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Final Report

Malawi Livestock for Resilience Baseline Evaluation

Submitted by: Imani Consultants Ltd

To: Land O' Lakes

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Abbreviations and Acronyms

AEDO	Agriculture Extension Development Officers
AHSP	Animal Health Service Provider
AVO	Assistant Veterinary Officer
DLO	District Livestock Officer
EPA	Extension Planning Area
FGD	Focus Group Discussion
FHH	Female Headed Household
KII	Key Informant Interview
L4R	Livestock for Resilience
MHH	Male Headed Household
MFI	Micro-Finance Institution
MOAFS	Ministry of Agriculture and Food Security
NGO	Non-Governmental Organization
OFDA	Office of Foreign Disaster Assistance
PPI	Progress out of Poverty Index
SACCO	Savings and Credit Cooperative
USAID	United States Agency for International Development
VSLA	Village Savings and Loan Association

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Executive Summary

Land O'Lakes was awarded the Malawi Livestock for Resilience (L4R), a 23-month project funded by the Office of Foreign Disaster Assistance (OFDA) under the United States Agency for International Development (USAID). The primary objective of this project is to "build the resilience of disaster-prone communities in Central Malawi to withstand climactic and economic shock by strengthening their livestock production and livestock asset base" which is in line with USAID/OFDA's goal to "reduce risk through enhanced institutional and community capacities to respond to and mitigate the effects of disasters, strengthen the resiliency of vulnerable communities, and reduce exposure to hazards".

To realise the project's primary objective, Land O'Lakes will be using a community-focused approach to work with the project beneficiaries to promote the expansion and maintenance of small livestock assets to facilitate a shift toward a more diversified livelihoods and increase capacity of vulnerable households to adapt to shocks. The four key components of this project are (1) Expand Livestock Asset Base, (2) Increase capacity to Maintain Livestock Asset Base, (3) Improve Capacity and Access to Animal Health Services and (4) Improve Capacity of Households to Plan, Save, and Mitigate Risk. The L4R project further aims to increase equality and enhance women's empowerment.

Malawi and more specifically, Ntchisi and Dowa's populations', are primarily dependent on rain fed agriculture. Such dependence poses a severe challenge during times of drought and other extreme weather conditions. Prolonged dry spells and floods are known to severely hinder smallholder farmers' productivity and income source, as agriculture is often their main livelihood strategy. It is in this regards that the L4R project is essential for these communities as they can play a significant role in strengthening these communities resilience to climate change through the promotion of the livestock as a diversified and integrated livelihood alongside crop production as livestock can be an adequate buffer against extreme weather events such and heat, droughts and crop when compared to crops. With several households already experiencing months of inadequate provision of food for their families, they cannot afford to be any more food insecure as a result of climactic changes.

The L4R baseline study was primarily undertaken by Imani Consultants to gather relevant and meaningful data for Land O'Lakes to inform their implementation team to plan and make appropriate decisions regarding project implementation. Additionally, an integrated gender analysis was conducted under the baseline to inform the implementation team of gender dynamics in the targeted communities to allow them to better ensure that women are equally able to take part in project activities for their benefit.

Baseline findings showed that households in Ntchisi and Dowa primarily own chickens (79.5%) and goats (77.4%). Ownership of both chicken and goats was quite common across households in both districts as 56.9% of all respondents were identified as owners of both types of livestock. Therefore it is very appropriate for the L4R project to engage these districts with increased chicken and goat assets especially as livestock production has been deemed to be gender compatible, confirming its use as a tool to enhance livelihood regardless of sex in the two districts with the high participation of men and women in animal care. Men were primarily responsible for livestock decision making and animal rearing in the case of larger livestock, particularly where these decisions and responsibilities held financial implications for the household. It is in this regard that it is recommended that since men are primarily in control of finances related to livestock, training on record keeping of livestock production, expenditure and income should be provided to men. With upwards of 93% of households indicating that they don't keep records of livestock practices, training in record keeping will allow them to be more knowledgeable on the management of their livestock to guide them towards making better financial decisions to enable them to gain more positive returns on their production.

Women were found to largely be responsible for the day to day care to and some decision making when it came to smaller types of livestock such as chickens. As a result, it is necessary that women are equally included in any trainings regarding animal husbandry to increase household uptake of improved livestock

management practices. Women's limitations in regards to livestock rearing were identified to primarily be restricted by their cultural and physical mobility. To enable women to participate on a more equal basis in this project, there is need to adaptation of trainings and veterinary services in close proximity to their villages. Women's high levels of participation in the few identified producer groups presents a means in which the project can empower women to be informed on decisions that impact and can improve their wellbeing and livelihood.

With households putting low to zero inputs into livestock feeding, which hamper the productivity capabilities of livestock, there is room for an intervention to address inadequate livestock feeding techniques to promote healthy livestock with improved reproduction capabilities. Enhancing year round feeding via an integrated livestock and crop production system can not only address the use of zero to low feeding inputs for livestock, but also aid in the improvement of crop yields through the use of animal manure to crop fields. With only 6.2% of households reporting that they grew fodder for their livestock, dry land forage species growth should also be a component of the integrated livestock and crop production system to not only avail a more sustainable form of feed for livestock as they can withstand constraints such as limited water supply and the increasing risks of drought.

Markets for livestock in both districts have been found to be primarily operated by middlemen, more specifically vendors. The lack of formal market in rural areas presents a challenge or the project in terms of finding sustainable and fair markets for producers. Partnerships need to be established with companies and retail outlets that have been identified to procure local livestock for onward sale. Where partnerships are not feasible, to safeguard against poor prices offered by vendors, a vendor registration systems could be put in place where only registered vendors would be allowed to purchase livestock from certain communities. Alternatively, market prices information could be disseminated to producer groups and members through mobile phones or radios to equip them with the knowledge to demand fairer prices from buyers.

Veterinary services are an integral part of livestock production to limit the spread of livestock diseases which can ultimately impede production and cause death of livestock. With the inadequate supply of animal health service providers in the two districts, any major outbreaks of disease amongst goats and chickens will greatly negate project efforts to introduce these types of livestock into the two districts. While there are Assistant Veterinary Officers (AVO), offered through the Government of Malawi, stationed at strategic sites in each district to treat and vaccinate livestock, mobility challenges (budgetary constraints and poor rural infrastructure) and insufficient numbers of AVOs limit service provision. This level of service would not be sufficient to service the increased volumes of livestock that the project would produce to the two districts. To mitigate against mobility challenges, the project's component of training para-vets will be vital for increasing access to animal health services and improvements in livestock disease surveillance. Trainings in livestock diseases identification for targeted households and producer groups will also be crucial in efforts to reduce the spread of livestock diseases.

With very few financial services available to rural households in Dowa and Ntchisi, VSLAs were identified to be the most accessible and used form of savings and credit amongst households in the two districts. With the envisioned increase in household incomes from livestock production, VSLA use would be the most appropriate mechanism in the two districts to encourage households to save as 56.4% of households were identified to keep savings in VSLAs already. Adequately training of households in savings and credit use will be required as low proportions of households have received savings and credit training and as the project aims to promote the increased use of VSLAs.

1 Background

According to the recent “Malawi Climate Change: Vulnerability Assessment: Annex B. Detailed Participatory Rural Appraisal Report¹”, several parts of Malawi have been adversely affected by climate change. Socio-economic, demographic, and climatic factors all contribute to the country’s vulnerability to climate change. Some of these factors include limited agro-processing facilities, over dependency on rain fed agriculture and fuel wood for energy, poverty exacerbated by drought, floods and natural disasters.

Moreover, Malawi and more specifically, Ntchisi and Dowa’s populations’ dependence on rain fed agriculture poses a severe challenge during times of drought. Prolonged dry spells and floods are known to severely hinder smallholder farmers’ productivity, as agriculture is often their main livelihood strategy. As a result, livestock can play a significant role in strengthening their resilience to climate change. This is due to the fact that livestock production systems have demonstrated to be more resilient than crop-based systems as outlined in the Malawi Climate Change: Vulnerability Assessment: Annex B. Detailed Participatory Rural Appraisal Report. However, although livestock is a much more adequate buffer against extreme weather events (i.e. heat and drought) than crops, it’s not certain that the existing types of livestock will be able to tolerate the adverse effect of climate change. Hence, the need for more diversified and integrated livelihood activities.

The Livestock for Resilience project will help promote the importance of the livestock sector to the adaptation strategies of rural poor people around in Ntchisi and Dowa districts.

1.1 Districts Background

1.1.1 Ntchisi

Ntchisi district is located in the central region, about 96 km north of Lilongwe, the capital of Malawi. The district is bordered by Dowa district and Salima district. The district covers an area of about 1,655 km² and has a population of nearly 224,098 according to the 2008 Population and Housing Census report for Malawi; making it the fifth smallest district in the country². Ntchisi’s population density is nearly 130 persons per km², which is higher than the national average, 101 persons per km²³. The district has an extremely youthful population, with nearly half of the population being under 18 years old. This creates an economic burden on the small proportion of the population engaged in the work force.

The majority of people in the district identify as Christians and the most prominent ethnic group is Chewa, encompassing an estimated 96% of the district population. Furthermore, family organization tends to be matrilineal and men are normally considered heads of households⁴. In regards to educational levels, according to the 2010 Malawi Demographic and Health Survey (MDHS), Ntchisi’s education attainment levels echo national levels, which are fairly low, as the majority of the population has only achieved primary education.

Ntchisi is known for its high dependence on agriculture. Consequently, the major occupational activity for the district revolves around agricultural livelihood with nearly two thirds of the population being engaged in subsistence farming. The agricultural sector makes up for about 80% of the district’s economy and it covers: crop development, livestock development, irrigation development, extension services, land

¹ http://community.eldis.org/.5b9bfce3/Annex%20B_05Sep13_FINAL.pdf

² <http://www.nsomalawi.mw/2008-population-and-housing-census.html>

³ <http://www.ittransport.co.uk/documents/Rural%20Accessibilityand%20Mobility%20in%20Malawi.pdf>

⁴ <http://youthinaction.savethechildren.ca/wp-content/uploads/2014/06/Market-Assessment-%E2%80%93-Malawi-2013.pdf>

resources and conservation, and fisheries development⁵. Additionally, the district is extremely rural and is merely connected by a paved road to Lilongwe.

Health wise, vital statistics for the district demonstrate that the health status of the population mirrors that of national statistics. Furthermore, NGOs have a fairly large presence and operations in the district. The majority is involved in development activities and some of these include: World Vision, Malawi Red Cross Society, National Smallholder Farmers Association of Malawi (NASFAM), Malawi Rural Finance Company, Care, European Union, FINCA, and many others.⁶

1.1.2 Dowa

Dowa district is located in the Central Region of Malawi, about 55 km away from the capital city, Lilongwe. The district is fairly large, covering an area of about 3,000 km² and has a population of nearly 411,400. The population density in Dowa has increased by three-quarters in the past 20 years, from 106 to 184 people per km². Similarly to Ntchisi District, the Chewa are also the predominant ethnic group in the district.

The district is highly dependent on agricultural farming, and focuses heavily on the production of cotton, tobacco, groundnuts, while the main food crops produced are maize, sweet potatoes and pulses. In regards to livelihood, nearly 70% of households have access to improved source of drinking water. Additionally, Dowa is equipped with one of the oldest hospitals in the Malawi, which was recently honored as the third center of excellence in reproductive health in the country.⁷

1.2 Project Overview

Land O'Lakes was awarded the Malawi Livestock for Resilience (L4R), a 23-month project funded by the Office of Foreign Disaster Assistance (OFDA) under the United States Agency for International Development (USAID). The primary objective of this project is to “build the resilience of disaster-prone communities in Central Malawi to withstand climactic and economic shock by strengthening their livestock production and livestock asset base” which is in line with USAID/OFDA’s goal to “reduce risk through enhanced institutional and community capacities to respond to and mitigate the effects of disasters, strengthen the resiliency of vulnerable communities, and reduce exposure to hazards”.

To realise the project’s primary objective, Land O'Lakes will be using a community-focused approach to work with the project beneficiaries to promote the expansion and maintenance of small livestock assets to facilitate a shift toward a more diversified livelihoods and increase capacity of vulnerable households to adapt to shocks. The L4R project aims to target 30,000 people by working directly with 6,000 vulnerable households in Dowa and Ntchisi Districts. The four key components of this project are:

- (1) **Expand Livestock Asset Base:** L4R will distribute vouchers to 2,000 households to subsidize the purchase of locally available goats and chickens.
- (2) **Increase capacity to Maintain Livestock Asset Base:** L4R will facilitate the formation and capacity building of producer groups. The members of these groups will then be trained in livestock husbandry, marketing techniques, and group formation and management. The trainings will be provided through a training of trainers approach where 150 para-vets will be selected for training from the project and those individuals will in turn train the members of the producer groups.
- (3) **Improve Capacity and Access to Animal Health Services:** L4R will equip and train 150 para-vets in animal health diagnosis and treatment, and link them to private sector input and animal health service providers.

⁵ <http://www.scotland-malawipartnership.org/documents/68-NTCHISISEP2005Draft.pdf>

⁶ <https://tampub.uta.fi/bitstream/handle/10024/84640/gradu06772.pdf?sequence=1>

⁷ <http://www.mchip.net/node/206>

The para-vets will then provide animal health services to members of their producer groups at a fee for service arrangement.

- (4) **Improve Capacity of Households to Plan, Save, and Mitigate Risk:** L4R will train three members from all targeted households in household economics, risk mitigation and planning, and business practices. The project will also provide capacity building to households to establish village savings and loans.

The L4R project further aims to increase equality and enhance women's empowerment. By understanding gender dynamics in the targeted communities, project implementers will better be able to ensure that women are equally able to take part in project activities for their benefit.

1.3 Baseline Evaluation Overview

The primary purpose of the baseline evaluation was to provide relevant local contextual information to assess project priority areas and to establish verifiable baseline values for key performance indicators to set the standard of comparison for assessing the degree of change that will occur as a result of the project in further assessments.

The baseline evaluation ultimately demonstrates whether or not and how the project can assist USAID/OFDA best reach this vision in real terms in the identified wards in Dowa and Ntchisi Districts. Additionally, the evaluation provides a means to provide recommendations to improve the design and implementation of the program in order to increase project impact and strengthen the path to realise its objectives.

An integral component of the baseline evaluation was to assess the constraints and opportunities that may be faced by women when participating in project activities in order to identify means in which to implement activities to ensure equal participation and benefit.

2 Methodology

Outlined in this section is the L4R baseline methodological approach as implemented during the implementation of the baseline.

Data Collection Strategy

The project team used a two-tiered approach to collect data from the field using both qualitative and quantitative tools. To collect quantitative data, a structured household questionnaire was used by the team of enumerators to collect the requisite data. The household questionnaire consisted of nine sections. A general section which asked questions about the respondent and their household; a household wealth section to determine household assets to aid in determining the socio-economic status and incomes of the households; a savings and credit section to determine households' uses of finance; a section entirely dedicated to calculating the Progress out of Poverty index to provide details on household vulnerability in regards to poverty levels; a section on livestock ownership and practices; a section on goat and chicken production, marketing, births, deaths and consumption; a section to identify types of training received; and lastly a section on maize production.

On the qualitative side, FGD guidelines and KII guidelines were formulated to aid the Fieldwork Coordinator in facilitating flexible discussions with key informants in order to capture relevant information. The FGD guidelines were specifically drafted to allow the team to address the more complex aspects of the project which could not be captured through the household questionnaire; particularly those concerning the gender assessment component, hence the need for a specific gender FGD guideline.

Sampling Strategy

The household survey sample advised to be a representative sample with a 95% significance level and a 5% confidence interval. As the L4R project aims to work with 6,000 vulnerable households, it was determined that a minimum of 385 household questionnaires were required to be undertaken to satisfy the desired sample specifications.

The sample size was determined in a way to ensure, with a certain precision, an appropriate representation of the L4R intended beneficiary base. The sample size was dependent on the total population size of 6,000 households. The calculation of the sample size was based on Equation (1) developed by Cochran⁸ (1963) to yield a representative sample for proportions in large populations (based on the assumption of a normal distribution).

$$n_o = \frac{t^2 * p(1-p)}{d^2} \quad (1)$$

The finite population correction, i.e. an adjustment for small populations (Equation 2), was then applied as recommended in Bartlett⁹ (2001) and Isreal¹⁰ (1992).

$$n = \frac{n_o}{1 + \frac{(n_o - 1)}{N}} \quad (2)$$

The above two equations were then combined to come up with the follow equation to determine the 385 sample size;

$$n = \frac{t^2 * p(1-p) * N}{d^2 * (N-1) + t^2 * p(1-p)} \quad (3)$$

EPA and Household Selection Process

All 9 EPAs in Dowa were covered as well as all 4 official EPAs of Ntchisi, as it was established during discussions with Land O'Lakes and District Commissioners in both districts. To ensure that an adequate representation of Dowa was covered in the timeframe available to administer the household surveys, 3 sections in each of the 9 EPAs were to be covered on average, while in Ntchisi, 5 sections in each of the 4 official EPAs were covered approximately.

The baseline initially intended to randomly sample households in the project's targeted wards, but due to beneficiaries not being selected by the commencement of the baseline study, the next best sampling method was to interview households that currently were in possession of goats or chickens in the target districts at the time of the interview. Household rosters for households possessing chicken and goats,

⁸ Cochran, W.G. 1963. Sampling Techniques, 2nd Ed., New York: John Wiley and Sons Inc.

⁹ 2JE Bartlett, JW Kotrlik, CC Higgin. 2001. Organizational Research: Determining appropriate sample size in survey research, Information Technology Learning and Performance Journal, Vol 19, No1, Spring 2001

¹⁰ 3GD Isreal, Determining Sample Size. 1992. Series of the Program Evaluation and Organizational Development, University of Florida, November 1992.

disaggregated by male headed households and female headed households for each section, were obtained from the Agriculture Extension Development Officers (AEDO) in each section. Thereafter, purposeful random household selection was used to ensure that the intended households were sampled. Additionally, 30% of FHHs were purposefully targeted from these lists to allow for adequate FHH representation in the analysis.

Each enumerator was given a list of respondents to target in each section based on the lists provided by the AEDO. With assistance from the AEDO, the enumerators located the targeted households to administer the questionnaire. The household questionnaires were administered from Monday October 13th through to Wednesday October 22nd 2014.

The team successfully administered 390 surveys to heads of households, or their spouses, in Dowa and Ntchisi in households which owned at least one goat or chicken at the time. As shown in Table 1 below, 213 (54.6%) of surveys were successfully conducted in Dowa in each of the 9 EPAs, while Table 2 depicts the successful completion of 177 (45.6%) in each of the 4 EPAs in Ntchisi.

	EPA	Section	Households	EPA Total	
Dowa	Bowe	1	9	27	
		2	9		
		3	9		
	Chibvala	1	9	24	
		2	9		
		3	6		
	Chisepo	1	9	18	
		2	9		
	Madisi	1	9	27	
		2	9		
		3	9		
	Mdolera	1	3	24	
		2	9		
		3	3		
		4	9		
	Mponela	1	6	24	
		2	9		
		3	9		
	Mvera	1	8	24	
		2	16		
	Nachisaka	1	9	18	
		2	9		
	Nalunga	1	9	27	
		2	9		
		3	9		
	Dowa Total			213	54.6%

Table 1 - Sample Profile Dowa

	EPA	Section	Households	EPA Total
Ntchisi	Chikwatula	1	9	45
		2	5	
		3	13	
		4	9	
		5	9	
	Chipuka	1	6	45
		2	10	
		3	10	
		4	9	
		5	10	
	Kalira	1	9	43
		2	9	
		3	9	
		4	7	
		5	4	
		6	5	
	Malomo	1	12	44
		2	5	
		3	9	
		4	9	
5		9		
Ntchisi Total			177	45.4%

Table 2 - Sample Profile Ntchisi

For the qualitative portion of the baseline, the team was advised, by Land O'Lakes, to complete a minimum of 8 focus group discussions in the two districts. 4 FGD were focused on gender issues, while the other 4 were focused on more general livestock topics. Each focus group consisted of 6-8 people. Two livestock and two gender specific FGDs were undertaken in each district. AEDOs and traditional leaders were approached in the selection of focus group participants for the survey as they were in a better position to locate the most eligible participants by their homes. FGDs were scheduled in locations in which the AEDOs and traditional leaders could best organise participants based on the team's selection criteria in a timely manner. For the gender assessment FGD groups, 2 FGDs were conducted with female only members while the other two were of mixed genders and male only. For the livestock FGD groups, 2 FGDs were of mixed genders while the other two consisted of a male only group and a female only group.

Criteria for participant selection FGDs were:

1. Members of the local community of where the project will be/is likely to be implemented in Dowa & Ntchisi
2. At the time of the FGD they owned livestock
3. (For some) Is or was a member of a producer group
4. 30% FHH for mixed gender group

FGD were conducted as show in Table 3 below.

	Focus Group Discussions	District	EPA	Section	Date
Gender	Female only	Ntchisi	Chikwatula	Binga	2014-10-14
	Male only	Ntchisi	Chikwatula	Kambiri	2014-10-16
	Mixed gender	Dowa	Mponela	Kawere	2014-10-17
	Female only	Dowa	Mvera	Njere	2014-10-22
Livestock	Mixed gender	Ntchisi	Chipuka	Chipuka	2014-10-15
	Mixed gender	Ntchisi	Malamo	Sofasi	2014-10-16
	Female only	Dowa	Madisi	Madisi	2014-10-18
	Male only	Dowa	Chisepo	Chisepo 2	2014-10-19

Table 3 FGD Implementation Profile

Key informant interviews were conducted by the Fieldwork Coordinator where time was available outside of conducting FGD, arranging logistics for survey implementation and supervising household survey implementation. KIIs were undertaken with the following stakeholders¹¹;

- **Farmer Producer Group Leaders (2) / District Livestock Offices (2)** - - *to identify the existence and function of farmer/producer groups; to understand livestock practices in each district; to identify livestock decision making and responsibilities between household members; identification of livestock marketing and markets in both districts; to assess the potential for livestock-based livelihoods in each district*
- **Animal Health Service Providers (2)** - - *to assess access to and the demand for veterinary services; to assess veterinary livestock health practices*
- **District Gender Officers (2) / District Social Welfare Officers (1)** - - *to identify the existence and function of women's groups; to assess gender constraints and opportunities in regards to livestock ownership and management; to identify household decision making and responsibilities related to livestock;*
- **Microfinance Institutions (1)** - - *to assess the savings and financial capacity of beneficiaries; to identify the existing VSLA's in each district and their functionalities; to identify access constraints to women and men*

Fieldwork Team Composition & Quality Control

The fieldwork team consisted of a team of 12; 10 enumerators, 1 Fieldwork Coordinator and a part-time Fieldwork Coordinator Assistant.

The Imani fieldwork team, including the Fieldwork Coordinator Assistant, received training for one day in Lilongwe on Wednesday October 8th. The training was conducted by the M&E Consultant and the Fieldwork Coordinator who were familiar with the household survey tools. The training consisted of an introduction to the project, a detailed run through of the data collection tools, data collection tools practice, addressing survey instrument quality issues, providing logistical arrangements and addressing fieldwork team questions.

During the training, the English version of the questionnaire was run through, question by question, to ensure that the enumerators understood and to alter the questionnaire where it was deemed necessary.

¹¹ The list of names of Key Informants interviewed can be found in Annex 4

After the questionnaire was run through in English, the enumerator translated the questionnaire into Chichewa together so that all enumerators would be asking the questions in the same way.

The day after the training, the fieldwork team piloted the household questionnaire for one day in Bunda to further refine the ideal strategy to solicit honest feedback from the targeted households. Additionally, it allowed the enumerators to familiarize themselves on how to best conduct the questionnaire in preparation for the main fieldwork in Dowa and Ntchisi.

As a means of quality control on survey implementation, the Fieldwork Coordinator on a day to day basis cross checked approximately 5% of the completed surveys for completeness and errors in recording by checking random data points on completed questionnaires. Where issues were encountered, the Fieldwork Coordinator sought clarification from the enumerator in order to obtain the missing information.

The Fieldwork coordinator also accompanied each enumerator to at least one interview in order to provide feedback on interview performance and provided correction where necessary. The enumeration team was further debriefed on a daily basis to discuss any issues raised and how they should deal with them, to ensure consistency of approach.

Data Entry, Cleaning and Analysis

On a daily basis, each enumerator entered their collected data into a provided Excel database. The enumerators were debriefed in the field and provided full instructions on how to enter the questionnaire data into the database. These instructions were also provided in writing in the database. Once all databases had been completed, the M&E Consultant compiled the results of the structured coded questionnaires and cleaned the data to eliminate errors.

The M&E consultant primarily used categorical cross tabulation statistics in Excel for each survey questions against household types and districts.

3 Results and Findings

The main findings from the baseline survey are outlined in this section. Where necessary, tables related to questions in the survey have the respective question number noted in the top left corner of the table. The tables can be cross-referenced to their associated question number in the questionnaire in Annex 3 Land O'Lakes Livestock for Resilience Household Questionnaire.

3.1 Demographic and Socio-Economic Status of Target Districts

The Baseline Household Survey was implemented in two separate districts: Dowa and Ntchisi. In these two districts, all EPAs were surveyed: 9 EPAs in Dowa district and 4 EPAs in Ntchisi district. In Dowa, the questionnaires were conducted, on average, in 3 different sections per EPA where approximately 9 households per section were surveyed. Conversely, in Ntchisi, the questionnaire was conducted in 5 different sections per EPA, sampling on average 45 households per EPA. In total, 390 household questionnaires were completed; 45.4 % of which were conducted in Ntchisi, while the remaining 54.6% took place in Dowa.

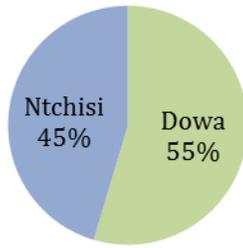


Figure 1 - - Sample Size per District

Of the respondents, 46.4% were female, while 53.4% were male. Furthermore, the respondent pool was comprised of 32.3% female-headed households, 66.7% male-headed households, and 1.0% unspecified households as depicted in Table 4 below. An unspecified household refers to households in which the baseline team was unable to ascertain the sex of the head of household. This occurred due to the nature in which the questionnaire was administered. Respondents were asked their sex and then their relation to the head of households. There were three instances where respondents were adult children to the head of household and one instance where the respondent was the sister of the head of household. As a result, based on the data available, there was not a plausible way to distinguish which household type these respondents belonged to.

With a sample size of 385, the terms of reference specified that 116 questionnaires needed to be administered to female headed households to ensure a 30% FHH sample size; There was an over sampling of FHH to certify that the requirements for the gender analysis were met.

Respondent Sex	FHH	FHH %	MHH	MHH %	Unspecified HH	Unspecified HH %	Total	Total %
Female	124	31.8%	54	13.8%	3	0.8%	181	46.4%
Male	2	0.5%	206	52.8%	1	0.3%	209	53.6%
Totals	126	32.3%	260	66.7%	4	1.0%	390	100.0%

Table 4 Household Type Representation

7.1.1 Head of Household Profile

This section describes the households and their socioeconomic status, including sex, age, education levels, household assets and income sources.

Proportions of female respondents and male respondents were fairly similar across the two districts. In Dowa, 55.4% of the respondents were male, while 44.6% were female. Similarly, in Ntchisi, male respondents constituted 51.4% of respondents and females made up the remaining 48.6%.

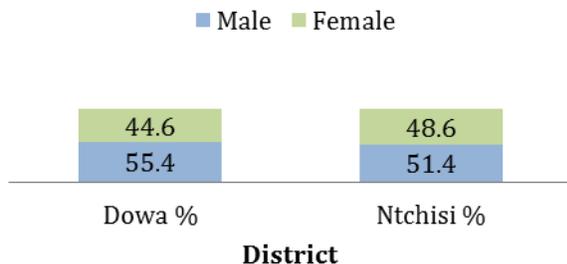


Figure 2 Respondent Sexes across Districts

In terms of age, average ages of respondents were very similar for both genders across household type and district. The average FHH respondent age was 48 years old while the average age of the MHH respondent was 42. Moreover, the average respondent ages for Dowa and Ntchisi were, respectively, 43 years old and 44 years old.

The marital status of respondents greatly differed based on the type of household. Only 19% of the respondents living in a FHH identified as married while 98.8% of respondents living in a MHH articulated that they were married. Furthermore, nearly 40% of FHH respondents expressed that they were widowed while almost none (0.4%) of the MHH respondents identified as widowers. Similarly, 24.6% of FHH respondents said they were divorced while almost none (0.4%) of MHH respondents also said they were divorced. While there were significant difference in marital status across household types, marital status across the two districts were fairly similar with for instance 69.5% of Dowa respondents identifying as married and likewise with 75.7% of Ntchisi respondents.

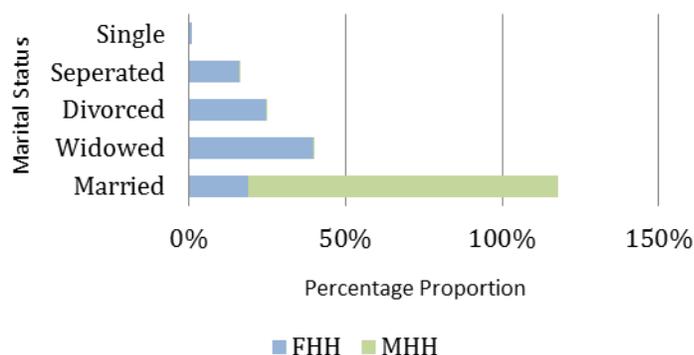


Figure 3 Marital Statuses by Type of Household

In terms of household religion, almost all (98.5%) of the respondents identified themselves as Christian. In regards to household¹² sizes, the average household size of all respondents was 5.4 members. There was a slightly higher average amongst MHHs at 5.8 while FHHs registered an average household size of 5.2 members.

Education levels also differed based on household type. Around 24% of FHH respondents expressed that they had received no schooling while 12.6% of MHH respondents also said that they had never been to school. Conversely, almost identical number of FHH and MHH respondents (69%) had completed primary school. Completion rates differed at the secondary level, as only 5.6% of FHH had completed secondary school while nearly 18.0% of MHH had in fact completely secondary school. However, there were no major discrepancies in education levels across the two districts. In both districts, nearly 16% had had no schooling, around 68% had completed primary school and about 15% had completed secondary school.

In regards to education level of the most educated household member, rates were also fairly similar, with primary school being the highest level of education as expressed by 65.1% of FHH and 56.7% of MHH as shown in Figure 4 below. Additionally, across the two districts and household types, a large proportion of respondents (76.7%) stated that their school age children in the household were attending school.

¹² A household is defined by a dwelling unit in which a given number to related persons reside

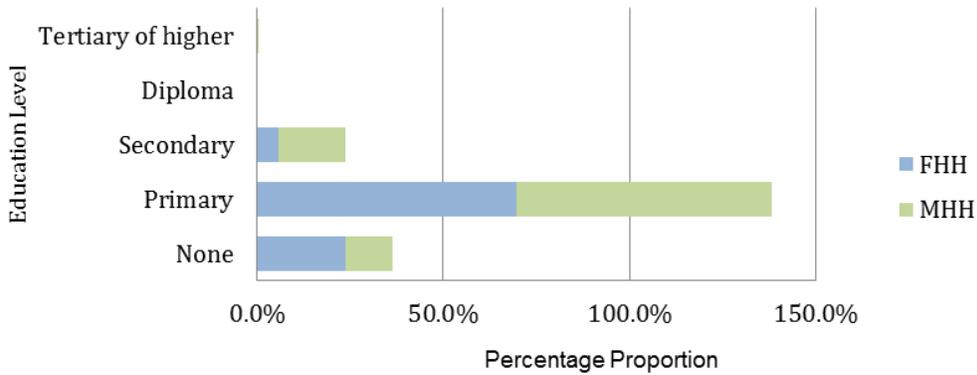


Figure 4 Highest Level of Household Education by Household Type

The household questionnaires demonstrated that there were some differences in roofing types based on household type and across the districts. 84.9% of FHH respondents stated that their roofs were made out of grass thatch while only 58.8% of MHH respondents provided the same answer. However, more MHH respondents (38.8%) indicated that their roofs were built with iron sheets as opposed to only 15.1% of FHH providing the same answer. Additionally, there were some noteworthy differences across the two districts. Nearly 74% of Dowa respondents have roofs made out of grass thatch while about 59% of Ntchisi respondents have similar roofs. Furthermore, a higher proportion of Ntchisi respondents (38%) have iron sheet roofs as opposed to 25% of Dowa respondents having that type of roof.

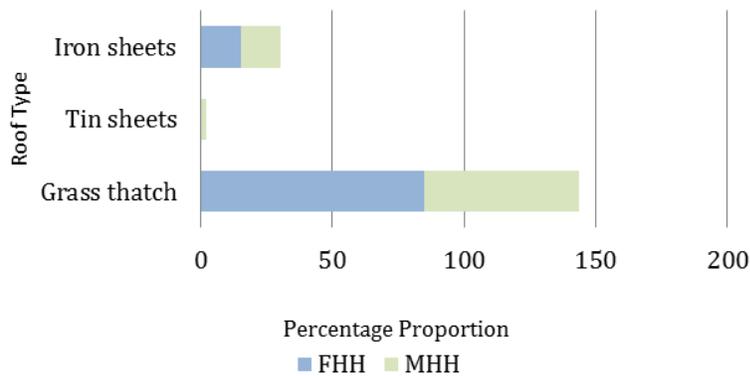


Figure 5 Household Roof Type by Household Type

Similarly to roofing types, materials utilized for household walls also differed across household types. 50% of MHH respondents live in households made from burnt bricks while only 25% of FHH respondents live in similar houses. Houses made from mud bricks seemed more common among FHH with nearly 43% for FHH and 27% for MHH. There is no significant difference in materials used for households across the two districts.

In terms of toilet types, there were no major differences across household types or across districts. However, there is a significant divide in the types of toilet used by the respondents. 84% of all respondents noted that they use a pit latrine without slab and the remaining 12% use pit latrine with slab.

While the majority of respondents, provided similar answers in regards to their households' main source of water, there were significant differences across the two districts. 62% of Dowa respondents have access to water through hand pump/borehole while 84% of Ntchisi district have similar access to water. Nearly 19% of Dowa respondents use dug well as a water source, but only 5% of Ntchisi respondents resort to dug wells. Similar percentages are shown for using river/pond/streams as a water source across the two districts respectively.

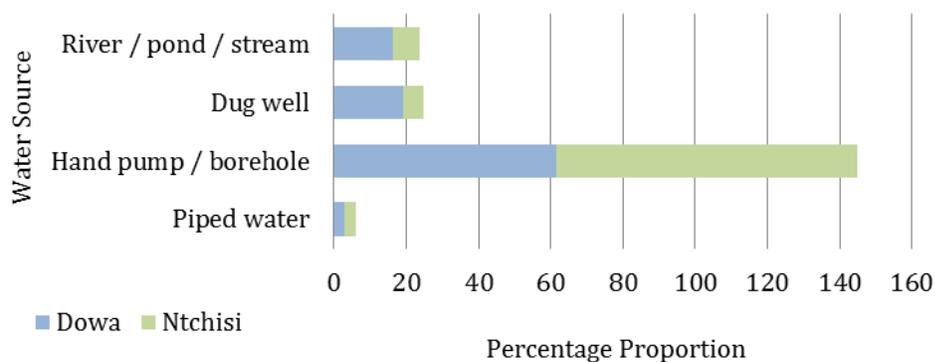


Figure 6 Source of Water by District

Although there was not much variation in terms of distances to the main source of water from household across the types of household, there were some differences across the two districts. Overall, across the FHH and MHH respondents, the majority (48%) noted that their water source is located at the community point, 20% have access to water less than 2km away, 14% have access to water within the premise, and the remaining 11% accesses water through neighbours premise. Over half of the Ntchisi respondents (57%) expressed that they have to reach the community point to access water, while a little over 41% of Dowa respondents provided the same answer.

Very similar results over ownership of household items—such as radio, mobile phone, sofa, bed, solar panel, plough, bicycle, etc.—were found across the two districts. However, there were significant discrepancies in ownership of such items between female headed households and male headed households respondents. As shown in the table below, nearly 45% of MHH respondents own a radio whereas only 10% of FHH respondents do. Similar findings are shown for mobile phones, with 40% of MHH respondents and only 10% of FHH respondents living in a household that has a mobile phone. Similar findings in the FinScope 2014 Consumer Survey¹³ indicate that 54% of households in Malawi own a mobile phone. Moreover, 23% of MHH respondents indicated owning a bed whereas a mere 3% of FHH provided the same answer. The data shows very similar differences for mattress, storage barn for animals, storage barn for food/fodder, ox-cart, and hoe. The largest incongruity was over ownership of a bicycle, with over 40% of MHH respondents owning a bicycle and just about 6% of FHH respondents noting that they live in a household equipped with a bicycle. In regards to asset ownership based on the Figure 7 below, FHHs were significantly more asset poor than MHHs.

¹³ <http://www.finmark.org.za/publication/media-release-finscope-consumer-survey-malawi-2014>

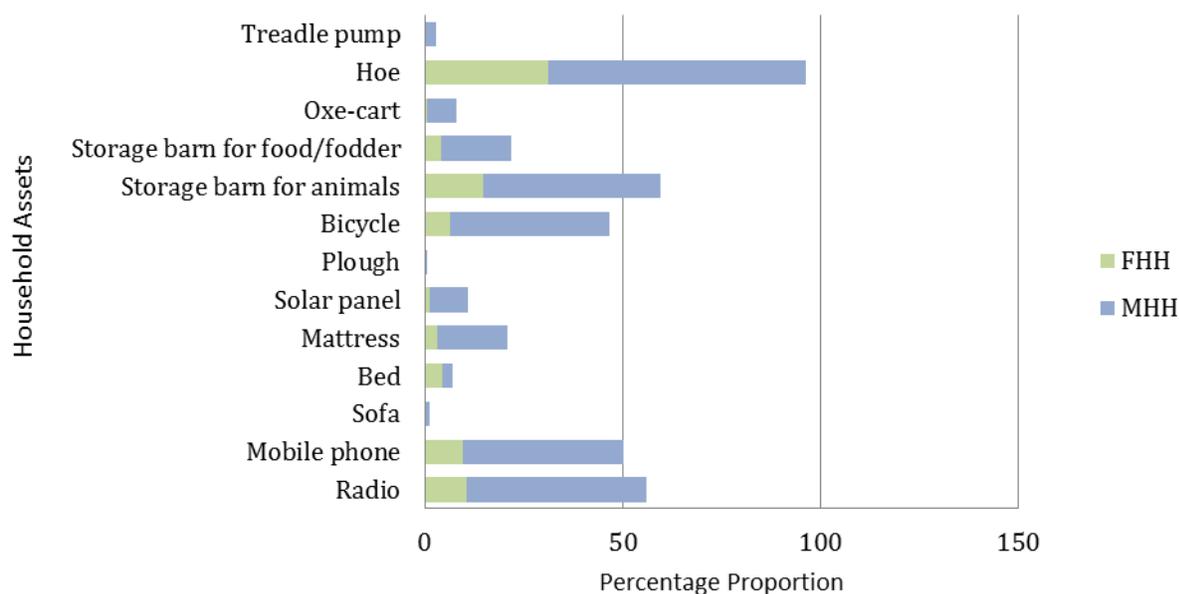


Figure 7 Household Item Owned by Household Type

In regards to income generation, 81.5% of all respondents listed crop farming as their main source of income. This is further corroborated by details provided by both sexes during the FGDs. Additionally, 7.9% of households indicated livestock farming as their main source of income. Nearly 47.2% of the 326 respondents reported livestock farming as their second main source of income and 28.9% of 149 households with a third main income source listed livestock farming as their third main income source. Respondent’s answers echoed each other over the two districts, but differed slightly between FHH respondents and MHH respondents as more MHH seemed to be involved in crop farming than livestock farming.

Furthermore, the approximate value of 3 main sources of income in the last 12 months greatly differed between FHH respondents and MHH respondents. The average annual income¹⁴ for all households was reported to be MK197,038 while the median value was MK 90,000; for FHH the average annual income was reported to be MK82,745 with a median value of MK46,000; and the average annual income for MHH was reported to be MK251,872 with a median value of MK125,000.

2.8 What is the approximate value of your 3 main sources of income in the last 12 months?	Type of Household			
	FHH (MK)	MHH (MK)	Unspecified (MK)	Total (MK)
Average	82,745	251,872	245,625	197,038
Median	46,000	125,000	140,750	90,000
Min	5,000	4,000	55,000	61,113
Max	1,200,000	5,720,000	646,000	5,720,000
<i>n</i> =	125	257	4	386

Table 5 Total Value of 3 Main Income Sources

¹⁴ Annual income is referring to the value of households 3 main income sources

3.2 Livestock Practices

3.2.1 Livestock Ownership

3.2.1.1 Chickens

The vast majority (79.5%) of households interviewed reported that they owned chickens, and the majority of which were reported to be of local breed. Only 32.9% of FHH were in ownership of chickens, while the majority (66.5%) of MHH owned chickens. There were also slightly more households in Dowa (52.9%) that were found to own chickens in comparison to Ntchisi (47.1%). Of all households that reported that they owned chickens, 222 of these households also reported that they also owned goats. This indicates that 56.9% of all households were in ownership of both goats and chickens. A very small percentage of all households (6.9%) was identified to be in ownership of chickens, goats and cattle.

In terms of ownership by household, there were twice as many MHHs that indicated that their household owned chickens in comparison to that of FHHs. On average, MHHs owned 10.5 chickens while FHHs owned 7.5 chickens. Additionally, on average across all households, each household owned about 9.6 chickens where the median number owned was 8. Households reported owning as few as one chicken while some households reported owning as many as 55.

89.7% of chicken owners primarily acquired their chickens through purchase, while 8.1% received them as a gift.

An alarming rate of chicken owners (56.1%) reported that they house their chickens in their main dwelling units. Moreover, 34.5% indicated that they house their chickens in deep litter kholas. Livestock focus group discussion participants reinforced these statistics. Some indicated that they keep chickens in their dwelling houses, where the warmth enables chickens to lay more eggs, while some participants reported that the chickens are kept in pens.

The mortality rate¹⁵ of chickens, for all chicken owners across both districts over the past 12 months, was determined to be 571.8 per 1,000 chickens. The breeding rate for chickens was established to be 1,099 per 1,000 chickens. Of the 133 households that experience death of their chickens in the last 12 months, the majority of them (62.9%) indicated that their chicken died from disease and parasites. The second primary cause of death was reported to be predation at 16.9%.

Additionally, in terms of chicken ownership, 98.8% of the 244 respondents, who produced chickens in the past 12 months, indicated that their chickens were produced through natural breeding. Only 1.2% indicated that they bred their chickens purposefully.

Chicken Ownership Numbers of Households	Type of Household			
	FHH	MHH	Unspecified	Total
Average	7.5	10.5	11.0	9.6
Median	6	9	11	8
Min	1	1	8	1
Max	55	50	14	55

n= 102 206 2 310

Table 6 Chicken Ownership by Household Type

Households in Ntchisi owned slightly higher numbers of chicken on average than Dowa; 11.4 compared to 7.9 respectively.

¹⁵ Crude mortality rate - all the deaths that occurred during a particular time period and dividing that number by the total size of the population during the same time frame.

Chicken Ownership Numbers of Households	District		
	Dowa	Ntchisi	Total
Average	7.9	11.4	9.6
Median	7	10	8
Min	1	1	1
Max	55	50	55
<i>n</i> =	164	146	310

Table 7 Chicken Ownership by District

3.2.1.2 Goats

After chickens, goats were the next most common type of livestock owned. 302 (77.4%) households reported that they owned goats. Similarly to chickens, the majority (96.0%) were reported to be local. In all instances, respondents were not able to identify the species names of exotic cross breeds. Goat owners predominantly indicated that they house their goats in deep litter kholas (51.1%) and the others equally indicated that they primarily house them in their dwelling units (21.8%) and in raised kholas (21.5%).

On average, 4.6 goats were identified to be owned by each household with 4 being the median ownership number. There was not a significant variance in average ownership between household types or by districts. The majority of goat owners indicated that they originally acquired their goats through purchase (81.1%), while a small proportion (8.3%) acquired them from NGOs.

The mortality rate for goats was determined to be 231.5 per 1,000 goats over the course of the past 12 months. The breeding rate for goats was established to be 455 per 1,000 goats last year. Of the 133 households who reported that at least 1 goat died within the last year, 48.0% reported that their goats primarily died of disease and parasites while 15.1% further indicated that predation was a leading cause of death for their goats.

Similarly to chicken production, the vast majority (99.5%), indicated that their goats bred naturally in the last 12 months.

Goat Ownership Numbers of Households	Type of Household			
	FHH	MHH	Unspecified	Total
Average	4.4	4.7	4.3	4.6
Median	4	4	4	4
Min	1	1	3	1
Max	20	25	7	25
<i>n</i> =	86	212	4	302

Table 8 Goat Ownership by Household Type

Goat Ownership Numbers of Households	District		
	Dowa	Ntchisi	Total
Average	4.5	4.8	4.6
Median	4	3	4
Min	1	1	1
Max	21	25	25
<i>n</i> =	171	131	302

Table 9 Goat Ownership by District

3.2.1.3 Cattle

With cattle being the most expensive type of livestock found in the two districts, it's not surprising that only 8.2% of households indicated that they own cattle. Households that own cattle were also found to predominantly own goats (96.9%) and chickens (87.5%). On average, households were found to be in possession of 4.8 cattle, with 3 being the median number owned. MHHs owned slightly more cattle on average (5.2), while FHHs owned 3.6 cattle on average. Between districts, there was a larger discrepancy in regards to average cattle owned per household. Dowa registered 7.9 on average while Ntchisi registered 3.5. It should be noted that there was one household in Dowa who reported that they owned 40 cattle, slightly titling the average upwards. . Furthermore, according to both district gender officers, it is quite common for women to own small stock such as goats and chickens, while the men are usually the ones who own bigger stock such as cattle.

Cattle Ownership Numbers of Households	District		
	Dowa	Ntchisi	Total
Average	7.9	3.5	4.8
Median	4	3	3
Min	1	1	1
Max	40	11	40
<i>n</i> =	9	23	32

Table 10 Cattle Ownership by District

Cattle Ownership Numbers of Households	Type of Household			
	FHH	MHH	Unspecified	Total
Average	3.6	5.2	2.0	4.8
Median	3	3	2	3
Min	1	1	2	1
Max	7	40	2	40
<i>n</i> =	7	24	1	32

Table 11 Cattle Ownership by Household Type

Of these households, 71.9% reported that they house them in deep litter kholas. As shown Table 12 below, 67.7% of households reported that they primarily acquired the majority of their cattle through purchase, while 22.6% acquired them through an NGO.

5.2 How did you originally acquire the majority of Cattle?		Type of Household			
		FHH %	MHH %	Unspecified%	Total %
Purchased	01	71.4	66.7	0.0	67.7
Received from NGO	02	14.3	25.0	0.0	22.6
Received as a gift	03	0.0	0.0	0.0	0.0
Inherited	04	14.3	8.3	0.0	9.7
Government	05	0.0	0.0	0.0	0.0
Other	06	0.0	0.0	0.0	0.0
Other	07	0.0	0.0	0.0	0.0
No response	99	0.0	0.0	0.0	0.0
Total		100.0	100.0	0.0	100.0
<i>n</i> =		7	24	0	31

Table 12 Cattle Acquisition by Household Type

3.2.1.4 Sheep, Pigs, Guinea Fowls, Ducks, Rabbits and Pigeons

A mere 1.3% of households indicated that they owned sheep, all of which were owned by MHHs in Dowa. 15.1% of households were identified to be pig owners. MHHs owned on average 4.2 pigs, 1 pig on average more than FHHs. 3.1% reported they owned pigeons, 2.6% of households reported that they owned guinea fowls, 1.0% reported they owned ducks, and an even smaller proportion (0.3%) reported that they owned rabbits.

As few households were in ownership of sheep, pigs, guinea fowls and other small livestock, the majority of households in Dowa primarily owned goats and chickens.

3.2.2 Livestock Nutrition

56.3% of those that own cattle reported that they feed them through grazing and 28.1% provide them with fodder. It is primarily the male heads of households together with their spouses and the female heads of households who are responsible for making decisions regarding what to feed cattle. In both household types, it is the men primarily responsible for feeding the cattle.

Similarly to cattle, goats are also primarily (73.8%) fed through, grazing while an additional 21.9% indicated they feed their goats another unspecified type of food. Men tend to make decisions as to what to feed goats while women are primarily responsible for feeding them. A large proportion of livestock FDG participants also added that they often feed maize bran to their goats and reiterated the fact that women are responsible for feeding the livestock.

Chickens were reported to be primarily fed "Others", which the majority of respondents selecting this option specified "other" as maize bran. With chickens being a smaller, less costly type of livestock, women were more likely to be involved in the decision making of what to feed chickens. Similarly with goats, women were also primarily (72.2%) responsible for feeding chicken. Overall, women were also identified to having the responsibility for feeding goats. While 37.5% of women in MHH were responsible for feeding goats, Table 13 below shows that men within this household type were primarily responsible for feeding goats. With 73.8% of goat owners indicating that they primarily feed their goats through grazing, men would likely have the responsibility of feeding goats as women have limited mobility both socially and culturally.

5.17 Who in the household is responsible for; Feeding the livestock? Goats		Type of Household			
		FHH %	MHH %	Unspecified%	Total %
Men	01	10.8	52.4	75.0	41.0
Women	02	84.3	37.5	25.0	50.5
Both	01, 02	4.8	10.1	0.0	8.5
Total		100.0	100.0	100.0	100.0
<i>n=</i>		83	208	4	295

Table 13 Goat Feeding Responsibility by Household Type

In regards to the use of fodder, only 6.2 % of respondents indicated that they grew fodder for their livestock as indicated in the Table 14 below. 28.1% of cattle owners indicated they feed their cattle fodder, while 8.6% of goat owners and 0.3% of chicken owners indicated the same. 6.6% of households in Dowa indicated that they grew fodder for their livestock, while a slight lower percentage in Ntchisi did (5.6%). Of the 24 households that did grow fodder, the majority (91.7%) indicated that they grew Napier grass and 33.3% indicated that they grew Rhodes grass. Of those that grew Napier grass, they indicated on average that they planted on 1.1ha, while those that grew Rhodes grass indicated that they planted on 1.0ha.

5.7 Do you grow fodder for your livestock?		Type of Household			
		FHH %	MHH %	Unspecified%	Total %
Yes	01	0.8	8.8	0.0	6.2
No	02	99.2	91.2	100.0	93.8
No response	99	0.0	0.0	0.0	0.0
Total		100.0	100.0	100.0	100.0
<i>n=</i>		126	260	4	390

Table 14 Fodder Growth by Household Type

5.7 Do you grow fodder for your livestock?		District		
		Dowa %	Ntchisi %	Total %
Yes	01	6.6	5.6	6.2
No	02	93.4	94.4	93.8
No response	99	0.0	0.0	0.0
Total		100.0	100.0	100.0
<i>n=</i>		213	177	390

Table 15 Fodder Growth by District

With high numbers of livestock owners using grazing--73.8% of cattle owners and 56.3% of goat owners--it can be said that low-cost feeding of livestock is prominent in the two districts. This is also apparent amongst chicken owners who predominantly fed their chickens "Others" (48.7%) where "others" was commonly reported to be maize bran.

3.2.3 Veterinary Services

As shown in Table 16 below, 61.3% of all respondents indicated that veterinary services were available to them. A larger proportion of male respondents, by seven percentage points, indicated that they have readily available access in comparison to their female counterparts.

5.14 Are veterinary services readily available to you?		Respondent Sex		
		Female %	Male %	Total %
Yes	01	57.5	64.6	61.3
No	02	42.5	35.4	38.7
No response	99	0.0	0.0	0.0
Total		100.0	100.0	100.0
<i>n=</i>		181	209	390

Table 16 Veterinary Accessibility by Respondent Sex

Veterinary services in the two districts are commonly provided by Assistant Veterinary Officers (AVOs) in each EPA, who operate under district agriculture offices in each district. While it was reported that there should be an AVO in each section, this was not the case as reported by one of Dowa's AVO. AVOs predominantly provide vaccinations, treatment, diagnosis and advisory services on husbandry practices to livestock owners. The primary services offered to goats and chickens in both district was reported to be vaccination and the deworming as reported by the AVOs interviewed in both districts.

As it was reported that there is a shortage of AVOs, challenges are presented to livestock owners to access such services, as there is not adequate supply for the increasing demand for veterinary services. Most livestock owners were reported to visit the AVOs for treatment, except in cases where the AVOs are conducting vaccinations such as Newcastle disease for chickens. In these instances, the AVOs organize a meeting point in which livestock owners are to bring their livestock for vaccinations. A common meeting place is the district agriculture office. As indicated in Table 17 below, Newcastle disease was reported to be

a common disease amongst chickens in Malawi which appears 2-3 times a year which kills many chickens within a few days or a week. It is spread directly by contact between sick chickens and healthy chickens but is easily preventable through vaccination.

Species	Diseases	Treatment	Adequacy	Service Providers
Chickens	Newcastle disease (usually during dry season but can be all seasons)	Vaccination	Adequate where a project operate, medium where Government promotes	NGOs, Government, CAHW
	Fleas, prevalent during dry season and main killer of chicks	Dusting resting places, application of tick greeze, use of traditional practices	Not usually supported	None or few
	Coryza, prevalent during dry season	Vaccinations and antibiotics	Not usually done	
	Worms, usually during rainy season	antihelminths	Not usually done	
Goats	Pneumonia, usually during wet and cold seasons	Antibiotics, vaccine	Not usually done, where called, AVOs treat	AVOs
	Helminthes	Dewormers (antihelminths)	Medium	AVOs
	Liver flukes, usually during wet and cold seasons	Anthelminths	Not usually done	

Table 17 Common Livestock Diseases by Livestock Type

Source: KII, Livestock Specialist - - Dr. T. Gondwe

Fees charged from AVOs for veterinary services were reported to be left to the discretion of the AVO as they have to factor in travel, and as well cover the cost of the vaccination or drugs used.

It was further reported that these services were typically offered to men, due to the distances and difficulty of access from rural areas experienced by livestock owners when travelling to seek treatment for their animals. These were the main challenges noted by the interviewed AVOs in regards to access to veterinary services in rural and remote areas in their districts. It was highlighted by the interviewed AVO from Ntchisi that men primarily have access to these services in comparison to women as the women are discouraged from travelling on their own outside their villages.

In Ntchisi, it was reported that the AVOs operate from dip tanks that are located strategically throughout the district. Livestock owners primarily take their larger livestock, such as goats and cattle, to the dip tanks for the removal of fleas and ticks, while the dip tank also operates as a point in which other livestock can be vaccinated and treated against diseases. There are currently 7 out of 8 operational dip tanks in Ntchisi as follows:

1. Nhuwi (Chipuka EPA)
2. Mpalo (Chikwatula EPA)
3. Kasenga (Chikwatula EPA)
4. Mwera (Kalira EPA)
5. Malomo (Malomo EPA)
6. Malambo (Malomo EPA)
7. Kansuke (Malomo EPA)

There is also a dip tank in Bumphula (Malomo) EPA that is currently not operational.

In Dowa, the interviewed AVO reported that only 3 out of 13 dip tanks were currently functional and in use. These were;

1. Madiga (Chibvala EPA)
2. Chisepo (Chisepp EPA)
3. Chimangamsasa (Nachisaka EPA)

Contrary to Ntchisi, Dowa was reported to have 22 community animal health workers (CAHWs) who serve as assistants to the AVOs. They are primarily disease surveyors and due to their limited skills and qualifications they are limited in their capabilities, and for instance, can only provide simple vaccinations to chickens. Where these CAHWs find areas with diseases, they report back to their AVO who then in turn travel to the identified areas to treat the livestock. There were no CAHWs reported to be working in Ntchisi, rather there was a lead farmer model in use where livestock farmers are trained in animal husbandry practices and in turn are supposed to share their learnings with members of their communities. These lead farmers are unpaid and are trained through partners, such as NGOs, more specifically the Small Livestock Livelihood Programme in Ntchisi. A similar model of lead farmers was also reported to be used in Dowa. However, both AHSPs interviewed strongly emphasized that there is a shortage of animal health service providers in both districts, which proves to be cumbersome as the demand for animal health services is continuously increasing.

Of the 38.7% of respondents who indicated that they do not have veterinary services readily available to them, 38.1% indicated that this was primarily because they didn't know they existed. Other predominant reasons were due to distance and "Other" with the predominant specification from respondents that the veterinary services do not come to them, which could be partially related to distance. Animal Health Service Providers who participated in the key informant interviews also indicated that cost and lack of resources are major challenges to providing health services to livestock in the area.

5.15 If no, what is the main reason why veterinary services are not accessible?		Respondent Sex		
		Female %	Male %	Total %
Cost	01	10.1	11.4	10.8
Distance	02	15.9	28.6	22.3
Don't know they exist	03	47.8	28.6	38.1
Other	04	26.1	31.4	28.8
No response	99	0.0	0.0	0.0
Total		100.0	100.0	100.0
<i>n=</i>		69	70	139

Table 18 Veterinary Inaccessibility by Respondent Sex

The use of formal¹⁶ veterinary services to treat sick livestock is highest with households that own cattle (62.5%) and second with chicken owners (52.3%); 34.4% of goat owners indicated that they use formal veterinary services to treat their goats when they are sick while the majority (52.3%) opt not to use any health measures to treat their sick goats. Formal veterinary services are also quite commonly used by all livestock owners to prevent livestock sickness. 43.3% of cattle owners, 42.7% of goat owners, and 37.9% of chicken owners reported that they use formal veterinary services to prevent livestock sickness.

It is apparent that the head of households primarily decide what health measures to undertake for their livestock. Across all FGDs, most respondents corroborated that it is men that primarily make decision regarding veterinary care and are the ones who take the animals to the vet. Although FHH heads hold the decision making in regards to animal health measures, it is still male relations who take livestock to the vet due to cultural reasons that limit women's physical mobility. This sentiment was also validated by the animal health service providers for the same reason. While it is quite rare in MHHs to find instances where significant proportions of spouses solely held decision making power in this regard, men exclusively aren't left to decide the health measures required for livestock. 47.7% , 33.5% and 23.2% of cattle, goat and chicken heads of households in MHHs, together with their spouses, made decisions on what health measures to undertake for each livestock respectively. Respondents in the women-only gender FGD remarked that women are more knowledgeable on when to seek out veterinary assistance for their animals as they are more aware of their needs due to the fact that they are the ones looking after the animals on a day to day basis.

In terms of formal veterinary services, there is typically one Assistant Veterinary Officer (AVO) per EPA, as noted above, so accessing these services largely depends on where the AVOs and dip tanks are placed. As per details retried from the animal health service provider KIIs, it is fairly easy to have access to the AVO's services unless a village is quite remote. People generally travel by foot, motorcycle to bicycle with their livestock to access treatment from AVO's. It is mostly only in instances where animals are very sick that people are unable to travel to receive treatment for their livestock.

Generally, the animal health service provider provides diagnosis, vaccinations and treatment for chickens and deworming and vaccinations for goats. These same providers indicated that their lack of provided transport and training limits them from providing more health services to their surrounding communities. The availability of drugs and their related price were also mentioned by the animal health service providers as challenges faced by local livestock farmers when accessing livestock health services.

With the increasing rate of livestock ownership in the two districts, the AVOs indicated that there is a very high demand for animal health service provision and as such, more animal health service providers will be required to operate in these communities.

With climate change, substantial shifts in diseases distribution may occur, and outbreaks of severe diseases could take place in previously unexposed animal populations. While livestock often have evolved genetic resistance to diseases to which they are commonly exposed, they may be highly susceptible to new diseases. In addition, climate change may increase stress on livestock—such as heat and water shortage-- that reduces their resistance to diseases.¹⁷ These reasons combined with the current lack of animal health services provided to households in the two districts, make it imperative that the program trains para-vets to ensure that adequate levels of veterinary services match, not only the demand required with the increasing numbers of livestock in the two districts, but to also aid in mitigating the potential outbreaks of disease amongst livestock. This will help bolster the resilience of livestock production amongst livestock producing households.

¹⁶ Formal veterinary services refer to services offered other than traditional ethno-veterinary services. This includes private and government let through Assistant Veterinary Officers and District Livestock Officers.

¹⁷ <http://www.atpsnet.org/Files/rps14.pdf>

3.2.4 Livestock Markets

3.2.4.1 Livestock by-product Production

Of the 32 households who own cattle, 9 (28.1%) reported that they produced cow milk in the last 12 months from October 2013 to September 2014. On average, the amount of milk produced by each of the 9 households was 990.0L. This average was slightly on the higher side as one household reported to have produced 1,200.0L while the median value of production was only 100.0L. The median volume of cow milk produced by households in the two districts is 66.0L. No households reported that their goats produced milk in the last 12 months. This is not as uncommon of an occurrence as goat milk is not common in Malawi.

87.1% of the households that own chickens reported that they produced chicken eggs in the last 12 months. These eggs were produced primarily (99.6%) from local chickens. On average, MHHs (119.8 per households) produced significantly more eggs than FHHs who on average produced 69.4 eggs in the last 12 months.

3.2.4.2 Livestock consumption¹⁸

In the last 12 months, 21.8% households that owned goats indicated that they consumed at least one of their goats. A total of 96 goats were consumed by 66 of the 302 households that owned goats. Of those households that consumed goats in the last 12 months, on average 1.5 goats were consumed. Between household type and per district, consumption rates were comparable.

6.2 Number of Goats consumed in the last 12 months	Type of Household			
	FHH	MHH	Unspecified	Total
Average	1.1	1.5	4.0	1.5
Min	1	1	1	1
Max	2	4	1	4
<i>n</i> =	16	49	1	66

Table 19 Goat Consumption by Type of Household

64.5% of households who owned chicken reported to have consumed on average 4.8 chickens in the last 12 months. MHHs consumed on average one more chicken than FHHs. Households in Ntchisi on average consumed 5.3 chickens in the last 12 months, and on average one additional chicken than households in Dowa.

6.2 Number of Chickens consumed in the last months	Type of Household			
	FHH	MHH	Unspecified	Total
Average	4.1	5.1	3.5	4.8
Min	1	1	3	1
Max	26	62	4	62
<i>n</i> =	60	138	2	200

Table 20 Chicken Consumption by Type of Household

¹⁸ Consumption from household herd/flock rather than from purchase

3.2.4.3 Livestock sales¹⁹

158 households or 52.3% of those that own goats reported to have sold at least one of their goats in the last 12 months. On average 1.9 goats were sold per household. The median number of goats sold per households was 2. Averages sales for goats were similar amongst each household type and within each district. Of all prices registered for goat owners last year who sold at least one goat, the average sale price per goat across all months was established to be MK13,539.17²⁰.

117 households, or 33.7% of households, who own chickens reported to have sold at least one chicken in the last 12 months. 4.2 chickens were sold on average by each of the 117 households, and the median number of chickens sold was 3.

As it was anticipated that most households would not be able to recall details of all their livestock sales in the last 12 months, they were asked to provide information on their last two sales over the same period. These last two sales have been used to characterise their sales patterns from October 2013 to September 2014. This assumption was corroborated by the fact that only 6.7% of households indicated that they kept records of their livestock practices. There was a higher proportion of MHHs (8.5%) who reported to keep records of their livestock production in comparison to FHHs where only 3.1% reported that they kept records.

Of goat sellers who indicated that they had at least one sale last year, 94.2% of them indicated that they sold their goats live and the other 5% indicated that they sold their goats as meat. The primary reasons provided for selling goats was primarily to purchase farm inputs (29.5%) and to purchase food (28.2%). As illustrated in Table 21 below, slightly higher proportions of households in Dowa reported to have sold their goats to buy farm inputs and to buy food than those in Ntchisi. Across all livestock FGDs, participants echoed these statistics, as they indicated that they mostly sold their livestock in order to buy food, buy fertilizer, and pay for school fees.

6.4 If you sold goats, please tell me more about your last 2 sales over the last 12 months. 1st Goat Sale: Main selling reason	District		
	Dowa %	Ntchisi %	Total %
To buy food	30.1	26.0	28.2
To buy farm inputs	32.5	26.0	29.5
School fees	13.3	13.7	13.5
To buy clothes	3.6	6.8	5.1
Other	20.5	27.4	23.7
Total	100.0	100.0	100.0

n= 83 73 156

Table 21 Main Goat Selling Reasons by District

Households that sold goats primarily reported that they sold their goats to middlemen (32.3%) and to butchers (27.7%). There were a significant higher proportion of households in Dowa (40.7%) who indicated that they sold their goats to middlemen in comparison to households in Ntchisi, where only 23.0% indicated that they sold their goats to middlemen. More households in Ntchisi opted to sell their goats at an area market than those in Dowa.

¹⁹ As we did not believe respondents would be able to recall sales information about all sales in the last 12 months, we asked them about their most recent sales. Analysis regarding sales is based off of the 1st Goat and 1st Chicken sales in Q6.4 in the Household Questionnaire.

²⁰ Averages were taken for each month and then all monthly averages were averaged to obtain this average value. Sales figures were obtained from question 6.4 in the household questionnaire.

6.4 If you sold goats, please tell me more about your last 2 sales over the last 12 months. 1st Goat Sale: Selling place		District		
		Dowa %	Ntchisi %	Total %
At area market	01	12.3	25.7	18.7
To fellow farmers	02	16.0	16.2	16.1
To middlemen	03	40.7	23.0	32.3
To butchery	04	25.9	29.7	27.7
Other	05	4.9	5.4	5.2
Total		100.0	100.0	100.0

n= 81 74 155

Table 22 Main Goat Selling Place by District

Similarly to those who indicated they had at least one goat sale in the last 12 months, the majority of households who had chicken sales (98.3%) reported that they sold their chicken live. A slightly higher percentage of households sold their chickens to purchase food (48.3%) than those who sold goats in one of their last sales. Of all prices registered for chicken owners last year who sold at least one chicken, the average price sold for per chicken across all months was established to be MK1,645.40²¹.

When asked more specifically on details of the main market in which households sell all forms of livestock, the majority (79.9%) of household indicated that they sold their livestock to vendors. A producer group chairman indicated the same, and that the primary reason for selling live was that it does not involve any processing. Of the households that reported selling their livestock to vendors, 32.5% indicated that these vendors come to their households to purchase the livestock. There is a higher prevalence of vendors purchasing livestock at the homes of livestock owners in Dowa (66.0%) than in Ntchisi (34.0%). Other areas in which those that sell to vendors market their animals are Chezi Trading Centre (9.2%) in Dowa, Madisi (8.6%) in Dowa, Malomo (4.3%) in Ntchisi, Ntchisi Trading Centre (4.3%), Mponela Trading Centre (3.7%) in Dowa and Ntchisi Boma (3.7%).

Additionally, livestock FDG participants indicated that they sold to vendors because they had no other options as access to markets can be limited.

6.5 What are the main markets you use for Livestock Outputs? Market Type		Type of Household			
		FHH %	MHH %	Unspecified%	Total %
Auction	01	1.7	2.1	0.0	2.0
Village market	02	13.8	12.5	0.0	12.7
Vendor	03	77.6	80.6	100.0	79.9
Shop	04	1.7	3.5	0.0	2.9
Bus terminal	05	1.7	0.0	0.0	0.5
Other	06	3.4	1.4	0.0	2.0
Total		100.0	100.0	100.0	100.0

n= 58 144 2 204

Table 23 Output Market Type by Head of Household

Of households who indicated they sell livestock, the majority (76.5%) indicated that they travel to the respective markets by foot. Distances travelled by foot range from 0.1 to 24km with 2km being the median distance travelled. 59.8% of households who sell livestock indicated that they do so on a seasonal basis as opposed to on daily, weekly, monthly or yearly basis.

²¹ Averages were taken for each month and then all monthly averages were averaged to obtain this average value. Sales figures were obtained from question 6.4 in the household questionnaire.

With a significant proportion of goat (32.3%) and chicken (37.1%) owners who had one chicken sale last year reporting that they sold their livestock to middlemen, and through further analysis, 79.9% of livestock sellers reporting to have sold their livestock to vendors. Additionally, the market for livestock in both districts is primarily informal as the next most common market place reported for livestock was in village markets (12.8%). While many of these vendors were reported to have been purchasing directly from the homes of livestock owners, they are more likely to be susceptible to unfair market practices, such as below market prices, from these vendors.

3.3 Savings and Credit Capacity

Finmark Trust recently released the 2014 FinScope Consumer Malawi Survey to measure the current levels of financial inclusion within the country. As a result of public and private sector initiatives to improve access to financial services, financial inclusion rates have gone up from 45% in 2008 to 54% in 2014. Additionally, the banked population has increased by 14% over the past 5 years. However, only 11% of adults in Malawi rely solely on banking services. Furthermore, borrowing rates through formal channels have slightly decreased. This could be due to a myriad of reasons, both from the demand and supply side, exemplified through 49% of those not borrowing as they fear debt.

Conversely, other formal credit providers such as MFIs have steadily increased in regards to the number of people having access to financial services. The data demonstrates that 276,366 are currently borrowing from these channels. Moreover, 400,000 more respondents indicated that they have previously borrowed money from MFIs. The majority however tend to borrow from VSLAs, which is an attempt to overcome the difficulties of offering credit to the rural poor by building on a ROSCA (Rotating Savings and Credit Association) model to create groups of people who can pool their savings in order to have a source of lending.

In regards to savings, saving through banks has increasing by 3%, up to 17% since 2008. Additionally, 1.2 million (16%) adults save through VSLA. However, since 2008, borrowing from formal credit providers (banks) has declined from 5% to 1%.²²

Demand for loans in Malawi is highly seasonal, about 80% in rural areas and mostly depend on agriculture. October to January is the peak lending season and with loans becoming due between April and September.

3.3.1 VSLAs

Over half of all respondents (56.4%) expressed that a member of their household has money in a VSLA. A higher percentage of Ntchisi respondents (68%) are involved in a VSLA as opposed to about 46% among respondents found in Dowa. For FHH, 79% of the respondents expressed that the head of the household is the account owner, and 14% of the respondents identified the spouse as the account owner. On the other hand, for MHH respondents, only 24% of the respondents stated that the head of the household is the account owner and nearly 75% identified the spouse as account owner.

With VLSAs being the primary means in which households will save money, it will be beneficial to the project to encourage the uptake of VSLAs as they are most accessible to households in the two districts when comparing them against banks and MFIs who have more restrictive account opening criteria. This is especially important as, across all FGD, the majority of the participants indicated that save their money primarily in VSLAs, as well as borrow loans through the channels as well.

²² http://www.finmark.org.za/wp-content/uploads/pubs/MedRel_FinScopeMalawi_20141.pdf

3.1A Does any member of your household have money in a <u>VSLA</u> ?		Type of Household			
		FHH %	MHH %	Unspecified%	Total %
Yes	01	52.4	58.5	50.0	56.4
No	02	47.6	41.5	50.0	43.6
Total		100.0	100.0	100.0	100.0
<i>n=</i>		126	260	4	390

Table 24 VSLA Account Holders by Type of Household

Of the FHHs who have money in VSLAs, the account value is MK18,589 MK on average whereas it is MK31,665 according to MHHs who have money in VSLAs. Furthermore, a large proportion of FGD participants articulated that they keep their savings in VSLA, as underscored by the high percentage of respondents who also agreed with that statement.

On average across all households, the average values saved in a VSLA was MK27,614, while the median value was MK15,000. Average VSLA account values were slightly higher in Ntchisi at MK36,662 in comparison to Dowa who registered average VSLA account values of MK21,514.

3.1A Specify the VSLA account value		Type of Household			
		FHH (MK)	MHH (MK)	Unspecified (MK)	Total (MK)
Average		18,589	31,665	27,180	27,614
Median		10,000	18,000	27,180	15,000
Min		0	0	9,360	0
Max		250,000	300,000	45,000	300,000
<i>n=</i>		65	145	2	212

Table 25 VSLA Account Value by Type of Household

3.3.2 Banks

Although it seems to be more common for MHH respondents to have a bank account, rates were very low for all respondents across the two districts. Only 6.3% of all FHH respondents expressed that they do had saved money in the bank, while 22.3% of all MHH respondents responded the same. Of those with bank accounts, the majority (85.1%) expressed that the head of household is generally the bank account owner.

3.1A Does any member of your household have money in a <u>Bank</u> ?		Type of Household			
		FHH %	MHH %	Unspecified%	Total %
Yes	01	6.3	22.3	25.0	17.2
No	02	93.7	77.7	75.0	82.8
Total		100.0	100.0	100.0	100.0
<i>n=</i>		126	260	4	390

Table 26 Bank Account Holders by Type of Household

The average bank account value for FHH respondent was MK47,625 with a median of MK16,000 while it was MK60,062 for MHH respondents with a median value of MK22,500. The average across all bank account holders was MK61,113 with a median value of MK24,000. Similarly to VSLAs savings, average bank account values in Ntchisi (MK87,719) were higher than in comparison to Dowa (MK41,805).

3.1A Specify the Bank account value	Type of Household			
	FHH (MK)	MHH (MK)	Unspecified (MK)	Total (MK)
Average	47,625	60,062	230,000	61,113
Median	16,000	22,500	230,000	24,000
Min	1,000	0	230,000	0
Max	250,000	500,000	230,000	500,000
<i>n</i> =	8	58	1	67

Table 27 Bank Account Value by Type of Household

3.3.3 MFIs

An even lower percentage of all respondents expressed having money in an MFI. In total, a mere 1.3% of all respondents have money in an MFI. The sample size of respondents having money in an MFI was too small to make adequate assumptions/inferences in regards to account holder and account values. Additionally, the low prominence of MFIs might be attributed to the difficulty in getting a loan. According to a stakeholder working for an MFI in Dowa, many women are unable to become members as there is a myriad of requirements to be met, including: having collateral, owning a business and being an account holder at a bank, among others.

3.1A Does any member of your household have money in a <u>MFI</u> ?		Type of Household			
		FHH %	MHH %	Unspecified%	Total %
Yes	01	1.6	1.2	0.0	1.3
No	02	98.4	98.8	100.0	98.7
Total		100.0	100.0	100.0	100.0
<i>n</i> =		126	260	4	390

Table 287 MFI Account Holders by Type of Household

3.3.4 Credit

In terms of credit, percentages of respondents having received or used credit at some point were synonymous across household type and district. Nearly 40% of all respondents stated that they had received or used credit in the past. The majority of respondents (58%) identified VSLAs as the source of their most recent line of credit, followed by MFIs as identified by 14% of the respondents, and friends and family according to 8% of respondents. Overall, about 84% of all respondents stated that they had never defaulted on their credit. However, default rates were slightly higher in Ntchisi, with 22% of respondents admitting that they had in fact defaulted on their credit as opposed to 9% of the respondents in Dowa.

3.3 What was the source of your most recently received line of credit?		District		
		Dowa %	Ntchisi %	Total %
Commercial bank	01	4.8	5.2	5.0
Microfinance institution	02	16.9	10.4	13.8
NGO scheme	03	3.6	6.5	5.0
Government institution	04	4.8	6.5	5.6
Cooperative	05	1.2	2.6	1.9
Traders	06	1.2	0.0	0.6
Katapila	07	1.2	1.3	1.3
Friends / Family	08	8.4	6.5	7.5
Village Savings and Loan Associations	09	56.6	61.0	58.8
Other	10	1.2	0.0	0.6
No response	99	0.0	0.0	0.0
Total		100.0	100.0	100.0
<i>n=</i>		83	77	160

Table 29 Credit Source by District

In general, the majority of FHH respondents (35%) received less than MK 5,000 as the most recent amount of credit received, whereas for MHH respondents, the majority (30%) expressed that they received between MK 5,000 – 10,000. Although there were some differences in terms of loan amount received across the household types, no major discrepancies were shown across districts. Furthermore, 79% of all respondents obtained the credit as part of a group. However, it was highlighted during focus group discussions that many of the respondents were unaware of where to get loans, hindering their financial capabilities.

3.5 What was the most recent amount of credit received?		District		
		Dowa %	Ntchisi %	Total %
Less than MK5,000	01	28.9	20.8	25.0
MK5,001 - 10,000	02	34.9	22.1	28.8
MK10,001 - 25,000	03	20.5	26.0	23.1
MK25,001 - 50,000	04	8.4	15.6	11.9
MK50,001 - 100,000	05	4.8	6.5	5.6
More than MK100,000	06	2.4	9.1	5.6
No response	98	0.0	0.0	0.0
Total		100.0	100.0	100.0
<i>n=</i>		83	77	160

Table 30 Credit Value Received by District

Nearly half of FHH respondents (48%) expressed that the credit they received was used for trade and business purposes. On the other hand, the largest proportion of MHH respondents (29%) used the credit received for crop farming purposes. While a significant proportion of respondents also allocated the credit received toward household construction/repairs, children's education and consumable goods, the majority of respondents spent their credit on crop farming and trade/business. Moreover, livestock and gender FDG participants unanimously agreed that with more savings/credit, they would be able to purchase more fertilizer, food, and clothes.

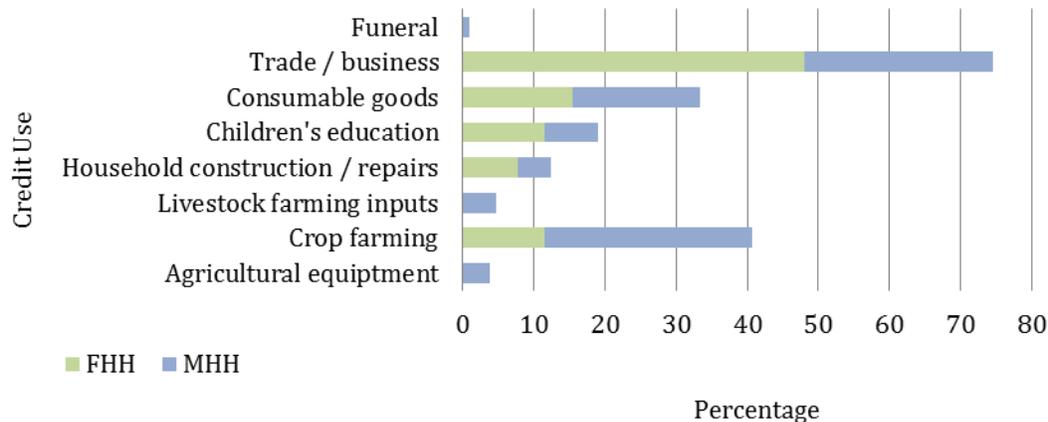


Figure 8 Credit Usage by Type of Household

3.4 Respondent Vulnerability

3.4.1 PPI Index

To ascertain the vulnerability of each household, the Progress out of Poverty Index (PPI) poverty measurement tool was used to calculate the likelihood that each household is living below the poverty line, or above by a narrow margin. 10 specific questions about household characteristics and asset ownership were incorporated into the main household questionnaire that allow a score to be computed to aid in identifying those households who are most likely to be poor or vulnerable to poverty. The PPI index was used because it is inexpensive to collect, easy to answer quickly, simple to verify and strongly correlated with poverty. Additionally, the scorecard can be applied more than once in order to measure changes in poverty rates with a different set of participants.

While the PPI can measure particular households' likelihoods falling under a given poverty line, for the purposes of this study, it can also approximate the poverty level of a group of households at a specific time. The average poverty likelihood amongst a group is the established estimate at a specific time.

Based on the 2004/5 Integrated Household Survey conducted in Malawi, household PPI scores can be compared against Malawi's national²³ poverty line, Malawi's food poverty line, \$1.25/day²⁴ and \$2.50/day poverty lines at 2005 purchasing power parity as shown in Table 31 below. In this section we will primarily be referencing the national poverty line.

²⁴ derived from:

This scorecard was revised in February 2012 based on data from 2004. For more information about the PPI, please visit www.progressoutofpoverty.org

2005 PPP exchange rate for —individual consumption expenditure by households of MWK56.92 per \$1 (World Bank, 2008)

Average all-Malawi Consumer Price Index (CPI) for March 2004 to March 2005 of 178.9152

Average all-Malawi CPI for 2005 of 198.475

The \$2.50/day 2005 PPP line is twice the \$1.25/day line.

PPI Score	National (%)	Food (%)	USAID 'Extreme' (%)	2005 PPP \$1.25/day (%)	2005 PPP \$2.50/day (%)
0-4	100	78.8	78.8	100	100
5-9	95.2	60.2	60.2	100	100
10-14	95.5	63.9	70.9	99.2	100
15-19	88.9	60.2	65.5	97.5	100
20-24	82.5	40.8	48.7	96.3	99.8
25-29	70	30.8	35.8	91.2	99.4
30-34	59.3	20.1	24.5	86.8	99.3
35-39	47.8	12	14.8	77.5	98.7
40-44	36.1	6.6	8.4	67.8	95.5
45-49	25.5	3.5	4.4	56	94.2
50-54	13.4	2	2.7	41.5	90
55-59	7.1	0.9	1.3	24.3	77.4
60-64	3.9	0	0.5	17	68.6
65-69	0.9	0	0	8	50
70-74	0	0	0	5.8	39.4
75-79	2.2	0	0	2.2	29.3
80-84	0	0	0	2.6	26.1
85-89	0	0	0	10.4	19.1
90-94	0	0	0	10.4	19.1
95-100	0	0	0	0	0

Table 31 Malawi PPI Index Score Card

Progress out of Poverty Index®: A Simple Poverty Scorecard for Malawi based on the 2004/5 Integrated Household Survey.

As depicted in Table 31, 58.7% of all households had PPI scores that fell between 40 and 59. The majority of households fell between 50 and 54, 16.0% of those from Dowa and 18.1% of those from Ntchisi. Those falling within the range of 50 and 54 are 13.4% likely to fall below the national poverty line, 2.0% likely to fall below the food poverty line, and 2.7% likely to fall below USAID's extreme poverty line based on data from the 2004/5 Malawi Integrated Household Survey. The PPI scores from each district were quite comparable and across the majority of the PPI score ranges.

The average PPI score for all households was 52, which indicates the same likelihoods as noted above. Dowa and Ntchisi equally register PPI scores of 52 which indicate that households residing in these two districts are 13.4% likely to fall below the national poverty line.

The average PPI for FHHs (57) is slightly higher than that of MHHs (50) which indicates that FHHs in both districts are less vulnerable as higher scores indicate less likelihood of being below a given poverty line.

PPI Score	Dowa	Dowa	Ntchisi	Ntchisi	Total	Total
0-4	0	0.0%	0	0.0%	0	0.0%
5-9	0	0.0%	0	0.0%	0	0.0%
10-14	0	0.0%	0	0.0%	0	0.0%
15-19	0	0.0%	0	0.0%	0	0.0%
20-24	2	0.9%	0	0.0%	2	0.5%
25-29	3	1.4%	4	2.3%	7	1.8%
30-34	9	4.2%	7	4.0%	16	4.1%
35-39	19	8.9%	15	8.5%	34	8.7%
40-44	35	16.4%	27	15.3%	62	15.9%
45-49	29	13.6%	23	13.0%	52	13.3%
50-54	34	16.0%	32	18.1%	66	16.9%
55-59	25	11.7%	24	13.6%	49	12.6%
60-64	15	7.0%	15	8.5%	30	7.7%
65-69	18	8.5%	6	3.4%	24	6.2%
70-74	7	3.3%	13	7.3%	20	5.1%
75-79	14	6.6%	7	4.0%	21	5.4%
80-84	2	0.9%	1	0.6%	3	0.8%
85-89	1	0.5%	3	1.7%	4	1.0%
90-94	0	0.0%	0	0.0%	0	0.0%
95-100	0	0.0%	0	0.0%	0	0.0%

Table 32 PPI Scores by District

3.4.2 Dietary Diversity

Respondents were asked to describe the foods, including meals and snacks) that the household ate or drank during the day and night in order to ascertain their levels of dietary diversity. Across all nine food groups encompassing the dietary diversity aspect of the survey, the average number of food groups consumed by households the day before undergoing the survey was 3.3. This translates into an average household's dietary diversity of 36.7%.

Dietary Diversity	Type of Household			
	FHH (MK)	MHH (MK)	Unspecified (MK)	Total (MK)
Average	3.2	3.4	3.3	3.3
Median	3.0	3.0	3.0	3.0
Min	1	1	2	1
Max	7	7	5	7

n= 125 256 4 385

Table 33 Average Dietary Diversity Scores by Household Type

All households reported that they had consumed foods from the grains roots and tubers food group while significant proportions of households also reported that they has consumed Vitamin A rich green vegetables (76.9%), other Vitamin A rich vegetable (50.4%), legumes and nuts (42.9%) and foods from the flesh foods (30.1%) foods group the day prior to the household interview.

Dietary Diversity: Food groups consumed by households	Type of Household			
	FHH %	MHH %	Unspecified%	Total %
Grains Roots and Tubers	100.0	100.0	100.0	100.0
Other Fruits and Vegetables	16.8	23.4	25.0	21.3
Dairy	3.2	2.7	0.0	2.9
Organ Meats	0.8	1.6	0.0	1.3
Eggs	7.2	4.7	0.0	5.5
Flesh Foods	24.0	33.2	25.0	30.1
Vitamin A Rich Green Vegetables	76.0	77.0	100.0	76.9
Other Vitamin A Rich Vegetables	46.4	52.7	25.0	50.4
Legumes and Nuts	45.6	41.4	50.0	42.9
Total				
<i>n=</i>	125	256	4	385

Table 34 Foods Groups Consumed by Households Type

Food Groups

As shown in Table 35 below, 100% of the 385 respondent households indicated that they had consumed foods falling in the grains roots and tubers group. Nsima was primarily consumed, followed by other foods such as porridge, sweet potatoes and Irish potatoes. With nsima being a major staple in households across both districts, it is necessary that livestock asset production is integrated with maize production to ensure that households are still adequately able to manage the production of their main staple in addition to livestock production.

Food Group: Grains Roots and Tubers		Type of Household			
		FHH %	MHH %	Unspecified%	Total %
Yes	01	100.0	100.0	100.0	100.0
No	02	0.0	0.0	0.0	0.0
Total		100.0	100.0	100.0	100.0
<i>n=</i>		125	256	4	385

Table 35 Grains Roots and Tubers Consumption by Households Type

Most (76.9%) households indicated that they had consumed Vitamin A rich green vegetables and fruit including spinach, rape, and pumpkin leaves. Additionally, 50.4% also consumed other Vitamin A rich fruits and vegetables. While many households indicated that they had consumed Vitamin A rich green vegetables and fruit, only 21.3% of households indicated that they had consumed other fruits and vegetables such as bananas, papayas, oranges, pumpkin and squash. A slightly higher proportion of households in Ntchisi (24.9%) indicated they had consumed foods in this category in the previous day compared to 18.3% from Dowa. An even lower percentage of households (2.9%) indicated that they had consumed dairy products the previous day. Similarly to household dairy consumption, organ meats (1.3%) such as offal's, liver, or kidneys and eggs (5.5%) were reported to be consumed by a very small proportion of households in the two districts.

Food Group: Other Fruits and Vegetables		Type of Household			
		FHH %	MHH %	Unspecified%	Total %
Yes	01	16.8	23.4	25.0	21.3
No	02	83.2	76.6	75.0	78.7
Total		100.0	100.0	100.0	100.0
<i>n=</i>		125	256	4	385

Table 36 Other Fruits and Vegetables Consumption by Households Type

While organ meats were not consumed by many households in the two districts, there were a considerable number of households (30.1%) who indicated that they had consumed flesh foods such as goat, beef, lamb, chicken and fish.

Food Group: Flesh Foods		Type of Household			
		FHH %	MHH %	Unspecified%	Total %
Yes	01	24.0	33.2	25.0	30.1
No	02	76.0	66.8	75.0	69.9
Total		100.0	100.0	100.0	100.0
<i>n=</i>		125	256	4	385

Table 37 Flesh Foods Consumption by Households Type

Slightly less than half (42.9%) of the households indicated that they had consumed foods out of the legume and nuts group. Of those that consumed foods from this category, they primarily indicated that they had consumed groundnuts and beans.

Food Group: Legumes and Nuts		Type of Household			
		FHH %	MHH %	Unspecified%	Total %
Yes	01	45.6	41.4	50.0	42.9
No	02	54.4	58.6	50.0	57.1
Total		100.0	100.0	100.0	100.0
<i>n=</i>		125	256	4	385

Table 38 Legume and Nuts Consumption by Households Type

3.4.3 Months of Adequate HH Food Provisioning

According to the Malawi Humanitarian Report from April 2014, a joint pre-harvest food security assessment conducted in March 2014 indicated that 10 of the 28 districts may face food shortages in 2014/15 as a result of prolonged dry spells and army worm attacks. Food availability at the household level was said to have improved significantly, due to the availability of green harvests and impending crop harvests in most parts of the country. Food security at the household level was expected to remain favorable from April to September 2014 in most districts. However, this was anticipated to be different for areas that were affected by severe dry spells in the beginning of the year. With regard to the 2013/14 response, WFP had extended food distributions in some areas to cover additional food needs due to the late harvests in some districts.²⁵

While the country had registered satisfactory food production at the national level during the 2012/13 growing season, there were problems of food insecurity at the household level in 21 of the districts, including Ntchisi and Dowa, for the projected period of April 2013-March 2014. Several factors had hindered production rates in these districts. Some of these factors revolved around the temperamental nature of rain patterns.

When asked the number of months in which households experience inadequate levels of food provision, all households, on average, indicated that they experienced 1.4 months of inadequate food supply in the past 12 months. Levels of inadequate food supply were experienced more by FHHs who indicated that they experienced 1.8 months of inadequate food supply, while MHHs reported that they experienced on

²⁵ http://www.unicef.org/appeals/files/UNICEF_Malawi_Sitrep4_April_2014.pdf

average 1.2 months of inadequate food supply. On average, households in Dowa experienced 1.5 months of insufficient food supply while households in Ntchisi experienced slightly lower at 1.3 months.

Months of inadequate HH Food Provisioning	Type of Household			
	FHH (MK)	MHH (MK)	Unspecified (MK)	Total (MK)
Average	1.8	1.2	1.0	1.4
Median	1.0	1.0	0.5	1.0
Min	0	0	0	0
Max	12	12	3	12
<i>n</i> =	126	260	4	390

Table 39 Average Months of Inadequate Food Provisioning by Households Type

When asked specifically in which months households experience low food provisions, February was indicated by 77.7% of respondents to be the month in which household food provisions did not adequately meet their needs. This is not an uncommon period in Malawi in which households are food poor as it is during the period referred to as “hunger season”, a period marked by depleted food reserves and high food prices. 28.8% of those who reported February to be a month of inadequate food supply indicated that this was primarily due to high food prices during that month. Secondly, 25.7% of these households indicated high input costs to be a leading cause of the lack of food in their household during the month of February. Moreover, 24.0% also specified others reasons amongst which depleted reserves and low yields from the previous harvest were indicated and main reasons for inadequate food supply in February.

Where any months, in the past 12 months, in which you did not have adequate food to meet your family's needs?	District		
	Dowa %	Ntchisi %	Total %
October 2013	7.8	8.4	8.0
November 2013	10.9	15.8	12.9
December 2013	17.8	24.2	20.5
January 2014	45.0	35.8	41.1
February 2014	77.5	77.9	77.7
March 2014	46.5	58.9	51.8
April 2014	9.2	14.6	11.4
May 2014	3.1	2.1	2.7
June 2014	4.7	1.1	3.1
July 2014	4.7	2.1	3.6
August 2014	9.3	2.1	6.3
September 2014	10.1	4.2	7.6
Total			
<i>n</i> =	129	95	224

Table 40 Months of Inadequate Food Provisioning by District

March and January were the next two months in which households reported to have poor food provisioning. In March, 51.8% of respondents indicate they lacked food during that month, while 41.1% reported that they did in January. Reasons for household provisioning in inadequate food provision in March and January were similar to reasons offered for February. In March, 34.5% indicated high food prices as the primary reason as to why they felt they experienced food shortages while 29.3% of

respondents in January equally reported high foods prices and the high cost of farms inputs as the main reasons why they did not have enough food to meet their family's needs.

Months from April to October were reported as the primary months in which households had adequate food provisioning to meet family needs.

3.5 Producer Groups

When asked if they were a member of a producer group, only 16.7 % of respondents indicated that they were. Higher percentages, approximately 50.0%, of FGD participants in both group types also indicated the lack of livestock and crop producer groups. As the L4R project aims to undertake a community-based approach by working with and through producer groups, challenges might be posed with the small number of producer groups identified. It might be necessary/beneficial to collaborate with the communities to facilitate the creation of additional producer groups, using best practices and lessons learnt from existing groups.

5.18 Are you a member of a producer group?		Type of Household			
		FHH %	MHH %	Unspecified%	Total %
Yes	01	14.3	17.7	25.0	16.7
No	02	85.7	82.3	75.0	83.3
No response	99	0.0	0.0	0.0	0.0
Total		100.0	100.0	100.0	100.0
<i>n=</i>		126	260	4	390

Table 41 Producer Group Membership by Type by Head of Household

Of the 16.7% that indicated they were members of producer groups, they reported that they were members of the following groups;

Dowa Livestock Groups

- Takondwela
- Dzoole
- Katope
- Gulu la Ngómbe
- Msangu
- Tapeka
- TAPP
- Mponela bulking group
- Talandila

Ntchisi Livestock Groups

- Mwera Mkaka
- Red Cross Chikhwakhwa
- Chaola
- Village bank
- Chipwitika
- Sababa
- FASO

Crop Production Groups

- Mkuyu (Ntchisi)
- Village bank (Ntchisi)

Other producer groups indicated in Dowa were: Chimbewa, DAPP, Limbikani, Mphale and Nansoni while other groups indicated in Ntchisi were KOHA and Tikondane. It should be noted that 20.0% of those that indicated that they were members of a group were not able to recall the name of the group at the time of the interview.

In Ntchisi, the chairperson of Kachewle producer group was interviewed. The group doubles as a crop producer group that focuses on Irish potato, production in addition to livestock production for goats and chickens. It was established two and a half years ago under advice from the Government. Similarly, the chairperson of Tempeka, the livestock producer group in Dowa, also indicated that their group was established from a government intervention. Tempeka was established under the Presidential Initiative for Small Livestock. Kachewle’s group female membership comprised of 40% while Tempeka’s had 60% female membership. Women in each group are said to be involved in the decision making processes and strongly encouraged to participate. Both groups are managed by a chairperson with a secretary and a treasurer. Neither chairperson indicated that members were required to pay a fee, however, members of the Kachewe group are encouraged to join a bank khonde where they can save money and take out loans from the group.

The primary purpose of both groups was identified to be that farmers advise each other on how to best take care of their livestock in order to realise better prices for their livestock.

3.6 Trainings Livestock Livelihood and Household Economics

3.6.1 Livestock Training

Of all livestock training received, the most respondents (14.6%) indicated that a member of their household had received training in regards to goats. 7.7% indicated that they had receive trainings regarding chicken and only a very small fraction of all respondents, about 3.1%, expressed having received some sort of training in regards to cattle. For all livestock, more trainings were received by MHHs while trainings for cattle and goats were predominantly received by households in Ntchisi, except for cases in Dowa where more households received training regards goats than households in Ntchisi.

Furthermore, the respondents noted that the training is usually provided by the government, and in some instances, it is provided by various NGOs. While the sample size of those who had received training in regards to cattle is very small, out of the respondents who lived in a household where at least one member had received some sort of training, the male was usually the one that partook in the training.

7.1 Have you or any household’s members received any type of training regarding livestock?	District		
	Dowa %	Ntchisi %	Total %
Cattle	2.3	4.0	3.1
Goats	17.8	10.7	14.6
Chickens	5.2	10.7	7.7

n= 213 177 390

Table 42 Livestock Training Received by District

7.1 Have you or any household members received any type of training regarding livestock?	Type of Household			
	FHH %	MHH %	Unspecified%	Total %
Cattle	1.6	3.5	25.0	3.1
Goats	11.1	16.2	25.0	14.6
Chickens	3.2	9.6	25.0	7.7

n= 126 260 4 390

Table 43 Livestock Training Received by District

In comparison to training regarding cattle, more respondents in both districts expressed that at least one member of the household had been involved in training regarding goats. Approximately 15% of all respondents were beneficiaries of training regarding goat livelihood. A slightly higher percentage of Dowa respondents (18%), as opposed to 10% of Ntchisi respondent identified as having received training regarding goats. Similarly to cattle training, most of the training regarding goats was administered by the government, and at times by various NGOs. Interestingly, attendance rates were fairly synonymous over household type and gender. 31% of all respondents identified the male as the person in attendance, while another 31% of respondents identified the female as the person in attendance and the remaining 37% expressed that both male and female partook in such trainings.

Of the 57 households who indicated that a member of their household received goat training, the majority (59.7%) indicated they received training on goat housing. 45.6% of the same 57 households indicated that they received training in goat management and 38.6% of households who received goat training reported that they received goat health training.

7.1 Have you or any household members received any type of training regarding livestock? Goats	District		
	Dowa %	Ntchisi %	Total %
Yes	17.8	10.7	14.6
No	82.2	89.3	85.4
Total	100.0	100.0	100.0

n= 213 177 390

Table 44 Goat Training Received by District

Training regarding chickens was slightly more prominent in Ntchisi than Dowa, with 10.7% of Ntchisi respondents expressing that they had been involved in some chicken training as opposed to the 5.2% of Dowa respondents who provided the same answer. However, as a whole, only 7.7% of all participants or a member of their household had received some type of training regarding chickens. Similarly to goats and cattle, most of the training regarding chickens is administered by the government and various NGOs. As emphasized during FDGs, chicken farmers are very keen to adopt practices from extension officers due to their extensive knowledge in livestock care and livelihood. While it differed by location, many participants in the FDGs expressed that they were involved in livestock management training, learning about animal health, animal feeding as well as animal housing, which had proved to be extremely beneficial. In most instances, as 46% of respondents stated, the male is the one to attend the training, although this assumption might be slightly skewed as the sample size of people who have attended these trainings is small.

Of the 30 households who reported that they received training in regards to chickens, 53.3% indicated that received chicken health training, 46.7% of the same 30 households reported that they received chicken management training and 43.3% reported that they received training regarding chicken housing. It should

be noted that no respondents indicated that they received trainings regarding the marketing and processing of chicken. With the lack of this type of training, households are likely to only sell live animals as they would not have the knowhow on processing and keeping livestock products properly.

While households in Dowa and Ntchisi are traditionally conversant with livestock production and their associated processes, with the low proportion of farmers who were identified to have received trainings regarding livestock management, health and housing, it is likely that more traditional and inadequate livestock practices will continue to be used amongst most households and stifle production and potential returns. In this regards, the projects intentions of training households in animal husbandry and management will be an utmost necessity if they are to have as increased asset base.

7.1 Have you or any household members received any type of training regarding livestock? Chickens	District		
	Dowa %	Ntchisi %	Total %
Yes	5.2	10.7	7.7
No	94.8	89.3	92.3
Total	100.0	100.0	100.0

n= 213 177 390

Table 45 Chickens Training Received by Type of Household

Only about a quarter (26%) of all respondents expressed that they or any household member had received training on savings. Furthermore, a slightly higher proportion of Dowa respondents (28%) had received such training as opposed to 23% in Ntchisi. In most instances, these savings training were administered by government officials, and at times through NGOs or various financial institutions. It was primarily women who were identified to have attended trainings in regards to savings as 74% of the respondents from FHHs indicated that women had attended such trainings, and 48% of all MHH respondents who also had received such training indicated that women attended the savings training.

3.6.2 Household Economics Trainings

7.2 Have you or any households members received any training on...?	District		
	Dowa %	Ntchisi %	Total %
Savings	28.2	23.2	25.9
Credit	20.2	21.5	20.8
Budgeting	20.2	15.3	17.9
Income Generation	16.9	14.7	15.9
Financial Decision Making	14.6	9.0	12.1
Financial Planning	0.0	0.0	0.0

Table 46 Household Economics Training Received by District

Trainings regarding savings were reported to have been received by 101 households or 25.9% of all households. A slightly higher proportion of households in Dowa (28.2%) indicated that they had received trainings regarding savings than households in Ntchisi (23.2%).

Training regarding credit had only been administered to about 21% of all respondents in both districts. The majority of the trainings on credit were provided by government officials and in some instances by NGOs and financial institutions. Nearly 80% of FHH respondents who had taken part in credit training stated that

the woman was usually the one that attended the training. For MHH respondents it was divided between 31% of the respondents expressing that the man attended such training, 41% stating that the women attended the training, and 27% stating that both male and female attended trainings regarding credit.

In regards to training on budgeting, only 18% of all respondents, whether it is themselves or a household member, had received budgeting training. Similar results were deducted in terms of who provides the training; with 41% of all respondents who had received such training noted that it had been administered by government officials. Additionally, respondents also received training from NGOs (24%), financial institutions (16%) and community member (11%). In general, nearly 79% of all FHH and 40% of all MHH respondents who had received such training articulated that females typically attended such trainings on budgeting.

7.2 Have you or any household members received any training on Budgeting?	Type of Household			
	FHH %	MHH %	Unspecified%	Total %
Yes	19.0	17.7	0.0	17.9
No	81.0	82.3	100.0	82.1
Total	100.0	100.0	100.0	100.0
<i>n=</i>	126	260	4	390

Table 47 Budgeting Training Received by Type of Household

Similarly to the number of households reporting that they had received training regarding budgeting, only about 16% of all respondents or any member of their household had access to training on income generation. There was not a significant variance to note between districts and across all household types.

7.2 Have you or any household members received any training on Income Generation?		Type of Household			
		FHH %	MHH %	Unspecified%	Total %
Yes	01	15.1	16.5	0.0	15.9
No	02	84.9	83.5	100.0	84.1
Total		100.0	100.0	100.0	100.0
<i>n=</i>		126	260	4	390

Table 48 Income Generation Training Received by Type of Household

A very small proportion of all respondents had received any kind of training related to financial decision making. Whether it be them or a household member, only about 12% of all respondents had been administered such training.

7.2 Have you or any household members received any training on Financial Decision Making?		Type of Household			
		FHH %	MHH %	Unspecified%	Total %
Yes	01	11.9	12.3	0.0	12.1
No	02	88.1	87.7	100.0	87.9
Total		100.0	100.0	100.0	100.0
<i>n=</i>		126	260	4	390

Table 49 Financial Decision Making Training Received by Type of Household

A mere 11% of all respondents articulated that they had received training on financial planning.

7.2 Have you or any household members received any training on Financial Planning?		Type of Household			
		FHH %	MHH %	Unspecified%	Total %
Yes	01	11.9	11.5	0.0	11.5
No	02	88.1	88.5	100.0	88.5
Total		100.0	100.0	100.0	100.0
<i>n=</i>		126	260	4	390

Table 50 Financial Planning Training Received by Type of Household

Through household economics and planning, it's important to put emphasis on joint decision-making (with respects to livelihoods strategies) as it was established from the KIIs, FGDs, and household questionnaires that the men are ,majority of the time, the ones making decisions.

3.7 FGD Gender Assessment

3.7.1 Livestock Decision Making

3.7.1.1 Livestock ownership

All respondents agreed that, overall, men take decisions on purchasing livestock, including when and what type of livestock to buy, primarily in the mixed gender and male only groups. Some respondents from the female only group stated that this varies somewhat depending on the type of livestock, with women being involved, to some extent, in decision-making on purchasing chickens. Yet all participants agreed that decisions on goats and larger livestock are made exclusively by men.

Although men usually make decisions on livestock purchase and buy the livestock, they can chose to give livestock to their wives, which is frequently done for chickens and goats. Indeed, both types of livestock are more frequently owned by women. Large livestock, such as cattle and pigs, on the other hand, are almost exclusively owned by men. The reasons provided by respondents for this division are that goats and chickens are cheap to purchase and to keep and are frequently used for cooking, thus, are considered to be appropriate for women.

A significant variance on decision making regarding livestock that came out from the survey data in comparison to the FGDs was that for most livestock decision making was jointly held between men and their spouses in MHH and primarily by the women lead in FHHs. In MHHs, while there was significant joint livestock decision making regarding purchase, feeding and health, it is of most significance that decisions solely made by spouses of men increased for decisions relating to goats, and even more so for chicken. In MHHs that owned cattle, there was not a single instance reported where the spouse to the male head was solely responsible for purchasing cattle while for goats this figure was 10.0% and 12.6% for chicken purchases. Similarly in regards to decisions relating to cattle feeding, there was not a single reported instance where the spouse in a MHH was responsible for this decision, yet amongst goats it was 16.7% and 22.8% for chickens.

3.7.1.2 Livestock management: roles and responsibilities

Livestock Care

All respondents indicated that women are responsible for the day-to-day care of most livestock, excluding cattle, especially if this takes place within the confines of the village. These tasks involve feeding the livestock, cleaning the pens, and opening and closing pens for livestock. Since livestock feed is usually not purchased and animals primarily get fed with whatever is available to the household, decisions on feed do not have any financial implications and are usually taken by women themselves. In addition, as indicated by the mixed group respondents, women take most day-to-day decisions on animal care simply because "men are usually out".

The survey data indicated that women were not primarily responsible for the day to day care of cattle as only 25.0% were. Within MHHs, women were found to be primarily responsible for goat day to day care (55.6%) and chicken day to day care (75.8%).

All respondents further indicated that, in general, women also have more decision-making power regarding the management of small livestock. For instance, one correspondent said that “in the case of a chicken, women can decide to slaughter it if it is sick but she can’t decide to slaughter a sick goat.”

Although it is women who do the bulk of the work, respondents indicated that men contribute to livestock care by taking the animals outside the village for grazing and to the well in addition to engaging in the construction of livestock sheds.

Livestock Sales

Over 70% of respondents indicated that decision-making on when and where to sell livestock and livestock products is usually jointly taken by men and women, although men decide on how to use the income generated.

Moreover, some respondents stated that it is the men who take the animal and animal products to the market. However, others indicated that, again, the sale of livestock and livestock products varies from livestock to livestock. Notably, some respondents stated that it is women and children who sell eggs, while goats are sold by men. This was primarily indicated by the male only group.

3.7.1.3 *Veterinary care*

Most respondents in all groups indicated that it was men who make decisions relating to veterinary care and take the animals to get the vet. This was so, even in cases of women-headed households, who are reported to frequently revert to male relatives, or neighbours to take their animal to the vet. The reasons for this were largely to do to women’s physical and limited socially accepted mobility, as is further discussed below.

However, some respondents in the female only group remarked that it is women who make decisions on when to seek veterinary assistance, as they know more about their livestock’s’ needs and are willing to spend more on medicine than men.

3.7.2 Use of income from livestock products and expenditures related to livestock

All respondents agreed that all livestock (including chickens and goats) is usually kept either for sale in case of an emergency, such as the payment of funeral costs and to re-pay debts, or are consumed (mainly in the case of chickens). Decisions on the use of income from the sale of livestock and livestock products are exclusively taken by men and largely indicated by all groups. All respondents reported that the income generated from the sale of livestock and livestock products is used to buy animal feed, food, and pay for school fees. While this contradicts what is stated about, it is believed that the use of sales for emergencies is more accurate.

3.7.3 Constraints and opportunities for women, youth, and vulnerable households in animal husbandry and veterinary care

3.7.3.1 Physical and social mobility

Engaging in animal husbandry for income generation and accessing veterinary care involves a certain amount of physical mobility, especially in cases where markets and/or veterinary services are only available outside the village setting. The overwhelming majority of respondents indicated that women are severely restricted in their mobility for both physical as well as social reasons. Firstly, women do not have access to motorbikes, which are the main means of transport in the communities interviewed. The reasons for this were not discussed, but are likely to be of both social and financial nature. It is perceived inappropriate for women to ride a motorbike and women do not have independent financial resources to purchase one.

Secondly, and most importantly, women are not allowed to leave their village unless they have permission from their husbands. The same rule does not apply to men as indicated in the male only and mixed gender groups. If a woman is not married, she is required to ask her mother for permission. Some respondents stated that men generally give permission if they fully understand the reason why their wives need to leave the village, while others stressed that leaving the village is considered inappropriate for women as there is a perception that this might encourage them to engage in indecent conduct, such as prostitution. Notably, a number of male respondents said that they do not allow their wives to leave the village because “they are afraid of being cheated on by their wives”. Critically, some respondents noted that, if a woman was to leave her house without her husband’s permission she will likely be beaten or risk divorce.

Lastly, women are considered at greater risk of being robbed of their livestock on the way to and from the market or the vet, although a number of respondents said that men are also at risk of being beaten as noted in the male only group.

3.7.4 Gender roles in livestock producer groups

All respondents that had a producer group in their community, apart from Bondo/Binga, stated that most of the existing producer groups are led by women. Groups are reported to be led by a female chair who takes most of the decisions. In addition, women occupy other leadership positions, such as treasurer or secretary.

Respondents in the mixed group felt that men and women equally participate in decision-making in these groups and feel that their interests are well represented by the respective groups.

3.7.5 Other issues

3.7.5.1 Time allocation

All respondents indicated that they do not think that additional livestock would create any additional work for them, as they already keep some livestock and are used to the workload. Additionally, all respondents agreed that women take care of the vast majority of household chores, such as cooking, cleaning, fetching water, child care, etc.; while men engage in construction work, and cutting firewood. Overall, however, men are generally said to be “not at home”. Further, all respondents indicated that both women and men belong to social groups and frequent them often; some on a daily basis. In this regards, no gender division seems to exist.

3.7.5.2 Extension services

All of the respondents agreed that women have equal access to extension services²⁶ as men. In fact, some noted that women have greater access to these services as they are usually in the village and readily available to receive the services. The biggest challenges mentioned by all respondents is the poor quality of extension services provided. As reported by the District Livestock Officers (DLOs), AVOs are limited both in numbers and mobility and as a result they are not able to adequately service their entire districts. In the case of Dowa, it was reported by the DLO that there are 22 AVO assistants who primarily act as surveyors for disease and only provide simple vaccinations to chickens. It is only where these AVO assistants come across diseases that they report back to their AVOs, who in turn travel to the identified areas to treat and vaccinate livestock. Additionally, it was reported by Ntchisi's DLO that many of the AVOs are in need of refreshed courses on livestock treatment as there are several who completed their veterinary trainings more than 10 years ago and as a result are not providing quality animal health services.

As reported by the ADO in Dowa, AVOs are generally the ones who provide treatment to communities.

3.7.5.3 Credit

All respondents agreed that women frequently have savings and loans in their name, including from banks and VSLAs. Specifically, over 60% of respondents stated that they have received a loan from a VSLA while only 4% indicated having received a loan from a commercial bank. However, as reported by all groups, customs dictates that women have to get their husband's consent before getting a loan. According to the majority of respondents this is merely a formality, and women are generally allowed to take out a loan, while some suggest otherwise. Notably, one participant stated that "I cannot allow my wife to get a loan." The primary source of lending those FGDs felt they had best access to were VSLAs and friends. Of the FGD participants who indicated that they obtained loans, they were mostly reported to be obtained from VSLAs.

²⁶ Extension services in regards to livestock are described as services offered to by both AVOs and their assistants. These extensions services include veterinary services which are mainly treatments and vaccinations and advisory services

4 Conclusions

Households in Ntchisi and Dowa were found to be owners of primarily chicken (79.5%) and owners of goats (77.4%). Chicken ownership along with goat ownership was quite common across households in both districts as 56.9% of all respondents were identified as owners of both types of livestock. Therefore it is very appropriate for the L4R project to engage these districts with increased chicken and goats assets. Livestock production has also been deemed to be gender compatible, confirming its use as a tool to enhance livelihood regardless of sex in the two districts with the high participation of men and women in animal care. Men were largely found to be responsible for livestock decision making and animal rearing in the case of larger livestock, particularly when these decisions and responsibilities held financial implications for the household, while women were largely responsible to the day to day care to and some decision making when it came to smaller types of livestock such as chickens.

MHHs were found to own larger quantities of livestock for both goats and chickens, On average MHHs that owned chicken had 10.5 whereas FHHs had 7.5; amongst MHHs that owned goats, on average they owned 4.7 whereas FHHs owned 4.4.

Livestock feeding was found to be primarily done through traditional production systems characterized by low to zero inputs. Feeding techniques such as grazing was identified to be a popular feeding method amongst cattle owners (73.8%) and the few households that owned cattle (56.3%). Chicken were primarily reported to be fed "Others", where maize bran, commonly referred to as madeya, was specified. 23.2% also indicated feeding their chicken household scraps. Fodder was also reported to be grown for livestock by only 6.2% of households. With crop production being the primary income source amongst households in the two districts, an opportunity with an integrated livestock and crop production system could allow several households to supplementary feed their goats and chickens with crop residues during certain periods of the year.

An alarming rate of chicken owners (56.1%) and 21.8% of goat owners specified that they house their livestock in their main dwelling units; livestock housing practices that can pose serious health risks for household members. Livestock as well are also kept in other less desirable housing types such as deep litter kholas.

Veterinary services were primarily found to be provided through Government in both districts through the use of AVOs and some AVO assistants in the case of Dowa. With reduced mobility by AVOs, due to budgetary constraints and poor rural infrastructure, livestock owners primarily have to travel to strategically placed dip tank sites to access veterinary services. As a result of the limited access of AVO's and the increasing supply of livestock in the two district, animal health service provision has room for increased and improved provision which would require additional AHSPs to meet the growing demand for animal health services. Of the 38.7% of households who reported that veterinary services were not readily available to them, 38.1% mentioned it was because they didn't know they existed; possibly due to their lack of presence in their communities, while another 28.8% specified others, where a common specified response was that they veterinary services do not come to them.

Veterinary services were largely used by chicken (52.3%) and cattle owners (62.5%) to treat livestock when they are sick. There was a significant proportion of goat owners (52.3%) who indicated that they do not use any types of health measures to treat their goats when they are sick. Of goats and chickens that were reported to have died in the past 12 months, 62.9% of chickens and 47.9% of goats where reported to have died from parasites and diseases; instances of which could likely be prevented with adequate levels of vaccination and treatment. Lastly, in terms of animal health, livestock were identified to primarily breed through natural means (98.8%).

Marketing of livestock through informal markets such as middlemen was a common means in which livestock owners reported to have sold their livestock with 32.3% of goat sellers and 37.1% of chicken

sellers indicating that their sales were made through middlemen. When asked more specially about all livestock sales as outputs, 79.9% indicated that vendors predominantly purchased their livestock. Many of these respondent indicated that some of these vendors purchased livestock directly from their doorstep.

With the project focusing heavily on elements surrounding improving households savings capacities, it is rightly so that it targets the heavy use of VSLAs as an inclusive means to increase savings in the two districts, rather than through more unused commercial finance institutions such as banks and MFIs.

Trainings provided to communities in regards to livestock management were quite low in the two districts, which can explain some of the poor livestock management practices exhibited by the interviewed households. 14.6% of households received training regarding goats while only 7.7% of households attended trainings regarding chickens. Of the households that received livestock training, management, health and housing were the main types of trains received which were typically provided by Government of NGOs. Livestock training regarding marketing and processing were the less common types of training received. Trainings in household economics were more prevalent than trainings in livestock amongst all households. This is not surprising as household economics trainings span across various livelihoods and there would be several NGO's and Government initiatives that would push for such trainings. Of household economics trainings that were attended, savings, credit and budgeting were the most common types of training provided.

5 Recommendations

5.1 Livestock

5.1.1 Increased Capacity to Maintain Livestock Asset Base

Farmer capacity building through training

Traditional practices are likely to continue amongst rural farmers without direct intervention. However, a gradual shift towards semi-improved practices is required to promote the uptake of improved practices in an effective manner, especially when it's considered that the majority of households (59.2%) reported that the most educated person in their household only obtained a primary level education. With less than 15% of households having reported to have received livestock training in livestock management, it's crucial that more than one member of each household is trained in livestock management for further aid in increasing the uptake of improved animal husbandry within households.

With the expected increase in livestock assets amongst households combined with the high prevalence of animals being housed in dwelling units, it will be necessary to train households on safer methods of livestock housing to mitigate against health implications that can be born from the inhalation of volatile gases from the decomposition of manure in households and pathogens which include a range of disease-causing organisms, including bacteria and viruses from airborne livestock dust.

Enhancing year round low-cost livestock feeding

With goats and living on primarily low input systems such as grazing (goats) there is room for an intervention to address inadequate livestock feeding techniques. During the rainy season, goats are usually tethered for grazing. Such conditions place goats in a poor and non-reproductive condition during the season where fodder is fresh and plentiful. Simple interventions of what can be practiced will bring increased outputs. In both chickens and goats, studies have shown that simple but regular supplemental feeding with maize bran brings significant changes to the health, body condition and reproduction of these animals throughout the year. Regularizing feed supplement is the starting point for the majority of farmers

that cannot afford system change. This should be followed by a simple ration formulae of feeds from locally available ingredients in which farmers can be trained on.

Furthermore, more emphasis on developing fodder crops and more digestible crop residues will help further build resilience against climate change as only 6.2% of households reported having grown fodder for their livestock. With growing pressure on water and increasing risks of drought, the development and spread of improved dry land forage species may prove to be highly beneficial.²⁷

Implementation of effective breeding and management of breeding animals

This component did not come out clear in the studies. However, any intervention does not spare breeding of livestock, which usually starts with stock acquisition and multiplication. As proposed in the Presidential Initial (PI) documents for small stock, introduction of community breeding systems will help provide an accessible breeding stock to farmers using cash or through pass on programs. These breeding units can be empowered to genetically develop and disseminate improved but adapted breed stocks. Selective breeding within local chickens is recommended, while in goats, crossbreeding can be implemented as long as there is systematic following of matings to avoid reversals through inbreeding. Systematic mating is not possible in chickens under scavenging or semi-scavenging conditions, and any introduction of exotic breeds ends up failing due to the failure to monitor and manage a breeding program. To spread the breed stock, it is recommended to create stud-breeding units that should be linked for exchange of especially males. There would be need for training in stud breeding and management of breeding programs. With 99.5% of households reporting that they allow their livestock to breed naturally, this type of training and intervention, if introduced, would especially need to be closely monitored by the monitoring and evaluation team.

5.1.2 Improved Capacity and Access to Animal Health Services

With a significant proportion of livestock deaths reported to be the result of diseases, it is of significance that the project aims to train para-vets to meet the demands required for treatment, as diseases can lead to economic losses through retarded growths and deaths, which would negate the efforts of other project activities. Para vets will complement the services provided by AVOs and their assistants.

With the high levels of animal health services provided through AVOs, it is more strategic for the project to link para-vets with AVOs rather than private veterinarians and animal health suppliers as they have extensive knowledge on animal health service provision in the targeted districts. In addition to training para-vets, it would also be beneficial for the project to have AVOs attend the para-vet trainings for two reasons. Primarily, doing so would ensure the synergy of animal health care messages that are conveyed to livestock producing households. Secondly, since it was reported that many AVOs have received their trainings spanning a few years back they would benefit from trainings on more modern livestock health practices as they would be able to better serve livestock producers. AVOs should also be involved in the process of identifying para-vets to be trained under the project as they would most likely be aware of individuals in communities who already have some existing veterinary knowledge.

As the project is only set to last 24 months, mechanisms need to be put in place to ensure that para-vets are still available and able to service project communities after the termination of the project to ensure the sustainability of services rendered by the project.

The management of diseases should go beyond vaccinations against Newcastle diseases for chickens as other important infections emerge and may become more virulent with climate change. Breeding for disease resistance should be encouraged and should be an integral component of breeding for adaptation.

²⁷ <http://cmsdata.iucn.org/downloads/resilience2.pdf>

The project's objective to improve para-veterinary capacities will help counteract some of these climatic consequences. Ongoing training will help maintain standards to improve disease surveillance. Simultaneously, veterinary services will have to keep pace with shifting disease patterns that result from climate change.

With mobility being an issue for both providers and users of animal health services, scheduled mobile veterinary services would improve access to treatments and vaccinations and would assist towards mitigating the spread of diseases. With just over half of respondents reporting that they own mobile phones, communications could be made through these devices in addition to radio adverts to advise livestock owners of the scheduled veterinary clinics.

Trainings in livestock diseases identification for targeted households and producer groups will also be beneficial in efforts to reduce the spread of diseases. This type of training would primarily be of great value and impact; if a mechanism such as a toll free call center was established to allow livestock producers to communicate sightings of livestock diseases to the relevant AHSPs.

5.1.3 Improved Capacity to Plan, Save and Mitigate Risk

With VLSAs being the most inclusive financial savings services for communities in Dowa and Ntchisi, the project should primarily encourage the use of VSLAs, as they are more accessible and trusted when compared to bank and MFIs for the targeted communities.

With only low proportions of households indicating that they have received savings and credit training, it will necessary to adequately train households in the households savings and credit use if increase VSLA use is to be promoted through the project. As more members are also likely to join current VSLAs through the project, it would also be beneficial to train the management on the VSLA on increased financial management and governance and leadership as they will likely be operating with larger values of savings for more people.

Since men are primarily in control of finances related to livestock, training on record keeping of livestock production, expenditure and income should be provided to men as 90.91% of males indicated that do not keep record of their livestock practices. Having such records will allow them to be more knowledgeable on the management of their livestock to guide them towards making better financial decisions regarding inputs purchased and prices agreed on outputs to enable them to gain more positive returns.

Increased trainings in marketing of livestock will also be beneficial as no single households reported receiving this kind of training.

Promotion of marketing of livestock to formal channels

Marketing of goats and chickens are often exploited by the presence of middlemen. This experience is more apparent during the rainy season which coincides with household food shortages, and poor animal conditions. With improved livestock management and health achieved through L4R interventions, farmers will be guaranteed of year round sales of good conditioned animals and of improved sizes and numbers. Through established farmer groups, farmers will be able to absorb transaction costs and manage to penetrate the upcoming and promising formal markets.

Additionally, to aid in ensuring the farmers are not exploited by unscrupulous middlemen or vendors, a vendor registration system could be implemented, where only registered vendors would be allowed to purchase livestock from certain communities. Alternatively, market information including market prices, can be communicated to livestock farmers through mobile phones or radios to equip them with the knowledge to demand fairer prices from buyers.

In Kenya, local chicken meat is packaged and sold in super markets. It is possible to promote value addition techniques that are applicable in the areas and facilitate their entry into the formal marketing for both

goats and chicken products. These can be achieved if farmers are organized to provide them with greater capacity to access inputs and output marketing, and negotiate for value added prices from consumers.

Nyama World, one of the leading meat retail outlets, has integrated the selling of meat and eggs from local chickens. With a potential partnership with such a company, there could be a sustainable opportunity of communities raising livestock that could eventually be sold through formalized marketing channels at fairer prices.

The above mentioned market opportunity provides strong justification to encourage interventions that will promote poultry and goat production in farming communities in Dowa and Ntchisi Districts. Their enhancement will achieve the objectives of the project, ensure livelihood of the households in terms of food and nutrition, especially from chickens and eggs and income from goats and chickens

The impact will be more equitably distributed to communities than benefits from any other livestock because of the gender, social-strata and climate change compatibility availed by chicken and goat

5.1.4 An integrated approach

The current production systems are integrated for crops, livestock and other livelihood strategies. The same system should continue, with improvements to enhance outputs and synergy from integration. In Malawi, livestock depends on crop inputs, and through an effective integration system, crops could also depend on livestock. The emerging cropping systems of conservation agriculture is recognized to compete for dry season crop residues that are meant to be dry season feed for livestock, primarily goats and cattle. A few reports have reported that livestock are a constraint to conservation agriculture. An enhanced integrated approach would ensure the use of crop residues as livestock feed and the supply of animal manure to crop fields. Increased crop yields will ensure food security for longer periods of the year, which will in turn provide by-products as supplement feed for livestock throughout the year.

Within livestock, goats and chickens co-habit with similar resources. When goats are supplementary fed with maize bran for example, soil remains still offer supplement for scavenging chickens. It is recommended therefore, to promote both species on one household as this was already the case with over half of the survey respondents.

The majority of communities have had VSLAs introduced and the strategy creates quick impacts while farmers are waiting for long term impact from crops and livestock. The evaluation report from Save the Children's Barilla Project has shown that VSLAs have supported inputs for crops and livestock. VSLAs are taking place in the targeted districts and are recommended to continue.

5.2 Gender

As management of chickens and goats is largely the responsibility of women, it is very appropriate that the project actively targets the participation of women specifically to be recipients of livestock and as well participants of trainings offered in the same regards. In terms of receiving training, significant proportions of women should be involved in livestock husbandry and management trainings. In this regards, women's participation in such trainings will be key in increasing and improving the uptake of animal husbandry and management practices within households to aid in more sustainable and resilient livestock practices that will enable households to benefit from the project.

In regards to trainings for women, it is rightly so that the project customizes the approach for women's participation in the project. It is critical that trainings are held during hours considered appropriate (8.00 am until 3.00 pm) and that sufficient notice and information is provided to participants in advance, in order to overcome mobility constraints faced by women in the target areas. When considering the mobility constraints faced by women, it necessary that the project hold trainings in close proximity of women in the communities, otherwise the project faces marginalizing women in terms of capacity building as they will not be able to attend such project activities; limiting the sustainability levels the project aims to achieve

through improved and increased animal management practices. Providing child care at training sites will as well be an important component of a successful implementation as a lot of the respondents in FGDs indicated that the women are primarily responsible for looking after the children. Providing them with childcare will allow them to attend such trainings instead of having to stay at home.

Training on livestock management should be supplemented by basic literacy training, training on leadership, and offer the opportunity for discussion groups on women's issues, particularly in relation to livestock keeping and selling.

To overcome challenges related to reduce mobility of women, the project should consider providing mobile veterinary services, ideally by female veterinaries and trained female para-vets.

The project should consider working through producer groups to provide women with the opportunity to sell their products (possibly to registered vendors) in the village-setting due to the physical and cultural restrictions women face in regards to mobility.

The project should explore the possibilities offered by the fact that most producer groups are dominated by women, by engaging in depth with them to find out what precisely women might need to enable them to better benefit from livestock keeping and selling.

6 Annexes

6.1 Annex 1 - - Table of Program Indicators

6.1.1 Key Project Specific Performance Indicators

Key Project Specific Performance Indicators	Definition		Disaggregation	Baseline Value
% of households that have an increase in their livestock asset base (by sex)	Number of livestock multiplied by average price received per livestock across all.	%	by sex	
Male Headed Households				
Goats		MWK		13,485,013.32
Chickens		MWK		3,572,163.40
Female Headed Households				
Goats		MWK		5,239,658.79
Chickens		MWK		1,263,667.20
% of households with viable herd/flock size (participants that receive vouchers and other project activities)(by sex of household head; type of livestock)		%	by sex / by livestock	
Goats	Number of households owning at least 8 goats ²⁸			11.5%
Male Headed Households				12.7%
Female Headed Households				9.5%
Chickens	Number of households owning at least 5 hens			32.6%
Male Headed Households				35.8%
Female Headed Households				25.4%

²⁸ A viable heard size for goats in considered to be one with at least 8 does. As the type of goat was not asked, the viable heard size in this study is based on a household owning 8 goats. The baseline value is therefore an over estimation.

Key Project Specific Performance Indicators	Definition		Disaggregation	Baseline Value
% of households that are applying improved animal husbandry and feed techniques (by sex of household head)	Number of households applying at least 3 of 5 of the following: 1. House livestock in a raised khola 2. Use animal health services to either treat or prevent animal sickness 3. Used improved feed (fodder for goats; feed rations for chickens) 4. Purposefully breed their livestock 5. Keep record to livestock practices	%	by sex	
Male Headed Households				
Goats				7.1%
Chickens				2.4%
Female Headed Households				
Goats				4.7%
Chickens				2.9%
% of final sale price captured by producers (by type of livestock)²⁹	Average amount received per animal divided by the market price for the animals when bought by the end consumer	%	by livestock	
Goats				67.7%
Chickens				65.8%
Goat and chicken mortality rate amongst target producer groups households (by type of livestock)	Mortality rate from all causes of death for each livestock type during the past 12 months	per 1000	by livestock	
Goats				231.5
Chickens				571.8
Net monthly income pf para-vets from providing animal health services (by sex)	Net monthly income of para-vets providing animal health services³⁰	MWK	by sex	
Male				40,000
Female				40,000

²⁹ Figures are believed to be inaccurate as households likely were not able to recall the actual sales price per livestock as only 6.7% of households reported keeping records of livestock prices

³⁰ Values provided are approximate net salaries for AVO assistants as there para-vets were not identified to be operating in the two districts

Key Project Specific Performance Indicators	Definition		Disaggregation	Baseline Value
Amount (\$) saved and loaned in a VSLA (by sex of household head)	Amount saved in a VSLA by the household at the time to the interview³¹	MWK	by sex	
Saved - Male Headed Households				31,665.31
Saved - Female Headed Households				18,589.23
% of households that are applying improved business techniques (by sex of household head)	% of households that keep records of livestock practices, save money in any bank account, and received training in finance	%	by sex	
Male Headed Households				3.1%
Female Headed Households				0.0%
Gross margins (maize, chickens and goats)	Difference between the total value of production and cost of production divided by the total number to units in production	MWK	by livestock / maize	
<i>Maize</i> ³²				-53,229.98
<i>Goats</i>				11,537.22
<i>Chickens</i>				6,287.37

³¹ Savings per household at the time of the interview. Timeframe of accumulated savings is unknown.

³² Based off of 0.8 plot size for households in both districts

6.1.2 Land O'Lakes Division Wide Performance Indicators

Land O'Lakes Division Wide Performance Indicators	Definition	Unit	Disaggregation	Baseline Value
Net increase in farmer household incomes as a result of the intervention	Farmer incomes from 3 main sources of income	MKW		MK197,038
Value of agricultural/dairy/livestock sales as a result of the intervention	Average value of maize or livestock sold amongst households who indicated selling maize or livestock	MKW		
	Maize ³³			3,565,190.00
	Goats			7,712,184.00
	Chickens			3,431,936.56
Volume of household agricultural/dairy/livestock sales as a result of the intervention	Average numbers of livestock sold for the households that sold livestock	Average	by livestock	
	Goats			1.9
	Chickens			4.2
Numbers of farmers adopting new technology or techniques as a result of the intervention	Number of households applying at least 3 of 5 of the following: 1. House livestock in a raised khola 2. Use animal health services to either treat or prevent animal sickness 3. Used improved feed (fodder for goats; feed rations for chickens) 4. Purposefully breed their livestock 5. Keep record to livestock practices	%	by sex / livestock	
	Male Headed Households			
	Goats			7.1%
	Chickens			2.4%
	Female Headed Households			
	Goats			4.7%
	Chickens			2.9%

³³ Based off of 0.8 plot size for households in both districts

Land O'Lakes Division Wide Performance Indicators	Definition	Unit	Disaggregation	Baseline Value
Number of animals under improved technologies or management practices as a result of the intervention	Numbers of livestock from households that keep records of livestock practices, save money in any bank account, and received training in finance	# of Animals		
Male Headed Households				92
Female Headed Households				0
Annual/seasonal yield of crops per hectare or production per animal	Annual yield for maize and numbers of livestock produced over the last 12 months			
Maize yield per ha		Kg		751.25
Breeding rate		per 1,000		
<i>Goats</i>				455
<i>Chickens</i>				1099
Increase in household dietary diversity	Average number of food groups consumed	Months		3.3
Increase in months of adequate household food provisioning	Average number of months of adequate food provisioning	Months		10.6

6.2 Annex 2 - - Terms of Reference

TERMS OF REFERENCE (“TOR”)

Malawi Livestock for Resilience Baseline Evaluation Baseline Assessment

1. **Background and Justification**

In July 2014, Land O’Lakes was awarded a 23-month project called Malawi Livestock for Resilience (L4R) with funding from the United States Agency for International Development (USAID). The goal of the project is to build the resilience of disaster-prone communities in Central Malawi to withstand climatic and economic shocks. The project will work in 10 EPAs in Dowa and Ntchisi Districts. L4R will use a community-focused approach to work with 6,000 vulnerable households (reaching 30,000 people in total) to promote the expansion and maintenance of small livestock assets to facilitate a shift toward more diversified livelihoods and increase the capacity of vulnerable households to adapt to shocks. Specifically, the project will have 4 components:

- **Expand Livestock Asset Base:** L4R will distribute vouchers to 2000 households to subsidize the purchase of locally available goats and chicken.
- **Increase Capacity to Maintain Livestock Asset Base:** L4R will facilitate the formation and capacity building of producer groups. The members of these groups will then be trained in livestock husbandry, marketing techniques, and group formation and management. The trainings will be provided through training of trainers approach where 150 producers will be selected for training from the project and those producers will in turn train the other members of their producer group.
- **Improve Capacity and Access to Animal Health Services:** L4R will equip and train 150 para-vets in animal health diagnosis and treatment, and link them to private sector input and animal health service providers. The para-vets will then provide animal health services to members of their producer groups.
- **Improve Capacity of Households to Plan, Save, and Mitigate Risk:** L4R will train 3 members from all targeted households in household economics, and risk mitigation and planning, and business practices. The project will also provide capacity building to households to establish village savings and loans.

This contract is to hire an external firm to conduct a baseline assessment in the target districts that will inform the implementation of the project. Baseline data is required by the donor, OFDA, within 120 days of the start of the project.

2. **Objectives of the Evaluation**

The baseline assessment conducted by the contractor will meet the following objectives:

- Assess the demographic and socio-economic status of the target districts
- Provide a clear picture of the vulnerability of potential program participants
- Understand livestock practices , animal nutrition and fodder use/growth, access to and demand for veterinary services, and livestock marketing and markets in the target areas
- Assess the potential for livestock-based livelihoods in the target districts
- Identify the existence and function of producer or farmer groups, including women’s groups, in the area
- Understand the population’s experience with and availability of trainings, especially livestock livelihood and household economics.
- Assess the savings, and financial capacity of the target population

- Establish baseline values for all key performance indicators and Land O'Lakes Division Wide performance indicators to set the standard of comparison during future assessments
- Validate the targets and assumptions included in the project proposal
- Gather data that will inform program managers to make implementation decisions that are appropriate on the ground
- Assess the gender constraints and opportunities of the program to ensure that both sexes are equally able to participate and benefit from the project
- Identify problems and constraints that may occur during program implementation
- Provide actionable recommendations and improvements to program and monitoring and evaluation design

3. Scope of Work

The contractor will conduct the baseline assessment for the Malawi L4R project, including the design, data collection, analysis and interpretation of the data with consultation and input from Land O'Lakes project staff. The contractor will report to the project Chief of Party of other Land O'Lakes project staff as decided by Land O'Lakes.

4. Detailed Requirements

The specific activities of this contract are detailed below:

5. *Develop Methodology and Data Collection Tools*

- Review relevant project documents, including the Malawi L4R technical proposal, Land O'Lakes Gender Assessment Guidance, USAID Evaluation Policy, and other relevant demographic information about the target population.
- Attend an inception meeting with Land O'Lakes staff to discuss methodology and data collection tools, and complete an inception report
- Design appropriate study methodology using quantitative and qualitative methods and random sampling where appropriate
- Design data collection tools that meet the above evaluation objectives with input and approval of Land O'Lakes, including
 - Household survey
 - Focus group discussion guides, including separate one for gender assessment
 - Key informant interview guides

6. *Carry Out Data Collection*

- Organize an appropriate study team to carry out the baseline assessment
- Carry out data collection in ten EPAs in Dowa and Ntchisi Districts, including:
 - Quantitative interviews with at least 385 potential project participants

- At least 8 focus group discussion, including 4 for the gender assessment
- Key informant interviews, as appropriate
- Apply strong quality control practices for field data and data entry

7. Analyze and Write reports

- Enter and analyze collected survey data using approved statistical packages
- Prepare a report of the results, including recommendations for project implementation, in accordance with the report structure guidance (in section below)
- Prepare and present on findings, conclusions and recommendations to the L4R team and stakeholders

8. Deliverables and Timeline

The contractor will complete the tasks above according to the following timeline. The final report will be completed by November 5.

Deliverable	Task	Date	Expected LOE
1	Review of relevant documents and prepared for inception meeting	September 17	1 day
2	Inception Meeting with Land O’Lakes to discuss protocol, methodology, sampling, tools, timeline	September 19	1 day
3	Develop inception report and data collection tools	September 20-24	3 days
	<i>Land O’Lakes reviews report and tools</i>	<i>September 25-28</i>	
4	Prepare for fieldwork	September 29-30	2 days
5	Finalize tools (possible meeting with Land O’Lakes to go over comments)	Oct 1-2	2 days
6	Enumerator training and field work	Oct 3 - 14	8 days
7	Data cleaning, analysis and reporting	Oct 15 - 27	9 days
8	Dissemination workshop preparation and presentation	October 28-29	2 days
	<i>Land O’Lakes reviews report</i>	<i>October 30-November 3</i>	
9	Final Report	November 4-5	2 days
		TOTAL	30 days

The deliverables shall consist of:

- Inception report that describes the following:
 - Understanding of the project based on project documents and literature review
 - Finalized methodology including detailed sampling plan and field procedures
 - Quality control measures
 - Communication protocol
 - Finalized timeline (activities, responsible party, outputs, and timing)

- Survey instruments, both quantitative and qualitative
- Pictures of the process
- Cleaned quantitative and qualitative datasets in Microsoft Excel or SPSS format
- Power Point presentation on the baseline report findings to Land O'Lakes staff in the Lilongwe office, including an electronic version of the presentation
- Two (2) bound copies of the final baseline report with an electronic copy that includes, but is not limited to, the following sections:
 - Acknowledgements
 - List of Acronyms and abbreviations
 - Table of Contents
 - Executive Summary
 - Background (Program description and purpose of baseline)
 - Methodology and Implementation
 - Results and Findings (in accordance to the objectives)
 - Recommendations (to improve the design and implementation of the program)
 - Annex – Table of key program indicators with baseline values
 - Annex - Terms of Reference for the evaluation
 - Annex - Survey instruments: questionnaire (s), interview guide (s)

6.3 Annex 3 - - Land O'Lakes Livestock for Resilience Household Questionnaire - English

Interview Code

Interviewer _____

Date of _ / _ / _

Land O'Lakes Livestock for Resilience Household Questionnaire - October 2014

"Hello, my name is I work for Imani Consultants based in Blantyre. We are working on a project for Land O'Lakes Malawi and I'm asking households about your household and your livestock practices. The answers you give are confidential and no one will find out what you say. If you have a few minutes to spare, your assistance would be very much appreciated.

**** Survey only to be conducted with heads of households and their spouses. Where they are not available, it may be conducted with a household member over the age of 18 who is familiar with the household finances and livestock practices.**

Does your household currently own any chickens or goats?	
Yes	01
No ... <i>If No, terminate interview</i>	02

I am going to begin by asking you general questions about yourself and your household.

1. GENERAL QUESTION / RESPONDENT DETAILS

1.1. A. DISTRICT..... B. EPA
C. VILLAGE.....

1.2. RESPONDENT NAME (UNDERLINE LAST NAME)

1.3 Respondent Sex (Observation)	Male 01 Female 02
----------------------------------	-------------------

1.4 What is your relation to the head of household?	
Self	01
Spouse	02
Parent	03
Brother	04
Sister	05
Child (Adult)	06
Other. Please specify ...	07
No response	99

1.5 Please specify actual age of respondent.	_____
Don't know	98
No response	99

1.6 Marital Status	<i>Prompt if necessary</i>
Married	01
Widowed	02
Divorced	03
Separated	04
Single	05
Other. Please specify ...	06
No response	99

1.7 Household religion	<i>Read out</i>
Christian	01
Muslim	02
Atheist	03
Traditional	04
Other. Please specify ...	05
No response	99

1.8 How many people live in your household?	_____
Don't know	98

1.9 Please specify numbers of household members in each of the following age ranges	<i>Gender</i>	
	<i>Male</i>	<i>Female</i>
Under 18		
18-30 years		
31-50 years		
51-65 years		
66 years or more		
No response	99	99

1.10 Please state your highest level of school education?	<i>Don't read out</i>
None	01
Primary	02
Secondary	03
Diploma	04
Tertiary or higher/	05
No response	99

1.11 Please state the education level of the most educated household member?	<i>Don't read out</i>
None	01
Primary	02
Secondary	03
Diploma	04
Tertiary or higher	05
Other. Please specify	06
Don't know	98
No response	99

1.12 If you have school age children in your household, do they attend school?	
Yes	01
No	02
Do not have school age children	03
No response	99

2. HOUSEHOLD WEALTH

Now I want to ask you about your home and household finances

2.1 What is the roofing of your house made of?	<i>Observation</i>
Grass thatch	01
Tin sheets	02
Iron sheets	03
Cartons	04
Tiles	05
Other. Please specify ...	06
Don't know	98
No response	99

2.2 What are the main materials of your house walls made of?	<i>Observation</i>
Burnt bricks	01
Mud bricks	02
Mud with sticks	03
Wood /poled	04
Other. Please specify ...	05
No response	99

2.3 What type of toilet does your house have?	Prompt
Flushing toilet	01
Compost toilet	02
Pit latrine with slab	03
Pit latrine without slab	04
Other. Please specify ...	05
No toilet	06
No response	99

2.4 What is your household's main source of water?	Prompt
Piped water	01
Hand pump / borehole	02
Dug well	03
River/pond/stream	04
Other. Please specify ...	05
No response	99

2.5 How far is the main source of water from your household?	Read out
Within premises	01
Neighbours premise	02
Community point	03
Less than 2km away	04
More than 2km away	05
No response	99

2.6 Does your household have any _____?	Prompt with each choice one at a time	
A. Radio	01 Yes	02 No
B. Mobile phone	01 Yes	02 No
C. Sofa	01 Yes	02 No
D. Bed	01 Yes	02 No
E. Mattress	01 Yes	02 No
F. Solar panel	01 Yes	02 No
G. Plough	01 Yes	02 No
H. Bicycle	01 Yes	02 No
I. Storage barns for animals	01 Yes	02 No
J. Storage barns for food/fodder	01 Yes	02 No
K. Ox-cart	01 Yes	02 No
L. Hoe	01 Yes	02 No
M. Treadle pump	01 Yes	02 No
N. Other. Specify.....	01 Yes	02 No
O. No response	99	

2.7 What are the three main sources of income for your household?	Read Out 01 Main source 02 2 nd main source 03 3 rd main source		
A. Livestock farming	01	02	03
B. Crop farming	01	02	03
C. Own a business. Please specify type of business...	01	02	03
D. Remittances	01	02	03
E. Other income source #1	01	02	03
F. Other income source #2	01	02	03
G. Other income source #3.....			
H. No response	99		

2.8 What is the approximate value of your 3 main sources of income in the last 12 months? <i>Please specify for each</i>	
Livestock farming	_____MK
Crop farming	_____MK
Working	_____MK
Business	_____MK
Remittances	_____MK
Other income source #1	_____MK
Other income source #2	_____MK
Other income source #3	_____MK
No response	99

3. HOUSEHOLD SAVINGS AND CREDIT

**** I would now like to ask you about your savings and credit practices.**

3.1 Does any member of your household have money in _____? Who is the account holder? How much money do they have in the account?	Prompt - Multiple response allowed			
			Account Holder Codes	
			01 Head of	05 Sister
			02 Spouse	06 Children
			03 Parent	07 Other
			04 Brother	99 No response
	Yes	No	Account Holder	Specify Account Value
A. Bank	01 Yes	02 No		_____MK
B. Microfinance institution	01 Yes	02 No		_____MK
C. Village savings and loan association	01 Yes	02 No		_____MK
D. Other. Specify.....	01 Yes	02 No		_____MK

3.2 Have you ever received and used credit?	<i>If No, go to 4.1</i>
Yes	01
No	02
No response	99

3.3 What was the source of your most recently received line of credit?	
Commercial bank	01
Microfinance Institution	02
NGO Scheme	03
Government Institution	04
Cooperative	05
Traders	06
Katapila	07
Friends / Family	08
Village Savings and Loan Associations	09
Other. Specify.....	10
<i>No response</i>	99

3.4 Have you ever defaulted on your credit?	
Yes	01
No	02

3.5 What was the most recent amount of credit received?	
Less than MK5,000	01
MK5,001 – 10,000	02
10,001 – 25,000	03
25,001 – 50,000	04
50,001 – 100,000	05
More than MK100,000	06
No response	99

3.6 Did you obtain the credit as an individual or with a group?	
Individual	01
Group	02
No response	98

3.7 What did you primarily use the credit for?	
Agricultural equipment	01
Crop farming inputs	02
Livestock farming inputs	03
Household construction / repairs	04
Children's education	05
Consumable goods	06
Trade/business	07
Funeral	08
Other. Specify.....	10
No response	99

4. PROGRESS OUT OF POVERTY INDEX

**** I am now going to ask you questions about your household. Some of these questions are similar to questions I have already asked but are crucial for our study. If you can please answer some of them again it will be greatly appreciated.**

4.1 How many household members are 14-years-old or younger?	
Five or more	01
Four	02
Three	03
Two	04
One	05
None	06

4.2 How many household members worked in their main activity in the past seven days as a farmer (Mlimi)?	
Four or more	01
Three	02
Two	03
One	04
None	05

4.3 Can the female head/spouse read a one-page letter in any language?	
Yes	01
No	02
No female head/spouse	03

4.4 The roof of the main dwelling is predominantly made out of what material?	
Grass	01
Anything besides grass	02

4.5 What is your main source of cooking fuel?	Prompt
Collected firewood from forest reserve, crop residue, sawdust, animal waste, or other	01
Collected firewood from unfarmed areas of community	02
Collected firewood from own woodlot, community woodlot, or other places	03
Purchased firewood	04

4.6 What is your main source of lighting fuel?	Prompt
Collected firewood, grass, or other	01
Paraffin	02
Purchased firewood, electricity, gas, battery/dry cell (torch), or candles	03

4.7 Does the household own any lanterns (paraffin)?	
Yes	01
No	02

4.8 Does the household own any bicycles, motorcycles / scooters, cars, mini-buses, or lorries?	
Yes	01
No	02

4.9 Does the household own any irons (for pressing clothes)?	
Yes	01
No	02

4.10 How many sickles does the household own?	
None	01
One	02
Two or more	03

5. LIVESTOCK ** I am now going to ask you about livestock ownership and practices in your household.

In the table below, please ask for the numbers of cattle, goats and chickens owned. You will need to have the respondent differentiate ownership by the age of each animal, and ask if they are owned by men, women, or jointly between men and women in the household. As well, ownership must be differentiated by local species, exotics species and cross bred species.

5.1 How many _____ does your household own?		How many of those are local, exotic, or cross?			How many of these are owned by males, females or jointly?		
Names of Livestock Species	Total	Local Type	Exotic (Please specify)	Cross (Please specify)	Men	Women	Joint
Cattle							
24 month + (cows, bulls, oxen)							
12 - 23 months (bulls & heifers)							
6 - 11 months (weaned bulls, heifer calves, steers)							
0 - 5 months (calves)							
Goat							
Adults (bucks and does)							
Young (up to weaners - bucks and does)							
Chickens							
Cocks							
Hens							
Pullets							
Broilers ~ 5 weeks							
Layers							
Other Animals							
Sheep							
Pigs							
Guinea Fowl							
Ducks							
Rabbits							
Pigeon (all)							

5.2 How did you originally acquire the majority of ____ (type of livestock)? Prompt with type of livestock	Do NOT read out							
	01 Purchased				05 Government			
	02 Received from NGO				06 Other. Please specify			
	03 Received as a gift				07 Other.			
	04 Inherited				99 No response			
A. Cattle	01	02	03	04	05	06	07	99
B. Goat	01	02	03	04	05	06	07	99
C. Chickens	01	02	03	04	05	06	07	99

Now I want to ask you about products that your livestock produce

5.3 Do you produce any of the following products from your livestock?	Prompt	
Cow milk	01 Yes	02 No
Goat milk	01 Yes	02 No
Chicken eggs	01 Yes	02 No

5.4 If you produce goat milk, please specify the quantity of goat milk produced in the last 12 months (Oct 2013 – Sept 2014).	
Specify quantity in liters	_____ L
No response	99

5.5 If you produce cow milk, please specify the quantity of cow milk produced in the last 12 months (Oct 2013 – Sept 2014).	
Specify quantity in liters	_____ L
No response	99

5.6 If you, produce chicken eggs, Please specify the amount of eggs produced in the last 12 months (Oct 2013 – Sept 2014). Eggs (consumed or sold)			
Chicken Species	Average Per Week	Number of Weeks	Total
1. Chicken ~ local			
2. Exotic			
3. Chicken ~ Mikolongwe			

Now I want to talk to you about how you take care of your livestock

5.7 Do you grow fodder for your livestock?	If 02, go to 5.10
Yes	01
No	02
No response	99

5.8 If Yes, please specify the land size grown and the land size harvested for livestock consumption and target species?				
Type of Pasture	Yes	No	Land Size Planted (ha)	Amount Harvested
Rhodes Grass	01	02		
Napier Grass	01	02		
Thatch Grass	01	02		
Centro Cema	01	02		
Stylo	01	02		
Silver Leaf	01	02		
Agro-forestry Species	01	02		
Other. Please specify...	01	02		
Amount Harvest Codes	1 = < 1/2 ha 02 = 1/2 -1 ha	03 = 1-2 ha 04 = 2-3 ha	05 = > 3 ha 99 = No response	

5.9 Do you feed _____ (livestock) with the fodder?	Prompt	
Cattle	01 Yes	02 No
Goat	01 Yes	02 No
Chicken	01 Yes	02 No

5.10 What type of feed do you feed each type of livestock? Prompt by type of livestock	Do NOT read out – Multiple responses allowed							
	01 Layers/growers mash				05 Combination			
	02 Grain/barley meal				06 Scraps			
	03 Grazing				07 Other			
	04 Fodder				99 No response			
A. Cattle	01	02	03	04	05	06	07	99
B. Goat	01	02	03	04	05	06	07	99
C. Chickens	01	02	03	04	05	06	07	99

5.11 How do you house your livestock?	Do NOT read out							
	01 In dwelling unit				05 Roofed battery cage			
	02 Deep litter khola				06 Other. Please specify			
	03 Raised khola				07 Other. Please specify			
	04 Unroofed battery cage				99 No response			
A. Cattle	01	02	03	04	05	06	07	99
B. Goat	01	02	03	04	05	06	07	99
C. Chickens	01	02	03	04	05	06	07	99

5.12 What health measures do you take to treat your livestock when it is sick? Prompt by livestock type	Do NOT read out (CHOOSE ALL THAT APPLY)							
	01 None				05 Slaughter animal			
	02 Traditional (ethno-veterinary)				06 Other. Please specify			
	03 Use veterinary services				07 Other. Please specify			
	04 Sell animal				99 No response			
A. Cattle	01	02	03	04	05	06	07	99
B. Goat	01	02	03	04	05	06	07	99
C. Chickens	01	02	03	04	05	06	07	99

5.13 What health measures do you take to prevent livestock sickness? Prompt by livestock type	Do NOT read out (CHOOSE ALL THAT APPLY)							
	01 None				05 Use veterinary services			
	02 Vaccinations				06 Controlled breeding			
	03 Practice good hygiene				07 Other			
	04 Good disposal of dead animals				99 No response			
A. Cattle	01	02	03	04	05	06	07	99
B. Goat	01	02	03	04	05	06	07	99
C. Chickens	01	02	03	04	05	06	07	99

5.14 Are veterinary services readily accessible to you?	<i>If Yes, go to 5.16</i>
Yes	01
No	02
No response	99

5.15 If no, what is the main reason why veterinary services are not accessible?	
Cost	01
Distance	02
Don't know they exist	03
Other. Please specify ...	08
No response	99

5.16 Who in the household decides; Prompt by livestock and type of decision	Do NOT read out		
	01 Male HOH		05 Other male
	02 Male HOH with spouse		06 Other female
	03 Female HOH		07 Family as a whole
	04 Female HOH with spouse		08 Spouse to HoH
		99 No response	
	Cattle	Goats	Chicken
A. What animals to purchase			
B. What to feed livestock			
C. Livestock health measures to undertake			
D. If livestock should breed			
5.17 Who in the household is responsible for; Prompt by livestock and type of responsibility	Do NOT read out		
	01 Men		02 Women

	Cattle	Goats	Chicken
A. Feeding the livestock			
B. Day-to-day livestock care			
C. Taking care of livestock during breeding			

5.18 Are you a member of a producer group?	
Yes	01
No	02
No response	98

5.19 Please name producer group(s)?

6. GOAT AND CHICKEN PRODUCTION, MARKETING, BIRTHS, DEATHS AND CONSUMPTION

****Now I am going to ask you questions the different aspects of how your keep your livestock?**

6.1 Do you keep any records of your livestock practices?	
Yes	01
No	02
No response	99

6.2 Please provide trend of goat, chickens and other livestock ownership over the past three years (2012 - 2014)			
Livestock Species	2012	2013	2014
Cattle			
Goats			
Chicken			

6.3 Please indicate number of goats and chickens that were born, died, consumed, sold, and where they were sold. For goat and chicken sales please indicate the age of animal at time of sale, the form of animal at time of sale, the reason for selling, the selling place, month sold and price per animal.

	No. of _____ (Livestock) Births in last 12 months		No. of _____ (Livestock) Deaths in last 12 months		No. of Livestock Consumed in last 12 months		No. of Livestock Sold in last 12 months	
	M	F	M	F	M	F	M	F
Goats								
Chickens								

6.4 If you sold goats or chickens, please tell me more about your last 2 sales over the last 12 months.

	How many animals did you sell?	What was the age of the animal at the time of sale? 1=young 2=adult	In what form was the _____? 1=live 2=meat 3=Both live and meat 4=Skin 5=Milk 6=Processed meat	What was the main reason for selling? 1= To buy food 2= To buy farm inputs 3= School fees 4=To buy clothes 5=Other. Specify	Where did you sell them? 1= At area market (specify 2= To fellow farmers 3= To middlemen 4= To butchery 5=other	What month did you sell?	What was the price per animal that you received (MK)?
	M F						
1st Goat							
2nd Goat							
1st Chicken							
2nd Chicken							

6.5 Please ask and enter market information in Table below.

What are the Main Markets you use for _____?	Place Name	Market Type	Distance	Main Transport	Travel Time	Freq. of Visit
Livestock Inputs			km		hr.	
Livestock Outputs			km		hr.	
Codes		1 = auction 2 = village market 3 = vendor 4 = shop 5 = bus terminal 6 = other		1 = walk 2 = public transport 3 = own transport		1 = daily 2 = weekly 3 = monthly 4 =seasonally 5 = yearly 6 = never

6.6 How do you get market information on where to sell your livestock?	Do NOT Prompt Multiple responses allowed	
A. Through traders	01 Yes	02 No
B. Extension workers from government	01 Yes	02 No
C. Extension workers from NGOs	01 Yes	02 No
D. Radio programmes	01 Yes	02 No
E. Television programmes	01 Yes	02 No
F. News papers	01 Yes	02 No
G. Family/friends	01 Yes	02 No
H. Neighbours	01 Yes	02 No
I. Mobile messages	01 Yes	02 No
J. Other. Specify.....	01 Yes	02 No
K. No response	99	

6.7 If births in the last 12 months, Please provide the manner in which your livestock reproduce?	01=naturally 02 =purposeful breeding
Goats	
Chickens	

6.8 For the livestock that died, please specify how they died? Prompt by livestock type	Read out									
	01 Disease and parasites					06 Other animals				
	02 Vehicle					07Other. Please specify				
	03 Malnutrition					98 Don't know				
	04 Theft					99 No response				
05 Predation										
A. Goat	01	02	03	04	05	06	07	98	99	
B. Chickens	01	02	03	04	05	06	07	98	99	

6.9 Please provide details of costs of <i>goat</i> production last year (Oct 2013 -Sept 2014).				
Did you _____ in the last 12 months?	1 = Yes 2 = No	Total Units	Unit Cost (MK)	What was the Total Cost (MK) of _____ in the last 12 months?
Purchased Goats				
Goat Feed Costs				
Veterinary Services Costs				
Ganyu Labour				
Transportation Costs				
Respondent could not answer	99			

6.10 Please provide details of costs of <i>chicken</i> production last year (Oct 2013 -Sept 2014).				
Item	1 = Yes 2 = No	Total Units	Unit Cost (MK)	Total Cost (MK)
Purchased chicken				
Chicken Feed Costs				
Veterinary Services Costs				
Ganyu Labour				
Transportation Costs				
Respondent could not answer	99			

7. TRAINING

**** I am not going to ask you a few questions about types of training you've received regarding livestock and household economics.**

Do not prompt					
7.1 Have you or any household member received any type of training regarding _____ (livestock)?	If No to all , go to 7.2		What types of information did you learn?	Who provided the training?	Who in the household attended the training?
			01 Housing, 02 Health 03 Management 04 Marketing 05 Processing 06 Other	01 Government 02 NGO 03 Private Company 04 Community member 05 Financial institution 06 Educational Institution 07 Other	01 Male 02 Female 03 Both
Cattle	01 Yes	02 No			
Goats	01 Yes	02 No			
Chickens	01 Yes	02 No			

Do not prompt				
7.2 Have you or any household member received any training on _____?	If No to all , go to 8.1	Who provided the training? 01 Government 02 NGO 03 Private Company 04 Community Member 05 financial Institution 06 Educational Institution 07 Other		Who in the household attended the training? 01 Male 02 Female 03 Both
A. Savings	01 Yes	02 No		
B. Credit	01 Yes	02 No		
C. Budgeting	01 Yes	02 No		
D. Income Generation	01 Yes	02 No		
E. Financial Decision Making	01 Yes	02 No		
F. Financial Planning	01 Yes	02 No		

8. MAIZE GROSS MARGINS

**** I am now going to ask a few questions regarding your maize production last year.**

8.1 How much maize did you harvest last season? (2013/2014)?		
	Unit	Total Units
Maize Harvested		
Respondent could not answer the question	99	

8.2 How much maize did you keep for food? (2013/2014)		
Item	Unit	Total Units
Maize Consumption		
Respondent could not answer the question	99	

8.3 How much maize did you sell for cash? (2013/2014)			
Item	Unit	Unit Cost	Total Cost (MK)
Maize Sold			
Respondent could not answer the question	99		

8.4 Please outline all the expenses you incurred in producing maize last season? (13/14)

Item	Unit	Price per Unit	Total Cost	Comments
Seed				
Pesticide				
Herbicide				
Fertiliser				
Other inputs				
Bags				
Twine				
Other equipment costs				
Ganyu labour				
Transport				
Storage costs				
Other 1 (specify).....				
Other 2 (specify).....				
Respondent could not answer the question	99			

9. Food Security & Wellbeing

Part 1: Dietary Diversity

Identify respondent: <i>If main respondent is female --> No change of respondent for this section</i>						
<i>If main respondent is male --> Best choice is wife of HH head. If not available, replace with another other adult female HH member.</i>						
<i>If no adult female HH members --> indicate no appropriate respondent below</i>						
1.1	Is an appropriate respondent (adult female HH member) available?				Yes =1 No =2	If 2 ► Part 2
Respondent Name					Respondent Code:	
Enumerator Instructions: <i>Ask the respondent to describe the foods (meals and snacks) the women ate or drank yesterday during the day and night. Start with the first food or drink of the morning. Write down all foods and drinks mentioned. When composite dishes are mentioned, ask for the list of ingredients. When the respondent has finished, please probe for meals and snacks not mentioned.</i>						
Breakfast	Snack	Lunch	Snack	Supper	Snack	

Part 1: Dietary Diversity, continued

Enumerator Instructions: <i>When the respondent has recalled all meals, please fill in the table of food groups below. Mark "1" if any item belonging to the food group appears above. After finishing, probe: for any food groups not mentioned, ask the respondent if any food item from this food group was consumed. Be sure to use examples!</i>		
1.2		
Food Group	Food Items	Response: Yes = 1 No = 2
Grains Roots and Tubers	Rice, maize (nsima), sorghum, millet, potatoes, cassava, , wheat, Irish potato, bread	
Other Fruits and Vegetables	Banana, papaya, oranges, pumpkin, squash	
Dairy	Milk (including powdered milk) butter, yoghurt, cheese	
Organ Meats	Offals, liver, hearts, kidneys, tongue, tripe	
Eggs	Eggs	
Flesh Foods	Goat, beef, lamb, chicken, duck, fish	
Vitamin A Rich Green Vegetables	Spinach, lettuce, kales, pumpkin leaves	
Other Vitamin A Rich Vegetables and Fruits	Cabbage, carrots, chilli peppers, mangos, sweet potatoes, tomatoes, watermelon	
Legume and Nuts	Soya beans, beans, pigeon peas (daal) , groundnuts (peanuts), peas, chicken peas, bambara nuts lentils,	

Part 2: Months of Adequate HH Food Provisioning

2.1	Now I would like to ask you about your household's food supply during different months of the year. When responding to these questions, please think back over the last 12 months, from now to the same time last year. Were there any months, in the past 12 months, in which you did not have enough food to meet your family's needs? This includes any kind of food from any source, such as own production, purchase or exchange, food aid, or borrowing.	1 = Yes 2 = No	If 2 go to Part 3
Months	2.2	2.3	
	Which were the months in the past 12 months when you did not have enough food to meet your family's needs?	Why?	
	Enumerator instructions: Do not read the list of months aloud. Place a 1 in the box if the respondent identifies that month as one in which the HH did not have enough food to meet their needs. If the respondent does not identify that month, place a 2 in the box . Use a seasonal calendar if needed to help respondent remember the different months. Probe to make sure the respondent has thought about the entire past 12 months. You will not use all of the months listed below. Ask about the last 12 months.	<i>Record only for months where you put 1 in 2.2</i> <i>List the top reason why you did not have adequate food each month.</i> A. Drought I. Illness of HH member B. Floods J. Death of HH member C. Irregular rains K. Theft of productive resource D. Crop Pest & Disease L. Other criminal acts E. Livestock disease M. Erosion/Landslides F. High food prices N. Other..... G. High cost of farm inputs H. Employment problems	
October 2013			
November 2013			
December 2013			
January 2014			
February 2014			
March 2014			
April 2014			
May 2014			
June 2014			
July 2014			
August 2014			
September 2014			

Part 3: Household Hunger Scale

3.1	In the past 30 days, was there ever no food to eat of any kind in your house because of lack of resources to get food?	Yes = 1 No = 2		If 2 ► 3.3
3.2	How often did this happen in the past 30 days?	1= Rarely (1-2 times in past 30 days) 2 = Sometimes (3-10 times in past 30 days) 3= Often (more than 10 times in past 30 days)		
3.3	In the past 30 days, did you or any household member go to sleep at night hungry because there was not enough food?	Yes = 1 No = 2		If 2 ► L.3.5
3.4	How often did this happen in the past 30 days?	1= Rarely (1-2 times in past 30 days) 2 = Sometimes (3-10 times in past 30 days) 3= Often (more than 10 times in past 30 days)		
3.5	In the past 30 days, did you or any household member go a whole day and night without eating anything at all because there was not enough food?	Yes = 1 No = 2		If 2 ► Section
3.6	How often did this happen in the past 30 days?	1= Rarely (1-2 times in past 30 days) 2 = Sometimes (3-10 times in past 30 days) 3= Often (more than 10 times in past 30 days)		

Thank you very much for your participation

6.4 Annex 4 - - Gender Assessment Component Strategy and FGD Guideline

Malawi Livestock for Resilience Baseline Evaluation *Gender Assessment Component Strategy*

1. Aim and approach of the gender assessment component

1.1 Aim

The aim of the gender assessment component is, as stipulated in the technical proposal (page 5) to explore:

1. Decision-making related to livestock ownership, management, and veterinary care
2. Use of incomes from livestock products and expenditures related to livestock
3. Constraints and opportunities for women, youth, and vulnerable households in animal husbandry and veterinary care
4. Gender roles in livestock producer groups

1.2 Approach

To achieve the above aim, the following approach will be employed:

Survey

1. Purposeful selection of a number of women-headed households as respondents to the survey
2. Inclusion of gender specific questions in the survey
3. Inclusion of specific section in the survey to be completed by women in male-headed households

Focus Group Discussions

1. Four Focus Group Discussions specifically on gender issues, 2 of which are women-only, one is mixed, and one is men-only
2. Inclusion of gender-specific questions into the other agriculture Focus Group Discussion guides

Key Informant Interviews

To be determined (including, for example, female producer group leader; female producer group member; NGOs working on women's economic empowerment in the areas covered by the assessment; relevant district officials; etc.)

Similar questions will be asked in all setting in order to allow for triangulation of findings.

2. Tools

2.1 Survey questions on gender

The survey questions aim to mainly cover the following information points required by the Technical Proposal:

1. Decision-making related to livestock ownership, management, and veterinary care
2. Use of incomes form livestock products and expenditures related to livestock

Suggested questions

1. Who feeds the animal?
2. Who decides what to feed the animal?
3. Who decides when to vaccinate the animal?
4. Who decides when to take the animal to the vet?
5. Who pays for the vet services?

6. What do you think the most important function of a chicken/goat is? (Give options: income generation, consumption, other)?
7. Who decides what to do with the animal produce? (Give options: consumption, sale, other)
8. Who decides when to sell the animal/animal produce?
9. Who decides on the price at which the animal products are sold?
10. Who decides where the animal/animal produce are sold?
11. Who takes the animal produce to the market?
12. Who decides on what to do with the income from the animal produce?
13. What do you do with the income from the animal produce? (Give options: food, cloths, medical care, school fees, recreation/entertainment, animal care (feed, veterinary care), savings)
14. Is anyone your household a member of a producer group? If so, what is the members? What is the name of the group?

2.2 Gender Focus Group Discussions Guidelines

The Gender Focus Group Discussions aim to cover the following information points requested by the technical proposal:

1. Decision-making related to livestock ownership, management, and veterinary care
2. Use of incomes form livestock products and expenditures related to livestock
3. Constraints and opportunities for women, youth, and vulnerable households in animal husbandry and veterinary care
4. Gender roles in livestock producer groups and credit

Criteria for participant selection for all groups*:

5. Be a member of the local community of where the project will be/is likely to be implemented in Dowa & Ntchisi
6. Has had, or currently has, livestock**
7. (For some) Is, or has been, a member of a producer group

* 2 groups will be women-only, 1 group will be mixed, and 1 group will be men-only

Time Allocation (15 minutes)

- Please describe a woman's normal routine each day. What time does she wake up? What are her morning/afternoon/evening activities? How long do they take? [*Prompt with below questions if they are struggling, or did not touch on those themes*]
 - What agricultural and livestock activities does she do? How long do they take?
 - What household activities does she do? How long do they take?
 - What social activities does she do? How long do they take?

Please describe a man's normal routine each day. What time does he wake up? What are his morning/afternoon/evening activities? How long do they take? [*Prompt with below questions if they are struggling, or did not touch on those themes*]

- What agricultural and livestock activities does he do? How long do they take?
- What household activities does he do? How long do they take?
- What social or group activities does he do? How long do they take?
- Would additional livestock create a lot of additional work for men? Women? Explain

Livestock (30 minutes)

- Why do households keep livestock? Specifically goats in chickens? Does the reason differ for men and women?
- What type of livestock do household in your community have?
 - Generally, which animals or livestock do women own or control in your area? Why?
 - Generally, which animals or livestock do men own or control in your area? Why?
- Who in the household generally makes decisions about livestock?

- Who makes decisions to purchase the livestock? Does this differ by type of livestock?
- Who makes the decision about animal health care for the livestock? Is anyone else involved in this decision? Is this different if the man/woman is in charge of that livestock?
- Who makes the decisions about feeding the livestock? Is anyone else involved in this decision? Is this different if the man/woman is in charge of the livestock?
- *Who generally makes the decisions about consumption and sales of livestock/livestock products? Is anyone else involved in the decision?*
- Who generally makes the decisions about what to do with the income made by sale of the livestock? Is anyone else involved in the decision? Does it matter if it is a “man’s” livestock or a “woman’s” livestock?
 - What do households typically do with the money from livestock sales?

What livestock rearing activities are women responsible for? Which are men responsible for? Is this different for different types of livestock? Probe with the following:

- Who looks after the animal on a day-to-day basis? Is this different for different types of livestock?
- Who takes the animal to the vet? Is this different for different types of livestock?
- Who is responsible for feeding the animals? Is this different for different types of livestock?
- Who is responsible for obtaining feed for livestock?
 - What type of feed is typically used for each type of animal?
 - Do men and women use different feed for the animals?
- Who is responsible for purchasing other inputs (other than feed or fodder) for the animals?
 - What types of other inputs are used? Does this differ for men or woman?
 - Do households have access to all the inputs they need? Does this differ for men and women?
- Who is responsible for taking the animal/product to the market or cooperative?
 - What challenges do you face taking the animals/animal products to the market? Do these differ for men or women?

Engagement in producer groups (20 minutes)

- Are there any livestock groups or cooperatives in your community?
- Do more women or more men belong to the livestock groups or cooperatives? Why?
- Who takes decisions in the group?
 - How much input do men have in making decisions in the groups they belong to?
 - How much input do women have in making decisions in the groups they belong to?
- Do women have leadership roles in the groups they belong to? What type of leadership roles?
- Do you feel like the group represents/represented your interests?
- If not, how could this be improved?

Extension Services (15 minutes)

- Do men have access to extension services? If yes, what type? If not, why not?
- Do women have access to extension services? If yes, what type? If not, why not?
 - Do women receive equal treatment from service providers?
- Are the extension workers that come to the community male or female? Does this matter?

Credit and Savings (20 minutes)

- Do most people in the community keep savings?
 - Where are the savings typically kept (in house, bank, VLSA, other)?
- What would your household do with more savings?
 - What do women use their savings for?
 - What do men use their savings for?
- What lending sources are available to men? To women?
- Can women get a loan independently, or is a male signatory required?

- Are men accepting of women having access to loans?
- Have you taken any loans or borrowed cash/in-kind from any lending source in the past 12 months? What was the lending source?
 - Has anyone wanted to borrow but not been able to? Why?
- Who is the household makes the decision to borrow? Is anyone else involved in the decision?

Mobility & Training (15 minutes)

For what activities do men travel outside the home or community? For what activities do women travel outside the home or community?

- Is it acceptable for a woman to travel outside the home/community for training? Under what circumstances? What time of day?
- Is it acceptable for a woman to travel outside the home/community to buy and sell products? Under what circumstances? What time of day?
- Who does a woman need permission from to travel outside the home/community? Who does a man need permission from?
 - Does this change if s/he is married or unmarried?
- What are methods of travel commonly used by men? By women?
- What constraints to women have to traveling outside of the home/community? What constraints do men have to traveling?

Please note: The timing and venue must be appropriate, depending on local customs, and convenient for the participants, taking into account their family and business responsibilities.

6.5 Annex 5 - - Livestock FGD Guideline

Malawi Livestock for Resilience Baseline Evaluation Livestock Focus Group Discussion Guideline

Opening questions (20 minutes)

Essential questions

First I want to talk to you about livestock and other types of livelihood activities

- What are the main livelihood activities your household is involved in? [Please ask detail about specific livelihoods – for example, if agriculture: what crops do you grow?]
- Do you currently have livestock?
 - Which types livestock do you currently have?
 - How many of each type?
- If no, have you had livestock before?
 - Why do you no longer have them?
- For what purposes do you maintain livestock?
- [If livelihood] How important is your livestock livelihood compared to other livelihoods?
- What are the major challenges you have faced in keeping livestock?

Practices, roles, responsibilities, decision-making in goat and chicken care (20 minutes)

Now I want to talk about how you take care of your goats and chickens

Essential questions

Now I want to talk to you about how you care for your goat and chickens

- What activities do you undertake on a day-to-day basis to care for your goats? Chickens? [Please have answers specified for goats and chickens]
 - For each activity, ask “who in the household is responsible for this activity?”

- What health measures do you undertake with your goats and chickens? How often?
Are there veterinary services available in your area? Do you use them? If so, why? If no, why not?
- What do you feed your goats and chickens?
Where do you source this feed?
Do you grow fodder? Why or why not?
What challenges do you face in getting your preferred feed?
- Do you use any other type of input (other than feed) for the livestock?
What kinds? And where do you get these inputs?
- Where do you house your goats? Where do you house your chickens?
Why did you choose the particular type of housing for each species?

Use and decision-making related to use of animal produce/animal (15 minutes)

Now I want to talk about your sale and consumption of your goats, chickens and their products

Essential questions

Now I want to talk about the use of your goats and chickens and their products

- Have you sold any goats or chickens/or their products in the last year? Why or why not?
- If yes, what markets/or to whom do you typically sell your goats and chicken?
- Why did you select those markets/person to sell to?
- What challenges do you face selling your livestock?
- What are your methods of travel commonly used to sell livestock?
- Who controls the money from the sale of the livestock and/or livestock products?
- Have you consumed any of your livestock in the last year?
- When do you typically consume your livestock?
- Who decides/decided when to consume your livestock?

Producer groups (15 minutes)

Essential questions

Now I'd like to ask you about groups in the area and which ones you are a member of.

- Are there producer/livestock groups in the area? What types?
- What other groups are available in your community?
- Are you a member of a producer/livestock group?
- Why are you a member of a producer group? What services do/did you receive from the group?
- Did you have to pay a fee for membership? What is the fee?
- How could the group work better?
- Who takes/took decisions in the group?
- Do you feel like the group represents/represented your interests? Why or why not?

Training questions (10 minutes)

Essential questions

Now I want to ask you about any training you have received about livestock and household finances...

- Have you ever been trained in livestock production? If so, by who and how often?
- What topics did you learn in the training?
- Which practices you learned did you adopt? Which did you not adopt?
- Have you ever been trained on household finances such as budgeting and saving? If so, why, who and how often?

- What topics did you learn in this training?

Finances (15 minutes)

Essential questions

Now I want to talk about your experience with savings and credit.

- Do people in your community typically keep savings?
- If someone were to keep savings, where would they usually keep them?
 - Are there financial groups in your community? (VLSAs and SACCOs)
- What do households do with more savings?
- Has anyone in the focus group taken any loans or borrowed credit from a lending source in the past year? What was the lending source?
- Has anyone wanted to borrow, but was not able to? Why?

L4R Project (15 minutes)

Essential questions

**** Make sure FG understand project components and objectives before answering.**

The L4R project will aims of promote the expansion and maintenances of small livestock assets, such as goats and chickens, to diversity household livelihoods and increase the capacity of households to adapt to economic and climactic shocks.

The project will have four main areas:

1. The project will distribute vouchers to enable households to purchased subsidised local goats and chickens
 2. The project will look to facilitate the formation and increase the capacity of producer groups. These groups will be trained in animal husbandry, marketing and group management.
 3. The project will equip and train para-vets in animal health diagnosis and treatment. It is then envisaged that these vets will then provide animal health services to the producer groups.
 4. The project will train members of each household in household economics, risk prevention and planning and business planning.
- Do you believe this project will meet the community's needs? Why?
 - Would you be interested in the activities of the project? What specifically are you interested in?
 - Are there any other activities that you feel would be important to include in this project?

6.6 Annex 6 - - List of Key Informants Interviewed

	KII Type	KII Respondent Name	KII Respondent Position
Dowa	District Livestock Officer	Jimmy Chikumbitso	District Livestock and Veterinary Officer
	District Gender Officer	N/A	Gender Officer
	Animal Health Service Provider	Jimmy Chikumbitso	District Livestock and Veterinary Officer
	Farmer Producer Group	Regina Tchumakalukucha	Tempeka Group - Chairperson
	MFI	Stelia Kaomba	Tiyanjane Microloan - Member
Ntchisi	District Livestock Officer	Francis Mhango	District Livestock Officer
	District Gender Officer	Mr. Chanche	Gender Officer
	District Gender Officer	Mr. Sikwese	Social Welfare Officer
	Animal Health Service Provider	Edward Mwanditsa	Assistant Veterinary Officer
	Farmer Producer Group	Grecious Harry	Kacheweile Group - Chairperson