offtake activity, with weights ranging from 0.5 to 2.79 kilograms.

Table 57. Offtake of poultry by activity

Type of offtake	% of producers did this activity in past year
Sold any poultry in the past year	25%
Slaughtered any poultry in the past year	39%
Gifted/traded any poultry in the past year	11%
Did any offtake activity in the past year	51%
<i>n</i>	938

The yield indicator counts all producer households, even if they did not sell, slaughter or gift/trade any animals in the entire year. Yield is expressed as an average across all producer households, so the 49% of households with no offtake activities, who effectively have a yield of 0, are included in this average.

As demonstrated in Table 58, the average yield was 0.6 kg/flock. This represented 15% of total flock offtaken, with an average of 4.1 birds and 4.3 kilograms of offtake. Slaughtering for home consumption was the primary reason for offtake, with 39% of producers engaging in this activity in the past year. Sales were another major component of offtake, with 25% of producers selling some portion of their flock. Finally, 11% gifted or traded some birds in the past year.

Yield was consistent across departments, aside from Nord Est with the lowest yield at 0.2 kg/flock. Producers of only poultry also saw a low yield of 0.3 kg/flock. Yield was affected by the high rate of loss that poultry producers experienced (see *Section 4.4.10 Challenges in Poultry Production*). With this loss, poultry flock sizes changed drastically and the total number of birds in the flock is much larger compared to current flock size (the maximum number of birds averaged 20 in the past year, compared to 9 in total flock). Thus, this large flock size throughout the year affects the yield calculation.

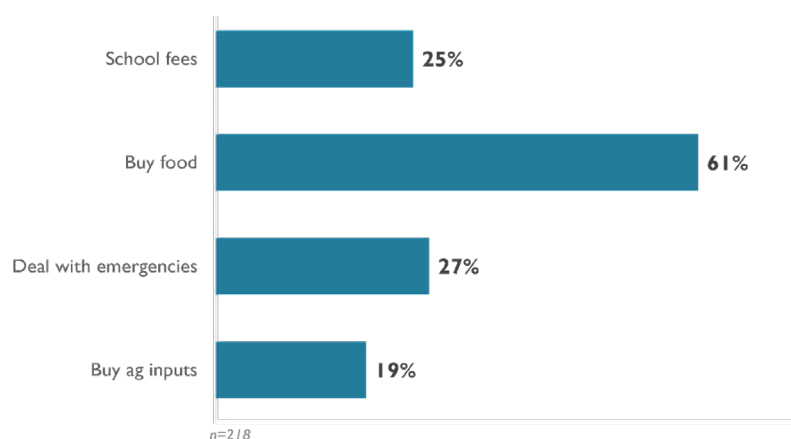
When examining just the 51% of producers who engaged in any offtake activity, the average yield is 1.3 kg/flock, representing an average of 30% offtake of the entire flock. This averages out to 8.1 birds and 8.5 kilograms of offtake.

Table 58. Poultry yield (kg/flock)

By department					
	Total Sample	Nord	Nord Est	Centre	Sud
Average poultry yield	0.6	0.7	0.2	0.7	0.7
<i>n</i>	876	165	127	335	249
By livestock value chain					
	Total Sample	Poultry only	Cattle + poultry	Poultry + goats/sheep	All livestock value chains
Average poultry yield	0.6	0.3	0.7	0.7	0.7
<i>n</i>	876	100	74	361	341

4.4.9 POULTRY SALES

As noted above in Table 57, 25% of producers sold their poultry in the past year, averaging 5.3 birds of those who sold. Chickens and other poultry play a pivotal role in the economic systems of smallholder households in Haiti, contributing both to subsistence as well as income generation. Poultry production and sales are highly intertwined with gender dynamics and are an important source of income for women, as described in the GYI Analysis. With their rapid growth rate and short production cycle, chicken and other birds allow for quicker returns on investment. This is reflected in the uses of income from poultry sales, as described below in Figure 25. In contrast to cattle and even to some extent goats and sheep, producers are most likely to use their sales from poultry on daily home needs, such as purchasing food (61%) as opposed to larger annual expenses like school fees (25%).

Figure 25. Reasons for sale of poultry

Of the 25% of producers who sold poultry, they earned an average of \$64 USD in the past year, with a max sales value of \$278 USD. Amongst the group of all poultry producers, including those with no sales and a sales value of \$0 USD, this average was \$16 USD, as demonstrated in Table 59. Sales of poultry contribute to PARE Indicator #15: Value of annual sales of producers.

Whereas cattle and goat/sheep producers noted the high prices that the larger livestock could bring, some poultry producers explained that the markets for poultry were not necessarily as stable.

"For poultry, there are times when the animals sell well, and then there are times when they don't sell at all." – FGD with producers in Ouanaminthe

Table 59. Annual value of sales of poultry (USD)

By department					
	Total Sample	Nord	Nord Est	Centre	Sud
Average annual sales of poultry (of those that sold poultry)	\$64	\$77*	\$55*	\$61	\$65
<i>n</i>	218	33	14	120	51
Average annual sales of poultry (of all poultry producers)	\$16	\$15	\$6	\$22	\$13
<i>n</i>	876	165	127	335	249
By livestock value chain					
	Total Sample	Poultry only	Cattle + poultry	Poultry + goats/sheep	All livestock value chains
Average annual sales of poultry (of all poultry producers)	\$178	\$48*	\$59	\$62	\$71
<i>n</i>	440	18	23	97	80
Average annual sales of poultry (of all poultry producers)	\$16	\$9	\$18	\$17	\$17
<i>n</i>	876	100	74	361	341

*Low base size

4.4.10 EGG PRODUCTION AND SALES

Despite their potential as a protein source and income source, egg production is not widespread amongst poultry producers. Other studies note that only 13% of respondents cited egg production as a primary reason for raising chickens. Because producers prefer to free-range their chickens, they prefer “broody” chickens over layers, and consequently see low egg productions as well.³⁸

Data from the baseline study mirrored this finding, as shown in Table 60, where only 18% of poultry producers had hens that produced eggs in the past year. This differed widely by region, with Nord (33%) and Sud (32%) seeing far more egg producers than Centre or Nord Est. Nord Est may be more affected by the import of cheap eggs from the Dominican Republic, hence its low rate compared to Nord.

Table 60. Produced eggs

By department					
	Total Sample	Nord	Nord Est	Centre	Sud
% of households who produced eggs	18%	33%	13%	3%	32%
<i>n</i>	876	165	127	335	249
By livestock value chain					
	Total Sample	Poultry only	Cattle + poultry	Poultry + goats/sheep	All livestock value chains
% of households who produced eggs	18%	21%	20%	18%	17%
<i>n</i>	876	100	74	361	341

On average, poultry producers that produced eggs had 5.5 layers in their flock. This was consistent across those who reared poultry only and those who reared other livestock value chains as well.

Egg yield, displayed below in Table 61, is calculated similarly to milk, with total output measured in the number of eggs produced in the past year divided by the maximum number of laying hens during the past year. Of those who produced eggs, the average annual yield of eggs was 53 eggs/producing hen.

³⁸ Schwartz, Timothy. 2109. *Chicken & Egg (Poultry) Ethnographic Value Chain in Haiti*. <https://timothyschwartzhaiti.com/eggs-in-haiti/>

Table 61. Egg yield (eggs/producing hen) of those who produced eggs

By department					
	Total Sample	Nord	Nord Est*	Centre*	Sud
Average egg yield (eggs/producing hens)	53	96	35	16	32
<i>n</i>	161	55	17	9	80
By livestock value chain					
	Total Sample	Poultry only	Cattle + poultry	Poultry + goats/sheep	All livestock value chains
Average egg yield (eggs/producing hens))	53	34	46	52	64
<i>n</i>	161	21	15	66	59

*Low base size

Of those who produced eggs in the past year, 30% sold some portion of them. When viewed over the whole sample population of poultry producers, this equates to 6% of all poultry producers. Thus, not only do households produce eggs at a low rate, but very few of poultry producers in general sell them. Some poultry producers in Nord Est and Centre explained that egg imports from the Dominican Republic have impeded local producers' ability to sell at a profit, diminishing the local egg market.

"Eggs imported from the Dominican Republic have invaded our market." – FGD with producers in Cerca Cavajal.

Of those that sold eggs, they sold an average of 58% of all of their egg production. Table 62 looks at the average annual value of sales of eggs across different subgroups within poultry producers. Of those that sold eggs, they earned an average of \$59 USD. Following the same trends as yield, those in Nord far outearned the other departments with an average of \$104 USD.

Sales of eggs contribute to *PARE Indicator #15: Value of annual sales of producers.*

Table 62. Annual value of sales of eggs (USD)

By department					
	Total Sample	Nord*	Nord Est*	Centre*	Sud*
Average annual sales of eggs (of those who sold eggs)	\$59	\$104	\$3	\$3	\$30
<i>n</i>	49	21	3	3	22
Average annual sales of eggs (of all poultry producers)	\$3	\$13	\$0	\$0	\$3
<i>n</i>	876	165	127	335	249
By livestock value chain					
	Total Sample	Poultry only	Cattle + poultry	Poultry + goats/sheep	All livestock value chains
Average annual sales of eggs (of those who sold eggs)	\$59	\$48	\$83	\$50	\$83
<i>n</i>	49	8	2	28	11
Average annual sales of eggs (of all poultry producers)	\$3	\$4	\$2	\$4	\$3
<i>n</i>	876	100	74	361	341

*Low base sizes

4.4.11 CHALLENGES IN POULTRY PRODUCTION

Poultry producers were especially affected by loss of animals, with 76% of producers reporting loss of birds in the past year. This rate is in line with other studies (citing 81%).³⁹ On average, producers lost 46% of their total flock over the past year, averaging 10 lost birds.

As mentioned above, poultry flocks can be totally decimated through loss due to disease and predators, putting the size of flocks in flux. The vulnerability of poultry to loss is a major reason behind the lack of investment in poultry health treatments, structures for housing birds and investing in quality feed, as producers want to mitigate their risk.

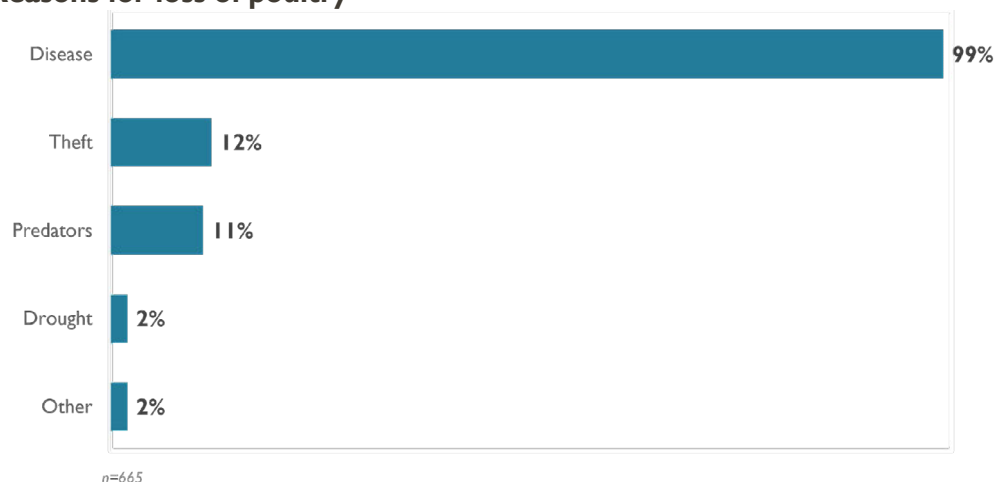
As illustrated in Table 63 loss particularly affected producers in Centre and Nord Est where 90% and 83% of producers lost poultry respectively.

³⁹ Schwartz, Timothy. 2109. *Chicken & Egg (Poultry) Ethnographic Value Chain in Haiti*. <https://timothyschwartzhaiti.com/eggs-in-haiti/>

Table 63. Percentage of poultry producers who lost birds

By department					
	Total Sample	Nord	Nord Est	Centre	Sud
% of poultry producers who lost birds in the past year	76%	83%	55%	90%	62%
<i>n</i>	876	165	127	335	249
By livestock value chain					
	Total Sample	Poultry only	Cattle + poultry	Poultry + goats/sheep	All livestock value chains
% of poultry producers who lost birds in the past year	76%	64%	65%	84%	73%
<i>n</i>	876	100	74	361	341

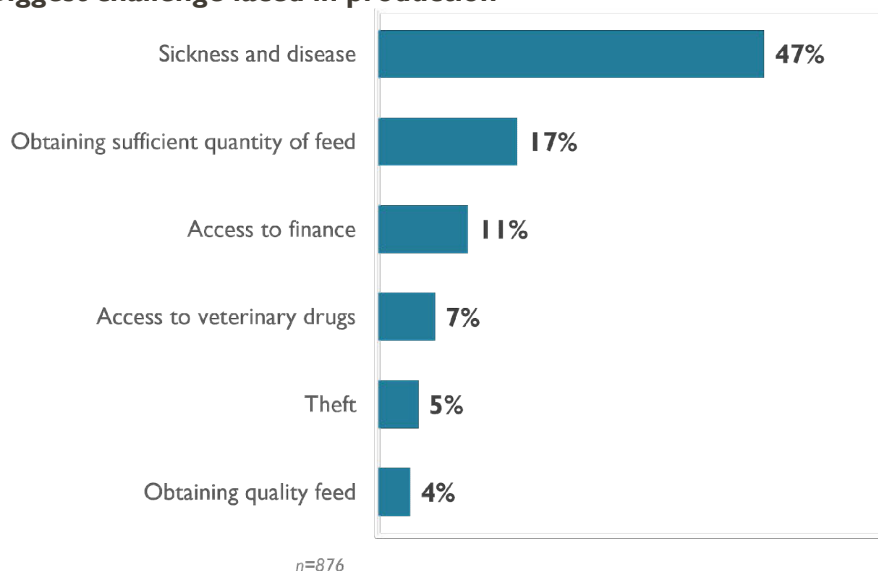
Figure 26 illustrates the underlying causes for loss of poultry in the past year. Whereas loss in other value chains occurs due to a variety of issues, loss of poultry is due mostly to disease, exacerbated by the low rate of vaccination (9%) and then further worsened by theft and predators. The reasons for loss were consistent across departments.

Figure 26. Reasons for loss of poultry

When asked what the biggest challenge they faced in rearing poultry, depicted in Figure 27, poultry producers cited issues that have emerged through the data above. Sickness and disease, the major contribution to flock loss, was the top challenge at 46%. Obtaining sufficient quantity of feed is another top issue at 17% and has been persistent throughout the other value chains. Access to finance (11%) and access

to veterinary drugs (7%) have also emerged as key constraints facing producers not just of poultry, but of all value chains. These issues and more are discussed in greater detail in *Section 4.6 Access to Inputs, Services and Markets* below.

Figure 27. Biggest challenge faced in production



Echoing this data in FGDs, producers feel that poultry diseases have become worse, with little recourse available to stop them.

"Since February/March, chickens have been dying in large numbers due to chicken disease. And there are no more vaccination campaigns either." – FGD with producers in Vallières

4.5 Summary of Livestock Production and Sales

While the sections above examined livestock production and sales amongst only producers who reared that particular value chain, this section presents data across the entire baseline sample, looking at improved practices, yield, annual value of sales and livestock investment.

In addition, this section provides the full results and disaggregates of PARE indicators relevant to livestock management and production for which the baseline data can provide a value. The baseline data will be reviewed in conjunction with initial target values and will inform any adjustments to those targets. These indicators include #10: Improved management practices, #11: Yield of targeted agricultural commodities and #15: Value of annual sales of producers.

4.5.1 IMPROVED PRACTICES

Improved practices can help smallholder livestock farmers increase productivity, reduce risk, improve animal welfare, promote sustainability, and make their operations more economically viable. These benefits can help smallholder producers improve their livelihoods and contribute to household resilience.

PARE Indicator #10: Number of individuals in the agricultural and food system who have applied improved management practices or technologies with USG assistance (FTF EG.3.2-24).

This indicator measures the total number of agriculture and food system actors participating in a USG-funded activity who have applied improved management practices and/or technologies promoted by the USG anywhere within the agriculture and food system during the reporting year. PARE will track changes

in practices for both participant producers (those counted in indicator #4) and partner enterprises and organizations (those counted in indicator #3).

Since PARE is a market systems program and will work primarily through enterprises and organizations that will implement an innovation, PARE will not know the exact practices that will be promoted for their businesses or associated producers until partnerships are formed. For the producer baseline, PARE utilized a list that includes typical improved livestock husbandry practices, across the target livestock (cattle, goats/sheep, poultry) including feeding, nutrition, animal housing, water provision, animal health and record keeping. These practices were defined in the relevant sections above on livestock production and management.

Baseline Table Indicator #10 below illustrates the baseline values for this indicator and its disaggregates. As discussed throughout the previous three sections, the feeding, nutrition, animal housing, water provision, animal health and record keeping practices that have been defined as improved for cattle, goats/sheep and poultry contribute to this indicator.

In total, 84% of producers applied an improved management practice. Amongst the practices included in the baseline, this value was particularly driven by animal health (67%). Despite this relatively high number, producers averaged 1.5 improved practices, out of 6 possible practices, indicating that many practices only one or two, but few practiced more than that. Animal provision was widespread due to the trend of producers applying either an animal health treatment or a vaccine, with only a small portion applying both, across value chains.

In FGDs, producers explained that for many practices, they are aware of what they should be doing and acknowledge the impact good practice can have on their productivity but lack the resources to properly implement the best practice.

"Livestock farming can be improved by providing more grazing space, installing water points for animals, building fences, planting grass, and practicing enclosure farming." – FGD with producers in Camp Perrin

"Our practices are not sufficient. If we had more knowledge, it would be better. We have a lot to learn. We want to increase the yield of our breeding activities." – FGD with producers in Hinche

The most distinctive difference seen in the disaggregates is regional, with the Southern RFZ (comprised of Sud) seeing a higher rate of improved practices (92%) compared to the Northern RFZ (Nord, Nord Est and Centre) at 81%. This reflects the trends discussed above.

Baseline Table Indicator #10: Improved management practices

Disaggregate	Baseline value (% of respondents who applied improved management practices)	n
Total	84%	1683
Value chain actor		
Smallholder producers	84%	1649
Non-smallholder producers	85%	34

Sex of producer		
Male	85%	941
Female	82%	742
Neither	0%	0
Disaggregates not available	0%	0
Age of producer		
Youth (15 – 29)	82%	236
Non-youth (30+)	84%	1446
Location		
Northern RFZ	81%	1259
Southern RFZ	92%	424
Management practice or technology type		
Crop genetics	0%	0
Cultural practices	0%	0
Livestock management	84%	1683
Wild-caught fisheries management	0%	0
Aquaculture management	0%	0
Natural resource or ecosystem management	0%	0
Pest and disease management	0%	0
Soil related fertility and conservation	0%	0
Irrigation	0%	0
Agriculture water management non-irrigation based	0%	0
Water resource management	0%	0
Climate mitigation	0%	0
Marketing and distribution	0%	0

Post-harvest handling and storage	0%	0
Food loss and waste	0%	0
Food safety	0%	0
Value-added processing,	0%	0
Digitally-enabled	0%	0
Other	0%	0

As noted in the PMELP, baseline values for this indicator can be quite high due to the wide range of practices included, as this data demonstrates. As PARE forms partnerships, the MEL team will develop a list of practices that will be promoted with the producers that they will be working with. As this unfolds, PARE will look at the disaggregated prevalence of individual practices to identify ones that are already widely applied and remove those from the list (and from plans to promote) and recalculate this indicator without the already common practices.

4.5.2 YIELD

Through Objective I of the Results Framework, PARE aims to improve the productivity of the livestock sector. This includes increasing the number of animals that producers offtake through slaughtering for home consumption, selling for income or gifting or trading for in-kind value. Yield is used as a means to assess this productivity.

PARE Indicator #I I: Yield of targeted agricultural commodities among program participants with USG assistance

Yield is a measure of the total output of production of an agricultural commodity (crop, fish, milk, eggs, live animal offtake – offtake quantity includes the entire weight of all animals that were sold, slaughtered, gifted or exchanged, including those for home consumption) divided by the total number of units in production (hectares planted of crops, area in hectares for pond aquaculture, cubic meters of cage for cage aquaculture, total number of animals in the herd/flock during the reporting year for live animals, maximum number of producing cows or hens during the reporting year for dairy or eggs). Yield per hectare, per animal and per cubic meter of cage is a measure of productivity from that farm, fisheries, or livestock activity from USG-assisted producers.

PARE will track yield for its producer participants for its target commodities: cattle, goat, sheep, chickens, eggs and cows milk. In the livestock-specific sections above, yield was calculated for each livestock value chain among producers sampled. Baseline Table Indicator #I I below presents this data together with the indicator disaggregates.

Yield of beef averaged 26.5 kilograms per herd across all cattle producers, yield of milk was 493 liters per cow for milk producers, goat/sheep yield averaged 1.9 kilograms per herd, poultry 0.6 kilograms per flock and egg yield averaged 50 eggs per hen.

There were similar trends across the disaggregates of all types of yield, with male producers seeing a higher yield than female producers and non-youth higher than youth producers. The only exception to this trend was within the poultry sector, where poultry meat yield was slightly higher for female producers than male producers. A more in-depth analysis of the gender dimensions of the different livestock value chains is provided in the accompanying Gender and Youth Inclusion Report.

Geographically, those in the departments of the Northern RFZ saw higher yields for goat/sheep and eggs, while the Southern RFZ had higher yields for beef, milk and eggs.

Baseline Table Indicator #11: Yield of targeted agricultural commodities

Disaggregate	Beef yield		Milk yield		Goat/sheep yield		Poultry yield		Egg yield	
	Kg/ herd	n	L / cow	n	Kg/ herd	n	Kg/ flock	n	Eggs/ hen	n
Total	26.5	938	493	167	1.9	1309	0.6	876	53	161
Sex of producer										
Male	29.5	648	500	126	2.2	714	0.6	434	63	81
Female	19.9	290	170	41	1.6	595	0.7	442	43	80
Age of producer										
Youth (15 – 29)	23.6	111	469	25	1.8	191	0.4	130	30	23
Non-youth (30+)	26.9	827	497	142	1.9	1117	0.7	746	57	137
Location										
Northern RFZ	24.5	669	488	131	2.0	981	0.6	627	74	81
Southern RFZ	31.6	269	510	36	1.4	328	0.7	429	32	80
Production System										
Rangelands	23.5	20	456	1	2.1	35	0.8	11	17	5
Mixed-crop	26.5	906	487	161	1.9	1251	0.6	843	55	153
Urban/peri-urban	37.0	12	674	5	2.0	23	0.8	22	49	3
Intensive/ commercial	0.0	0	0	0	0.0	0	0.0	0	0	0

4.5.3 ANNUAL SALES OF LIVESTOCK PRODUCTS

Increasing sales of livestock products, by improving productivity (Objective 1 in the PARE Results Framework), increasing the accessibility of input and services in the livestock market system (Objective 2) and improving marketing and private sector engagement (Objective 3), is a key step to accomplishing PARE's goal of increasing the resilience of livestock producer household and communities.

PARE Indicator #15: Value of annual sales of producers and firms receiving USG assistance

This indicator measures the value in U.S. dollars of the total amount of sales of products and services by USG-assisted farms and firms during the reporting year with USG-supported agricultural commodity value chains or markets. The baseline assessment data presented in this report sheds light on the baseline value of annual sales for producers.

As discussed in the sections above, this indicator includes data from all annual sales of targeted agricultural commodities, including cattle, milk, goats/sheep, poultry and eggs.

Overall, producer households in the baseline study earned an average of \$205 USD from the sale of targeted agricultural commodities. Annual sales were driven by cattle, as 28% of cattle producers sold their commodity in the past year and of those that did, they earned an average of \$892. Comparatively, 34% of goat/sheep producers sold some of their product and of those that did, they earned an average of \$60. Only 25% of poultry producers sold their birds, earning an average of \$64. Even fewer producers sold the targeted animal products of milk and eggs. Notably, 40% of all producers made no sales in the past year, significantly pulling the average down.

This average obscures a wide range of sales values across the livestock producers. A large portion (54%) sold no livestock products at all in the past year, earning \$0 in annual sales. These producers used their livestock for home consumption or held them back as a savings mechanism. The state of political unrest, road closures and general instability of the past year has created new circumstances in which producers are less likely to sell their livestock.

Many producers noted that there has been an increase in the price they can procure for their livestock and some producers have been able to leverage this into increased income.

"There is a lot of money circulating in the animal trade. Those who know how to do it can make a lot of profit." – FGD with producers in Fort Liberté.

For some producers in Centre, however, they noted that there has been a high demand, but prices fluctuate and are without regulation. This highlights the highly regional difference in markets that producers are currently experiencing, largely due to the political and economic crises in Haiti.

"There is no market regulating system, sometimes the prices are higher, sometimes they are lower. But there is always a high demand. If we look at the situation today, we can say that we are in a period where prices are not good. There may be a relationship between the prolonged extreme drought and the drop in prices, because there are too many people who want to sell animals, and these animals are not in good condition." – FGD with producers in Cerca Cavajal.

Baseline Table Indicator #15: Value of annual sales of producers

Disaggregate	Average annual sales of targeted products (USD)	n
Total sales of agricultural commodities	\$205	1683
Type of producer		
Smallholder	\$199	1649
Non-smallholder	\$465	34

Sex of producer		
Male	\$289	941
Female	\$98	742
Age of producer		
Youth (15 – 29)	\$138	236
Non-youth (30+)	\$216	1446
Location		
Northern RFZ	\$211	1259
Southern RFZ	\$186	424
Type of product or service		
Product: Outputs: Agricultural commodities	\$205	1683
Product: Inputs: seeds and planting material	\$0	0
Product: Inputs: other non-durable inputs, such as fertilizer and pesticides	\$0	0
Product: Inputs: durable equipment and machinery	\$0	0
Product: Processed products/value added products (post-harvest)	\$0	0
Product: Post-harvest storage and processing equipment	\$0	0
Service: Business services	\$0	0
Service: Information services	\$0	0
Service: Production support services	\$0	0
Product: Processed products/value added products (post-harvest)	\$0	0

4.5.4 INVESTMENTS IN LIVESTOCK PRODUCTION

Increasing the investment by livestock producers to support and improve their productivity is an area targeted by PARE under Results Framework *Objective 3: Improve marketing and private sector engagement in the sector*⁴⁰.

Almost all (98%) of household invested in their livestock production in some way. Table 64 illustrates the different areas of investment made by producers in the past year. This data is disaggregated by livestock value chain rather than department, as many investments are more relevant to the type of animals being raised than to the specific geographic contexts. Animal health was the most common area of investment (44% overall), with significantly more cattle-only producers investing (57%) than goat and sheep-only (8%). Similarly, poultry-only producers were much more likely to invest in feed (55%) than cattle or goats/sheep producers, due to the nature of poultry feeding systems.

Producers noted that overall, while livestock can be a lucrative endeavor, especially given the recent high prices noted above, it does require significant investment.

What can be noted is that it requires a lot of money to engage in livestock farming currently." – FGD with producers in St Jean du Sud

Table 64. Livestock investments by livestock value chain

Type of investment	Total Sample	Cattle only	Goats/sheep only	Poultry only	Cattle + Goats/S heep	Cattle + Poultry	Goats/S heep + Poultry	All value chains
Investment in Livestock								
% of households that have made an investment in livestock in the past year	98%	95%	98%	92%	99%	95%	98%	99%
<i>n</i>	1683	200	284	100	323	74	361	341
Type of investment made								
Animal health treatments and vaccines	44%	57%	38%	8%	56%	42%	37%	47%
Feed	24%	22%	21%	55%	16%	28%	24%	25%
Purchase of animals	20%	13%	22%	30%	18%	9%	25%	21%

⁴⁰ Though investment from smallholders is no longer counted in Indicator #17: Value of new USG commitment and private sector investment leveraged by USG to support food security and nutrition (FTF EG.3.1-15), PARE will continue to target an increase as an integral part of the strategy of Objective 3.

Farm machinery/tools	17%	16%	16%	7%	19%	12%	17%	21%
Identification system for cattle	17%	29%	5%	0%	31%	27%	4%	24%
Watering (including irrigation or other systems)	7%	9%	4%	4%	5%	16%	4%	10%
Mating	5%	4%	4%	0%	9%	5%	4%	7%
Forage	4%	4%	3%	0%	9%	7%	1%	7%
Improved animal housing	2%	1%	2%	1%	2%	1%	2%	3%
Artificial insemination	0%	0%	0%	0%	0%	1%	0%	1%
Other	3%	4%	1%	1%	6%	7%	3%	4%
<i>n</i>	1683	200	284	100	323	74	361	341

Table 64 presents the average value of investment for each type of investment made, including the total. The total value of investments made by livestock producers, of those who made any investment, averaged \$133 USD. The majority (70%) of producers invested less than \$100 USD into their livestock production. Only 5% invested more than \$500.

The largest investments were purchase of animals, averaging \$156 USD, followed by feed at an average of \$99 USD and watering systems at \$99.

It is important to note that this question was not structured to include a full list of expenditures on livestock production and was instead focusing on what producers considered to be investments.

Table 65. Average value of annual investment

Of those who made any investments	Average value (USD)	<i>n</i>
Total value of annual investment	\$133	1077
Type of investment		
Purchase of animals	\$156	343
Feed	\$110	404

Watering (including irrigation or other systems)	\$99	112
Forage	\$33	75
Farm machinery/tools	\$16	288
Animal health treatments and vaccines	\$22	737
Improved animal housing	\$42	33
Artificial insemination	\$94	6
Mating	\$10	90
Identification system for cattle	\$16	289

4.6 Access to Inputs, Services and Markets

Access to services, resources and markets is crucial in improving the sustainable productivity and resilience of smallholder livestock producers. Without a supportive and healthy market system offering affordable and reasonable access to critical inputs and expert counseling, producers in Haiti face constrained choices in their livestock management, which ultimately reduces not only their productivity, but their household's livelihoods and resilience.

This section details the livestock producers' current access to training and extension services, animal nutrition and stock inputs, animal health products and services, financial resources, markets and information, providing greater context on their constraints and opportunities.

Much of the data in this section contributes to *PARE Indicator #16: Number of households with availability of targeted services supported by USAID*, which measures the number of households reporting availability of targeted services that are supported by USAID. Section 4.6.11 below details the full indicator and its disaggregates. Data that is included in the calculation of this indicator is flagged throughout this section.

4.6.1 ACCESS TO TRAINING AND EXTENSION

Access to timely and relevant training and extension services helps producers adopt productivity-enhancing and climate-smart technologies and management practices to improve the feeding, health and reproduction of their livestock. At present, producers in the Northern and Southern RFZs are not currently accessing livestock-specific training. As illustrated in Figure 28, 3% and less of producers have ever received training in any of the target livestock value chains. There is little difference across departments in this data.

During qualitative interviews, producers and community leaders noted the lack of formal training received. They explained that the bulk of their knowledge on animal husbandry was learned from their parents, using the same traditional methods that have always been used. For producers who have implemented new practices, they noted that these have been learned from their neighbors or through their travels in the Dominican Republic to trade.

"We have received no training on animal husbandry from an appropriate framework (agronomist or veterinarian), nor any supervision from the Ministry of Agriculture. Everything we do comes from our parents and our intelligence." – FGD with producers in Limonade

"We learn from each other, and we copy what gives a good result from the neighbor." – FGD with producers in Hinche

Producers explained that they are especially interested in training focused on producing hay or silage, as it would address their most pressing issue of lack of food during times of drought.

“We would like to learn how to make hay or silage, plant fodder plots, and other techniques to better resist drought. But we are not doing it yet, there is no one who has knowledge of these techniques.” – FGD with producers in Cerca Cavajal

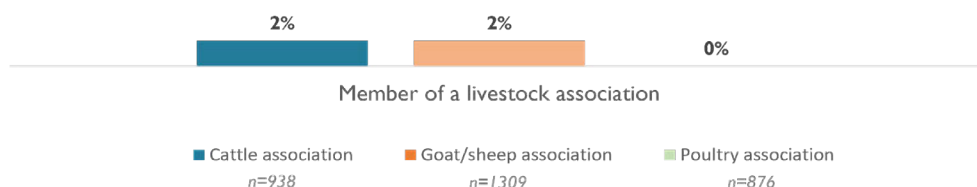
Because so few producers have received training, the base size is too small to disaggregate the sources of training quantitatively, but the top providers of training received were NGO projects and associations. Few, if any, received training from any extension services. Some producers mentioned past training from groups such as Caritas, Heifer, KORAL, VETERIMED, GAO and RESEPAG.

Figure 28. Received training



Associations or cooperative groups can serve as another source of training and knowledge transfer. As with extension services, few producers belong to any association or cooperative group dedicated to livestock. As shown in Figure 29, only 2% of cattle and goat/sheep producers are members of a livestock association and no poultry producers are members.

Figure 29. Member of an association



Reinforcing this lack of involvement in training, extension services or livestock associations, only 3% of producers said that they had received information on improved livestock practices in the past year (more details below in *Section 4.6.5 Access to Information*). Of those that had received information on improved livestock production practices, the most common source of that information was relatives, friends or neighbors (19%), followed by community leaders (15%) and NGOs (13%).

This data suggests that, in alignment with the 2022 USAID/HAITI Economic Growth and Agricultural Development: Gender Analysis Report, agricultural extension service providers in Haiti are fragmented, with NGOs as one of the primary providers. The GOH/MARNDR provides limited support to farmers. Overall, farmers received little information or training and that which they received tends to be informal, from their community.

4.6.2 ACCESS TO MARKETS FOR INPUTS

Accessible and affordable inputs are necessary to improving the productivity of Haitian livestock producers. As producers have negotiated a market marked by natural disaster and political insecurity and violence, their access to markets for purchasing inputs has been affected.

Just over half (55%) of producers cited that they feel that they have access to a market for buying inputs. Table 67 shows how this access differed significantly by department, with those in Nord Est feeling least likely to have access to an input market (28%) compared to those in Centre (74%) or Sud (67%). Despite the proximity to the Dominican Republic for trade, one cause of this regional difference could be ascribed to the lower prevalence of local initiatives focused on expanded access to animal inputs in Nord Est.⁴¹ Market input access was more evenly distributed across the different value chains, and differences are likely related to the geographic distribution of the value chains.

Table 66. Access to markets for inputs

	% who feel they have access to a market for buying inputs	n
Total sample	56%	1 683
By department		
Nord	53%	418
Nord Est	28%	417
Centre	74%	424
Sud	67%	424
By livestock value chain		
Cattle only	47%	200
Poultry only	46%	284
Goats/sheep only	43%	100
Cattle + goats/sheep	49%	323
Cattle + poultry	55%	74
Goats/sheep + poultry	67%	361
All value chains	67%	341

⁴¹ Expert interview with PARE DCOP

4.6.3 ACCESS TO FORAGE AND FEED

Access to forage and feed is another critical input required for improving productivity, particularly forage for cattle. As shown in Table 67, a third of producers (32%) feel that they are able to access forage when needed. The situation is much more dire in Nord Est, where only 4% of producers have access. The discrepancy with the percentages above can be attributed to translation misunderstandings, where respondents interpreted this question as preserved forage such as hay or silage.

As seen above in the discussion of management practices, producers in Nord Est are more likely to free-range their animals, potentially contributing to this regional difference. Producers and community leaders across all the departments linked drought to the need for increased forage. This data is included in the calculation of PARE Indicator #16: Availability of targeted services under the forage category.

As discussed above in Section 4.6.1 Access to Training and Extension, producers expressed great interest in training on producing their own hay, as well as training in growing improved forage. Producers referenced examples they have seen of other producers who grew grasses such as elephant grass that improved the health and productivity of their livestock, and they are eager to replicate.

“We believe that if there is water available and we find training on the production and conservation of fodder, we could produce and preserve fodder for our cattle even during the dry season and prevent certain health problems that hinder our herds.” – FGD with producers in Limonade

Table 67. Access to forage

	% who feel they have access to forage	n
Total sample	32%	1683
By department		
Nord	38%	418
Nord Est	4%	417
Centre	46%	424
Sud	41%	424
By livestock value chain		
Cattle only	26%	200
Poultry only	-	284
Goats/sheep only	19%	100
Cattle + goats/sheep	32%	323
Cattle + poultry	34%	74
Goats/sheep + poultry	39%	361
All value chains	34%	341

Feed is generally one of the most expensive inputs required in raising livestock, especially poultry. In general, the cost of feed has been largely prohibitive, further exacerbated by rising inflation over the last few years.

In addition, the low availability of grain and fodder for cattle can make the cost of rearing these livestock prohibitive.⁴² Among sampled producers, only 4% said they invested in purchasing forage in the past year, with an average cost of \$33 USD. Producers in Sud were more likely to purchase forage (16%) and those that raised cattle in combination with goats and sheep were also more likely than average, at 7%.

4.6.4 ACCESS TO ANIMAL HEALTH SERVICES AND PRODUCTS

Access to veterinary services and medicines is essential for maintaining animal health and protecting against disease. This issue is especially pressing for poultry and goat/sheep producers, of whom 47% cited livestock disease as the worst challenge they face, along with 21% of goat/sheep producers. Yet at the same time, only 9% of poultry producers and 39% of goat/sheep producers have taken preventative action through vaccines in the past year. Thus, there is a delta, at least for poultry and goat and sheep producers between those who recognize the threat of disease to their livestock and their ability and actions to address it.

Table 68 below details producers' perceptions of the availability of animal health workers and veterinary medicine. This data is included in the calculation of *PARE Indicator #16: Availability of targeted services* under the Animal Health Services category. Overall, almost three-quarters (71%) of producers feel that they have access to animal health workers, though this is lower for producers of poultry only (49%), who are also less likely to administer animal health treatments than producers of other livestock value chains. However, producers cited that the average time to travel to the nearest animal health worker is one hour, making access somewhat costly and time-consuming. Producers explained that while agents are available, the time and expense make them prohibitive, and if they fear that the animal will die anyways, are unlikely to invest in any care.

"Veterinary agents are a private matter, you have to negotiate a price with the agent you can find. There aren't many in the commune, so they know they can charge a pretty high price. When they come, they don't have any medicine, it's up to you to find the necessary medicine. All this is the cause that the treatment of a sick animal often exceeds our means." – FGD with producers in Cerca Cavajal

As expressed above, few producers, about one-third (30%), feel that they can access veterinary medicine or a veterinary pharmacy, and this is consistent across departments and value chains. Recent research from the Livestock Market Systems Resilience Analysis indicated that government veterinary services are weak and have gotten weaker during the most recent social and political instability. This is particularly affecting the stock of veterinary medicines. Four interrelated challenges were cited as limiting the private sector: inflation and exchange rates are squeezing margins to the point of losses, particularly for imported medicines and vaccines; and cold storage and transport are spotty and expensive due to lack of access to energy, increasing spoilage and further stressing already thin margins.⁴³ As producers explained during FGDs:

"There is a lack of available medications in the area. Medications are expensive. We are exposed to many humiliations when we have to go to the Dominican Republic to find a solution to our problems." – FGD with producers in Ouanaminthe

An interesting geographical finding is related to the Sud department, where producers administer animal health treatments and provide vaccines at higher rates than other departments (discussed above in relevant livestock production sections). Yet they struggle with access to veterinary medicine at similar rates to other departments. One explanation that emerged in qualitative fieldwork and is reflected below in Table 68 is related to the availability of animal health workers. Those in Sud felt that they had more access to animal health workers, citing veterinary agents as one of the only livestock services available.

⁴² Banyan Global. 2022. *USAID/Haiti Economic Growth and Agricultural Development: Gender Analysis Report*.

⁴³ Vikara, (2023). *PARE Livestock Market Systems Resilience Analysis*.

Table 68. Access to veterinary services and medicines

	% who feel they have access to animal health workers	% who feel they have access to veterinary medicine	n
Total sample	71%	30%	1 683
By department			
Nord	75%	28%	418
Nord Est	61%	27%	417
Centre	67%	35%	424
Sud	81%	29%	424
By livestock value chain			
Cattle only	77%	30%	200
Goats/sheep only	65%	32%	284
Poultry only	49%	22%	100
Cattle + goats/sheep	75%	27%	323
Cattle + poultry	68%	34%	74
Goats/sheep + poultry	72%	30%	361
All value chains	74%	30%	341

4.6.5 ACCESS TO MARKETS

Access to markets is pivotal to resilience for smallholder livestock producers, as limited access to markets increases their vulnerability to shocks and hinders economic opportunities.⁴⁴

Producers overwhelmingly sold all types of livestock in local markets, as illustrated in Figure 30. Some producers also reported selling to various other outlets, including neighbors and networks of traders, offering limited diversity in terms of market channels.

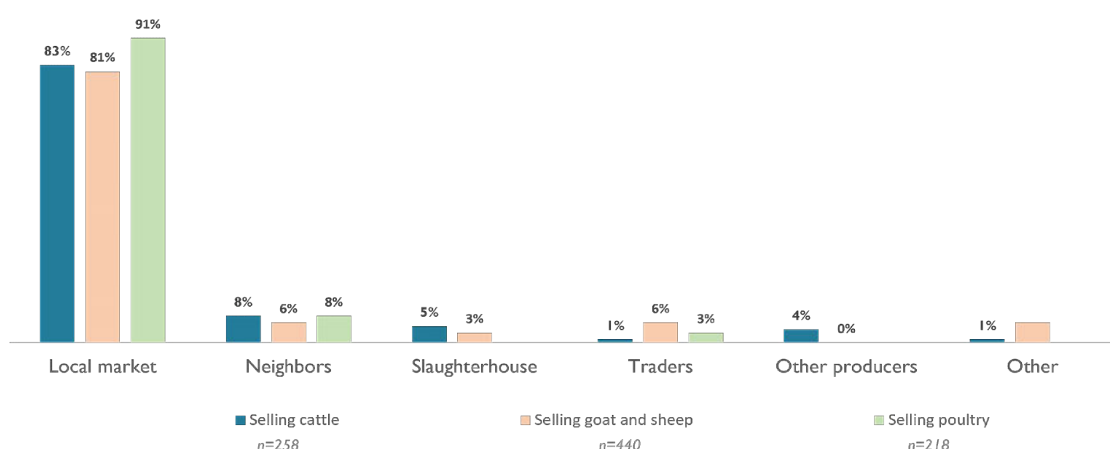
Producers note that they face few challenges in accessing local markets and that they understand how to negotiate these markets. However, producing a sufficient quantity and quality of livestock remains a challenge.

"With the increase in prices and the appreciation of livestock products by consumers, if we manage to guarantee quality and quantity, we will really benefit from this sector." – KII with DDA, Sud

⁴⁴ FAO. 2015. *Economic lives of smallholder farmers*.

At the same time, producers do not have access to many other options aside from their local markets. As noted in the LMSRA study, there are no credible channels for smallholder livestock to pass through a commercial slaughterhouse in the North or South. In qualitative interviews, stakeholders also noted that there is no regulation in local markets regarding the quality of the meat. Thus, producers find themselves limited in terms of end markets for their livestock products.

Figure 30. Markets for selling livestock



Geography affected type of market to some degree, as shown in Table 69. The most marked difference was within poultry markets, where producers in the Nord Est were more likely to sell to traders (29%) or neighbors (18%) than to local markets. Additionally, within markets for cattle, producers in Nord Est and Centre were slightly more likely to sell at slaughterhouses (8% and 10% respectively) than in other departments. For goat and sheep markets, producers in Sud sold to neighbors more frequently (18%) than poultry producers in the Nord Est.

Table 69. Markets for selling livestock by department

	Nord	Nord Est	Centre	Sud
Markets for selling cattle				
Local market	86%	83%	81%	84%
Other producers	5%	1%	0%	8%
Neighbors	4%	9%	8%	9%
Traders (Madan Sara, Pacotilleurs, voltigueres)	2%	3%	0%	0%
Slaughterhouse	2%	8%	10%	0%
Other	2%	1%	0%	0%
<i>n</i>	56	75	48	79

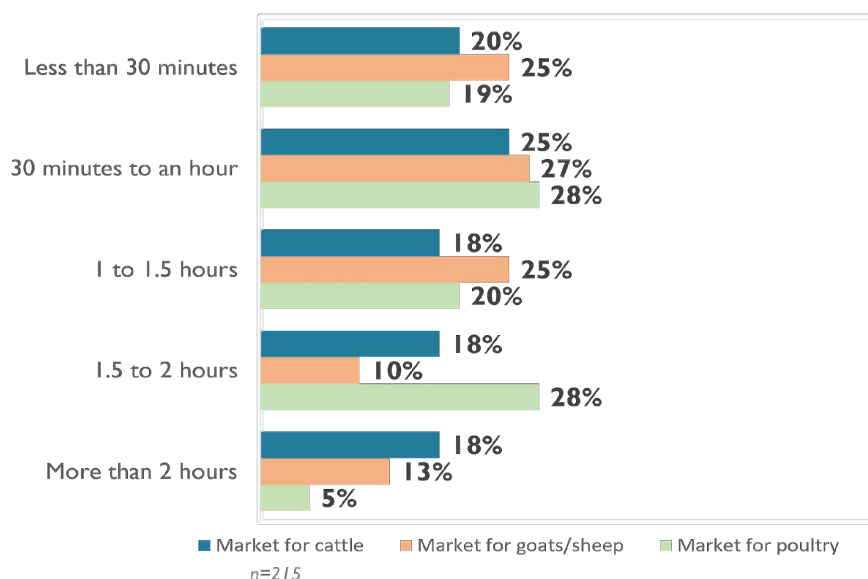
Markets for selling goats/sheep*				
Local market	93%	64%	86%	74%
Neighbors	2%	7%	3%	18%
Traders (Madan Sara, Pacotilleurs, voltiguers)	2%	17%	3%	6%
Slaughterhouse	0%	12%	0%	0%
Other producers	0%	1%	0%	0%
Other	3%	2%	10%	6%
<i>n</i>	98	95	175	72
Markets for selling poultry*				
Local market	94%	36%	98%	86%
Neighbors	3%	36%	3%	16%
Traders (Madan Sara, Pacotilleurs, voltiguers)	0%	29%	1%	4%
Slaughterhouse	0%	0%	0%	0%
Other producers	0%	0%	0%	0%
Other	0%	0%	0%	0%
<i>n</i>	33	14**	120	51

**Low base size

*There was a significant difference between departments at the 0.05 level using a chi-square test

The distance to local markets varied for producers, influenced by both the type of animal sold as well as department. As displayed in Figure 31, for about half of producers, local markets for selling their livestock are over an hour away (54% for cattle markets, 48% for goat and sheep markets, and 53% for poultry markets).

Figure 31. Distance to local markets



As shown in Table 70, local markets for cattle and goats/sheep are nearest in Nord Est and furthest in Centre. Markets for poultry are generally nearest in Centre and furthest in Sud.

Table 70. Distance to local markets by department

	Nord	Nord	Centre	Sud
Markets for selling cattle*				
Less than 30 minutes	29%	35%	5%	9%
30 minutes to an hour	19%	42%	18%	18%
1 to 1.5 hours	15%	15%	33%	15%
1.5 to 2 hours	19%	8%	18%	27%
More than 2 hours	19%	0%	26%	30%
<i>n</i>	48	62	39	66
Markets for selling goats/sheep*				
Less than 30 minutes	27%	30%	21%	29%
30 minutes to an hour	24%	49%	19%	26%
1 to 1.5 hours	26%	15%	29%	25%
1.5 to 2 hours	9%	7%	11%	17%
More than 2 hours	14%	0%	21%	4%
<i>n</i>	91	61	150	53

Markets for selling poultry*				
Less than 30 minutes	22%	20%	22%	7%
30 minutes to an hour	3%	40%	38%	16%
1 to 1.5 hours	42%	0%	17%	16%
1.5 to 2 hours	32%	20%	20%	48%
More than 2 hours	0%	20%	3%	14%
<i>n</i>	31	5*	118	44

**Low base size

*There was a significant difference between departments at the 0.05 level using the chi-square test

In addition, producers noted that the distance to markets can lead to the mistreatment of animals during transport, as they must cover long distances without proper vehicles for livestock transport.

"It must be admitted that the way animals are transported in Haiti traumatizes the animals. Poultry and goats are often tied upside down over the edge or bumper of a truck or van. Quite often you can see someone traveling on a motorcycle taxi, with a pig or a goat tied behind him on the motorcycle." – FGD with producers in Cerca Cavajal

4.6.6 ACCESS TO INFORMATION

Access to information plays a pivotal role in enhancing both livestock production and household resilience in Haiti. For producers who depend on their agricultural production as their primary source of livelihood, the availability of timely and accurate information is imperative. Livestock producers require data on market prices, weather patterns, disease outbreaks, and technological advancements to make informed decisions about their operations. Reliable information empowers them to optimize production, anticipate market fluctuations, and adopt adaptive strategies in the face of changing circumstances. Various sources contribute to this information ecosystem, including government agencies, NGOs, community-based organizations, and social media.

Over three-quarters (76%) of households have been exposed to at least one topic of targeted information in the past year. Figure 32 details the different topics of information that producers have accessed in the past year. Information related to weather and its impact on agricultural and livelihoods was one of the most common types of information that households received information on, with 60% of households accessing information on upcoming weather, 36% receiving information on early warning for natural hazards and 25% receiving information on long term changes in weather. Additionally, information on market prices for food was a common source of information, with 41% of households accessing information on this topic. Given the recent occurrence of natural disasters and extreme weather, as well as the sharp increase in the price of food in Haiti, these topics are aligned with the most pressing shocks facing livestock producers in Haiti at this time.

Figure 32. Information accessed in past year



The type of information accessed differed by department, as shown in Table 71, with little difference by livestock value chain. This is likely due to the different conditions and events occurring in each department. Information on food prices was accessed by more households in Centre and Sud, and those in Sud also received information on early warning for natural hazards more frequently. Those in Nord Est accessed less information overall. Information on animal health was accessed more frequently by those in Nord and Sud than in Nord Est or Centre.

Table 71. Information accessed in past year by department*

	Total sample	Nord	Nord Est	Centre	Sud
Rainfall/ weather prospects for coming growing season	60%	62%	43%	63%	69%
Market prices of the food you buy	41%	21%	24%	50%	70%
Early warning for natural hazards (flooding, hail, landslide)	36%	39%	25%	28%	51%
Long-term changes in weather patterns	25%	21%	20%	25%	33%
Animal health (e.g., disease, epidemic, prevention)	24%	36%	12%	17%	31%
Child nutrition and health information	19%	9%	9%	28%	30%
Crop health (e.g., pest outbreaks, disease, prevention)	15%	8%	5%	14%	32%
Opportunities for borrowing money	13%	22%	2%	7%	20%
Human rights	8%	2%	3%	11%	18%
Water prices and availability in local boreholes, wells, etc.	8%	8%	1%	10%	13%
Gender-based violence	7%	2%	1%	10%	17%
Business and investment opportunities	7%	11%	0%	1%	15%
Natural resource management	6%	2%	0%	0%	21%
Improved crop production practices/technologies (CA, seeds)	4%	4%	1%	1%	11%
Conflict or security issues	4%	1%	0%	0%	14%
Improved livestock production practices (fodder, husbandry)	3%	2%	0%	1%	9%
<i>n</i>	1683	418	417	424	424

*There was a significant difference between departments at the 0.05 level using chi-square test

Smallholder livestock producers rely on a variety of sources for information to support their livestock production and mitigate their vulnerability to shocks and stressors. Table 72 shows the sources of information that producers used for each topic accessed. For many topics, mass media including newspapers, radio and TV are the primary source of information. Mass media can offer a broad reach and convey critical information efficiently, especially around topics such as early warning for natural hazards. However, access to TV and radio is limited, as described below in *Section 4.7.2 Resilience Strategies*, with only 57% of households owning a radio and 5% owning a television, limiting the reach of this information channel. For topics related to price, such as market prices of food and water prices at local boreholes, local networks (relatives, friends and neighbors) were the more common source. Producers also relied on these networks as the source of information around credit and business, with 41% accessing information on loans from their networks and 47% receiving information on business opportunities. Word of mouth also plays an important role in the dissemination of information, particularly for topics such as crop health (20%).

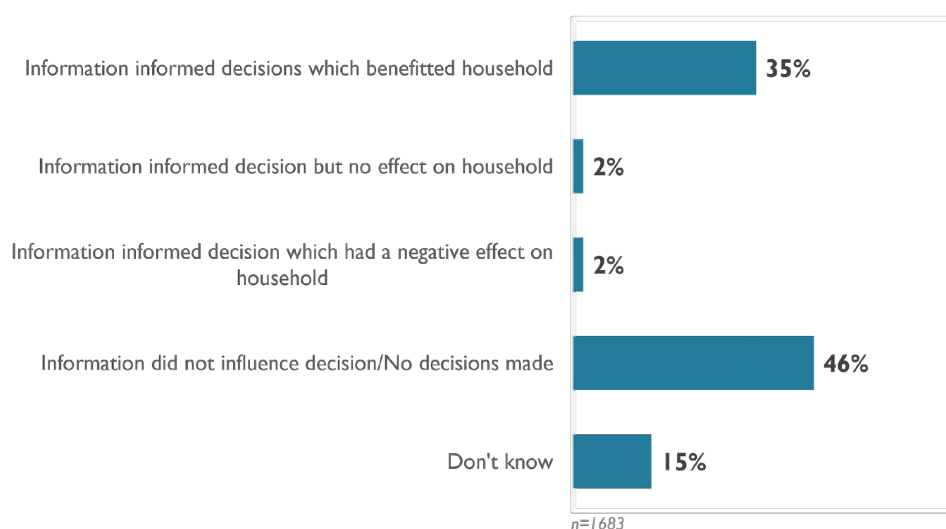
Table 72. Sources of information

Topic of information	News- paper /Radio / TV	Relatives, friends, neighbors	Word of mouth	Internet or SMS	Comm- unity leaders	Group in comm- unity	<i>n</i>
Rainfall/ weather prospects for coming growing season	47%	25%	11%	5%	4%	0%	1004
Market prices of the food you buy	22%	31%	10%	3%	17%	4%	695
Early warning for natural hazards (flooding, hail, landslide)	50%	26%	5%	5%	2%	1%	604
Long-term changes in weather patterns	60%	15%	5%	5%	3%	1%	419
Animal health (e.g., disease, epidemic, prevention)	33%	27%	15%	3%	8%	2%	403
Child nutrition and health information	19%	10%	7%	2%	42%	4%	322
Crop health (e.g., pest outbreaks, disease, prevention)	8%	53%	20%	2%	6%	3%	248
Opportunities for borrowing money	5%	41%	8%	0%	14%	11%	218
Human rights	14%	9%	1%	3%	34%	8%	143

Water prices and availability in local boreholes, wells, etc.	22%	31%	10%	3%	17%	4%	134
Gender-based violence	14%	7%	3%	2%	34%	7%	125
Business and investment opportunities	3%	47%	2%	3%	4%	12%	117
Natural resource management	18%	16%	1%	2%	13%	18%	100
Improved crop production practices/technologies (CA, seeds)	11%	27%	5%	4%	12%	5%	74
Conflict or security issues	20%	29%	22%	3%	0%	3%	65
Improved livestock production practices (fodder, husbandry)	8%	19%	4%	4%	15%	8%	53

Overall, the information received had a mixed effect on decisions made within the household, as shown in Figure 33. For almost half (46%), the information did not influence household decisions. However, for a third (35%), the information accessed informed household decisions and resulted in a benefit to the household.

Figure 33. Influence of information



4.6.7 AVAILABILITY OF TARGETED SERVICES

In order to achieve the goal of increasing resilience, PARE will seek to increase the accessibility of inputs and services in the livestock market system through Objective 2 of the Results Framework. By providing livestock producers with improved, reliable access to inputs and services—extension services, animal health, input suppliers and agro-dealers, forage, markets to sell products and access to financing, then producers can apply improved livestock practices and farm management, resulting in increased productivity and livestock sales and enabling key resilience capacities of asset accumulation and income diversification.

PARE Indicator #16: Number of households with availability of targeted services supported by USAID

This indicator measures the number of households reporting availability of targeted services that are supported by USAID. PARE will count the total number of participant producers (that report having access to the services provided by PARE-supported organizations or enterprises. Since PARE is a market systems program and will work primarily through enterprises and organizations that will implement an innovation, PARE will not know the exact services that will be promoted until partnerships are formed. As PARE creates partnerships, a full list of services will be compiled. For the producer baseline, PARE utilized a list that includes typical services needed by livestock producers, including extension services, animal health services, input suppliers, forage, aggregation services, markets to sell production and microfinance/bank/other lending groups.

Data for this indicator was compiled from the sections above, as well as access to finance found below in *Section 4.7.2 Resilience Strategies*.

Baseline Table Indicator #16 displays baseline values for this indicator and its disaggregates based on percentage of the baseline sample with access to any of these services.

This relatively high figure obscures a lack of livestock services available. It is driven by access to animal health which, as explained above, acknowledges that private veterinary services are available, but they are costly and time consuming to access. Aside from that, many producers in qualitative work lamented the lack of livestock services available to them.

“The services available for livestock farming in the area are very rare. However, we still find the presence of a few veterinary officers at the commune level; there is the presence of the CASEC Office to control the sale of animals; the Municipal Agricultural Office of Acul-du-Nord which does not really have means at its disposal to supervise agro-pastoralists. – KII with Community leader in Acul du Nord

Baseline Table Indicator #16: Availability of targeted services

Disaggregate	Total Sample	Location		Department			
		Northern RFZ	Southern RFZ	Nord	Nord Est	Centre	Sud
Total: access to any service	88%	89%	88%	93%	77%	96%	88%
<i>n</i>	1683	1259	424	418	417	424	424

Type of service							
Extension services	3%	3%	5%	3%	4%	1%	5%
Animal Health Services	71%	68%	81%	75%	61%	67%	81%
Input Suppliers/Agro-dealers	34%	32%	39%	22%	24%	49%	39%
Forage	32%	29%	41%	38%	4%	46%	41%
Markets to sell production	44%	41%	53%	30%	38%	54%	53%
Financial Institutions	32%	33%	30%	22%	26%	50%	30%
<i>n</i>	1683	1259	424	418	417	424	424

4.7 Household Resilience

Resilience, as defined by USAID, can be captured by a set of capacities that enable households and communities to withstand and recover from shocks and stresses while also achieving their long-term development goals.⁴⁵ As stated in the Results Framework shared in the PMELP, PARE's goal is to ultimately increase the resilience of households and communities in the Northern and Southern RFZs.

This section provides an overview of household resilience for livestock producer households in the Northern and Southern RFZs. It begins with data on the shocks and stressors that households have experienced in the past year and the severity and impact of those shocks. Next is a discussion of the various resilience facilities available to households across absorptive, adaptive and transformative capacities. Then follows an analysis of the different coping mechanisms and levers of resilience that households employed to deal with shocks and stressors in the past year. It concludes with a summary snapshot of the targeted resilience capacities that PARE will seek to strengthen. PARE Indicators related to household resilience are woven in throughout this discussion.

4.7.1 SHOCKS AND STRESSORS

As discussed previously, Haiti's current crisis has resulted from a political and economic implosion, compounded by natural catastrophes. When asked about the shocks households experienced in the past year (of a series of 21 possible shocks and stressors covering climate, biological, conflict, and economic shocks), households averaged 7.8. In general, households in Sud tended to report a higher experience of shocks with an average of 9.1 than those in other departments, especially Centre at 6.3.

Within this average seen in Figure 34 that while the majority (61%) experienced between 6 to 10 shocks, there was a substantial group (21%) who experienced 5 or less and another group of 12% who experienced more than 11.

⁴⁵ USAID 2018 resilience capacities measurement guide

Figure 34. Number of shocks and stressors experienced

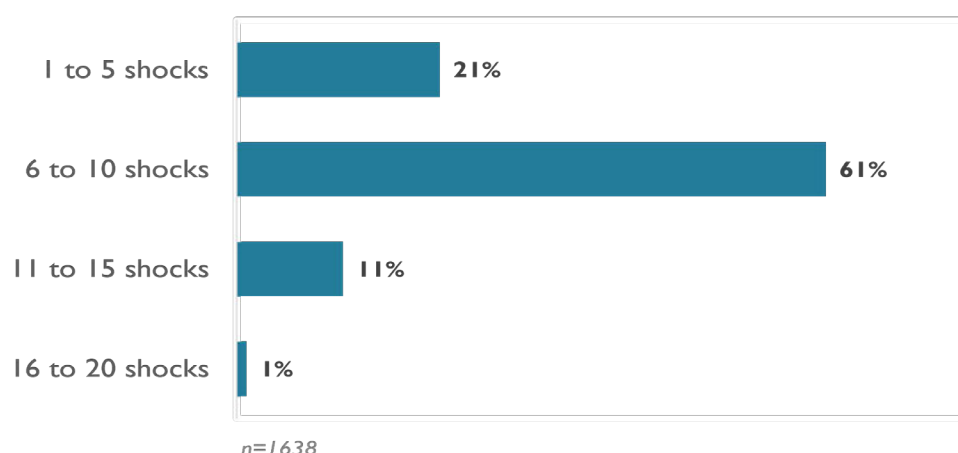
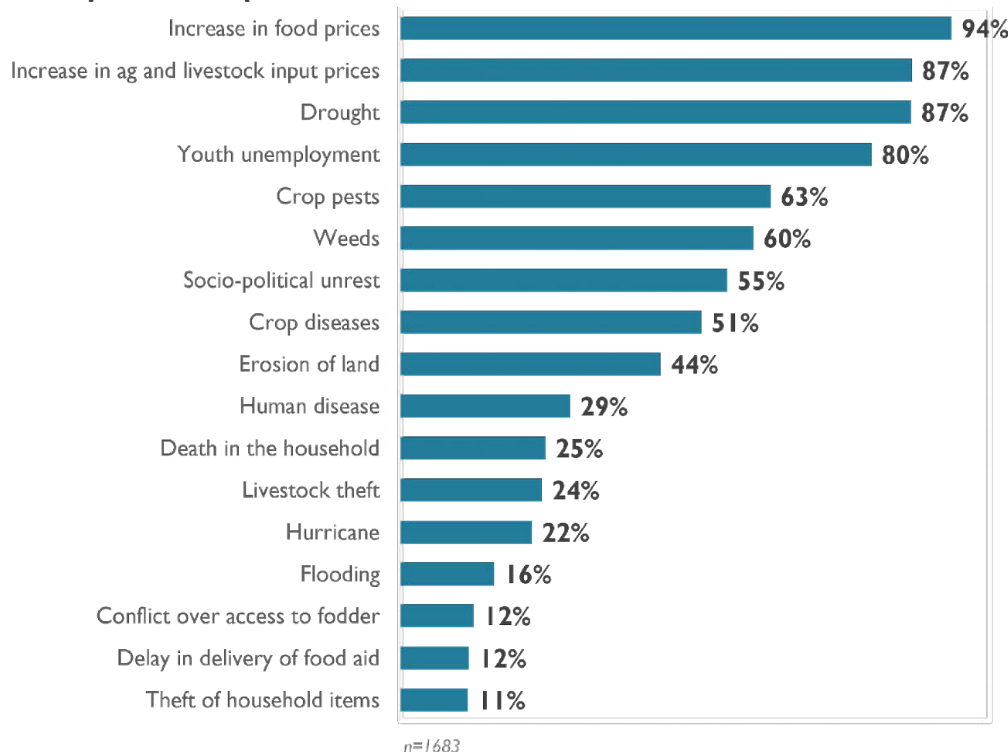


Figure 35 illustrates the top shocks experienced by 5% or more of households. The most common shocks experienced included economic shocks in the form of sharp increases in the price of food (94%) and agricultural inputs (87%) as well as youth unemployment (80%). Biological shocks including crop pests (63%), weeds (60%) and crop diseases (51%) also highly affected households. Drought was the most pervasive climate shock experienced (87%).

Figure 35. Top shocks experienced



When examining shocks by the geographic area in Table 73, economic shocks were experienced consistently across departments, while biological shocks differed somewhat. Those in Nord Est were least likely to experience biological shocks like crop pests, weeds and crop diseases compared to other departments, particularly Sud.

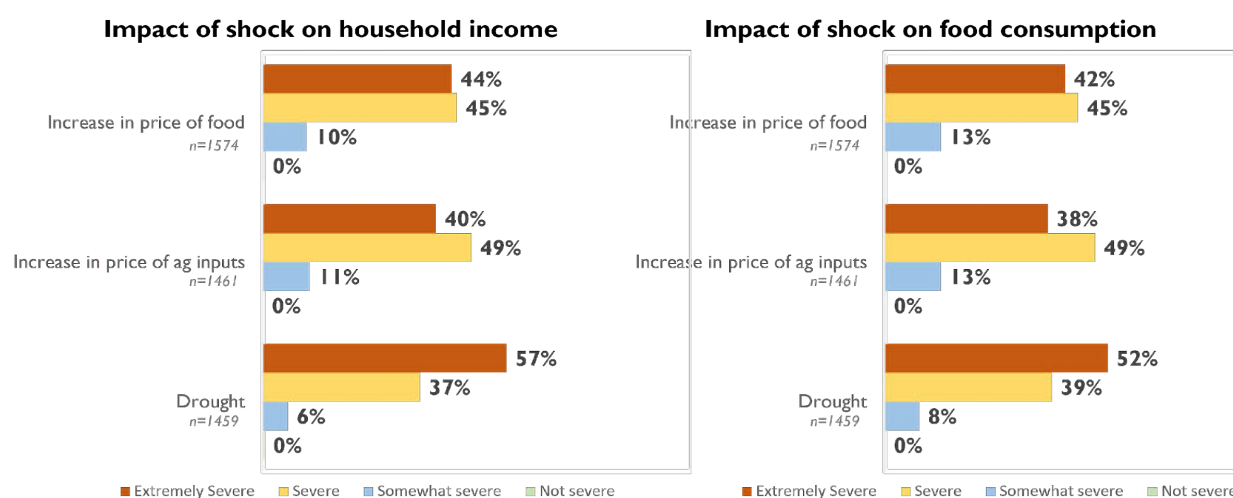
Table 73. Top ten shocks by department*

Type of shock	Total Sample	Nord	Nord Est	Centre	Sud
Increase in the price of food	94%	92%	97%	92%	93%
Increase in price of ag and livestock inputs	87%	85%	78%	92%	92%
Drought	87%	86%	92%	75%	94%
Youth unemployment	80%	92%	81%	58%	89%
Crop pests	63%	83%	51%	47%	70%
Weeds	60%	68%	51%	54%	67%
Socio-political unrest	55%	64%	68%	40%	50%
Crop diseases	51%	66%	33%	28%	77%
Erosion of land	44%	37%	62%	35%	43%
Human disease	29%	33%	27%	8%	47%
<i>n</i>	1683	418	417	424	424

*There was a significant difference between departments at the 0.05 level using a chi-square test

Depending on their capacity for resilience, households perceive and experience the severity of a shock and its impact differently. Overall, respondents rated most shocks as severe or extremely severe in terms of their impact on household income and food consumption. Figure 36 illustrates the perceived severity of the top three most prevalent shocks on household income and food consumption. Drought was felt to be the most severe of these top shocks, with 57% citing it as having an extremely severe impact on household income and 52% on food consumption. In addition to these top three shocks, 65% of producers also cited that delays in delivery of food aid had an extremely severe impact on income, echoing the sentiment above that access to aid is limited.

Figure 36. Severity of shocks and impact on household income and food consumption



4.7.2 RESILIENCE CAPACITIES

Resilience capacities are the abilities and attributes that individuals, communities, or systems possess to anticipate, prepare for, respond to, and recover from shocks, stresses, and uncertainties. These capacities contribute to the overall resilience of a system by enhancing its ability to adapt and thrive in the face of challenges. For smallholder producers, building and strengthening resilience capacities powers smallholder farmers to navigate challenges effectively, seize opportunities, and build more secure and sustainable livelihoods.

Resilience capacities can be organized into three groupings that reflect the different dimensions of resilience. *Absorptive resilience* capacities are the ability to minimize exposure and sensitivity to shocks and stresses through preventative measures and appropriate coping strategies to avoid permanent, negative impacts. *Adaptive resilience capacities* are the ability to make informed choices and changes in livelihood and other strategies in response to longer-term social, economic and environmental change. Finally, *transformative resilience capacities* are the governance mechanisms, policies and regulations, cultural and gender norms, community networks, and formal and informal social protection mechanisms that constitute the enabling environment for systemic change.⁴⁶

Absorptive resilience capacities

Absorptive capacities allow households to absorb and manage or mitigate the impacts of shocks through preventative measures such as cash savings, asset ownership, insurance, access to humanitarian assistance and bonding social capital, all of which are discussed below.

First, access to cash savings play a significant role in enhancing household resilience by providing a financial buffer that helps producer households navigate unexpected challenges and maintain stability during times of uncertainty. Overall, slightly over one-third (37%) of producer households have some form of cash savings, with a substantially higher percentage in Nord (57%) than in Sud (24%). This savings was predominantly kept in informal locations. Of those with savings, the majority (62%) keep those savings at home. A small group (19%) also keeps savings in a village savings or credit group. Only 6% of households kept their savings in a formal bank and 1% with mobile banking. This trend is markedly different, however, in Centre, where more households (50%) keep their savings in village savings group than at home (20%).

Table 74. Household saving by department

	Total Sample	Nord	Nord Est	Centre	Sud
Households that have savings					
% of households that have savings	37%	57%	37%	39%	24%
<i>n</i>	1683	418	417	424	424
Location of savings					
At home	62%	71%	76%	20%	70%
Village savings/credit group	19%	15%	4%	50%	15%

⁴⁶ Vaughan, E. (2018). Resilience Measurement Practical Guidance Note Series 3: Resilience Capacity Measurement. Produced by Mercy Corps as part of the Resilience Evaluation, Analysis and Learning (REAL) Associate Award.

Bank	6%	4%	7%	2%	12%
MFI	4%	5%	5%	2%	1%
Mobile banking	1%	1%	2%	2%	0%
Other	7%	4%	2%	24%	3%
<i>n</i>	620	238	156	123	103

Amongst the different livestock value chains, Table 75 shows that producers of poultry only are less likely to have savings than producers of other value chains, perhaps connected to the small income earning potential of poultry as compared to goats and cattle, as well as the higher vulnerability of these producers due to less income.

Table 75. Household saving by livestock value chain

	Total Sample	Cattle only	Goats/sheep only	Poultry only	Cattle + Goats/ Sheep	Cattle + Poultry	Goats/ Sheep + Poultry	All value chains
Households that have savings								
% of households that have savings	37%	40%	35%	22%	43%	28%	34%	40%
<i>n</i>	1683	200	284	100	323	74	361	341
Location of savings								
At home	62%	61%	65%	55%	70%	81%	52%	59%
Village savings/credit	19%	13%	21%	23%	14%	5%	26%	23%
Bank	6%	8%	4%	9%	7%	0%	2%	9%
MFI	4%	8%	3%	9%	4%	5%	3%	1%
Mobile banking	1%	4%	2%	0%	1%	0%	2%	1%
Other	7%	4%	3%	5%	5%	10%	16%	7%
<i>n</i>	620	80	99	22	139	21	121	138

Secondly, assets play a vital role in helping households absorb shocks and bounce back from adversity. Assets encompass a wide range of tangible and intangible resources that contribute to a household's overall well-being and ability to withstand and rebound from shocks. The baseline assessment focused on land, livestock, productive agricultural and household assets.

Access to land, particularly for livestock producers, ensures a stable resource base that can be used to support the household's needs and generate income during both normal and challenging times. As noted in Table 76, producer households have access to an average of 2.1 hectares of land. This is slightly larger in Nord Est and Centre, with averages of 2.3 and smaller in Nord at 1.8 and in Sud at 1.9 hectares. Comparing different livestock value chains, those that tended cattle and poultry, or all three livestock types had slightly larger averages, at 2.3. In addition, those with the largest plots of land tended to produce cattle only or cattle and another value chain.

Ownership of land, as opposed to sharecrop or rental systems, can be an important factor to improving resilience and livelihoods of smallholder farmers, as it encourages long-term investment for improved productivity. Slightly over three-quarters (77%) of households noted that they held some ownership of their land, either formally or informally, including land within their families that they stand to inherit. About one-fifth of households (17%) leased or sharecropped their land, including under the terms of “jouissance” where they did not have a formal agreement or payments on this land. A further 6% did not know their land tenure status. This data reflects findings from other studies that note that rural households in Haiti are often more comfortable with an informal land tenure system – one where local recognition from neighbors and community leaders holds precedent over formal legal documentation.⁴⁷ Thus, the 17% of households without ownership and 6% who do not know their land tenure status may not necessarily experience issues of land insecurity according to traditional development definitions of land ownership. Rather, they hold their land securely, it is just in the Haitian system of informal land tenure.

Comparing across geographies and livestock chains, those in the Nord Est as well as those with goats/sheep only had the lowest rate of ownership (71% and 67% respectively) as well as the highest rate of Don't know responses at 17% and 14%, indicating more uncertainty and less clarity of formal land tenure.

Table 76. Land access and ownership

	Av. # hectares of land under household management	% of households that own this land	n
Total sample	2.1	77%	1683
By department			
Nord	1.8	83%	418
Nord Est	2.3	71%	417
Centre	2.3	82%	424
Sud	1.9	74%	424

⁴⁷ <https://timothyschwartzhaiti.com/land-tenure-in-haiti/>

By livestock value chain			
Cattle only	2.0	75%	200
Goats/sheep only	2.1	67%	284
Poultry only	1.9	68%	100
Cattle + goats/sheep	2.0	80%	323
Cattle + poultry	2.3	82%	74
Goats/sheep + poultry	2.0	83%	361
All value chains	2.3	81%	341

Owning livestock is a pivotal factor in bolstering the resilience of smallholder producers, as it empowers them with increased control over their agricultural activities and livelihoods. Ownership and management of livestock can take several forms, involving either sole or joint arrangements both within the household and outside of it. Table 77 illustrates that ownership is mostly kept within the household, with 9% of cattle producing households and 4% of goat/sheep producing households having owners outside of the household. These owners are a combination of relatives who live outside of the region or the country, or third parties.

The majority of households have a sole owner and manager of their livestock, but joint ownership is found in a substantial minority of households. In addition, joint management of livestock is higher than sole management, indicating that it is common for a single member of the household to own the livestock, but have multiple members of the household manage it. Within the cattle value chain specifically, sole ownership and management is more common than for goats/sheep and poultry, with a single member of the household both owning and managing the cattle. The Gender and Youth Analysis delves into the gendered and age aspects of this ownership.

Table 77. Livestock ownership

Livestock value chain	Solely within household	Jointly within household	Outside of household	n
Management structures of livestock				
Cattle	73%	25%	2%	938
Goats/sheep	66%	33%	1%	1309
Poultry	64%	35%	0%	876
Ownership structures of livestock				
Cattle	70%	20%	9%	938
Goats/sheep	72%	24%	4%	1280 ⁴⁸
Poultry	71%	29%	0%	876

⁴⁸ 2% (29 cases) of goat/sheep producers replied “Other” when asked about the ownership structures of their goats/sheep, and these responses have been removed for comparability with other value chains.

Productive agricultural assets are another important resource available to livestock producers. Even small items such as a spade or bicycle can improve the productivity of a livestock producer, as well as determine their ability to participate in markets.⁴⁹ Table 78 below takes stock of the productive assets available to households as well as their ownership status. An increase in access to these assets can increase productivity and resilience. Of these agricultural items, households almost universally owned them as opposed to renting or borrowing. Across the whole sample, the average number was quite low. For the percentage of producers who own these items, they averaged roughly one per household, with the exception of knapsack chemical sprayers and sickles at two. There was little difference across regions or livestock value chains. This level of asset ownership aligns with the Resilience Baseline Survey conducted in 2020 for the USAID/Haiti Reforestation Project, though the sample and geography were different from this baseline.⁵⁰

The gender of ownership of these assets is another important consideration in understanding the context of smallholder livestock production in Haiti. The GYI Analysis discusses this dynamic in detail.

⁴⁹ Economic lives of smallholder farmers

⁵⁰ USAID/Haiti Reforestation Project. 2020. Resilience Baseline Survey.

Table 78. Household access to agricultural assets

Type of agricultural asset	% with access	% of those with access who own item	Average #
Hoe	79%	99%	1.17
Pruning/cutting shears	39%	98%	0.42
Pickaxe	39%	98%	0.48
Knapsack chemical sprayer	32%	99%	0.54
Spade or shovel	13%	99%	0.15
Sickle	10%	100%	0.16
Machete	7%	100%	0.11
Plow (oxen-pulled)	4%	97%	0.04
Tiller	3%	96%	0.04
Traditional beehive	1%	91%	0.03
Mechanical water pump	1%	89%	0.01
Mechanical plow	0%	-	0
Modern beehive	0%	-	0
Motorized water pump	0%	-	0
Stone grain mill	0%	-	0
Small tractor	0%	-	0
<i>n</i>	1683	-	1683

Household assets provide another important resilience capacity for vulnerable households against economic shock, and evidence suggests that physical assets, such as mobile phones, solar home systems, and kitchen equipment, can improve the well-being and resilience and poor households through income generation, livelihood diversification risk mitigation and access to markets.⁵¹ At the same time, access to resilient market systems is linked to increasing household asset accumulation.⁵² Household asset inventories, as show in Table 79, also provide a reliable prediction of household wealth. For producer

⁵¹ CGAP, Assets Matter to Poor People, Feb 2020, Kumaraswamy, Sai Krishna et al

⁵²https://www.marketlinks.org/sites/marketlinks.org/files/resource/files/Market_Systems_for_Resilience__final_508_Compliant.pdf

households in the baseline study, almost all (96%) had beds, while the majority (83%) had access to mobile phones. Energy sources, such as solar panels (16%) and generators (1%), were more scarce, as was access to kitchen equipment such as propane stoves (4%) and kerosene stoves (1%). Information sources were not widely available either, with 57% owning a radio and 5% having a television, limiting access to official information as discussed above in *Section 4.6.5 Access to Information*.

Table 79. Access to household assets

Type of household asset	% with access	% of those with access who own item	Average #
Bed	96%	99%	2.1
Cell phone	83%	99%	1.4
Improved charcoal/wood stove	59%	99%	0.72
Radio	57%	100%	1
Solar panel	16%	100%	0.17
Motorbike	14%	98%	0.16
Solar lamp	14%	99%	0.20
Bicycle	9%	99%	0.10
Wheelbarrow	6%	100%	0.06
Television	5%	98%	0.06
Propane stove	4%	90%	0.04
Sofa	3%	98%	0.05
Generator	1%	100%	0.02
Kerosene stove	1%	100%	0.01
Electrical stove	0%	-	0
Passenger car or truck	0%	-	0
Solar stove	0%	-	0
<i>n</i>	1683	1683	1683

PARE Indicator #12: Percent of participant farmer households with increased asset ownership as a result of USG assistance

This indicator measures the ownership of assets of participant households. It will measure the percentage of households who have increased their asset ownership in the previous 12 months. PARE will track asset ownership of its producer participants. While many of PARE's interventions will focus on livestock accumulation, they will also promote other asset accumulation and/or allow for increase in income that will allow a household to purchase other assets. While the baseline value for this indicator is zero, as it measures improvement after intervention, Baseline Indicator Table #12 below provides a snapshot of asset ownership of livestock producers prior to PARE interventions. This data will help inform PARE strategy and any changes to the PARE targets.

Note that the average hectares of land and average number of productive and household assets differ from the tables directly above. This indicator counts only the land, livestock or assets owned by households and considers those who do not own as zero, whereas the data above and in prior sections reflected the amount of land and number of assets of all households, whether they own or not. Similarly, the number of livestock owned considered in this indicator reflects only the livestock that is owned by the household. In addition, it considers all of the livestock that the household owned throughout the year, not just those in the current herd.

Baseline Indicator Table #12: Asset ownership

Type of asset	Total Sample	Location	
	All producers	Northern RFZ	Southern RFZ
Land			
% who own land	77%	78%	25%
Av. hectares of land owned (of all producers)	0.8	1.1	0.2
<i>n</i>	1683	1259	424
Livestock (Av. # owned by household in past year)			
Cattle	3.5	3.8	2.5
Goat/sheep	8.0	8.6	6.1
Poultry	20.4	21.8	17.1
<i>n</i>	Cattle: 938 Goats/sheep: 1309 Poultry: 876	Cattle: 669 Goats/sheep: 978 Poultry: 627	Cattle: 269 Goats/sheep: 328 Poultry: 249

Productive assets (average # owned by household)			
Plough (oxen-pulled)	0.0	0.0	0.0
Mechanical plough	0.0	0.0	0.0
Sickle	0.2	0.1	0.4
Pick-axe	0.5	0.3	0.9
Pruning/cutting shears	0.4	0.4	0.4
Hoe	1.2	1.3	0.9
Spade or shovel	0.1	0.1	0.2
Traditional beehive	0.0	0.0	0.0
Modern beehive	0.0	0.0	0.0
Chemical sprayer	0.5	0.5	0.6
Mechanical water pump	0.0	0.0	0.0
Motorized water pump	0.0	0.0	0.0
Stone grain mill	0.0	0.0	0.0
Small tractor	0.0	0.0	0.0
Total target productive assets	3.1	3.0	3.6
<i>n</i>	1683	1259	424
Household assets (average # owned by household)			
Radio	0.6	0.6	0.6
Television	0.1	0.1	0.1
Cell phone	1.3	1.3	1.4
Kerosene stove	0.0	0.0	0.0
Gas stove	0.0	0.0	0.0
Bicycle	0.1	0.1	0.1
Motorcycle	0.2	0.1	0.2

Car	0.0	0.0	0.0
Solar power	0.1	0.1	0.1
Generator	0.0	0.0	0.0
Total target household assets	2.4	2.4	2.4
<i>n</i>	1683	1259	424

Insurance can serve as an important resilience capacity, especially in contexts with frequent shocks. Insurance reduces the financial cost borne by the household, reducing the need to use savings or divert other spending, lessening the financial toll of the disaster.

Insurance for smallholder livestock producers is extremely limited in Haiti. The government does not offer a national health insurance program and private insurance is prohibitively high for most. Few companies offer livestock specific insurance, largely due to the precarious and high-risk nature of livestock cultivation. Table 80 illustrates households that have any kind of insurance. Following this, only 5% of households reported having insurance, primarily livestock or crop insurance. This was slightly higher in Nord (9%) and Sud (8%), with no significant difference by livestock value chain.

Table 80. Household insurance by department

	Total Sample	Nord	Nord Est	Centre	Sud
% of households that have insurance	5%	9%	2%	1%	8%
<i>n</i>	1683	418	417	424	424

Help and aid through government support and NGOs can provide crucial stop gaps in mitigating vulnerability to shocks and stressors, increasing absorptive resilience capacity. However, livestock producers overwhelmingly feel that this aid is not available to them in their communities at present, with only 2% saying they currently could access this help, as shown in Table 81. Although over 100 humanitarian groups are currently present in Haiti, the threat of violence prevents them from responding to needs adequately. The findings in this baseline resonate with other studies that emphasize that aid is not reaching the people who say they need it.⁵³

⁵³ <https://reliefweb.int/report/haiti/humanitarian-access-score-report-haiti-survey-coverage-operational-reach-and-effectiveness-humanitarian-aid#:~:text=aid%20has%20only%20reached%20a,did%20not%20cover%20priority%20needs>

Table 81. Access to government or NGO aid

	Total Sample	Nord	Nord Est	Centre	Sud
Access to any government or NGO programs for help					
% households that feel they have access to government or NGO aid in their communities	2%	2%	2%	0%	3%
<i>n</i>	1683	418	417	424	424

In terms of aid for livestock producers in particular, producers noted that there are no efforts that they are aware of currently.

"Whether it's the state or NGOs, there is no longer any effort to help the breeders." – FGD with producers in Ouanaminthe

Finally, access to bonding social capital is another factor of absorptive resilience, as households are able to leverage assistance from those within their communities. As discussed below in *Section 4.7.3 Coping Strategies*, less than one-tenth (7%) of households relied on borrowing money from friends or family within their community as a coping strategy to deal with shocks or stressors. In addition, 5% relied on a cash gift and another 5% on a food gift from their networks within their communities.

Adaptive resilience capacities

Adaptive capacity involves having the resources, skills, and strategies in place to effectively respond to and recover from disruptions while also adjusting to new challenges in a way that leads to improved well-being and stability. Access to financial resource, diverse livelihoods, aspirations and confidence to adapt, education and training and exposure to information are all aspects of adaptive resilience capacities that households could potentially leverage.

First, access to credit and formal financial institutions provides livestock producers with the means to invest in their operations, diversify income, adopt improved practices, enhance animal health, and build adaptive resilience against shocks.

Producers, particularly young ones, cited access to credit as one of the major constraints facing them in rearing livestock. Smallholders face considerable difficulties in accessing credit. As detailed in the LMSRA, financial institutions in Haiti typically do not see agricultural activities, with the limited exception of the marketing, as candidates for credit, due to natural hazards, land security and general insecurity and lack of appropriate insurance services in the sector.

Table 82 illustrates producers' perceptions of the availability of loans. This data is included in the calculation of *PARE Indicator #16: Availability of targeted services* under the microfinance/banks/other lending groups category. Almost one-half (44%) of all households indicated that they felt they could access a loan for general purposes. Those that felt they could access formal loans was much lower, with only 7% of households citing banks or financial institutions as a potential loan source available to them. Households in Nord and cattle-only producers were more likely to perceive the availability of formal loans.

During FGDs producers expanded on this, noting that there is no specific formal avenue for loans for agriculture.

"Financial service providers are not interested. A farmer who obtains a loan will always do their best to repay the borrowed money, even if there are constraints, but they do not want to lend to us." – FGD with producers in Terrier Rouge

Loans from informal sources including friends and family (23%) and village savings or credit groups (22%) were the most common source of loans that households felt that had access to. Producers explained in FGDs that these types of mutual support groups are increasing.

"Mutual support groups are something new; they are everywhere now. If well organized, you can lend money through these groups." – FGD with producers in Camp Perrin

Table 82. Percentage of households with access to loans by department

	Total Sample	Nord	Nord Est	Centre	Sud
Households with access to loans					
% of households that feel they could take a loan from any source if they wanted	44%	37%	37%	55%	40%
<i>n</i>	1683	418	417	424	424
Sources of loans					
Friends or relatives	23%	28%	18%	19%	25%
Informal credit/savings groups such as MUSO/TIPA	22%	23%	8%	39%	17%
Group based microfinance or lending including VSLAs / SACCOs	10%	19%	10%	6%	5%
Informal lender	8%	16%	4%	4%	8%
Formal lender (bank/financial institution)	7%	13%	7%	1%	7%
Non-governmental organization (NGO)	5%	20%	1%	0%	0%
<i>n</i>	1683	418	417	424	424

Table 83. Percentage of households with access to loans by livestock value chain

	Total Sample	Cattle only	Goats/sheep only	Poultry only	Cattle + Goats/ Sheep	Cattle + Poultry	Goats/ Sheep + Poultry	All value chains
Households with access to loans								
% of households that feel they could take a loan from any source if they wanted	44%	41%	42%	42%	40%	34%	51%	48%
<i>n</i>	1683	200	284	100	323	74	361	341
Sources of loans								
Friends or relatives	23%	26%	23%	17%	22%	19%	24%	23%
Informal credit/savings groups such as MUSO/TIPA	22%	17%	23%	17%	15%	19%	29%	25%
Group based microfinance or lending including VSLAs / SACCOs	10%	16%	12%	12%	9%	4%	9%	7%
Informal lender	8%	16%	9%	4%	6%	5%	8%	6%
Formal lender (bank/financial institution)	7%	14%	9%	5%	8%	3%	4%	5%
Non-governmental organization (NGO)	5%	12%	9%	7%	4%	1%	4%	2%
<i>n</i>	1683	200	284	100	323	74	361	341

Across the different loan sources, availability of loan providers in the area was the most common reason for lack of perceived access, followed by fear of inability to pay back the loan and dislike of being in debt. For formal loans in particular, fear of ability to pay back (40%) was the top reason, followed by lack of availability of providers (32%).

Table 84 illustrates the percentage of households that have taken any loan in the past year, by department. Overall, 38% of producer households have actually taken a loan in the past year, and almost all households that had perceived access to a loan have taken one. More households in Centre took loans than in other departments. Similarly to access, the most prominent sources of loans were informal, with village savings/credit group as the most common (46%), followed by friends or relatives (43%). 10% of households took a loan from a formal lender in the past year, emphasizing the difficulty that livestock producers have in accessing formal credit.

As shown in Table 85, cattle-only producers accessed more loans from formal financial institutions (21%) than those who cultivated other livestock, which was perhaps due to the collateral that cattle can offer.

Table 84. Household loans taken in the past year by department

	Total Sample	Nord	Nord Est	Centre	Sud
Have taken a loan					
% of households that have taken any loan in the past year	38%	28%	35%	54%	34%
<i>n</i>	1683	418	417	424	424
Source of loan					
Informal credit/savings groups such as MUSO/TIPA	46%	34%	19%	72%	41%
Friends or relatives	43%	39%	47%	34%	57%
Group based microfinance or lending including VSLAs / SACCOs	17%	28%	25%	10%	12%
Formal lender (bank/financial institution)	10%	8%	15%	1%	18%
Informal lender	7%	6%	8%	5%	9%
Non-governmental organization (NGO)	0%	2%	1%	0%	0%
<i>n</i>	637	118	144	229	146

Table 85. Household loans taken in the past year by livestock value chain

	Total Sample	Cattle only	Goats/ sheep only	Poultry only	Cattle + Goats/ Sheep	Cattle + Poultry	Goats/ Sheep + Poultry	All value chains
Have taken a loan								
% of households that have taken any loan in the past year	38%	31%	33%	32%	36%	30%	45%	44%
<i>n</i>	1683	200	284	100	323	74	361	341
Source of loan								
Informal credit/savings groups such as MUSO/TIPA	46%	26%	46%	41%	33%	50%	57%	52%
Friends or relatives	43%	44%	45%	34%	50%	50%	38%	43%
Group based microfinance or lending including VSLAs / SACCOs	17%	26%	17%	28%	17%	5%	17%	13%
Formal lender (bank/financial institution)	10%	21%	11%	3%	13%	0%	5%	10%
Informal lender	7%	11%	6%	3%	7%	5%	5%	8%
Non-governmental organization (NGO)	0%	2%	1%	0%	1%	0%	0%	0%
<i>n</i>	637	61	94	32	115	22	162	151

Table 86 illustrates the value of loans taken in the past year. Of those that took loans, those from banks or finance institutions were the largest on average (\$529), followed by friends or relatives (average of \$359). While formal loans were the least common source, they provided the largest access to credit.

Table 86. Average value of loan

Source of loan	Average value (USD)	n
Formal lender (bank/financial institution)	\$529	62
Friends or relatives	\$359	278
Informal credit/savings groups such as MUSO/TIPA	\$292	295
Group based microfinance or lending including VSLAs / SACCOs	\$192	113
Informal lender	\$159	45
Non-governmental organization (NGO)	\$159*	3

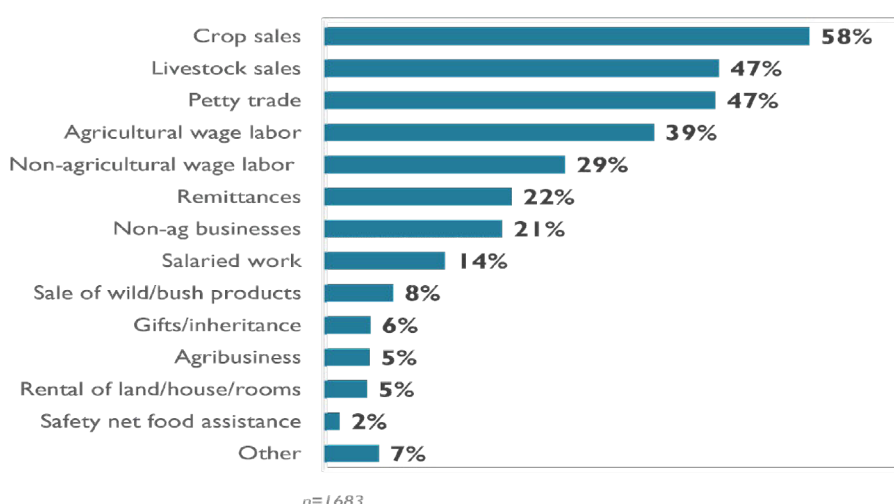
*Low base size

Next, diversification of livelihoods is another important lever of adaptive resilience that PARE will seek to improve. Livelihood diversification can serve as a risk management strategy, reducing reliance on a single source and enhancing the ability to recover from income loss due to shocks. Producers recognize the value that diversification can bring in terms of resilience, especially when livestock income is unreliable.

“If you find a temporary paid job, it is sometimes a solution, but it is difficult to find We are forced to draw on other activities to revive ourselves. We cut trees, we make charcoal and thus we can generate funds to relaunch in livestock farming.” – FGD with producers in Hinche

When asked about a range of typical income sources for rural households in Haiti, households averaged 3 income sources, which was consistent across departments and livestock value chains. A small handful of households (count of 10) located in Sud maintained 10 or more income sources.

Figure 37 displays the types of income sources held by households. Crop production was the most common (58% of households noted this as a source). Almost half (47%) of households earned income from livestock sales, including meat, milk or eggs. This rate of livestock sales is in line with sales data included in each of the livestock sections above. Petty trade (47%) and wage labor, both agricultural (39%) and non-agricultural (29%) were additional sources of income for many households. Remittances were another important income source, with 22% of households relying on them as a livelihood source.

Figure 37. Income sources

The type of income source differed by department as shown below in Table 87, with those in Centre most likely to earn income from crop production (82%) and those in Nord Est least likely (39%). Producers in Centre were more likely to earn income from sales of any livestock (60%). Remittances were relied on more heavily in Sud (38%) and less heavily in Nord Est (14%).

Table 88 shows source of income by livestock value chain. Those that raised only a single type of livestock were less likely to earn income from crop sales than those with mixed livestock, perhaps because they are focused more intensely on their single value chain and are less diversified. In fact, producers who bred all three value chains were most likely to diversify their income with crop sales.

Table 87. Income sources by department

Type of income source	Total Sample	Nord	Nord Est	Centre	Sud
Crop sales	58%	57%	39%	82%	53%
Livestock sales	47%	48%	39%	60%	39%
Petty trade	47%	51%	53%	44%	39%
Agricultural wage labor	39%	47%	19%	50%	41%
Non-agricultural wage labor	29%	29%	18%	36%	32%
Remittances	22%	22%	14%	15%	38%
Other non-agricultural self-employment/own business	21%	18%	22%	20%	25%
Salaried work	14%	20%	18%	7%	12%
Sale of wild/bush products	8%	7%	17%	7%	2%
Gifts/inheritance	6%	3%	1%	3%	16%
Other agricultural self-employment/own business	5%	7%	4%	3%	8%
Rental of land/house/rooms	5%	12%	2%	2%	4%
Safety net food assistance	2%	2%	0%	2%	3%
Other	7%	4%	8%	2%	13%
<i>n</i>	1683	418	417	424	424

Table 88. Income sources by livestock value chain

Type of income source	Total Sample	Cattle only	Goats/sheep only	Poultry only	Cattle + Goats/Sheep	Cattle + Poultry	Goats/Sheep + Poultry	All value chains
Crop production and sales	58%	47%	46%	26%	61%	59%	66%	71%
Livestock sales	47%	42%	28%	24%	51%	42%	53%	61%
Petty trade	47%	43%	49%	34%	53%	39%	43%	50%
Agricultural wage labor	39%	32%	30%	34%	40%	31%	47%	46%
Non-agricultural wage labor	29%	24%	24%	21%	25%	18%	40%	32%
Remittances	22%	18%	20%	26%	26%	26%	23%	21%
Other non-agricultural self-employment/own business	21%	28%	19%	12%	24%	18%	20%	21%
Salaried work	14%	17%	19%	12%	16%	14%	9%	14%
Sale of wild/bush products	8%	8%	12%	1%	10%	3%	6%	9%
Gifts/inheritance	6%	6%	5%	5%	7%	9%	4%	5%
Other agricultural self-employment/own business	5%	8%	2%	3%	7%	7%	5%	6%
Rental of land/house/rooms	5%	6%	3%	5%	5%	9%	4%	7%
Safety net food assistance	2%	1%	2%	2%	2%	1%	3%	2%
Other	7%	10%	7%	3%	9%	4%	3%	7%
<i>n</i>	1683	200	284	100	323	74	361	341

PARE Indicator #2: Number of USAID Activity participants with diversified livelihoods

This indicator measures the sources of income for activity participants and monitors whether these sources are diversified over time. Participants are considered to have diversified livelihoods if they have added new sources of income supported by the activity in the previous 12 months.

The number of USAID activity participants with diversified livelihoods refers to the number of individuals or households that are participating in the PARE project and have added additional sources of income during the project period. For this project, the sources of income that will be measured include milk sales, cattle sales, goat/sheep sales, poultry sales, egg sales, crop (including forage) sales, and different types of agribusiness sales.

While the baseline value for this indicator is zero, as it measures improvement after intervention, Baseline Indicator Table #2 below provides an overview of the number and distribution of target income sources of the livestock producers in the baseline study.

Of these seven types of targeted income generating activities, about three quarters (72%) in the baseline study sold at least one of them. The average number of income sources among these seven was 1.3, with a maximum of 6.

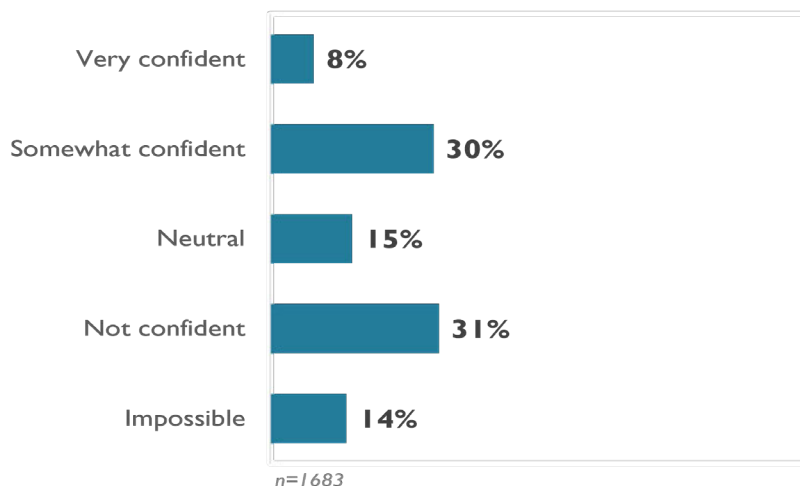
Baseline Indicator Table #2: Diversified Livelihoods

Disaggregates	Total Sample	Sex of participants		Age*		Location	
	Total	Male	Female	Youth	Non-youth	Northern RFZ	Southern RFZ
Average # of target income sources	1.3	1.4	1.1	1.2	1.3	1.3	1.2
Target Economic Activities (% of households with this source)							
Income from any targeted source	72%	77%	67%	74%	72%	75%	65%
Milk sales	2%	8%	3%	6%	6%	7%	2%
Cattle sales	18%	20%	8%	11%	16%	14%	18%
Goat/sheep sales	17%	28%	24%	28%	26%	29%	17%
Poultry sales	12%	11%	15%	13%	13%	13%	12%
Eggs sales	5%	2%	4%	3%	3%	2%	5%
Crop sales (inc. forage)	53%	62%	52%	58%	58%	59%	53%
Agribusiness sales	8%	7%	3%	5%	6%	5%	8%
<i>n</i>	1683	941	742	236	1446	1259	424

*Youth are defined as ages 18 to 29, with 18 being the minimum age included in the baseline

Finally, looking at the last capacity under adaptive, confidence to adapt is an oft-overlooked component of adaptive resilience. This capacity underscores an individual's ability to envision and set forward-looking goals, even in the face of adversity or uncertain circumstances. When asked about their confidence in their household's ability adapt to a severe shock without significant depletion of assets, harm to family members, or damage to household livelihood activities, producers were split. As show in in Figure 38, an optimistic 38% were somewhat or very confident that their household could cope without significant harm while 45% were not confident or found it impossible.

Figure 38. Confidence in adaptation



Exposure to information, discussed above in the section on assets, is another important adaptive resilience technique, as it allows households to make proactive and informed choices about alternative livelihood strategies based on an understanding of changing conditions. As discussed above, 76% of households were exposed to information on a targeted topic in the past year. 49% have accessed information on a financial or market topic, such as price or investment opportunities, helping to spur choices about livestock activities.

Transformative resilience capacities

Transformative resilience involves the governance, infrastructure, community networks, and formal safety nets that constitute the enabling environment for systemic change. Among them are the availability of public general services, access to communal natural resources, availability of markets and the availability of livestock services. Table 89 illustrates producer households' access to general services in the sampled areas.

First, access to public services and infrastructure significantly influences the livelihoods of smallholder livestock producers in Haiti and their ability to transform and leverage opportunities to transform. Only 32% of producer households have electricity, which hinders access to technologies such as refrigeration and machinery, affecting producers' processing and storage capabilities and limiting their value addition opportunities. Access to electricity is much higher in Centre (58%) than in Sud (18%), and Centre additionally has a high level of mobile phone service available (96%). Producer households also largely cannot access TV signals, which coupled with the low rate of television ownership cited above, limits flows of information.

Table 89. Access to general services by department*

Type of service	Total Sample	Nord	Nord Est	Centre	Sud
Primary school	89%	82%	96%	98%	82%
Health center	70%	63%	70%	76%	73%
Electricity	32%	25%	24%	58%	18%
Mobile phone service	67%	45%	65%	96%	61%
A public telephone	10%	11%	15%	5%	9%
National radio signal	39%	28%	45%	58%	25%
National TV signal	16%	17%	24%	11%	11%
Private TV signal	18%	17%	25%	11%	21%
<i>n</i>	1683	418	417	424	424

*There was a significant difference between departments at the 0.05 level using a chi-square test

Next, access to communal natural resource plays an important role in the production of livestock, particularly systems for water, as they provide access to clean water for drinking, bathing and sanitation, as well as for livestock. This is especially acute in Haiti which has been subject to drought.

“Every year, drought kills many animals and devastates livestock. Drought is the main reason for the decline in livestock.” - FGD with producers in Fort Liberté

As producers and stakeholder noted during qualitative interviews, they often face long walks to fetch water for their animals, depleting their time and energy. Table 90 examines the water sources available for livestock by department.

Available water sources for livestock were greatly driven by geography and livestock value chain. In Nord, producers were most likely to get water from a public fountain or kiosk (50%) while those in Nord Est, Centre and Sud used lakes and rivers most frequently (55%, 81% and 68% respectively).

Table 90. Water sources for livestock by department*

Water sources	Total Sample	Nord	Nord Est	Centre	Sud
Lake/River	61%	41%	55%	81%	68%
Public fountain /kiosk	28%	50%	40%	15%	10%
Rain collection	24%	31%	13%	30%	24%
Water point non-protected	22%	19%	20%	24%	26%
Water point protected	8%	10%	6%	3%	13%
DINEPA/Private connection	4%	3%	5%	6%	1%
<i>n</i>	1683	418	417	424	424

*There was a significant difference between departments at the 0.05 level using a chi-square test

The type of water source also differed by livestock value chain and even within each chain, producers utilized a mix of water sources. Table 91 examines the water sources available for livestock by livestock value chain. Lakes and rivers were the most common source for all livestock value chains, though poultry and goats/sheep only producers only were slightly more likely to use a public fountain (43% and 37% respectively) compared to the overall average group of producers (28%) and poultry producers were more likely to use rain collection (41%) compared to the larger group (24%).

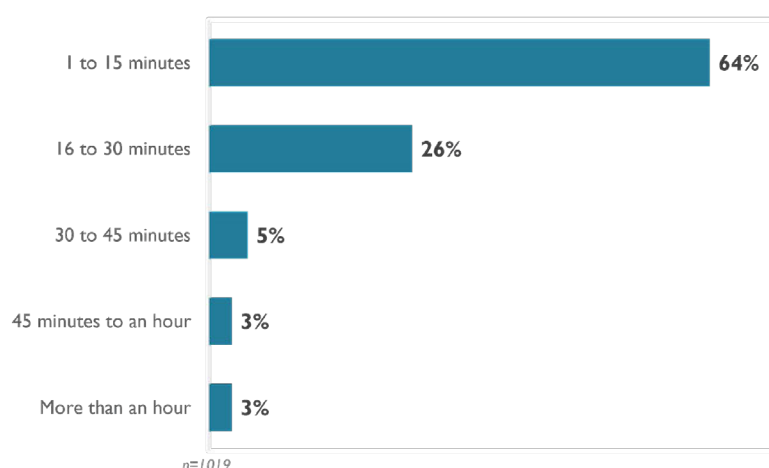
Table 91. Water sources by livestock value chain

Water sources	Total Sample	Cattle only	Goats/sheep only	Poultry only	Cattle + Goats/Sheep	Cattle + Poultry	Goats/Sheep + Poultry	All value chains
Lake/River	61%	52%	43%	46%	67%	80%	65%	74%
Public fountain /kiosk	28%	37%	43%	37%	24%	12%	26%	20%
Rain collection	24%	16%	22%	41%	22%	30%	27%	26%
Natural water point non-protected	22%	15%	15%	19%	24%	28%	26%	27%
Natural water point protected	8%	9%	9%	18%	8%	5%	5%	8%
DINEPA/ Private connection	4%	2%	7%	4%	4%	1%	3%	4%
<i>n</i>	1683	200	284	100	323	74	361	341

Figure 39 illustrates the distance that producers travel to the nearest water point. For producers who took their animals to the nearest water source, almost all (90%) producers could access a water point within 30 minutes of walking and for 64% of producers, water sources could be accessed within 15 minutes of walking. Overall, while drought was considered a challenge, accessing water points did not appear to be a major constraint for producers.

Next, access to markets is a key dimension of transformative resilience capacities and dynamics related to accessing markets, both for selling livestock as well as for accessing inputs, were described in detail in the LMSRA. Markets were discussed in detail above in *Section 4.6.8 Access to Markets* which examined the typical markets where producers sold their livestock and the distance to them, as well as the availability of markets for buying inputs.

Figure 39. Distance to nearest water point



When asked about the accessibility of general markets for selling animals as shown in Table 92, 59% of producers stated that markets were accessible. Markets were felt to be most accessible in Centre (77%) and least accessible in Nord Est. As noted above, for about half of producers, these local markets for selling their livestock are over an hour away (54% for cattle markets, 48% for goat and sheep markets, and 53% for poultry markets).

Table 92. Access to markets

	% of producers with availability to a market for selling livestock	n
Total sample	59%	1683
By department		
Nord	53%	418
Nord Est	43%	417
Centre	77%	424
Sud	65%	424
By livestock value chain		
Cattle only	54%	200
Goats/sheep only	49%	284
Poultry only	46%	100
Cattle + goats/sheep	55%	323
Cattle + poultry	59%	74
Goats/sheep + poultry	70%	361
All value chains	70%	341

Finally, access to livestock services is another component of transformative resilience capacities. As discussed in detail above in *Section 4.6.4 Access to Animal Health Services and Products*, producers feel that animal health workers are somewhat easily accessed, with 71% noting that they are available. The average time to travel to an animal health worker is 1 hour (60 minutes). Veterinary pharmacies are less accessible, with 30% stating they have access.

The interplay of absorptive, adaptive, and transformative capacities, as outlined in the USAID resilience framework, forms the cornerstone of household resilience. By embracing these three capacities in tandem, households can not only weather setbacks but also navigate towards a future of improved well-being, sustainability, and agency over their circumstances. Specifically, the combination of increased market access, increased access to livestock services, diversification of livelihoods, increase in asset ownership and access to financial resource and information can help livestock producers absorb shocks, adapt to new conditions and leverage transformational opportunities to ultimately increase their household resilience.

PARE Indicator #1: Percentage of USAID Activity participants with improvement in targeted resilience capacities (Haiti PMP)

This indicator tracks the improvement in resilience capacities for participant producer households (those that have at least one member counted in Indicator #4). Resilience capacities that PARE will track are: 1) access to markets, 2) access to livestock services (see also Indicator #15), 3) livelihood diversity (see also indicator #2), 4) asset ownership (also see indicator #11); 5) access to financial resources, and 6) exposure to information.

While the baseline value of this indicator is zero, as it will track improvements due to the implementation of PARE, Baseline Indicator Table #1 below offers a summary of where livestock producers are currently for these targeted resilience capacities.

Improvement in market access/access to livestock services/livelihood diversity/asset ownership/access to financial resources/exposure to information will be calculated by comparing the baseline data pictured here with data collected annually and counting households that have improved in this capacity.

Baseline Indicator Table #1: Targeted resilience capacities

Targeted resilience capacity	Total Sample	Sex of participants		Age*		Location	
		Male	Female	Youth	Non-youth	Northern RFZ	Southern RFZ
Market access (availability of markets for selling animals)	59%	60%	58%	59%	60%	58%	65%
Access to livestock services (#15) (percentage with access to any livestock service)	85%	86%	84%	81%	86%	85%	87%
Livelihood diversity (#2) (average number of target income sources)	1.3	1.4	1.1	1.2	1.3	1.3	1.2

Asset ownership (#11)	See Indicator #11 for full list						
Access to financial resources (percentage who can access credit or loans)	44%	44%	44%	40%	45%	46%	40%
Exposure to information	76%	75%	78%	78%	76%	73%	88%
<i>n</i>	1683	941	742	236	1446	1259	424

4.7.3 COPING STRATEGIES

Following the examination of shocks and stressors experienced and resilience capacities available to livestock producer households in the Northern and Southern RFZ, this section seeks to understand the different coping mechanisms and levers of resilience that households employed to deal with shocks and stressors in the past year.

Leveraging different absorptive, adaptive and transformative resilience capacities, smallholder producers can employ a range of coping strategies to navigate shocks and stresses while bolstering their household resilience. Positive coping strategies include diversification of income sources, where farmers engage in various agricultural and non-agricultural activities to spread risk. This approach can enhance income stability and provide alternative sources of support during challenging times. Savings and asset accumulation serve as another positive strategy, enabling farmers to tap into their reserves to address emergencies, invest in productive assets, or pursue opportunities. Additionally, forming strong social networks and participating in community-based organizations can provide mutual assistance, information sharing, and collaborative problem-solving.

On the other hand, negative coping strategies, while temporarily alleviating stress, can have long-term detrimental effects. These strategies may involve selling productive assets, taking on high-interest loans, or reducing expenditures on essential needs like education and healthcare. While they offer short-term relief, negative coping strategies often perpetuate cycles of poverty and limit households' ability to recover and thrive. Recognizing the importance of promoting positive coping mechanisms and discouraging negative ones is essential in building the resilience of smallholder farmers and ensuring their long-term well-being.

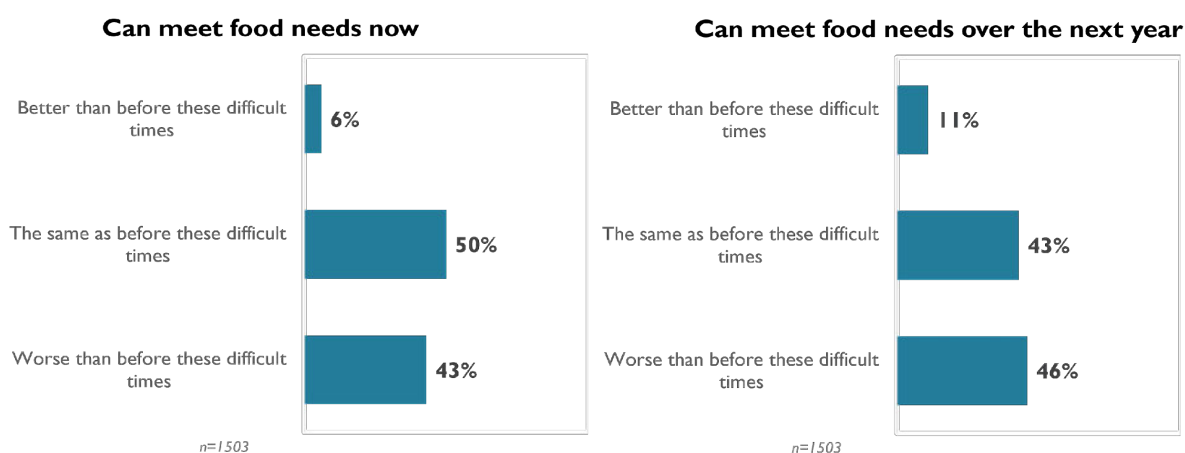
The following data examines the coping strategies of households in the baseline study, their ability to meet household food needs and their confidence in their ability to recover from shocks.

Overall, households rely on their livestock as an important coping mechanism to help them weather shocks.

“There are no programs to help people after a disaster. We have to continue with the animals that survived the catastrophe and/or buy others with money from other activities.” – FGD with producers in Vallieres

At present, producers are split on their ability to meet their household's food needs, as depicted in Figure 40. About half (56%) note their ability to meet needs at present is the same or better than before the shocks while the other half (43%) believe that their ability is worse. When looking ahead to the next year, producers have a similar outlook, with 54% believing it will be better or the same and 46% worse.

Figure 40. Ability of household to meet food needs



Tables 93 and 94 examine this capacity by department and livestock value chain. Producers in Nord Est have more polarized views, with the highest percentage perceiving their abilities as better than before (12%) as well as worse than before (52%). Producers in Nord are the most confident in their ability to meet food needs, both now and in the future. Producers of all three value chains feel more confident overall in their abilities, both now and over the next year, potentially due to the diversification of their livestock – they subsequently have more options for income and household consumption of livestock than those who only breed one or two of the target value chains.

Table 93. Ability to meet food needs now

	Better than before shocks	Same as before shocks	Worse than before shocks	n
Ability to meet food needs now				
Nord	7%	67%	26%	377
Nord Est	12%	35%	52%	410
Centre	1%	54%	45%	424
Sud	4%	45%	50%	292
By livestock value chain				
Cattle only	5%	38%	57%	168
Goats/sheep only	6%	44%	50%	251
Poultry only	2%	57%	41%	86
Cattle + Goats/Sheep	7%	45%	48%	300
Cattle + Poultry	2%	56%	43%	61
Goats/Sheep + Poultry	7%	55%	38%	337
All value chains	8%	59%	33%	300

Table 94. Ability to meet food needs over next year

	Better than before shocks	Same as before shocks	Worse than before shocks	n
By department				
Nord	14%	57%	29%	377
Nord Est	23%	23%	53%	410
Centre	2%	52%	46%	424
Sud	5%	37%	58%	292
By livestock value chain				
Cattle only	14%	36%	51%	168
Goats/sheep only	13%	37%	51%	251
Poultry only	8%	45%	47%	86
Cattle + Goats/Sheep	13%	37%	50%	300
Cattle + Poultry	3%	43%	54%	61
Goats/Sheep + Poultry	9%	48%	42%	337
All value chains	11%	49%	40%	300

Producer household employed a variety of strategies to mitigate against and cope with the shocks they experienced in the past year. Table 95 looks at the specific type of coping strategies used. The top three involve the household reducing expenses or finding additional avenues of food or money. A smaller proportion of households engage in leveraging their assets, a more costly coping strategy that compromises their ability to recover in the long-term. These include selling their livestock (14%) or sending livestock to pasture (7%) and using savings to pay for household necessities (14%) or food (10%). Households in Centre were more likely to engage in these costly strategies. There were no major differences in strategy amongst owners of different livestock value chains.

As producers explained, livestock acts not only as a savings mechanism, but as a bulwark against shock, and selling livestock can provide a last resort for households.

"The last solution is to sell animals to reduce the herd when there is not enough food for all the animals or when an epidemic or cyclone is announced." – FGD with producers in Terrier Rouge

Table 95. Top ten coping strategies used by department*

Type of coping strategy	Total Sample	Nord	Nord Est	Centre	Sud
Reduced non-essential HH expenses	53%	46%	65%	57%	45%
Reduced food consumption	40%	32%	37%	45%	47%
Took up additional work	36%	43%	33%	50%	18%
Engaged in spiritual efforts (e.g., prayed, sacrifices, etc.)	35%	42%	23%	46%	30%
Got food on credit from a local merchant	22%	22%	6%	34%	25%
Took up new work	16%	11%	13%	3%	38%
Sold livestock	14%	18%	7%	18%	13%
Used own savings to pay for other household necessities	14%	7%	10%	28%	9%
Used savings to feed the family	10%	6%	8%	21%	5%
Sent livestock in search of pasture	7%	2%	1%	2%	25%
<i>n</i>	1683	418	417	424	424

*There was a significant difference between departments at the 0.05 level using a chi-square test

PARE Indicator #13: Ability to recover from shocks and stresses index

Aligned with PARE's goal of improving resilience, the Baseline Assessment measures the ability of households to recover from shocks and stressors, using *PARE Indicator #13: Ability to recover from shocks and stresses index (Standard RESIL-a)*. This indicator utilizes the Ability to Recover from Shocks and Stresses Index (ARSSI). This index is comprised of a Shock Exposure Index (SEI), which takes into accounts the total number of shocks and stressors that a household experienced and the perceived severity of that shock on household income and food consumption. The SEI was calculated based on the experience of 12 shocks and stressors. It also includes a base "ability to recover" index, which is calculated based on the household's perception of their ability to meet their household's food needs currently and in the future. Finally, the shock exposure-corrected Ability to Recover from Shocks and Stresses Index (ARSSI) is calculated to create a measure of ability to recover that corrects for any differences between households in their shock exposure and is therefore comparable across them. More details on the calculation of this indicator can be found in the PMELP.

At baseline, the ARSSI was calculated at 3.28. Baseline Indicator Table #13 presents this indicator and its disaggregates. Note that the baseline assessment did not include a household roster due to prioritization of other data, thus the disaggregates for gendered household type are not included. In summary, ARSSI ranges between 2 and 6, with a margin of approximately ± 0.5 on each interval limit. Given that ARSSI is a correction to the ATR is the ability to recover, the higher the ATR, the better the resilience. Households

in the Baseline Assessment had a middling ability to recover at 3.28. PARE will seek to improve the ARSSI score.

Baseline Indicator Table #13: Ability to recover from shocks and stresses index

Disaggregate	ARSSI Score	n
Total	3.28	1484
Location		
Northern RFZ	3.33	1194
Southern RFZ	3.06	290

V. CONCLUSION & RECOMMENDATIONS

5.1 Conclusions

In this report, the current status of livestock producers and their communities in the Northern and Southern RFZ in terms of their management practices, yield and sales and to understand households' resilience capacities and coping mechanisms to shock at baseline, prior to the implementation of the PARE Program.

The mixed-method approach focuses on the livestock producers who raise one of the three PARE target value chains – cattle, goats/sheep or poultry. Quantitative and qualitative data was collected from a random sample of livestock producers with questions focusing on their livestock production and sales, management practices and household resilience. Qualitative data was also collected from community leaders and other livestock stakeholders.

Section 5.1 provides the major analytical results from the baseline data collection with livestock producers. Section 5.2 presents overall recommendations for PARE based on the baseline results.

5.1.1 DISTRIBUTION OF LIVESTOCK VALUE CHAINS

Sampling relied on the natural occurrence of the target livestock value chains. In the final sample, we see that the majority of households in the baseline sample (78%) keep goats/sheep, followed by cattle (56%) and poultry (52%). This distribution is heavily influenced by geographic region, with cattle production most likely to occur in Nord Est and Sud, and goats/sheep in Centre and Sud and poultry in Centre.

On average, respondent households in the sample reared two of the three target value chains. About a third (35%) of households engaged in just one of the target value chains, 45% engaged in two and 20% engaged in all three. Goats and sheep are most likely raised in addition to poultry or cattle. Households are least likely to produce poultry alone, but most likely to produce poultry in combination with goats/sheep.

Almost all (96% of cattle producers, 93% of goat/sheep producers and 100% of poultry producers) are smallholder farmers according to the Feed the Future definition of smallholder. Current cattle herds

averaged 2.5 cattle, with a total size of 3.7 in the past year. Goat/sheep herds averaged 5.1, with a total size of 8.1 in the past year. Poultry flocks averaged 9.0 birds with a total size of 20.5 in the past year.

Livestock was almost universally local breeds, with 95% of cattle herds, 97% of goat/sheep herds and 89% of poultry herds comprised of local animals. While local breeds are often preferred by producers, they also noted their interest in more breeding services and increased availability of improved breeds, as they have been impressed by examples they have seen.

5.1.2 MANAGEMENT PRACTICES

Overall, 84% of producers applied at least one of the improved management practices defined throughout the report, including best practice in feeding, nutrition, water provision, housing, animal health and record keeping. Despite this relatively high overall application, producers applied an average of 1.5 practices, indicating that they are not implementing them in a universal manner, but rather applying only one or two good practices. The management practices that producers employ are often dictated in large part by the shocks they face, especially drought, as well as their capacity to invest in their livestock production.

Tethering was the most common method for feeding and housing cattle and goat/sheep (88% of cattle producers and 86% of goat/sheep producers fed their cattle through a tethering system). Despite the acknowledged challenges with theft and accident, producers tethered their animals due to lack of land or capital to build enclosures as well as their need to source enough food for their animals. With recurrent drought and increases in prices of agricultural inputs, they needed to move their tethered animals to available pasture. Almost all (97%) of poultry producers feed and house their animals in the barnyard or homestead area, with only 3% keeping their birds in a chicken coup or enclosure.

Obtaining sufficient quantity of feed was the most pressing challenge for producers. The provision of additional nutrition was not widespread, with 61% of cattle producers and 64% of goat/sheep producers providing additional forage, including crop residue and fresh grasses. Only 16% of poultry producers provided supplemental feed to their birds.

Accessing sufficient water is another challenge. Few producers have regular access to water at their homesteads, with 74% of cattle producers and 25% of goat/sheep producers walking their animals to a water source. 24% of poultry producers wither don't provide their poultry with water or leave their birds to find water by themselves. When improved practices were calculated, only 42% of producers were able to adequately water their animals according to defined improved practices, and this involved substantial effort on the part of producers.

The rate of providing animal health treatments is middling, with 41% of cattle producers, 37% of goat/sheep producers and 47% of poultry producers treating their animals for disease or administering preventative health measures. Vaccination rates are similarly low, as 52% of cattle producers, 65% of goat/sheep producers and only 9% of poultry producers have given vaccines to their animals in the past year, despite the persistent challenge of disease. However, many producers practice either one or the other (giving treatments or providing a vaccine). Producers, especially those in the Northern RFZ, cite a lack of available animal health workers as a major constraint in treating their animals, as well as a low supply of veterinary medicines. Those that have access to veterinary services note that those services are private and therefore costly.

Intentional breeding is practiced by some producers, with 74% of cattle producers, 76% of goat/sheep producers and 73% of poultry producers intentionally breeding their animals. However, this breeding is overwhelmingly done with local breeds, as only 7% of cattle producers, 2% of goat/sheep producers and

1% of poultry producers use an improved breed. No producers reported using artificial insemination. Producers expressed interest in incorporating more improved breeds into their cattle and goat/sheep herds. Those who have observed their neighbors or others with improved breeds have been impressed by the results and seek information and distribution of new animal stock inputs.

Record keeping is almost non-existent among producers, likely driven by a low literacy rate. 11% of cattle producers, 8% of goat/sheep producers and 6% of poultry producers keep records. Those that do this activity keep records primarily on breeding.

5.1.3 YIELD AND SALES

In the past year, producers appeared to hold on to the majority of their animals, rather than offtaking them through sales, slaughter or gifting/trading.

Beef yield averaged 26.5 kilograms/herd, representing an average offtake of 13% of the total herd. Beef yield was driven almost entirely by sales, with 28% of producers selling some of their cattle. Almost no producers slaughtered or gifted/traded their cattle. Of those that sold their cattle, they averaged \$892 USD in annual sales. Amongst the entire sample of cattle producers, they averaged \$243 USD.

Only 18% of cattle farmers produced any milk largely due to lack of dairy breeds. Milk yield was 493 liters per cow for those that produced milk. Of milk producers, 58% of producers sold some portion of it, which represents 10% of all cattle producers, indicating that not only are few cattle producers also producing dairy, but even fewer are producing milk for sale. Of the minority that sold milk, they averaged \$231 USD in annual sales, which averaged \$23 USD for the entire sample of cattle producers.

Goat/sheep producers saw an annual yield of 1.9 kilograms/herd. Like cattle, goat/sheep yield was also primarily due to the sale of goats/sheep, with 34% of producers selling their cattle, and an average of 12% of the total herd being sold in the past year. Of those who sold their goats/sheep, they earned an average of \$178 USD. This average was \$60 across the entire sample of goat/sheep producers, which included those who did not sell.

Poultry yield averaged 0.6 kilograms/flock, comprising an average offtake of 15% of the total flock. Unlike cattle and goats/sheep, poultry yield was driven by slaughter for home consumption, as well as sales. 39% of producers slaughtered their poultry in the past year, which was 8% of their total flock. 25% sold their poultry, for 6% of their total flock. Of the 25% of producers who sold their poultry, they earned an average of \$64 USD in annual sales, which averaged \$16 USD for the entire sample of poultry producers.

Amongst poultry producers, 18% had hens that produced eggs. Egg yield averaged 53 eggs/hen in the past year. Of those who produced eggs in the past year, 30% sold some portion of them. When viewed over the whole sample population of poultry producers, we see that this equates to 6% of all poultry producers. Thus, not only do households produce eggs at a low rate, but very few of poultry producers in general sell them. Some poultry producers in Nord Est and Centre explained that egg imports from the Dominican Republic have impeded local producers' ability to sell at a profit, diminishing the local egg market. Annual sales of eggs averaged \$59 USD for the small group who sold them and \$3 USD over the entire population of poultry producers.

Many producers noted that there has been an increase in the price they can procure for their livestock and some producers have been able to leverage this into increased income. At the same time, a large portion (54%) sold no livestock product at all in the past year, earning \$0 in annual sales. These producers used their livestock for home consumption or held them back as a savings mechanism. The state of political

unrest, road closures and general instability of the past year has created new circumstances in which producers are potentially less likely to sell their livestock.

5.1.4 MAJOR CONSTRAINTS

Disease was a top issue cited by producers, particularly poultry and goat/sheep producers. Almost all (99%) of poultry producers selected disease as their most pressing issue. In fact, 76% of poultry producers lost some of their birds in the past year, averaging 46% of their total flock, and they noted that disease was the driver of this loss. The low rate of vaccination (95) amongst poultry producers certainly contributes to this issue, as New Castle and other diseases ravaged flocks. Goat/sheep producers also suffered from disease with 45% of producers explaining that disease was the top cause of loss in their herds.

Drought was identified as one of the most significant challenges facing livestock producers in all departments. Drought was felt to be the most severe of these top shocks, with 57% citing it as having an extremely severe impact on household income and 52% on food consumption. In qualitative interviews, it was a recurrent theme throughout all conversations, as producers noted how drought affected their ability to procure enough food and water for their livestock and contributing to disease. In fact, obtaining sufficient quantity of feed was largest challenge for cattle farmers (45% selected this as their most pressing challenges) and goat/sheep producers (37%). This challenge was directly related to the effect of drought on pastures. Drought also affected availability of water sources, forcing producers to travel further and further to find water.

Theft, particularly of cattle and goats, was another persistent issue mentioned by producers throughout both quantitative and qualitative fieldwork. Theft of cattle was the second highest challenge (11%) after quantity of feed for cattle producers and for goat/sheep producers, theft was the second leading cause of loss in their herds (30%). Producers noted that while identification systems for cattle were available, the additional cost and effort made them prohibitive at times. In addition, they suspected SIB and CASEC agents to be complicit in the theft of cattle, undermining these systems.

Finally, access to credit for livestock activities was identified as another major constraint, with producers struggling to access loans to invest in their livestock activities. Producers noted that keeping livestock required investments, especially to implement improved practices. At the same time, there are no available formal channels for livestock credit available to producers. The 38% of households that have taken a loan in the past year have done so almost exclusively with village savings/credit groups, mutual societies or friends and relatives. This constraint further contributes to challenges producers have in implementing improved practices and ultimately increasing their yield and sales.

5.1.5 ACCESS TO SERVICES, INPUTS AND MARKETS

Very few producers (3% of cattle, 3% of goat/sheep and 1% of poultry) have accessed formal training or extension services in the past year. Producers note that while a few of them have had training in the past, overall, they depend on traditional practices taught to them by their parents and grandparents, which contributes to the lack of improved practices. There is a noted dearth of curriculum or extension services available. Some have observed improved practices in selected neighbors or through their trade in the Dominican Republic and noted their interest in learning more. In particular, producers expressed great interest in training on producing their own hay, as well as training in growing improved forage. Producers referenced examples they have seen of other producers who grew grasses such as elephant grass that improved the health and productivity of their livestock, and they are eager to replicate.

In terms of veterinary services and products, 71% of producers feel that they can access animal health workers, though they note that this access requires significant time and money, as the majority of available

animal health workers are in private practice. 30% of producers feel that they are able to access veterinary medicines, whose availability has been impeded by trade issues and road blockages resulting from the recent crises. This lack of access contributes to the low rate of vaccination.

Markets are somewhat accessible to producers, who overwhelmingly sell in local markets. 59% feel that they have sufficient access to markets for selling animals, yet they note that the distance is significant. However, aside from local markets, there are few options for producers to sell to slaughterhouses or aggregation services. These services have either ceased their operations or are no longer accessible by road. Thus, livestock producers are limited to local markets.

Exposure to information is widespread overall, with 76% of households exposed to critical information in the past year. Rainfall and weather information are the most common (60%) topics of information. Access to market information is more limited, with 41% of producers citing that they have accessed information on market prices on food and 8% had information on water prices and water availability. For many topics, mass media including newspapers, radio and television was the most common source. 57% of households own a radio, but only 5% own a television, making radio the most important mass media medium. Informal networks of friend and family and word of mouth were another frequent source of information, especially for market information.

Less than half (44%) of all households indicated that they felt they could access a loan for general purposes. Those that felt they could access formal loans was much lower, with only 7% of households citing banks or financial institutions as a potential loan source available to them. Overall, 38% of producer households have actually taken a loan in the past year, and almost all households that had perceived access to a loan had taken one. The most prominent sources of loans were informal, with village savings/credit group as the most common (46%), followed by friends or relatives (43%). 10% of households took a loan from a formal lender in the past year, emphasizing the difficulty that livestock producers have in accessing formal credit.

5.1.6 HOUSEHOLD RESILIENCE

Out of a list of 21 shocks, households experienced an average of 7.8 in the past year, with the most common being a sharp increase in the price of food (94%) and increase in agricultural inputs (87%), as well as youth unemployment (80%). As discussed above, drought was felt to be the most severe of these top shocks. Biological shocks including crop pests (63%), weeds (60%) and crop diseases (51%) also highly affected households. In addition to these top three shocks, 65% of producers also explained that delays in delivery of food aid had an extremely severe impact on income.

In terms of absorptive resilience capacities, cash savings is low, with 37% of households holding savings, primarily kept at home. The availability of government or NGO aid is also low. However, ownership of livestock assets was high, with 90% of cattle producers, 92% of goat/sheep producers and 100% of poultry producers owning their livestock. Livestock emerged as one of the strongest absorptive resilience capacities available to households.

Adaptive resilience strategies relied most on households' ability to diversify their livelihoods, with an average of 3 income sources per household. Crop production was the most common at 58% with 47% earning income from the sale of livestock commodities in the past year. Transformative resilience capacities available for households were low, with little access to general services like electricity (32%), though access to markets was higher at 59%.

The coping strategies that households employed most often to deal with shocks and stresses were reducing their household expenses (53%) and reducing their food for consumption (40%). Only 14% of household sold their livestock in the past year to deal with a shock, which is often a last resort for producers.

5.1.7 GEOGRAPHIC DIFFERENCES

There were marked geographic differences in the distribution of livestock, due to the agro-ecological zones found in each of the 4 departments, with cattle production most likely to occur in Nord Est and Sud, and goats/sheep in Centre and Sud and poultry in Centre.

Similarly, management practices differed by department as well, with producers in Nord Est most likely to practice open grazing due to the higher availability of land. As a result, producers in Nord Est were also more susceptible to the threat of theft.

Producers in Sud had higher access to animal health workers and this is reflected in a higher rate of providing animal health treatments and vaccines to their cattle and goats/sheep. This occurred despite the trade issues that Sud is facing in terms of lack of access to inputs such as medicines. Centre saw the lowest rates of vaccination and provision of animal health treatments.

Producers in Sud also practiced intentional breeding for cattle, goats/sheep and poultry at a higher rate than those in other departments, particularly Nord, which had the lowest rate of intentional breeding. At same time, improved breeds were more common in Centre than in other departments, due to the more specialized nature of breeding in that department.

Households in Sud reported experienced a higher average number of shocks (9.1) compared to Centre which reported the lowest 6.3. Sud also reported feeling less optimistic about their household's ability to meet their food needs. Sud earned a lower average annual sales compared to departments in the Northern RFZ, likely due to the higher prevalence of poultry, a low value commodity, in the South. Overall, producers in the Northern RFZ had a higher Ability to Recover from Shocks and Stresses Score than the Southern RFZ, indicating that households in the north felt more equipped to handle current and future shocks and stresses than households in the south.

5.2 Recommendations

- **Promote improved livestock breeding practices by extending curriculum and extension services**

Given the overall low rate (average 1.5) of improved practices and lack of formal education and extension services available to producers, and producers' reliance on traditional methods, PARE could find opportunities to gather and disseminate information on best practices to build their capacity. Producers rely heavily on radio as a source of information, so this could be leveraged as a medium. In addition, producers look to their neighbors and others for innovations, so demonstration plots could also expand farmers knowledge and increase the uptake of new practices and technologies. Finally, more extension agents and access to formal trainings would greatly solidify the adoption of improved practices.

- **Improve access to animal nutrition**

Producers have noted their interest in learning to produce hay and practice silage as well as grow improved forage, which is emphasized by their low rate of supplying their animals with additional nutrition. In addition, almost no producers provide their animals with supplemental feed, pointing to a need to improve their practices in this area. PARE could provide training and resources to producers

to grow improved forage or more easily source it. In addition, PARE could work to improve the availability of affordable supplemental feed.

- **Increase access to veterinary services and products**

Disease was a pressing challenge for all livestock producers, especially those that raised goats/sheep and poultry. Though producers note they are able to access animal health workers, the available services tend to be private and therefore costly. In addition, there is a dearth of medicine and vaccines available. This contributes to low rates of application of animal health treatments. PARE could work to improve the availability of affordable animal health products and services, as well as improve producers' knowledge on improved ways to manage their animals' health beyond traditional methods.

- **Increase the availability of improved breeds**

With herds and flocks almost exclusively comprised of local breeds, as well as producers' interest in accessing more improved breeds, PARE could work to increase the availability of improved breeds across cattle, goats/sheep and poultry. Affordable and accessible distribution of improved animal stock and capacity building on breeding techniques could improve the genetic makeup of producers' herds and flocks.

- **Improve access to water**

Drought influenced many of the practices that producers employed, including their ability to supply an adequate provision of water. Only 42% of producers were able to adequately water their animals. Natural water resources depended greatly on local geography and are subject the vagaries of weather and drought. PARE could work with water companies and local administrations to source new ways for producers to access water for their livestock.

- **Address theft**

Theft proved to be a major constraint facing cattle and goat/sheep producers, leading to significant loss. Though identification systems are present, producers have little trust in them. PARE can help to source trusted and accessible solutions to producers to reduce their loss through theft which will improve their overall yield and sales.

- **Increase access to credit**

There are currently few avenues for formal financing for livestock available to producers. This limits their ability to invest more fully in their livestock production and improve their practices. PARE could work with financial institutions to increase the products available to livestock farmers, addressing their particular needs and concerns.

- **Expand market linkages**

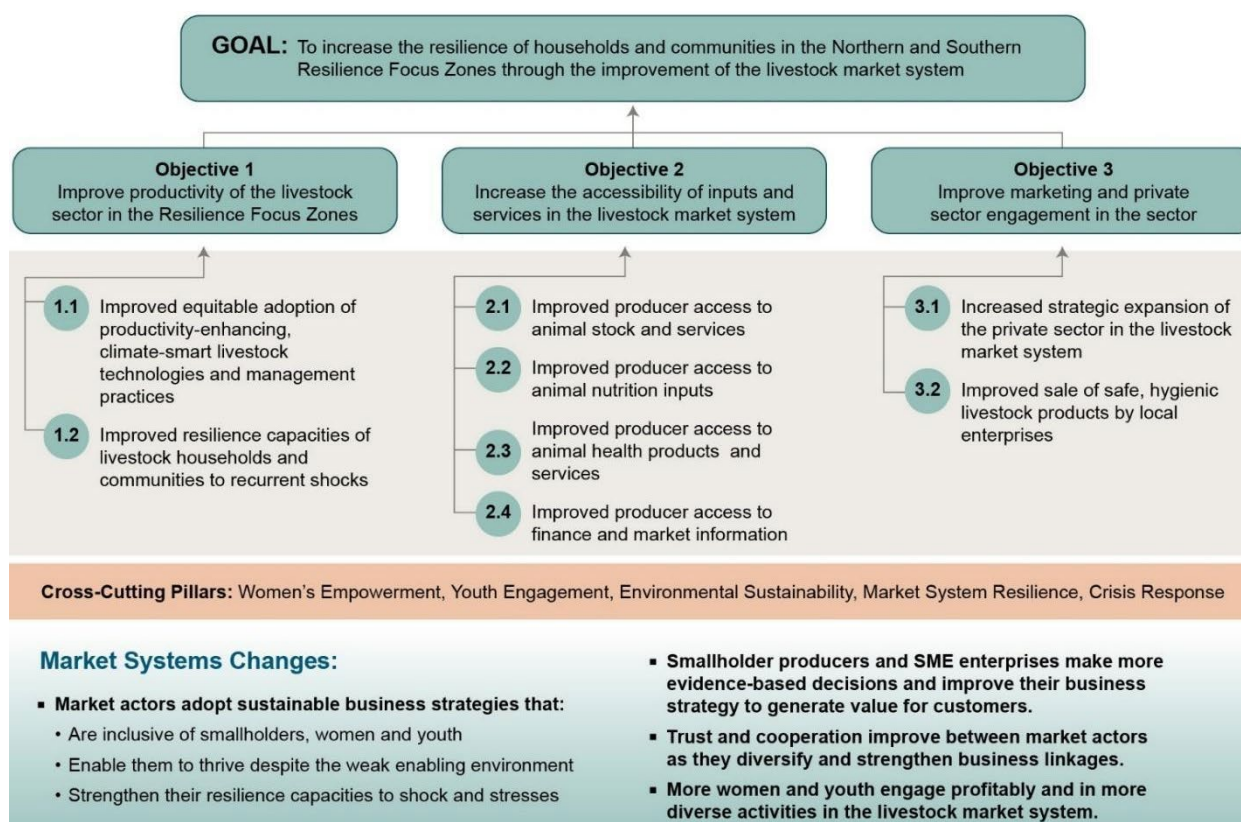
While producers have adequate access to local markets, they lack linkages to larger markets, processors and slaughterhouses that would allow them to scale up their production. PARE could work with partners to source new ways of linking producers to end markets, encouraging them to invest and expand their production.

VI. ANNEXES

ANNEX I: RESULTS FRAMEWORK

Figure I shows results that PARE will reach to *increase the resilience of households and communities in targeted RFZ through the improvement of the livestock market system.*

Figure I: PARE Results Framework



ANNEX 2: INDICATOR TABLE

Table 1: Targets and Indicator Summary Table

PMP Indicator progress - USAID Standard Indicators and Project Custom Indicator	Data Source	Baseline data		FY 2024		Quarterly Status – FY 2024				Annu al Perfor manc e Achie ved to Date (in %)	Target Justification for Fiscal Year of this Annual work plan
		Year	Value	Annual Cumulativ e Planned target	Annual Cumula tive Actual	Q1	Q2	Q3	Q4		
Goal: Increase the resilience of household and communities through the improvement of the livestock market system											
Percentage of USAID Activity participants with improvement in targeted resilience capacities	Producer survey	2023	0%	30%	TBD	NA	NA	NA	30%	TBD	Progress on this indicator will be measured during the annual producer survey.
Number of USAID Activity participants with diversified livelihoods	Producer survey	2023	0	1,700	TBD	NA	NA	NA	1,700	TBD	
Number of private sector enterprises that engaged with the USG to support US Foreign Assistance Objectives	Monitoring Data	2023	0	15	TBD	0	0	5	10	TBD	PARE expects to create partnerships with a number of enterprises in the second half of Year 2, but also provide other support to micro enterprises outside of partnerships through BDS support.
Number of firms receiving United States Government (USG)-funded technical assistance for improving business performance	Monitoring Data	2023	0	30	TBD	0	0	5	25	TBD	

PMP Indicator progress - USAID Standard Indicators and Project Custom Indicator	Data Source	Baseline data		FY 2024		Quarterly Status – FY 2024				Annual Perform ance Achie ved to Date (in %)	Target Justification for Fiscal Year of this Annual work plan
		Year	Value	Annual Cumulativ e Planned target	Annual Cumula tive Actual	Q1	Q2	Q3	Q4		
Number of individuals participating in USG food security programs	Monitoring Data	2023	0	11,610	TBD	0	0	200	11,410	TBD	PARE expects to create partnerships in the second half of year 2, these partnerships will then take some time to be implemented and reach households, thus we expect to reach the majority of participants in quarter 4
Percentage of female participants in USG assisted programs designed to increase access to productive economic resources	Monitoring Data	2023	0%	20%	TBD	0%	0%	20%	20%	TBD	
Percentage of participants in USG assisted programs designed to increase access to productive economic resources who are youth (15-29)	Monitoring Data	2023	0%	10%	TBD	0%	0%	10%	10%	TBD	
Percent of women achieving adequacy across the two indicators in the resource portion of the Abbreviated	Producer Survey	2023	31%	+5%	TBD	NA	NA	NA	+5%	TBD	Progress on this indicator will be measured during the annual producer survey. PARE will look to include

PMP Indicator progress - USAID Standard Indicators and Project Custom Indicator	Data Source	Baseline data		FY 2024		Quarterly Status – FY 2024				Annual Performanc e Achieved to Date (in %)	Target Justification for Fiscal Year of this Annual work plan
		Year	Value	Annual Cumulativ e Planned target	Annual Cumula tive Actual	Q1	Q2	Q3	Q4		
Women's Empowerment in Agriculture Index											gender equity messages and activities in all partnerships and the target is set to be a small increase over baseline.
Market Systems Resilience Index	LMSRA	2023	1.62	NA	NA	NA	NA	NA	NA	NA	This indicator will only be updated at midterm and final evaluation, so there will be no progress in Year 2.
Intermediate Result (IRI): Improve productivity of the livestock sector in the Resilience Focus Zones											
Number of individuals in the agri-food system who have applied improved management practices or technologies with USG assistance Feed the Future (FTF) EG.3.2-24	Producer/ Enterprise Surveys	2023	84%	5,750	TBD	NA	NA	NA	5,750	TBD	Progress on these indicators will be measured during the annual producer survey. These targets were set based on the number of enterprises and individuals expected to be supported by the end of Year 2. The yield and ability
Yield of targeted agricultural commodities among program participants with USG assistance FTF EG.3-10	Producer/ Enterprise Surveys	2023	Milk: 493L Eggs: 53	Milk: 240L Eggs: 57.5	TBD	NA	NA	NA	Milk: 240L Eggs: 57.5	TBD	

PMP Indicator progress - USAID Standard Indicators and Project Custom Indicator	Data Source	Baseline data		FY 2024		Quarterly Status – FY 2024				Annu al Perfor manc e Achie ved to Date (in %)	Target Justification for Fiscal Year of this Annual work plan
		Year	Value	Annual Cumulativ e Planned target	Annual Cumula tive Actual	Q1	Q2	Q3	Q4		
			Chicken: 0.6 kg/flock Goat/Sheep: 1.9 kg/herd Cattle: 26.5 kg/herd	Chicken: 9.1 kg/flock Goat/Sheep: 3.6 kg/herd Cattle: 34.44 kg/herd					Chicken: 9.09kg Goat/Sheep: 3.56kg Cattle: 34.43Kg		to recover from shocks target was set to be a small increase over baseline.
Percent of participant farmer households with increased asset ownership as a result of USG assistance	Producer Survey	2023	0%	15%	TBD	NA	NA	NA	15%	TBD	
Ability to recover from shocks and stresses index RESIL-a	Producer Survey	2023	3.28	+5%	TBD	NA	NA	NA	+5%	TBD	
Intermediate Result (IR2): Increase the accessibility of inputs and services in the livestock market system											
Percent of USG assisted organizations with improved performance CBLD-9	Enterprise survey & Partner Reports	2023	0%	25%	TBD	NA	NA	NA	25%	TBD	Progress on these indicators will be measured during the annual producer survey. These targets were set based on the number of
Value of annual sales of producers and firms receiving USG assistance FTF EG.3.2-26	Producer/ Enterprise Surveys	2023	\$205 USD per	\$7.5 Million	TBD	NA	NA	NA	\$7.5 Million	TBD	

PMP Indicator progress - USAID Standard Indicators and Project Custom Indicator	Data Source	Baseline data		FY 2024		Quarterly Status – FY 2024				Annu al Perfor manc e Achie ved to Date (in %)	Target Justification for Fiscal Year of this Annual work plan
		Year	Value	Annual Cumulativ e Planned target	Annual Cumula tive Actual	Q1	Q2	Q3	Q4		
			producer household								enterprises and individuals expected to be supported by the end of Year 2.
Number of households with availability of targeted services supported by USAID	Producer Survey	2023	88%	5,750	TBD	NA	NA	NA	5,750	TBD	
Intermediate Result (IR3): Improve marketing and private sector engagement in the sector											
Value of new USG commitment and private sector investment leveraged by USG to support food security and nutrition	Producer / Enterprise survey Monitoring data	2023	\$0	\$500,000	TBD	NA	NA	NA	\$500,000	TBD	Progress on these indicators will be measured during the annual producer survey. These targets were set based on the number of enterprises and individuals expected to be supported by the end of Year 2.
Value of agriculture-related financing accessed as a result of USG assistance	Producer / Enterprise survey Monitoring data	2023	\$0	\$50,000	TBD	NA	NA	NA	\$50,000	TBD	
Number of private sector enterprises with improved participation in the local economy as a result of the USG assistance PSE-3	Enterprise survey/ Monitoring data	2023	0	15	TBD	NA	NA	NA	15	TBD	

ANNEX 3: SUMMARY OF QUALITATIVE INFORMANTS FOR FGDs AND KIIs

Table I below lists the Focus Group Discussions (FGDs) that AGIRED completed. Table I lists the community leaders and stakeholders who were consulted for Key Informant Interviews (KIIs).

Table I: Focus Group Discussions

Department	Commune	FGDs
Nord	Acul du Nord	10 general livestock producers of target value chains
		10 female producers of target value chains
		9 youth producers of target value chains
	Limonade	10 general livestock producers of target value chains
		10 female producers of target value chains
		14 youth producers of target value chains
	Pignon	12 general livestock producers of target value chains
		16 female producers of target value chains
		10 youth producers of target value chains
	Saint-Raphaël	9 general livestock producers of target value chains
		15 female producers of target value chains
		13 youth producers of target value chains
	Total # FGDs in department	12
Nord Est	Fort-Liberté	14 general livestock producers of target value chains
		10 female producers of target value chains
		15 youth producers of target value chains
	Ouanaminthe	9 general livestock producers of target value chains
		9 female producers of target value chains
		11 youth producers of target value chains
	Terrier-Rouge	10 general livestock producers of target value chains
		8 female producers of target value chains
		10 youth producers of target value chains
	Vallières	11 general livestock producers of target value chains
		11 female producers of target value chains
		10 youth producers of target value chains
	Total # FGDs in department	12
Centre	Hinche	18 general livestock producers of target value chains
		13 female producers of target value chains
		9 youth producers of target value chains
	Cerca Carvajal	16 general livestock producers of target value chains
		13 female producers of target value chains
		14 youth producers of target value chains
	Cerca la Source	10 general livestock producers of target value chains
		8 female producers of target value chains
		9 youth producers of target value chains

	Total # FGDs in department	9
Sud	Camp-Perrin	17 general livestock producers of target value chains
		12 female producers of target value chains
		18 youth producers of target value chains
	Chantal	35 general livestock producers of target value chains
		22 female producers of target value chains
		14 youth producers of target value chains
	Chardonnières	20 general livestock producers of target value chains
		16 female producers of target value chains
		9 youth producers of target value chains
	Saint-Jean du Sud	16 general livestock producers of target value chains
		10 female producers of target value chains
		17 youth producers of target value chains
	Torbeck	26 general livestock producers of target value chains
		15 female producers of target value chains
		33 youth producers of target value chains
	Total # FGDs in department	15
TOTAL		48

Table 2: Key Informant Interviews

Department	Stakeholders from
Nord	Associations des Planteurs-Pêcheurs et Éleveurs de Camp-Louise (APPEC)
	MARNDR DDA/Nord
	Université Chrétienne de la Communauté de Caïman (UCCC)
	Lèt Agogo _ Laiterie Limonade
	MARNDR, BAC
	Vétérinaire
	CASEC in Acul du Nord
	MPA (Mouvman Peyizan Akil di Nò) in Acul du Nord
	Asosyasyon Pwodiktè Lèt Limonad (APWOLLIM)
	INTERVET in Limonade
	ASEC in Pignon
	Centre Technique Notre Dame de Pignon
	Comité de Bienfaisance de Pignon
	Autorité locale de la collectivité territoriale in Saint Raphael
	CASEC in Saint Raphael
	Total KIs in department: 15
Nord Est	CRDD-T (Centre Rurale de Développement Durable de Terrier-Rouge)
	DBTEC École Technique d'Agriculture Fort-Liberté

	BAC (bureau agricole communale) - MARNDR
	MARNDR DDA Nord Est
	Centre d'Agriculture Saint Barnabas (Formation, exploitation agricole et élevage) (Ecole CASB) Terrier rouge
	Congrégation Petites Sœurs de St. Thérèse Agriculture, éducation, santé, pastoral
	"FAPAD : Ferme (des familles) André (et) Pierre Agricole de Dumas
	Élevage de bovins, caprins, porcs et poules Créoles"
	Éleveur et notaire
	CASEC
	GEDW : Groupman Elvè pou Devlopman Wanament
	Support aux éleveurs dans la zone"
	ACA Vallières
	CASEC, représentant de l'état dans la section communale
	GSB (Gwoupman Sante Bèt)
	Koperativ Elvè Terye Rouj (KOET)
	Vétérinaire
	CASEC Terrier-Rouge
	Total KKIs in department : 18
Centre	MARNDR DDA/Centre
	Caritas Hinche
	Université Publique du Centre (UPC)
	École d'entreprenariat agricole Hinche
	MARNDR/Hinche
	MPP/Hinche
	PFI/Hinche
	Maire et Délégué Hinche
	Maire de Cerca La Source
	Agent GSB de Cerca La Source
	BAC de Cerca La Source
	BAC de Cerca Cavajal
	CASEC de Cerca Cavajal
	Ferme Privée de Cerca Cavajal
	Total KKIs in department: 14
Sud	MARNDR/SUD
	SEED
	Combit pour le Renforcement des Activités Locales (CORAL)
	Agricole du Sud (DDAS)/MARNDR
	Òganizasyon Peyizan Nan Pon (OPNP), Òganizasyon Fanm Kalbas (OFAK), Espas Konsètasyon ak Dyalòg Politik ak Agrikòl (EKDE)
	Assemblée Section Communale (ASEC), l'Organisation pour le Développement de Labei Sud (ODLS)
	CASEC Chardonnières
	CASEC Chantal

	Association Planteur Jonc Labeille (APJ)
	CASEC Torbeck
	Chapelle, Sacristain
	Association des Planteurs Valère et Ti Verni (APVTT)
	CASEC Torbeck
	Organisation Nationale pour le Changement du Pays (ONCP), Organisation en appui aux femmes
	CASEC Camp Perrin
	CASEC Camp Perrin
	Gwoupman Sante Bèt (GSB), comité exécutif du Groupement Régional pour l'Éducation et le Développement Local (GREDEL)
	Organisation de Développement l'Avancement de Saint Jean du Sud (ODASS)
	Association Villageoise d'Épargne et de Crédit (AVEC), épargne et crédit
	19
TOTAL	66

ANNEX 4: DATA COLLECTION TOOLS

PARE ANNUAL PRODUCER HOUSEHOLD SURVEY _ BASELINE

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VII. SAMPLING & SCREENING

Section A: Sampling Information

INTERVIEWER NOTE: Fill out this section *BEFORE* beginning the interview.

Enumerator

ASK ALL

OPEN END

A1. Please enter the name and ID# of the enumerator

Name	[ENTER NAME]
ID #	[ENTER ID #]

Department

ASK ALL

SINGLE CODE

A2. Department: Please enter the correct department. Please check your answer and ensure that it is correct.

1	Nord
2	Nord-Est
3	Centre
4	Sud

Commune

ASK ALL

SINGLE CODE

A3. Commune: Please enter the correct commune. Please check your answer and ensure that it is correct.

1	Acul-du-Nord
2	Limonade
3	Pignon
4	Saint-Raphaël
5	Fort-Liberté
6	Ounaminthe
7	Terrier-Rouge
8	Vallières
9	Hinche
10	Cerca Carvajal
11	Cerca la Source
12	Camp-Perrin
13	Chantal
14	Chardonnières
15	Saint-Jean du Sud
16	Torbeck

Enumeration Area/SDE

ASK ALL

NUMERIC

A4. SDE: Please enter the correct SDE code. You will receive this from your field supervisor. Please check your answer and ensure that it is correct.

I	[ENTER SDE CODE]
---	------------------

ASK ALL
NUMERIC

A5. GPS Location

I	[ENTER GPS coordinates of current location]
---	--

Section B: Household Screening

INTERVIEWER NOTE: Follow the sampling protocol to select a household in this location. This protocol can be found in your interviewer manual. It is **EXTREMELY** important that you follow this protocol correctly.

ASK ALL
OPEN END

B1. Interviewer, please enter the respondent's address as well as any information needed to find this house again in the future. If there is no address, please enter a description of the house so that others may identify it in the future.

--

ASK ALL
OPEN END

B2. Please enter the date of the visit

DATE	[ENTER DATE: dd/mm/yyyy]
------	--------------------------

ASK ALL
OPEN END

B3. What was the outcome of the visit?

I	Made contact with the household
2	No one was home
3	Someone was home but they did not want to speak to you

IF B3=2 OR 3

SHOW SCREEN: Please thank the respondent and exit the survey. Follow the sampling protocol to select another household.

EXIT SURVEY

ASK IF B3=1
MULTI CODE

B4. Does your household currently rear any of the following livestock: goats, sheep, cattle or poultry? (i.e raise/care for or make decisions about)?

INTERVIEWER NOTE: This can include raising animals for either meat or milk/eggs.

1	Goats
2	Sheep
3	Cattle
4	Poultry (includes chicken and any other birds)
5	None of the above [EXCLUSIVE]
888	Don't know
999	Refused

IF B4=NONE (5), DON'T KNOW (888) **OR** REFUSED (999)

SHOW SCREEN: This household does not qualify for the survey. Please thank the respondent and end the interview, and follow the sampling protocol to select another household.

EXIT SURVEY

Section C. Informed Consent & Respondent Selection

INTERVIEWER NOTE: Please ask to speak with the person most familiar with the care and management of livestock.

ASK ALL

SINGLE CODE

INTERVIEWER NOTE: Read out.

C1. Good morning/afternoon my name is, I work with **AGIRED** on behalf of the **PARE** project financed by the United States Agency for International Development, also called **USAID**. This project is conducting a baseline survey to learn more about livestock rearing in the area. This information will help the project to understand the current context to better plan their activities to bring impact to the community. The survey includes questions on your livestock practices, production, and sales.

We have selected your household by chance (randomly) for this interview. Your participation in the study will not give you any special privileges; it does not mean that you are enrolled in the project nor will you receive a benefit from this project. Participation is voluntary. This interview should take about 1 hour to complete.

Everything you will tell us here will remain confidential between me and you, no one else will have the right to make it public. You have the right not to decide to participate or to answer some questions. If you have questions you want to ask me at the end of the talk, you can ask me all the questions you want. Do you have any questions about what I just said?
[ANSWER QUESTIONS]

Do you agree to participate in this study?

1	Yes ☐ Continue the survey
2	No

IF C1=NO (2)

SHOW SCREEN: This respondent does not qualify for the survey. Please thank the respondent and end the interview. Follow the sampling protocol to select another household.

EXIT SURVEY

ASK ALL
SINGLE CODE

C2. How old are you?

1	Respondent is 18 years or older
2	Respondent is less than 18 years

IF C2=2

SHOW SCREEN: This respondent does not qualify for the survey. Please thank the respondent and end the interview. Follow the sampling protocol to select another household.

EXIT SURVEY

VIII.

IX. DEMOGRAPHICS

SHOW SCREEN: First, we'd like to ask you some questions about yourself and your household.

Section D. Respondent & Household Demographics

ASK ALL
OPEN END

D1. What is your name?

1	[ENTER RESPONDENT NAME]
888	Don't know
999	Refused

ASK ALL
SINGLE CODE

D2. Sex

INTERVIEWER NOTE: Do not read question out. Observe sex of the respondent.

1	Male
2	Female
888	Don't know
999	Refused

ASK ALL
NUMERIC

D3. How old are you (in years)?

1	[ENTER AGE IN YEARS: 18-99]
888	Don't know
999	Refused

ASK ALL
SINGLE CODE

D4. What is your marital status?

1	Married
2	Single
3	Divorced/Separated
4	Widow
5	Concubinage
888	Don't know
999	Refused

ASK ALL

SINGLE CODE

D5. What is the highest level of education you have completed?

1	No schooling
2	Ecole Primaire
3	Ecole Secondaire
4	Ecole Professionale
5	Ecole Technique
6	University or higher
888	Don't know
999	Refused

ASK ALL

SINGLE CODE

D6. Are you the head of household?

1	Yes
2	No
888	Don't know
999	Refused

ASK ALL

NUMERIC

D7. How many people are in your household, including yourself? A household is defined as people who live together and take food from the same pot.

1	[ENTER # OF PEOPLE: 1 – 50]
888	Don't know
999	Refused

ASK IF D6=NO (2)

SINGLE CODE

D8. What is your relationship to the head of household?

1	Spouse/Partner
2	Child
3	Parent
4	Grandparent
5	Son/Daughter
6	Son-in-law/Daughter-in-law
7	Uncle/Aunt
8	Other [SPECIFY]
888	Don't know
999	Refused

ASK IF D6=NO (2)

SINGLE CODE

D9. What is the sex of the head of household?

1	Male
2	Female
888	Don't know
999	Refused

ASK IF D6=NO (2)

SINGLE CODE

D5. What is the highest level of education of the head of household?

1	No schooling
2	Ecole Primaire
3	Ecole Secondaire
4	Ecole Professionale
5	Ecole Technique
6	University or higher
888	Don't know
999	Refused

X. LIVESTOCK PRODUCTION AND SALES

SHOW SCREEN: Now I want to ask you about the livestock that you produce as a household

ASK IF B4=GOATS (1) OR SHEEP (2)

Section E. Goats and Sheep

SHOW SCREEN: Now I want to ask you about the goats and sheep that your household raises and makes decisions about.

INTERVIEWER NOTE: We will consider goats and sheep together in this section.

Section E1 Goat and Sheep Production

ASK IF B4=GOATS (1) OR SHEEP (2)

NUMERIC

E1.1. In total, how many goats or sheep does your household currently raise/make decisions about?

INTERVIEWER NOTE: This must be at least 1, as they selected yes at B4. If they report 0, return to B4.

I	[ENTER #: 1-999]
888	Don't know
999	Refused

ASK IF B4=GOATS (1) OR SHEEP (2)

NUMERIC EACH ROW

E1.2. Of the total goats/sheep your household currently raises, how many [INSERT TYPE] do you raise?

INTERVIEWER NOTE: *If they did not raise any of this type, enter 0.*

#	Type	[ENTER #: 0-999]	Don't know (888)	Refused (999)
a	Improved adult buck goat or sheep			
b	Improved adult doe goat or sheep			
c	Improved kid goat or sheep			
d	Local adult buck goat or sheep			
e	Local adult doe goat or sheep			
f	Local kid goat or sheep			

PROGRAMMING: Sum E1.2_a to E1.2_f and check that it equals E1.1. If it does not, return an error message until equal.

ASK IF B4=GOATS (1) OR SHEEP (2)

NUMERIC

E1.3. What is the maximum number of goats or sheep that your household raised/made decisions about in the last 12 months?

INTERVIEWER NOTE: *This must be at least 1, as they selected yes at B4. If they report 0, return to B4.*

I	[ENTER #: 1-999]
888	Don't know
999	Refused

ASK IF B4=GOATS (1) OR SHEEP (2)

SINGLE CODE

E1.4. Who owns your household's goat and sheep?

INTERVIEWER NOTE: *Do not read out, but probe if needed to be able to understand which is the correct code below.*

1	Myself, solely
2	Myself and another male household member jointly
3	Myself and another female household member jointly
4	Another male household member
5	Another female household member
6	A family member in another location in Haiti
7	A family member in another location outside of Haiti
8	A non-household or family member
9	Other [SPECIFY]
888	Don't know
999	Refused

ASK IF B4=GOATS (1) OR SHEEP (2)

MULTI CODE

E1.5. Who has participated in the management of your household's goat and sheep in the last 12 months?

INTERVIEWER NOTE: Do not read out, but probe if needed to be able to understand which is the correct code below.

1	Myself, solely
2	Myself and another male household member jointly
3	Myself and another female household member jointly
4	Another male household member
5	Another female household member
6	A family member in another location in Haiti
7	A family member in another location outside of Haiti
8	A non-household or family member
9	Other [SPECIFY]
888	Don't know
999	Refused

ASK IF B4=GOATS (1) OR SHEEP (2)

SINGLE CODE

E1.6. Who primarily makes the management decisions for your household's goat and sheep?

INTERVIEWER NOTE: Do not read out, but probe if needed to be able to understand which is the correct code below.

1	Myself, solely
2	Myself and another male household member jointly
3	Myself and another female household member jointly
4	Another male household member
5	Another female household member
6	A family member in another location in Haiti
7	A family member in another location outside of Haiti
8	A non-household or family member
9	Other [SPECIFY]
888	Don't know
999	Refused

ASK IF B4=GOATS (1) OR SHEEP (2)

NUMERIC

E1.7. In the last 12 months, how many total goats/sheep did your household slaughter for consumption (home or a function)?

INTERVIEWER NOTE: *If they did not slaughter any, enter 0.*

PROGRAMMING:

I	[ENTER TOTAL # OF GOATS/SHEEP: 0-999]
888	Don't know
999	Refused

ASK IF E1.7 > 0

NUMERIC EACH ROW

E1.8. Of the total goats/sheep your household slaughtered in the past 12 months, how many [INSERT TYPE] did you slaughter?

INTERVIEWER NOTE: *If they did not slaughter any of this type, enter 0.*

#	Type	[ENTER #: 0-999]	Don't know (888)	Refused (999)
a	Improved adult buck goat or sheep			
b	Improved adult doe goat or sheep			
c	Improved kid goat or sheep			
d	Local adult buck goat or sheep			
e	Local adult doe goat or sheep			
f	Local kid goat or sheep			

PROGRAMMING: Sum E1.8_a to E1.8_f and check that it equals E1.7. If it does not, return an error message until equal.

ASK IF B4=GOATS (1) OR SHEEP (2)

NUMERIC

E1.9. In the last 12 months, what was the total number of goats/sheep that your household gifted or traded?

INTERVIEWER NOTE: *If they did not gift or trade any of this type, enter 0.*

I	[ENTER # OF GOATS/SHEEP: 0-999]
888	Don't know
999	Refused

ASK IF E1.9 > 0

NUMERIC

E1.10. In the past 12 months, how many [INSERT TYPE] did you gift or trade?

INTERVIEWER NOTE: *If they did not gift or trade any of this type, enter 0.*

#	Type	[ENTER #: 0-999]	Don't know (888)	Refused (999)
a	Improved adult buck goat or sheep			
b	Improved adult doe goat or sheep			
c	Improved kid goat or sheep			
d	Local adult buck goat or sheep			
e	Local adult doe goat or sheep			
f	Local kid goat or sheep			

PROGRAMMING: Sum E1.10_a to E1.10_f and check that it equals E1.9. If it does not, return an error message until equal.

ASK IF B4=GOATS (1) OR SHEEP (2)

NUMERIC

E1.11. In the last 12 months, how many total goats/sheep did your household lose (due to death or some other reason)?

INTERVIEWER NOTE: If they did not lose any goats/sheep, enter 0.

I	[ENTER TOTAL # OF GOATS/SHEEP: 0-999]
888	Don't know
999	Refused

ASK IF E1.11 > 0

NUMERIC EACH ROW

E1.12. Of the total goats/sheep your household lost in the past 12 months, how many [INSERT TYPE] did you lose?

INTERVIEWER NOTE: If they did not lose any of this type, enter 0.

#	Type	[ENTER #: 0-999]	Don't know (888)	Refused (999)
a	Improved adult buck goat or sheep			
b	Improved adult doe goat or sheep			
c	Improved kid goat or sheep			
d	Local adult buck goat or sheep			
e	Local adult doe goat or sheep			
f	Local kid goat or sheep			

PROGRAMMING: Sum E1.12_a to E1.12_f and check that it equals E1.11. If it does not, return an error message until equal.

ASK IF E1.11 > 0

MULTI CODE

E1.13. What were the reasons your household lost goats/sheep in the last 12 months?

INTERVIEWER NOTE: Read out.

1	Disease
2	Theft
3	Drought
4	Flooding
5	Lack of food
6	Predators
7	Accident
8	Other [SPECIFY]
888	Don't know
999	Refused

Section E2 Goat and Sheep Sales

SHOW SCREEN: Next, let's talk about your sales of goats and sheep.

ASK IF B4=GOATS (1) OR SHEEP (2)

NUMERIC

E2.1. In the last 12 months, how many total goats or sheep did your household sell?

INTERVIEWER NOTE: If they did not sell any goats or sheep, enter 0.

1	[ENTER TOTAL # OF GOATS/SHEEP: 0-999]
888	Don't know
999	Refused

#	Type	ASK IF E2.1 > 0 NUMERIC E2.2. Of the total goats/sheep your household <u>sold</u> in the past 12 months, how many [INSERT TYPE] did you sell? 1. [ENTER #: 0-999] 888. Don't know 999. Refused	ASK IF E2.2 > 0 NUMERIC E2.3. What was the average price in Gourdes you received for each [INSERT TYPE] that you sold? 1. [ENTER GOURDES: 0-99,999] 888. Don't know 999. Refused
---	------	--	--

		INTERVIEWER NOTE: <i>If they did not sell any of this type, enter 0.</i>	
a	Improved adult buck goat or sheep		
b	Improved adult doe goat or sheep		
c	Improved kid goat or sheep		
d	Local adult buck goat or sheep		
e	Local adult doe goat or sheep		
f	Local kid goat or sheep		

PROGRAMMING: Sum E2.2_a to E2.2_f and check that it equals E2.1. If it does not, return an error message until equal.

PROGRAMMING: Calculate total sales by multiplying E2.2 * E2.3 for each row, then sum the rows.

ASK IF E2.1 > 0

NUMERIC

E2.4. So you estimate that your household earned about [INSERT TOTAL SALES CALCULATION] from sales of goat or sheep in the past 12 months. Does this sound correct to you?

INTERVIEWER NOTE: Check to see if the calculation of total sales seems correct to the respondent. If not, correct it below.

1	Yes
2	No
888	Don't know
999	Refused

ASK IF E2.4 = NO (2)

NUMERIC

E2.5. What is the total amount (in Gourdes) that your household earned from the sales of goat/sheep in the last 12 months?

INTERVIEWER NOTE:

1	[ENTER # OF GOURDES: 1- 9,999,999]
888	Don't know
999	Refused

ASK IF E2.1 > 0

MULTI CODE

E2.6. What were the reasons that your household sold your goats/sheep in the last 12 months?

INTERVIEWER NOTE: Read out.

1	Buy food
2	School fees
3	Buy crop inputs
4	Deal with emergencies
5	Deposit to bank
6	Wedding, communion or other community event
7	Religious reasons
8	Invest in a small business
9	Planned sale schedule
10	Other [SPECIFY]
888	Don't know
999	Refused

ASK IF E2.1 > 0

MULTI CODE

E2.7. Where have you sold your goats/sheep in the past 12 months?

INTERVIEWER NOTE: Read out.

1	Neighbors
2	Traders (Madan Sara, Pacotilleurs, voltiguers)
3	Local market
4	Slaughterhouse
5	Large producer
6	Supermarket
7	Other [SPECIFY]
888	Don't know
999	Refused

ASK IF E2.7 = 3

NUMERIC

E2.8. How far away, in minutes to walk, is your closest local market that you sell your goats/sheep?

1	[ENTER # OF MINUTES: 1-360]
---	-----------------------------

888	Don't know
999	Refused

ASK IF B4=GOATS (1) OR SHEEP (2)

SINGLE CODE

E2.10. Does any member of your household belong to a livestock association or marketing group associated with your goat or sheep enterprise?

1	Yes
2	No
888	Don't know
999	Refused

Section E3 Production and sales of goat and sheep milk

SHOW SCREEN: Next, let's talk about your sales and income of goat and sheep milk.

ASK IF B4=GOATS (1) OR SHEEP (2)

SINGLE CODE

E3.1. In the past 12 months, did you produce any goat/sheep milk for consumption or sale?

1	Yes
2	No
888	Don't know
999	Refused

ASK IF E3.1 = NO (2)

MULTI CODE

E3.2. Why do you not keep goats/sheep for milk?

1	Didn't know goats/sheep produce milk
2	Not part of our culture
3	Don't like goat/sheep milk
4	Wrong breed
5	Other [SPECIFY]
888	Don't know
999	Refused

ASK IF E3.1 = YES (1)

NUMERIC

E3.3. In the past 12 months, how many of your goat/sheep does produced milk for consumption or sale?

I	[ENTER # OF DOES: 1-999]
888	Don't know
999	Refused

ASK IF E3.1 = YES (I)

NUMERIC

E3.4. On average in the last 12 months, how many liters per day did each of the goat/sheep does produce, while they produced milk?

INTERVIEWER NOTE: *If respondent only can answer in gallons, use the conversion sheet in the interviewer manual to convert to liters.*

I	[ENTER # OF LITERS: 1-999]
888	Don't know
999	Refused

ASK IF E3.1 = YES (I)

NUMERIC

E3.5. On average in the last 12 months, how many days did each goat/sheep doe produce milk?

I	[ENTER # OF DAYS: 1-999]
888	Don't know
999	Refused

ASK IF E3.1 = YES (I)

NUMERIC

E3.6. In the last 12 months, how many liters of goat/sheep milk did your household sell?

I	[ENTER # OF LITERS: 0-9999]
888	Don't know
999	Refused

ASK IF E3.6 = YES (I)

NUMERIC

E3.7. In the last 12 months, what was the average price you received per liter of goat/sheep milk in Gourdes?

I	[ENTER # OF GOURDES: 0-999]
888	Don't know
999	Refused

Section E4 Goat rearing practices

SHOW SCREEN: Now I want to ask about the practices you use to rear your goats/sheep.

ASK IF B4=GOATS (1) OR SHEEP (2)

SINGLE CODE

E4.1. In the last 12 months, did you or anyone in your household receive any goat or sheep management training?

1	Yes
2	No
888	Don't know
999	Refused

ASK IF E4.1 = YES (1)

MULTI CODE

E4.2. In the past 12 months, who provided you with goat/sheep management training?

1	Government of Haiti
2	Private extension
3	Family/friend/neighbor
4	NGO/project
5	Associations
6	Other [SPECIFY]
888	Don't know
999	Refused

ASK IF B4=GOATS (1) OR SHEEP (2)

MULTI CODE

E4.3. What type of records does your household keep around your goat/sheep production and sales?

INTERVIEWER NOTE: Read out.

1	Breeding
2	Sales
3	Expenses
4	Use of medicine
5	None [EXCLUSIVE]
6	Other [SPECIFY]

888	Don't know
999	Refused

ASK IF B4=GOATS (1) OR SHEEP (2)

SINGLE CODE

E4.4. How does your household house your goats/sheep?

1	Fenced in pen structure with no roof
2	Fenced in pen structure with a roof
3	Fenced in field
4	Tethered
5	Outside in open
6	In household area
7	Other [SPECIFY]
888	Don't know
999	Refused

ASK IF B4=GOATS (1) OR SHEEP (2)

SINGLE CODE

E4.5. What type of goat/sheep feeding system does your household use?

1	Free range/open grazing
2	Enclosure
3	Tethering
4	Semi-intensive
5	Intensive/zero-grazing
6	Other [SPECIFY]
888	Don't know
999	Refused

ASK IF B4=GOATS (1) OR SHEEP (2)

MULTI CODE

E4.6. What additional nutrition or supplemental feed do you feed your goats/sheep besides forage, if any?

1	None [EXCLUSIVE]
2	Gliricidia

3	Leucaena
4	Napier/elephant grass
5	Brachiaria
6	Desmodium
7	Luzern
8	arbre veritable
9	Saman
10	guinea grass
11	yellow mombin
12	paradi/papay mawon
13	bayahonde/watapanna
14	Madan Michel
15	bastard cedar
16	Local concentrated feed
17	leftover kitchen
18	crop residue
20	Hay
21	Silage
22	molasses
23	Other [SPECIFY]
888	Don't know
999	Refused

ASK IF E4.6 = 2-22

MULTI CODE

E4.7. Where do you purchase your supplements for your goats/sheep?

1	Local agro-vet supplier
2	Local market day
3	Informal traders
4	Other farmers

5	Veterinarian agent
7	Other [SPECIFY]
888	Don't know
999	Refused

ASK IF B4=GOATS (1) OR SHEEP (2)

SINGLE CODE

E4.8. How do you primarily provide water to your goats/sheep?

1	Waterpoint at house area
2	Bring water to animals
3	Take animals to water point outside house area
4	Animals freely drink from a water source
5	Other
888	Don't know
999	Refused

ASK IF E4.8 = BRING WATER TO ANIMALS (2)

NUMERIC

E4.9. How much water do you bring your goats/sheep per day (in liters)?

1	[ENTER # OF LITERS: 0-99999]
888	Don't know
999	Refused

ASK IF E4.8 = TAKE ANIMALS TO WATER POINT (3)

NUMERIC

E4.10. How far, in minutes to walk, to the nearest water point?

1	[ENTER # OF MINUTES: 0-360]
888	Don't know
999	Refused

ASK IF B4=GOATS (1) OR SHEEP (2)

MULTI CODE

E4.11. What type of animal health treatments have your goats/sheep received in the last 12 months?

1	None [EXCLUSIVE]
---	------------------

2	Deworming
3	Tick control
4	Dehorning/hoof trimming
5	Treat for diseases
6	Other [SPECIFY]
888	Don't know
999	Refused

ASK IF B4=GOATS (1) OR SHEEP (2)
SINGLE CODE

E4.12. Have your goats/sheep received any vaccines in the last 12 months?

1	Yes
2	No
888	Don't know
999	Refused

ASK IF B4=GOATS (1) OR SHEEP (2)
MULTI CODE

E4.13. What type of breeding practices do you use for your goats/sheep?

1	None
2	Intentional breeding with improved buck
3	Intentional breeding with local buck
4	Artificial insemination
888	Don't know
999	Refused

ASK IF B4=GOATS (1) OR SHEEP (2)
MULTI CODE

E4.14. What challenges did you face in rearing goats/sheep?

1	Obtaining sufficient quantity of feed
2	Obtaining quality feed
3	Obtaining enough water
4	Obtaining veterinary drugs

5	Obtaining other inputs
6	Access to veterinary services
7	Sickness and disease
8	Transportation to market
9	Breeding
10	Access to finance
11	Access to land
12	Access to information
13	Theft
14	Access to market
15	Natural disaster
16	Climate change
17	Lack of public policy and government investment
18	Other [SPECIFY]
888	Don't know
999	Refused

ASK IF B4=GOATS (1) OR SHEEP (2)

SINGLE CODE

E4.15. What was the largest challenge you faced in rearing goats/sheep?

1	Obtaining sufficient quantity of feed
2	Obtaining quality feed
3	Obtaining enough water
4	Obtaining veterinary drugs
5	Obtaining other inputs
6	Access to veterinary services
7	Sickness and disease
8	Transportation to market
9	Breeding
10	Access to finance

11	Access to land
12	Access to information
13	Theft
14	Access to market
15	Natural disaster
16	Climate change
17	Lack of public policy and government investment
18	Other [SPECIFY]
888	Don't know
999	Refused

ASK IF B4=CATTLE (3)

Section F. Cattle

SHOW SCREEN: Now I want to ask you about the cattle that your household raises and makes decisions about..

Section FI Cattle Production

ASK IF B4=CATTLE (3)

NUMERIC

FI.1. In total, how many cattle does your household currently raise/make decisions about?

INTERVIEWER NOTE: This must be at least 1, as they selected yes at B4. If they report 0, return to B4.

1	[ENTER #: 1-999]
888	Don't know
999	Refused

ASK IF B4=CATTLE (3)

NUMERIC EACH ROW

FI.2. Of the total cattle your household currently raises, how many [INSERT TYPE] do you raise?

INTERVIEWER NOTE: If they did not raise any of this type, enter 0.

#	Type	[ENTER #: 0-999]	Don't know (888)	Refused (999)
a	Improved cows			
b	Local cows			

c	Improved heifers			
d	Local heifers			
e	Improved bulls			
f	Local bulls			
g	Improved Castrated Bulls/Steer			
h	Local Castrated Bulls/Steer			
i	Improved calves			
j	Local calves			

PROGRAMMING: Sum F1.2_a to F1.2_j and check that it equals F1.1. If it does not, return an error message until equal.

ASK IF B4=CATTLE (3)

NUMERIC

F1.3. What is the maximum number of cattle that your household raised/made decisions about in the last 12 months?

INTERVIEWER NOTE: This must be at least 1, as they selected yes at B4. If they report 0, return to B4.

1	[ENTER #: 1-999]
888	Don't know
999	Refused

ASK IF B4=CATTLE (3)

SINGLE CODE

F1.4. Who owns your household's cattle?

INTERVIEWER NOTE: Do not read out, but probe if needed to be able to understand which is the correct code below.

1	Myself, solely
2	Myself and another male household member jointly
3	Myself and another female household member jointly
4	Another male household member
5	Another female household member
6	A family member in another location in Haiti
7	A family member in another location outside of Haiti
8	A non-household or family member
9	Other [SPECIFY]
888	Don't know
999	Refused

ASK IF B4=CATTLE (3)

SINGLE CODE

FI.5. Who has participated in the management of your household's cattle in the last 12 months?

INTERVIEWER NOTE: Do not read out, but probe if needed to be able to understand which is the correct code below.

1	Myself, solely
2	Myself and another male household member jointly
3	Myself and another female household member jointly
4	Another male household member
5	Another female household member
6	A family member in another location in Haiti
7	A family member in another location outside of Haiti
8	A non-household or family member
9	Other [SPECIFY]
888	Don't know
999	Refused

ASK IF B4=CATTLE (3)
SINGLE CODE

FI.6 Who primarily makes the management decisions for your household's cattle?

INTERVIEWER NOTE: Do not read out, but probe if needed to be able to understand which is the correct code below.

1	Myself, solely
2	Myself and another male household member jointly
3	Myself and another female household member jointly
4	Another male household member
5	Another female household member
6	A family member in another location in Haiti
7	A family member in another location outside of Haiti
8	A non-household or family member
9	Other [SPECIFY]
888	Don't know
999	Refused

ASK IF B4=CATTLE (3)
NUMERIC

FI.7. In the last 12 months, how many total cattle did your household slaughter for consumption (home or a function)?

INTERVIEWER NOTE: If they did not slaughter any, enter 0.

PROGRAMMING:

1	[ENTER TOTAL # OF CATTLE: 0-999]
888	Don't know
999	Refused

ASK IF FI.7 > 0
NUMERIC EACH ROW

FI.8. Of the total cattle your household slaughtered in the past 12 months, how many [INSERT TYPE] did you slaughter?

INTERVIEWER NOTE: If they did not slaughter any of this type, enter 0.

#	Type	[ENTER #: 0-999]	Don't know (888)	Refused (999)
a	Improved cows			
b	Local cows			
c	Improved heifers			
d	Local heifers			
e	Improved bulls			
f	Local bulls			
g	Improved Castrated Bulls/Steer			
h	Local Castrated Bulls/Steer			
i	Improved calves			
j	Local calves			

PROGRAMMING: Sum FI.8_a to FI.8_j and check that it equals FI.7. If it does not, return an error message until equal.

ASK IF B4=CATTLE (3)
NUMERIC

FI.9. In the last 12 months, what was the total number of cattle that your household gifted or traded?

INTERVIEWER NOTE: If they did not gift or trade any of this type, enter 0.

I	[ENTER # OF CATTLE: 0-999]
888	Don't know
999	Refused

ASK IF FI.9 > 0
NUMERIC

FI.10. In the past 12 months, how many [INSERT TYPE] did you gift or trade?

INTERVIEWER NOTE: If they did not gift or trade any of this type, enter 0.

#	Type	[ENTER #: 0-999]	Don't know (888)	Refused (999)
a	Improved cows			
b	Local cows			

c	Improved heifers			
d	Local heifers			
e	Improved bulls			
f	Local bulls			
g	Improved Castrated Bulls/Steer			
h	Local Castrated Bulls/Steer			
i	Improved calves			
j	Local calves			

PROGRAMMING: Sum FI.10_a to FI.10_j and check that it equals FI.9. If it does not, return an error message until equal.

ASK IF B4=CATTLE (3)

NUMERIC

FI.11. In the last 12 months, how many total cattle did your household lose (due to death or some other reason)?

INTERVIEWER NOTE: If they did not lose any cattle, enter 0.

I	[ENTER TOTAL # OF CATTLE: 0-999]
888	Don't know
999	Refused

ASK IF FI.11 > 0

NUMERIC EACH ROW

FI.12. Of the total cattle your household lost in the past 12 months, how many [INSERT TYPE] did you lose?

INTERVIEWER NOTE: If they did not lose any of this type, enter 0.

#	Type	[ENTER #: 0-999]	Don't know (888)	Refused (999)
a	Improved cows			
b	Local cows			
c	Improved heifers			
d	Local heifers			
e	Improved bulls			
f	Local bulls			
g	Improved Castrated Bulls/Steer			

h	Local Castrated Bulls/Steer			
i	Improved calves			
j	Local calves			

PROGRAMMING: Sum F1.I2_a to F1.I2_j and check that it equals F1.I1. If it does not, return an error message until equal.

ASK IF F1.I1 > 0

MULTI CODE

F1.I3. What were the reasons your household lost cattle in the last 12 months?

INTERVIEWER NOTE: Read out.

1	Disease
2	Theft
3	Drought
4	Flooding
5	Lack of food
6	Predators
7	Accident
8	Other [SPECIFY]
888	Don't know
999	Refused

Section F2 Goat and Sheep Sales

SHOW SCREEN: Next, let's talk about your sales of cattle.

ASK IF B4=CATTLE (3)

NUMERIC

F2.1. In the last 12 months, how many total cattle did your household sell?

INTERVIEWER NOTE: If they did not sell any cattle, enter 0.

1	[ENTER TOTAL # OF CATTLE: 0-999]
888	Don't know
999	Refused

#	Type	ASK IF F2.1 > 0 NUMERIC F2.2. Of the total cattle your household <u>sold</u> in	ASK IF F2.2 > 0 NUMERIC F2.3. What was the average price in
---	------	---	---

		the past 12 months, how many [INSERT TYPE] did you sell? 1. [ENTER #: 0-999] 888. Don't know 999. Refused INTERVIEWER NOTE: <i>If they did not sell any of this type, enter 0.</i>	Gourdes you received for each [INSERT TYPE] that you sold? 1. [ENTER GOURDES: 0-99,999] 888. Don't know 999. Refused
a	Improved cows		
b	Local cows		
c	Improved heifers		
d	Local heifers		
e	Improved bulls		
f	Local bulls		
g	Improved Castrated Bulls/Steer		
h	Local Castrated Bulls/Steer		
i	Improved calves		
j	Local calves		

PROGRAMMING: Sum F2.2_a to F2.2_j and check that it equals F2.1. If it does not, return an error message until equal.

PROGRAMMING: Calculate **total sales** by multiplying F2.2 * F2.3 for each row, then sum the rows.

ASK IF F2.1 > 0

NUMERIC

F2.4. So you estimate that your household earned about **[INSERT TOTAL SALES CALCULATION] from sales of cattle in the past 12 months. Does this sound correct to you?**

INTERVIEWER NOTE: *Check to see if the calculation of total sales seems correct to the respondent. If not, correct it below.*

1	Yes
2	No
888	Don't know
999	Refused

ASK IF F2.4 = NO (2)

NUMERIC

F2.5. What is the total amount (in Gourdes) that your household earned from the sales of cattle in the last 12 months?

INTERVIEWER NOTE:

1	[ENTER # OF GOURDES: 1- 9,999,999]
888	Don't know
999	Refused

ASK IF F2.1 > 0

MULTI CODE

F2.6. What were the reasons that your household sold your cattle in the last 12 months?

INTERVIEWER NOTE: Read out.

1	Buy food
2	School fees
3	Buy crop inputs
4	Deal with emergencies
5	Deposit to bank
6	Invest in a small business
7	Planned sale schedule
8	Other [SPECIFY]
888	Don't know
999	Refused

ASK IF F2.1 > 0

MULTI CODE

F2.7. Where have you sold your cattle in the past 12 months?

INTERVIEWER NOTE: Read out.

1	Neighbors
2	Traders (Madan Sara, Pacotilleurs, voltiguers)
3	Local market
4	Slaughterhouse
5	Large producer
6	Supermarket
7	Other [SPECIFY]
888	Don't know

999	Refused
-----	---------

ASK IF F2.7 = 3

NUMERIC

F2.8. How far away, in minutes to walk, is your closest local market that you sell your cattle?

1	[ENTER # OF MINUTES: 1-360]
888	Don't know
999	Refused

ASK IF B4=CATTLE (3)

SINGLE CODE

F2.9. Does any member of your household belong to a livestock association or marketing group associated with your cattle enterprise?

1	Yes
2	No
888	Don't know
999	Refused

Section F3 Production and sales of cow milk

SHOW SCREEN: Next, let's talk about your sales and income of cow milk.

ASK IF B4=CATTLE (3)

SINGLE CODE

F3.1. In the past 12 months, did you produce any cow milk for consumption or sale?

1	Yes
2	No
888	Don't know
999	Refused

ASK IF F3.1 = NO (2)

MULTI CODE

F3.2. Why do you not keep cows for milk?

1	Low milk productivity
2	Cost of raising dairy cows
3	Climate is not right
4	Wrong breed

6	Other [SPECIFY]
888	Don't know
999	Refused

ASK IF F3.1 = YES (I)

NUMERIC

F3.3. In the past 12 months, how many of your cows produced milk for consumption or sale?

I	[ENTER # OF COWS: 1-999]
888	Don't know
999	Refused

ASK IF F3.1 = YES (I)

NUMERIC

F3.4. On average in the last 12 months, how many liters per day did each of the cows produce, while they produced milk?

INTERVIEWER NOTE: *If respondent only can answer in gallons, use the conversion sheet in the interviewer manual to convert to liters.*

I	[ENTER # OF LITERS: 1-999]
888	Don't know
999	Refused

ASK IF F3.1 = YES (I)

NUMERIC

F3.5. On average in the last 12 months, how many days did each cow produce milk?

I	[ENTER # OF DAYS: 1-999]
888	Don't know
999	Refused

ASK IF F3.1 = YES (I)

NUMERIC

F3.6. In the last 12 months, how many liters of cow milk did your household sell?

I	[ENTER # OF LITERS: 0-9999]
888	Don't know
999	Refused

ASK IF F3.6 = YES (I)

NUMERIC

F3.7. In the last 12 months, what was the average price you received per liter of cow milk in Gourdes?

1	[ENTER # OF GOURDES: 0-999]
888	Don't know
999	Refused

Section F4 Cattle rearing practices

SHOW SCREEN: Now I want to ask about the practices you use to rear your cattle.

ASK IF B4=CATTLE (3)

SINGLE CODE

F4.1. In the last 12 months, did you or anyone in your household receive any cattle management training?

1	Yes
2	No
888	Don't know
999	Refused

ASK IF F4.1 = YES (1)

MULTI CODE

F4.2. In the past 12 months, who provided you with cattle management training?

1	Government of Haiti
2	Private extension
3	Family/friend/neighbor
4	NGO/project
5	Associations
6	Other [SPECIFY]
888	Don't know
999	Refused

ASK IF B4=CATTLE (3)

MULTI CODE

F4.3. What type of records does your household keep around your cattle production and sales?

INTERVIEWER NOTE: Read out.

1	Breeding
2	Sales

3	Expenses
4	Use of medicine
5	None [EXCLUSIVE]
6	Other [SPECIFY]
888	Don't know
999	Refused

ASK IF B4=CATTLE (3)
SINGLE CODE

F4.4. How does your household house your cattle?

1	Fenced in pen structure with no roof
2	Fenced in pen structure with a roof
3	Fenced in field
4	Tethered
5	Outside in open
6	In household area
7	Other [SPECIFY]
888	Don't know
999	Refused

ASK IF B4=CATTLE (3)
SINGLE CODE

F4.5. What type of cattle feeding system does your household use?

1	Free range/open grazing
2	Enclosure
3	Tethering
4	Semi-intensive
5	Intensive/zero-grazing
6	Other [SPECIFY]
888	Don't know
999	Refused

ASK IF B4=CATTLE (3)

MULTI CODE

F4.6. What additional nutrition or supplemental feed do you feed your cattle besides forage, if any?

1	None [EXCLUSIVE]
2	Gliricidia
3	Leucaena
4	Napier/elephant grass
5	Brachiaria
6	Desmodium
7	Luzern
8	arbre veritable
9	Saman
10	guinea grass
11	yellow mombin
12	paradi/papay mawon
13	bayahonde/watapanna
14	Madan Michel
15	bastard cedar
16	Local concentrated feed
17	leftover kitchen
18	crop residue
19	by products
20	Hay
21	Silage
22	molasses
23	Other [SPECIFY]
888	Don't know
999	Refused

ASK IF F4.6 = 2-7

MULTI CODE

F4.7. Where do you purchase your supplements for your cattle?

1	Local agro-vet supplier
2	Local market day
3	Informal traders
4	Other farmers
5	Veterinarian agent
7	Other [SPECIFY]
888	Don't know
999	Refused

ASK IF B4=CATTLE (3)

SINGLE CODE

F4.8. How do you primarily provide water to your cattle?

1	Waterpoint at house area
2	Bring water to animals
3	Take animals to water point outside house area
4	Animals freely drink from a water source
5	Other
888	Don't know
999	Refused

ASK IF F4.8 = BRING WATER TO ANIMALS (2)

NUMERIC

F4.9. How much water do you bring your cattle per day (in liters)?

1	[ENTER # OF LITERS: 0-99999]
888	Don't know
999	Refused

ASK IF F4.8 = TAKE ANIMALS TO WATER POINT (3)

NUMERIC

F4.10. How far, in minutes to walk, to the nearest water point?

1	[ENTER # OF MINUTES: 0-360]
888	Don't know

999	Refused
-----	---------

ASK IF B4=CATTLE (3)

MULTI CODE

F4.11. What type of animal health treatments have your cattle received in the last 12 months?

1	None [EXCLUSIVE]
2	Deworming
3	Tick control
4	Dehorning/hoof trimming
5	Treat for diseases
6	Other [SPECIFY]
888	Don't know
999	Refused

ASK IF B4=CATTLE (3)

SINGLE CODE

F4.12. Have your cattle received any vaccines in the last 12 months?

1	Yes
2	No
888	Don't know
999	Refused

ASK IF B4=CATTLE (3)

MULTI CODE

F4.13. What type of breeding practices do you use for your cattle?

1	None
2	Intentional breeding with improved bull
3	Intentional breeding with local bull
4	Artificial insemination
888	Don't know
999	Refused

ASK IF B4=CATTLE (3)

MULTI CODE

F4.14. What challenges did you face in rearing cattle?

1	Obtaining sufficient quantity of feed
2	Obtaining quality feed
3	Obtaining enough water
4	Obtaining veterinary drugs
5	Obtaining other inputs
6	Access to veterinary services
7	Sickness and disease
8	Transportation to market
9	Breeding
10	Access to finance
11	Access to land
12	Access to information
13	Theft
14	Access to market
15	Natural disaster
16	Climate change
17	Lack of public policy and government investment
18	Other [SPECIFY]
888	Don't know
999	Refused

ASK IF B4=CATTLE (3)

SINGLE CODE

F4.15. What was the largest challenge you faced in rearing cattle?

1	Obtaining sufficient quantity of feed
2	Obtaining quality feed
3	Obtaining enough water
4	Obtaining veterinary drugs
5	Obtaining other inputs

6	Access to veterinary services
7	Sickness and disease
8	Transportation to market
9	Breeding
10	Access to finance
11	Access to land
12	Access to information
13	Theft
14	Access to market
15	Natural disaster
16	Climate change
17	Lack of public policy and government investment
18	Other [SPECIFY]
888	Don't know
999	Refused

ASK IF B4=POULTRY (4)

Section G. Poultry

SHOW SCREEN: Now I want to ask you about the poultry that your household raises and makes decisions about.

Section G1 Poultry Production

ASK IF B4=POULTRY (4)

NUMERIC

G1.1. In total, how many poultry does your household currently raise/make decisions about? This includes chickens, as well as ducks, guinea fowl, pigeons, or any other type of bird).

INTERVIEWER NOTE: This must be at least 1, as they selected yes at B4. If they report 0, return to B4.

1	[ENTER #: 1-999]
888	Don't know
999	Refused

ASK IF B4=POULTRY (4)

NUMERIC EACH ROW

G1.2_a. Of the total poultry your household currently raises, how many [INSERT TYPE] do you raise?

INTERVIEWER NOTE: If they did not raise any of this type, enter 0.

#	Type	[ENTER #: 0-999]	Don't know (888)	Refused (999)
Chickens				
a	Industrial adult cocks			
b	Industrial adult hens			
c	Improved adult cocks			
d	Improved adult hens			
e	Improved poussin chickens			
f	Local adult cocks			
g	Local adult hen			
h	Local poussin chickens			
Other types of birds				
i	Ducks			
j	Guinea Fowl			
k	Pigeon			
l	Other types of birds			

PROGRAMMING: Sum G1.2_a to G1.2_l and check that it equals G1.1. If it does not, return an error message until equal.

ASK IF B4=POULTRY (4)

NUMERIC EACH ROW

G1.2_b. Of the total poultry your household currently raises, how many are [INSERT BREED]?

INTERVIEWER NOTE: If they did not have any of this breed, enter 0.

#	Breed	[ENTER #: 0-999]	Don't know (888)	Refused (999)
a	Broilers			
b	Layers			
c	Isa Brown			

d	Bovan Brown			
e	Israeli			
f	Rhode Island			
g	Plymouth			
h	Other			

ASK IF B4=POULTRY (4)

NUMERIC

G1.3. What is the maximum number of poultry that your household raised/made decisions about in the last 12 months?

INTERVIEWER NOTE: *This must be at least 1, as they selected yes at B4. If they report 0, return to B4.*

1	[ENTER #: 1-999]
888	Don't know
999	Refused

ASK IF B4=POULTRY (4)

SINGLE CODE

G1.4. Who owns your household's poultry?

INTERVIEWER NOTE: *Do not read out, but probe if needed to be able to understand which is the correct code below.*

1	Myself, solely
2	Myself and another male household member jointly
3	Myself and another female household member jointly
4	Another male household member
5	Another female household member
6	A family member in another location in Haiti
7	A family member in another location outside of Haiti
8	A non-household or family member
9	Other [SPECIFY]
888	Don't know
999	Refused

G1.5. Who has participated in the management of your household's poultry in the last 12 months?

INTERVIEWER NOTE: *Do not read out, but probe if needed to be able to understand which is the correct code below.*

1	Myself, solely
2	Myself and another male household member jointly
3	Myself and another female household member jointly
4	Another male household member
5	Another female household member
6	A family member in another location in Haiti
7	A family member in another location outside of Haiti
8	A non-household or family member
9	Other [SPECIFY]
888	Don't know
999	Refused

ASK IF B4=POULTRY (4)

SINGLE CODE

G1.6 Who primarily makes the management decisions for your household's poultry?

INTERVIEWER NOTE: Do not read out, but probe if needed to be able to understand which is the correct code below.

1	Myself, solely
2	Myself and another male household member jointly
3	Myself and another female household member jointly
4	Another male household member
5	Another female household member
6	A family member in another location in Haiti
7	A family member in another location outside of Haiti
8	A non-household or family member
9	Other [SPECIFY]
888	Don't know
999	Refused

ASK IF B4=POULTRY (4)

NUMERIC

G1.7. In the last 12 months, how many total poultry did your household slaughter for consumption (home or a function)?

INTERVIEWER NOTE: If they did not slaughter any, enter 0.

PROGRAMMING:

1	[ENTER TOTAL # OF POULTRY: 0-999]
888	Don't know
999	Refused

ASK IF G1.7 > 0

NUMERIC EACH ROW

G1.8. Of the total poultry your household slaughtered in the past 12 months, how many [INSERT TYPE] did you slaughter?

INTERVIEWER NOTE: If they did not slaughter any of this type, enter 0.

#	Type	[ENTER #: 0-999]	Don't know	Refused
---	------	------------------	------------	---------

			(888)	(999)
Chickens				
a	Industrial adult cocks			
b	Industrial adult hens			
c	Improved adult cocks			
d	Improved adult hens			
e	Improved poussin chickens			
f	Local adult cocks			
g	Local adult hen			
h	Local poussin chickens			
Other types of birds				
i	Ducks			
j	Guinea Fowl			
k	Pigeon			
l	Other types of birds			

PROGRAMMING: Sum G1.8_a to G1.8_l and check that it equals G1.7. If it does not, return an error message until equal.

ASK IF B4=POULTRY (4)

NUMERIC

G1.9. In the last 12 months, what was the total number of poultry that your household gifted or traded?

INTERVIEWER NOTE: If they did not gift or trade any of this type, enter 0.

l	[ENTER # OF POULTRY: 0-999]
888	Don't know
999	Refused

ASK IF G1.9 > 0

NUMERIC

G1.10. In the past 12 months, how many [INSERT TYPE] did you gift or trade?

INTERVIEWER NOTE: If they did not gift or trade any of this type, enter 0.

#	Type	[ENTER #: 0-999]	Don't know (888)	Refused (999)
---	------	------------------	---------------------	------------------

Chickens				
a	Industrial adult cocks			
b	Industrial adult hens			
c	Improved adult cocks			
d	Improved adult hens			
e	Improved poussin chickens			
f	Local adult cocks			
g	Local adult hen			
h	Local poussin chickens			
Other types of birds				
i	Ducks			
j	Guinea Fowl			
k	Pigeon			
l	Other types of birds			

PROGRAMMING: Sum G1.10_a to G1.10_k and check that it equals G1.9. If it does not, return an error message until equal.

ASK IF B4=POULTRY (4)

NUMERIC

G1.11. In the last 12 months, how many total poultry did your household lose (due to death or some other reason)?

INTERVIEWER NOTE: If they did not lose any poultry, enter 0.

1	[ENTER TOTAL # OF POULTRY: 0-999]
888	Don't know
999	Refused

ASK IF G1.11 > 0

NUMERIC EACH ROW

G1.12. Of the total poultry your household lost in the past 12 months, how many [INSERT TYPE] did you lose?

INTERVIEWER NOTE: If they did not lose any of this type, enter 0.

#	Type	[ENTER #: 0-999]	Don't know (888)	Refused (999)
Chickens				

a	Industrial adult cocks			
b	Industrial adult hens			
c	Improved adult cocks			
d	Improved adult hens			
e	Improved poussin chickens			
f	Local adult cocks			
g	Local adult hen			
h	Local poussin chickens			
Other types of birds				
i	Ducks			
j	Guinea Fowl			
k	Pigeon			
l	Other types of birds			

PROGRAMMING: Sum G1.12_a to G1.12_k and check that it equals G1.11. If it does not, return an error message until equal.

ASK IF G1.11 > 0

MULTI CODE

G1.13. What were the reasons your household lost poultry in the last 12 months?

INTERVIEWER NOTE: Read out.

1	Disease
2	Theft
3	Drought
4	Flooding
5	Lack of food
6	Predators
7	Accident
8	Other [SPECIFY]
888	Don't know
999	Refused

Section G2 Poultry Sales

SHOW SCREEN: Next, let's talk about your sales of poultry.

ASK IF B4=POULTRY (4)

NUMERIC

G2.1. In the last 12 months, how many total poultry did your household sell?

INTERVIEWER NOTE: If they did not sell any poultry, enter 0.

I	[ENTER TOTAL # OF POULTRY: 0-999]
888	Don't know
999	Refused

#	Type	ASK IF G2.1 > 0 NUMERIC G2.2. Of the total poultry your household <u>sold</u> in the past 12 months, how many [INSERT TYPE] did you sell? I. [ENTER #: 0-999] 888. Don't know 999. Refused INTERVIEWER NOTE: If they did not sell any of this type, enter 0.	ASK IF G2.2 > 0 NUMERIC G2.3. What was the average price in Gourdes you received for each [INSERT TYPE] that you sold? I. [ENTER GOURDES: 0-99,999] 888. Don't know 999. Refused
Chickens			
a	Industrial adult cocks		
b	Industrial adult hens		
c	Improved adult cocks		
d	Improved adult hens		
e	Improved poussin chickens		
f	Local adult cocks		
g	Local adult hen		
h	Local poussin chickens		
Other types of birds			
i	Ducks		

j	Guinea Fowl		
k	Pigeon		
l	Other types of birds		

PROGRAMMING: Sum G2.2_a to G2.2_l and check that it equals G2.1. If it does not, return an error message until equal.

PROGRAMMING: Calculate **total sales** by multiplying G2.2 * G2.3 for each row, then sum the rows.

ASK IF G2.1 > 0

NUMERIC

G2.4. So you estimate that your household earned about [INSERT TOTAL SALES CALCULATION] from sales of poultry in the past 12 months. Does this sound correct to you?

INTERVIEWER NOTE: Check to see if the calculation of total sales seems correct to the respondent. If not, correct it below.

1	Yes
2	No
888	Don't know
999	Refused

ASK IF G2.4 = NO (2)

NUMERIC

G2.5. What is the total amount (in Gourdes) that your household earned from the sales of poultry in the last 12 months?

INTERVIEWER NOTE:

1	[ENTER # OF GOURDES: 1- 9,999,999]
888	Don't know
999	Refused

ASK IF G2.1 > 0

MULTI CODE

G2.6. What were the reasons that your household sold your poultry in the last 12 months?

INTERVIEWER NOTE: Read out.

1	Buy food
2	School fees
3	Buy crop inputs
4	Deal with emergencies
5	Deposit to bank

6	Invest in a small business
7	Planned sale schedule
8	Other [SPECIFY]
888	Don't know
999	Refused

ASK IF G2.1 > 0

MULTI CODE

G2.7. Where have you sold your poultry in the past 12 months?

INTERVIEWER NOTE: Read out.

1	Neighbors
2	Traders (Madan Sara, Pacotilleurs, voltiguers)
3	Local market
4	Slaughterhouse
5	Large producer
6	Supermarket
7	Other [SPECIFY]
888	Don't know
999	Refused

ASK IF G2.7 = 3

NUMERIC

G2.8. How far away, in minutes to walk, is your closest local market that you sell your poultry?

1	[ENTER # OF MINUTES: 1-360]
888	Don't know
999	Refused

ASK IF G2.7 = 3

OPEN END

G2.8a. What is the name of this local market?

1	[ENTER NAME]
888	Don't know
999	Refused

ASK IF B4=POULTRY (4)

SINGLE CODE

G2.9. Does any member of your household belong to a livestock association or marketing group associated with your poultry enterprise?

1	Yes
2	No
888	Don't know
999	Refused

ASK IF B4=POULTRY (4)

OPEN END

G2.9.a What is the name of the livestock association or marketing group associated with your poultry enterprise?

1	[ENTER NAME]
888	Don't know
999	Refused

ASK IF B4=POULTRY (4)

NUMERIC

G2.10. How far away, in minutes to walk, is your closest feed store to your poultry?

1	[ENTER # OF MINUTES: 1-360]
2	There is no feed store near me
888	Don't know
999	Refused

ASK IF G2.10 = 1

OPEN END

G2.10.a What is the name of the feed store?

1	[ENTER NAME]
888	Don't know
999	Refused

Section G3 Production and sales of eggs

SHOW SCREEN: Next, let's talk about your sales and income of eggs.

ASK IF B4=POULTRY (4)

SINGLE CODE

G3.1. In the past 12 months, did you produce any eggs for consumption or sale?

1	Yes
2	No
888	Don't know
999	Refused

ASK IF G3.1 = YES (1)

NUMERIC

G3.3. In the past 12 months, how many of your hens produced eggs for consumption or sale?

1	[ENTER # OF HENS: 1-999]
888	Don't know
999	Refused

ASK IF G3.1 = YES (1)

NUMERIC

G3.4. On average in the last 12 months, how many eggs per month did each of the hens produce?

1	[ENTER # OF EGGS: 1-999]
888	Don't know
999	Refused

ASK IF G3.1 = YES (1)

NUMERIC

G3.6. In the last 12 months, how many eggs did your household sell?

1	[ENTER # OF EGGS: 0-9999]
888	Don't know
999	Refused

ASK IF G3.6 = YES (1)

NUMERIC

G3.7. In the last 12 months, what was the average price you received per egg in Gourdes?

1	[ENTER # OF GOURDES: 0-999]
888	Don't know
999	Refused

Section G4 Poultry rearing practices

SHOW SCREEN: Now I want to ask about the practices you use to rear your poultry.

ASK IF B4=POULTRY (4)

SINGLE CODE

G4.1. In the last 12 months, did you or anyone in your household receive any poultry management training?

1	Yes
2	No
888	Don't know
999	Refused

ASK IF G4.1 = YES (1)

MULTI CODE

G4.2. In the past 12 months, who provided you with poultry management training?

1	Government of Haiti
2	Private extension
3	Family/friend/neighbor
4	NGO/project
5	Associations
6	Other [SPECIFY]
888	Don't know
999	Refused

ASK IF B4=POULTRY (4)

MULTI CODE

G4.3. What type of records does your household keep around your poultry production and sales?

INTERVIEWER NOTE: Read out.

1	Breeding
2	Sales
3	Expenses
4	Use of medicine
5	None [EXCLUSIVE]
6	Other [SPECIFY]

888	Don't know
999	Refused

ASK IF B4=POULTRY (4)

SINGLE CODE

G4.4. How does your household house your poultry?

1	Fenced in pen structure with no roof
2	Fenced in pen structure with a roof
3	Fenced in field
4	Tethered
5	Outside in open
6	In household area
7	Other [SPECIFY]
888	Don't know
999	Refused

ASK IF B4=POULTRY (4)

SINGLE CODE

G4.5. What type of poultry feeding system does your household use?

1	Free range/open grazing
2	Enclosure
3	Tethering
4	Semi-intensive
5	Intensive/zero-grazing
6	Other [SPECIFY]
888	Don't know
999	Refused

ASK IF B4=POULTRY (4)

MULTI CODE

G4.6. What supplemental feed do you feed your poultry besides forage, if any?

1	None [EXCLUSIVE]
2	Concentrate feed

3	Vitamin/mineral supplements
4	Agro by-products
5	Other [SPECIFY]
888	Don't know
999	Refused

ASK IF G4.6 = 2-7

MULTI CODE

G4.7. Where do you purchase your supplements for your poultry?

1	Local agro-vet supplier
2	Local market day
3	Informal traders
4	Other farmers
5	Veterinarian agent
7	Other [SPECIFY]
888	Don't know
999	Refused

ASK IF B4=POULTRY (4)

SINGLE CODE

G4.8. How do you primarily provide water to your poultry?

1	Waterpoint at house area
2	Water piped into poultry pen
3	Water carried to poultry
4	Collected water
5	No water provided
888	Don't know
999	Refused

ASK IF G4.8 = WATER CARRIED TO POULTRY (4)

NUMERIC

G4.9. How much water do you bring your poultry per day (in liters)?

1	[ENTER # OF LITERS: 0-99999]
---	------------------------------

888	Don't know
999	Refused

ASK IF B4=POULTRY (4)

MULTI CODE

G4.11. What type of animal health treatments have your poultry received in the last 12 months?

1	None [EXCLUSIVE]
2	Debeaking
3	Deworming
4	Treat for diseases
5	Other [SPECIFY]
888	Don't know
999	Refused

ASK IF B4=POULTRY (4)

SINGLE CODE

G4.12. Have your poultry received any vaccines in the last 12 months?

1	Yes
2	No
888	Don't know
999	Refused

ASK IF B4=POULTRY (4)

MULTI CODE

G4.13. What type of breeding practices do you use for your poultry?

1	None
2	Intentional breeding with improved cock
3	Intentional breeding with local cock
4	Artificial insemination
888	Don't know
999	Refused

ASK IF B4=POULTRY (4)

SINGLE CODE

G4.14. Did you purchase any improved chicks in the last 12 months?

1	Yes
2	No
888	Don't know
999	Refused

ASK IF G4.14 = NO (2)

SINGLE CODE

G4.15. Why did you not purchase any improved chicks?

1	Not available
2	Too expensive
3	Too far away
4	Rear own chicks
5	Don't know how
6	Other [SPECIFY]
888	Don't know
999	Refused

ASK IF G4.14 = YES (1)

MULTI CODE

G4.16. What was the source of your improved chicks?

1	Imported
2	Locally procured
6	Other [SPECIFY]
888	Don't know
999	Refused

ASK IF G4.14 = YES (1)

SINGLE CODE

G4.17. How long does it take for improved chicks to be delivered after you order?

1	Less than one week
2	1-2 weeks
3	2 weeks to 1 month
4	More than 1 month

5	Other [SPECIFY]
888	Don't know
999	Refused

ASK IF B4=POULTRY (4)

MULTI CODE

G4.18. What challenges did you face in rearing poultry?

1	Obtaining sufficient quantity of feed
2	Obtaining quality feed
3	Obtaining enough water
4	Obtaining veterinary drugs
5	Obtaining other inputs
6	Access to veterinary services
7	Sickness and disease
8	Transportation to market
9	Breeding
10	Access to finance
11	Access to land
12	Access to information
13	Theft
14	Access to market
15	Natural disaster
16	Climate change
17	Lack of public policy and government investment
18	Other [SPECIFY]
888	Don't know
999	Refused

ASK IF B4=POULTRY (4)

SINGLE CODE

G4.19. What was the largest challenge you faced in rearing poultry?

1	Obtaining sufficient quantity of feed
---	---------------------------------------

2	Obtaining quality feed
3	Obtaining enough water
4	Obtaining veterinary drugs
5	Obtaining other inputs
6	Access to veterinary services
7	Sickness and disease
8	Transportation to market
9	Breeding
10	Access to finance
11	Access to land
12	Access to information
13	Theft
14	Access to market
15	Natural disaster
16	Climate change
17	Lack of public policy and government investment
18	Other [SPECIFY]
888	Don't know
999	Refused

Section H. Shocks and Stresses

ASK ALL

SINGLE CODE

H1. Did your household experience [INSERT SHOCK FROM BELOW] within the past 12 months?

INTERVIEWER NOTE: Read out.

#	Shock	Yes (1)	No (2)	Don't know (888)	Refused (999)
Climatic shocks					
a	Excessive rains/flooding				

b	Variable rain/drought				
c	Hurricane				
Biological shocks					
D	Crop disease (black stow on sorghum and millet)				
E	Crop pests e.g., caterpillar on corns, aphid on sorghum and millet, locusts, army worms, or animals eating crops)				
F	Weeds (e.g., associated with striga)				
G	Human disease outbreaks (e.g., from contaminated water)				
H	Soil degradation/loss of soil fertility/ or salinization				
Conflict shocks					
h	Theft or destruction of assets				
i	Theft of livestock				
j	Conflict over natural resources/land encroachment				
k	Conflict over access to fodder for animals				
l	Displacement (e.g., earthquake, natural disaster, gang violence, etc.)				
m	Insecurity/violence (e.g., elections-related, gangs violence, etc.)				
Economic shocks					
p	Interruptions or delays in safety net or humanitarian assistance (hunger safety net programme/national safety net programme)				
q	Increased food and feed prices				
r	Increased prices of agricultural or livestock inputs				
s	Loss of land/rental property				

t	Unemployment for youths (i.e., which may lead to youth migration)				
u	Illness or death of breadwinners, or exceptional health expenses of household member				
v	Socio political unrest				

LOOP FOR EACH ITEM AT HI WHERE HI=YES (I)
SINGLE CODE

H2. How severe was the impact on your household's income over the last 12 months?

1	No impact
2	Slight decrease
3	Severe decrease
4	Worst ever happened
888	Don't know
999	Refused

LOOP FOR EACH ITEM AT HI WHERE HI=YES (I)
SINGLE CODE

H3. How severe was the impact on your household's food consumption over the last 12 months?

1	No impact
2	Slight decrease
3	Severe decrease
4	Worst ever happened
888	Don't know
999	Refused

LOOP FOR EACH ITEM AT HI WHERE HI=YES (I)
MULTI CODE

H4. How did your household cope with [INSERT SHOCK FROM HI] over the last 12 months?

LIVESTOCK AND LAND HOLDINGS	
1	Sent livestock in search of pasture
2	Sold livestock
3	Slaughtered livestock

4	Leased out land
MIGRATION	
5	Migrate (only some family members)
6	Migrate (the whole family)
7	Sent children or an adult to stay with relatives
COPING STRATEGIES TO REDUCE CURRENT EXPENDITURE	
8	Took children out of school
9	Moved to less expensive housing
10	Reduced food consumption (quantity/meal; # meal/day)
11	Reduced non-essential HH expenses
12	Got food on credit from a local merchant
COPING STRATEGIES TO GET MORE FOOD OR MONEY	
13	Took up new/additional work (casual labor, wage labor)
14	Sold household items (e.g., radio, bed)
15	Sold productive assets (e.g., plough, water pump)
16	Took out a loan (with interest) from a (formal) bank
17	Took out a loan (with interest) from an MFI
18	Took out a loan (with interest) from a money-lender
19	Took out a loan (no interest) from friends or relatives within the community
20	Unconditional gift of money (not remittances) or food from family, friends, church/mosque, or other group within community (bonding)
21	Unconditional gift of money (not remittances) or food from family, friends, church/mosque or other group outside of community (bridging)
22	Sent children to work for money (e.g., domestic service)
23	Received emergency food aid from the government or NGO
24	Received emergency cash transfer from the government or NGO
25	Received permanent food aid from the government or NGO
26	Received permanent cash transfer from the government or NGO

27	Participated in government or NGO food-for-work or cash-for-work activities (conditional)
28	Used savings to buy livestock
29	Used savings to buy productive inputs
30	Used savings to pay for health-care expenses
31	Used savings to feed the family
32	Used savings to pay for education costs
33	Used own savings to pay for other household necessities
34	Used own savings to pay for repairs to dwelling or structures
35	Relied on remittances
OTHER COPING STRATEGIES	
36	Engaged in spiritual efforts (e.g., prayed, sacrifices, etc.)
37	Other [SPECIFY]
38	Did nothing [EXCLUSIVE]
888	Don't know
999	Refused

LOOP FOR EACH ITEM AT HI WHERE HI=YES (I)

SINGLE CODE

H5. To what extent has your household been able to recover from [INSERT SHOCK FROM HI]?

1	Did not recover
2	Fully recovered, same as before the shock
3	Fully recovered and better than before the shock
4	Partially recovered
5	Not affected by [event]
888	Don't know
999	Refused

ASK ALL

SINGLE CODE

H6. How confident are you that your household can cope with a severe shock without significant depletion of assets, harm to family members, or damage to household livelihood activities?

1	Not confident at all/it is impossible
2	Not confident
3	Neutral/not sure
4	Somewhat confident
5	Very confident
888	Don't know
999	Refused

XI. ASSETS & ACCESS

SHOW SCREEN: Next, we would like to ask you some questions about the assets your household owns and your access to services in your community.

Section I. Asset Ownership

Household crop cultivation

ASK ALL
NUMERIC

I1. How many hectares of land does your household have? This includes all parcels combined.
INTERVIEWER NOTE: If they do not use any land, enter 0. Please use the conversion sheet in the interviewer manual to convert to hectares.

1	[ENTER # HECTARES: 0.0 – 9.9]
888	Don't know
999	Refused

ASK IF I1 > 0
SINGLE CODE

I2. Under what tenure is this land?

1	Our household owns it
2	Our household leases/rents it
3	Our household shares the land with other people
888	Don't know
999	Refused

ASK IF I2 = OUR HOUSEHOLD OWNS IT (1)
SINGLE CODE

I3. Who owns this land?

1	Myself solely
2	Myself and another male household member jointly
3	Myself and another female household member jointly
4	Another male household member solely
5	Another female household member solely
6	A family member in another location in Haiti
7	A family member in another location outside of Haiti
8	A non-household or family member
888	Don't know
999	Refused

I4. How many of each of the following agricultural production items does your household use?

INTERVIEWER NOTE: Read out. If they do not own this type of asset, enter 0.

#	Agricultural Production Item	ASK ALL NUMERIC I4.1 # owned [ENTER #: 0-99] 888. Don't know 999. Refused	ASK IF I4.1 >0 SINGLE CODE I4.2 What is your ownership status of this item? 1. Own 2. Rent 3. Share 888. Don't know 999. Refused	ASK IF I4.2 =OWN (1) SINGLE CODE I4.3 Who owns this item? 1. Myself solely 2. Myself and another male household member jointly 3. Myself and another female household member jointly 4. Another male household member solely 5. Another female household member solely 6. A family member in another location in Haiti 7. A family member in another location outside of Haiti 8. A non-household or family member 888. Don't know 999. Refused
a	Plow (oxen-pulled)			
b	Mechanical plow			
c	Sickle			
d	Pick axe			
	Bill hook/tickler			
e	Axe			

f	Pruning/cutting shears			
g	Hoe			
h	Spade or shovel			
i	Traditional beehive			
j	Modern beehive			
k	Knapsack chemical sprayer			
l	Mechanical water pump			
m	Motorized water pump			
n	Stone grain mill			
o	Motorized grain mill			
p	Broad bed maker (oxen-pulled)			
q	Small tractor			
r	Hand-held motorized tiller			

15. Which of the following household items does your household own?

INTERVIEWER NOTE: Read out. If they do not own this type of asset, enter 0.

#	Household Item	ASK ALL NUMERIC 15.1 # owned [ENTER #: 0-99] 888. Don't know 999. Refused	ASK IF 15.1 > 0 SINGLE CODE 15.2 Who owns this item? 1. Myself solely 2. Myself and another male household member jointly 3. Myself and another female household member jointly 4. Another male household member solely 5. Another female household member solely 6. A family member in another location in Haiti 7. A family member in another location outside of Haiti 8. A non-household or family member
---	----------------	---	--

			9. Our household does not own this item 888. Don't know 999. Refused
a	Improved charcoal/wood stove		
b	Kerosene stove		
c	Propane stove		
d	Electrical stove		
e	Sofa		
f	Bed		
g	Cell phone		
h	Radio		
i	Television		
j	Wheelbarrow		
k	Bicycle		
l	Passenger car or truck		
m	Motorbike		
n	Generator		
o	Solar lamp		
p	Solar panel		
q	Solar stove		

Section J. Access to Infrastructure, Services & Markets

ASK ALL

SINGLE CODE

J1. What type of latrine does your family home have?

1	No latrine
2	Indigenous latrine
3	Latrine traditionnelle
4	Improved latrine
5	WC without water
6	WC with water
888	Don't know
999	Refused

ASK ALL
MULTI CODE

J2. What are the drinking sources used by your family?

1	DINEPA/Private connection
2	Public fountain /kiosk
3	Natural water point protected
4	Natural water point non protected
5	Rain collection
6	Lake/River
888	Don't know
999	Refused

ASK ALL
MULTI CODE

J3. What sources of water do you use for your livestock?

1	DINEPA/Private connection
2	Public fountain /kiosk
3	Natural water point protected
4	Natural water point non protected
5	Rain collection
6	Lake/River
888	Don't know
999	Refused

ASK ALL
MULTI CODE

J4. What type of power sources does your household use?

1	Public connection (EDH,...)
2	Solar energy
3	Wind turbine
4	Flash light
5	Phone flash
6	Candle
7	Propane
8	Kerosene
9	Charcoal
10	Dried Wood
888	Don't know
999	Refused

ASK ALL
SINGLE CODE EACH ROW

J5. Are the following general services available within 5km of your community?

INTERVIEWER NOTE: Read out.

#	Service	Yes (1)	No (2)	Don't know (888)	Refused (999)

a	Primary school				
b	Health center				
c	Electricity				
d	Mobile phone service				
e	A public telephone				
f	National radio signal				
g	National TV signal				
h	Private TV signal				

ASK ALL
SINGLE CODE EACH ROW

J6. Are the following livestock services available within 5km of your community?

INTERVIEWER NOTE: Read out.

#	Livestock Service	Yes (1)	No (2)	Don't know (888)	Refused (999)
a	Agricultural extension services				
b	Livestock extension services				
c	Veterinary services or community animal health worker				
d	Breeding services				
e	Aggregation services				
f	Forage				
g	Market(s) for selling livestock products				
h	Market(s) for purchasing agricultural inputs				

ASK IF J6_c = YES (1)
NUMERIC

J7. How far, in minutes to walk, does it take to get to your closest vet or community animal health worker?

1	[ENTER MINUTES: 1 – 360]
888	Don't know
999	Refused

ASK ALL
SINGLE CODE

J8. Are there any government or NGO programs or activities in this village that help households when they are faced with a shock?

1	Yes
2	No
888	Don't know
999	Refused

ASK IF J8=YES (1)

MULTI CODE

J9. What type of help do they provide?

INTERVIEWER NOTE: Read out.

1	Emergency food assistance
2	Emergency cash assistance
3	Conditional food transfer (FFW)
4	Conditional cash transfer (CFW)
5	Unconditional food transfer (non-emergency)
6	Unconditional cash transfer (non-emergency)
7	Household materials and non-food items
8	Educational assistance/school feeding
9	Agricultural inputs (seeds, fertilizer, etc.)
10	Livestock inputs (feed, fodder, medicine, etc.)
11	WASH
12	Nutrition/supplemental feeding
13	Other [SPECIFY]
888	Don't know
999	Refused

Section K. Access to Financial Resources

SHOW SCREEN: Next, I'd like to ask about your household's experience with borrowing money or other items in the past 12 months.

ASK ALL

SINGLE CODE EACH ROW

K1. Would you or anyone in your household be able to take a loan or borrow cash/in-kind from [INSERT SOURCE BELOW] if you wanted to?

INTERVIEWER NOTE: Read out.

#	Lending Source	Yes (1)	No (2)	Maybe (3)	Don't know (888)	Refused (999)
a	Non-governmental organization (NGO)					
b	Formal lender (bank/financial institution)					
c	Informal lender					

d	Friends or relatives					
e	Group based microfinance or lending including VSLAs / SACCOs					
f	Informal credit/savings groups such as MUSO/TIPA					

LOOP FOR EACH ITEM AT K1 WHERE K1=NO(2)

SINGLE CODE

K2. What is the primary reason your household is not able to take a loan or borrow cash/in-kind from [INSERT SOURCE FROM K1]?

1	Didn't need
2	Couldn't find a loan that met my needs
3	Afraid I couldn't pay back
4	No loan providers in my area
5	Do not like to be in debt
6	Cannot qualify (e.g., no collateral)
7	Process is too long
8	Other [SPECIFY]
888	Don't know
999	Refused

LOOP FOR EACH ITEM AT K1 WHERE K1=YES (1) OR MAYBE (3)

SINGLE CODE

K3. Has anyone in your household taken any loans or borrowed cash/in-kind from [INSERT SOURCE FROM H1] in the past 12 months?

INTERVIEWER NOTE: Read out.

1	Yes, cash
2	Yes, in-kind
3	Yes, cash and in-kind
4	No
888	Don't know
999	Refused

LOOP FOR EACH ITEM WHERE K1=YES(1) **AND** WHERE K3=YES, CASH (1) OR YES, IN KIND (2) OR YES, CASH AND IN KIND (3)

SINGLE CODE

K4. Who made the decision to borrow from [INSERT SOURCE FROM K1]?

1	Self
2	Spouse
3	Other household member
4	Other non-household member
888	Don't know/Not Applicable
999	Refused

LOOP FOR EACH ITEM WHERE K1=YES(1) **AND** WHERE K3=YES, CASH (1) OR YES, IN KIND (2) OR YES, CASH AND IN KIND (3)

SINGLE CODE

K5. Who makes the decision about what to do with the money/ item borrowed from [INSERT SOURCE FROM K1]?

INTERVIEWER NOTE: Read out.

1	Self
2	Spouse
3	Other household member
4	Other non- household member
888	Don't know/Not Applicable
999	Refused

LOOP FOR EACH ITEM WHERE K1=YES(1) AND WHERE K3=YES, CASH (1) OR YES, CASH AND IN KIND (3)

NUMERIC

K6. What was the value of the loan from [INSERT SOURCE FROM K1]?

INTERVIEWER NOTE: Read out.

1	
888	Don't know/Not Applicable
999	Refused

ASK IF K1= YES (1) TO AT LEAST 1 SOURCE

SINGLE CODE

K7. Did you or any other household member take out a loan in the last 12 months to deal specifically with a shock or stress?

1	Yes
2	No
888	Don't know
999	Refused

ASK ALL

SINGLE CODE

K8. Do you or anyone in your household currently have any insurance?

1	Yes
2	No
888	Don't know
999	Refused

ASK IF K8= YES (1)

MULTI CODE

K9. What type?

1	Crop
2	Livestock
3	Health
4	Other [SPECIFY]
888	Don't know
999	Refused

ASK ALL

SINGLE CODE

K10. Do you or any other household member regularly save cash?

1	Yes
2	No
888	Don't know
999	Refused

ASK IF K10= YES (1)

SINGLE CODE

K11. Where are the savings primarily held?

1	At home
2	MFI
3	Village savings/credit group
4	Bank
5	NGO
6	Mobile banking
7	Other
888	Don't know
999	Refused

ASK IF K10= YES (1)

SINGLE CODE

K12. Who primarily decides how savings are used?

1	Myself solely
2	Myself and another male household member jointly
3	Myself and another female household member jointly
4	Another male household member solely
5	Another female household member solely
6	A family member in another location in Haiti
7	A family member in another location outside of Haiti
8	A non-household or family member
888	Don't know
999	Refused

ASK IF K10= YES (1)

SINGLE CODE

K13. Did you or any other household member use savings specifically to deal with a shock or stress in the last 12 months?

1	Yes
2	No
888	Don't know
999	Refused

Section L. Access to Information

ASK ALL

SINGLE CODE EACH ROW

L1. Did you or anyone in your household receive any information on [INSERT TOPIC] in the last 12 months?

INTERVIEWER NOTE: Read out.

#	Topic	Yes (1)	No (2)	Don't know (888)	Refused (999)
a	Early warning for natural hazards (flooding, hail, landslide)				
b	Long-term changes in weather patterns				
c	Rainfall/ weather prospects for coming growing season				
d	Water prices and availability in local boreholes, wells, etc.				
e	Animal health (e.g., disease, epidemic, prevention)				
f	Crop health (e.g., pest outbreaks, disease, prevention)				
g	Improved crop production practices/technologies (CA, seeds)				
h	Improved livestock production practices (fodder, husbandry)				
i	Current market prices for live animals in the area				
j	Market prices for animal products (milk, hides, skins, etc.)				
k	Grazing conditions in nearby areas				
l	Conflict or security issues				
m	Business and investment opportunities				
n	Opportunities for borrowing money				
o	Market prices of the food you buy				
p	Child nutrition and health information				
q	Equal rights for women and men				
r	Gender-based violence				
s	Natural resource management				

LOOP FOR EACH ITEM AT L1 WHERE L1=YES (I)

SINGLE CODE

L2. What was the main source of your information about [INSERT TOPIC FROM L1]?

1	Relatives, friends, neighbors
2	DPC (Civil protection Office)
3	Community leaders
4	School teachers
5	Group in community (e.g., savings, farmers)
6	Religious leaders
7	Social media
8	From mouth to ear
9	Local government
10	NGOs
11	Newspaper /Radio / TV
12	Internet or SMS
13	Private sector (input supplier, veterinarian, etc.)
14	Police or security individuals
15	Other [SPECIFY]
999	Don't know
999	Refused

LOOP FOR EACH INFORMATION SOURCE SELECTED AT L2

SINGLE CODE

L3. Did the information influence any decisions made by household members?

INTERVIEWER NOTE: Read out.

1	Yes, result of decision benefitted household
2	Yes, result of decision had a negative effect on household
3	Yes, but decision had no effect on household
4	No, did not influence decision
5	No decisions made
888	Don't know
999	Refused

XII. HOUSEHOLD INCOME & INVESTMENT

SHOW SCREEN: Next, we would like to ask you some questions about your household's income and investment in agriculture.

ASK ALL
SINGLE CODE EACH ROW

M1. Did your household earn any income from [INSERT SOURCE] over the last 12 months?

INTERVIEWER NOTE: Read out.

#	Source	Yes (1)	No (2)	Don't know (888)	Refused (999)
a	Crop production and sales				
b	Livestock production and sales				
c	Agricultural wage labor (WITHIN THE VILLAGE)				
d	Agricultural wage labor (OUTSIDE THE VILLAGE)				
e	Non-agricultural wage labor (WITHIN THE VILLAGE)				
f	Non-agricultural wage labor (OUTSIDE THE VILLAGE)				
g	Salaried work				
h	Sale of wild/bush products				
i	Petty trade				
j	Other non-agricultural self-employment/own business				
k	Other agricultural self-employment/own business				
l	Rental of land/house/rooms				
m	Remittances				
n	Gifts/inheritance				
o	Safety net food assistance				
P	Other [SPECIFY]				

J2. PROGRAMMING: Automatically sum up number of “yes” responses above.

ASK ALL
NUMERIC

M2. In your estimation, what was your household’s total income from the past 12 months, including all sources?

I	[ENTER GOURDES: 0 – 99,999,999]
888	Don’t know
999	Refused

PROGRAMMING: Must sum to 100%, or return an error message.

ASK ALL
NUMERIC

M3. Which of the following, if any, has your household invested in to support livestock production in the last 12 months?

INTERVIEWER NOTE: Read out. If they did not invest in this, enter 0. Probe for other types not listed here.

#	Investment	ASK ALL MULTI CODE M3.1 Investment 1. Yes 2. No 888. Don’t know 999. Refused	ASK IF J5.1 = YES (I) NUMERIC M3.2 How much money did your household invest in this in the past 12 months? I. [ENTER # GOURDES: 0- 9,999,999] 888. Don’t know 999. Refused
a	Purchase of animals		
b	Feed		
c	Watering (including irrigation or other systems)		
d	Forage		
e	Farm machinery/tools		
f	Animal health treatments and vaccines		
g	Improved animal housing		
h	Artificial insemination		

i	Mating		
i	Identification system for cattle		
j	Other [SPECIFY]		
k	No investments [EXCLUSIVE]		

Section N. Survey Close & Contact Information

ASK ALL

SINGLE CODE

SHOW SCREEN: INTERVIEWER READ OUT: Thank you for participating in this survey. This information will help this project understand how to best impact the community. Do you have any questions or concerns regarding the survey? If in the future you have any questions regarding the survey or the interview, or concerns or complaints, we welcome you to contact [NAME], by calling [PHONE NUMBER]. We will leave a copy of this statement and our organization's complete contact information with you so that you may contact us at any time.

N1. May we contact you in future?

1	Yes
2	No
888	Don't know
999	Refused

ASK IF Q1 = YES (1)

NUMERIC

N1. What is your phone number?

1	[ENTER PHONE NUMBER]
888	Don't know
999	Refused

Programme d'Appui à la Rentabilisation de l'Elevage (PARE)
Baseline and Gender and Youth Inclusion Analysis
May 10, 2023

**Guides pour les entrevues et les discussions de focus
groupes**

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I.- ENTREVUES AVEC LES LEADERS COMMUNAUTAIRES

A. Demande de consentement

Bonjour. Je m'appelle Je travaille pour AGIRED. Je suis en train de réaliser une étude pour LandOlakes au niveau de votre communauté. Cette étude se donne pour objectif d'analyser les systèmes d'élevage et de marché dans le Centre, le Nord, le Nord-Est et le Sud. Cette activité est menée dans le cadre du projet PARE (Programme d'Appui à la Rentabilisation de l'Elevage).

Je vous sollicite cette interview dans le but de collecter des données fiables sur le secteur. L'interview durera 40 à 45 minutes, vos réponses seront confidentielles et seront utilisées pour renforcer les analyses relatives aux filières en question.

Êtes-vous d'accord pour participer à cette entrevue? OUI----- NON-----

B.- Identification de la personne interviewée

Nom et prénom	
Zone	
Organisation et domaine d'intervention	
Rôles et Coordonnées	

C.- Questions

1) Parlez-nous du secteur Élevage dans la zone

Changements négatifs ? Quelles en sont les causes ?

Changements positifs ? Quelles en sont les causes ou raisons ?

2) Quelles opportunités y a-t-il le commerce en lien avec l'élevage dans la zone

- Quelles sont les espèces les plus élevées dans la zone ?
- Quels sont les services disponibles pour l'élevage dans la zone ?
- Parlez-moi des difficultés rencontrées pour accéder aux services liés à l'élevage ?
- Que pourrait-on faire pour relever ces défis ?
- Quelles sont les pratiques locales pour adresser ces contraintes et quels sont les résultats obtenus ?

2) Y a-t-il un abattoir privé ou publique dans la zone. Quelles les conditions pour utiliser ses services.

3) Y a-t-il des services financiers (banques, caisses, microfinance....) intéressés à supporter l'élevage et le commerce dans la communauté ? Si oui, citez-les s'il vous plait.

- Quelles les conditions pour accéder aux services financiers ?

- Quelles sont les difficultés rencontrées par les éleveurs pour accéder aux services financiers ?
 - Selon vous, qu'est-ce qui pourrait rendre les producteurs de services financiers plus intéressés à soutenir les éleveurs ?
- 4) Parlez-moi de l'accès à la formation pour les éleveurs dans ce domaine.
- A quels défis sont-ils confrontés ?
 - Quelles ressources de formation existent pour eux? Quelles ressources de formation les aideraient ? Quelles sont les conditions pour y accéder ?
- 5) Quelles mauvaises situations (naturelles et non-naturelles) menacent (catastrophes, vols, sécheresse, inondation, épidémie, etc.) l'élevage dans la zone ?
- Quelles sont les stratégies développées localement pour préserver/protéger les élevages faces aux catastrophes ? Dans quelle mesure ces stratégies fonctionnent-elles ?
 - Quelles sont les stratégies pour se relever/recapitaliser après les éventuelles pertes d'animaux ? Dans quelle mesure ces stratégies fonctionnent-elles ?
 - Quoi d'autre aiderait les agriculteurs à faire face aux mauvaises situations et aux chocs ?
- 6) Quelles sont les principales contraintes rencontrées dans l'élevage des animaux dans la zone ? Quelles sont les principales contraintes rencontrées :
- a. Dans les activités d'élevage ? Aidez-nous à prioriser ces contraintes par ordre d'importance décroissante.
 - b. Dans la vente des animaux dans la zone. Aidez-nous à prioriser ces contraintes par ordre d'importance décroissante.
- 7) Comment est l'accès des femmes dans la zone pour les ressources liées aux élevages (terre, finance, animaux, autres....) ? Selon vous, est-ce que l'accès est limité comparé à la situation des hommes. Si oui, pourquoi pensez-vous l'accès est limité ?
- 8) Y a-t-il des opportunités à saisir **pour les femmes** dans ce secteur d'activité (élevage et ventes des animaux ou produits d'origine animales (comme la viande, les œufs et le lait) ? Quels types d'opportunités ?
- 9) Y a-t-il des contraintes spécifiquement pour les femmes afin de ces opportunités saisir ? Quelles sont ces contraintes ?
- 10) Comment est l'accès des jeunes dans la zone pour les ressources liées aux élevages (terre, finance, animaux, autres....) ? Pourquoi pensez-vous que l'accès limité ?
- 11) Y a-t-il des opportunités à saisir **pour les jeunes** dans ce secteur d'activité (élevage et ventes des animaux ou produits d'origine animales (comme la viande, les œufs et le lait) ? Quels types d'opportunités ?
- 12) Y a-t-il des contraintes spécifiques aux jeunes pour saisir ces opportunités ? Quelles sont ces contraintes ? Aidez-nous à prioriser ces contraintes par ordre d'importance décroissante.

- I3) Quelles sont les solutions (ou activités) qui pourront permettre d'améliorer l'élevage dans la zone? Aidez-nous à prioriser ces solutions par ordre d'importance décroissante.
- I4) Auriez-vous des questions à poser

Merci pour votre temps et pour les informations.

Contact pour s'informer de l'évolution du projet PARE :

Nom :.....Téléphone :.....

XIII. 2.2- EXEMPLE: INSTITUTION DE FORMATION EN LIEN AVEC L'ELEVAGE

A. Demande de consentement

Bonjour. Je m'appelle Je travaille pour AGIRED. Je suis en train de réaliser une étude pour LandOlakes au niveau de votre communauté. Cette étude se donne pour objectif d'analyser les systèmes d'élevage et de marché dans le Centre, le Nord, le Nord-Est et le Sud. Cette activité est menée dans le cadre du projet PARE (Programme d'Appui à la Rentabilisation de l'Elevage).

Je vous sollicite cette interview dans le but de collecter des données fiables sur le secteur. L'interview durera 40 à 45 minutes, vos réponses seront confidentielles et seront utilisées pour renforcer les analyses relatives aux filières en question.

.Êtes-vous d'accord pour participer à cette entrevue? OUI----- NON-----

B.- Identification de la personne interviewée

Nom et prénom	
Zone	
Entreprise et domaine d'intervention	
Groupe cible	
Rôles et coordonnées	

l) Parlez-nous de votre institution :

- a) Depuis combien de temps vous formez des gens
- b) Niveau d'éducation préalable requis
- c) Conditions (frais à payer)
- d) Autres services offerts aux apprenants (hébergement, transport...)
- e) Contraintes rencontrées
- f) Formations offertes (cours, durée, sur mesure, Nombre de gradués par cohorte, nombre total de gradués au cours des 5 dernières années ?...)
- g) Diplômes reconnus par l'État?
- h) Quelles sont les contraintes rencontrées autrefois (type de contraintes en lien avec les besoins de l'institution
- i) Quelles sont les contraintes rencontrées actuellement en lien avec les besoins de l'institution
- j) Y-a-t-il des débouchés pour les apprenants après la formation comme employés ou comme entrepreneurs? (taux d'intégration du marché de travail?)
- k) Quels sont les secteurs ou les formations qui sont plus en demande?

- l) Quels sont les formations qui conduisent a plus débouchés sur le marché?
- m) Offrez-vous des formations en lien avec l'élevage
- 2) Est-ce que votre institution donne un accompagnement aux jeunes après leur graduation (développement d'entreprise, autres)? Pourquoi ou pourquoi pas? Si oui, quel type d'accompagnement ?
- 3) D'après vous quelles sont les formations (secteur dont la demande est en hausse) qui pourraient facilement contribuer à une intégration des jeunes (F-H) au niveau du marché?
- 3) Parlez-nous de vos étudiants. Témoignages à succès sur la force de l'établissement (voir le niveau de contact gardé avec les anciens étudiants, parcours, coordonnées si possibles, etc.)
- 4) En général, quelles opportunités voyez-vous dans la zone pour les femmes dans le domaine de l'élevage et des activités connexes à l'élevage. Quelles conditions pour y accéder.
- 5) En général, quelles opportunités voyez-vous dans la zone pour les jeunes dans le domaine de l'élevage et des activités connexes à l'élevage. Quelles conditions pour y accéder.
- 6) Opportunités que peuvent exploiter par l'établissement dans son aire d'influence?
- 7) Contrainte majeur qui entrave l'expansion de l'établissement?
- 8) Selon vous, comment renforcer le secteur élevage dans la zone de manière concrète ?
- 9) Auriez-vous des questions à poser.

Merci pour votre temps et pour les informations.

Contact pour s'informer de l'évolution du projet PARE :

Nom :.....Téléphone :.....

XIV. 2.3.- EXEMPLE: VULGARISATEURS

A. Demande de consentement

Bonjour. Je m'appelle Je travaille pour AGIRED. Je suis en train de réaliser une étude pour LandOlakes au niveau de votre communauté. Cette étude se donne pour objectif d'analyser les systèmes d'élevage et de marché dans le Centre, le Nord, le Nord-Est et le Sud. Cette activité est menée dans le cadre du projet PARE (Programme d'Appui à la Rentabilisation de l'Elevage).

Je vous sollicite cette interview dans le but de collecter des données fiables sur le secteur. L'interview durera 40 à 45 minutes, vos réponses seront confidentielles et seront utilisées pour renforcer les analyses relatives aux filières en question.

Êtes-vous d'accord pour participer à cette entrevue? OUI----- NON-----

B.- Identification de la personne interviewée

Nom et prénom	
Zone	
Organisation et rôle	
Principaux services offerts	
Groupes cibles	
Coordonnées	

C.- Questions

1) Parlez-nous du secteur Élevage dans la zone

Changements négatifs ? Quelles en sont les causes ?

Changements positifs ? Quelles en sont les causes ou raisons ?

2) Quelles opportunités y a-t-il le commerce en lien avec l'élevage dans la zone

- Quelles sont les espèces les plus élevées dans la zone ?
- Quels sont les services disponibles pour l'élevage dans la zone ?
- Parlez-moi des difficultés rencontrées pour accéder aux services liés à l'élevage ?
- Que pourrait-on faire pour relever ces défis ?
- Quelles sont les pratiques locales pour adresser ces contraintes et quels sont les résultats obtenus ?
-

- Quelles sont les principales contraintes rencontrées dans l'élevage des animaux dans la zone ?
- Dans les activités d'élevage (alimentation, matériels génétiques pour croisement...) ?
- En lien avec la disponibilité de l'eau pour l'abreuvement des animaux
- Dans la vente des animaux dans la zone.

Aidez-nous à prioriser ces contraintes par ordre d'importance décroissante.

3) Quel est le niveau de connaissance et de compétence en élevage des éleveurs avec qui vous travaillez? En d'autres termes, quels sont les aspects de l'élevage qu'ils maîtrisent bien (Alimentation, nutrition, reproduction.)

- De quelles compétences ou connaissances manquent-ils le plus ? Pourquoi?

2) Parlez-moi de l'accès à la formation pour les éleveurs dans ce domaine.

- Est-ce que votre institution offre des formations aux éleveurs ? Si oui, préciser (thèmes couverts, fréquence des cohortes, nombre de bénéficiaires...)
- Quelles institutions donnent des formations en lien avec l'élevage ? Citez-les et précisez leur nature.
- Quelles conditions pour accéder à ces formations
- A quels défis sont-ils confrontés ?
- Quelles autres ressources de formation qui existent pour eux ? Quelles ressources de formation les aideraient ?
- Selon vous, y a-t-il pour les éleveurs des besoins en formation non couverts.

3) Quels appuis donnez-vous (ou votre institution) aux éleveurs en alimentation des animaux. Est-ce suffisant ? Si non pourquoi ?

4) Quels appuis donnez-vous aux éleveurs en santé animale. Est-ce suffisant ? Si non pourquoi ?

5) Quelle formation avez-vous eu comme extensions ? Comment cela vous aide-t-il dans votre travail ? auriez-vous un besoin spécifique en formation pour mieux vous outiller ?

6) Quelles mauvaises situations (naturelles et non-naturelles) menacent (catastrophes, vols, sécheresse, inondation, épidémie, etc.,....) l'élevage dans la zone ?

- Quelles sont les stratégies développées localement pour préserver/protéger les élevages faces aux catastrophes ? Dans quelle mesure ces stratégies fonctionnent-elles ?
- Quelles sont les stratégies pour se relever/recapitaliser après les éventuelles pertes d'animaux ? Dans quelle mesure ces stratégies fonctionnent-elles ?
- Quoi d'autre aiderait les agriculteurs à faire face aux mauvaises situations et aux chocs ?

- 7) Quelles solutions (activités) proposeriez-vous pour résoudre ces contraintes ?
- 8) Comment est l'accès des femmes dans la zone pour les ressources liées aux élevages (terre, finance, animaux, autres....) ? Pensez-vous que l'accès est limité et, si oui, pourquoi?
- 9) Y a-t-il des aouts/opportunités à saisir dans ce secteur d'activité (élevage et ventes des animaux ou produits d'origine animale
- 10) Y a-t-il des opportunités à saisir **pour les femmes** dans ce secteur d'activité (élevage et ventes des animaux ou produits d'origine animales (comme la viande, les œufs et le lait) ? Quels types d'opportunités ?
- 11) Y a-t-il des contraintes spécifiquement pour les femmes afin de ces opportunités saisir ? Quelles sont ces contraintes ? Aidez-nous à prioriser ces contraintes par ordre d'importance décroissante.
- 12) Comment est l'accès des jeunes dans la zone pour les ressources liées aux élevages (terre, finance, animaux, autres....) ? Pourquoi pensez-vous l'accès est limité?
- 13) Y a-t-il des opportunités à saisir **pour les jeunes** dans ce secteur d'activité (élevage et ventes des animaux ou produits d'origine animales (comme la viande, les œufs et le lait) ? Quels types d'opportunités ?
- 14) Y a-t-il des contraintes spécifiques aux jeunes pour saisir ces opportunités ? Quelles sont ces contraintes ? Aidez-nous à prioriser ces contraintes par ordre d'importance décroissante.
- 15) Quelles solutions (activités) proposeriez-vous face à ces contraintes? Pour les femmes?
Pour les jeunes?
- 16) Auriez-vous des questions à poser

Merci pour votre temps et pour les informations.

Contact pour s'informer de l'évolution du projet PARE :

Nom :Téléphone :

3.- DISCUSSIONS EN FOCUS GROUPES

XV. 3.1.- DISCUSSIONS EN FOCUS GROUPES AVEC LES PRODUCTEURS

A.- Demande de consentement

Bonjour. Je m'appelle Je travaille pour AGIRED. Je suis en train de réaliser une étude pour LandOlakes au niveau de votre communauté. Cette étude se donne pour objectif d'analyser les systèmes d'élevage et de marché dans le Centre, le Nord, le Nord-Est et le Sud. Cette activité est menée dans le cadre du projet PARE (Programme d'Appui à la Rentabilisation de l'Élevage).

Je vous sollicite cette interview dans le but de collecter des données fiables sur le secteur. La discussion durera 1h30 à 2h, vos réponses seront confidentielles et seront utilisées pour renforcer les analyses relatives aux filières en question.

Est-ce que chacun de vous est d'accord pour participer à cette entrevue? OUI-----

Si quelqu'un n'est pas d'accord, il n'est pas obligé de participer dans la rencontre. Il/elle peut partir. -

B.- Identification des participants

Nom et prénom	Commune	Section	H ou F	Téléphone	Activité

Questions

- 1) Quelles sont les espèces les plus rencontrées par ordre d'importance décroissante?
- 2) Quels secteurs ont disparu ou sont en voie de disparition dans la zone au cours des 10 dernières années ?
- 3) Quels secteurs ont nouvellement émergé dans la zone au cours des 10 dernières années ?
- 4) Comment a évolué le secteur Élevage dans la zone depuis les dernières années.
Changements négatifs (pourquoi et comment?) :
Changements positifs (pourquoi et comment?) :

Parlons des opportunités et des contraintes générales pour les producteurs dans ce domaine de l'élevage

- 5) Quelles opportunités y a-t-il pour l'élevage et le commerce en lien avec l'élevage dans la zone
- 6) Quelles sont les principales contraintes rencontrées dans l'élevage des animaux dans la zone ?
- 7) Quelles sont les principales contraintes rencontrées dans la vente des animaux, les produits de l'élevage (lait, œufs, etc.,) dans la zone
- 8) Exercice d'élaboration participative d'un compte d'exploitation sommaire pour une espèce selon le choix du groupe (en tenant compte des produits et des dépenses. Exemple : nourriture, corde ou enclos, soins vétérinaires, complément de nourriture, autres dépenses, vente...)

Parlons de vos pratiques d'élevage, de votre production et de vos ventes

- 9) Parlez-moi des pratiques que vous utilisez pour l'élevage de votre bétail. Par exemple, l'alimentation, le logement, l'élevage, etc.
 - Où as-tu appris ces pratiques ?
 - Pensez-vous que ces pratiques sont suffisantes ? Pourquoi ou pourquoi pas?
- 10) Y a-t-il de nouvelles pratiques (technologie) dans le domaine de l'élevage et des activités connexes depuis les années récentes ?
 - Où as-tu appris ces pratiques ?
 - Avez-vous essayé ces pratiques ? Si oui, comment ces pratiques ont-elles affecté votre production ?
- 11) En général, que pensez-vous de votre production de bétail ? Pensez-vous qu'il pourrait être amélioré? Pourquoi ou pourquoi pas?
 - À quels défis faites-vous face dans votre production de bétail? Prioriser ces défis.
 - Qu'est-ce qui aide votre production?
- 12) En général, que pensez-vous de vos ventes de bétail ? Pensez-vous qu'il pourrait être

amélioré? Pourquoi ou pourquoi pas?

- À quels défis faites-vous face dans vos ventes de bétail? Prioriser ces défis.
- Qu'est-ce qui aide vos ventes?

Parlons maintenant des services qui s'offrent à vous en tant qu'éleveurs

13) Quels sont les services en lien à l'élevage qui sont disponibles dans la zone (docteurs, Agents sante bête/Cliniques vétérinaires, médicaments, aliments, transport...).

- Y a-t-il un abattoir privé ou publique dans la zone. Quelles les conditions pour utiliser ses services.
- Y -a-t-il des services financiers (banques, caisses, microfinance....) intéressés à supporter l'élevage et le commerce dans le secteur ? Si oui, citez-les s'il vous plaît.
- Quelles sont les conditions pour accéder aux services ?

14) Quels sont les services en lien à l'élevage qui manquent dans la zone ?

- Pourquoi manquent-ils ?
- Comment le manque de ces services affecte-t-il votre élevage ?
- Comment le manque de ces services affecte-t-il votre élevage ?

15) Est-ce qu'il y a des formations destinées aux éleveurs ? taux de fréquentation ?

- Par quelles institutions ? Dans quelle mesure cette formation est-elle accessible ou quelles sont les conditions pour y accéder ? Participez-vous? Pourquoi ou pourquoi pas?
- Que pourrait-on faire pour améliorer cela ?

Parlons maintenant des chocs auxquels votre ménage est confronté

17) Quelles mauvaises situations (naturelles et non-naturelles) menacent (catastrophes, vols, sécheresse, inondation, épidémie, etc.,....) l'élevage dans la zone ?

- Quelles sont les stratégies développées localement pour préserver/protéger les élevages faces aux catastrophes ? Dans quelle mesure ces stratégies fonctionnent-elles ?
- Quelles sont les stratégies pour se relever/recapitaliser après les éventuelles pertes d'animaux ? Dans quelle mesure ces stratégies fonctionnent-elles ?
- Quoi d'autre aiderait les agriculteurs à faire face aux mauvaises situations et aux chocs ?

18) Quelles sont vos recommandations pour améliorer le secteur de l'élevage (la production et la vente) dans la zone (projet, activités, interventions, actions, ...).
Prioriser ces recommandations, si possible.

16) Autres questions de clarifications inspirées en entrevues, s'il y en a

17) Aimerez-vous ajouter autres informations

18) Auriez-vous des questions à poser

Merci pour votre temps et pour les informations.

Contact pour s'informer de l'évolution du projet PARE :

Nom :Téléphone :

XVI. 3.2.- DISCUSSION DE FOCUS GROUPES AVEC LES FEMMES

A.- Identification des participants

Nom et prénom	Commune	Section	F	Téléphone	Activité

Questions

- 1) Comment est la situation des femmes dans la zone en général
 - Est-ce que la violence est courante dans la zone (Sous quelles formes ? Donnez quelques exemples)
 - Y a-t-il des inégalités par rapport aux hommes. Si oui, donnez des exemples s'il vous plait. Pourquoi ?
 - Accès aux ressources productives/économiques (terre, finance, animaux, information sur le marché, formation spécifique, autres). Si accès limité expliqué pourquoi.
- 2) Sur le plan éducatif, y a-t-il des inégalités par rapport aux hommes. Si oui, comment cela se manifeste-t-il ? Quelles en sont les causes selon vous ? Pourquoi ?
- 3) Sur les plans économiques et dans le secteur agricole en général, y a-t-il des inégalités par rapport aux hommes. Si oui, quelles en sont les causes selon vous ? Pourquoi?
- 4) Quelles sont les espèces les plus rencontrées dans la zone ? Quelles sont les espèces les plus élevées par les femmes ? Combien d'entre vous pratiquent l'élevage ? Quelles espèces actuellement ?
- 5) Comment est la séparation des tâches entre les hommes et les femmes dans les travaux en lien avec l'agriculture et l'élevage selon les espèces (Bœuf, cabri, mouton, volailles).
- 6) Qui prend la décision sur la vente et l'utilisation des fonds issus de la vente des animaux ? Pourquoi?
- 7) Quels aspects en lien avec l'élevage (production, commercialisation, alimentation, transformation, transport, santé, etc.,) de la chaîne d'élevage intéresse le plus les femmes ? Pourquoi ?
- 8) Dans le domaine de l'élevage, y a-t-il des inégalités (gros et petit bétails) par rapport aux hommes (selon les espèces animales à considérer). Si oui, quelles en sont les causes selon vous et comment y remédier
- 9) Y a-t-il des opportunités dans le secteur de l'élevage et des activités connexes pour les femmes. Qu'est-ce qui empêche de profiter de ces opportunités
- 10) Y a-t-il des contraintes spécifiques aux femmes dans le secteur de l'élevage et des activités connexes. Comment lever ces contraintes (stratégie existante et à venir).
- 11) Quel type de projet / activités / action dans le secteur de l'élevage qui pourrait améliorer la situation des femmes dans la zone ?
- 12) **Autres questions de clarifications inspirées en entrevues**
- 13) Aimerez-vous ajouter autres informations
- 14) Auriez-vous des questions à poser

Merci pour votre temps et pour les informations.

Contact pour s'informer de l'évolution du projet PARE, au besoin :

Nom :.....Téléphone :.....

3.3.- Discussion de focus groupes avec les jeunes

A.- Identification des participants

Nom et prénom	Commune	Section	F/G	Téléphone	Activité

Questions

1. Comment est la situation des jeunes dans la zone en général
 - Y a-t-il des inégalités par rapport aux adultes. Si oui, donnez des exemples s'il vous plaît.
 - Accès aux ressources productives/économiques (terre, finance, animaux, information sur le marché, formation spécifique, autres)
2. Sur les plans économiques et dans le secteur agricole en général, y a-t-il des inégalités par rapport aux adultes. Si oui, quelles en sont les causes selon vous
3. Quelles sont les espèces les plus rencontrées dans la zone ? Quelles sont les espèces élevées par les jeunes. Qui (ou combien) d'entre vous pratique l'élevage actuellement ? Quelles espèces ?
4. Quel est le niveau d'implication des jeunes dans les activités d'élevage ? A quel titre (personnel/propriétaire, en appui aux parents, autres)
5. Quels aspects en lien avec l'élevage (production, commercialisation, alimentation, transformation, transport, sante, etc.,) de la chaine élevage intéresse le plus les jeunes ? Pourquoi ?
6. Comment est la séparation des taches entre les hommes, les femmes et les jeunes (hommes et femmes) dans les travaux en lien avec l'agriculture et l'élevage selon les espèces (Bœuf, cabri, mouton, volailles)
7. Dans le domaine de l'élevage, y a-t-il des inégalités par rapport aux adultes (selon les espèces animales à considérer). Si oui, quelles en sont les causes selon vous et comment y remédier

8. Y -a-t-il des opportunités dans le secteur de l'élevage et des activités connexes pour les jeunes (hommes et femmes). Qu'est-ce qui empêche de profiter de ces opportunités
9. -a-t-il des contraintes spécifiques aux jeunes (hommes et femmes) dans le secteur de l'élevage et des activités connexes. Comment lever ces contraintes (stratégie existante et à venir) stratégie existante et à venir).
10. Quels sont les projets / actions / activités dans le secteur élevage pour améliorer la situation des jeunes dans la zone ?

7.- Autres questions de clarifications inspirées en entrevues, s'il y en a.

8.- Aimeriez-vous ajouter autres informations

9.- Auriez-vous des questions à poser

Merci pour votre temps et pour les informations.

Contact pour s'informer de l'évolution du projet PARE, au besoin :

Nom :.....Téléphone :.....