GOVERNMENT OF MALAWI

MINISTRY OF AGRICULTURE, IRRIGATION AND WATER DEVELOPMENT

SHIRE VALLEY IRRIGATION PROJECT

COMMUNICATION, COMMUNITY PARTICIPATION, LAND TENURE AND RESETTLEMENT POLICY FRAMEWORK

SOCIO-ECONOMIC BASELINE REPORT

COWI A/S
Parallelvej 2
DK-2800 Kongens Lyngby, Denmark
Tel: +45 56 40 00 00
www cowi.com

March 2017

CONTENTS

List of Tables

List of Figures

Definitions

Household	The term household refers to a group of people who reside together and share in the functions of production and consumption. It is also the smallest unit of consumption, and sometimes production.[1]
Household Head	But for purposes of the census, the household head was considered to be that person among the household members who is acknowledged by other members of the household as the head and who is often the one who makes most decisions concerning the welfare of the members of the household. Hence the people presented in this chapter as household heads are those males or females who were reported as heads by members of their specific dwelling units.[2]
Poor and ultra-poor[3]	The threshold level of welfare that distinguishes poor households from non-poor households is the poverty line. The poverty line can be defined as the monetary cost to a given person, at a given place and time, of a reference level of welfare. The total poverty line comprises two principal components: food and non-food. The food poverty line represents the cost of a food bundle that provides the necessary energy requirements per person per day. First, the daily calorie requirement was set at 2,400 kilocalories per person. Second, the price per calorie was estimated from the population in the 5thand 6th deciles of the consumption aggregate distribution. Last, the food poverty line is calculated as the daily calorie requirement per person multiplied by the price per calorie. The non-food poverty line represents an allowance for basic non-food needs. It is estimated as the average non-food consumption of the population whose food consumption is close to the food poverty line. The total poverty line is simply the sum of the food and non-food poverty lines. Individuals who reside in households with consumption lower than the poverty

[1]Census for Housing and Population 2008. Gender Report. Section 6.1. NSO

[2] Census for Housing and Population 2008. Gender Report. Section 6.2. NSO

[3] IHS3, NSO.

	line are then labelled “poor”. Using the minimum food consumption as an additional measure, we can identify the “ultra-poor”, as households whose consumption per capita on food and non-food items is lower than the minimum food consumption
Mortality rates	**Infant mortality** is the number of deaths under one year of age occurring among the life births per 1,000 live births per year. **Child mortality** is the number of deaths between one year and exactly five years per 1,000 live births per year. **Under-Five mortality** is the number of deaths between birth and exactly five years per 1,000 live births per year.
Ganyu	Casual labour
Parcel[4]	A parcel of land is a piece of land that has been allocated to any member of the household, whether usedfor farming or not. It includes grazing land, woodlot, orchard, and the land where the household has builtits dwelling unit.
Plot4	Part of a parcel that contains a different crop or crop mixture or is operated by a different person in the same household. It must be a continuous piece of land and should not be split by a path of more than one meter in width. Thus, a parcel can have one plot or several plots. Plot boundaries are defined according to the crops grown and the operator. Any part of a parcel that is under fallow will be considered as a plot.
(Involuntary) resettlement	Direct economic and social impacts that both result from investment projects, and are caused by: (a) The involuntary taking of land resulting in (i) relocation or loss of shelter; (ii) loss of assets or access to assets; or (iii) loss of income sources or means of livelihood, whether or not the affected persons must move to another location; or (b) The involuntary restriction of access to legally designated parks and protected areas resulting in adverse impacts on the livelihoods of the displaced persons[5].

[4] Nacal, NSO

[5] Operational Guidelines, World Bank.

Youth	All persons from age 10 to 35 years regardless of their sex, race, education, culture, religion, economic, marital and physical status. It recognizes that youth is a definitive social entity that has its own specific problems, concerns, needs, and aspirations. It must be mentioned here that the definition of youth has continuously changed variably in response to political, economic and social perspectives. In this regard, this policy will use the word "youth" and "young people" interchangeably[6]

[6] Republic of Malawi, 2013, National Youth Policy of Malawi, 2nd Edition, Ministry of Youth and Sports, Capital Hill, Private Bag 384,Capital City, Lilongwe 3, MALAWI

Abbreviations

AfDB	African Development Bank
AIDS	Acquired Immune Deficiency Syndrome
CCPLTRPF	Communication, Community Participation, Land Tenure and Resettlement Policy Framework
CDM	Centre for Development Management
Census	National Census of Housing and Population 2008
CSO	Central Statistical Office
DHS	Demographic and Health Survey of 2010
F	Female
FGD	Focus Group Discussion
FHHH	Female Headed Household
GoM	Government of Malawi
GVH	Group Village Head
HH/hh	Household
HIV	Human Immunodeficiency Virus
IHS3	Integrated Household Survey 3 of 2011
M	Male
MAIWD	Ministry of Agriculture, Irrigation and Water Development
MHHH	Male Headed Household
MoLHUD	Ministry of Lands, Housing and Urban Development
NACAL	National Census of Agriculture and Livestock 2006
NGO	Non-Governmental Organisation
NSO	National Statistical Office of Malawi
Ph	Phase
PTC	Project Technical Coordinator for the SVIP
SVIP	Shire Valley Irrigation Project
T	Total
TA	Traditional Authority
TFS	Technical Feasibility Study
VH	Village Head
WB	World Bank

Executive Summary

Background

The Government of Malawi (GoM) is implementing comprehensive studies required to appraise the Shire Valley Irrigation Project (SVIP). This socio-economic baseline report is part of the 'bankable' documents required to secure financing from the GoM, World Bank (WB), African Development Bank (AfDB) and possible other donors. It is prepared by COWI; the Communication, Community Participation, Land Tenure and Resettlement Policy Framework (CCPLTRPF) Consultant.

Gender, youth and poverty are crosscutting issues in all preparatory studies and have been reported throughout the report and not separately.

The estimated 2016 population of the SVIP project area is 223,000 (48,400) households) of which 128,000 people (27,400 households) are residing in the SVIP Phase 1. The estimated 2021 population is 259,124 (56,241 households), of which about 110,390 (24,402 households) live in the SVIP Phase 1 area. The confidence level is 95%.

Most villages were established about 100 years ago and have known a regular influx of people also thereafter, mainly for economic reasons. Integration of the newcomers was generally without problems.

Land Tenure and Land Use

Land is mainly used for rain fed agriculture (69%) and settlement (28%). Only 2% of the land is irrigated and less than 0.5% set aside for grazing, business, renting and other uses. The better off and rich more often use their land for business, grazing and woodlots. Poor more often renting out or selling their land to obtain some cash if they are not able to develop it.

Over 70% of the respondents in the household survey had 3 to 4 parcels. The total area held by households is small, 23%had a landholding of less than 0.81hectares, 19.8% had 0.81 to 1.22 hectares, and 30.7% had 1.22 to 2hectares. A parcel of land is held in the name of the head in 96% of the households. This percentage is higher in male (98%) than female (86%) headed households and lowest in young female headed households aged younger than 36 years (66%). Southern Region has the highest proportion of female owned parcels in Malawi because of the matrimonial societies living within the area.

54% of the parcels of the household are within 1,500 meters of their main dwelling unit and 17% within 1,500 to 2.999 meters. Only 18% of the parcels are located 5 kilometres or more away.

A majorityof the land in the SVIP area is customary land (81%), 18% being private land, and 1% other. The proportion of customary land is higher in Phase 2 (90%) than in Phase 1 (75%) probably due to the existing large estates within this area. The household survey found that 16% of the land was under disputes. Of all the land cases, 45% of the disputes were with the neighbour, 25% with the village head, 21% within the family, and 9% with others. Land disputes are generally solved by those involved (43%), by chiefs (50%) or formally by Village Head (VH), Traditional Authority (TA) or the Courts (49%)[7]. Female headed households have a preference for settling disputes by VHs(95%) and male headed households by the VH, TA or the Courts (95%).

Economy and Food Security

The mean per capita expenditure per year in Malawi was MK 56,548 in 2011 (IHS3). The main per capita consumption in the SVIP areas is lower than the national figure and below the poverty line of MK 37,002 in all TAs within Chikwawa and Nsanje Districts, apart from TA Lundu (MK 37,820), in which the Illovo Company and estate are located. The per capita consumption was lowest in the area of TA Chapananga (MK 14,441). Two thirds of the expenditures are spent on food in Chikwawa (66%) and Nsanje (68%) District, and 16% - 17% on housing.

The incidence of poverty and ultra-poverty in TAs in Chikwawa (81.6%) and Nsanje (81.2%) Districts is higher than the national average (50.7%) in all TAs, apart from TA Lundu (42%) and TA Katunga (50%). The incidence of ultra-poverty in the two districts (Chikwawa 59% and Nsanje 56%) is higher than the national average of 24.5% as well. Chapananga (91% poor and 63% ultra-poor) and Makhuwira (84% poor and 55% ultra-poor) are the TAs with the highest proportion of poor and ultra-poor. Using the Progress out of Poverty Index (PBM definition), the SVIP household survey found that 58.7% of households were likely to be living below the old poverty line of $1.25/day, which is higher than the national average of 50.7%. More female headed (61.4%) than male headed (58.1%) households were likely to live below the poverty line. All households had some earning although for 11% of them it amounted to less than MK 10,000 per year. The median annual income of female headed households (MK30,000) was less than of male headed households (MK40,000).

The main source of income for households in the SVIP area is the sale of crops (52%), followed by ganyu or casual labour (18%). In female headed households (28%) ganyu is more often mentioned as a source of income than in male headed households (16%). The opposite is the case with formal permanent employment in male headed households (9% in MHH and 2% in FHH). While no male headed households engaged in land rentals it was the main source of income in 1% of the female headed

[7] More than one answer was possible so the total is over 100%

households. The main other source of income is ganyu (40%), especially in female headed households (47%). Households were engaged in at least one (28%) and a median of two activities. The median number of activities is slightly higher in male headed households (2) than in female headed households (1.8).

The food security of 7% of the population in Chikwawa District is low and of 71% very low. Of the remaining 22%, the food security status of 5% is marginal and 18% high. Own produce is the main source of food in 85% of the households and only 15% is purchased from the market. All households had at least one meal the day prior to the interview and 54% two meals.

In 9% of the households the last harvest did not even last one month. Overall three quarters of the households (75%) had run out of food after six months of harvesting. In female households this is even 87%. Only 13% of the male headed and 8% of the female headed households had enough food for 12 months or more. The most difficult months to find food are November to March, of which January is the worst month (85%). Female headed households experience food shortages earlier, longer and more often than male headed households and households in the Phase 2 area more often than in the Phase 1 area. When their own food runs out, households use a combination of coping mechanisms of purchasing food (75%) and ganyu (60%). Females more often use ganyu (75%) and males more often purchase food (75%).

Most households own the basic tools for farming, such as hoe (93%), panga (68%) and axe (50%) indicating the low levels of farm mechanisation and confirming the dominance of smallholder agriculture in the area. Female headed households own less agricultural tools and equipment than male headed households. The same is the case with the ownership of large (MHHH 12% and FHHH 5%) and small livestock (MHHH 32% and FHHH 24%). Male headed households more often owned more luxury assets than female headed households, e.g. push bikes (MHHH 72% and FHHH 40%), cell phones (MHHH 55% and FHHHH 26%), radio (MHHH 43% and FHHH 21%), etc.

The SVIP household survey found that only 4.2% had obtained a loan in the past year (2014/2015). This percentage was lower for the youths (2.9%) than for adults (4.8%). Fewer female headed households (3.6%) accessed loans than male headed households (7.1%). Only 8.9% of female headed households in the SVIP impact areas had a bank account compared to 15.9% of male headed households. This also explains why access to financial products such as loans is quite poor.

The bulk of the economically active population is young in Malawi with 48% younger than 30 years[8]. Most of those are working in their farms. 64% of the economically active population has no formal education. The economically active population of females without education (70%) is far higher than those of males (57%). 24% has only primary education. Most of

[8] Source data in this paragraph is the Labour Force Survey 2013 of NSO.

the subsistence foodstuff producers are women between the ages of 45-54. The majority of the foodstuff producers has less than secondary education, so finding a job may be challenging.

The median number of household members contributing regularly to income and/or food in the household is one in female headed households and two in male headed households. Averagely 1.4 household members contribute in female headed and 1.9 members in male headed households.

Social Dimension

In 2008, the average life expectancy at birth was 51 years in Malawi, 52.2 years for women and 49.6 years for men. In Chikwawa this was 51 years and in Nsanje 45 years[9].

Infant Mortality (87), Child Mortality (59) and Under-Five Mortality (140) rates were the same in Malawi and Chikwawa District, but higher in and Nsanje District(respectively (102, 74 and 140) reflecting the lower nutritional status and food security[10]. Similarly the proportion of moderately underweight (Malawi 30.6, Chikwawa 38.6 and Nsanje 14.5), stunted (Malawi 11.4, Chikwawa 14.5 and Nsanje 13.4) and wasted (Malawi 31.0, Chikwawa 54.3 and Nsanje 13.4) children is higher in the two southern districts[10]**Error! Bookmark not defined.**.

Southern Region has the highest prevalence of HIV in adults aged 15-49 of 17.6% compared to 10.6% nationally[11]. Of the 18% of the people who reported an illness, 43% had suffered from fever and malaria and 11% from diarrhoea.

The highest level of education attained is the lowest in the two southern districts in Malawi. Whilst the overall literacy rate of Malawians in 2011 was 65%, the literacy rate in Chikwawa District was only 47% and in Nsanje even a lower 46%[12]. This rate decreases with age and is lower in females than in males.

In Malawi the access to an improved water source is high (90%). It is the same in the SVIP area (90%). The borehole is the main source of water in 78% of the households in the SVIP area. In the SVIP area 80% of the households have access to sanitation. Access of male headed and older household heads to sanitation was a little higher than of female headed and younger household heads. Most households use a traditional pit latrine.

Women's decision making at household level is limited. Often women are only allowed to make decisions on small and daily purchases for household

[9] Source: Census 2008

[10] Source: IHS3 2011

[11] Source: DHS 2010

[12] Source IHS3

needs, whilst men take decisions on large investments related purchases and important issues affecting the household. Married women made fewer decisions on their own than female headed households, while children generally did not make decisions. Although, the two districts have matrilineal societies, men often make decisions on land and land transactions.

Agriculture and Livestock

The proportion of households only engaged in agriculture in Malawi in 2011 was 85%. This proportion decreases when the level of income increases. The size of the cultivated holdings are the lowest in Southern region where 78.5% is smaller than 0.81 hectares. The holding sizes cultivated by female headed households is smaller than of male headed households. 25% of the land holdingsof female headed households are 0.81 hectares or more compared to 28% of male headed households.

The main types of crops grown by households are maize (24%), sorghum (18%), and cotton (17%). Maize is more often grown in the Phase 1 and sorghum in the Phase 2 area. Results of the SVIP baseline survey found that the average yield for maize per hectare was about 517 kg/ha, for sorghum it was 297 kg/ha, for cotton 336 kg/ha and for rice 862 kg/ha. Yields are generally higher for male headed than female headed households, due to the inability of female headed households to access inputs in particular fertiliser and improved seed.

All of the maize and sorghum is consumed at home and 98% of the cotton is sold. Rice and beans are consumed at home and sold at the market. The majority of the crops are sold at the local market or to a trader. Female generally prefer to sell at the local market whilst males prefer the trader.

The main constraints experienced in cultivating are climate change with unpredictable rains, droughts and floods (98%), pests, diseases and birds (55%), and lack of farm inputs (37%)[13].

Over 60% of the households surveyed were not visited by any extension worker in the last twelve months. Only 23% was visited twice, 7% thrice and 8% more often. The results show that extension messages are appreciated and do get across if the extension worker is visiting regularly.

Only 14% households interviewed were practicing irrigation using simple irrigation method such as the furrow/treadle pump or manually lifting water from the stream/river or shallow open wells. The main crop grown on irrigated land is maize (70%) followed by vegetables (13%). The main reasons for not practicing irrigation are the unavailability of a reliable water source (56%) and lack of materials (24%).

The most common type of livestock kept in the area are cattle, goats, pigs and chicken according to the FGDs. Keeping ducks was mentioned by 63% of the FGD participants. SVIP household survey results show that free gracing land, such as along roads and in between houses, is the main

[13] The total is more than 100% because more than one answer was possible.

source of animal feed 96%), followed by crop residue (25%). Only few households graze the animals individually or use other sources of animal feed. There is not sufficient animal feed throughout the year in 64% of the female headed and 52% of the male headed households. The main sources of water for livestock throughout the year are the borehole and stream/river in 89% of the households. The main challenges in keeping livestock are; 1) disease (100% FGDs) with a low availability and affordability of vaccine and medicine, 2) secondly theft and 3), insufficient fodder. Livestock is most affected by foot and mouth disease.

All types of meat is the main livestock product in 65% of the households. About three quarters of the households consume all the meat (73%), mutton (75%) and eggs (78%). 50% of the dairy products are only consumed at home. Only 33% of the households sell livestock regularly, mainly when in need of cash. Only 2% of the households sell animals regularly for investment reasons. 73% sell their livestock at local markets and the remaining 26% to vendors/traders.

Gender and Youth

Despite the high ranking on the Gender Equality Index (GEI) and the Human Development Index (HDI), women are marginalised in many spheres of social, economic and decision-making positions. The situation has also been complicated by the fact that Malawi has not met Millennium Development Goal (MDG) 2, for universal primary education, MDG 3 on gender equality and women's empowerment[14] and MDG 5 on improving maternal health[15].

A project baseline study by the Ministry of Gender in 2012, showed that 56% of female respondents had no formal education compared to 44% of their male counterparts[16]. The same trend is noted for qualifications at Junior Certificate of Education (JCE), Malawi School Certificate of Education (MSCE) and non-university diploma levels. The MSCE level has a particularly large discrepancy between male respondents (76%) and female respondents (24%). Literacy rates for Chikwawa and Nsanje are both far below the national average at 48.6% and 45.5% respectively. (GoM, 2012).

The participation of women in decision in decision-making processes is generally low in Malawi. According to the 2015 SADC Gender Barometer, 17% of Members of Parliament in Malawi are women, compared to 15% who are in Cabinet and 11% who are councillors. (SADC, 2015)[17].Participation of women and youths in institutions which govern the water sector is critical, but often limiting (Unknown Author, 2006)[18], mainly because few women formally own land and their literacy levels are low.

[14]2010 Malawi Millennium Development Goals Report

[15]GoM, 2014, Ministry of Gender, Children and Community Development, Draft National Plan of Action to Combat Gender-Based Violence in Malawi, 2014 – 2020, Private Bag 330, Lilongwe 3

[16]GoM, 2012, Baseline study for the GEWE Project, Ministry of Gender and Community Development

[17]Gender Links 2015, SADC Gender Protocol Country reports and IPU last accessed 12 June 2015.

[18]Author not indicated in the reference

The ability of women to make decisions at household level is an important aspect of women empowerment (GoM, 2012). Often women are only allowed to make decisions on small and daily purchases for household needs. Decisions on large investments related purchases and important issues affecting the household are made by men.

The SVIP survey (Table 69) showed that the gender equality index on asset ownership of high value productive assets was lower for female headed than for male headed households. The opposite is the case for lower value reproductive assets.

In Malawi, access to financial services, especially credit is a luxury for the poor. The SVIP survey found that only 4.2% of respondents had obtained a loan in the past year (2014/2015). The percentage of those who had obtained a loan was lower for the youths (2.9%) and female headed households (3.6%) than the adults (4.8%) and male headed households (7.1%). Many studies have reported that the most common barriers for accessing credit include high interest rates, short repayment periods, requirement for collateral and past experience in business, and fear of losing their collateral which included land.

Only 8.9% of female headed households in the SVIP impact areas had a bank account compared to 15.9% of male headed households. Female headed households rely more on informal lenders than male headed households, thereby subjecting women to harsh lending conditions and putting them at risk of sexual violence. In addition, businesses owned by women have challenges in accessing markets, raw materials, operating capital and negotiate better prices, amongst others, due to high levels of illiteracy amongst women.

IHS3 showed that 94% of the cultivated plots used women to provide labour while a quarter reported to have used children. Only 23% reported to have hired their labour input.

Community Views on SVIP

Almost all households (98%) are willing to participate in the SVIP, even if it is decided on their behalf what crops can be grown under irrigation. The main conditions for participating in the SVIP are getting financial support to develop their land and receive extension services. 88% of the households is willing to pay for irrigation water.

When pooling together land, two third of the FGDs were of the opinion that the size of an irrigation block should be determined by the number of farmers per block. A little more than half of the FGDs believed that the size of the shares should be determined by the size of land brought in, whilst others believed the manageability of the farm, the level of investment and type of crops grown should also be taken into account.

The majority of FGD participants think that the government and traditional authority should be involved in the land reallocation process. Women generally have more faith in the village committees and men more in the traditional authority. People who do not want to participate in the SVIP

should be convinced to change their mind (9%), or rent out their land to those willing to participate (36%) or sell their land (41%) or be given land elsewhere (30%)[19]. Complaints should be lodged with the Village Head Group Village Head or Traditional Authority and about one quarter thought the District Council should handle complaints.

Most FGD participants thought that irrigation block should be organised in a cooperative (38%) and a hired company should manage the farm (31%). A smaller proportion thought a water user association (18%) or trust (11%) would be a better option. On the average, FGD participants proposed to grow a mixture of 46% of commercial and 54% 0f subsistence crops. In the Phase 1 area FGD participants proposed to grow commercial crops on 56% of the pooled land. The main challenges in keeping livestock when the SVIP is operating is a reduction in free grazing area according to two thirds of the FGDs.

The process for resettlement and compensation should be based on proper consultation and have room for discussion according to two thirds of the FGD participants. They should be notified well in advance and given the reasons for having to move as well as options on where to move to. People should be given proper time to move and the timing should take into account the farming season and allow harvesting before giving up the land. Compensation should be paid before vacating the land.

The criteria for valuing the land should be the size of the land (9%), resources on the land (94%), fertility of the land (8%) and value of the land (5%). One third of the FGDs also mentioned the quality of the house. Complaints should be lodged to the government (31%), chiefs/TA/GVH (44%), Human Rights Organisation (26%), District Commissioner or courts (36%), and village committee (12%)[20].

The adult male takes the decision to participate within the SVIP in 44% and the adult female in 19% of the households. In another one third of the households the decision is taken jointly. The main perceived benefit of the SVIP is improved food security.

[19] The total is more than 100% because multiple answers were possible
[20] The total is more than 100% because multiple answers were possible

1 Introduction

1.1 Background

Malawi's agricultural sector contributes 38% to the GDP and accounts for more than 80% of the export earnings[21]. Small scale farmers contribute about three quarters of Malawi's agricultural productionand provides a livelihood for 85 percent of the population.The main crop is maize. Most of the country is depending on rain fed agriculture, which has led to low agricultural production and productivity due to weather shocks and natural disasters. The Government of Malawi's Growth and Development Strategy (MGDS) sees the need to shift away from rain fed agriculture and intends to develop irrigated agriculture, among others, in the Lower Shire Valley on the western and eastern banks of the Shire River within the administrative districts of Chikwawa and Nsanje. The Government of Malawi (GoM) together with financial assistance of the World Bank (WB) and the African Development Bank (AfDB) will implement comprehensive studies required to appraise the technical feasibility, economic viability, and environmental sustainability of the proposed Shire Valley Irrigation Project (SVIP).

The objective of the proposed SVIP would be "to sustainably enhance incomes and hence food security of about 100,000 households in Chikwawa and Nsanje Districts through increased agricultural productivity and profitability by establishing market-linked smallholder farming ventures and professionally operated irrigation services in 42,500 ha of land". SVIP will be implemented in two phases, Phase I of about 21,485 ha on the eastern side of the Shire River, Phase II of about 21,310 ha on the western side of the Shire River.

The objective of the Communication, Community Participation, Land Tenure and Resettlement Policy Framework Study (CCPLTRPF) is to facilitate the project preparation and implementation during the planning phase (feasibility level studies) of the project, as well as develop land development strategies.

This includes a) studying land tenure issues (Land Tenure Diagnostic Study) and carrying out detailed land tenure mapping relevant for the proposed intervention; b) develop a land allocation and consolidation strategy; c) develop a Resettlement Policy Framework; d) implement a structured stakeholder consultation process and liaise with the relevant consultants, and communicate technical, PPP, and safeguards issues to the relevant stakeholders; e) develop and implement a grievance redress mechanism to accompany the intervention; f) develop an updated project socio-economic baseline; g) carry out a gender and youth strategy study

[21] Terms of Reference CCPLTRPF Consultancy

and guidelines; and h) carry out Capacity Assessment and Development Plan. This report presents the updated socio-economic baseline.

1.2 Gender, Youth and Poverty

Gender, youth and poverty are crosscutting issues and have been reported throughout the report when the situation for either of the groups are different from the others and not in a separate chapter. Where appropriate, data have been disaggregated to female and male headed households, which have been subdivided into age groups of younger than 35 years and of 36 years and older in line with the definition of youth in the National Youth Policy of Malawi.

1.3 SVIP Survey and Data Sources Notes

1.3.1 Data Sources

This report uses a combination of data from existing studies and data collected from the project area for the following main reasons:

- Some indicators need an elaborate study to obtain the data, sometimes over a longer period, which was not feasible within the project period.
- Obtaining data on all indicators would result in lengthy questionnaires and other survey instruments. Experience shows that the most reliable results are obtained if the interaction with the respondent is one hour or less. To obtain the data respondents are taken away from their other, often income generating, activities. This is another reason for limiting the interaction time with the respondents.
- Triangulation of results of the own set of data collected with the NSO data.

The formulation of the questions and options for answering closed questions follow the NSO formulations, which allows for comparison of the data sets.

The main NSO studies used in this report are:

- Integrated Household Survey of 2011,NSO
- Census of Population and Housing of 2008, NSO
- Malawi Demographic and Health Survey of 2010, NSO
- Malawi Labour Survey Report of 2013, NSO
- National Census of Agriculture and Livestock of 2006/2007, NSO
- Access and Usage of ICT Services in Malawi 2014, NSO

The sample size of the various NSO surveys vary and are not always sufficient large to disaggregate data to a lower level. Some data are only disaggregated to regional level, whilst other studies provide data per district

and sometimes per Agricultural Development District(ADD) or Traditional Authority (TA). As much as possible and the availability of data allowed, the latest available NSO data were used disaggregate to the lowest level for which data were available and meaningful.

The SVIP Integrated Field Survey was conducted in October, November and December of 2015 after a one week training in September. The bulk of the information was obtained through the SVIP Survey consisting of:

- Household interviews
- Focus Group Discussions, separately with young women and men, and adult women and men
- Key Informant Interviews
- Land Tenure and Land Use Mapping covering the whole area

The study area covered the proposed areas to be irrigated by the SVIP. By the time of the survey the TFS Consultant had only a preliminary definition of the area to be covered. Later in 2016, new areas were added in both the Phase 1 and the Phase 2 area of the project. However, these areas only form a small proportion of the total area and are located within the same TAs as identified in the preliminary area to be covered. Therefore, the representativeness of the sample for the area remains valid.

1.3.2 Household Questionnaire Database

Data were directly recorded into a specially designed Access Programme. A copy of the Access Database of the household questionnaire answers was submitted together with this report. The Access database can be uploaded into any statistical programme for analysis, such as SPSS or any other statistical programme.

1.3.3 Confidence Level

The confidence level was calculated using the following mathematical formula;

$n = \frac{N}{1+Ne^2}$ where N is the total number of households, n is the sample size and e is the margin of error at p=0.5 (the point of maximum variability). In the sample size calculation, the confidence level was set at 95%, the margin of error was 0.05[22] .

To check the reliability of data, the field supervisors provided quality control in the field during data collection and provided feedback to the data collectors if questions were not being administered properly. The data collectors were trained on data collection for the SVIP project.

[22] Sources: 1) Determining Sample Size by Glenn D. Israel, and 2) Yamane, Taro. 1967. *Statistics, An Introductory Analysis*, 2nd Ed., New York: Harper and Row.

Table 1 below shows the calculation of the margins of errors and the confidence level.

Table 1 Calculation of the SVIP Study margins of error

Phase	n	N	e^2	e*	Confidence level
1	574	21000	0.002	0.04	95%
2	406	27000	0.002	0.05	95%
Total	980	48000	0.001	0.03	95%

1.3.4 SVIP Sample Size

A total of 1,057 households were interviewed, 574 in Phase 1, 406 in Phase 2, 52 in the control area of Phase 1 and 25 in the control area of Phase 2. The household survey covered all TAs within the area. The proportion of household interviews administered to each age group show a similar pattern. An exception are the male headed households in the age group of 26 to 35 that show a higher proportion of administered interviews in the Phase 1 and lower in the Phase 2 area of the SVIP. The overall pattern in the control areas is similar as well. Due to the low number of interviews administered the proportions differ more from the total in the SVIP area than for Phase 1 and 2. Table 2 and below provides an overview.

Table 3below provide the details of the households interviewed within the SVIP and control areas.

Table 2 Number of households interviewed by location, gender and age

Number of households interviewed	SVIP area			Control areas	
	Total	Phase 1	Phase 2	Phase 1	Phase 2
Total	***980***	***574***	***406***	***52***	***25***
Female headed total	17%	16%	18%	10%	24%
Female headed 19-25	2%	2%	3%	0%	4%
Female headed 26-35	4%	3%	5%	8%	8%
Female headed 36>	12%	12%	11%	2%	12%
Male headed total	83%	84%	82%	90%	76%
Male headed 19-25	9%	9%	9%	12%	8%
Male headed 26-35	17%	27%	3%	31%	44%
Male headed 36>	46%	48%	45%	48%	24%

Source: SVIP Household Survey 2015

A total of 254 Focus Group Discussions were conducted in the SVIP area with an average number of 8.2 participants. Of these FGDs 110 were conducted in the Phase 1 and 144 in the Phase 2 area. An additional 12 FGDs were conducted in each of the control areas. below provides an overview.

Table 3below provides an overview.

Table 3 Overview of the number of participation in the FGDs

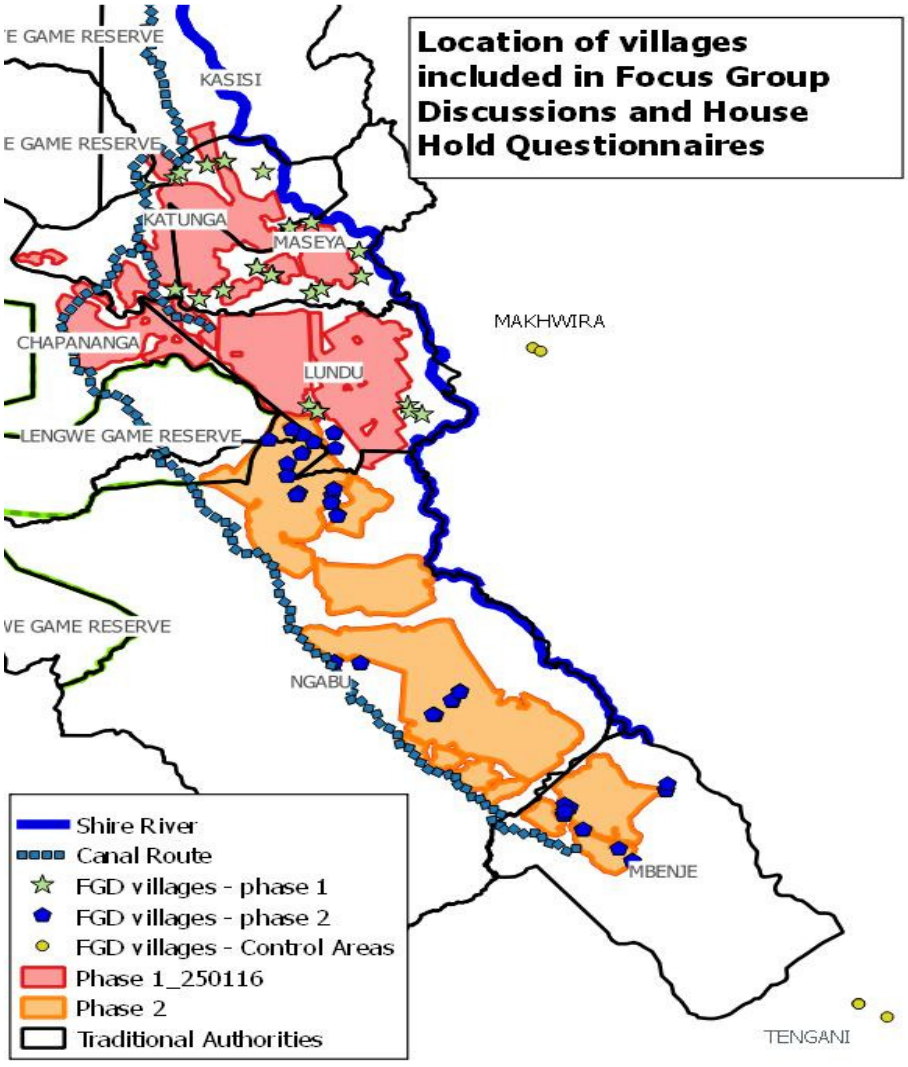
FGD Participation SVIP Area	Total SVIP				
	Men		Women		Total
	35>	35≤	35>	35≤	
Total SVIP area					
Number of FGDs Conducted	75	43	60	52	230
Number of Participants	475	307	519	427	1728
Average number of participants	6.3	7.1	8.7	8.2	8.2
Total Control Areas					
Number of FGDs Conducted	8	4	5	7	24
Number of Participants	62	32	43	64	201
Average number of participants	7.8	8	8.6	9.1	8.4

Source: SVIP Survey 2015 FGDs

The total of the percentages does not always add up to 100%. Rounding may provide a total a little higher or lower than 100%. Multiple answers were possible to some of the questions. In such a case the total number of respondents was used as the basis for calculating the percentages. As a result the total adds up higher than 100%.

Figure 1 below shows the areas in which the household questionnaires and Focus Group Discussions (FGDs) were administered.

Figure 1 Location of areas where household questionnaires and FGDs were administered



1.4 Note on data in the CCPLTRPF and TFS Reports

The quoted land areas in the various reports of the CCPLTRPF and Technical Feasibility Study are consolidated. However, data reflected in the CCPLTRPF and TFS reports were collected from different areas and, therefore shows different results, which is explained in this note

1.4.1 Land area sizes

The total land tenure and land use area surveyed by the CCPLTRPF team covers all villages in Phase I and Phase II that are wholly or partially covered by the SVIP. The total area of approximately 80,000 hectares was surveyed in two phases; 60,000 has at the end of 2015 and the remaining area in the middle of 2016. This is land within the project areas (customary land, private land and public land) including livestock movement corridors, settlement areas, common areas for grazing or wood collection, flooding areas, graveyards, etc. This project total land

area is different from the gross irrigated area identified in the TFS. The gross irrigated area identified by KRC is 50,831 hectares of land within zones as areas that can be irrigated. However, the net project area excludes infrastructure and small areas in the zones that cannot be irrigated (e.g because of elevation or soil condition) and therefore the net irrigable area is estimated at 43,000 hectares.

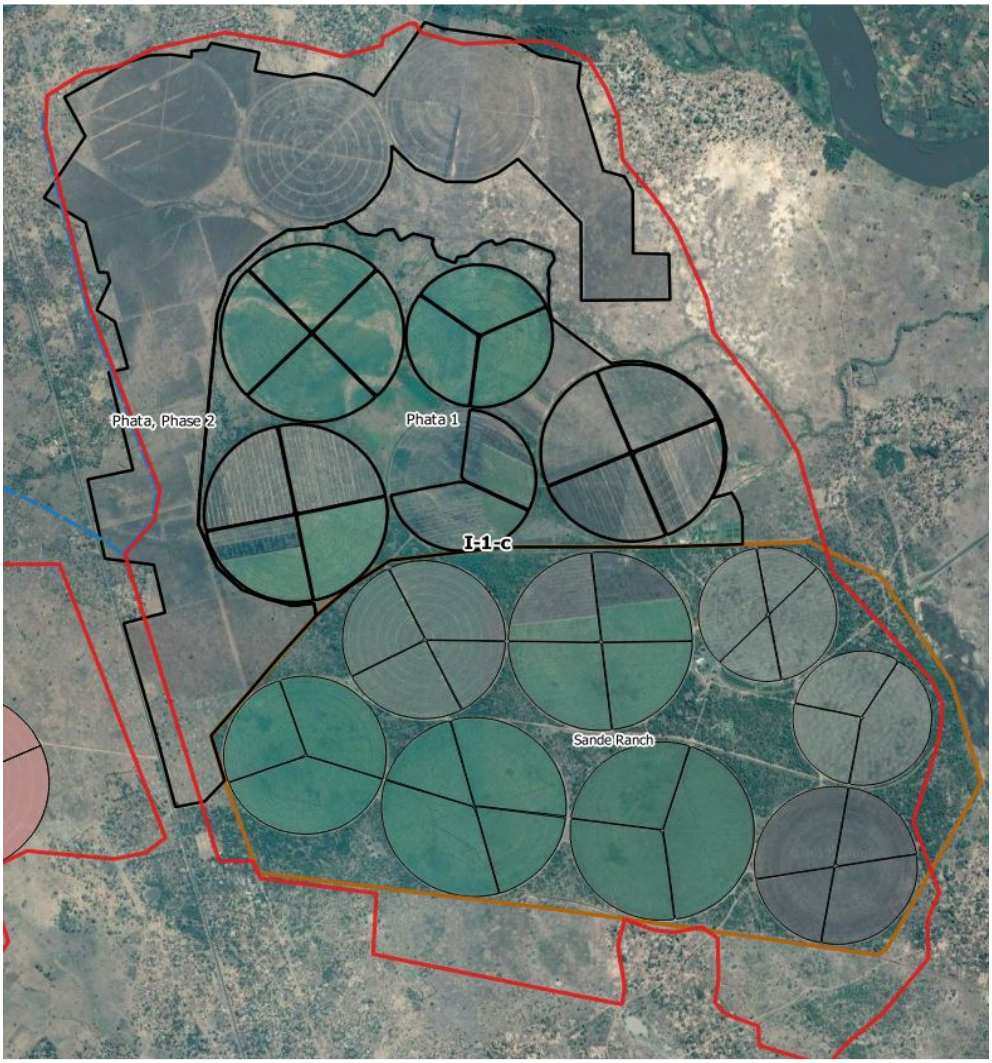
The following table shows gross and net areas for the various zones of the TFS and the corresponding gross and net areas for the irrigated areas of the CCPLTRPF based on orthophotos and field data.

Table 4 Gross and net areas used in the CCPLTRPF reports of COWI and the TFS reports of KRC.

Zone	Gross Area KRC (has)	Net Area KRC (has)	Existing Irrigation KRC	New (net) irrigatable land KRC	Existing Irrigation COWI (Gross area)	Existing Irrigation COWI (Net area)	New Gross irrigable land COWI	New net irrigable land COWI	Comments
	Draft Final Report Table 9.5-1		Draft Final Report Table 9.7-1		Based on Orthophotos and field data		KRC figures minus Orthophotos data		
I-1-a (+ I-1-e)	7183	6107	1429		1643	1396			Kasinthula
I-1-b	382	325							
I-1-c	1680	1106	750		1467	1093			Phata & Sande
I-1-d	386	328							
ZONE I-1	9631	7866	2179	5687	3110	2489	6521	5377	
I-2-a	4684	4179	4179		4684	4179			KRC figures
I-2-b	6566	5816	5816		6566	5816			KRC figures
ZONE I-2	11250	9995	9995	0	11250	9995	0	0	
A-a	614	522							
A-b	3919	3331							
A-c	179	152							
A-d	246	209							
A-e	241	205			29	29			Wimwi scheme
ZONE A	5199	4419	0	4419	29	29	5170	4390	
TOTAL Phase I	**26080**	**22280**	**12174**	**10106**	**14389**	**12513**	**11691**	**9767**	
B-a	5879	4997							
B-b	858	729							
B-c (Alumenda)	3188	2764	2764		2782	2764			
ZONE B	9925	8490	2764	5726	2782	2764	7143	5726	
C-a	9849	8372							
C-b	113	96							
C-c	571	485							
C-d	216	183							
ZONE C	10749	9136	0	9136	0	0	10749	9136	
D-a (incl. Kaombe	2844	2417	819		1129	827			Kaombe mcp/Trust
D-b	388	329							
D-c	845	718							
ZONE D	4077	3464	819	2645	1129	827	2948	2637	
TOTAL Phase II	**24751**	**21090**	**3583**	**17507**	**3911**	**3591**	**20840**	**17499**	
Total I+II	**50831**	**43370**	**15757**	**27613**	**18300**	**16104**	**32531**	**27266**	

In general there is a good correlation between KRCs and COWI's net areas, except for the Phata and Sande Ranch areas in Zone I-1-c. The difference of 347 hectares derives from the area of Phata, phase 2, which should be considered as existing irrigated area, since it is established both physical and organizational, see figure below. Further, the Wimwi scheme is not considered at all by KRC.

Figure 2 Phata phase 1 and 2 and Sande Ranch with 2016 orthophotos as background



1.4.2 Customary and Private Leases

The bases for calculating the percentages of customary and private leases differ depending on the areas uses. In the land tenure report the land tenure rights were collected within the total area surveyed, which is the 80,000 hectares. The land tenure rights reflected in the socio-economic baseline are based on the results of the household questionnaires that were administered outside the existing agri-business units where there are few private leases. TFS data are based on the gross and net zones of land that can be irrigated.

1.4.3 Irrigated area

The base for calculating the percentage of irrigated area various and depends on the size of the area in which the data are collected as explained above and reflected in **Error! Reference source not found.** above.

The percentages reflected in the LTDACS are based upon the total area surveyed, or on the detailed survey conducted in the main canal route of Phase 1 only. The results of the socio-economic household survey show a lower percentage of irrigated land, because the area from which the data are collected excludes the existing larger irrigated schemes. This will allow for measuring the impact of large scale irrigation without the contortion of results by the already existing schemes. Only 2% of the land holdings of the respondents to the household survey are irrigated with simple irrigation methods such as water cans and treadle pumps.

1.4.4 Estimating the beneficiaries

It is difficult to estimate the number of beneficiaries based on the average household holding size. Families usually have more than one parcel of land in various locations, one or more that may be within or outside of the irrigation zones. Therefore, it is very likely that only part of the whole land holding will be covered by the SVIP. As a result, the average land holding size gives only an indication of the number of potentially participants in the SVIP. The number of participating farmers is higher than the total land area divided by the average size of the land holding and increases further if those with land in the surrounding areas will become part of the agri-business units as well as proposed in the Land Tenure Diagnostic, Allocation and Consolidation Strategy.

Apart from the farmers with land in the agri-business units, there are far more beneficiaries, for example:

- Those that are supplying inputs and services to the agri-business units
- Those that are involved in marketing and processing the produce
- Increased demand for education, health services, food, transport, etc. because of a higher income.
- Those involved in the operation, maintenance and management of the SVIP.
- Those involved in providing professional services to the agri-business units.

The estimated beneficiaries may well come up to the 100,000 household mentioned in the draft objective in our TOR, or may even be higher.

1.5 High Level Indicators

High Level indicators are selected indicators measuring change within the SVIP area. All of the indicators on which baseline information is presented in this report do measure change over time if two or more data sets taken at different times are compared. For the SVIP some indicators are more important than others to monitor. The key indicators measuring impact within the SVIP are the following:

	INDICATORS	**Change measured**	**Source of Information**
1	Poverty and severe poverty rates	Increased income leads to a reduced rate of poverty and severe poverty	IHS by NSO
2	Average numbers of	Households with increased	IHS by NSO

	meals/day for adults and children	income spend more on food. This is, therefore a very sensitive proxy indicator to measure change in income.	
3	Literacy rate of women and men by age groups	After food education is another priority area in households leading to a higher literacy rate. This is a less sensitive indicator because change take a longer period of time.	Census and IHS
4	Nutritional status of children	Children are fed more often and better when the household has a little more income. This is a sensitive indicator.	IHS
5	Number of male and female farmers participating in the SVIP disaggregated by youth	This provide an inside in the proportion of the households participating within the SVIP.	Annual reports of farmers' organisations within the SVIP
6	Income gained from participation in the SVIP disaggregated by gender and youth	The average income gained from participation in the SVIP compared to the baseline income levels provides an indication of the change in income levels.	Annual reports of farmers' organisations within the SVIP

The Integrated Household Survey is conducted every 5 years and the census every 10 years. This provides information on the key indicators 1 to 4. Information on the 5th and 6th key indicators can be obtained from the farmers' organisations' records in their annual reports.Since the SVIP has not yet started no baseline data are presented on the 6th and 7th high level indicator in this report.

1.6 Report Structure

The report is divided into seven chapters including this introductory chapter. Chapter 2 presents the demographic information of the project area or the lowest geographical area for which data were available. Chapter 3 presents the land tenure and global land use data collected in the household interviews and Focus Group Discussions (FGD). More data are presented in the Land Tenure Diagnostic Allocation and Consolidation Strategy. Economic, poverty and food security data are presented in chapter 4. Chapter 5 on social dimensions is divided into four main sections; health, education, access to services and household decision making. The agricultural and livestock sector value is described in chapter 6. Chapter 7 presents the community views on the SVIP, which includes the willingness to participate and pay for water, and their views on pooling land, growing

commercial crops, resettlement and project management. In addition, it describes the perceived benefits and preferred ways of receiving messages.

Appendix 1 presents the survey methodology. Appendix 2 contains additional tables resulting from the household survey and focus group discussions. Appendix 3 contains the list of the main documents that were used as a source for the data used in this report. Appendix 4 describes the main features of the control areas. Appendix 5 contains a note on the calculation of the estimated population in the SVIP area and appendix 6 contains a copy of the survey instruments.

2 Demography

Demographic data provide an overview of the estimated size and composition of the population that may be affected by the SVIP and the scope of current migration taking place. It provides the reference for measuring change over time especially when compared with the changes in the size and composition of the population in other areas in Malawi without such a large investment. The disaggregation of data by gender and age allows for comparison between the genders and age groups and to measure change in each of the groups.

2.1 Population Size and Composition

The total population in Malawi in 2008 was just over 13,077,160[23], of which 6,718,227 were females and 6,358,933 males.The inter-censual annual growth rate of the population between 1998 and 2008 was 2.8%. The 2008 population of Chikwawa district was 438,895 of which 219,819 were females and 215,978 males. The district's annual inter-censual growth rate was 2%. This rate was 2.1% in Nsanje District where 238,089 people lived in 2008, 123,317 females and 115,424 males. Slightly more women than men live in Malawi and its two southern districts. The sex ratio of the number of females per 100 males was 94.7 in Malawi, and 99.0 in Chikwawa and 94.0 in Nsanje district.

The estimated 2016 population in the project area is 223,000 people in 48,400 households. Of these 95,000 people are residing in 21,000 households in the SVIP 1 area and 128,000 people in 27,400 households in the SVIP Phase 2 area. These are the people that will be directly affected by the SVIP. However, the impact is much wider if all impact is measured. For example, the extended families of those residing in the project area may receive gifts and other benefits from their families. It is also expected to have an impact on the businesses that will be expanded and newly established across the whole value chain as well as supplying food and other goods and services to a population with more income. Therefore, the

[23] Data in this section are from the 2008 Population and Housing Census preliminary report, NSO

impact of the SVIP area is much higher than the directly affected households. More information on how the estimates were arrived at can be found in Appendix 6.

The NSO has used the 2008 Census results to project the annual population until 2030. The SVIP area is mainly located in Chikwawa District apart from the area in TA Mbenje. Therefore, the population increase figures for Chikwawa were used to calculate the total SVIP area population increase for 2021, 2025 and 2030 compared to the 2016 population.

By 2021, which is the earliest date the SVIP is expected to be operational, the population in the SVIP area is estimated to have increased by 16.2% compared to 2016. The estimated population in 2021 in the SVIP is almost 260,000, of which110,390 people reside in the SVIP Phase 1 and 148,736 in the Phase 2 area. The number of households is estimated to increase to 56,241, of which 24,402 will reside in the SVIP Phase 1 area.

Four years later, in 2025, the projected SVIP population is estimated to have increased by 31% to 292,130 people, of which 124,450 will reside in the SVIP Phase 1 area and the remainder in the SVIP Phase 2 area. The number of households is estimated at 63,404, of which 27,510 in the SVIP Phase 1 area.

By 2030 the population is estimated to have increased by 51.8% over the 2016 population. An estimated 318,514 people will be residing in the SVIP area, of which 144,210 in the SVIP Phase 1 area. The number of households will have increased to 73,471, of which 31,878 will be staying in the SVIP Phase 1 area.

Table 5 Estimated population and number of households in the SVIP area

Year	**2016**	**2021**	**2025**	**2030**
Chikwawa	549,796	638,633	720,209	834,723
Increase		16.2%	31.0%	51.8%
Population				
SVIP Total	223,000	259,126	292,130	338,514
SVIP Phase 1	95,000	110,390	124,450	144,210
SVIP Phase 2	128,000	148,736	167,680	194,304
Households				
SVIP Total	48,400	56,241	63,404	73,471
SVIP Phase 1	21,000	24,402	27,510	31,878
SVIP Phase 2	27,400	31,839	35,894	41,593

Source: Own calculations and NSO estimated percentage of population increase.

In Malawi an average of 139 people lived per square kilometre in 2008. The population density was a little lower in Nsanje districts, 123, and even lower in Chikwawa district, 92, if compared with the national population density.

The population of Malawi is young with 48% younger than 19 years old. Within the TAs in the SVIP area the proportion of people younger than 20 years was 56% in 2008. Only 14% was 40 years or older. Of the total population of Malawi, 5.1% lived in the two southern districts of Chikwawa and Nsanje.

2.2 Household Size and Composition

A majority (76%) of the households in Malawi were male-headedand 22% were female headed[24]. The proportion of female household heads in Chikwawa (24%) is a little higher and in Nsanje (20%) a little lower than the national average[24]. Also the proportion of household heads younger than 18 is higher in Southern Region(0.5%) compared to the national level. It is higher in female headed households (0.9%) compared to male headed household heads(0.3%)[25]. Within the SVIP Household Survey, the household head was male in 84% of the Phase 1 area and 82% of the Phase 2 area. Of the total number of households heads, 11% was 19-25 years old, 30% was 26-35 years old and 60% was older than 35. Of the female household heads, 2% was 19-25 years, 3% 26-35 years and 12% older than 35. Of the male household heads these percentages were respectively 9%, 27% and 48%.

The average household size in Malawi is 4.6 persons. Male headed households have an average of 4.9persons and female headed households 3.8 persons[26].The average household size in Southern Region was a little lower than the national average, 4.3. Of all the households in Southern Region, 30% had 2-3 persons, 34% 4-5 persons and 27% 6 or more persons. Only 7% were single households.

The proportion of single households found in the SVIP Household survey was much higher, almost a quarter. The majority (69%) of the households, however, had between 2 and 5 members, almost the same as for Southern Region. Only 9% of the households had 6 members or more. Female headed households tend to be smaller in size than male headed households. The general trend shows an increased average household size as the age of the household head increases. The largest group of single households is found in females aged 19-25.

The average size of the household within the SVIP Household survey was slightly lower than the average for Southern Region and did not differ much from the Phase 1 to the Phase 2 area and across the age groups. Exceptions are the female and male headed households of 19-25 years of age who tend to have a smaller household size.

[24] Source: Welfare Monitoring Report 2011
[25] Census 2008.
[26] Source: IHS3, NSO

2.3 Marital Status Household Respondents

The majority of the household heads included in the SVIP Survey were married. 76% were in a monogamous and 9% in a polygamous marriage. Another 5% was divorced or separated and 10% was widowed. There is a great difference between the marital status of the male and female headed households heads. Of the male household heads 88% was in a monogamous marriage, 10% in a polygamous marriage and only 1% was divorced/separated and 1% widowed. Of the female household heads the majority was widowed (53%) and divorced/separated (26%). Only 17% was in a monogamous marriage and 4% in a polygamous marriage.

Table 6 Marital status household head of the respondents in the SVIP Survey (percent)

Marital Status Household Head Respondents	SVIP			Control area		
	Total	FHHH	MHHH	Total	FHHH	MHHH
TOTAL SVIP	(n=980)					
Never married	0	0	0			
Married monogamous	76	17	88			
Married polygamous	9	4	10			
Divorced/ separated	5	26	1			
Widowed	10	53	1			
Total	**100**	**100**	**100**			
PHASE 1	(n=574)			(n=52)		
Never married	0	0	0	2	0	2
Married monogamous	76	10	89	85	20	91
Married polygamous	8	3	9	6	0	6
Divorced/ separated	6	30	2	8	80	0
Widowed	10	57	0	0	0	0
Total	**100**	**100**	**100**	**100**	**100**	**100**
PHASE 2	(n=406)			(n=25)		
Never married	0	0	1	0	0	0
Married monogamous	76	27	87	64	0	84
Married polygamous	10	7	11	4	0	5
Divorced/ separated	3	17	0	4	17	0
Widowed	10	49	1	28	83	11
Total	**100**	**100**	**100**	**100**	**100**	**100**

Source: SVIP Household Survey 2015

2.4 Village History and Migration

The Census of 2008 collected information on the life time migration of people outside their own district[27]. The results of the internal migration show that the Southern Region including Chikwawa and Nsanje Districts had a negative net migration, meaning that more people moved out than into the area.

Results of the FGDs in the SVIP survey show that two third of the villages were established about 100 years ago, 45% in the SVIP area Phase 1 and 82% in the SVIP area Phase 2. A small percentage (2%) of the villages were established recently, around 2000. Some villages in the Phase 1 area were older (17%) and in 12% of the groups the participants did not know when their village was started.

The first people to settle in the area were the Sena (47%) and Mang'anja (40%). In the SVIP Phase 1 area the proportion of Mang'anje was higher

[27] Source: Census 2008, NSO, Migration Report

(53%) whilst in Nsanje the proportion of Sena was higher (67%). Other groups that were mentioned in the SVIP area are the Nungwi (11%) and the Nhota (3%). In the SVIP Phase 2 area the other group that moved to the area were the Tonga (2%). Most of the people that settled first migrated from Mozambique (57%), especially in the SVIP Phase 2 area and the Central Region of Malawi (30%).

Almost all people settled in the area to farm the land (99%). Only 1% came because of the fishing possibilities. Over half of the reasons for leaving their former place of residents is tribal wars (52%). One tenth left because of disputes and leadership succession conflicts (10%). Another 5% was displaced by the Illovo Sugar Company, 8% because of hunger and 7% due to floods. Other reasons vary from having no specific reason and just looking for a new settlement (12%) to running from the slave trade (1%), poor soils (1%), to being separated from main village (1%).

More people settled after the start of the village according to all the FGDs in the SVIP Phase 1 area and 83% of the FGDs in the Phase 2 area. The largest groups that moved into the villages later after the start of the villagebelong to the Sena (55%), Lomwe (53%) and Mang'anja (48%)[28] group of people. The main reasons for migrating were to find a place to settle and hunt (80%), the Illovo Sugar Company (13%) and marriage (2%). 77% of the immigrants integrated by marrying a local partner and in only 5% of the FGDs the immigration process was problematic. The main difficulties arose because of segregated living areas, different cultural beliefs and resulting misunderstandings, disputes and quarrels, witchcraft and stealing. The problems were sorted through mediation and negotiating with the assistance of chiefs, by tolerating each other's cultural differences and through witchcraft.

[28] Sometimes more than one group settled at the same time. Therefore the total percentage is higher than 100%.

3 Land Tenure and Land Use

The land tenure and land use data provide information on the current status of land tenure and use, and can be used as a reference to measure changes in the land tenure and land use pattern over time. Further, information is provided on the level and type of land disputes that occur and how these are currently settled. This information provided an input into, among others, the formulation of the Resettlement Policy Framework and Grievance Redress Mechanism.

3.1 Global Land Use

The household survey registered the main use of each parcel at the time of the survey. Of all the parcels of the households, 69% was used for agriculture and 28% for settlement. Only 2% of the parcels were used for irrigation and less than half a percent for grazing, business, renting out or other uses. The land use is similar for adult men, adult women, young men and young men and for SVIP Phase 1, SVIP Phase 2 area and the control areas.

Participants in the FGDs also mentioned that 97-100% of their land is used for agriculture[29] and 98-100% for buildings/settlement[30] and these are similar for adult men, adult women, young men, young women and the poor. The better off and rich also use their land for building shops, houses for rent, grazing animals and growing woodlots. Adult men are using their land more often for business/renting (72% of adult men, 34% of adult women, 34% of young men, 17% of young women) and growing woodlots (77% of adult men, 33% of adult women, 22% of young men and 5% of young women) than women, and young males more than young females although less than adults. 71% of the poor are renting out their land or 28% even sell all or part of their land that they are not able to develop.

[29] FGDs mentioned that 100% of the adult males, 99% of the adult females, 97% of the young males and 99% of the young females use their land for agriculture.
[30] FGDs mentioned that 98% of the adult males, 99% of the adult females, 98% of the young males and 100% of the young females use their land for agriculture.

The main reasons for renting out land in Malawi are the need for money (41%), not enough labour to work the land (15%) and having enough land (18%)[31]. The proportion of households renting out land for these reasons is slightly different in Chikwawa and Nsanje Districts. In Chikwawa 32% and in Nsanje 29% rent out their land because they are in need of money and 26% in Chikwawa and 25% in Nsanje District, because they do not have sufficient labour. Having enough land is the reason for renting out land for 22% of the households in Chikwawa and 31% in Nsanje District.

[31] Source of data in this paragraph: NACAL 2006/2007. NSO 2010

3.2 Parcel Number and Size

65.5% of the respondents of the household survey have 3 or 4 parcels. Households with 2, 3 or 4 parcels constitute 93.5% of the total. All households had at least one parcel of land and female headed households at least two. Male headed households more often had five parcels of land or more (4.8%) than female headed households (3.5%).

Table 7 Number of parcels per household by gender, age and location (percent)

Number of parcels per household	SVIP area (N=980)						
	Grand Total	FHHH			MHHH		
		Total	35>	35≤	MHHH	35>	35≤
0	0	0	0	0	0	0	0
1	1.9	0	0	0	2.3	2.4	2.2
2	27.9	29.4	30.1	28.1	27.6	22.7	33.8
3	36.1	38.2	35.4	43.9	35.7	36.2	34.9
4	29.5	28.8	30.1	26.3	29.7	32.5	26.0
5≥	4.6	3.5	4.4	1.8	4.8	6.1	3.0
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Source: SVIP Household Survey 2015

Parcel sizes range from less than 0.12 ha to over 4 ha, but the majority of the parcels sizes are small. 62.5% of the parcels are less than 0.4 ha and 95.8% less than 0.8 ha. More than half of all parcels in Phase 1 (55.2%) are smaller than 0.4 ha and over three quarters less than 0.8 ha (77.5%). Almost one third (32.5%) is more than 0.4 ha and less than 0.8 ha and the remaining 12.2% is more than 0.8ha in Phase 1.Within Phase 2 no parcels sizes larger than 3.44 ha were recorded. The proportion of parcels of 0.4 ha or less was 33.6%, which is less than in Phase 1. Just over half of the parcels (50.7%) had a size of 0.4 ha to 0.8 ha and 15.7% more than 0.8 ha and less than 3.44 ha.

Table 8 Parcel sizes in Phase 1 and Phase 2 by gender and age in percentages

Parcel size in hectares	Total	FHHH			MHHH		
		<=35	>35	Total	<=35	>35	Total
Total SVIP							
0.12 or less	0.0	0.0	0.0	1.1	2.4	1.8	1.5
0.12> - 0.20	15.8	6.2	9.4	6.6	5.0	5.7	6.4
0.20> - 0.28	24.6	21.2	22.4	21.3	11.8	16.0	17.1
0.28> - 0.41	21.1	22.1	21.8	21.6	21.0	21.2	21.3
0.41> - 0.61	22.8	26.5	25.3	25.5	24.7	25.0	25.1
0.61> - 0.81	10.5	8.0	8.8	12.2	19.4	16.2	15.0
0.81> - 1.22	1.8	10.6	7.6	8.3	10.9	9.8	9.4
1.22> - 2.03	3.5	5.3	4.7	2.2	3.7	3.1	3.3
2.03> - 3.44	0.0	0.0	0.0	0.0	0.9	0.5	0.4
3.44> - 4.05	0.0	0.0	0.0	0.3	0.0	0.1	0.1
4.05 or more	0.0	0.0	0.0	0.8	0.2	0.5	0.4

Parcel size in hectares	Total	FHHH			MHHH		
		<=35	>35	Total	<=35	>35	Total
Grand Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Phase 1							
0.12 or less	2.4	0.0	0.0	0.0	1.9	3.6	2.9
0.12> - 0.20	8.8	26.9	10.1	14.7	8.1	7.2	7.6
0.20> - 0.28	22.4	30.8	24.6	26.3	27.6	17.0	21.6
0.28> - 0.41	21.7	23.1	21.7	22.1	21.9	21.4	21.6
0.41> - 0.61	22.2	7.7	26.1	21.1	19.0	25.0	22.4
0.61> - 0.81	10.3	7.7	5.8	6.3	8.1	13.4	11.1
0.81> - 1.22	8.3	0.0	8.7	6.3	8.6	8.7	8.6
1.22> - 2.03	2.9	3.8	2.9	3.2	2.9	2.9	2.9
2.03> - 3.44	0.2	0.0	0.0	0.0	0.0	0.4	0.2
3.44> - 4.05	0.2	0.0	0.0	0.0	0.5	0.0	0.2
4.05 or more	0.7	0.0	0.0	0.0	1.4	0.4	0.8
Total %	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Phase 2							
0.12 or less	0.2	0.0	0.0	0.0	0.0	0.5	0.3
0.12> - 0.20	2.9	6.5	0.0	2.7	4.6	1.6	3.0
0.20> - 0.28	9.6	19.4	15.9	17.3	12.6	3.8	7.8
0.28> - 0.41	20.8	19.4	22.7	21.3	21.2	20.3	20.7
0.41> - 0.61	29.2	35.5	27.3	30.7	34.4	24.2	28.8
0.61> - 0.81	21.6	12.9	11.4	12.0	17.9	28.6	23.7
0.81> - 1.22	11.0	3.2	13.6	9.3	7.9	14.3	11.4
1.22> - 2.03	3.9	3.2	9.1	6.7	1.3	4.9	3.3
2.03> - 3.44	0.7	0.0	0.0	0.0	0.0	1.6	0.9
Total %	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: SVIP Survey 2015

The size of the land holding is less than 2 ha in 73.9 of the households. Within Phase 1 this is 77.5% of the households and in Phase 2 69.1%. The land holding is less than 0.4 ha in 7.1% of the households in Phase 1 and 6.4% in Phase 2. Only 3.4% of the households in Phase 1 and 6.9% in Phase 2 have a land holding of more than 3.44 ha.

More male than female headed households have larger land holdings. The proportion of male headed households with a larger land holding of more than 2 ha is 23.9% as compared to 15.8% of the female headed households in Phase 1.

Similarly fewer households headed by a person of 35 years or younger have land holdings of more than 2 ha for both young female (15.4%) and young male (19.5%) headed households than the female (18.2%) and male (27.2%) headed households over 35 years of age in Phase 1. The holding size of 47.3% of households is between 0.8ha and 2 ha in Phase 1. In Phase 2 this is 55.2%.

Table 9 Land Holding Sizes in Phase 1 and Phase 2 by gender and age in percentages

Land holding size in hectares	Total	FHHH			MHHH		
		<=35	>35	Total	<=35	>35	Total
Total SVIP							
0.12 or less	1.1	0.0	0.0	0.0	0.8	1.7	1.3
0.20> - 0.28	0.8	0.0	0.0	0.0	1.1	0.9	1.0
0.28> - 0.41	2.6	5.3	2.7	3.5	2.5	2.4	2.4
0.41> - 0.61	9.6	22.8	8.8	13.5	13.9	4.8	8.8
0.61> - 0.81	9.3	10.5	10.6	10.6	12.2	6.6	9.0
0.81> - 1.22	19.8	17.5	26.5	23.5	20.2	18.1	19.0
1.22> - 2.03	30.7	31.6	29.2	30.0	28.3	33.0	30.9
2.03> - 3.44	19.8	8.8	15.0	12.9	16.6	24.9	21.2
3.44> - 4.05	2.3	0.0	3.5	2.4	1.4	3.1	2.3
4.05 or more	3.8	3.5	3.5	3.5	3.0	4.6	3.9
	100.0	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Phase 1							
0.12 or less	1.9	0.0	0.0	0.0	1.4	2.9	2.3
0.20> - 0.28	1.4	0.0	0.0	0.0	1.9	1.4	1.6
0.28> - 0.41	3.8	11.5	4.3	6.3	3.3	3.3	3.3
0.41> - 0.61	12.6	34.6	13.0	18.9	16.2	7.6	11.3
0.61> - 0.81	10.5	7.7	10.1	9.5	14.8	7.6	10.7
0.81> - 1.22	20.8	23.1	27.5	26.3	20.0	19.6	19.8
1.22> - 2.03	26.5	15.4	26.1	23.2	22.9	30.4	27.2
2.03> - 3.44	16.9	3.8	13.0	10.5	12.9	22.1	18.1
3.44> - 4.05	1.5	0.0	2.9	2.1	1.4	1.4	1.4
4.05 or more	4.1	3.8	2.9	3.2	5.2	3.6	4.3
Total %	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Phase 2							
0.28> - 0.41	1.0	0.0	0.0	0.0	1.3	1.1	1.2
0.41> - 0.61	5.4	12.9	2.3	6.7	10.6	0.5	5.1
0.61> - 0.81	7.6	12.9	11.4	12.0	8.6	4.9	6.6
0.81> - 1.22	18.4	12.9	25.0	20.0	20.5	15.9	18.0
1.22> - 2.03	36.8	45.2	34.1	38.7	35.8	36.8	36.3
2.03> - 3.44	24.0	12.9	18.2	16.0	21.9	29.1	25.8
3.44> - 4.05	3.4	0.0	4.5	2.7	1.3	5.5	3.6
4.05 or more	3.4	3.2	4.5	4.0	0.0	6.0	3.3
Total %	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: SVIP Survey 2015

The average number of parcels accessed by a household is higher in Southern Region than for the whole of Malawi that registered an average of 2.4 parcels per household in the Integrated Household Survey in 2011 compared to 1.9 at overall national level and 2 for the Malawian rural areas. According to this survey households with an income in the third quintile used the highest number of parcels followed by those in the fifth income quintile. The elevation of the parcels is, not surprisingly, the lowest in the

country. The average parcel size of female operated parcel is about 45% smaller in size than of the male operated plots.

3.3 Land Ownership

The parcel of land is reported to be held by the household in 96% of the households and the remaining 4% by the spouse partner. This percentage is 98% in male headed households, which is higher than the 84% in female headed households and lowestin young female headed households (66%). This is the same in both Phase 1 and Phase 2 of the SVIP area although the proportion of parcels held by a young female is even lower in Phase 2.

Table 10 Person in whose name each parcel is held (percentages) (N= 3336 parcels)

Person in whose name each parcel is held	Total	FHHH	35>FHHH	35≤ FHHH	MHHH	35>MHHH	35≤ MHHH
Household head	96	86	94	66	98	98	98
Spouse/partner	4	14	6	34	2	2	2
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Source: SVIP Household Survey 2015

According to the IHS356% of thepeople in Chikwawa District obtain their parcel of land through inheritance and 64% in Nsanje District. About 22% of the parcels are granted by the local leader and about 11% rented for a short period of usually one year or one growing season only. Of the other ways to acquire land renting in for a short period is the highest.

Table 11 Percentage of parcels by parcel acquisition

Mode of acquisition	District		Gender of Parcel Manager		
	Chikwawa	Nsanje	Male	Female	Total
Granted by local lead	22.5	21.8	21.7	24.2	22.2
Inherited	56.2	63.7	60.0	58.1	59.6
Bride Price	1.8	0.4	1.2	1.1	1.2
Purchased with title	1.6	0.9	1.6	0.0	1.3
Purchased without title	2.7	3.9	2.4	7.0	3.2
Rent short-term	11.4	8.6	10.4	8.6	10.1
Borrowed for free	0.4	0.4	0.4	0.5	0.4
Others	3.4	0.4	2.4	0.5	2.1
Total	100	100	100	100	100

Source: IHS3 2011

The NACAL study found that 42% of all Malawians inherit their parcel of land from their mother's side, 23% from their father's side and 3% from the wife or husband why passed away. Within Chikwawa District 20% inherits their parcel of land from their mother's side, 34% from their father's side and 2% from the spouse that passed away. In Nsanje District these

percentages are 18% inherited from mother's side, 37% from father's side and 1% from spouse who passed away.

Table 12 Percentage distribution of parcels by how the parcel was obtained according to background characteristics – 2007/2007 season

	From VH	Inherited when wife or husband passed away	Inherited from mothers side	Inherited from fathers side	Borrowed from parents	Borrowed from others	Bought	Rented	Government	Other	Total
Malawi	18	3	42	23	1	2	4	3	1	2	100
Sex operator											
Male	17	2	38	27	1	3	4	4	2	3	100
Female	18	4	47	17	1	2	4	3	1	1	100
Parcel size											
<0.100 ha	19	3	42	22	1	2	4	3	2	2	100
0.100-0.199 ha	17	3	44	21	1	2	4	4	2	3	100
0.200-0.499 ha	17	3	42	24	1	2	4	4	1	2	100
0.500-0.999 ha	19	3	38	28	1	3	3	3	1	2	100
1.000 ha +	18	2	34	32	1	3	4	2	1	2	100
Region											
Southern	18	2	52	13	1	1	3	4	2	3	100
Central	16	3	40	26	1	3	5	3	1	2	100
Northern	22	6	5	53	1	2	4	2	2	3	100
District											
Chikwawa	26	2	20	34	1	2	6	7	0	1	100
Nsanje	25	1	18	37	1	4	6	7	0	1	100

Source: NACAL NSO

3.4 Land Tenure

Customary land is the predominant type of land tenure in Phase 1 and 2 according to the FGDs. The three types of land tenure existing within the villages are firstly customary land given out by the chief (mentioned in all FGDs), secondly private land, and thirdly customary land bought from others within the village. The existence of private land and customary land bought from others in the village was only mentioned in adult and young male FGDs.

The legal status of the parcels of land used by the households in the survey is 81% customary land and the remainder private land. This is the same for adult men, adult women, young men and young men. The proportion of customary land in Phase 2 (91%) is higher than in Phase 1 (75%), probably

because of the already existing irrigation projects in Phase 1, such as Illovo and Kasinthula that have private leases for at least part of their land.

Table 13 Legal Status of each parcel of land by gender household head, age group and SVIP Phase in percent

Legal status of land	Total	Total FHHH	>35 FHHH	FHHH ≤35	Total MHHH	MHHH <35	MHHH ≤35
TOTAL SVIP (N= 3336 parcels)							
Customary land	81	82	84	79	81	81	80
Private land	18	16	14	21	19	19	19
Other	1	2	2	0	0	0	0
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**
SVIP Phase 1 (N= 1894 parcels)							
Customary land	75	76	76	73	74	76	71
Private land	24	21	20	27	25	23	28
Other	1	3	4	0	1	1	1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**
SVIP Phase 2 (N= 1442 parcels)							
Customary land	90	91	96	82	89	89	90
Private land	10	9	4	18	11	11	10
Other	0	0	0	0	0	0	0
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Source: SVIP Household Survey 2015

The process to obtain land is to go and ask the chief who will allocate land for settlement, gardening, business or forests if it is available. This process is the same for men and women. Everyone has to pay, which is the main challenge to overcome. Men generally have more money to access land than women and culturally have more authority over land and property than women. Even in matrilineal societies male relatives of the female (e.g. brothers) take decisions on the land. The second major challenge is corruption. As a result it is easier for the rich to obtain access to(larger pieces of land)than the poor.Currently, there is little unallocated land left, but with the right connections and resources land can be reclaimed from people, for example when the land is not used. The majority of the FGD participants believe that nothing can be done to address the challenges to reduce the power and influence of the rich. A few mentioned referring land cases to the group village, the TA and/or the court.

3.5 Land Issues

It is important to note that landholders in the customary sector are varied and each type has specific rights to land which differ depending on membership category in the village. In Malawi, the general pattern is that there are four distinct membership categories in the village: core matrilineages *mbumba* /patrilineages *eni mudzi*; uxorilocally married men *akamwini*; virilocally married women *atengwa* or *nthengwa*; and immigrants *obwera*. Land conflicts in rural communities are usually associated with

these membership issues.[32] In the project area there are insignificant numbers of immigrants as most of the people settled in the area more than 100 years ago.
However, as has been reported in the media in recent years, there are land disputes in areas where large company estates exist. A recent example is the "Wandale" case[33] in Mulanje and Thyolo districts. Such conflicts involve communities complaining that the private estates keep large tracks of land idle while the people in the surrounding communities have nowhere to farm.

In the SVIP project area, there is no such conflict or dispute. The issue that may be of interest in the project area has to do with Nchalo Estate. This is a historical issue that stems from the original land grants by government in 1965 and 1974 to Lonhro (which Illovo acquired in 1997). Residual and unresolved claims are linked to the question of compensation, with some community members claiming they have a traditional right to land where Illovo claims they are in fact encroaching. The company hired a land specialist in 2012 to help sort out these issues. The length of time that has passed since the original allocation and the staged expansion of the company's estate have resulted in a complex arrangement of "encumbrances" within the estate boundaries, which encompass houses, schools, cemeteries, churches, and garden plots. However, company leadership acknowledges that this is a historical issue that will be difficult to deal with but affirms that doing so is a top priority.[34]

Consultations with community members and leaders in the area have revealed that people accept the existence of Illovo and only want Illovo to avoid any further expansion of their estates. Hence it can be concluded that the Illovo land issue will not become a barrier to the SVIP project.

There are minor disagreements among landholders; mostly involving disputes over garden boundaries. Of the 3603 parcels used by the families in the household survey, 583 parcels, which is 16%, were under dispute. Of all the land cases, 45% of the disputes were with the neighbour, 25% with the village head, 21% within the family, and 9% with others. Learning from the experiences of Phata Cane Growers Cooperative, the Kasinthula Cane Growers Trust and the Katunga-Maseya (KAMA) Association, it can be said that such disputes are easily resolved at the community level and will not be an obstacle to the development of the SVIP project. In all the three cases, such boundary disputes were resolved quickly by the village heads who are the ones who allocate land to community members.

---

[32] Khaila, S. et.al (2008). Matrilineality rules: Patterns of access to land and security of tenure in Malawi, Working paper.

[33] Vicent Wandale is the leader of People's Land Organisation (PLO) which demands local people's occupation of all idle land belonging to tea estates in the districts of Thyolo and Mulanje.

[34] Landesa (2015). Malawi Case Study: A Case Study Prepared by Landesa for the DFID-funded Responsible Investments in Property and Land (RIPL) Project October 2015

Disputes within the family are mostly redressed within the family and referred to the village head in case it cannot be solved within the family. In most cases disputes with neighbours are solved with the assistance of the village head or the group village head. In some cases these disputes are solved within the family or in other ways. Disputes with the village head are mostly solved by the paramount chief but in some cases also by the village head, group village head or TA. Other disputes were all redressed by the TA.

The number of land disputes in female headed households is slightly higher than in male headed households. It is the highest in young female headed households in both the SVIP Phase 1 and Phase 2 area.

Table 14 below shows thatland disputes are either solved by those involved, by the chiefs or by the chiefs or court. The proportion of male FGDs that mentioned settling disputes in that way is 77%, which is much higher than the 9% of the female FGDs. Most of the female FGDs (95%) mentioned that (village) chiefs are settling land disputes while men make a distinction between the levels of chiefs and mention courts as well. Formally there is no difference in which men and women, poor and rich can settle land disputes but in practice corruption occurs and the poor are oppressed by the rich.

Table 14:Solving land disputes by gender,household head and location (percent)

SOLVING LAND DISPUTES*	**Total SVIP**		
	Total	**Men**	**Women**
TOTAL SVIP			
By those involved	43	77	9
Sometimes formally VH, TA or court	49	95	2
Formally by chiefs	50	5	95
PHASE 1			
By those involved	53	100	5
Sometimes formally VH, TA or court	47	95	0
Formally by chiefs	53	11	95
PHASE 2			
By those involved	35	58	13
Sometimes formally VH, TA or court	50	96	4
Formally by chiefs	48	0	96

Source: SVIP Household Survey 2015.

*More than one answer is possible, therefore the total is more than 100%

The proportion of households with disputes over land has not changed over the last ten years when compared with the data from the National Census of Agriculture and Livestock conducted by NSO in the 2006/2007 agricultural season. Census results show that 15% of the households had experienced land disputes within the ten years prior to the 2006/2007 data collection. Within Chikwawa District this proportion was 16% and in Nsanje District 19%.

Close to half of the land disputes are with relatives. In Chikwawa District 48% and in Nsanje District 45% of the conflicts were with non-relatives within the 10 years prior to the 2006/2007 data collection for the NACAL. In Chikwawa only 4% and in Nsanje 9% of the conflicts were with the village head.

Table 15: Land Disputes by whom the dispute is with and location (percentages)

Land dispute with whom?	Malawi	Chikwawa	Nsanje
Relative from husband side	19	24	21
Relative from wife side	14	11	9
Other relative	18	15	19
Non-relative	38	48	45
Village Head	12	4	9
Politicians	1	0	0
Other	2	3	0

Source: NACAL 2006/2007, NSO 2010.

3.6 Distance to parcels

Over half of the parcels used by the household respondents are within 1,500 meters of their main dwelling unit (54%) and 73% within 2,500 meters. Only 18% of the parcels are located 5 kilometres or more away. The percent of female (60%) and male (58%) headed households that have their parcelwithin 1,500 metres of the main dwelling unit does not differ much. The distance pattern to parcels is similar in Phase 1 and Phase 2.

Table 16Proportion of households and distance of main dwelling unit to each of their parcels by gender and age household head

Distance to each parcel in km	Total	Total FHHH	FHHH 35>	FHHH 35≤	Total MHHH	MHHH 35>	MHHH 35≤
0- 0.499	32	36	35	40	34	31	32
0.500 –0.999	7	7	6	11	7	7	6
1.000 – 1.499	15	16	18	12	16	15	15
1.500 – 1.999	2	0	0	0	2	2	1
2.000 – 2.999	15	13	15	9	17	15	18
3.000 – 3.999	7	8	8	7	8	9	4
4.000 – 4.999	3	5	4	5	3	3	4
≥5.000 kilometres	18	14	14	16	13	18	20
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Source: SVIP Household Survey 2015

4 Economy and Food Security

This chapter presents the current status against which change can be measured on income and food security levels, ownership pattern of assets, labour pattern and diet.

The overarching national objective, as indicated in the MGDS, is to improve livelihoods by increasing income and reducing poverty. It is, however, difficult to find reliable data on income. Therefore, proxy indicators are used to assess the level of income. For example, the poverty line is determined by the package to purchase the minimum calories intake per person per day plus an additional percentage for other than food expenses. The number of meals eaten per day and the diet varies with the level of income and therefore measures changes in income indirectly. It changes as soon as the level of income changes and is therefore a good indicator to measure change.

Income, poverty and food security are closely related and overlapping. Food security is not only used to measure the level of food security but also to measure poverty levels. Therefore, economy, poverty and food security are presented in one chapter.

4.1 Income Levels and Poverty

The mean per capita expenditure in Malawi was MK 56,548 in 2011[35]. This per capita expenditure was twice as high in urban than in rural areas, MK 72,469 versus MK 33,103. The poorest 20% of households spent only MK 15,161 per person per year whilst the richest spent more than 9 times as much (MK140,458) as the poorest consumption quintile, and 2.5 times as much as the 4thconsumption quintile (54,770).

Table 17 below shows that the median per capita consumption is lowercompared to the national figure in all TAs within Chikwawa and Nsanje Districts. Chapananga has the lowest household expenditures followed by Makhuwira in Chikwawa District. Lundu and Katunga TAs, in

[35] Source of data in this paragraph: IHS3, NSO.

which the Illovo company and estate is located, have the highest income within the two districts, indicating a potential positive impact irrigated sugar and out-grower schemes by smallholder farmers. The per capita expenditures in female households are sometimes higher and sometimes lower than in male headed households.

Table 17 Mean Consumption per person per year by location (MK)

Location	Male	Female	Total
Malawi			
Average			54,568
Median			32,633
Urban average			118,840
Urban median			72,469
Rural average			43,055
Rural median			33,103
CHIKWAWA DISTRICT			
Chikwawa average			26,645
Chikwawa median			20,320
Ngabu	19,243	20,878	19,512
Lundu	37,820	22,433	35,896
Chapananga	14,441	17,611	14,788
Maseya	23,878	30,905	25,415
Katunga	25,474	76,728	35,084
Kasisi	22,892	16,933	21,030
Makhuwira	17,831	19,444	18,285
NSANJE DISTRICT			
Nsanje average			26,890
Nsanje median			21,733
Ndamera	24,537	28,036	25,412
Chimombo	25,092	22,125	24,258
Mlolo	20,366	19,730	20,207
Tengani	19,904	24,919	21,262
S/C Mbenje	23,499	20,106	22,905
Malemia	20,564	32,144	23,459
Mwabvi Game Reserve	31,304	32,682	31,649

Source: IHS3 2011

Table 18below shows that Malawians spent more than half of their per capita expenditure on food (56.3%). Persons residing in rural areas spent a larger proportion of their expenditures on food that those residing in urban areas, 62.3% versus 43.9%. People residing in Chikwawa and Nsanje Districts even spent a larger proportion of their expenditure on food than the mean rural Malawian, 66% and 68% respectively.

Malawians spent 16% of their per capita expenditure on housing and utilities. Urban residents spent more on housing and utilities than rural residents. People living in the combined urban and rural areas Chikwawa

spent 1% more and those living in Nsanje the same as the national average on housing and utilities. On all other broad expenditure types the mean annual per capita expenditure was lower in Chikwawa and Nsanje Districts than the national and the national rural mean expenditure per capita per year.

Table 18 Mean consumption per capita per year by broad type of expenditure (%)

Broad type of expenditure	Malawi	Urban	Rural	Chikwawa	Nsanje
Food and beverage	56.3	43.9	62.3	65.7	68.0
Alcohol and tobacco	2.4	1.3	3.0	1.2	0.5
Clothing and footwear	3.0	3.0	3.0	2.1	1.9
Housing and utilities	16.0	20.6	13.7	17.4	16.0
Furnishings	4.0	4.0	3.9	3.4	3.3
Health	1.4	1.2	1.5	1.4	0.9
Transport	5.6	8.6	4.1	2.0	2.0
Communication	4.1	7.1	2.6	2.3	2.2
Recreation	1.1	2.1	0.6	0.3	0.5
Education	2.2	3.8	1.5	1.1	1.2
Hotels and Restaurant	1.1	1.3	1.0	0.4	0.7
Other	2.9	3.1	2.9	2.2	2.2

Source: IHS3, NSO

The poverty line was set at MK 37,002 per person per year in 2011[36], of which MK 22,956 is expenditure on food items and MK 14,045 on non-food items. Overall 50.7% of the population of Malawi was poor in 2011 and 24.5% ultra-poor. The proportion of the population that is poor is almost three times as high in rural as in urban areas, 56.6% and 21.1% respectively. The Southern region has the largest proportion of poor, 55.5% compared to the Central Region with 44.5% and the Northern Region with 54.3% poor. The proportion of people that is ultra-poor is six and a half times as high in rural as in urban areas. It is the highest in Southern region with 29.5%, followed by Northern Region with 25.6% and Central Region with 18.9%.

Chikwawa and Nsanje Districts have the highest incidence of poverty and ultra-poverty in Malawi.

Table 19 below shows that the incidence of poverty and ultra-poverty in TAs in Chikwawa and Nsanje Districts is higher than the national average in all TAs, apart from TA Lundu and TA Katunga, where the Illovo Company is located. Chapananga and Makhuwira are the TAs with the highest

[36] Source of data in this paragraph: IHS3, NSO.

proportion of poor and ultra-poor, in line with the lowest per capita expenditures.

Table 19Proportion of incidence of poverty and ultra-poverty by background characteristics

	Poverty			Ultra-poverty		
Location	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
MALAWI			**50.7**			**24.5**
CHIKWAWA DISTRICT			**81.6**			**59**
Ngabu	78	71	77	59	52	58
Lundu	38	67	42	21	67	27
Chapananga	91	86	91	60	86	63
Maseya	64	71	66	32	43	34
Katunga	54	33	50	8	33	13
Kasisi	68	70	69	36	60	44
Makhuwira	85	83	84	52	61	55
NSANJE DISTRICT			**81.2**			**56**
Ndamera	75	63	72	50	25	44
Chimombo	65	67	66	39	44	41
Mlolo	75	75	75	53	63	55
Tengani	77	77	77	43	54	46
S/C Mbenje	70	71	70	53	64	55
Malemia	75	50	69	25	25	25
Mwabvi Game Reserve	58	25	50	33	25	31

Source: IHS3, NSO.

Using the Progress out of Poverty Index (PBM definition), the household survey conducted in the SVIP impact area found that 58.7% of households were likely to be living below the old poverty line of $1.25/day, which is higher than the national average of 50.7%.The Poverty Index (PBM definition in Phase 1 (Chikwawa) is 55.8% and 62.0% in Phase 2 (Nsanje) respectively. Not surprising, more female headed households (61.4%) were likely to live below the poverty line compared with male headed households (58.1%). According to key informant interviews and focus group discussions, the main causes of poverty in Chikwawa and Nsanje districts is adverse weather conditions characterized by unreliable rains, floods, extreme hot weather, that affect agricultural production causing persistent hunger and poverty.

The SVIP household survey collected information on the main income generating activities and income earned in the last 12 months prior to the interview in the last quarter of 2015. Table 20 below shows that the average income per household is MK 73,601. The median income most households earned was MK 40,000 for all groups apart from the female headed households where most earned MK 30,000.

All households earned at least some income although for 11% this was less than MK 10,000. Female headed households earn less than male headed households. Of the female headed households 55% earned less than MK 40,000 and of the male headed households 45%. Within the two highest income groups of MK 60,000 per year or more, the proportion of the male headed was 37% as compared to the 25% of the female headed

households who earned these incomes. The income patterns are the same in Phase 1 and Phase 2, also for the female and male headed households.

Table 20 Income from all activities in the last 12 months per household by location and gender

Household income in the last 12 months	Total SVIP area			SVIP Phase		Control Area Phase	
	Total	FHHH	MHHH	1	2	1	2
Average	73,601	53,029	77,359	71,164	81,229	55,470	55,467
Median	40,000	30,000	40,000	40,000	40,000	34,000	30,000
Percent of respondents perincome group in Malawian Kwacha							
0	0	0	0	0	0	0	0
1 – 9,999	11	14	10	11	12	9	12
10,000 – 24,999	23	26	23	22	24	30	35
25,000 – 39,999	12	15	12	14	10	12	12
40,000 – 59,999	18	20	17	20	14	14	19
60,000 – 99,999	12	11	13	12	13	20	7
≥100,000	23	14	25	22	27	16	16
	100	**100**	**100**	**100**	**100**	**100**	**100**

Source: SVIP Household Survey 2015

Within the control areas households had earned less. Within the control area of Phase 1 the average income was MK 55,469 and the median income MK 34,000. Within the Phase 2 area the average income was MK 55,467 and the median income MK 30,000.

Poverty levels in the IHS3 are based on the consumption per person whilst the information collected by the SVIP Household Survey income levels are based on the income earned by the total income generating activities per household. Therefore, the figures are calculated differently and cannot be directly compared, but do give an indication. When dividing the average household income by the average household size, the annual per person income is MK 23,721 in Phase 1 and MK 27,818 in Phase 2. Within the IHS3 the average annual mean per capita consumption was MK 26,645 and in Nsanje MK 26,890. Although the areas cannot be completely compared, the levels are considered to be in the same range. When using the same calculation method on the median annual per capita income on the data of the SVIP Household Survey the annual median per person income in the SVIP area is MK 13,333. This is lower than the IHS3 data for Chikwawa (MK 21,320) and Nsanje (MK 21,733) District.

4.2 Main Sources of Income

The main source of income in the SVIP area is the sale of crops in 52% of the households. The second main source of income is ganyu or casual labour in 18% of the households. Ganyu was more often mentioned as a source of income in female (28%) than male (16%) male headed households. Also income generating activities was more frequently mentioned in female (11%) than in male (5%) headed households. Formal permanent employment is more often a main source of income in male

headed households. Land rentals were the main source of income in 3% of the female headed households and none of the male headed households. Only one household was dependent upon pension as a main source of income.

Table 21 Main source of income by location and gender (percent)

Main Source of Income	SVIP area			Phase 1	Phase 2
	Total	FHHH	MHHH		
Crop production sales	52	47	53	50	52
Livestock production sales	1	1	1	1	1
Natural resource products	2	0	2	0	4
Formal permanent employment	8	2	9	9	6
Casual labour (Ganyu)	18	28	16	22	12
Semi-skilled contract work	5	1	6	6	4
IGAs	6	11	5	6	7
Land rentals	0	1	0	0	0
Gifts/remittances	1	3	0	1	0
Pension	0	0	0	0	0
Other	8	7	8	5	13
Total	**100**	**100**	**100**	**100**	**100**

Source: SVIP Household Survey 2015

Apart from the main source of income the main other source of income is Ganyu in 47% of the female and 38% of the male headed households. Income generating activities and sale of crops are the next main other source of income, each in about one fifth of the households (19% and 20%). Other sources of income are mentioned in 8% or less of the households. Female headed households are more dependent upon gifts/remittances and natural resource products than male headed households who more often engage in semi-skilled work and formal employment. Only two households were dependent upon pension as a source of income next to their main income source.

Table 22 Other source of income next to the main source by location and gender (percent)

Other Source of Income next to Main source	SVIP area			Phase 1	Phase 2
	Total	FHHH	MHHH		
Casual labour (Ganyu)	40	47	38	34	47
Crop production sales	20	18	20	22	16
Formal permanent employment	3	0	4	4	1
Gifts/remittances	2	4	1	2	2
IGAs	19	18	19	21	15
Land rentals	0	1	0	1	0
Livestock production sales	5	1	6	4	7
Natural resource products	2	4	2	0	5

Other Source of Income next to Main source	SVIP area			Phase 1	Phase 2
	Total	FHHH	MHHH		
Other	7	8	6	8	5
Pension	0	0	0	0	0
Semi-skilled contract work	4	0	4	4	2
Total	**100**	**100**	**100**	**100**	**100**

Source: SVIP Household Survey 2015

All households were at least engaged in one activity to earn an income. Half of the households were undertaking two activities. Three quarters of the male headed households were engaged in one or two activities as compared to 82% of the female headed households. Overall a higher proportion of male headed households (23%) were engaged in more than two activities as compared to female headed households (18%). A contributing reason is the lower amount of labour available within female households as compared to male headed households as presented in 4.6. Few households were spreading their resources to four or five activities and hardly any to six or more activities. Undertaking more than one activity is a coping mechanism to spread the risk. When one activity fails there may still be at least some income from the other activity.

Table 23 Number of activities undertaken per household by location and gender

Number of activities per household	SVIP area			Phase 1	Phase 2
	Total	FHHH	MHHH		
Average no. of hh activities	2.0038	1.8202	2.041	2.0938	1.8667
Median no. of hh activities	2	2	2	2	2
Percent of households per number of activities per household					
1 activity	28	39	25	23	35
2 activities	50	43	51	51	48
3 activities	18	15	19	21	15
4 activities	3	2	3	3	2
5 activities or more	1	1	1	1	1
Total	**100**	**100**	**100**	**100**	**100**

Source: SVIP Household Survey 2015

4.3 Food Security

Food security exists when a person has permanent physical and economic access to sufficient, safe and nutritious food to meet his dietary needs and food preferences for an active and healthy life. Households that did not experience any concern about accessing enough food and did not alter the quality, variety, and quantity or eating patterns have a high food security. Households with a marginal food security have concerns about adequacy of the food supply but the quantity, the quality, the variety and the eating patterns were not disrupted.

Households with a low food security might have been concerned about not having access to enough food, they reduced the quality and the variety of

the food consumed but quantity of food intake and normal eating patterns were not disrupted. Households with a very low food security experience multiple indications of disrupted eating patterns and reduced food intake. They report reduction in food quality, variety, quantity and frequency of food consumed. Consumption by adults could have been restricted in order for small children to eat and could also depend on food assistance from relatives or friends.

4.3.1 Household Food Security Profile

Own produce is the main source of food in 85% of the households. Only 15% of the households purchased food from the market and hardly any depend on relief/donations, ganyu or other sources for their food. The main source of food is similar for female and male headed households and in Phase 1 and Phase 2. Given that own production is often affected by dry spells, drought and floods in both districts, it is likely that the majority of households are negatively affected by climate change in relation to food security.

Normally a households consume three meals per day and small children aged 6 to 59 months eat at least four times per day. 54% of the households had two meals in the day prior to the interview. Although the percentage of those who had no meal the previous day shows 0%, there were two male headed households in Phase 1 and one male headed household in Phase 2 who did not have any meal the previous day. Overall 88% of the male headed households took 2 or 3 meals per day whilst 77% of the female households did so. 23% of the female headed households took one meal the previous day, almost twice as many as the 12% of male headed households. Overall households in the Phase 2 area took slightly fewer meals than in the Phase 1 area, whilst the pattern for female and male headed households is the same as for the whole SVIP area.

Table 24 Number of meals per day taken aday prior to interview by location, gender and age (percent)

No. of meals taken in day prior to interview	SVIP area			Phase 1	Phase 2
	Total	FHHH	MHHH		
0	0	0	0	0	0
1	14	23	12	11	18
2	54	56	54	56	52
3	31%	21	34	33	29
Total	**100**	**100**	**100**	**100**	**100**

Source: SVIP Household Survey 2015

The IHS3 survey conducted by NSO in 2011 found that adults in 60% of the households in Chikwawa District and 57% in Nsanje District consumed two meals per day in the seven days prior to the interview. The proportion of households consuming meals twice a day varies from 42% in Chapananga

to 75% in Kasisi. The proportion of households eating meals thrice or more per day was 35% in Chikwawa and 36% in Nsanje District. Overall the proportion of households eating twice or more per day is slightly higher and for one meal per day lower than the results of the SVIP household survey. This may be due to the month and year in which the data were collected. The harvest was poor or nil in most households in Chikwawa and Nsanje Districts in 2015 due to the floods early in the year.

Overall 73% of the children aged 6 to 59 months consumed 3 or 4 meals per day in Chikwawa District and 71.1% in Nsanje District.

Table 25 Average number of meals per day of children aged 6-59 months in the week prior to the interview by location (Percent)

Location	Number of meals/day (Children 6-59 months)				
	0	1	2	3	4≥
CHIKWAWA DISTRICT	**0.5**	**2.6**	**24.2**	**67.5**	**5.2**
Ngabu	0.0	6.0	35.8	52.2	6.0
Lundu	0.0	0.0	18.2	77.3	4.6
Chapananga	0.0	0.0	25.8	64.5	9.7
Maseya	0.0	5.3	5.3	89.5	0.0
Katunga	0.0	0.0	14.3	57.1	28.6
Kasisi	0.0	0.0	18.2	81.8	0.0
Makhuwira	0.0	2.7	18.9	78.4	0.0
NSANJE DISTRICT	**0.0**	**3.9**	**25.0**	**62.8**	**8.3**
Tengani	0.0	5.9	11.8	70.6	11.8
S/C Mbenje	0.0	8.6	22.9	54.3	14.3
Total	**0.3**	**3.1**	**24.6**	**65.4**	**6.6**

Source: IHS3, NSO

In 9% of the households the last harvest did not even last one month. The proportion of female headed households where the harvest lasted less than a month was 13%, higher than the 8% in male headed households. In over one third of the households (35%) the harvest lasted one to three months. In slightly less than one third of the households the harvest lasted four to six months. This means that three quarters of the households had run out of their own source of food after six months of harvesting. The proportion of female households is even higher, 87%. Only 13% of the male headed and 8% of the female headed households had enough own produced food for 12 months or more.

Results of the IHS3 show that 83% of the households experienced food shortages in the last twelve months and 87% in Nsanje District. The highest proportion of households experiencing food shortages were found in the TA of Katunga, Ngabu, and Chapananga of around 90% and the lowest in the TA of Lundu, 58%.

January, is the month in which 85% of the households find it difficult to find enough food for all the household members, followed by two thirds in February, close to half in December, and close to one third in November and March. For 18% of the households it is already hard to find food in October. In the months of April to August it is the easiest to find sufficient food. Female headed households find it more difficult to find food in October, November, December and February than male headed households. More households find it difficult to find food in the critical months in the Phase 2 area than in the Phase 1 area.

The food security status of 71% of the population in Chikwawa District is very low and of 7% just low. Of the remaining 22%, the food security status of 5% is marginal and 18% high. The TAs with the largest proportion of 78% households with a very low food security status are Ngabu and Kasisi, followed by Maseya and Chapananga with respectively 75% and 73%. The TAs with the highest proportion of households with a high food security status are Lundu (46%) and Maseya (22%). It is interesting to note that Maseya has a high proportion of 75% with a very low food security status and at the same time a high proportion of 22% with a high food security status, whilst only 3% with a low food security status and none marginal. Nsanje District has a slightly lower food security status than Chikwawa District. Of the households in Nsanje District the food security of 76% is very low and of 5% low. Only 12% have a high food security status and 8% marginal. The food security status of 85% in TA Mbenje is very low or low, about as low as in TA Ngabu.

4.3.2 Coping Mechanisms when Food Insecure

Households vulnerable to food insecurity employ a variety of coping and adaptive mechanisms intended to mitigate or scale down food hardships. About three quarters of households purchase food when their own source of food has run out and 60% relies on ganyu or food for work. Female headed households rely less on purchasing food and more on ganyu than male headed households. Of the female headed households, 57% purchase food and three quarters rely on ganyu when food is short whilst in male headed households three quarters purchase food and 57% rely on ganyu. Other coping mechanisms are not used much, such as using relief food, using savings, sale of livestock, remittance of relatives, etc.

The IHS3 found that the main coping mechanisms of households whose own source of food and funding to purchase food was low were to rely on less preferred foods, reduce the portions at mealtimes, reduce the number of meals, restricted consumption by adults or borrowing food/relying on help from others.

4.3.3 Underlying Causes of Food Insecurity

The main underlying cause for food shortage in the twelve months preceding the IHS3 survey is climate in the form of drought, poor rains,

floods and water logging in 83% of the households in Chikwawa and 87% of the households in Nsanje District. In TA Katunga this was even the sole reason for food shortages. In all other TAs the proportion ranges from 86% to 98% apart from TA Lundu where only 57% indicated to suffer from climatic causes. In TA Lundu 39% found the prices of food in the market very expensive, whilst in other TAs this ranges from 0% to 7%. The proportion of other causes, such as crop pest damage, small land size, no food in the market and floods is less than 4%.

Table 26Proportion of the population that experienced food shortage in the 12 months preceding the survey and causes of the situation by background characteristics

Location	Drought, poor rains, floods, water logging	Crop pest damage	Small land size	Food in the market was very expensive	No food in the market	Floods	Others	Total
Chikwawa	91.2	1.3	0.3	5.3	0.3	0.6	0.9	100
Ngabu	97.4	1.7	0.0	0.9	0.0	0.0	0.0	100
Lundu	57.1	0.0	0.0	39.3	0.0	0.0	3.6	100
Chapananga	96.5	1.8	0.0	1.8	0.0	0.0	0.0	100
Maseya	96.3	0.0	0.0	3.7	0.0	0.0	0.0	100
Katunga	100.0	0.0	0.0	0.0	0.0	0.0	0.0	100
Kasisi	89.7	0.0	0.0	3.5	0.0	3.5	3.5	100
Mankhwira	85.1	2.1	2.1	4.3	2.1	2.1	2.1	100
Nsanje	93.5	0.3	0.3	3.1	0.6	0.3	1.9	100
Tengani	97.7	2.3	0.0	0.0	0.0	0.0	0.0	100
S/C Mbenje	91.2	0.0	1.5	4.4	1.5	0.0	1.5	100
Total	**92.4**	**0.8**	**0.3**	**4.2**	**0.5**	**0.5**	**1.4**	**100**

Source: IHS3 2011

4.4 Dietary Diversification

In addition to sufficient dietary energy measured in calories, a healthy diet is necessary for normal physical and mental development. Such a diet is one that is diversified and well-balanced over the main food groups (starchy staples, non-starchy vegetables, fruits, animal products, fats and oils, and legumes and nuts) and contains sufficient levels of essential proteins, vitamins, and minerals. Malawi uses a six food group model of a healthy diet to help diversify diets and inform consumers. Based on this model and recommendations from WFP, a Malawian adult needs daily to consume approximately 2,100 kilocalories consisting of 38% starchy staples, 35% legumes and nuts, 13% fats and oils, 6% fruits, 4% non-starchy vegetables,

and 4% animal foods[37]. According to the article food consumption in most Malawian households is poorly diversified. When compared to WFP's targets, the dominance of maize in the diet presents significant nutritional challenges, which include low levels of consumption of fruits, non-starchy vegetables, animal foods, and beans and nuts.

Maize is the main type of food crop consumed in 69% of the household and sorghum in another 31% in the whole SVIP area. Maize is consumed in 81% of the households in the Phase 1 area and 51% in the Phase 2 area. Sorghum is consumed more in the Phase 2 area, 49%, as compared to 18% in the Phase 1 area. Rice is consumed in 1% of the mainly female headed households in the Phase 1 area. Other food crops, such as millet, cassava, Irish and sweet potatoes are hardly or not consumed at all.

The staple food in households is cereals such as nsima, porridge, rice, bread, thobwa or any other foods made from millet, sorghum, maize, rice and/or wheat in almost all households. Most of the households combine the cereal with vegetables, such as either dark leafy vegetables including wild varieties and leaves of cassava, sweet potatoes and pumpkin, and/or other vegetables including tomato, onion, eggplant and wild vegetables. Fewer households added protein to their diet such as any type of meat, eggs, insects, milk and milk products and fish. Three quarters of the households used spices and condiments and two thirds oils and fats to prepare their meals. About one third of the households consumed vitamin A rich fruits such as ripe mangoes, papaya and peaches, but hardly any other fruits. The dietary diversion is therefore poor with a diet rich in starchy food but low in all other types of food to attain a balanced diet.

Table 27 Types of food taken in the 24 hours prior to the day of the interview in a household by location and gender (Percent)

Types of food eaten in the last 24 hours before the interview	SVIP area			Phase 1	Phase 2
	Total	FHHH	MHHH		
Cereals	99	99	99	99	99
Vitamin rich vegetables and tubers	17	11	18	24	5
White tubers and roots	6	4	7	6	6
Dark green leafy vegetables	57	65	55	52	62
Other vegetables	65	61	66	69	58
Vitamin A rich fruits	35	27	37	36	30
Other fruits	6	9	5	6	6
Organ meat - Iron rich	1	1	1	1	0
Flesh meat	5	3	5	6	3
Eggs	4	3	4	5	3
Fish	20	15	21	21	19

[37] Maize Consumption and Dietary Diversity Assessments in Malawi. John Mazunda and Klaus Droppelmann. Policy Note 11/March 2012, International Food Policy Research Institute, Malawi Strategy Support Progamme (MaSSP)

Types of food eaten in the last 24 hours before the interview	SVIP area			Phase 1	Phase 2
	Total	FHHH	MHHH		
Legumes, nuts and seeds	40	39	40	39	44
Insects	0	1	0	1	0
Milk and milk products	4	3	4	5	2
Oils and fats	64	55	66	68	59
Sweets	21	12	23	22	22
Spices, condiments	75	79	74	65	91
Beverages	10	6	11	13	7

Source: SVIP Household Survey 2015

4.5 Access to Economic Assets, Credit and Finance

4.5.1 Ownership of Agricultural Tools and Equipment

Almost all households within the survey area owned a hoe, 68% owned a panga and half an axe. Similar results were found at national level where 97% owned a hoe, 66% panga and 60% axe[38]. Very few households owned other equipment that can be used for farming like a treadle pump, ridger, motorcycle or vehicle. The data show low levels of mechanisation at the farm, confirming the dominance of the smallholder agricultural systems in the area. Female headed households own less agricultural tools and equipment than male headed households. For example, 73% of the male headed households owned a panga as compared to 43% of the female headed households.

Ownership of agricultural tools and equipment is similar in both the Phase 1 and the Phase 2 areas, also for female and male household ownership of these type of assets.

This is the same for livestock ownership. 32% the male headed households owned small livestock as compared to 24% of the female headed households. Only 5% of the female headed households owned large livestock as compared to 12% of the male headed households.

Results of the IHS3 Survey of NSO show that 37% of the households in Chikwawa and 36% in Nsanje District owned a sickle. In Chikwawa District 12% of the households owned a livestock kraal. In Nsanje District this proportion was 7%. Nationally, a larger proportion of male headed households own agricultural tools and equipment than female headed households.

Table 28 Ownership of Agricultural Tools and Equipment by Location and Gender

[38] Source data: IHS3, NSO.

Ownership of Agricultural Tools and Equipment	Total SVIP area			SVIP Phase	
	Total	FHHH	MHHH	1	2
Hoe	93	97	92	93	97
Panga	68	43	73	68	43
Axe	50	46	50	50	46
Small Livestock (Goats and below)	31	24	32	31	24
Large Livestock (Cattle)	11	5	12	11	5
Treadle Pump	2	1	2	2	1
Motorcycle	2	2	2	2	2
Oxcart	2	1	2	2	1
Ridger	0	0	0	0	0
Small Motor Vehicle	0	0	0	0	0
Large Vehicle	0	0	0	0	0

Source: SVIP Household Survey 2015

4.5.2 Ownership of Household Assets and Durable Goods

Almost all households owned the essential assets to prepare and consume food like plates, basin and/or pots, but less households owned and used more durable foods that indicates a little better off status. 72% of the male headed households owned a push bicycle as compared to 40% of the female headed households. Similarly, a larger proportion of 55% of male headed households owned a cell phone as compared to 26% of female headed households. 39% of the households owned a radio and/or iron sheets and 35% owned chairs. Also the proportion of male headed households owning these three types of assets is higher than of female headed households. The proportion of male headed households owning assets is higher than of female headed households for all recorded assets.

Ownership of durable assets is slightly lower than the IHS3 results for southern region where 45% owned a radio, 35% a bed, 32% a table, 35% chairs, and 4% a TV.This may be because Chikwawa and Nsanje Districts are the two poorest districts within Southern Region. The ownership pattern is more in line with the national 2nd poorest consumption quintile, where 35% owned a radio, 19% a bed, 18% a table, 26% chairs, and 0.6% a TV.

Table 29 Ownership of Household Assets and Durable Goods by Location and Gender (Percent)

Ownership of Durable and Household Assets	Total SVIP area			SVIP Phase	
	Total	FHHH	MHHH	1	2
Plates/Basin/Pots	89	87	89	84	96
Push Bicycle	67	40	72	68	65
Cell phone	50	26	55	56	42
Radio	39	21	43	43	34
Iron sheets	39	33	40	45	31
Chairs	35	22	38	35	22
Bed	19	11	20	22	14

Ownership of Durable and Household Assets	Total SVIP area			SVIP Phase	
	Total	FHHH	MHHH	1	2
Dining table	18	11	19	20	14
Mattress	15	13	16	20	9
Television	3	1	3	3	1
Fridge	1	2	1	1	2

Source: SVIP Household Survey 2015

4.5.3 Access to Credit

Very few households obtained a loan from a formal bank in the six months prior to the interview (4%) and only 24% has an account with a formal bank. Male headed households more often have a bank account in a formal bank (25%) than female headed households (19%). The proportion of households with a formal bank account (8%) is much lower in the Phase 2 area than in the Phase 1 area (40%) of the SVIP. The reason for this may be the availability of a formal bank within a reasonable distance. There are formal banks in Chikwawa and Nchalo Boma, but in the Phase 2 area these are much further away. The proportion of households with a bank account is higher in the SVIP Phase 1 area than the average for Chikwawa District found in the IHS3. This may be due to the requirement for members of the farmers' organisations and employees of the companies to have a bank account with a formal bank.

55% of the households has cash savings. More male headed (68%) than female headed (54%) have cash savings. The proportion of households with cash savings is 10% higher in the Phase 1 area (70%) than in the Phase 2 area (60%).Most people save their money at home (47%) or with a VSL/SACCO/Cooperative (45%) and few at a formal bank (6%). More households save their money at home in the Phase 1 area (55%) as compared to the Phase 2 area (39%). The opposite is the case for saving money with the VSL/SACCO/Cooperative, 34% in the Phase 1 and 59% in the Phase 2 area.

More information on access to financial services can be found in section 7.6.2.

Table 30 Proportion of households saving patterns by location and gender

Ownership of Durable and Household Assets	Total SVIP area			SVIP Phase	
	Total	FHHH	MHHH	1	2
Household member has a bank account with a formal bank	24	19	25	40	8
Household member has/had a loan with a formal bank in the last six months	4	7	3	4	7
Household has cash savings	66	54	68	70	60
Household usually saves money:					
At home	47	50	47	55	39
With friends	0	0	0	0	0

Ownership of Durable and Household Assets	Total SVIP area			SVIP Phase	
	Total	FHHH	MHHH	1	2
Formal bank	6	2	7	9	2
VSL/SACCO/Cooperative	45	48	45	34	59
Money lender	0	0	0	0	0
Farmers' club	0	0	0	0	0
Mobile money account	1	0	1	2	0

Source: SVIP Household Survey 2015

4.5.4 Businesses within the SVIP

Table 31 below shows that within the SVIP area 29% of the households are engaged in businesses, half of which are registered in the name of the adult woman and 35% in the name of the adult man. Of all the business 11% is jointly registered in both the adult men and adult woman's name. Hardly any of the businesses are registered in the name of young men, young women or any other name.

The main source of finance in 75% of the business is own funds. Another 20% of the businesses is financed through a Village Savings and Loan Groups (VSL) or other informal group lending system.

Table 31 Percentage of respondents with business and how business if financed

	Total SVIP area			SVIP Phase	
	Total	FHHH	MHHH	1	2
HH member runs business					
Yes	29%	35%	28%	35%	21%
No	71%	65%	72%	65%	79%
Total	**100%**	**100%**	**100%**	**100%**	**100%**
In whose name is business registered?					
Adult man	35%	4%	43%	59%	67%
Woman	50%	74%	44%	31%	13%
Jointly adult man and adult woman	11%	9%	12%	10%	20%
Youth man	2%	4%	1%	0%	0%
Youth woman	1%	4%	0%	1%	0%
Not registered	0%	0%	0%	0%	0%
Other	1%	4%	0%	0%	0%
Total	**100%**	**100%**	**100%**	**100%**	**100%**
How is business financed?					
Own funds	71%	74%	70%	78%	87%
Katapila/Informal money lender	2%	2%	2%	2%	7%
Family member	4%	4%	3%	7%	0%
Banks	0%	0%	0%	1%	0%
Microfinance programme	1%	2%	1%	0%	0%
VSL and other informal group members internal loan	20%	17%	20%	10%	7%

	Total SVIP area			SVIP Phase	
	Total	**FHHH**	**MHHH**	**1**	**2**
External financing	0%	0%	0%	0%	0%
Other	3%	0%	4%	1%	0%
Total	**100%**	**100%**	**100%**	**100%**	**100%**

Source: SVIP Household Survey 2015

4.6 Labour Participation

The NSO conducted a Malawi Labour Force Survey in 2013 of the working age population within the age range of 15 to 64 years to get a better understanding of the labour market within the country. Persons who are in the labour force are categorised into two main groups, employed and unemployed persons. Economically active people are either engaged in economic activities or are actively seeking for employment opportunities[39].The economically active working population in Malawi was 7.2 million of which 3.5 million were males and 3.7 million females. Within the Southern Region there were 3.1 million economically active people consisting of 1.556 million males and 1.635 million females. The bulk of the economically active population is young in Malawi with about 48% younger than 30 years. Most of those working are working in their farms. Almost two thirds of the economically active population has no education, close to one quarter primary education, and respectively 9.4% and 2.7% secondary and tertiary education. The female economically active labour force is lower educated than the male working force. Of the females 70% had no and only 8.3% secondary or tertiary education. Of the male economically active labour force 57% had no education and 17% secondary or higher education.

The labour force participation is defined as the percentage of economically active to the total working population[39]. Overall the age and specific participation rate of the labour force is 89% in Malawi. In rural areas the labour participation rate is 90%, higher than in urban areas. Generally females have a lower participation rate than males apart from the youngest age group of 15-19 years and the oldest age group of 60-64 years. In all age groups above 15-19 years the labour participation is higher than 85% indicating that also older people are actively engaged in economic activities.

Economically inactive people are those of working age who reported that they were not working and not available for work. In Malawi there were 828,000 economically inactive people in 2013; 500,000 females and 327,000 males. The proportion of economically inactive people is highest in the youngest age group and then decreases until the 45-49 age group. Thereafter, the proportion of the economically inactive increases again. The proportion of economically inactive people decreases from 58% for those with no education to 1% for those with tertiary education.

[39] Malawi Labour Survey 2013. NSO

A group of people is involved in the production of food stuff for their own consumption and not for the market. They only qualify for employment if they are working not less than the official working hours in the reference week of the survey. There is a strong correlation with poverty and social exclusion. Most of the subsistence foodstuff producers are women between the ages of 45-54. The majority of the foodstuff producers has less than secondary education, so finding a job may be challenging. Overall there were 1.1 million people of working age engaged in food stuff production, 441,000 and 658,500 women.

The employment to population rate in Malawi is 71%. It is the lowest in Southern Region (65%). The employment to population rates in rural areas and of females is lower than in urban areas and of men, both in Malawi and Southern Region. The employment to population rates falls from 82% for people with tertiary education to 72% for those with no education. The rate is the highest for the ages 35-49 and gradually decreases in both the younger and older age groups.

The largest proportion of 45% of the employed is engaged in skilled agricultural, forestry and fishery in Malawi, and 37.5% in Southern Region. About one fifth of the employed is occupied with service and sales and another one fifth with elementary occupations both in Malawi and in Southern Region.

Within Malawi 54% and in Southern Region 48% of the employed persons were own-account workers, whilst nationally 38% and in Southern Region 45% were in paid employment. The remainder were either self-employed or family workers. Males are more likely to be in paid employment or employers than females. Own account workers and family workers are employed under unstable circumstances often characterised by less likelihood of formal working arrangements, access to benefits or social protection programmes. Persons with tertiary education are less likely to be engaged in precarious employment than those with secondary education or less.

Table 32 Labour participation rates of the labour force aged 15-64 (%)

	Total			Urban			Rural		
	T	M	F	T	M	F	T	M	F
Age and Specific Participation Rate of the Malawi working age labour force									
Malawi	89.4	90.9	88.1	85.4	87.3	83.5	90.0	91.6	88.7
Southern	89.1	90.8	87.6	86.1	88.9	83.4	89.6	91.2	88.3
Proportion of Economically inactive population of the Malawi labour force									
Southern	45.6	45.0	46.0	43.4	40.0	46.0	46.2	46.3	46.0
Malawi million	0.828	0.327	0.500	0.154	0.067	0.087	0.674	0.260	0.414
Employment to population rate of the Malawi working age population									
Malawi	71.2	77.9	65.4	61.3	71.9	50.8	72.7	78.9	67.5
Southern	65.1	72.7	58.5	61.6	74.2	49.1	65.6	72.7	59.9

Source: Malawi Labour Force Survey 2013, NSO

The median number of household members contributing regularly to income and/or food in the household is one member in female headed households and two members in male headed households. On average, 1.4 household members contribute in female headed and 1.9 members in male headed households. In female headed households the average of females contributing is 1.1, higher than in male headed households where an average of 0.8 female contribute. The amount of manpower within the household determines the income generating activities that can be undertaken, like how much land can be cultivated, how intensively this land can be cultivated, what other income generating activities can be undertaken, etc. Female headed households are at a disadvantage as far as the availability of amount of labour is concerned.

Table 33 Number of household members contributing regularly to income and/or food in the household by location and gender

No. of HH members contributing regularly to income/food in the HH	Total SVIP area			SVIP Phase	
	Total	FHHH	MHHH	1	2
Male members					
Average	0.9429	0.3011	1.0758	0.9481	0.9423
Median	1	0	1	1	1
Female members					
Average	0.831	1.117	0.7689	0.8079	0.9615
Median	1	1	1	1	1

Source: SVIP Household Survey 2015

5 Social Dimensions

Social dimension indicators are divided into four main sub-groups: health, education, access to services and household decision making.

Health indicators measure the changes in health to which the SVIP may contribute. Mortality and nutrition rates in children under five are an indirect indication of changes in income levels with increased income leading to improved nutrition and decreased mortality rates. Experience shows that school attendance, child nutritional status and mortality rates change relatively quickly when the level of income increases. Literacy rates, highest level of education attained and life expectancy change over a longer period.

The education indicators provide information on literacy rates, educational levels and current school enrolment levels. Experience shows that in the short term school attendance increases with income levels and that this influences the level of education and thus improves access to income generation. Poverty analysis shows that the higher the level of education the lower the incidence of poverty. Literacy rate changes are generally observed over a longer period of time.

Access to sanitation presents the access to water, sanitation and health facilities. Water supply and sanitation indicators measure the changes in access to water and sanitation over time that may be influenced by the project. Increase in income generally increases access to water supply and sanitation and, over a longer timeframe, the access to piped and other higher technology improved water sources and types of sanitation facilities. Increased income generally leads to an increased demand for health services, which in turn increases the availability of services closer by. Thus, this indicator indirectly measures change in the income level in an area.

Experience shows that the main parameters for a change in control and power over assets and decision making in households are the economic purchasing power of women versus men and older versus young people and a more equal education of women and men. This chapter presents the current decision making pattern in households.

5.1 Health

5.1.1 Life Expectancy at Birth

The results of the National Census for Housing and Population of 2008 conducted by NSO shows that the average life expectancy at birth was 51 years in Malawi, 52.2 years for women and 49.6 years for men. The projected life expectancy for 2015 and 2020 are respectively 56.8 and 60.6 years for both sexes. The life expectance at birth in 2008 was lower in Chikwawa and Nsanje Districts, 51 and 45 years. Also within these two districts the life expectance of women is slightly higher for women than for men, 52.4 and 47.5 years for women, and 49.6 and 42.57years for men. The projected life expectance at birth for 2015 and 2020 are 56.9 and 60.7 years for Chikwawa District and 50 and 54 years for Nsanje District.

5.1.2 Infant, Child and Under Five Mortality Rate

The results of the National Census for Housing and Population of 2008 show that the infant mortality rate in Malawi was 87[40]. The infant mortality rate is the number of deaths per 1,000 live births per year within an area. This rate was higher in Southern Region (90). Chikwawa District had the same infant mortality rate as the national average but the rate was higher in Nsanje District(102).

The child mortality rate is the number of deaths of children between one year and exactly five years per year in an area. The child mortality rate in Malawi was 59 and 62 in Southern Region. The rate was the same in Chikwawa District and higher in Nsanje District (74).

The under-five mortality rate is the number of deaths of children between birth and exactly five years per 1,000 live births per year in an area. This rate was 140 in Malawi, the same in Chikwawa District and 168 in Nsanje District.

The height of the mortality rates aredirectly correlated to the level of education of the mother, whereby the higher the level of education attained by the mother, the lower the mortality rates.

5.1.3 Nutritional Status of Children

Within Malawi 31% of the children aged 5 to 59 months were underweight, of which 1% severely underweight in 2008[41]. The percentage of underweight children is higher in Chikwawa and Nsanje Districts, 40% and

[40] Source data this section: National Census of Housing and Population 2008, Youth Report. NSO

[41] Source data this section: IHS3, NSO

31%, of which 1% was severely underweight in Chikwawa District and none in Nsanje District.

The proportion of stunted children with a low height for age in Malawi was 52%, of which 14% was severely stunted. Within Chikwawa 64% of the children were stunted of which 5% severely. In Nsanje districts there were 56% stunted children of which 2% severely.

In Malawi the proportion of wasted children with a low height for weight ratio was 12%, of which 1% severely. Also these proportions were higher in the two most southern Districts. In Chikwawa District 14.5% of the children were moderately and 0.3% severely wasted. In Nsanje Districts these proportions were 13.4% and 0.5%.

The proportion of children that are underweight, stunted or wasted is the lowest in households in the highest consumption quintile and gradually increased in each quintile till the first quintile of the poorest households. Children, whose mother had a secondary education or above had a lower rate for all three type of nutritional states.

5.1.4 HIV Rate

The HIV prevalence in Malawi of adults aged 15-49 was 10.6% according to the results of the Demographic and Health Survey 2010 (DHS)[42], 12.9% in women and 10.6% in men. The prevalence of HIV is highest among women age 35-39 (24%), which is six times the rate among women aged 15-19 (4%). For men, the prevalence increases sharply from 1% among men age 15-19 to 21% among those age 40-44, and drops thereafter. The HIV prevalence rates are higher in urban than in rural areas. The higher the consumption quintile and the higher the level of education the higher is the prevalence of HIV.

The Southern Region has the highest prevalence rate of HIV of 17.6% of all three regions in Malawi.

Almost all had heard about HIV and a majority ranging from 66% to 88% knew about HIV prevention measures, such as using condoms, limiting sexual intercourse to one uninfected partner or a combination of these two and abstaining from sexual intercourse.

5.1.5 Occurrence of Waterborne Diseases

The most reported illness in the IHS3 was Malaria. Of the 18% of the people who reported an illness, 43% had suffered from fever and malaria and 11% from diarrhoea. Both malaria and diarrhoea are considered waterborne diseases since the major cause is either infection by mosquitoes who are breeding in still water or by consuming polluted water.

[42] Source data this section: DHS 2010,NSO, Chapters 13 and 14

The combined incidence of these two reported illnesses was the same as the national average in Chikwawa and Nsanje District. The TAs of Lundu, Katunga and Mbenje had the highest proportion of reported fever and malaria cases. The high prevalence of this disease may be due to the location of the irrigation schemes within these three TAs.

Table 34Percentage of persons reporting illness/ injury and percentage distribution of five top most reported diseases

Characteristic	Proportion who suffered illness	Fever and Malaria	Diarrhoea	Sore throat and Flu	Respiratory infection	Headache	Others	Total
MALAWI	**17.8**	**42.7**	**10.9**	**7.6**	**6.3**	**12.3**	**20.2**	**100**
CHIKWAWA DISTRICT	**16.45**	**49.6**	**4.0**	**4.7**	**2.2**	**14.5**	**25.0**	**100**
Ngabu	14.41	50.6	1.2	8.6	3.7	12.4	23.5	100
Lundu	22.01	63.0	0.0	2.2	2.2	13.0	19.6	100
Chapananga	13.15	44.7	13.2	5.3	2.6	10.5	23.7	100
Maseya	22.06	36.7	6.7	0.0	3.3	23.3	30.0	100
Katunga	4.84	66.7	0.0	0.0	0.0	33.3	0.0	100
Kasisi	10.53	16.7	0.0	8.3	0.0	25.0	50.0	100
Makhuwira	21.57	53.0	4.6	3.0	0.0	13.6	25.7	100
NSANJE DISTRICT	**15.37**	**51.0**	**3.3**	**3.7**	**2.9**	**14.5**	**24.5**	**100**
Tengani	16.3	38.7	9.7	3.2	6.5	29.0	12.9	100
S/C Mbenje	11.9	61.9	0.0	2.4	4.8	4.8	26.2	100
Male	**15.0**	50.6	3.6	4.1	2.7	15.3	23.7	100
Female	**20.8**	49.0	3.9	4.8	1.9	11.5	28.9	100

Source: IHS3 2011

5.2 Education

In 2011 the highest level of education attained of the population aged 15 years and above in Chikwawa and Nsanje Districts and all TAs apart from three TAs in the SVIP area is lower than the national average[43]. Three quarters of the national population did not receive any education compared to 86% in Chikwawa and 84% in Nsanje Districts. The proportion of people without any education is higher than the national average in all TAs apart from TA Lundu (58%), and TA Katunga (69%). The proportion of people who attained an MSCE level is highest in the area of TA Lundu (15%) and TA Katunga (12.5%).The highest level of education attained is higher within these three TAs may bedue to the workforce of Illovo staying and working within these areas.

[43] Source data this paragraph: IHS3, NSO, Chapter 3

The highest level of education attained by the household heads in the project area is low. The results of the 2015 SVIP Survey show that 47% of the female and 29% of the male household heads never went to school. Only 5 % of the female and 24% of the male household heads followed secondary school or higher education. The younger age groups attained a higher level of education than the older age groups of both women and men. However, the proportion of female and male household heads that passed junior high school or above remains low.

Table 35 Literacy rate ofthe household head by gender, age and location (percent)

Literacy rate	Never been to school	Junior primary school	Senior primary school	Junior secondary school	Senior secondary school	Higher educatio n
TOTAL SVIP						
Total	19	27	32	9	11	1
FHHH	47	29	17	2	4	1
FHHH 19-25	14	27	45	5	9	0
FHHH 26-35	32	37	24	0	5	2
FHHH ≥36	59	27	9	3	3	0
MHHH	13	27	35	10	13	1
MHHH 19-25	7	17	42	13	19	0
MHHH 26-35	8	19	40	14	19	1
MHHH ≥36	18	34	31	7	8	1
SVIP Phase 1						
Total	17	26	32	8	14	2
FHHH	45	30	17	1	6	1
FHHH 19-25	0	33	44	0	22	0
FHHH 26-35	25	38	25	0	6	6
FHHH ≥36	55	28	12	1	4	0
MHHH	12	26	35	9	15	2
MHHH 19-25	6	23	35	12	23	0
MHHH 26-35	6	19	37	11	24	2
MHHH ≥36	16	30	34	8	8	3
SVIP Phase 1						
Total	22	28	32	10	8	8
FHHH	52	28	15	4	1	1
FHHH 19-25	25	25	42	8	0	0
FHHH 26-35	42	32	21	0	5	5
FHHH ≥36	64	27	5	5	0	0
MHHH	16	28	36	11	10	10
MHHH 19-25	8	8	53	18	13	13
MHHH 26-35	11	15	43	16	14	14
MHHH ≥36	20	40	27	7	6	6

Source: SVIP Household Survey 2015

The literacy rate in Chikwawa and Nsanje Districts of the population aged 15 years and above is the lowest of all districts in Malawi. Whilst the overall literacy rate of Malawians in 2011 was 65%, the literacy rate in Chikwawa District was only 47% and in Nsanje even a lower 46%[44]. The literacy rate of men (74%) is higher compared to women(57%). The literacy rate is lower in all TAs in the SVIP area than the national average and lowest in Chapananga, Ngabu and Mbenje. The reason for being illiterate of a little more than one third of the persons in Chikwawa and Nsanje Districts is because they never went to school and of another third because they were

[44] Source data this paragraph: IHS3, NSO, Chapter 3

not interested[45]. The remaining people were not allowed to go to school, had to help at home or cited other reasons.

Of the interviewed household heads 65% was able to read and write, 26% of the female household heads and 73% of the male household heads. The proportion of younger household heads below the age 36 years that is able to read or write is higher than of those who are 36 and older. The literacy rate is 50% for female household heads aged 19-25, 34% for those aged 26-35 and 18% of those aged 36 and over. For male household heads these figures are respectively, 73%, 80% and 68%. Although the household heads are not representative of the total population, the increasing higher literacy rate in a decreasing age group is an indication of the overall trend.

Table 36 Literacy rate of the household head by gender, age and location (percent)

Literacy rate	Not able to read or write	Able to read or write
TOTAL SVIP		
Total	**35**	**65**
FHHH	**74**	**26**
FHHH 19-25	50	50
FHHH 26-35	66	34
FHHH ≥36	82	18
MHHH	**27**	**73**
MHHH 19-25	21	79
MHHH 26-35	20	80
MHHH ≥36	32	68
SVIP Phase 1		
Total	33	67
FHHH	68	32
FHHH 19-25	33	67
FHHH 26-35	50	50
FHHH ≥36	77	23
MHHH	26	74
MHHH 19-25	23	77
MHHH 26-35	19	81
MHHH ≥36	31	69
SVIP Phase 2		
Total	38	62
FHHH	83	17
FHHH 19-25	58	42
FHHH 26-35	79	21
FHHH ≥36	91	9
MHHH	28	72
MHHH 19-25	16	84

[45] What not interested contains is not specified. It might refer to all other reasons like lack of funds, having to help at home, etc. as a cover up.

Literacy rate	Not able to read or write	Able to read or write
MHHH 26-35	23	77
MHHH ≥36	34	66

Source: SVIP Household Survey 2015

The primary school net enrolment in 2011 in Malawi was85% of the children aged 6 to 13[46]. The enrolment rate is a marginal 1% higher for girls than for boys. The enrolment rate decreases from the highest to the lowest income quintile for both boys and girls. The enrolment rate in Chikwawa and Nsanje districts was lower than the national average, respectively 79% and 77%. The rate was the same for girls and boys in Chikwawa District and slightly higher for girls (81%) than for boys (79%) in Nsanje District. The net enrolment rate in secondary school of young people aged fourteen to seventeen was 13% in Malawi in 2011, 15% for young women and 11% for young men. The net enrolment rate of 28% from families with an income in the highest quintile is more than twice of those in the third and fourth quintile and twelve times as high as in the lowest quintile. The net enrolment rate in secondary schools was only 6% in Chikwawa District and 3.5% in Nsanje District, much lower than the national average.

5.3 Access to Services

5.3.1 Access to Water

Table 37 below shows that the proportion of households with access to an improved water source was high in the SVIP area, 94%. Improved water sources include boreholes, piped water into the yard or dwelling, public taps and protected shallow wells. The proportion of male headed households using a public tap was higher than female headed households who more often used a borehole as their source of drinking water. Access to an improved water source is higher in the SVIP Phase 1 area than in the SVIP Phase 2 area.

Table 37 Household access to drinking water by location and gender

Access to drinking water	Total SVIP area			SVIP Phase	
	Total	FHHH	MHHH	1	2
Improved water source	***94***	***94***	***94***	***98***	***89***
Borehole	78	84	77	76	79
piped into yard or plot	2	2	2	3	0
piped water into dwelling	0	0	0	0	0
protected shallow well	0	0	0	1	0
public tap	14	8	15	18	10
Unimproved water source	***5***	***5***	***6***	***2***	***11***
Pond, river or stream	2	3	2	1	4

[46] Source data this paragraph: IHS3, NSO, Chapter 3

Access to drinking water	Total SVIP area			SVIP Phase	
	Total	FHHH	MHHH	1	2
Unprotected dug well	3	2	4	1	7

Source: SVIP Household Survey 2015

Results of the IHS3 show that households within the TA of Chapananga have the lowest access to an improved water source, 34%. The part of TA Ngabu located in the SVIP Phase 2 area also has a lower access of 50%. The results found in the SVIP Household Survey of 2015 are a little higher than the results of the IHS3 done in 2011. The results of the IHS3 show that 87% of the population in Chikwawa and Nsanje Districts had access to an improved water source. This may be because the SVIP survey was done four years later and only conducted in the SVIP areas closest to the Shire River in which most of the commercial and small scale irrigation takes place and where both surface and ground water is easily available.

About a quarter of the households use chlorination or Waterguard to make the water safe for drinking. A larger proportion of 44% covers the container and about another quarter does not do anything whilst another 3% believes it is not required to do anything. Hardly anyone filters the drinking water.

Most households spent 35 minutes on a round trip to fetch water. In female headed households this is 28 minutes, slightly less than the 36 minutes spent in male headed households. The mean time spent on a round trip to fetch water is shorter in the Phase 1 area than in the Phase 2 area, 26 minutes versus 47 minutes. The time spent in female and male headed households to fetch water in the Phase 1 are is the same (26 minutes), but there is a large difference in the Phase 2 area. The mean time for a round trip for male headed households is 51 minutes compared to 30 minutes in female headed households.

For the access of water for livestock see section 6.9.

5.3.2 Access to Sanitation

The SVIP household survey results show that 80% of the households have access to a toilet facility. Access to toilet facilities is 81% in male headed households, which is a little higher than the 76% in female headed households. Access to toilet facilities is a little higher in the Phase 2 area as compared to the Phase 1 area, 82% versus 79%. Families headed by a male and female household of 35 years or younger had the lowest access to toilet facilities, respectively 66% and 61%.

Table 38 Proportion of households with access to toilet facilities by location, gender and age

Households with access to a toilet		Female Headed Households			Male Headed Households		
	Total	Total	Adult 35>	Young 35≤	Total	Adult 35>	Young 35≤
Total SVIP	80%	76%	81%	66%	81%	96%	61%

Phase 1	79%	75%	78%	65%	80%	85%	71%
Phase 2	82%	79%	73%	87%	83%	87%	76%

Source: SVIP Household Survey 2015

A vast majority (81%) of the households use a traditional pit latrine and only 1% use improved pit latrine. Hardly any of the households use a flushed facility connected to a sewage system or a septic tank. Of the remaining households 1% use an open pit and 2% the bush or field.

The proportion of households with access to improved toilet facilities found in the IHS3 is a little lower. Results of that study show that 72% of the population in Malawi had access to an improved toilet facility and only 32% in Chikwawa and 28% in Nsanje Districts. In the IHS3 only flush toilets, VIP latrines and traditional latrines with a roofare considered improved sanitation and not latrines without a roof. The distinction between latrines with and without a roof was not made in the SVIP Household Survey. If households with a traditional latrine without a roof are included in the IHS3 results, the total proportion of access in Malawi is 91%, in Chikwawa 70% and Nsanje 71%. Households residing in the TAs of Chapananga (53%) and Kasisi (59%) have the lowest access to any kind of sanitation. Those residing in the TA of Lundu had the highest access, 90%, followed by TA Katunga, 80%. Within the two districts and all TAs in the SVIP area the proportion of toilets without a roof and those without toilet facilities is higher than the national average.

The majority (85%) of allhouseholds used a traditional latrine with or without a roof in Malawi. Of the remainder 2.9% used a flush toilet, 3.6% a VIP latrine, and 8.8% no toilet in Malawi. The majority of households also used a traditional latrine with or without a roof in Chikwawa (65%) and Nsanje District (67%). The proportion of households in Chikwawa and Nsanje districts using a flush toilet is lower than the national average, whilst those using a VIP latrine is about the same or a little higher. Nationally the proportion of female headed households has lower access to toilet facilities than male headed households, 21.5% versus 30%. The main difference between the results of the SVIP Household Survey and the IHS3 is the proportion of households without access to a toilet facility. The explanation may be the same as those found for the difference in access to drinking water presented in section 5.3.1 above.

5.3.3 Access to Health Facilities

The Welfare Monitoring Survey of 2011 collected information on the time taken to reach the nearest health facility. The results show that 7% of the Malawians use between 0-14 minutes to reach the nearest health facility, 12% used 15-29 minutes, 20% 30-44 minutes, 13% 45-59 minutes and 12% more than 60 minutes. People in rural areas use more time than those in urban areas where 56% uses 60 minutes or more compared to 23% of the urban residents. People in Chikwawa and Nsanje District used less time traveling to the nearest health facility than the national average, an

indication that the two districts are better endowed with health facilities than the average in Malawi. However, this does not reveal anything on the quality of the services.

Table 39 Average travel time in minutes to the nearest health facility by location

Time minutes	0-14	15-29	30-44	45-59	60+
Malawi	7	12	15	13	53
Urban	21.5	22.1	20.0	13.4	23.0
Rural	5.8	10.8	14.8	12.7	55.8
Southern Region	8.5	12.2	17.2	14.6	47.5
Chikwawa	15.3	13.1	23.4	16.4	31.8
Nsanje	7.6	13.5	25.2	12.9	40.9

Source: Welfare Monitoring Survey 2011, NSO

5.4 Household Decision Making

The ability of women to make decisions at household level is an important aspect of women empowerment (GoM, 2012). At the farm level, managing an irrigated farm means making effective decisions at the right time. How decisions on, for example, what crops to grow, where to grow, how much land to allocate to irrigation etc. are made relates to a number of factors, but principally to who within the household is responsible for what decisions. However, women's decision making at household level is limited. Often women are only allowed to make decisions on small and daily purchases for household needs. Decisions on large investments related purchases and important issues affecting the household are made by men.

The DHS 2010 provides evidence of these facts, where it is found that 44% % of married women reported that it was their husbands who mainly made the decisions for their health care. Sixty-nine percent reported that it was their husbands who mainly decided on major household purchases (economic assets). Forty-six percent of the women reported that their husbands made decisions on purchases for daily household needs (reproductive assets) and 32% of married women report that their husbands decide on visits to their own family or relatives. Women in urban areas (29 %) are more likely than women in rural areas (18%) to participate in household decision making.

Results from the SVIP based field study also found that men generally dominated decision making at household level, in most aspects of household decision making. Married women made fewer decisions on their own compared with female headed households, while children generally did not make decision on most household activities, implying that there is need for capacity building for mainstreaming gender at household level. For example, decisions on how to use income earned by male members of the household were made by adult male (55.7%), adult female (14.2%), jointly between adult male and adult females (29.2%) and youths (0.2%). Decisions on how to use income earned by female members of the household were made generally mainly by adult female (36.3%), although

adult males had a significant say (25.4%) on how such money was used. Children do not take part in such decision making. Decisions about what crops to grow are made by adult males (44.4%), followed by joint decision making between adult males and adult females (35.5%) and adult females (19.7%), indicating that men still dominate in selection of crops grown at household level. Decisions on whether to participate in the SVIP, whether to sell crops and where to sell also showed same percentages. Women participate far less in decision making on whether to let out or rent in land, as these decisions were made primarily by male members of the household (51.3%), and only 16.9% of respondents reported that female members of the household made such decisions. Joint decision making was only at 31%, which implies that the SVIP will have to implement affirmative actions to empower women in terms of land related decisions. Even in female headed households, 15% of respondents reported that men made such decisions.

Various stakeholders interviewed in Chikwawa and Nsanje corroborated the findings of the household survey and reported that in the two districts, the gender situation is not different from what literature has reported above. Stakeholders reported that due to cultural, socio-economic and political factors, women have limited decision making powers at household and community level. Although, the two districts have matrilineal societies, decisions on land and land transactions are often made by men and not by the women. Understanding how authority and responsibilities are distributed between men and women at community and household level is therefore very important in interventions that seek to target specific members of the household with services, such as training, and technologies, such as drip irrigation. Without such understanding, some of the targeted beneficiaries may not be able to participate in the planned activity because of social restrictions imposed by family members. The SVIP will need to include in its training programmes, issues of gender and decision making at household level, including how to distribute resources equitably between household members, to create space for better participation of women (especially those involved in the scheme) in household decision making.

6 Agriculture and Livestock

This chapter describes the agricultural sector of the SVIP area providing details on the production, consumption and sale of crops, and farm inputs. In addition, the experience with irrigated agriculture is described. The purpose of the SVIP is to change the predominantly subsistence farming into predominantly irrigated commercial farming. The information in this chapter can be used as a reference to measure this change to commercial farming across the value chain. The information was also used to develop the implementation mechanism of the SVIP.

Livestock are important for the livelihood of the people in the SVIP area, as a source of food, a buffer in times of need and as a status symbol. This chapter described the livestock value chain, such as the ownership pattern, livestock husbandry, availability and use of livestock services and the consumption and sale of livestock products. Apart from being a reference for change, data were used to design the implementation mechanisms of the SVIP and thus mitigating their fear of the negative impact on the livestock sector of the irrigation scheme.

This report presents the baseline of the various elements of farming based on the results of the SVIP Integrated Survey and national survey systems. For a more elaborate description of the farming systems, cropping patterns, agro-processing facilities, marketing prices, costs and returns reference is made to the Agricultural Development Planning Strategy of the SVIP.

6.1 Farming Systems

The farming systems within the SVIP area is uniform and can be divided into subsistence farming and commercial farming. These concurs with the findings reported in the Agricultural Development Planning Strategy that reported: “The agricultural sector is divided into two main sub-sectors, namely: the relatively large scale, modern estates, located in high potential areas and primarily engaged in the production of export crops; and, smallholder farms operating on customary land or leasehold estates, engaged in small scale mainly subsistence, rain-fed farming.” Farming in the lower Shire Valley and indeed in the whole country is dominated by

smallholder farmers who comprise over 90 percent of the agricultural sector and operate under a low-input rain-fed system. It has been reported that due to uncertain rainfall patterns farmers choose to adopt low-input, low-returns farming practices to minimize their exposure to risk (Tchale, 2009). The low-input, low-returns activities include the use of unimproved seed and applying low levels of bought-in inorganic fertilisers. However, it has been proved beyond doubt that the use of improved seed significantly improves technical efficiency, such that farmers who plant improved seed gain, on average 9 percent higher efficiency than those who do not (Tchale, 2009)[47].

Subsistence farming mainly targets food production and is combined with keeping a few livestock in some of the households (see section 6.8). The majority of farmers practice rain fed none or low mechanised subsistence farming. The main subsistence crops grown are sorghum, millet, maize and vegetables in the SVIP Phase 1 area and sorghum and millet in the Phase 2 area. Commercial farming is mainly practiced on irrigated pooled land or private estates such as the Nchalo estate of the Illovo Company, Kasinthula and Phata. Within the SVIP Phase 2 area there is a commercial cattle ranch just south of the Illovo sugar estates. The main commercial crops are sugarcane and cotton in the Phase 1 area and sugar cane and rice in the Phase 2 area. Data were collected from farmers practicing subsistence farming which is quite a uniform group using simple labour intensive farming techniques. Information on farming systems can also be found in the Agricultural Development Planning Strategy.

The land tenure and land use mapping results show that in the Phase 1 area 14,737 hectares or 36% of the land is used for growing sugarcane, 24% for sorghum, 12% for cotton and 8% for maize. Within the Phase 2 area 30% of the land is used for growing sorghum, 24% for millet, and 16% for sugarcane.

Table 40Crops grown and other land uses in the Phase 1 and Phase 2 areas of the SVIP

Crops grown, etc.	Phase 1		Phase 2		Comment
	Hectare	%	Hectare	%	
Maize	3,333	8	501.9	1	Phase 2 subsistence crop. In Phase 1 1,684.5 subsistence and 1,648.5 grown on wetlands
Sorghum	9,815	24	11,471.7	30	Subsistence crop
Millet	3,822	9	8,905.8	24	Subsistence crop of which 109.7 in Phase 1 and 518.5 in Phase 2 grown on common land
Rice	295.6	1	1,331.7	4	Phase 1: 4.4 subsistence crop and 291.2 grown in common area

[47] Source: Agricultural Development Planning Strategy

Crops grown, etc.	Phase 1		Phase 2		Comment
	Hectare	%	Hectare	%	
					Phase 2: Grown in common area
Cotton	4,740.1	12	260.6	1	Phase 1: 2,007 subsistence crop and 413.2 grown in common area Phase 2: Grown in common area
Sugarcane	14,736.9	36	5,906.1	16	Commercial farming
Vegetables	364	1	7.8	0	Grown in wetlands
Villages and other use	1,000.3	2	4,689.9	12	Phase 1: 685.2 settlement, 280.3 graveyards, 34.8 fishponds Phase 2: : 4,429,9 settlement, 255.8 graveyards, 4.2 fishponds
Rural uncultivated	2,292.5	6	4,634.4	12	Phase 1: 18 subsistence crop, 47 common areas, 1,559.7 forest areas, 57.8 grazing areas, 610 shrubs Phase 2: 937.5 subsistence crop, 1,748.2 forest areas, 1,928.6 grazing areas, 20.1 shrubs
Conflicts	658.9	2	176.3	0	
Total	**41,058.3**	100	**37,886.2**	100	

Source: SVIP Land Tenure and Land Use Survey, 2015

The main use of the land in the SVIP area is growing crops 81% of the land. Subsistence crops are grown on 49% of the land, commercial crops on 29%, and wetlands are used for growing another 3% of crops. 6% of the land is used for settlements and 1% for graveyards. There is very little common land (3%), forested land (4%) and grazing land (3%). Only 1% of the land is covered in shrubs and very little land is used for fish ponds.

Table 41 Land uses in the SVIP Phase 1 and Phase 2 areas

Land use	Phase 1		Phase 2		Total SVIP	
	Hectare	%	Hectare	%	Hectare	%
Commercial farming	1,7056.4	42	5,906.1	16	22,962.5	29
Settlement areas	685.2	2	4,429.9	12	5,115.1	6
Subsistence crops	1,7241.6	42	21,559.0	57	38,800.6	49
Common areas	569.9	1	1,850.2	5	2,420.1	3
Forest areas	1,559.7	4	1,748.2	5	3,307.9	4
Grazing areas	57.8	0	1,928.6	5	1,986.4	3
Wetlands	2,303.7	6	7.8	0	2,311.5	3
Graveyards	280.3	1	255.8	1	536.1	1

Land use	Phase 1		Phase 2		Total SVIP	
	Hectare	%	Hectare	%	Hectare	%
Shrubs	610.0	1	20.1	0	630.1	1
Fishponds	34.8	0	4.2	0	39.0	0
Conflict areas	658.9	2	176.3	0	835.2	1
TOTAL	**41,058.3**	**100**	**37,886.2**	**100**	**78,944.5**	**100**

Figure 3 and Figure 4 below show the land use maps of the SVIP Phase 1 and Phase 2 areas.

Figure 3 Land Use map of the SVIP Phase 1 Area.

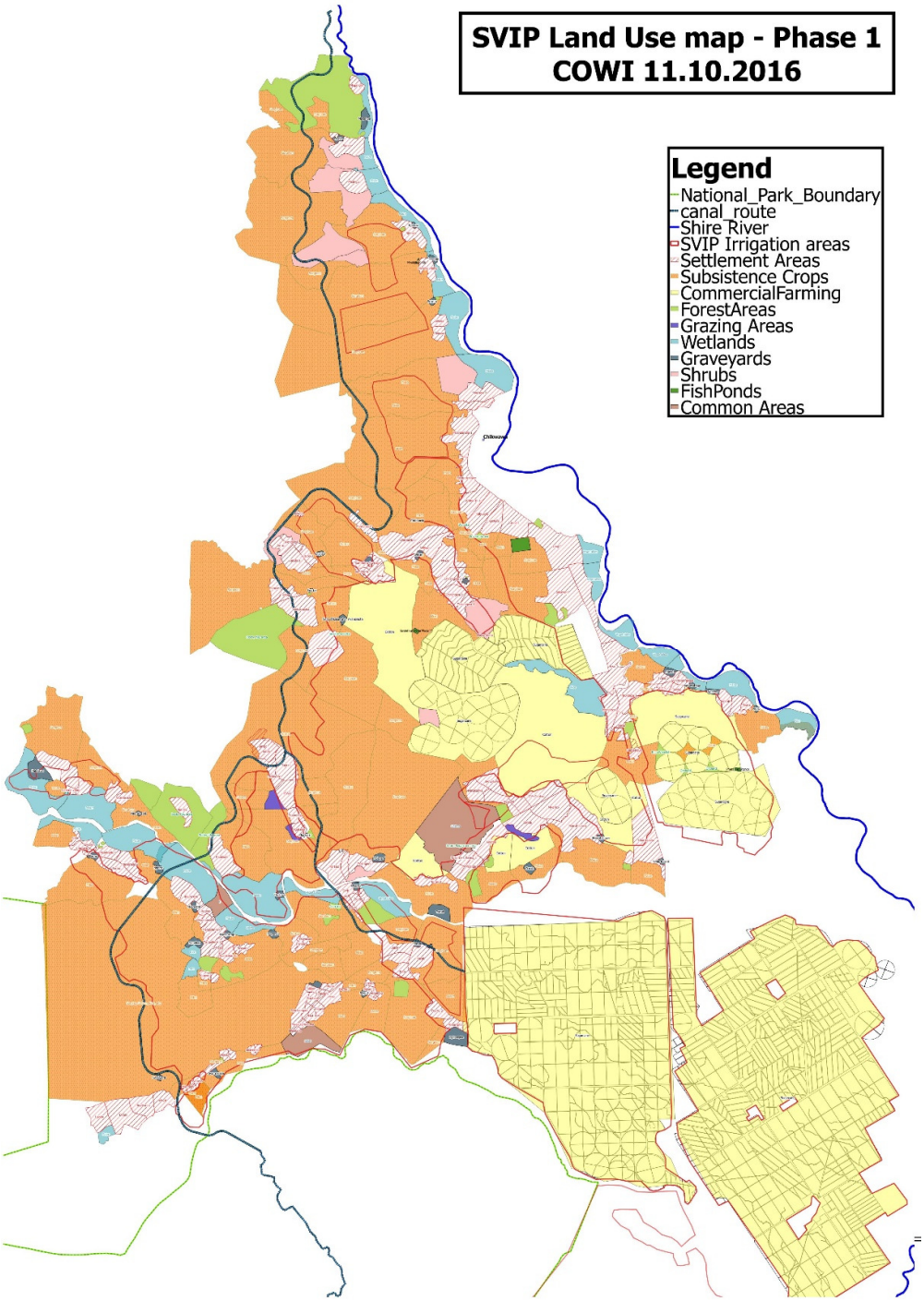
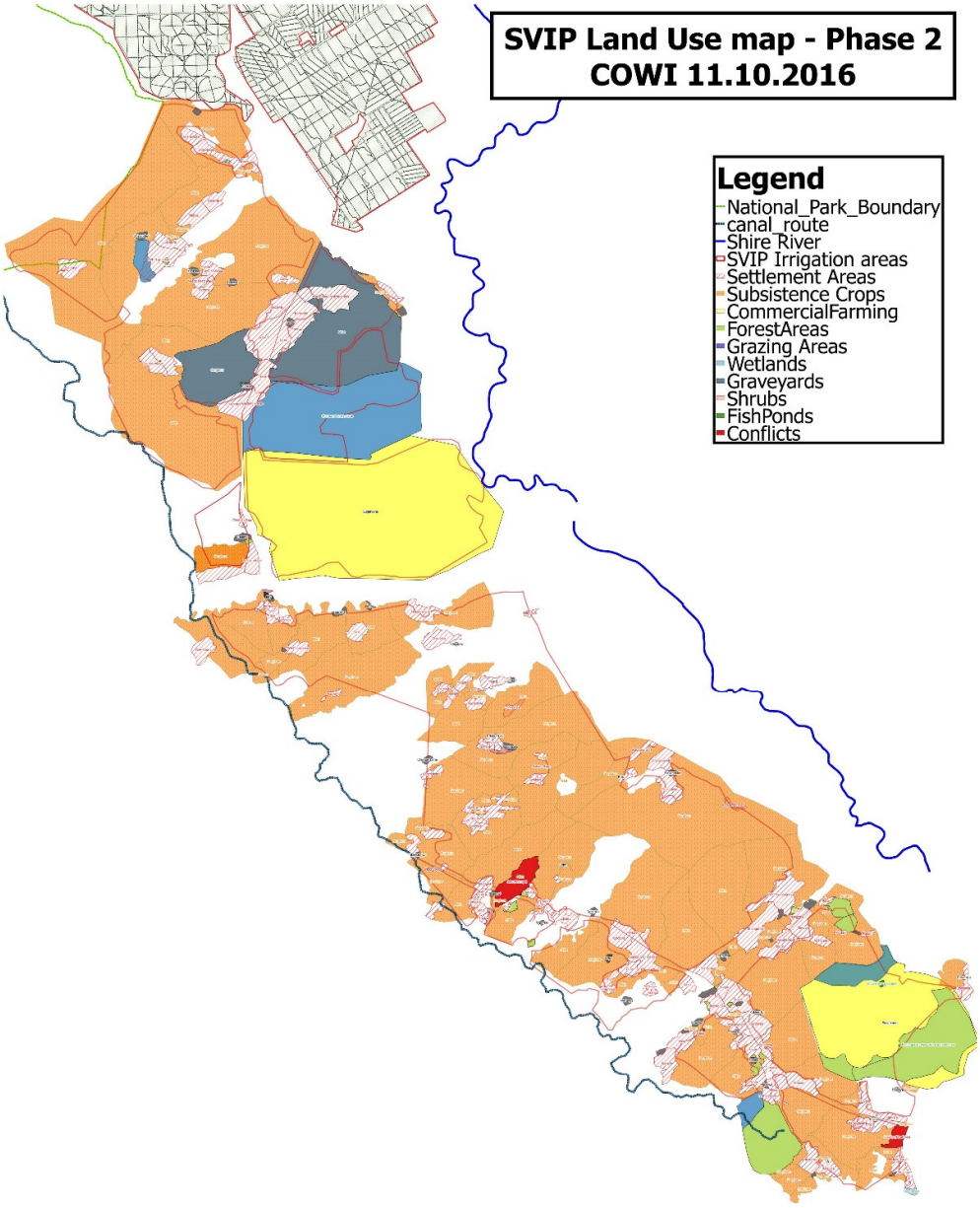

SVIP Land Use map - Phase 1
COWI 11.10.2016
Legend
National_Park_Boundary
canal_route
Shire River
SVIP Irrigation areas
Settlement Areas
Subsistence Crops
CommercialFarming
ForestAreas
Grazing Areas
Wetlands
Graveyards
Shrubs
FishPonds
Common Areas

Figure 4 Land Use map of the SVIP Phase 2 area



6.2 Extent of Crop Production

The focus groups results of the SVIP Survey at the end of 2015 show that about 97% of the land is used for agricultural production (See also Section 3.1). Table 42 below shows that agriculture is the predominant source of livelihood in Malawi. The proportion of households only engaged in agriculture was 85.1% in Malawi in 2011. In rural areas this percentage was even higher, i.e. 93.8%. When the households combining agriculture and livestock keeping are included, this proportion is even higher. This concurs with the results of the SVIP FGDs.

The proportion of households engaged in agriculture is decreasing with the increase in income level. The highest proportion of households only engaged in agriculture is thus found in the 1st consumption quintile and the lowest proportion in the 5th consumption quintile. This illustrates the importance of agriculture for the livelihoods of the households in Malawi[48]. The results of the FGDs concur with the proportion of households engaged in agriculture in the lowest two consumption quintiles.

Table 42Proportion of households engaged in agricultural activities, Malawi 2010

	Agricultural Households	**Crop & Livestock**	**Livestock**	**Crop**
Malawi	85.1	43.5	44.4	84.2
Urban	37.6	13.7	15.3	36.0
Rural	93.8	49.0	49.7	93.1
Sex of Household head				
Male	84.3	45.6	46.4	83.5
Female	87.6	36.9	38.0	86.5
Consumption Quintile				
1st (Lowest)	96.4	37.3	38.0	95.7
2nd	94.7	46.8	47.4	94.2
3rd	91.6	51.2	51.6	91.2
4th	86.7	50.6	51.5	85.8
5th (Highest)	65.5	33.7	35.1	64.1
Region				
Northern region	87.1	57.1	58.4	85.9
Central region	87.9	46.5	47.4	87.0
Southern region	82.0	37.3	37.9	81.4

Source: IHS3 Chapter 9 Table 9.1

Table 43 below shows that a total of 2.2 million hectares was under cultivation in the small holder agricultural sector in 2006/07 agricultural season. A holding consists of all parcels belonging to a household. The total number of parcel holders is the largest in Southern Region of which Chikwawa and Nsanje Districts are part. The combined number of parcel holders within Chikwawa and Nsanje Districts was 145,261 and together they had 99,901 hectares under crop in the 2006/2007 agricultural season.

[48] Source data: IHS3, NSO.

Table 43 Total number of smallholder households and total areaunder crop (in ha) smallholder farmers, 2006/2007 Agricultural Season

	Total no. of holdings	Total area under crop (ha)
Malawi	2,665,565	2,239,542
Region of Residence		
Northern	318,572	290,662
Central	1,091,757	1,118,015
Southern	1,255,236	830,865
ADD		
Shire Valley	145,261	99,901
District		
Chikwawa	96,331	65,623
Nsanje	48,930	34,278

Source: National Census of Agriculture and Livestock 2006/2007 Table 2.1

The average size of the area under cultivation was 3.57 acres (1.445 hectares) in Malawi in the 2009/2010 rainy season. Female headed households cultivate an average of 1.99 acres (0.81 hectares), which is much smaller than the average of just over 4 acres (1.62 hectares) of male headed households in Malawi. The average acreage of land cultivated in the Southern Region is slightly higher than in the whole of Malawi. Households within the 3th and 5th consumption quintile cultivated the highest average acreage of all income categories, i.e. respectively 6.8 (2.75 hectares) and just over 5 acres (2 hectares). Those within the 1st, 2nd and 3rd consumption quintile cultivated about 2 acres (0.81 hectares) only.

The size of the cultivated parcels are the lowest in Southern region where only 2.7% of the cultivated parcels of households are between 4 and 6 acres (1.6 and 2.4 hectares) and 17.8% between 2 and 4 acres (0.81 and 1.62 hectares). The majority of 78.5% of the cultivated parcels are smaller than 2 acres (0.81 hectares). This is lower than the national average and lower than in the other two regions. The average sizes of the parcels cultivated by female headed households is smaller than of male headed households. Only about one fifth of the parcels of female headed households are 2 acres (0.81 hectares) or more compared to 28.6% of those of male headed households. The proportion of female headed households cultivating parcels of 4 acres (1.62 hectares) and larger is almost half that of male headed households in Malawi.

Table 44: Total cultivated area by households during the 2009/2010 rainy season, Malawi 2011

	Total Area Cultivated		Size of parcels in acres (%)			
	Acres	Hectares	0-1	1-2	2-4	4-6
Malawi	3.57	1.4	30.3	37.9	24.0	5.4
Place or residence						
Urban	1.22	0.5	55.7	32.6	9.3	1.1
Rural	3.73	1.5	28.7	38.2	25.0	5.7

	Total Area Cultivated		Size of parcels in acres (%)			
	Acres	Hectares	0-1	1-2	2-4	4-6
Sex of household head						
Male	4.09	1.7	27.8	36.9	26.4	6.2
Female	1.99	0.8	38.2	40.8	16.6	3.2
Consumption quintile						
1st (Lowest)	1.64	0.7	30.7	42.1	22.0	3.9
2nd	2.29	0.9	31.6	40.4	23.2	3.7
3rd	6.83	2.8	30.0	37.5	24.7	6.0
4th	1.96	0.8	28.6	34.8	27.3	6.5
5th (Highest)	5.06	2.0	30.9	34.9	22.4	6.9
Northern region	2.08	0.8	23.0	36.5	30.1	7.6
Central region	3.72	1.5	23.2	37.2	28.4	7.6
Southern region	3.91	1.6	39.5	39.0	17.8	2.7

Source: IHS3 Chapter 9 Table 9.2

6.3 Main Types of Crops and Fruits Grown

Table 45below shows the answers of the respondents in the household survey to the question of what crops are grown in each of their parcels. Maize, sorghum and cotton is grown in about half of the parcels used by the households at the time of the survey in the last quarter of 2015. The main crops grown within the control areas of Phase 1 are maize and rice and the control area for Phase 2 sorghum and to a lesser extent maize, beans and cotton. The proportion of other crops grown is high in all areas.

Rice was grown in 4% of the parcels mainly on the irrigated parcels as indicated in section 3.1 on the global land use above. Although a substantial part of the Phase 1 area is under sugarcane this crop was hardly mentioned, probably because sugarcane is mainly grown on larger commercially run farms and not on the parcels used by individual households. Farmers may have a share in these farms but apparently do not consider the land as their family land any longer.

Table 45 Crops grown on each parcel used by the household by location (percent)

Crop grown on each parcel	SVIP area			Control area	
	Total	Phase 1	Phase 2	Phase 1	Phase 2
Maize	23.7	27.6	18.9	27.2	9.3
Sorghum	18.3	13.6	26.3	0.0	32.0
Cotton	16.8	17.8	17.8	4.1	5.3
Rice	3.7	4.4	0.4	21.5	0.0
Beans	3.1	2.9	2.1	13.3	2.7
Millet	1.4	1.0	1.7	1.0	6.7
Groundnuts	0.7	0.2	1.5	0.0	0.0
Vegetables	0.6	1.1	0.1	1.0	0.0
Sugarcane	0.1	0.1	0.0	0.0	0.0
Sweet potatoes	0.1	0.3	0.0	0.0	0.0

Pigeon Peas	0.3	0.3	0.0	2.6	0.0
Cowpeas	0.1	0.1	0.0	1.0	0.0
Other (Pearl millet)	31.0	30.7	31.1	28.2	44.0
Total	**100**	**100**	**100**	**100**	**100**

Source: SVIP Household Survey 2015

The SVIP baseline survey (Table 46) found that the average yield for maize per hectare was about 517 kg/ha, for sorghum297 kg/ha, for cotton 336 kg/ha and for rice 862 kg/ha. Yields are generally higher for male headed households than for female headed households, due to inability of female headed households to access inputs in particular fertiliser and improved seed. A World Bank report in 2009, reported that Malawi's agricultural productivity, particularly among the majority of the smallholder farmers, has fallen a long way below its potential given the available technology. For example, local maize and Burley tobacco yields have rarely reached 1.5 tonnes per hectare49.

Table 46 Average and median yields per acre of the main crops

Average yield for main crops grown	**Total SVIP**			**SVIP Area**	
	Total	**FHHH**	**MHHH**	**Phase 1**	**Phase 2**
Maize					
Response rate	75%	76%	75%	86%	60%
Average yield (kg/ha)	516.8	350.0	550.0	620.0	321.5
Average yield (Kg/acre)	206.7	140	220	248	128.6
Median yield (kg/acre)	125	100	125	150	50
Sorghum					
Response rate	62%	72%	60%	45%	93%
Average yield (kg/ha)	296.50	246.50	308.50	448.25	179.75
Average yield (Kg/acre)	118.6	98.6	123.4	179.3	71.9
Median yield (kg/acre)	50	40	50	100	35
Cotton					
Response rate	55%	52%	56%	57%	61%
Average yield (kg/ha)	336.25	255.00	351.50	414.25	238.25
Average yield (Kg/acre)	134.5	102	140.6	165.7	95.3
Median yield (kg/acre)	100	50	100	100	50
Rice					
Response rate	13%	8%	16%	15%	1%
Average yield (kg/ha)	862.00	730.25	877.5	1000.00	83.25
Average yield (Kg/acre)	344.8	292.1	351	400	33.3
Median yield (kg/acre)	177.5	180	175	200	20

Source: SVIP Household Survey 2015

[49] Tchale, H, 2009, The efficiency of smallholder agriculture in Malawi, World Bank, Lilongwe, Malawi

More information on yields can be found in section 2.2.1 and 2.2.2.3 of the Agricultural Development Planning Strategy. The proportion of households growing various types of fruit trees is lower in Chikwawa and Nsanje Districts than the national average in Malawi apart from Masau[50], which is the second most frequent type of fruit tree grown within the two districts after mango[51]. Banana and pawpaw are grown in respectively one quarter and one fifth of the households in Chikwawa District and 16% of the households in Nsanje Districts. Other types of fruits are not grown much in the two districts.

Table 47Percentage of households with various type of fruit trees by background variables, 2006/2007 Agricultural Season (percent)

Type of Fruits Grown	Malawi	Chikwawa	Nsanje
Any type	78	56	45
Mango	66	36	33
Orange	12	6	4
Pawpaw	27	20	16
Avocado	14	6	5
Tangerine	5	7	1
Banana	34	24	16
Guava	22	10	3
Peaches	7	1	0
Custard Apple	7	9	1
Mexican Apple	15	4	1
Masau	8	25	26

Source: NACAL 2006/2007, NSO 2010.

6.4 Consumption and Sale of Crops Grown

Food crops are mainly consumed at home. 91% of the maize and 98% of the sorghum is not sold and only a little of their produce sold. Rice and beans are used both for home consumption and for sale. About 57% of the households did not sell any rice and 34% not any beans. Households sold averagely 40% of their rice and 56% of their beans. Therefore, rice and beans are both a food crop and a cash crop. Almost all cotton is sold. This crop is, therefore, a clear cash crop.

Table 48Proportion of the main crops grown by households and sold

Proportion of crops sold	Maize	Sorghum	Cotton	Rice	Beans
Total					
100% Sold	0	0	98	8	26
75-99% Sold	0	0	0	7	11
50-74% Sold	1	0	0	11	19

[50] Masau is an exotic tropical multipurpose fruit tree widely found in Malawi, Zimbabwe and Zambia. It is believed to originate from India.

[51] Source of data in this paragraph: NACAL 2006/2007, NSO 2010.

Proportion of crops sold	Maize	Sorghum	Cotton	Rice	Beans
25-49% Sold	4	1	0	13	9
1-24% Sold	4	1	0	3	1
0% Sold	91	98	2	57	34
Total	**100**	**100**	**100**	**100**	**100**

Source: SVIP Household Survey 2015

The majority of the crops within the SVIP areas are either sold at the local market or to traders who pass by and hardly elsewhere. Cotton is more often sold to traders than other main crops both in female and male headed households. In general, female headed households sell their produce more often at the local market than to traders. Male headed households prefer selling to traders, rather than at the local market with the exception of beans.

Table 49 Main markets for the main crops grown by gender (percent)

Where crops are mainly sold	Maize	Sorghum	Cotton	Rice	Beans
Total					
Sold at local market	44	36	21	42	56
Sold to trader	48	55	72	56	43
Sold elsewhere	8	9	8	2	2
Total	**100**	**100**	**100**	**100**	**100**
Female Headed Households					
Sold at local market	67	100	26	63	83
Sold to trader	33	0	67	38	17
Sold elsewhere	0	0	7	0	0
Total	**100**	**100**	**100**	**100**	**100**
Male Headed Households					
Sold at local market	41	22	20	39	53
Sold to trader	50	67	73	59	45
Sold elsewhere	9	11	8	2	2
Total	**100**	**100**	**100**	**100**	**100**

Source: SVIP Household Survey 2015

6.5 Crop Production Methods and Constraints

The Agricultural Development Planning Strategy reported that the lower Shire Valley is largely occupied by smallholder subsistence farmers who engage in the production of both crops and livestock. The main crop grown is maize and this dominates the farming system. It is cultivated twice per year by families living close to the Shire River and once, annually by those living further away from the river or on the upland areas. Communities residing along the river also plant maize after the main rainy season taking advantage of the residual moisture left by the receding waters of the Shire and other rivers (such as the Mwanza). While the floods tend to have a devastating immediate impact on the project area including the loss of human lives, livestock and crops, the residual moisture allows the

smallholder farmers to establish more crops during the months following the main rain season. Due to the increasing incidence of flooding during the main rain season, most farmers now rely more on the residual moisture to sustain their crop production activities. This also enables them to benefit from the floods which also deposit additional nutrients eroded from the upland regions thus reducing the need for additional fertilizers required to maintain soil fertility.

Participants in the FGDs mentioned tilling (87%) and contour banding/ridge alignment (69%) as the two most common cultivation methods. Tilling is practiced in almost all areas, which means that there is limited adoption or practice of conservation agriculture which promotes minimum or zero tillage. Both methods were more often mentioned in male (93% and 74%) than in female (81% and 63%) FGDs and more often in the Phase 2 (100% and 81%) than in the Phase 1 (71% and 53%) area. Practising conservation agriculture to avoid soil erosion was mentioned in 49% of the FGDs. It was the second most frequent cultivation methods in female FGDs (84%). Applying manure was only mentioned in 49% of the female FGDs and more often in the Phase 1 (42%) than in the Phase 2 (10%) area. Box ridging to conserve water was mentioned in 15% of the FGDs and only in the Phase 1 area. Mulching and methods to preserve water were only mentioned in respectively 21% and 12% of the male FGDs. Pit planting and 'sasakawa' was only mentioned in respectively 6% and 5% of the female FGDs and only in the phase 1 area.

Table 50Cultivation methods in the SVIP by location and gender

AGRICULTURE **Used cultivation methods**	**Total SVIP**			**Phase**	
	T	**M**	**F**	**1**	**2**
Tilling	87	93	81	71	100
Contour banding/ ridge alignment	69	74	63	53	81
Conservation agriculture to avoid soil erosion	49	14	84	61	40
Applying manure	24	0	49	42	10
Box ridges to conserve water	15	19	12	34	0
Mulching	10	21	0	5	15
Methods to preserve water	6	12	0	5	6
Pit planting	6	0	12	13	0
One-foot planting method(sasakawa)	5	0	9	11	0
Methods to avoid soil erosion	1	2	0	3	0

Source: SVIP FGDs 2015

The larger the parcel size, the more often the parcel had been left fallow[52]. Southern region had the lowest proportion of parcels left fallow;10% compared to 15% in the Central and 24% in the Northern region.

One out of five households had practiced crop rotation on the whole parcel, and 9% on a part of the parcel. Crop rotation was more often practiced

[52] Source of data in this and the next paragraph: NACAL 2006/2007. NSO 2010

onmale-operated parcels (22%) as compared to female operated parcels (15%). The larger the parcel size, the more often crop rotation had been practiced. Crop rotation is the lowest in Southern region (7%) as compared to Northern Region (17%) and Central Region (36%). Results also indicate that on parcels where crop rotation hadbeen practiced half of the parcels had an irregular cropping pattern, while 46% had a systematic croprotation. Within Chikwawa and Nsanje Districts crop rotation was practiced on respectively 15% and 7% of the whole parcel and 4% and 3% on part of the parcel. Of those who did practice crop rotation, 53% did so systematically and 33% irregularly. For Nsanje District only 9% of the farmers practiced crop rotation did so systematically and 67% irregularly.

In almost all FGDs participants mentioned climate change with unpredictable rains, droughts and floods as the main constraints affecting agricultural production. 55% mentioned pests and diseases and birds destroying crops. This second frequent mentioned constraint was mentioned in 63% of the male FGDs and 47% of the female FGDs. A far larger percentage (81%) of the FGDs in the Phase 2 area suffered from these constraints than in Phase 1 area (21%). 37% of the farmers experienced the lack on farm inputs as a constraint. There is not much difference in the proportion of female and male FGDs that experienced this constraint. However, in the Phase 1 area the lack of farm inputs was more often experienced than in the Phase 2 area, 68% in Phase 1 and 13% in Phase 2.

Other constraints were mentioned less frequent, such as lack of fertiliser (9%) in mainly female FGDs, the lack of a reliable water source for irrigation (9%), lack of irrigation equipment (6%), unsuitable varieties (2%) and theft (1%).

As a result of the constraints the harvest is reduced and poor or dry up or get flooded and people experience hunger.

Table 51 Constraints experienced in practicing agriculture by location and gender

AGRICULTURE **Main constraints affecting agriculture**	**Total SVIP**			**Phase**	
	T	**M**	**F**	**1**	**2**
Unpredictable/erratic rains -climate change	98	100	95	97	98
Floods - excessive rainfall	65	53	77	26	96
Pest and diseases and birds destroy crops	55	63	47	21	81
Lack of farm inputs	37	40	35	68	13
Prolonged drought - dry spells	40	0	79	32	46
Soil degradation due to excessive rainfalls causing floods	14	28	0	32	0
Lack of fertiliser	9	0	19	18	2
Lack of reliable water source for irrigation	9	2	16	21	0
Lack of irrigation equipment, e.g. treadle pumps	6	0	12	13	0
Unsuitable Varieties	2	0	5	0	4
Theft of used inputs	1	2	0	3	0

Source: SVIP FGDs 2015

In the Agricultural Development Planning Strategy the following constraints are reported that despite the gains recorded with the Fertiliser Input Subsidy Programme (FISP) the smallholder farmer in Malawi is still faced with an array of constraints, including socio-economic, biological and physical constraints, the major ones being:

- Erratic rainfall patterns and recurrent droughts;
- Inadequate incentives and support to produce crop surpluses;
- Low and declining productivity on the dryland areas;
- Lack of capital to purchase inputs and farm implements;
- High cost of credit due to the perceived high risk associated with the sector;
- Relatively poor marketing channels and marketing information systems;
- Inadequate extension advice;
- Inadequate supply of seeds of improved varieties;
- High cost of inputs (the FISP only supplies fertilizers and seeds);
- Inadequate village-level storage and processing facilities;
- Poor road infrastructure;
- Lack of investment to support the development of marketing infrastructure;
- Inadequate support in water management and participatory methodologies; and,
- Inadequate logistical and financial support.

Sixty-six percent of FGDs mentioned using simple irrigation methods like watering with buckets and watering cans to address the constraints affecting agriculture. Far more male FGDs (86%) mentioned using simple irrigation methods than female FGDs (47%). A possible explanation may be that men have more physical strength and time than women to use watering cans and buckets. Forty-four percent of FGDs reported that they address the constraints by planting trees. Planting trees to address constraints was mentioned more often in male FGDs (63%) than in female FGDs (26%). The third most frequent mentioned remedy of crop diversification was only mentioned in male FGDs while the fourth remedy of buying pesticides was predominantly mentioned in male FGDs. The last four ways to address the constraints of: 1) substituting manure for inorganic fertiliser, 2) using more modern farming techniques as promoted by the extension workers, 3) using suitable varieties, and 4) planting drought resistant corps and practicing crop diversification were more often mentioned in female FGDs than in male FGDs. Of the female FGDs, 30% believed that nothing could be done.

Table 52 Ways to address constraints by location and gender

AGRICULTURE **Methods used to address the constraints**	**Total SVIP**			**Phase**	
	T	**M**	**F**	**1**	**2**
Use simple irrigation like buckets, watering cans	66	86	47	68	65

Plant trees	44	63	26	66	27
Crop diversification	24	49	0	8	38
Farmer clubs jointly buy cheap inputs	21	40	2	34	10
Apply pesticides/apply pesticides at low price	19	35	2	8	27
Substitute manure for inorganic fertilisers	15	5	26	26	6
Extension - more modern farming methods	12	9	14	26	0
Use suitable Varieties	2	0	5	3	2
Plant drought resistant crops/diversification	2	5	0	0	4
Nothing to be done	15	0	30	0	27

Source: SVIP FGDs 2015

6.6 Farm Inputs and Services

In Malawi 52% of the households applied fertiliser in the 2006/2007 agricultural season[53]. The larger the holding size the higher the proportion of households that applied fertilizer. Most households applied inorganic fertilizer and only few used organic fertilizer. The use of fertilizer is even lower in the districts of Chikwawa (9%) and Nsanje (5%) and in the Agricultural Development Division (ADD) of the Shire Valley (8%).

Pesticides are hardly applied in Malawi (2%) but used a little more in the districts of Chikwawa (18%) and Nsanje (4%) and the ADD of the Shire Valley (13%).

Table 53Proportion of households who used fertilizer and applied pesticides during the 2006/2007 agricultural season, according to background variables

	Not fertilized	**Used organic fertilizer**	**Used inorganic fertilizer**	**Pesticides applied**	
				Yes	**No**
Malawi	47	1	51	2	98
Sex of the Household Head					
Male	46	1	52	3	97
Female	49	1	50	2	98
Holding Size					
<0.100 ha	61	1	38	2	98
0.100-0.199 ha	50	1	49	2	98
0.200-0.499 ha	44	1	55	3	97
0.500-0.999 ha	37	1	62	3	97
1.000 ha +	36	2	61	3	97
District					
Chikwawa	91	0	9	18	2
Nsanje	95	0	5	4	96
Agricultural Development Division Shire Valley	92	0	8	13	87

[53] Source data: NACAL, NSO

Source: NACAL

Except for insecticides, use of other chemicals in the smallholder sector was almost non-existent (Table 54). The table further shows that 9 percent of households bought insecticides while only one percent bought fungicides, herbicides and fumigants.

Table 54Proportion of households who bought various chemicals during the 2006/2007 agricultural season, according to background variables

	Insecticides	Fungicides	Herbicides	Fumigants
Malawi	9	1	1	1
Sex of the Household Head				
Male	11	1	1	2
Female	5	1	1	1
Holding Size				
<0.100 ha	6	1	1	2
0.100-0.199 ha	7	1	1	1
0.200-0.499 ha	6	1	2	1
0.500-0.999 ha	9	1	1	1
1.000 -1.999 ha	12	2	1	2
2.000 ha+	16	2	1	2
Southern Region	8	1	1	1
ADD Shire Valley	23	3	3	2

Source: NACAL

62% of the households were not visited by any extension worker in the last twelve months. Extension workers visited 23% of the households once or twice and another 7% for a third time. Only 8% of the households were visited more than three times. This pattern is similar in female and male headed households and in the Phase 1 and Phase 2 areas of the SVIP. Households in the control areas were visited less especially in the Phase 2 control area. Government extension officers visited 55% of the households that benefitted from extension services and NGO extension workers 40%. Only few were visited by a lead farmer.

Table 55 Frequency of extension visits and type of worker by location and gender

Agricultural extension	Total SVIP area			SVIP Phase		Control area	
	Total	FHHH	MHHH	Ph 1	Ph 2	Ph 1	Ph 2
How many times did an agricultural worker visit in the last 12 months?							
Never	62	64	62	60	65	78	74
Once	11	12	11	11	11	6	17
Twice	12	10	13	11	14	12	4
Thrice	7	9	7	9	4	2	0
Four times	3	2	3	3	2	2	4
Five times	2	2	2	3	1	0	0
Over five times	3	1	3	3	2	0	0
No answer	0	0	0	0	0	0	0

Agricultural extension	Total SVIP area			SVIP Phase		Control area	
	Total	FHHH	MHHH	Ph 1	Ph 2	Ph 1	Ph 2
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Which agricultural extension worker visited?							
Government	55	63	54	58	50	60	57
NGO	40	33	42	36	47	40	43
Lead farmer	3	3	3	4	2	0	0
Other	1	1	1	1	1	0	0
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Source: SVIP Household Survey 2015

55% of the households said they were always using the messages of the extension workers. The proportion of male headed households always using the messages is 58%, significantly higher than the 48% of female headed households. Fifty percent of the latter were using the messages sometimes and 8% not at all. This is higher than the 41% of male headed households that are using the messages sometimes and the 2% not at all. The results show that extension messages are appreciated and do have an impact if the extension worker is visiting regularly.

Table 56 Usefulness and use of extension messages by location and gender

Use of messages extension worker	Total SVIP area			SVIP Phase		Control area	
	Total	FHHH	MHHH	Ph 1	Ph 2	Ph 1	Ph 2
Use of extension message							
Always	55	42	58	55	57	27	50
Not at all	3	8	2	2	2	18	0
Sometimes	42	50	41	42	41	55	50
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Usefulness of the extension message							
No answer	3	8	2	2	2	18	0
Not useful	1	0	1	1	0	0	0
Useful	23	27	23	23	24	45	17
Very useful	73	65	75	74	74	36	83
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Source: SVIP Household Survey 2015

Results of the National Census of Agriculture and Livestock conducted by the NSO showthat 18% of the households attended various extension services during the2006/07 agricultural season, 12% attended village meetings, while 4% either attended an extension course or were visited on the farm.

About 38%of the households had not attended extension services, because no extension worker was available, while almost half the households said the servicewas available, but they had not been visited[54]. About one in ten

[54] Source of data in this and the following paragraphs until the next section: NACAL 2006/2007. NSO 2010

households reported that the service was available but they did not participate in any activities.

Half of the small holder agricultural households in Malawi acquired inorganic fertilizer while oneout of five households obtained organic fertilizer. More male headed households (56 %) had obtained inorganic fertilizer than female headed households (45%). The poorer the households, the less likely for it to obtain inorganic fertilizer. Households withthe largest holdings obtained fertilizer more than those with smaller holdings especially so regardinginorganic fertilizer. In Chikwawa and Nsanje District very few farmers use fertiliser. In Chikwawa District 91% did not use any fertiliser and in Nsanje District 95% whilst the remainder used inorganic fertiliser. Only 8% received fertiliser coupons in 2006/2007 agricultural season in Chikwawa District and 13% in Nsanje District compared to 53% in Malawi.

The same study found that, except for insecticides, use of other chemicals in the smallholder sector was almost non-existent and only 9 percent of households bought insecticides while only one percentbought fungicides, herbicides and fumigants. In Chikwawa District 82% and in Nsanje District 95% did not use any pesticides.

6.7 Experience with Irrigated Agriculture

Only few households interviewed were practicing irrigation using simple irrigation methods. Several large mostly commercially run irrigation schemes exist within the SVIP Phase 1 area. Therefore, it is not surprising that more household were practicing irrigation in SVIP Phase 1 than in the Phase 2 area. Only in the Phase 1 control area was irrigation practiced.

The source of irrigation water for 44% households is lift irrigation pumping water from the stream or river. Shallow open wells and small scale gravity systems are the source of water in respective 24% and 19% of the households in the SVIP areas. The proportion of female and male headed households using these three type of sources hardly differ. Dambos, however, are more often used as a source of irrigation water in female (19%) than in male (9%) headed households. Small scale gravity schemes was the predominant source of irrigation water in the control area for Phase 1 whilst another third used shallow open wells to irrigate their land.

The predominant type of irrigation method is the furrow/treadle pump in all areas in which irrigation is practiced (55%) and in both female and male headed households. The furrow/treadle pump method is more used in the SVIP Phase 2 area (74%) and the control area for Phase 1 (67%) than in the SVIP Phase 1 area (47%). The water can is used in a quarter of the households in the SVIP areas and in one third of the control area for Phase 1. This method is more used in the SVIP Phase 1 than in the SVIP Phase 2 area. Drip irrigation was used in 10% of the households in the SVIP areas and more often in female than in male headed households.

Table 57 Proportion of households practicing irrigation in the current agricultural season, source of water and irrigation method by location and gender

Practices on currently irrigated land	Total SVIP area			SVIP Phase		Control area	
	Total	FHHH	MHHH	Ph 1	Ph 2	Ph 1	Ph 2
Yes, practiced irrigation	14	8	15	18	10	6	0
Source of irrigation water							
Lift irrigation system - pump water from stream/river	44	38	45	34	72	0	0
Shallow open wells	24	25	24	28	12	33	0
Gravity small-scale irrigation system	19	19	19	23	7	67	0
Dambo (bucket irrigation)	10	19	9	12	5	0	0
Water harvesting structure (pond/rese	1	0	1	2	0	0	0
Deep borehole	1	0	1	1	2	0	0
Other	1	0	1	0	2	0	0
	100	**100**	**100**	**100**	**100**	**100**	**0**
Irrigation Method used							
Furrow/treadle pump	55	40	57	47	74	67	0
Water can	25	27	25	31	10	33	0
Drip	10	20	9	11	10	0	0
Basin	5	7	5	6	2	0	0
Sprinkler	3	7	2	4	0	0	0
Other	2	0	2	1	5	0	0
Total	**100**	**100**	**100**	**100**	**100**	**100**	**0**

Source: SVIP Household Survey 2015

Maize is the main crop grown in over 70% if the irrigated land in all areas. More maize is grown under irrigation in the SVIP Phase 2 than in the SVIP Phase 1 and the control area for Phase 1. The proportion of male headed households in the SVIP areas growing maize on their irrigated land is 10% higher than in female headed households.

13% of the irrigated land is used for growing a variety of vegetables within the SVIP areas and in one third in the control area for Phase 1. Vegetables are more often grown under irrigation by female (19%) than by male headed (12%) households and four times as many households in the SVIP Phase 1 area grow vegetable compared to the SVIP Phase 2 area. Rice is only grown in the SVIP Phase 1 area and close to three times as often in female headed households as in male headed households. None of the respondents was growing sugarcane.

Table 58 Types of crops grown under irrigation by location and by gender (percent)

Main crops grown on irrigated land	Total SVIP area			SVIP Phase		Control area	
	Total	FHHH	MHHH	Ph 1	Ph 2	Ph 1	Ph 2

Main crops grown on irrigated land	Total SVIP area			SVIP Phase		Control area	
	Total	FHHH	MHHH	Ph 1	Ph 2	Ph 1	Ph 2
Maize	72	63	73	65	89	67	0
Various vegetables	13	19	12	16	4	33	0
Rice	9	19	7	12	0	0	0
Beans	3	0	3	2	7	0	0
Cassava	1	0	1	1	0	0	0
Irish potatoes	1	0	1	1	0	0	0
Sweet potatoes	1	0	1	2	0	0	0
Other crops	1	0	1	2	0	0	0
Total	**100**	**100**	**100**	**100**	**100**	**100**	**0**

Source: SVIP Household Survey 2015

Over half of the households that answered the relevant question did not have access to a reliable source of water for irrigation and therefore did not practice irrigation. About a quarter of the households cited the lack of materials as the reason. About nine percent did not have land at all, not enough or not suitable land for irrigation. Other less mentioned reasons were lack of technical know-how, funds for investment and labour whilst 4% was not interested.

Whilst 14% of the households within the SVIP area were practicing irrigation in 2015, another 25% of the households has practiced irrigation but does not do so any longer. This proportion is almost twice as high in male as in female headed householdsand over three times more frequent in the SVIP Phase 1 than in the SVIP Phase 2 area.

Lack of materials was the reason for stopping with irrigation in 44% of the households in the SVIP areas. Another 22% cited the lack of a reliable water source as a reason. The shortage of land or suitable land was a reason for 12% to stop irrigating. In 6% of the households the irrigation scheme had broken down. The reasons for stopping irrigation are the same in Phase 1 as in Phase 2 but the order is different in Phase 2. Within this area the lack of a reliable water source is the main reason for stopping in 44% of the households with the lack of materials in the second place with 17%. A broken down irrigation scheme is the third reason for 8% of the households. There is no signification difference between female and male headed households.

6.8 Livestock Ownership

The most common type of livestock kept in the area are cattle, goats, pigs and chicken according to all FGDs. Keeping ducks was mentioned by 63% of the FGDs. Sheep, doves and guinea fowl are kept less.

In 2006/2007 the proportion of households owning at livestock in Malawi was 57%, 58% in Chikwawa and 63% in Nsanje. However, the poorest quintile owned less livestock of all types and female headed households

less than male headed households. The proportion of households keeping livestock in Nsanje District is higher than the national average. Goats and chicken are the most popular types of livestock kept everywhere in Malawi.

Table 59 Proportion of households owning livestock by type, location and gender (percent)

Proportion of households owning livestock	Total	Cattle	Goats	Sheep	Pigs	Chicken
Malawi	57	6	24	2	9	49
Female	48	5	20	2	5	41
Male	61	7	25	2	10	52
Poorest quintile	53	5	23	2	7	44
Chikwawa District	58	11	31	4	7	43
Nsanje District	63	7	32	4	6	50

Source: NSO, National Census for Agriculture and Livestock 2006/2007

Results of the SVIP household survey shows the same overall picture as NSO's national survey. The proportion of households owning livestock, however, shows that fewer of the households interviewed actually owned any livestock. The results may be lower because only few households answered the question on owning livestock. This may be because within the survey area ownership of cattle is in indication of wealth which people did not want to disclose. It may also be because of cultural beliefs that put a bad omen on providing this information.

The most common owned type of animal is the local goat by 22% of the households. More male(25%) than female (12%) headed households own goats.

The second most frequently kept type of livestock is the local chicken, which is kept by 18% of all the interviewed households. Also chickens are more often kept in male (16%) than in female (11%) headed households.

Local cattle are kept by 10% of the interviewed households. The local cow is the most frequent kept livestock in female headed households (58%) compared to male headed (11%) households.

Local pigs and local ox/bulls are kept in respectively 7% and 4% of the households. This indicates that only very few households own draft animals that could be used for farming the land and transportation of inputs and outputs.

Various types of poultry, such as guinea fowl, pigeons and turkeys are hardly kept by and neither are sheep and rabbits.

Adult women and men headed households more often keep all types of livestock than the households headed by a person of 35 years or younger.

This is true for all types of livestock apart from chicken. More households in the Phase 1 than in the Phase 2 area keep livestock of all types.

Table 60 Proportion of Households Interviewed Owning At least One Livestock per Type, Location and Gender

Proportion of Households Owning At least One Animal per Type	Total SVIP			SVIP Phase	
	Total	Men	Women	1	2
Goat-local	22	25	12	22	19
Chicken-local	18	16	11	18	11
Cow-local	10	11	58	10	9
Pig-local	7	6	4	7	3
Ox/bull-local	4	4	2	4	1
Duck	3	3	2	3	2
Guinea fowl	1	1	1	1	1
Pigeon	1	1	1	1	0
Sheep	0	0	1	0	0
Rabbit	0	0	0	0	0
Turkey	0	0	0	0	0

Source: SVIP Household Survey 2015

The increasing trend in livestock production is described in section 2.3 of the Agricultural Development Planning Strategy (AgDPS).
Table 61below shows the livestock population trend that the AgDPS obtained from the District Agriculture and Livestock officer (DALHD). An analysis of the livestock production trends for the past five years shows positive trends in species of livestock. A comparison in the percentage change between years 2013/2014 and 2014/2015 has shown that pigs are the fastest growing at 16.53% followed by chickens at 14.59%, goats at 11.27% whilst the cattle population has increased by 6.14%.

Table 61 Livestock production trends for the past five years (2015-2015)

Livestock type	Livestock population by type and season					Last year % change
	2011/12	2012/13	2013/14	2014/15	2011/12	
All cattle	1,110,560	1,164,438	1,241,749	1,316,799	1,398,376	6.14
Beef cattle	1,060,221	1,106,737	1,181,025	1,252,420	1,326,524	5.92
Dairy pure	11,136	12,247	13,284	14,710	16,274	5.96
Dairy crosses	39,203	45,454	47,337	49,669	55,578	11.90
Goats	4,442,907	4,929,808	5,356,545	5,882,106	6,545,306	11.27
Sheep	228,649	240,269	255,928	269,830	275,537	2.12
Pigs	2,160,670	2,493,172	2,754,414	3,128,599	3,645,626	16.53
Chickens	44,672,086	58,752,354	61,868,912	68,177,602	78,121,449	14.59

Source: Data from DALHD as reported in the AgDPS

6.9 Livestock Husbandry

Free grazing is the main type of animal feed for livestock, especially during the rainy season as it is cheap according to all the FGDs (100%). After the harvest livestock feeds on crop residue (6%).However, this method of grazing means that introducing irrigation in the area will reduce grazing areas for those who own livestock such as cattle. A large majority of the FGDs also mentioned the cut and carry method whereby fodder is brought to the animals (92%). This feeding method is used to restrict the movement of animals and to prevent theft[55].

According to the respondents of the SVIP household survey free grazing land (69%) is the main source of animal feed followed by crop residue (25%). Free grazing land is mainly land along roads, in between houses, etc. Hardly any land is set aside for grazing. Only few households graze the animals individually or use other sources of animal feed.

Table 62 Main sources of animal feed by location and gender (percent)

Main sources of animal feed for livestock	Total SVIP			SVIP	
	Total	Men	Women	Phase 1	Phase 2
Free grazing land	69	71	52	67	70
Crop residue	25	23	43	26	25
Fodder crops	0	0	0	0	0
Hay	1	1	0	0	1
Individual grazing	1	1	2	1	2
Other	4	4	2	5	2

Source: SVIP Household Survey 2015

In 47% of all households there is sufficient feed for the animals throughout the year. There is not sufficient animal feed throughout the year in 64% of the female headed households compared to 52% of the male headed households. More households struggle to feed their animals throughout the year in the Phase 2 than in the Phase 1 area.

The main sources of water for livestock throughout the year are the borehole and stream/river in 89% of the households. Female headed households make more use of the borehole for watering their animals than male headed households and so do households in the Phase 1 compared to the Phase 2 area. The remaining 11% of the households mainly use a well, pond, spring or another source for watering their livestock. This group consists more of female than male headed households.

[55] Multiple answers were given to this question. Therefore the total is over 100%.

Table 63 Main sources for watering livestock throughout the year by location and gender

Main sources for watering livestock	Total SVIP			SVIP	
	Total	Men	Women	Phase 1	Phase 2
Borehole	62	60	73	66	58
Stream/river	27	27	25	25	30
Well	2	2	2	1	4
Pond	1	2	0	2	0
Spring	0	0	0	0	0
Other	8	9	0	7	8

Source: SVIP Household Survey 2015

In a year with normal rainfall, there is sufficient water for the livestock throughout the year in 90% of the households.

6.10 Livestock Services

Farmers have no access to dip tanks according to 95% of the female and 72% of the male FGDs. Within the Phase 2 area none of the farmers had access to dip tanks. Dip tanks are not available and services stopped long ago are the main reason for the absence of the service in 83% of the FGDs. The long distance to the dip tanks and expensive drugs for the dip tanks were mentioned in respectively 16% and 3% of the FGDs.

The livestock officer is vaccinating animals against internal parasites once or twice a year and more often if there is an outbreak of disease. Vaccination is to protect livestock from disease but the medicine is not powerful, especially not on poultry.

The main challenges are that vaccination is only available when there is an outbreak, the regular need of vaccination due to the regular outbreaks of disease, and being able to afford the service. A few FGDs also mentioned, the scarcity and late availability of drugs, long distance to the get the services, high price of drugs, the late administration of vaccine and the absence of veterinary experts. And poultry needs regular vaccination because the disease returns fast.

6.11 Use and Sale of Livestock Products

Meat is the main livestock product in 65% of the households. This proportion is even 73% in female headed households. Dairy products are produced in 10% of the households and more in male (11%) than in female headed households (4%). More female (14%) than male (7%) headed households produce eggs. Skins and hides are hardly produced.

Table 64 Main livestock products produced by the household by location and gender (percent)

Main livestock products	Total SVIP			SVIP	
	Total	Men	Women	Phase 1	Phase 2
Milk	10	11	4	8	12
Egg	8	7	14	10	6
Meat	65	63	73	66	61
Other	17	18	10	15	22
Skin/hide	0	1	0	0	0

Source: SVIP Household Survey 2015

About three quarters of the households consume all of the meat (73%), mutton (75%) and eggs (78%) at home and do not sell anything. Half of the dairy products are also consumed at home (50%). The remaining households sells some of these animal products and consume the rest at home. All or some of the dairy products are consumed at home in all households, but sold more often than meat, mutton and eggs. Only one third of the other livestock products are all sold.

Table 65 Proportion of main livestock products consumed by the household (percent)

Proportion of livestock products consumed	Livestock products				
	Dairy	Meat	Mutton	Eggs	Other
100% consumed	50	73	75	78	17
75 - 99% consumed	7	6	0	0	17
50 - 74% consumed	14	6	0	11	0
25 - 49% consumed	14	3	0	11	17
1- 24% consumed	14	12	25	0	17
0% consumed	0	0	0	0	33
Total	**100**	**100**	**100**	**100**	**100**

Source: SVIP Household Survey 2015

Only about one third of the households sell livestock regularly, mainly when the household is in need of cash to purchase food (84%) and some when cash is needed for social reasons (14%). Only in 2% of the households are animals sold regularly for investment reasons.

Close to three quarters of the households sell their livestock at the local markets and another quarter to a vendor/trader. Only 1% sells their livestock elsewhere.

Table 66 Usual way of selling livestock by location and gender (percent)

Usual way of selling livestock	Total SVIP			SVIP	
	Total	Men	Women	Phase 1	Phase 2
Elsewhere	1	1	0	0	3
Local Market	73	74	67	76	74
Vendor/Trader	26	25	33	24	23
Total	**100**	**100**	**100**	**100**	**100**

Source: SVIP Household Survey 2015

6.12 Constraints in Livestock Husbandry

The main challenges in keeping livestock are disease wiping out livestock mentioned by all FGDs (100%). The main remedy against disease is vaccinating livestock when it is available mentioned in 77% of the FGDs. Restoration of animal health services, such as dip tanks was mentioned in 26% of the FGDs.

The second major challenge is theft of animals affecting the households' economy (58%). Tightening police security (52%) and community policing (33%) are the main ways to tackle this challenge. Reporting theft to the police even if they do nothing was mentioned in 21% of the FGDs. One FGD mentioned practicing indoor feeding and a few do nothing because thieves are never punished (5%).

The third major challenge is insufficient fodder due to climate change mentioned in 70% of the male and 21% of the female FGDs. The remedy mentioned in a few FGDs is to grow fodder under irrigation and use some of the SVIP irrigated area to grow fodder.

The Agricultural Development Strategy reported that smallholder farmers involved in livestock production in the lower Shire Valley have identified a number of challenges they are currently facing, and these include:

- Reduced availability of grazing land due to increased pressure for land as the human population continues to increase;
- Restricted access to the Shire River in those areas where lands have been set aside for sugar cane production;
- Predation by crocodiles residing in the waters of the Shire River;
- Poor management of the change of ownership of dip tanks from the government to the farmers leading to poor maintenance and subsequent breakdown of facilities;
- Lack of competition on the market. There are two major players operating in both Chikwawa and Nsanje and as a result smallholder farmers perceive collusive tendencies between the operators, who together account for 90 percent of the market share;
- Sale of cattle on credit where they receive payments for their sales after a two-month waiting period;
- High prevalence of livestock diseases such: as foot-and-mouth disease; tick borne diseases; pneumonia; Newcastle; African Swine fever; worm

infections and foot rots. The problem of diseases is exacerbated by the general shortage of skills and capacity constraints faced by the government departments responsible for serving the smallholder farmers; and,

- Limited extension capacity leading to inadequate provision of technical knowledge.

7 Gender and Youth

The Gender and Youth Strategy Study presents, amongst others, the gender and youth profile of Malawi. One of the recommendations is to mainstream gender and youth throughout the design and implementation of the SVIP. Gender, youth and poverty are also mainstreamed in this socio-economic baseline. In addition, the chapter presents'Gender and Youth Profile of Malawi is copied here as well.

7.1 Gender equality index for Malawi

Malawi has a low human development, ranking at 170 out of 186 countries on the Human Development Index. In terms of gender, the country ranks 124th on the Gender Inequality Index (GEI), with a value of 0.57, reflecting high levels of gender inequalities in reproductive health, empowerment and economic activity. The African Development Bank has ranked Malawi at 72.8% on the gender equality index, which is amongst the top five countries in Africa that are doing best on gender equality, together with South Africa, Rwanda, Namibia and Mauritius. The GEI highlights the barriers to women's full participation in Africa's development, and provides policymakers, and those advocating policy change, with a robust source of data to understand the links between gender equality and development[56].

Despite the high ranking, women are marginalised in many spheres of social, economic and decision-making positions. The situation has also been complicated by the fact that Malawi has not met Millennium Development Goal (MDG) 2, for universal primary education, MDG 3 on gender equality and women's empowerment[57] and MDG 5 on improving maternal health[58].

The SADC uses the SADC Gender and Development Index (SGDI) as well as Citizen Score Card (CSC) to measure progress in productive resources, employment and the economy. The SGDI measures economic decision-

[56] African Development Bank, 2015.Empowering African Women: An Agenda for Action: Africa Gender Equality Index, 2015

[57]2010 Malawi Millennium Development Goals Report

[58]GoM, 2014, Ministry of Gender, Children and Community Development, Draft National Plan of Action to Combat Gender-Based Violence in Malawi, 2014 – 2020, Private Bag 330, Lilongwe 3

making; female to male unemployment rate; female share of non-agricultural paid labour and the length of maternity leave. According to the SADC Gender Barometer of 2015, Malawi's SGDI was at 61%, which was the lowest but one in SADC.

In 2008, the total population in Malawi was 13,066,320, out of which 6,365,771 (49%) were males and 6,700,549 (51%) were females. The population grew from 9,933,868 in 1998 to 13,066,320 in 2008, representing an increase of 32% (NSO, 2008) over a period of 50 years. At regional level, the results show that the Southern Region has the highest population of 5,876,784 (45%), followed by Central Region, 5,491,034 (42%) and Northern Region, 1,698,502 (13%). The youth (10-35 years) form the largest age group of the Malawi population; with more than 40% persons aged 10 to 35 years. About 48% of the population is younger than 19 years old. Within the TAs in the SVIP area, the proportion of people younger than 20 years was 56% in 2008. Only 14% was 40 years or older. Of the total population of Malawi, 5.1% lived in the two southern districts of Chikwawa and Nsanje.
The population growth rate for Malawi during the inter-censal period 1998 - 2008 was 2.8% per annum as compared to 2.0% during the inter-censal period 1987-1998. About 48% of the total population is above 18 years old and the rest below 18 years. The population of Chikwawa and Nsanje districts combined is 12% of the population of the Southern Region.

7.2 Education and literacy

Although women are the majority of the population (51%), they are marginalized in economic and social spheres. Literacy levels of women are considerably lower than for men. Nationally, 65.4% of the population aged 15 years and above are literate. However, there are gender differences, with 57.2% of women compared to 74.4% of men above 15 years old being literate.

Adolescent girls ages 15 to 19 are 10 times more likely to be married than adolescent boys. Early marriage puts young girls at risk of early childbearing and birth complications, prevents them from completing school, and limits their economic opportunities. Completion of secondary education is low among young adults ages 20 to 24, particularly for girls. Those in the wealthiest income level have the highest completion rates. Students who stay in school longer tend to delay marriage, have smaller families and more economic opportunities, and are better informed about health-related behaviours. (PRB, 2014)

A project baseline study by the Ministry of Gender in 2012, showed that 56% of female respondents had no formal education compared to 44% of their male counterparts[59]. The same trend is noted for qualifications at Junior Certificate of Education (JCE), Malawi School Certificate of Education (MSCE) and non-university diploma levels. The MSCE level has

[59]GoM, 2012, Baseline study for the GEWE Project, Ministry of Gender and Community Development

a particularly large discrepancy between male respondents (76%) and female respondents (24%). Literacy rates for Chikwawa and Nsanje are both far below the national average at 48.6% and 45.5% respectively. (GoM, 2012).

Within the SVIP area, 35% of the household interviewed is not able to read or write and 20% never went to school. The illiteracy rate of 74% of the female household heads is far higher than the 27% of the male household heads. The illiteracy rate is slightly better among household heads of 35 years and younger, especially for men (60% illiterate) and less for men (27% illiterate). Very few attended junior and senior secondary school, especially of the women, and hardly anyone attained a higher education. The rates found in the household survey in the SVIP area are far higher than the national rates both for the literacy rates and the highest level of education obtained. Table 67 below provides the results of the SVIP Household Survey.

Table 67 Literacy rates and highest level of education attained by household heads within the SVIP area

Illiteracy - highest level of education	**Total SVIP**	**Female HHH**			**Male HHH**
	Total	**Total**	**35>**	**19-35**	**Total**
Is NOT able to read or write	35%	74%	82%	60%	27%
Is able to read or write	65%	26%	18%	40%	73%
Total	100%	100%	100%	100%	100%
Never been to school	19%	47%	59%	25%	13%
Junior primary school	27%	29%	27%	33%	27%
Senior primary school	32%	17%	9%	32%	35%
Junior secondary school	9%	2%	3%	2%	10%
Senior secondary school	11%	4%	3%	6%	13%
Higher education	1%	1%	0%	2%	1%
Total	100%	100%	100%	100%	100%

Source: SVIP Household Survey, 2015

DHS 2010 reported that women with no education are the least likely to be the main decision makers (31%) and that the proportion of decision-makers increases with each level of education to 48% of women with more than a secondary education. A very worrying statistic is that one in every five Malawians aged 15 years and above is reported to have never attended school. Again there are gender differences. A higher proportion of females of this age group (28%) has never been to school compared to their male counterparts (14%). Within the SVIP area 47% of the female headed households never attended school. By place of residence, only 7% of people in urban areas have never been to school compared to 24% of people in rural areas. Literacy is described as the ability to read and write with understanding in any language (GoM, 2012). According to stakeholder interviews, illiteracy levels in the two districts are a root causes of poverty. Stakeholders confirmed that illiterate women are less likely to know the size of their farms, the type and amount of inputs to use in their crops, the costs

of their production and the prices their produce and also the profits of their farming business. Illiterate farmers are less likely to keep their farm records, therefore find it difficult to sustainably managing their farming as a business.

Unlike women, who are mostly illiterate, the youths are the most literate age groups in Malawi, with 82% being able to read and write, with more boys (87%) compared to girls (77%) being literate. The high literacy rate is an opportunity which programmes can take advantage of to involve youths, especially out of school youths, in entrepreneurship, with slightly more males (86.6%) than females (77%) being literate. While youths have many challenges they also offer an opportunity to get dividends from the youth population bulge because the youth are willing to take risks, utilise scientific based farming technologies besides that they are also energetic. In this regard the main issues that the Shire Valley Irrigation Project can focus on are youth unemployment; reducing HIV and AIDS and STIs, because although Malawi as a country has registered a significant reduction in HIV and AIDS prevalence most of the new infections are occurring in the youth. The SVIP may also build youth reliance by reducing youth poverty and vulnerability through addressing the problem of inadequate technical and vocational training centres in the project area.

7.3 Decision-making

7.3.1 National level

The participation of women in decision in decision-making processes is generally low in Malawi. According to the 2015 SADC Gender Barometer, 17% of Members of Parliament in Malawi are women, compared to 15% who are in Cabinet and 11% who are councillors. (SADC, 2015)[60]. Malawi had a female President for two years between 2012 and 2014 but she lost elections in 2014. By then Malawi had been the only country in SADC to have a female president, according to SADC Gender Barometer. Women face a number of challenges in attaining political leadership positions: these include lack of resources to campaign, bias against women by political parties, negative norms and attitudes against women who are leaders and in some cases, they are not allowed to joint political parties.

7.3.2 Decentralised level

At the decentralised levels, only 11% out of the 586 Councillors are women, which is again very low[61]. At the local, an important position in decision-making is the position of the District Commissioner. So far, there are 28 districts in Malawi and very few of them are headed by a female District Commissioners.

[60]Gender Links 2015, SADC Gender Protocol Country reports and IPU last accessed 12 June 2015.

[61]Gender Links 2015, SADC Gender Protocol Country reports and IPU last accessed 12 June 2015.

At the regional level in SADC, all 13 SADC countries with elected local government have failed to reach the 50% target for decision-making positions between men and women. Only two countries (Namibia 42% and Lesotho 49%) are a single digit point away from the target (SADC, Gender Barometer, 2015). In terms of the ratio of membership of women in agricultural cooperatives, the percentage is rather low[62]. Data on decision-making positions in agricultural cooperatives is not readily available. However, a recent midterm review of the Royal Norwegian Embassy supported Malawi Livelihood programs found a 46% of female leadership positions in agricultural institutions (LTS International, 2016)[63], which is 4% less than the SADC target of 50%. In Phata Irrigation Scheme in Malawi, which will also be covered under the SVIP, 42% of the members are women and in the Kasinthula Irrigation Scheme 34% of the farmer members are women. The figures are below the 50% target set nationally for the 50:50 campaign.

Participation of women and youths in institutions which govern the water sector is critical, but often limiting (Unknown Author, 2006)[64]. The predominant type of organization to manage water resources are water users associations (WUAs). According to the World Bank, the participation of water users in WUAs is normally linked to the ownership of the land. Because few women formally own land and their literacy levels are low, their participation and representation in WUAs are normally low. In Nsanje, there are 52 irrigation schemes and only two of them have been registered as WUAs. According to the National Youth Council, youths may also not participate because most of them are less interested in agricultural production activities, which are associated with WUAs. (National Youth Council, 2014)

7.3.3 Household level

The ability of women to make decisions at household level is an important aspect of women empowerment (GoM, 2012). At the farm level, managing an irrigated farm means making effective decisions at the right time. How decisions on, for example, what crops to grow, where to grow, how much land to allocate to irrigation etc. are made relates to a number of factors, but principally to who within the household is responsible for what decisions. However, women's decision-making at household level is limited. Often women are only allowed to make decisions on small and daily purchases for household needs. Decisions on large investments related purchases and important issues affecting the household are made by men.

62 Prakash, D, 2003, Rural Women, Food Security And Agricultural Cooperatives, ICA-Japan Agricoops Management Training Project for Asia

63 LTS International and Centre for Development Management (CDM), 2016, Final Report, Midterm Review of the Malawi Livelihood Programme, Case no. 1600141, Submitted to the Norwegian Agency for Development Cooperation (NORAD) by LTSM Chitukuko Ltd

64 Author not indicated in the reference

The DHS 2010 provides evidence of these facts, where it is found that 44% of married women reported that it was their husbands who mainly made the decisions for their health care. Sixty-nine percent reported that it was their husbands who mainly decided on major household purchases (economic assets). Forty-six percent of the women reported that their husbands made decisions on purchases for daily household needs (reproductive assets) and 32% of married women report that their husbands decide on visits to their own family or relatives. Women in urban areas (29 %) are more likely than women in rural areas (18%) to participate in household decision-making.

Results from the SVIP based field study also found that men generally dominated decision-making at household level, in most aspects of household decision-making. Married women made fewer decisions on their own compared with female headed households, while children generally did not make decision on most household activities, implying that there is need for capacity building for mainstreaming gender and youth at household level. For example, decisions on how to use income earned by male members of the household were made by adult male (55.7%), adult female (14.2%), jointly between adult male and adult females (29.2%) and youths (0.2%). Decisions on how to use income earned by female members of the household were made generally mainly by adult female (36.3%), although adult males had a significant say (25.4%) on how such money was used. Children do not take part in such decision-making. Decisions about what crops to grow are made by adult males (44.4%), followed by joint decision-making between adult males and adult females (35.5%) and adult females (19.7%), indicating that men still dominate in selection of crops grown at household level. Decisions on whether to participate in the SVIP, whether to sell crops and where to sell also showed same percentages. Women participate far less in decision-making on whether to let out or rent in land, as these decisions were made primarily by male members of the household (51.3%), and only 16.9% of respondents reported that female members of the household made such decisions. Joint decision-making was only at 31%, which implies that the SVIP will have to implement affirmative actions to empower women in terms of land related decisions. Even in female headed households, 15% of respondents reported that men made such decisions.

Various stakeholders interviewed in Chikwawa and Nsanje collaborated the findings of the household survey and reported that in the two districts, the gender situation is not different from what literature has reported above. Stakeholders reported that due to cultural, socio-economic and political factors, women have limited decision-making powers at household and community level. Although, the two districts have matrilineal societies, decisions on land and land transactions are often made by men and not by the women. Understanding how authority and responsibilities are distributed between men and women at community and household level is therefore very important in interventions that seek to target specific members of the household with services, such as training, and technologies, such as drip irrigation. Without such understanding, some of the targeted beneficiaries may not be able to participate in the planned

activity because of social restrictions imposed by family members. The SVIP will need to include in its training programmes, issues of gender and decision-making at household level, including how to distribution resources equitably between household members, to create space for better participation of women (especially those involved in the scheme) in household decision-making.

7.4 Land tenure

Land and water are amongst the most important natural resources for livelihoods in Malawi. According to stakeholders consulted, the dominant land tenure system in Chikwawa and Nsanje, is customary land. However, the area has some private land, especially leased land under Illovo and Kasinthula Cane Growers Trust. There is also public land which includes Lengwe National Park, Majete and Mwabvi Game Reserves. Although all land in Malawi is vested in the President in trust for the people of Malawi, the actual administration is delegated to line ministries and institutions. However, customary land administration is done by traditional leaders following long standing but unwritten traditional rules and norms. Such customary practices are often respected by the people concerned. Under customary setting, the land belongs to the chief, hence the title "***Gogo Chalo***" literally meaning "grand-father of the land".

Consultations with chiefs indicated that that when land has been allocated, the individual who has been assisted gives a token to the chief, locally known as "***chiponda m'thengo***", normally paid in cash. The ***Chiponda m'thengo*** can be in kind or cash, but the quantity and the amount of money are not prescribed and are dependent on what the beneficiary of the land allocation process can afford. Chiponda mthengo practice was reported to be barrier for women and youth who cannot afford it to access land to use it for irrigation and other purposes. In terms of allocation of land amongst clan members, the head of the clan is responsible for allocating land to his/her relatives. Hence it is also important that heads of clans are also sensitised on gender so that they distribute land to male and female members of the household equitably. For more information on land tenure reference is made to the Land Tenure Diagnostic and Allocation and Consolidation Strategy.

Table 68 Marriage types and land ownership in Malawi

Main features	**Nthengwa**	**Chikamwini**	**Chitengwa**	**Hybrid/Neutral**
Definition	Patrilineal	Matrilineal	Matrilineal	Neutral
Exchange of payments	Lobola to the woman's family	None	A gift called Chiongo to the woman's family	None
Land and property inheritance rights	Man's line, woman has rights on her father's home	Woman's line, with her brothers having most powers on	Woman's line, with her brothers having most powers on	Man's line, woman has rights on her father's home

Main features	Nthengwa	Chikamwini	Chitengwa	Hybrid/Neutral
		ownership	ownership	
Marital residence	Man's village (virilocal): woman moves to the man's village	Woman's village (virilocal): woman moves to the man's village	Man's village, upon death of the man. The women returns to her village	Neutral village
Ownership of children	Man's line, children take up surnames of the man	Woman's line	Woman's line	Man's line, children take up surnames of the man

Source: Constructed from stakeholder interviews

Stakeholders reported that irrigated and rain-fed land is the main source of livelihoods for many rural households in Chikwawa and Nsanje. Dependence on the Shire River for irrigation is quite high and those households with land along the Shire River are likely to be better-off than those who do not. Often, households without either land or access to water do not participate in irrigation activities and stakeholders recommended that any irrigation model that SVIP developed should ensure that even those without land but living within the programme area should be included in the programme. Women, especially female headed households do have less access to land, than men, hence they need special attention.

In Chikwawa, the dominant marital system used is the matrilineal system also called chikamwini while in Nsanje it is Nthengwa (patrilineal). In both districts, there are marriages that are negotiated based on chitengwa. Chitengwa is a matrilineal marriage system that has adopted elements of a patrilineal system such as a woman moving to the man's village. The distinguishing features of matrilineal *chikamwini* system of marriage is that residence is uxirilocal, the wife's village is the matrimonial home, and no *lobola* is paid for the wife. Inheritance of property passes through the female line. Land belongs to the clan and its inheritance passes through female offspring. Women have custodial ownership of land. Children belong to the woman and her brothers. A woman's children inherit her brother's property. Upon death of a man the wife and children are undisturbed in terms of residence and land use. When a wife dies the man returns to his village. (Ngwira, 2002).

7.5 Resettlement

Many communities in the proposed SVIP area have had negative experiences with resettlement. Most of such experiences came from the establishment of SUCOMA (now Illovo) in the 1960s, when large chunks of customary land were leased out by the Malawi Government. Since then Illovo has been acquiring more land, to the discontent of local communities. In recent years new companies are emerging and also acquiring land. These include Kasinthula Cane growers, Crown, Press Cane, Sanguwa and others.

Establishment of companies such as Illovo, meant that people were forced out of their land and had to resettle elsewhere. While in the 1960s the number of affected people might have been few due to the lower population, here has been a substantive growth in population in recent years, with later resettlement affecting more people. Many stakeholders consulted said that the process of land acquisition was fraudulent and that the compensation paid was a mockery. People's perception is that if resettlement is for the benefit of the majority and only affects a few individuals, e.g. for constructing the canal, most people would accept if duly compensated.

Another important experience on resettlement in the Lower Shire has been the efforts of the Government to resettle people prone to annual flooding. Efforts to resettle people in the flood prone areas have been resisted for the past 30 years due to many factors including loss of power by chiefs, fear of loss of fertile land and livelihoods by the resettling communities, fear of loss of land by the receiving communities and general lack of basic infrastructure such as schools, water sources, toilets, housing, etc., in the new areas. Because of this, government and non-governmental organizations have perpetually faced challenges in their poverty reduction efforts.

7.6 Access to economic assets, credit and finance

7.6.1 Assets

The SVIP baseline household survey (Table 69) showed that the gender equality index on asset ownership of high value productive assets was lower for female headed than for male headed households. The opposite is the case for lower value reproductive assets.

Table 69 Asset ownership by gender

Household asset	Male headed household	Female headed households	Total	Gender equality index (FHH as a proportion of MHH)
High value productive assets				
Radio	43%	21%	39%	0.5
Cell Phone	55%	26%	50%	0.5
Push Bicycle	72%	39%	67%	0.5
Iron Sheets	40%	32%	39%	0.8
Small Livestock (Goat)	32%	24%	31%	0.8
Large Livestock (Cattle)	12%	5%	11%	0.4
Treadle Pump	2%	1%	2%	0.5
Average	37%	21%	34%	0.6
Low value reproductive assets				

Household asset	Male headed household	Female headed households	Total	Gender equality index (FHH as a proportion of MHH)
Dining Table	19%	11%	18%	0.6
Bed	20%	11%	19%	0.6
Mattress	16%	13%	15%	0.8
Plates/Basin/Pots	89%	86%	89%	1.0
Panga	73%	43%	68%	0.6
Hoe	92%	96%	93%	1.0
Axe	50%	46%	50%	0.9
Chairs	38%	22%	35%	0.6
Average	47%	40%	46%	0.7

Source: SVIP Household Survey, 2015

7.6.2 Access to financial services

In Malawi, access to financial services, especially credit is a luxury for poor people. The COWI/SVIP baseline survey found that only 4.2% of respondents had obtained a loan in the past year (2014/2015). The percentage of those who had obtained a loan was lower for the youths (2.9%) than the adults (4.8%), although overall access to loans was very poor. Fewer female headed households (3.6%) accessed loans than male headed households (7.1%). Many other studies have reported that the most common barriers for accessing credit include, but not limited to, high interest rates, short repayment periods and requirements for collateral and past experience in business. A baseline survey for the Millennium Challenge Account in the middle Shire found that other people were afraid of getting loans for fear of losing their collateral which included land (LTS International, 2012). Although the data are not gender disaggregated, table 5 below does provide valuable information on the reasons why 86.5% of people in Malawi, 95.1% in Chikawa and 88.4% in Nsanje do not apply for a loan. Due to low uptake on commercial loans, most enterprises do not use formal credit sources such as banks to finance their businesses.

Only 8.9% of female headed households in the SVIP impact areas had a bank account compared to 15.9% of male headed households. This also explains why access to financial products such as loans is quite poor. The Integrated household survey of 2012 showed that own savings from agriculture constituted the main source of initial capital for enterprises in both female and male headed households at 28% and 34% respectively. Female headed households rely more on informal lenders than male headed households, thereby subjecting women to harsh lending conditions and putting them at risk of sexual violence. About 8% of enterprises in female headed households relied on loans from family or friends for initial financing as opposed to 4% in male headed households (NSO, 2012).

In addition to the above constraints, businesses owned by women, including those run by cooperatives, have challenges in accessing markets,

raw materials and operating capital. Due to high levels of illiteracy amongst women, they are not able to access market information, business loans and negotiate better prices on the market. Poor infrastructure, such as roads, electricity and communication limit the ability of rural cooperatives and individual business run by women, to access markets and better prices.

Table 70 Percentage of main reasons for not applying for a loan by area

Reasons for not applying for a loan	***Malawi***	***Chikwawa***	***Nsanje***
No need	21.2 %	7.0 %	7.9 %
Believed would be refused	15.7 %	16.7 %	19.8 %
Too expensive	12.2 %	18.7 %	18.5 %
Too much trouble for what it's worth	14.5 %	15.3 %	14.0 %
Inadequate collateral	3.5 %	14.8 %	14.0 %
Do not like to be in debt	10.3 %	8.4 %	7.7 %
Do not know any lender	21.8 %	18.8 %	19.3 %
Others	1.0 %	0.4 %	1.0 %

Source: GoM/NSO, 2012, Integrated Household Survey

Stakeholder interviews confirmed that access to financial services is a strong barrier to women and youth empowerment. Chikwawa district has some formal financial institutions such as banks, but their lending conditions and interests are not conducive to poor people. Most of these banks target Illovo Sugar Company and its employees, hence they operate from Nchalo as opposed to Chikwawa boma, which is the district head-quarters. It is well documented that access to bank loans is a luxury to poor people in Malawi. Hence most poor people, especially women and youths depend on own capital and other informal sources of capital. Nsanje District has only two formal banks (MSB and Opportunity Bank), but both of them do not have agricultural related financing windows. Businesses owned by women are less likely to be registered by government authorities compared to those operated by men. This, therefore, makes women less likely to access credit from formal banks as they would not have certificates of registration. The limited access to credit and finance means that the SVIP will have to develop a sustainable financing mechanism to enable smallholder farmers, especially women and youth, invest in irrigation, value addition or other SMEs associated with the programme.

7.7 Agriculture and the economy

Malawi's economy is primarily agro-based, with agriculture contributing about 35-40% of the foreign exchange earnings. Agriculture is by far the dominant sector of the economy, employing some 85% of the labour force. The sector accounts for about 80% of Malawian exports. Agriculture contributes about 38% of GDP. About 85% of Malawi's population live in rural areas with limited access to basic social services such as health, education and transport infrastructure.

Generally, in Malawi, including in Nsanje and Chikwawa District, women also spend considerably less time than men on income-generating activities, but spend more time on reproductive and unpaid work, such as at

funerals, church services, political rallies, making them more dependent on men for income. Male headed households are more likely to operate off-farm enterprises (22%) than female headed households (15%). The top three main sources of income for households in the area are crop production (50.9%), casual labour /ganyu (17.5%), permanent employment (7.8%) and income generating activities (6.7%).

Although the Lower Shire is known to be a livestock producing belt, it only accounted for 1% as the main source of income for households[65]. More (27.8%) female headed households depended on ganyu (26.2%) than male headed households (15.3%). In addition, fewer female headed households (46.2%) depended on crop production as a source of income compared to their male counterparts (51.2%), which indicate that female headed households may be more vulnerable and not able to access agricultural inputs to support crop production. More female headed households (11.3%) were likely to engage in income generating activities (businesses) than male headed households (5.5%), possibly to cope with food shortages which come as a result of being less dependent on agricultural production. Fewer female headed households (2.4%) depended on formal employment as a source of income compared to male headed households (9.2%), which confirms limited economic empowerment for women. Fewer youths (below 35 years old) depended on agriculture (41.6%) than the older ones (56.0%). Yet more youths depended on ganyu (19.4%) compared to the older ones (16.5%). In Malawi, among employed adolescents ages 15 to 19, 2 in 3 work in the agricultural sector; 17% work in manual labour; and 14% work in sales. When adolescents enter the labour force, they are often unable to continue their education, preventing them from building the skills necessary for meaningful employment. (PRB, 2014)[66]

Other studies such as the MDHS 2010 found that 76% of currently married women were employed in the year preceding the survey compared to 98% of married men. The report found that a higher proportion of married women are not paid for their work (42% versus 29%, respectively) compared with the male counterparts. Slightly more married women are likely to receive in-kind payment for their employment; 3% for married women compared with 2 % for married men. In the two districts, it was reported that even when women earn their own income, the husband is likely to decide on how to use that income. When income is jointly earned, such as income from sales of crop or general agricultural produce, men still make most of if not all the decision regarding how to use the income earned. The DHS found that only 37% of women decide for themselves how their earnings are used, while 21% of women made joint decisions with their husbands. In Malawi, including in the SVIP area, women earn less than men, with 73% married women reporting that they earn less than their husbands, only 10% of women report they earn more than their husbands.

[65] Data in this paragraph are from the SVIP household survey 2015
[66]Population Reference Bureau and Malawi Ministry of Finance and Economic Planning and Development, 2014, Malawi Youth Data Sheet, 2014

7.8 Agricultural labour

Labour is the major input in most of the agricultural activities in Malawi (GoM, 2012) as well as in the SVIP impact area. The third integrated household survey showed that 94% of the cultivated plots used women to provide labour while a quarter of the cultivated plots reported to have used children in cultivating their plots. Only 23% reported to have hired their labour input. Women made up 48% of the global agricultural workforce in 2000 by the Food and Agriculture Organization's (FAO's) estimate. (FAO, 2001)[67]. In Malawi, this proportion is 80% (GoM, 2012), although data from the integrated household survey suggest that women can provide of up to 94% of agricultural labour, as indicated above. This statistic shows that women's labour plays a fundamental role in agriculture and in particular in irrigated agriculture. However, a number of serious problems are associated with women and agricultural labour in Malawi:

- In Phata Irrigation Scheme, 42% of the members are women and in the Kasinthula Irrigation Scheme 34% of the farmer members are women. The figures are below the 50% target set nationally for the 50:50 campaign.

- It has been reported that while a husband and wife may work equally on the farm, the man enjoys more benefits, especially income from the produce sold. The man takes control of all income from crop sales. This was confirmed by stakeholders interviewed in the SVIP impact area.

- Women are generally not able to irrigate at night owing to security concerns and during the day may face other time limitations. This reduces their productivity.

- It has been reported that when women are owners of the farm and have adequate resources to manage it, their productivity tends to be higher than or at least equal to that of men.

- Most extension services target men, because most extension workers are male and may not be available to women farmers when needed.

7.9 Access to water

As has been indicated earlier on, access to water is an important priority of water policies in Malawi. In Malawi, 87% of the households have access to improved drinking water sources (NSO, 2015). Improved drinking water sources refer to piped water, tube well/borehole, protected dug well or protected spring but the majority (62%) use tube well or borehole or a water

[67]Food and Agriculture Organization of the United Nations (FAO). 2001. Irrigation Sector Guide. SocioeconomicGender Analysis Programme (SEAGA). Rome: FAO.

point as the source of drinking water. Less than ten percent (8.6%) have a piped water sourced in their dwelling, plot or yard. Twelve percent of the population use a public tap or a stand pipe as the source of drinking water. Urban residents had more access to improved drinking water sources (97%) than their rural counterparts (86%) (NSO, 2015)[68].

UNFPA (2002) estimated that women in many developing countries walk an average of 6 kilometres a day to collect water. In Chikwawa and Nsanje, women who live far from the Shire have serious water problems because most streams dry up during the dry season due to extreme hot temperatures. The availability of clean water close to home saves women's and girls' time, which can be spent on other productive and human development activities, such as crop production and education (IFAD 2007). Stakeholders have proposed that the SVIP will need to ensure that apart for supplying water for irrigation, the programme supplies water for domestic purposes close to homes, so that women do not travel long distances to fetch water. The time saved, may then be used for irrigation purposes.

Lessons learnt elsewhere show that water projects should be designed to address women's and men's domestic and productive water needs. To date, many single-sector projects have been planned, for either irrigation or domestic water supply. Multiple-use needs and requirements were overlooked, which caused particular difficulties in rural areas. To meet this challenge, there is need to ensure that the technology used should also be appropriate to specific needs. For example, in many rural areas in Malawi water for domestic use is difficult to access and a project that introduces irrigation should expect communities to use irrigation water for domestic uses, including drinking. Therefore, the SVIP project will need to introduce water treatment technologies and measures to ensure the availability of safe drinking water. In addition, such schemes need to include common water points where women and girls can wash utensils and chat to share challenges, experiences and plans for supporting their households. This is important socially because women have limited spaces for learning, networking and joint planning, compared to men, who meet in many other places. Potentially, these women's meeting points can become important social groups to advocate for women's issues in agriculture and community development.

7.10 Poverty

Almost half of the population is poor (50.7%), with 25% being ultra-poor (GoM, 2012). Of the 25%, 15% are ultra-poor with labour while the remaining 10% are ultra-poor without labour. The ultra without labour cannot directly participate in irrigation, if the criteria for participation includes labour availability. Therefore, other mechanism of support such as social cash transfers and other forms of subsidies should be examined. The

[68]NSO, 2015, Welfare Monitoring Survey 2014

ultra-poor with labour may be able to participate if labour is considered as the main criteria for participation, otherwise the SVIP will need to develop interventions that are appropriate for all poverty groups.

The Southern region, where the SVIP will be implemented, has the largest poverty rate (63%), implying that three out of five people live in poverty in the rural areas of the Southern region. The Northern region has the second highest proportion of poor people (60%). The Central region has the lowest proportion (49%) of poor people (GoM, 2012). About 49% of the people in male-headed households are poor and 57% of people in female-headed households (GoM, 2012). Poverty rates by male and female headship are much higher in rural areas than in urban areas. Specifically, 55% of people in male-headed households in rural areas are poor, compared to 63% of people who reside in female-headed. Nearly one in every five people in male and female headed households based in urban areas is poor compared to two in every four people being poor in rural areas. Table 71 below shows that the population of Chikwawa and Nsanje districts is very poor with the average of the two districts being much higher than the national average.

Table 71 Poverty Incidence and share of population distribution by background characteristics, Malawi 2011

	Poverty[69]	Ultra-poverty	Population	Poor	Ultra-poor
	% population	% population	%	%	%
Malawi	**50.7**	**24.5**	**100**	**100**	**100**
Urban	17.3	4.3	15.2	5.2	2.7
Rural	56.6	28.1	84.8	94.8	97.3
Region					
Northern	54.3	25.6	13.1	14	13.7
Central	44.5	18.9	42.6	37.4	32.9
Southern	55.5	29.5	44.3	48.6	53.4
District					
Chikwawa	81.6	59	3.3	5.3	8
Nsanje	81.2	56	1.8	2.9	4.1

Source: Integrated Household Survey 3, Table 13.3

Using the Progress out of Poverty Index (PBM definition), the household survey conducted in the SVIP impact area found that 58.7% of households were likely to be living below the old poverty line of $1.25/day, which is higher than the national average of 50.7%, with 55.8% and 62.0% respectively for Phase 1 (Chikwawa) and Phase 2 (Nsanje) respectively. Not surprising, more women and female headed households (61.4%) were likely to live below the poverty line compared with male headed households

[69] Poverty are the percentage of the population that are poor. This includes the ultra-poor.

(58.1%). According to key informant interviews and focus group discussions, the main causes of poverty in Chikwawa and Nsanje districts, is adverse weather conditions characterized by unreliable rains, floods extreme hot weather, affect agricultural production resulting into persistent hunger and poverty.

7.11 Food and income security

Chikwawa and Nsanje are traditionally vulnerable to climatic shock especially floods, dry spells and droughts. When these shocks happen, it is women and children that mostly bear the biggest burden, as they are still expected by the society to fetch food, firewood and water for the household. The SVIP baseline survey reported that on average the staple food harvested by female headed households lasted fewer months (4.2 months after harvest) compared to that of male headed households (6.1 months after). This resulted into women, female headed households and other vulnerable groups facing high level of food insecurity in the impact area as early from August/September each year. Targeting women, female headed households and youths with irrigation therefore can strengthen their resilience, which was confirmed by Traditional Authorities interviewed who reported that farmers that participate in smallholder sugar production are often less poor than those not involved, indicating a huge potential for irrigation to reduce poverty. In terms of cash income, the SVIP reported that households headed by young female heads (below 35 years old) were more likely (63.5%) to live below the poverty line than their male counterparts (54.2%) who made MK 53,300 per annum. The youth headed households made about MK 88,500 per annum which was higher than the above 35 group who made MK 67.900 per annum. Male headed households had an average of 1.8 economically active members in the household compared to 1.5 in female headed households, implying that female headed household had limited capacity to earn or generate income for their households.

8 Community Views on the SVIP

This chapter presents the views of the communities on the SVIP. It describes the willingness to participate in the SVIP and to pay for water, their views on the management of the irrigation blocks, their views on commercial agriculture and livestock in the irrigation scheme, resettlement and reallocation of land and their perceived benefits.

8.1 Willingness to Participate in the SVIP

At the time of the survey in 2015, 52% of the respondents had heard about SVIP. Of those who heard about SVIP, 32% heard about it from friends, 31% from local leaders and 27% through the radio. Only 5% heard about the SVIP from extension workers and 1% from district officials. At the time of the survey a public communication strategy had not yet been developed and implemented by the Government, hence limited information was obtained from district officials and extension workers.Those that are not willing to participate do not want to take the risk or want to decide themselves what crops to grow. Participants in the FGDs were equally positive about participating in the SVIP and thought it a good development that is welcomed with open hands, because it will alleviate poverty.

Almost all households (98%) are willing to participate in the SVIP. The proportion is similar across all areas, both genders and age groups. The main conditions for participating in the SVIP are getting financial support to develop their parcel(s) (55%) and receive extension services from the government (41%). Overall 20% of the households wanted to keep their parcels. This proportion is higher in the Phase 2 area and among male headed households. The reason for the lower proportion in the Phase 1 area is probably the past experience with the reallocation of land whereby land was exchanged for shares in the irrigation organisation.

Table 72 Willingness and conditions to participate in the SVIP by location and gender (percent)

Willingness to participate in the SVIP	Total SVIP Area			SVIP	
	Total	FHHH	MHHH	Phase 1	Phase 2

Yes, willing to participate in the SVIP	98	98	98	98	98
Conditions for participation in the SVIP					
Get financial support to develop parcel/s	55	54	55	61	48
Govt. extension services	41	37	42	40	42
Keep my parcel/s	20	13	21	15	25
None	11	16	10	13	8
Other	16	13	16	11	22

Source: SVIP Household Survey 2015

A majority of 98% of households are willing to participate in the SVIP even if it is decided, on their behalf, what crops can be grown under irrigation. The proportion is similar for the whole of the SVIP area, in each of the two phases and for female and male headed households.

58% mentioned that willingly pooling their land and giving up the individual management of their land was the way to participate in the SVIP. This proportion is higher in male headed (81%) than in female headed (33%) households.

The second largest proportion (39%) mentioned allowing to farm their land. This reason was the only and most mentioned way to participate mentioned in 79% of the female FGDs.

In addition, farmers suggested participating in one or more of the following ways:

- Willing rent out part of their land to others was mentioned in 16% of the FGDs and only in female FGDs (33% of the total female FGDs).
- Willingly learn and follow farm practices of the SVIP was mentioned in 12% of the FGDs.
- Be employed in the construction works was mentioned in 12% of the FGDs and only in female FGDs (24% of the total female FGDs).
- Willingness to provide local resources and manpower was mentioned in 11% of the FGDs and only in male FGDs (21% of the total male FGDs).
- Be in the forefront in project planning and implementation was mentioned by 5% of the FGDs and only in male FGDs (9% of the total male FGDs).
- Taking care of the project facilities was mentioned in 5% of the FGDs and only in male FGDs (9% of the total male FGDs).

In one fifth of the FGDs it was mentioned that the way to participate is by cultivating their land individually and not in a group. This way was mentioned more in male than in female FGDs.

8.2 Willingness to Pay for Irrigation Water

The number of households willing to pay for irrigation water is 88% within the SVIP area. The willingness to pay is slightly higher in male headed than in female headed households and slightly higher in Phase 1 than in Phase 2.

Table 73 Willingness to pay for water by location and gender (percent)

Willingness to pay for irrigation water	Total SVIP Area		
	Total	FHHH	MHHH
Total	88	80	89
Phase 1	91	86	92
Phase 2	85	76	88

Source: SVIP Household Survey 2015

The proportion of FGDs that is willing to pay for irrigation water is 95.3%, which is even higher than in the household survey. Another 2.4% of the FGDs were of the opinion that they should only start paying after getting a profit and 1.2% after taking ownership of the scheme. Only 1.2% mentioned that they cannot afford to pay.

8.3 Pooling Land and Managing Irrigation Blocks

66% of the FGD participants were of the opinion that the size of an irrigation block should be determined by the number of farmers per block. In female FGDs this proportion was 86%, which is higher than the 47% in male FGDs. 40% of the male FGDs and 22% of all FGDs believed the size of an irrigation block should be determined by the number of hectares. Another 13% of the FGDs were of the opinion that technical manageability should be the criterion.

52% of the FGDs believed that the size of the shares should be determined by the size of land whereby a larger piece of land would translate into a larger number of shares. This proportion was 83% in male FGDs and 26% in female FGDs. 34% of all FGDs and 56% of female FGDs believed that higher investments should translate into a larger share. Another 14% believed that the type of crop grown should determine the size of the shares whereby cash crops would translate into a larger share than other crops.

Of all the FGDs, 38% thought the irrigation block should be organised in a cooperative in which they work together as a group. More male(49%) than female 26% FGD participants thought a cooperative was the best option.31% of the FGDs were of the opinion that a hired company dealing with farming should manage the irrigation block. Another 19% thought an irrigation block should be organised as a scheme, among others, for the convenience to access loans and find markets. More male FGDs (26%) than female FGDs (12%) were of this opinion. A total of 18% of the FGDs found a water user association the best organisation option, because these have expertise in water management. This group consisted of only female FGDs, i.e. 36% of the total female FGDs. 21% of thefemale FGDs thought a trust would be the best option, because of the ease of handover when the agreed time of service is over. Only few only male FGDs mentioned NGOs as a form or block organisation (9%).

81% thought that a management company should manage the irrigation block, and 16% thought farmers themselves should do so. The main reasons for hiring a company to manage the farm are:

- Allowing farmers to learn whilst the management company manages the farm. 78% of the FGDs believed so, 95% of the female FGDs and 60% of the male FGDs.
- Blocks are managed well. 16% of all the FGDs, 26% of the male FGDs and none of the female FGDs.
- Farmers' past experiences. 4% of all the FGDs, 5% of the male FGDs and 2% of the female FGDs.
- Sense of ownership. 4% of all the FGDs, 5% of the male FGDs and 2% of the female FGDs.
- To access farm inputs and equipment. 1% of all the FGDs, 2% of the male FGDs and none of the female FGDs.

Farmers wishing to manage the farm themselves cited as reason that they wanted to do so with a committee because they did not wat a company or organisation to benefit.

8.4 Growing Cash or Food Crops?

FGDs thought that the proportion of commercial and subsistence crops should be more or less equal with a slight preference for subsistence crops. Within the SVIP Phase 1 area there is a slightly higher preference for growing more commercial crops than subsistence crops whilst the reverse is the case in the SVIP Phase 2 area. Female FGDs were slightly more in favour of growing commercial crops than male FGDs in both areas.

Table 74 Opinion on which type of crops to grow under irrigation by location and gender (percent)

WHAT CROPS TO GROW?	Total SVIP		
	T	M	F
TOTAL SVIP			
Percentage commercial crops	46	44	48
Percentage subsistence crops	54	66	52
PHASE 1 SVIP			
Percentage commercial crops	56	53	59
Percentage subsistence crops	44	47	41
PHASE 2 SVIP			
Percentage commercial crops	36	35	37
Percentage subsistence crops	64	65	63

Source: SVIP FGDs 2015

8.5 Livestock in SVIP

The main challenges in keeping livestock when the SVIP is operating is a reduction in grazing area according to two thirds of the FGDs. Women fear the reduction of grazing area more than the men since this challenge was mentioned in 93% of the female compared to 40% of the male FGDs. This will affect the household's economy negatively. This challenge can be addressed by growing animal fodder under irrigation (25%), setting land aside for grazing (23%), or reducing the number of animals kept (21%).

Livestock destroying crops and the canal and restriction of livestock movement was seen as a challenge in about one third of the groups. An increased theft of livestock was feared in three of the female FGDs. These challenges can be addressed by guarding the animals and controlling their movement.

Participants in 58% of the male FGDs did not foresee any challenge in keeping livestock when the SVIP is operational but all of the female FGDs did.

8.6 Reallocation of Land

In the view of the communities, the reallocation of land should be based first and foremost on the size of land according to all participants in the FGDs. Other criteria were firstly, the fertility of the land mentioned in 62% of the FGDs, secondly the profitability of the land or value of the harvest mentioned in 19% of the FGDs, and thirdly the assets on the land mentioned in 21% of the FGDs. A few groups also mentioned location of the land.

Overall 58% of FGDs were of the opinion that the chiefs and village committees should be involved and decide on the reallocation of land. The proportion of female FGDs who thought so was 76%, much higher than the 40% of the male FGDs. The proportion in the SVIP Phase 1 area was also higher than in the SVIP Phase 2 area, 65% versus 52%. Half of the male FGDs in the SVIP Phase 2 area thought the Government and Village Committees should be involved and decide, and 30% of the male FGDs in the SVIP Phase 1 area, but hardly any female FGDs. Others that should be involved and decide were:

- Extension workers (9%), more so by the males than females
- Government extension workers and the Chief (6%) mentioned by males only
- SVIP Management (6%) mentioned by female FGDs only
- Village Committee (5%) mentioned by female FGDs only
- NGOs (5%) mentioned by male FGDs only
- Chiefs and District Council (5%)
- Traditional Authority and Chiefs mentioned in the SVIP Phase 2 area only

- Village Committee and extension worker (4%) mentioned by male FGDs in the SVIP Phase 1 area only
- Management Company (2%) mentioned by male FGDs in the SVIP Phase 1 area only.

Results show that the majority of the participants in the FGD are of the opinion that the government and traditional authority should be involved in the reallocation process. The females generally have more faith in the village committees than males who have more faith in the traditional authority and chiefs.

People who do not want to participate in the SVIP should be convinced to change their mind (9%), or rent out their land to those willing to participate (36%) or sell their land (41%) or be given land elsewhere (30%)[70].

The majority were of the opinion that complaints should be lodged with the Chiefs (52%) [70], Group Village Head (16%) or Traditional Authority (12%). 35% thought the District Council should handle complaints. A few FGDs though that grievance redress committees, NGOs and human rights organisations, village committees, and human rights organisations should handle complaints and the court is not satisfied with the verdict of the Traditional Chiefdom.

8.7 Resettlement

The process for resettlement and compensation should be based on proper consultation and have room for discussion according to two thirds of the FGD participants. They should be notified well in advance and given the reasons for having to move as well as options on where to move to. People should be given proper time to move and the timing should take into account the farming season and allow harvesting before giving up the land. Compensation should be paid before vacating the land.

Almost all FGD participants were of the opinion that people who have to resettle due to the infrastructure of the SVIP should be compensated with money (94%). They should also be given land (54%) and a house (52%) and some also though they should be given food (15%).

The criteria for valuing the land should be the size of the land (9%), the resources on the land (94%), the fertility of the land (8%) and the cost of the land (5%). One third of the FGDs also mentioned the quality of the house.

All the male FGDs thought that the Government together with the NGO and the Chiefs should implement the resettlement and compensation process. The view of 71% of the female FGDs as that the SVIP management should

[70] The total is more than 100% because multiple answers were possible

implement the process, whilst 29% thought the village committee should do so.

Complaints should be lodged to the following organisations if not satisfied with the resettlement and compensation:

- Government department (31%) mainly mentioned in male FGDs
- Chiefs, TA and GVH (44%)
- Human rights organisations and NGOs (26%)
- District Commissioners' Office or Courts (36%)
- Village Committee (12%)

Resettling is generally perceived as moving to another area and another village whilst it is the policy of the SVIP to resettle people within their own communities. Several of the fears expressed relates to this perception of having to move to a new community, such as adult women fearing it may difficult to sustain themselves in the new area, the poor and young women may find it difficult to sustain themselves in the new area and find work, finding it difficult to root in the new village, etc. Another set of fears concerns the work involved in moving and building a new house. Adult men are responsible for the construction of the house and are most concerned. For the elderly the construction may be especially hard. Young people are afraid the resettlement will disturb and affect their social life and studies. The poor will be especially affected because they do not have reliable assets and may misuse the resettlement compensation because they are not used to handle finance.

8.8 Decision Making on Participation in the SVIP

The adult male takes the decision to participate within the SVIP or not in 44% and the adult female in 19% of the households. In another 36% of the households the decision is taken jointly.

In female headed households the decision on SVIP participation is taken by the adult female in 82% of the households. This may be because there is no adult male within the household or because most of the land within the SVIP areas is occupied by matrimonial societies in which women own the land. Within male headed households the decision is taken by the adult male in 51% of the households and in 43% jointly.

Table 75 Household decision making on participation in the SVIP by location and gender (percent)

Household decision making on SVIP	Total SVIP Area		
	Total	Phase 1	Phase 2
TOTAL			
Adult Female	19	20	17
Adult Male	44	43	48
Jointly	36	37	35
Female Child	0	1	0

Other Members of the HH	0	0	0
Total	**100**	**100**	**100**
FEMALE HEADED HOUSEHOLDS			
Adult Female	82	88	72
Adult Male	12	6	21
Jointly	4	2	7
Female Child	1	2	0
Other Members of the HH	1	1	0
Total	**100**	**100**	**100**
MALE HEADED HOUSEHOLDS			
Adult Female	6	6	5
Adult Male	51	50	54
Jointly	43	44	41
Female Child	0	0	0
Other Members of the HH	0	0	0
Total	**100**	**100**	**100**

Source: SVIP Household Survey 2015

8.9 Perceived Benefit of the SVIP

74% of the households perceived food security as the main benefit of the SVIP. This correlates with the high level of poverty within the area where people go without sufficient food for months at a time. The proportion of households expecting food security is higher in the Phase 2 (84%) than in the Phase 1 (71%) area.

Table 76 Perceived benefits from the SVIP by location (percent)

Perceived benefits of the SVIP	**Total SVIP Area**		
	Total	**Phase 1**	**Phase 2**
Food security	74	71	84
Increased agricultural productivity	17	20	7
income	7	7	9
Able to send children to school	0	0	0
none	0	0	0
Other	1	1	0
Total	**100**	**100**	**100**

Source: SVIP Household Survey 2015

An even larger proportion of 94% of the participants in the FGDs perceived the main benefit as improving the availability of food and thus an improvement of their food security. The second most mentioned benefit is obtaining income after sale of the farm produce in 84% of the FGDs, and thirdly improving people's livelihoods and health in 54% of the groups. The proportion of all these three perceived benefits was higher in female than in male FGDs. 75% of the participants in the FGDs believed that the SVIP will increase the availability of food and reduce the poverty of the poor. 40% also believed the SVIP will provide a source of income to the poor, among

others, through the provision of piecework. 10% expected the SVIP to provide training to the poor which will make them self-reliant.

Participants in the FGDs believed that farm inputs (54%), starter packs and irrigation equipment (45%) should be provided to achieve the perceived benefits. The proportion of female FGDs mentioned that these inputs should be provided was respectively 93% and 81%, much higher than the16% and 9% mentioned in the male FGDs. The inputs to be provided to achieve the perceived benefits are more spread; 21% mentioned the provision of input (revolving) loans, 9% mentioned equal opportunities and distribution of resources (9%), closely followed by introducing programmes targeting the poor (8%), and more extension workers (7%).

8.10 Receiving Messages

NSO conducted a survey on access and uses of Information Communication and Telecommunication (ICT) services in Malawi in 2014. The results of the survey show that 45.5% of the Malawian households had access to a mobile phone 34% of the individuals owned a phone. This proportion was lower in the rural areas of the Southern Region where 40% of the households and 28% of the individuals had access to a mobile phone. These figures are similar in the whole of rural Malawi.

About 44% of the Malawian households and individuals own a radio and 96% listens to the radio. In rural Southern Malawi 42% owns a radio and 96% listens regularly. Only few households have a TV, 14% in Malawi and 7% in the rural Southern Region.

Overall 18% of the Malawians watches TV, but in the rural areas this percentage is lower, 12%. Access and use of other ICT equipment and services is very low. For example, less than 1.5% has access to a desktop or laptop computer in the rural Southern Region and only 3% uses internet.

The higher the level of education the higher the access to ICT equipment and services. Households and individuals residing in urban areas have a far higher access than those residing in rural areas. For example, the proportion of households with access to a mobile phone is twice as high in urban compared to rural areas, 85% versus 40%.

The SVIP Survey results show that the radio is the most common way to receive messages in all households in the whole area (99%). 55% of the female and 19% of the male FGDs also mentioned extension workers as conveyors of messages. Especially the male FGDs mentioned village meetings (14%) and newspapers (18%). Other means of receiving messages that were mentioned include, NGO club trainings (5%), and people from other villages and friends (9%).

The preferred way of receiving messages on irrigation is through extension workers (80%) from government or NGOs, because it is easy to interact,

they have the practical expertise and are trustworthy, demonstrate and use demonstration plots, explain in detail and can answer questions. The disadvantages of government extension workers is their poor availability and their lack of resources. There are only few extension workers experiencing mobility problems so their visits are few and far between and not always at the agreed date and time. Implementation of the messages and keeping promises may be difficult because there is not sufficient or no funding. A few also mentioned lack of motivation and only being active when officials are coming. The advantages of NGO extension workers is that they have the resources and funding to train people, provide resources quickly, promote learning through practice and thus create good relations and trust. The disadvantages are that NGOs only stay for a short period of time, select only few groups of farmers to work with and that promises are not always fulfilled.

9% of the FGDs preferred the radio or TV. The advantages of radio/TV are that one can learn/hear/see about what farmers are doing, it is motivating and reaches many farmers at once and fast. The disadvantages are that one cannot ask questions, the messages are not always clear or may not be trustworthy, and not all people have a radio.

A smaller 6% of the groups preferred village meetings. The advantages are the ease of interaction and ability to ask questions. One group mentioned the fear to ask questions in the presence of the chief.

Newspaper articles has pictures showing what is being written and the article can be kept for future reference. The large disadvantages are that newspapers are high to get and that many are not able to read because of the high illiteracy in the area.

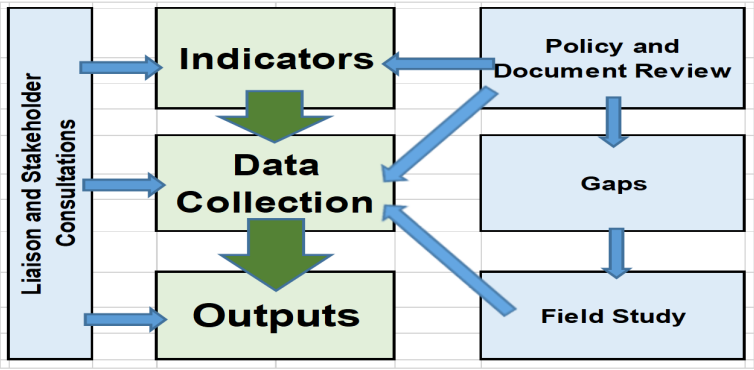
Appendix 1: Survey Population and Methodology

Overall Approach

The overall approach to the integrated survey is based on a review of documentation and liaison with stakeholders and consultants to identify the indicators that were included in Appendix 1 of the Inception Report. Other consultants and stakeholders were given ample time to add on to, change or comment on the indicators until the end of September 2015.

Various sources were used to obtain information on the indicators, available and relevant documentation as well as the SVIP integrated field study. Figure 2 below provides an overview of the overall approach to the survey.

Figure 5 Overall approach to the integrated survey



The main document sources of data used in this Baseline Report are:

- Integrated Household Survey of 2011,NSO
- Census of Population and Housing of 2008, NSO
- Malawi Demographic and Health Survey of 2010, NSO
- Malawi Labour Survey Report of 2013, NSO
- National Census of Agriculture and Livestock of 2006/2007, NSO

- Access and Usage of ICT Services in Malawi 2014, NSO

The sample size of the various surveys vary and are not always sufficient large to disaggregate data to TA level. As much as possible and the availability of data allowed, the latest available data were used disaggregate to the lowest level that was meaningful.

The bulk of the information was obtained through the SVIP Survey consisting of:

- Household interviews
- Focus Group Discussions, separately with young women and men, and adult women and men
- Key Informant Interviews
- Land Tenure and Land Use Mapping covering the whole area

The SVIP Integrated Field Survey was conducted in October, November and December of 2015 after a one week training in September. The total survey team consisted of 20 persons, including the supervisor and two drivers. All members of the field were well qualified and had previous experience from several surveys.

The study area covered the proposed areas to be irrigated by the SVIP. By the time of the survey the TFS Consultant had only a preliminary definition of the area to be covered. Later in 2016, new areas were added in both the Phase 1 and the Phase 2 area of the project. However, these areas only form a small proportion of the total area and are located within the same TAs as identified in the preliminary area to be covered. Therefore, the representativeness of the sample for the area remains valid.

Sampling Households and FGDs

Field Data will be sampled in different ways according to the nature and purpose of the information to be collected. The area for sampling was based on the information obtained from the TFS Consultant.

The total number of households in the Phase 1 and Phase 2 area was calculated as 7,000 and 13,000 based on the available information of the location of the project area and the size of the population and number of households within each Enumeration Area (EA) located within the project area. The Illovo Sugar Estate and the Kasinthula Outgrowers Scheme cover a large part of the Phase 1 area. The estates house staff of the estates and factory but no farmers. Therefore the EAs covering these large irrigation schemes were removed from the list of EAs. These areas were covered by key informant interviews.

A sample of 20-30 households per EA is within the acceptable range in most surveys if the average cluster size is around 250 households[71]. With the other statistical determinants (margin of error, design effect, household size), the overall sample size for each phase (Phase I and Phase II) was decided to include 550 households. See Appendix 6 for a more detailed description of the sampling frame. For both phases the number of sample households has been fixed to 55 households to obtain a better coverage of the area and to allow for wastage, such as interviews that have to be discarded for one reason or another.

Based on the number of households per EA a total of 10 EAs were selected at random in each of the two Phase areas of the SVIP. Households were selected by dividing each EA into segments based on the information shown in the available orthophotos indicating the settlement areas. The total number of households in the EA was divided by 55 to obtain the interval for selecting households for interview.

Each enumerator randomly selected the required number of households within each assigned segment. For example, in an EA with 235 households, the interval is 13. The houses within the area were selected by starting at any number of household in the list from one to six and thereafter by randomly walking the area and selected the household after the interval number, which is 13 in the example above. The random walk method will entail the interviewer randomly choosing a starting point and a direction of travel within the EA by spinning a bottle, pick the direction where the bottle points and chose households using the interval calculated above continuously choosing the next nearest household for an interview until all the required interviews for each interviewer have been conducted in the EA.

Focus Group Discussions were conducted in the same areas as in which the household questionnaires were administered. Four purposively composed FGDs will be held in each EA, one each for male and female youths and mature men and women. People who completed the household questionnaires were not included in the FGDs since their views have already been recorded.

One control EA was selected for each Phase area of the project. Care has been taken to select a community, which is as similar as possible to the communities in the SVIP area. The control area was selected based on information portrayed in the overall maps and based on the general characteristics of the area from the data collection from existing, mainly NSO sources. The criteria to be fulfilled were:

- Be located outside of the SVIP Phase I and II area far enough away to avoid too much influence of the SVIP. The influence of such a large irrigation scheme as the SVIP will be felt within a large area so it is

[71] Demographic Survey Sampling and Household Listing Manual. MEASURE DHS, Calverton, Maryland, USA, IFC International, 2012

difficult to find a village that will not be affected but still has similar characteristics.
- Have a similar soils, farming system, climate and rainfall pattern as the SVIP area.
- Without an irrigation scheme.
- Similar livelihood pattern as the SVIP area currently not under irrigation.

Based on the available information on these criteria an EA was selected in the TA of Makhuwira for Phase 1 and the TA of Tengani for Phase 2.

Data Recording and Quality Assurance

Answers to the household questionnaire were directly recording on the computer into a special designed programme in access. The recorders of the FGDs recorded their answers directly on the computer together with a photo of the FGD and the GPS coordinates for the location. Information on the land tenure and land use was digitally recorded on tablets. Data from the semi-structures interview with key informants were recorded in print and directly on the computer. Data collected were reviewed by the supervisors at night and, if necessary, corrected the next day.

Survey size

A total of 1,057 households were interviewed, 574 in Phase 1, 406 in Phase 2, 52 in the control area of Phase 1 and 25 in the control area of Phase 2. The household survey covered all TAs within the area. The proportion of household interviews administered to each age group show a similar pattern. An exception are the male headed households in the age group of 26 to 35 that show a higher proportion of administered interviews in the Phase 1 and lower in the Phase 2 area of the SVIP. The overall pattern in the control areas is similar as well. Due to the low number of interviews administered the proportions differ more from the total in the SVIP area than for Phase 1 and 2.Table 77 and

Table 78 below provide the details of the households interviewed within the SVIP and control areas.

Table 77 Number of households interviewed by location, gender and age (percent)

Number of households interviewed	SVIP area			Control areas	
	Total	Phase 1	Phase 2	Phase 1	Phase 2
Total number	***980***	***574***	***406***	***52***	***25***
Female headed total	17	16	18	10	24
Female headed 19-25	2	2	3	0	4
Female headed 26-35	4	3	5	8	8
Female headed 36>	12	12	11	2	12
Male headed total	83	84	82	90	76
Male headed 19-25	9	9	9	12	8
Male headed 26-35	17	27	3	31	44
Male headed 36>	46	48	45	48	24

Source: SVIP Household Survey 2015

Table 78 Number and proportion of households interviewed per TA, gender &age

Percentage of households interviewed		TA Lundu	TA Maseya	TA Katunga	TA Kasisi	TA Makhuwira	TA Ngabu	TA Mbenje	TA Tengani	Total
Total no.		**147**	**313**	**109**	**43**	**42**	**249**	**129**	**25**	**1057**
Total %		***14%***	***30%***	***10%***	***4%***	***4%***	***24%***	***12%***	***2%***	***100%***
FEMALE HEADED HOUSEHOLDS										
Total	No	14	60	16	8	4	49	23	6	180
	%	8%	33%	9%	4%	2%	27%	13%	3%	100%
Aged19-25	No	0	7	1	1	0	7	5	1	22
	%	0%	32%	5%	5%	0%	32%	23%	5%	100%
Aged 26-35	No	6	8	2	2	3	13	5	2	41
	%	15%	20%	5%	5%	7%	32%	12%	5%	100%
Aged 36>	No	8	45	13	5	1	29	13	3	117
	%	7%	38%	11%	4%	1%	25%	11%	3%	100%
MALE HEADED HOUSEHOLDS										
Total	No	133	253	93	35	38	200	106	19	877
	%	15%	29%	11%	4%	4%	23%	12%	2%	100%
Aged19-25	No	17	22	11	5	6	27	2	8	98
	%	17%	22%	11%	5%	6%	28%	2%	8%	100%
Aged 26-35	No	41	83	32	10	12	62	42	11	293
	%	14%	28%	11%	3%	4%	21%	14%	4%	100%
Aged 36>	No	75	148	50	20	20	111	56	6	486
	%	15%	30%	10%	4%	4%	23%	12%	1%	100%

Source: SVIP Household Survey 2015

A total of 254 Focus Group Discussions were conducted in the SVIP area with an average number of 8.2 participants. Of these FGDs 110 were conducted in the Phase 1 and 144 in the Phase 2 area. An additional 12 FGDs were conducted in each of the control areas. Table 79 below provides an overview.

Table 79 Overview of the participation in the FGDs

FGD Participation SVIP Area	Total SVIP				
	Men		Women		Total
	35>	35≤	35>	35≤	
Total SVIP area					
Number of FGDs Conducted	75	43	60	52	230
Number of Participants	475	307	519	427	1728
Average number of participants	6.3	7.1	8.7	8.2	8.2
Phase 1 SVIP area					
Number of FGDs Conducted	31	21	27	19	98
Number of Participants	188	154	244	152	738
Average number of participants	6.1	7.3	9.0	8.0	8.2
Phase 2 SVIP area					

FGD Participation SVIP Area	Total SVIP				
	Men		Women		Total
	35>	35≤	35>	35≤	
Number of FGDs Conducted	44	22	33	33	132
Number of Participants	287	153	275	275	990
Average number of participants	6.5	7.0	8.3	8.3	8.2
Total Control Areas					
Number of FGDs Conducted	8	4	5	7	24
Number of Participants	62	32	43	64	201
Average number of participants	7.8	8	8.6	9.1	8.4
Control Area Phase 1					
Number of FGDs Conducted	4	2	2	4	12
Number of Participants	33	18	16	36	103
Average number of participants	8.3	9	8	9	8.6
Control Area Phase 2					
Number of FGDs Conducted	4	2	3	3	12
Number of Participants	29	14	27	28	98
Average number of participants	7.3	7	9	9.3	8.2
TOTAL no. of FGDs/DISTRICT	**83**	**47**	**65**	**59**	**254**
Chikwawa	67	39	54	48	208
Nsanje	16	8	11	11	46
TOTAL no. of FGDs/TA	**83**	**47**	**65**	**59**	**254**
Lundu	12	6	9	9	36
Maseya	17	14	13	12	56
Katunga	6	3	6	3	18
Kasisi	4	2	4	2	12
Makhuwira	0	0	0	0	0
Ngabu	28	14	18	22	82
Mbenje	16	8	13	11	48
Tengani	0	0	2	0	2

Source: SVIP Household Survey 2015

Appendix 2: Detailed Data

Table 80 2008 Census Population by age groups and SVIP TAs

	19<	20 - 29	30 - 39	40>	Total
Malawi	**6,018,749**	**2,343,305**	**1,450,877**	**1,963,461**	**11,776,392**
Chikwawa boma	3,522	1,519	871	766	6,678
SVIP TAs					
Ngabu	79,040	25,244	16,300	19,857	140,441
Lundu	23,016	9,875	6,461	5,030	44,382
Chapananga	46,883	14,036	8,955	11,151	81,025
Maseya	13,766	4,637	2,993	3,615	25,011
Katunga	12,848	4,399	2,675	3,219	23,141
Kasisi	16,029	5,372	3,363	4,374	29,138
Mbenje	23,147	7,082	4,548	6,938	41,715
TOTAL SVIP TAs	**214,729**	**70,645**	**45,295**	**54,184**	**384,853**
Control Areas					
Makhuwira	32,857	9,942	6,785	9,175	58,759
Tengani	20,199	5,084	3,439	5,968	34,690

Source: Census 2008, NSO

Table 81 2008 Census Population by location and gender

2008 Population	Nsanje District	Chikwawa District	Southern Region	Malawi
Population				
% of total Malawi	1.81%	3.33%		100%
Total	238,741	435,797	5,876,784	13,077,160
Female	123,317	219,819	3,031,020	6,718,227
Male	115,424	215,978	2,845,764	6,358,933

Source: National Census for Housing and Population 2008

Table 82 Average household size by location, gender household head and age group

Aged	Total SVIP	SVIP Phase 1	SVIP Phase 2
Total SVIP			

Total	2.98	3.00	2.95
Female Headed Households			
Total	2.89	2.82	2.99
19-25	2.19	1.78	2.50
26-35	3.11	3.00	3.21
36≥	2.96	2.91	3.02
Male Headed Households			
Total	2.99	3.03	2.94
19-25	2.20	2.17	2.24
26-35	2.81	2.75	2.89
36≥	3.26	3.35	3.12

Source: SVIP Household Survey 2015

Table 83 Number of persons per households by location, gender household head and age group (percent)

	Number of persons per household								
	1	2	3	4	5	6	7	8	9>
Total SVIP									
Total	24	21	21	16	10	5	2	1	1
Total SVIP Female Headed Households									
Total	28	18	22	14	9	5	2	1	1
19-25	43	24	14	10	10	0	0	0	0
26-35	17	14	40	11	6	9	3	0	0
36≥	29	18	18	16	11	4	3	1	1
Total SVIP Male Headed Households									
Total	23	22	20	16	10	5	2	1	1
19-25	29	36	24	10	0	1	0	0	0
26-35	24	22	23	14	11	3	2	0	0
36≥	22	19	18	18	12	6	3	1	1

Source: SVIP Household Survey 2015

Table 84 General land use by gender household head and location (percent)

General land use	**Farming**	**Settlement / build houses**	**Renting out**	**Grazing**	**Irrigation**
SVIP Areas					
Total	69	28			2
By adult men	69	27	1	1	3
By adult women	69	28	1		2
By young males	68	29			3
By young women	70	29		1	
Control Areas					
Total	68	28			4
By adult men	65	28			7
By adult women	70	30			

By young males	72	26			2
By young women	67	33			

Source: SVIP Household Survey 2015

Table 85 Total number of parcels per household by area and by gender household head

Total parcel no.	SVIP area			Control area	
	Total	Phase 1	Phase 2	Phase 1	Phase 2
TOTAL (percent)					
0	0	0	0	0	0
1	1	3	0	0	0
2	16	20	11	10	28
3	36	34	38	31	48
4	35	33	39	35	20
5≥	12	10	12	25	4
Total	**100**	**100**	**100**	**100**	**100**

FEMALE AND MALE HEADED HOUSEHOLDS (percent)										
	FHH	MHH	FHH	MHH	FHH	MHH	FHH	MHH	FHH	MHH
0	0	0	0	0	0	0	0	0	0	0
1	0	2	0	0	0	0	0	0	0	0
2	19	16	22	10	12	12	20	9	50	21
3	38	35	34	37	43	43	40	30	50	47
4	33	36	36	41	32	32	40	34	0	26
5≥	9	12	7	12	13	13	0	28	0	5
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Source: SVIP Household Survey 2015

Table 86 Average plot size by background characteristics

	Average parcel size (Acre)	Elevation (metres)
Malawi	1.9	925.5
Residence		
Urban	0.9	978.7
Rural	2.0	922.9
Sex of the Parcel Manager		
Male	2.2	942.3
Female	1.2	878.0
Consumption Quintile		
1st (Lowest)	1.0	855.0
2nd	1.3	895.9
3rd	3.5	932.2
4th	1.0	960.2
5th (Highest)	2.6	964.1
Northern region	1.0	1,118.0
Central region	1.8	1,085.6
Southern region	2.4	658.5

Source: Adapted from IHS3 Chapter 9 Table 9.3

Table 87 Percentage distribution of parcels by type of land, according to background variables. 2006/2007 Agricultural Season

	Customary Land	Lease	Freehold	Public Land
Malawi	77	2	19	1
Sex of household head				
Female	78	2	19	1
Male	77	2	19	2
Region				
Southern	76	2	20	2
Central	76	3	20	1
Northern	83	2	12	2
ADD				
Shire Valley	88	1	10	2
District				
Chikwawa	83	0	14	2
Nsanje	98	1	0	0

Source: National Census of Agriculture and Livestock 2006/2007 Table 2.2

Table 88 Average distance to parcel, Malawi 2011

	Distance (KM)
Malawi	2.4
Residence	
Urban	6.0
Rural	2.3
Sex of the Parcel Manager	
Male	2.5
Female	2.2
Consumption Quintile	
1st (Lowest)	2.6
2nd	2.3
3rd	2.5
4th	1.9
5th (Highest)	3.1
Northern region	3.1
Central region	2.3
Southern region	2.4

Source: IHS3 Chapter 9 Table 9.3

Table 89 Main food crop consumed in the household by gender household head and location (percent)

Main food crop consumed in the household	SVIP area			Phase 1	Phase 2
	Total	FHHH	MHHH		
Maize	69	67	69	81	51
Rice	0	1	0	1	0
Sorghum	31	32	31	18	49
Millet	0	0	0	0	0
Cassava	0	0	0	0	0
Irish potato	0	0	0	0	0
Sweet Potato	0	0	0	0	0
Total	**100**	**100**	**100**	**100**	**100**

Source: SVIP Household Survey 2015

Table 90 Most difficult months to find food by gender household head and location (percent)

Months when it is most difficult to find enough food for all hh members?	SVIP area			Phase 1	Phase 2
	Total	FHHH	MHHH		
January	85	83	85	73	84
February	67	69	22	57	67
March	34	37	11	25	39
April	4	5	1	4	3
May	1	2	0	2	0
June	2	3	0	2	1
July	1	1	0	2	1
August	4	2	1	3	3
September	7	7	2	7	5
October	18	24	6	21	11
November	31	36	10	25	34
December	47	54	15	37	53
no months	6	4	2	6	6

Source: SVIP Household Survey 2015

Table 91 Coping mechanism when food insecure by gender household head and location (percent)

When household runs out of food where is food found?	SVIP area			Phase 1	Phase 2
	Total	FHHH	MHHH		
Purchase	73	57	77	71	65
Relief	3	7	2	2	5
Ganyu	60	74	57	52	58
Change of type of meal	0	1	0	0	0
Sell household assets	0	0	0	0	0
Sell livestock	2	2	2	2	3
Use winter cropping	0	0	0	0	0
Reduce meal frequency	1	0	1	1	0
Eat wild food stuff	0	0	0	0	0
Savings	3	4	3	4	0
Remittance from relatives	1	4	0	1	1
Other	2	1	2	0	1

Source: SVIP Household Survey 2015

Table 92 Literacy rate in the SVIP area by gender household head and age group

Literacy rate interviewed household heads	Total SVIP	Age in years			
		All	19-25	26-35	36>
		Female Household Heads			
NOT able to read or write	35	74	50	66	82
Able to read or write	65	26	50	34	18
		Male Household Heads			
NOT able to read or write	35	27	21	20	32
Able to read or write	65	73	79	80	68

Source: SVIP Household Survey 2016.

Table 93 Life expectancy at birth in 2008 and projected for 2015, 2020, 2025 and 2030 in years

	2008	2015	2020	2025	2030
Malawi					
Both sexes	51.00	56.80	60.60	63.80	66.20
Female	52.30	58.20	61.90	65.10	67.60
Male	49.60	55.50	59.40	62.50	64.90
Nsanje District					
Both sexes	44.98	50.02	54.03	57.84	61.21
Female	47.47	52.58	56.43	60.01	63.16
Male	42.56	47.52	51.70	55.74	59.32
Chikwawa District					
Both sexes	51.05	56.88	60.70	63.85	66.27
Female	52.39	58.25	61.99	65.13	67.60
Male	49.75	55.54	59.45	62.60	64.98

Source: National Census for Housing and Population 2008

Table 94 Methods used for making water safe for drinking

How is water made safe for drinking	Total SVIP area			SVIP Phase	
	Total	FHHH	MHHH	1	2
Boiling	3	4	3	3	2
Chlorination/Waterguard	25	22	26	24	28
Covering the container	44	49	43	42	46
Do not do anything	24	23	24	25	23
Filtering	0	1	0	0	0
Not required	3	2	3	5	0
Total	**100**	**100**	**100**	**100**	**100**

Source: SVIP Household Survey 2015

Table 95 Mean team taking for a round trip to fetch drinking water in minutes

Minutes for round trip fetching water	Total	Total FHHH	Total MHHH
Mean SVIP Total	34.85238	28.40223	36.17796
Mean SVIP Phase 1	26.463	26.2366	26.50737
Mean SVIP Phase 2	46.80494	29.72	50.68788
Mean Control Area Phase 1	34.75	31	35.14894
Mean Control Area Phase 2	32.4	43.33333	28.47368

Source: SVIP Household Survey 2015

Table 96 Proportion of households with access to sanitation (percent)

Households with access to a toilet		Female Headed Households			Male Headed Households		
	Total	Total	Adult 35>	Young 35≤	Total	Adult 35>	Young 35≤
Total SVIP	80	76	81	66	81	96	61
Phase 1	79	75	78	65	80	85	71
Phase 2	82	79	73	87	83	87	76
Control Area Phase 1	69	80	100	75	68	62	78
Control Area Phase 2	80	50	100	0	89	100	83

Source: SVIP Household Survey 2015

Table 97 Proportion of households per type of sanitation (percent)

Type of toilet facility used by households	Total SVIP area			SVIP Phase	
	Total	FHHH	MHHH	1	2
Traditional pit latrine	81	80	83	72	81
Bush or field	2	4	2	3	1
Improved Pit Latrine (VIP)	1	0	1	1	0
Open Pit	1	2	1	2	0
Flush to sewage system or septic tank	0	0	0	0	0
No toilet facility	14	15	13	21	18

Source: SVIP Household Survey 2015

Table 98 Reasons for not practicing irrigation (percent)

Why irrigation is not practiced	Total SVIP area			SVIP Phase		Control area	
	Total	FHHH	MHHH	Ph 1	Ph 2	Ph 1	Ph 2
No reliable source of water	56	59	55	47	71	16	57
Lack of materials	24	24	24	31	13	39	24
No suitable or no land	5	6	4	4	4	16	0
Land shortage	4	2	5	7	1	7	0
Not interested	4	2	5	3	4	11	14
Lack of technical know-how	3	2	3	1	4	9	5
No funds to invest	1	1	1	1	1	2	0
Labour shortage	1	2	1	2	0	0	0
Irrigation scheme broke down	0	0	0	0	0	0	0
Other	3	2	3	4	2	0	0
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Source: SVIP Household Survey 2015

Table 99Experience with irrigation and reasons for stopping by location and gender

Ever practices irrigation	Total SVIP area			SVIP Phase		Control area	
	Total	FHHH	MHHH	Ph 1	Ph 2	Ph 1	Ph 2
Yes, practiced irrigation	25	15	27	37	11	22	10
Reasons for stopping with irrigation							
Lack of materials	44	39	45	42	17	60	0
No reliable source of water	22	26	21	26	44	0	0
Irrigation scheme broke down	6	0	6	0	8	0	50
Land shortage	6	4	6	5	3	0	0
No suitable or no land	3	4	3	5	3	20	0
Not interested	3	0	3	0	0	10	0
Labour shortage	2	4	2	5	0	10	0
Lack of technical know-how	1	0	2	0	3	0	0
No funds to invest	1	4	1	5	3	0	0
Other	11	17	11	11	19	0	50
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Source: SVIP Household Survey 2015

Table 100 Sufficiency of animal feed throughout the year by location and gender (percent)

Sufficient animal feed throughout the year?	Total SVIP			SVIP	
	Total	Men	Women	Phase 1	Phase 2
Yes	47	48	36	50	43
No	53	52	64	50	57

Source: SVIP Household Survey 2015

Table 101 Sufficiency of water for livestock throughout the year with normal rainfall by location and gender (percent)

Sufficient water for livestock throughout the year?	Total SVIP			SVIP	
	Total	Men	Women	Phase 1	Phase 2
Yes	90	90	89	89	93
No	10	10	11	11	7

Source: SVIP Household Survey 2015

Table 102 Regular sale of livestock by location and gender (percent)

Are animals sold regularly?	Total SVIP			SVIP	
	Total	Men	Women	Phase 1	Phase 2
No	67	66	73	65	71
Yes	33	34	27	35	29

Source: SVIP Household Survey 2015

Table 103 Main reasons for sale of live animals by location and gender (percent)

Main reasons for selling live animals	Total SVIP			SVIP	
	Total	Men	Women	Phase 1	Phase 2
Need cash for cash for purchase food	84	85	75	76	74
Need cash for social reasons	14	14	17	24	23
Investment	2	1	8	0	3
Total	**100**	**100**	**100**	**100**	**100**

Source: SVIP Household Survey 2015

Table 104 Challenges experienced in keeping livestock with SVIP (percent)

Challenges in keeping livestock with SVIP	Total SVIP Area			SVIP	
	Total	F	M	Phase 1	Phase 2
Reduced grazing area	66	93	40	74	60
Decreased livestock population - no grazing areas	50	70	30	66	38
Livestock destroying crops and canal	33	53	12	3	46
Restricting laws on livestock movement	30	53	7	34	27
Increased theft of livestock due to increase in population	3	7	0	8	0
No challenges	29	0	58	21	35

Source: SVIP FGDs 2015

Appendix 3 Document List

2008, Population and Housing Census. Government of Malawi, National Statistical Office

Welfare Monitoring Survey 2011. Government of Malawi, National Statistical Office. September 2012

Integrated Household Survey 2010-2011. Government of Malawi, National Statistical Office. September 2012

2010 Demographic and Health Survey. Government of Malawi, National Statistical Office. September 2011

National Census of Agriculture and Livestock 2006/2007. Government of Malawi, National Statistical Office. April 2010

Malawi Demographic and Health Survey 2010. Government of Malawi, National Statistical Office, September 2011

Malawi Labour Survey Report 2013, Government of Malawi, National Statistical Office, April 2014

National Census of Agriculture and Livestock 2006/2007. Government of Malawi, National Statistical Office, April 2010

Access and Usage of ICT Services in Malawi 2014. Government of Malawi, National Statistical Office

Maize Consumption and Dietary Diversity Assessments in Malawi. John Mazunda and Klaus Droppelmann. Policy Note 11/March 2012, International Food Policy Research Institute, Malawi Strategy Support Progamme (MaSSP)

2016 Agricultural Development Planning Strategy SVIP.

Appendix 4 Control Areas

The selected control areas are located in the TA Makhuwira for the Phase 1 area and TA Tengani for the Phase 2 area. Within the wider project area there are several smaller and larger irrigation schemes influencing the socio-economic status of the area. Therefore, it was decided to weigh the criterion of a similar culture and similar land use pattern higher than the presence of an irrigation scheme. Twelve FGDs were conducted in each of the control areas and 55 household interviews in the control area of Phase 1 and 25 in the control area of Phase 2. Details are presented in Appendix 1 of this report.

This section describes the main aspects of the socio-economic status of the control areas mainly based on the information of the SVIP Survey.

Demography

The 2008 population of TA Makhuwira and TA Tengani was 61,354 and 34,529[72]. Slightly more females than males lived within the two TAs as in almost all areas. The age structure of the population in the control areas is the same as for the SVIP areas.

The average size of the household was 3.1 in the control are for Phase 1 and 2.6 in the control are for Phase 2, similar than found in the SVIP area. The average household size was larger in female than male headed households in the control area for Phase 2, 3.2 and 2.4. The size of the households increases in age higher aged group.

Land Tenure and Land Use

The main land uses in the control area for Phase 1 were; 69% agriculture, 26% settlement and 6% irrigation. Within the control area for Phase 2 two third of the land was used for agriculture and one third for settlement.

[72] Source: Census and IHS3, NSO

Most of the households use 2, 3 or 4 parcels of land like in the rest of the SVIP. All those interviewed used at least 2 parcels of land. One quarter of the households in the control area for Phase 1 used 5 or more parcels. This higher than average proportion found in the SVIP area may be due to the lower number of respondents in this control area. The number of parcels used by a household averaged slightly higher in the control area of Phase 1 compared to the control area of Phase 2.

The pattern of the total size of land used per household was similar in the control areas and the SVIP area.

Almost parcels were registered in the name of the household head. This proportion was 100% in the control area of Phase 1 and 97% in the control are of Phase 2. The person in whose name the parcel was held andthe main user of the parcel were different in a majority of 69% of the parcels in the control area of Phase 1 and 53% in control area of Phase 2.

In both control areas the predominant type of legal status of the land was customary land and the remainder private land. Table 105 below provides the details.

Table 105Type of legal status of the land in control areas (percent)

Type of legal status of the land	Control area Phase 1			Control area Phase 2		
	Total	FHHH	MHHH	Total	FHHH	MHHH
Customary land	76	69	77	87	73	90
Private land	24	31	23	13	27	10
Other	0	0	0	0	0	0
Total	**100**	**100**	**100**	**100**	**100**	**100**

Source: SVIP Household Survey 2015

The pattern of the distance to each of the parcels of land used by a household is the same in the control areas and the SVIP area. About 30% of the parcels were less than 500 metres away from the dwelling of the household and about one fifth was 5 kilometres away or more. Over half of the parcels were locates at a distance of less than 1.5 kilometre.

Economy and Food Security

Income levels

The average and mean income in the control areas is less than in the SVIP area. The average income in the control areas was about 55,500 MK in the last twelve months compared to 73,600 in the SVIP area. The mean income is also lower, 34,00 MK in the control are of Phase 1, 30,000 MK in the control are of Phase 2 and 40,000 MK in the SVIP area. The average and mean income in the control areas is similar to those of female headed households indicating that the control areas are a little poorer than the

SVIP area. The pattern of income is the same as in the SVIP apart from a lower proportion of households with an income of 100,000 MK or more in the control areas, 16% versus 23% in the SVIP area.

Main Sources of Income

The main sources of income in the control areas is the same as in the SVIP area. The income source is the sale of crops in 52% of the SVIP area, 71% of the control area of Phase 1 and 68% of the control are of Phase 2. It is, therefore a little higher than in the SVIP area. The second largest main source is income is Ganyu or casual labour in 23% of the households in the control area of Phase 1 and 20% in the control area of Phase 2 compared to 23% in the SVIP area. Other main sources of income are income generating activities in 4% of the households, and formal employment in 2% of the households in the control area of Phase 1 and 4% in the control area of Phase 2. This is a little lower than the 8% in the SVIP area. In the control area of Phase 2 4% was dependent upon gifts and remittances for their main source of income.

The type of other sources of income in the control area of Phase 1 is the same as in the SVIP. The main types of other sources of income are the same in the control area of Phase 2 as well, but the division of the types is slightly different, probably due to the small number of interviews conducted in this control area. The main other source of income was Ganyu, 40% in the SVIP area, 34% in the control area of Phase 1 and 69% in the control area of Phase 2. The second largest other source of income is the sale of crops in 20% of the SVIP area, 22% in the control area of Phase 1 and 6% in the control area of Phase 2. The third largest other source of income are income generating activities in 19% of the SVIP area, 22% in the control area of Phase 1 and 16% in the control area of Phase 2. Other types of income were another source in 5% of the households or less. It is interesting to note that households in the control area of Phase 2 more often dependent upon natural resources (5%) than in the control area of Phase 1 (1%) or the SVIP area (2%).

The number of activities undertaken in a household is similar in the control area of Phase 1 and the SVIP area. In the control area of Phase 2 less activities are undertaken averagely. A larger proportion of 36% only undertook one activity and 56% two activities. In the SVIP area these were respectively 28% and 50% of the households and in the control area of Phase 1 21% and 52%. Only 8% of the households was engaged in three income generating activities and none more than three whilst 22% carried out 3 activities or more in the SVIP area and 27% in the control area of Phase 1.

Food Security

The average number of meals taken per day is the same in the control area of Phase 1 and the SVIP area, but fewer meals are eaten per day in the

control area of Phase 2. All households consumed at least one meal per day in the week prior to the interview. Most households ate a meal twice per day in all areas. In the SVIP are 54% at twice, in the control area of Phase 1 56% and of Phase 2 48%. More people consumed three meals per day in the SVIP area and the control area of Phase 1 than in the control area of Phase 2. (SVIP area 31%, Control area Phase 1 38%, and Control area Phase 2 16%). Of the households interviewed in the control are of Phase 2 36% had one meal per day compared to 6% in the control area of Phase 1 and 14% in the SVIP area.

The pattern of months in which food shortages are experiences are similar in the SVIP and the control area of Phase 1. Households in the control area of Phase 2 experience more severe food shortages over a longer period. In this area, the proportion of households with food shortages is over three quarter in the months of December, January and February. In August already one quarter of the households is short of food and over half in October and November. In the other two areas the food shortage starts peaking in October with 10-18% and does not increase as much.

Own production is the main source of food in the households in all area, but more so in the control area of Phase 2 (96%).The same coping mechanisms are used in the SVIP area and the control areas. Within the control area of Phase 2 the proportion of households using food for labour and Ganyu is slightly higher than in the other areas and those purchasing food lower.

Agriculture and Livestock

The type of crops grown is the same in Phase 1 and in its control area and the same in Phase 2 and its control area. The main crops cultivated were on the control area of Phase1 were maize (27%), rice (22%), other/pearl millet (28%) and beans (13%). Within the control area for Phase 2 the main crops grown were; sorghum (32%), maize (9%), millet (6%) and other/pearl millet (44%).

The pattern of consumption and sales of each type of crops is the same as in the SVIP area. The farm inputs and services, cultivation methods and main constraint experienced are the same as well.

Only 6% of the farmers in the control area of Phase 1 were practicing irrigated agriculture and none in the control area of Phase 2. Two thirds of those practicing irrigation used a small-scale gravity scheme and the remaining quarter shallow wells as a source of irrigation. Two thirds use a treadle pump to irrigate the land and one third a watering can. The main crops grown are maize on two thirds of the land and various types of vegetables on one third of the land. The main reasons for not practising irrigation are the same as in the SVIP area, lack of a reliable water source, no suitable land and lack of materials.

The proportion of farmers that received a visit and the visit frequency of an extension officer was the same in the SVIP area and the control areas. The pattern of the perception of the usefulness of the received message and the rate of application the advice were the same as in the SVIP area.

More households in the control areas owned local goats than in the SVIP area. Whilst the proportion was 22% in the SVIP area, it was 43% and 50% in the control area of Phase 1 and Phase 2. Households in the control area only owned local goats, local pigs and local chicken whilst other types of animals, such as local cows and bulls were also owned in the other areas. The main sources of livestock feed were the same as in the SVIP area. About half of the households had enough food for their livestock in the SVIP area but in the control area of Phase 1 only one third and in the control area of Phase 2 none of the households. The main sources of water were more often the stream, river or pond than the borehole in the control areas compared to the SVIP area. Half the farmers in the control area of Phase 2 experienced water shortages for their animals compared to 10%-15% in other areas. The main livestock products and the consumption and sale pattern are the same as in the SVIP area.

Appendix 5 Estimating Population and Households in the SVIP

1 Introduction

An important parameter for the preparation of the Shire Valley Irrigation Project is the number of households and individuals who can be expected to benefit from the irrigation. The Terms of References for the consultancies describe the objective of the SVIP as "to sustainably enhance incomes and hence food security of about 100,000 households in Chikwawa and Nsanje Districts through increased agricultural productivity and profitability by establishing market-linked smallholder farming ventures and professionally operated irrigation services in 42,500 ha of lands".

This number relates to the overall number of households in both districts according to the 2008 census, but there is a need for a more detailed estimate of how many households can be directly affected by the SVIP project (being part of the actual irrigation schemes) and how many households can more indirectly benefit from the SVIP project, for example by getting access to better drinking water, better labour possibilities and better markets.

This note describes the various ways of estimating the populations and gives a best estimate based on the validity of the various sources.

2 Data Sources

2.1 NSO data

There are a number of data sources dealing with the population data available, mainly information from the National Statistical Office, NSO. The primary reports from NSO are the 2008 Population and Housing Census, the 2010 Malawi Demographic and Health Survey (MDHS), the Integrated Household Survey 2010-11 (IHS), the 2010 National Census of Agriculture and Livestock 2006/07 (NACAL). The population projection data is based on the NSO Analytical Report, Volume 7, Population Projections from 2010.

These population data sets are available down to District and TA levels for the 2008 Census and for the Integrated Household Survey. The NACAL and 2010 MDHS provides data at district level but the sample population is too small to allow disaggregation to TA level

2.2 Spatial data from Enumeration Areas

Another source is the spatial data from the Survey Department concerning the Enumeration Areas (EAs)[73], which contains information about population for each EA within TA's. The data also contains information about number of households. The data should in principle be identical to the data from NSO, as they are used for statistical purposes, but there are smaller differences between the sets of data. The EA data can be combined with the boundaries of the SVIP area, so it is possible to obtain a more detailed estimate of the number of people and households directly affected by the SVIP project.

2.3 Information from Group Village Heads (GVHs)

During the recent field activities in September 2016 the local GVHs within the SVIP has provided information about the number of males and females and number of households for their individual village groups. This information has been provided for phase 1.

2.4 Digitized buildings

Another dataset used to verify the aforementioned data sources is the number of digitized buildings within the phase 1 of the SVIP area. This digitalization has been carried out on the background of orthophotos taken in 2014, and it can be supposed that the number of buildings should at

[73] The population data per EA are taken from the 2008 Census for Housing and Population

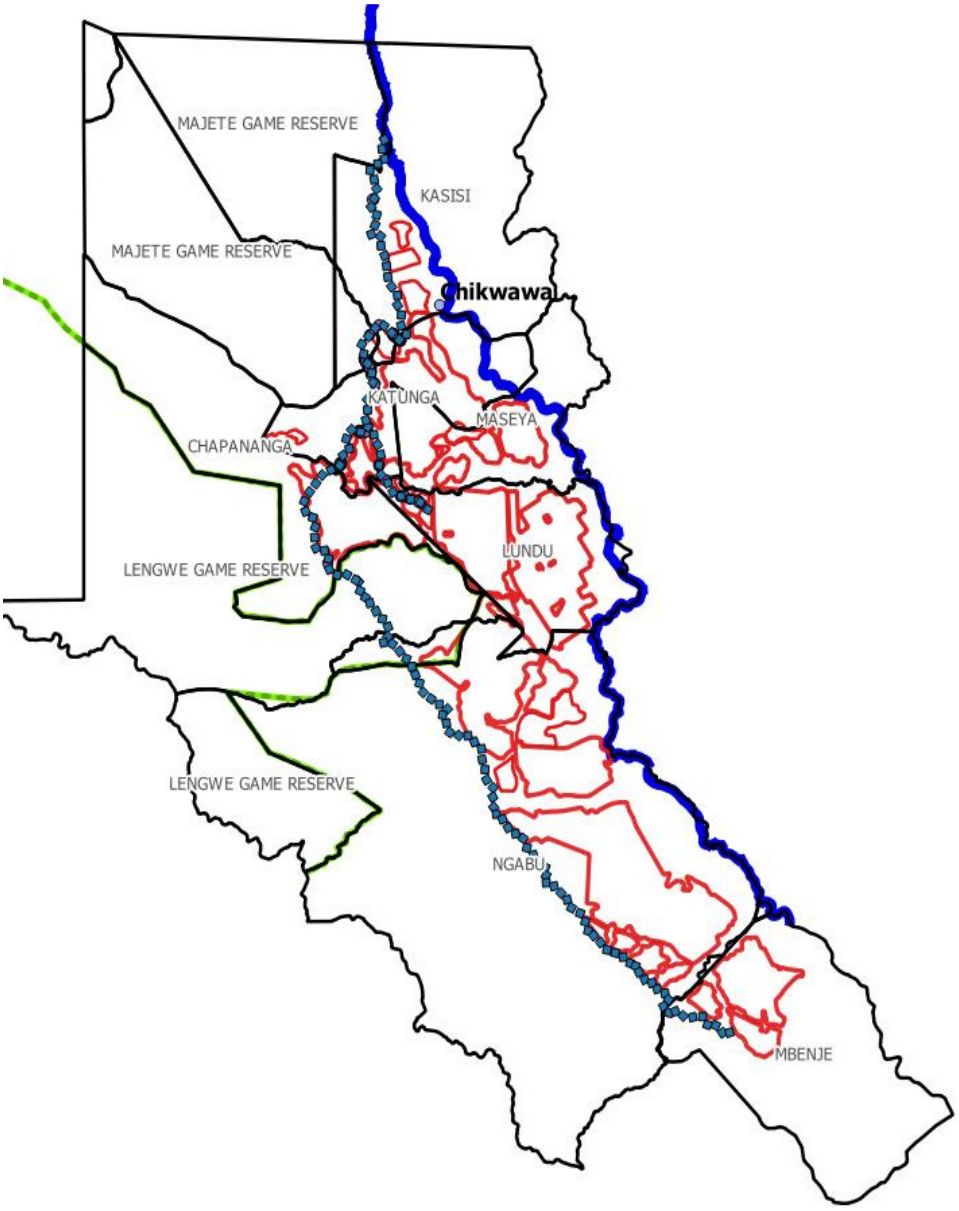
least not be smaller than the number of estimated or registered households, since a household without a house is not very likely.

2.5 Canal route data

During the field activities the number of households and the household sizes have been registered within a 60 m buffer zone along the canal route. These data then can give an independent estimate of an average household size within a sample area of phase 1, which can be used for consolidating the other data sets.Evaluation of data

An estimate of the population and the number of households directly and indirectly affected by the SVIP project must be based on the population data from the National Statistical Office. The various reports operates with population data from 2008 divided into Districts and Traditional Authorities (TAs) as the smallest entities. The TAs affected by the SVIP are shown in Figure 5 below.

Figure 6TAs affected by SVIP project



2.6 Estimated total population/households for SVIP TA's

The data from the Census 2008 is presented in *Table 106* below. In Chikwawa District 434,648 persons and in TA Mbenje in District Nsanje 43,494 persons were registered, a total of 478,042 persons.

Table 106NSO Census 2008

NSO census 2008	pop.
Chikwawa Total	**434.648**
TA Ngabu	149.490
TA Lundu	46.372
TA Chapananga	86.495
TA Maseya	26.639
TA Katunga	24.680
TA Kasisi	31.003
TA Makhwira	62.929
Lengwe National Park	53
Chikwawa Boma	6.987
TA Mbenje	**43.394**

Looking at the same dataset from the Enumeration Areas related to spatial data from the Survey Department there is a slight difference in the numbers, giving a total 497,262 persons, see Table *107NSO Census 2008 – Enumeration Area data including households*. The EA data also gives the number of households, and it is possible to calculate the household size to 4.58 for Chikwawa District, where the 2008 Census indicates a household size of 4.3 for the whole Southern Region.

Table 107NSO Census 2008 – Enumeration Area data including households

NSO census 2008 (EA data)	pop.	Households
Chikwawa Total	**435406**	**95105**
TA Ngabu	149.221	30.730
TA Lundu	46.372	10.720
TA Chapananga	87.430	19.444
TA Maseya	26.639	6.209
TA Katunga	24.680	5.528
TA Kasisi	31.003	7.158
TA Makhwira	62.929	14.034
Lengwe National Park	53	18
Majete Game Reserve	92	-
Chikwawa Boma	6.987	1.264
TA Mbenje	**44.220**	**9.213**

A third report, the NSO Population Projections Report from 2010, projecting the 2008 population data until year 2030, has a third population figure for Chikwawa District of 435,797 persons. The differences are insignificant, and will make no large changes for the 2016 estimates. In the Population Projections Report the total population of the District of Chikwawa is expected to be 549,706 persons in 2016, an increase of 26% compared to year 2008. This percentage is used to calculate the estimated number of households in 2016 to be 119,927 in the District.

The use of the total figures for the Chikwawa District would not be correct, as TA Makhwira and a part of Kasisi is located on the eastern side of Shire. Also the northern part of TA Chapananga behind Majete should not be included in the SVIP estimates. The 2008 total of 435,406 (EA data) is reduced with 92,929 (62,929+30,000) to 341,719 which increased by 26% gives 430,908 persons and 94.010 households in 2016.

For TA Mbenje in Nsanje District the 2008 EA data is also used and increased by 26%, giving an estimate of 55,717 persons and 11,608 households in 2016.

An estimated total population and number of households for all the TA's involved in the SVIP project (both phase 1 and 2) can then be calculated to be 486,283 persons and 105,618 households. An overview of the various figures can be seen in Table 108 below.

Table 108Estimates of the 2016 population and households directly affected by the SVIP

Source	Year	Pop.	HH	HH size	Comments
Census 2008	2008	434,648		4.3	Whole Chikwawa

					district, hh size for Southern region
Based on EA 2008 data	2008	435,406	95,105	4.58	Whole Chikwawa district
NSO Population Projections Report	2008	435,797			Whole Chikwawa district
NSO Population Projections Report	2016	549,706	119,927	4.58	Whole Chikwawa district (26% increase from 2008)
Census 2008	2008	341,719			Chikwawa District minus Makhwira/part of Kasisi/part of Chapananga
Census 2008 projected to 2016	2016	430,566	94,010	4.58	Chikwawa District minus Makhwira/part of Kasisi/part of Chapananga
Census 2008	2008	43,394			Mbenje TA (Nsanje)
Based on EA 2008 data	2008	44,220	9,213		Mbenje TA (Nsanje)
Based on EA 2008 data -projected to 2016	2016	55,717	11,608		Mbenje TA (Nsanje) + 26% increase
Estimated total population/households	**2016**	**486,283**	**105,618**	**4.60**	**TA's affected by SVIP phase 1 and 2**

2.7 Estimate of directly affected population and households

During the latest field activities in September 2016 the Group Village Heads (GVHs) affected by Phase 1 of the SVIP were asked to produce information about population and household. The results can be seen in the Table 109 below. The total populations and households within all the affected GVHs in Phase 1 sums up to 97,817 persons and 21,250 households.

A way of verifying the data is to calculate the household sizes for each individual GVH to see if the relation between households and population is close to the 4.6, which were calculated in the table above. The total numbers correspond quite well with a household size of 4.7, but there are rather large deviations within the individual GVHs, for example Thuboyi with a household size as low as 1.5.

Another check of the data can be done by comparing the number of households with the number of buildings digitized in the orthophotos. It should be expected that the number of buildings were bigger than the number of households, as there are households with more than one building. On the other hand there might be a small amount of buildings not identified because they are covered by trees in the orthophotos. In general less buildings than households shouldn't be expected. However, this is the

case in several of the GVHs with a ratio of buildings down to a third of the number of households. The data from the GVHs can therefore not stand alone, and have to be triangulated with other sources.

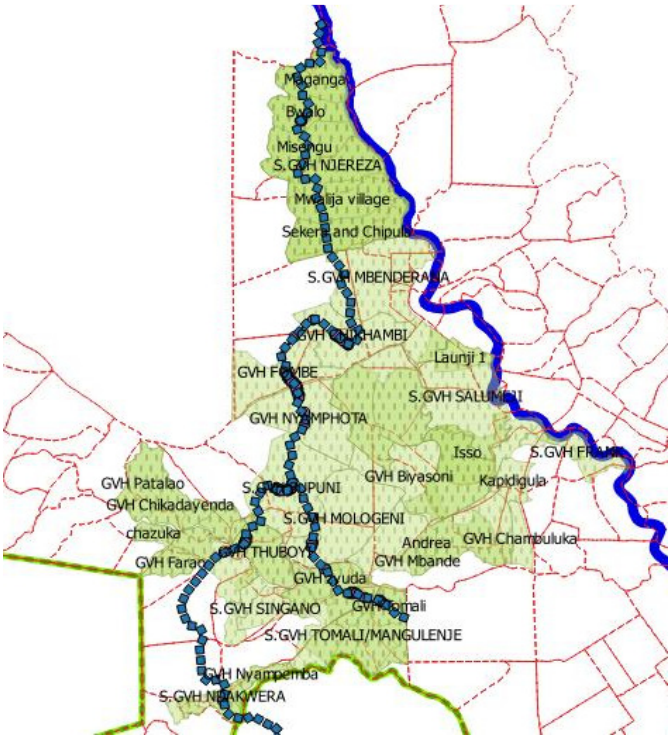
Table 109Population and Household data provided by the GVHs in Phase 1

Senior GVH	GVH/VH	TOTAL PP	TOTAL HH	Buil-ding	Hh size	ratio build / HH	
NJEREZA	Njereza	1,534	247	637	6.2	2.6	ok
	Bwalo	960	190	253	5.1	1.3	ok
	Misengu	706	207	308	3.4	1.5	ok
	Sekera/Chipula	1,837	313	285	5.9	0.9	ok
	Mwalija village	1,534	247	225	6.2	0.9	ok
	Maganga	250	72	81	3.5	1.1	ok
Mbenderana	Mbenderana	6,765	1,078	1,059	6.3	1.0	ok
Chikambi	Chikambi	1,421	253	926	5.6	3.7	ok
Fombe	Fombe	2,526	976	299	2.6	0.3	!!
Nyamphota	Nyamphota	2,742	472	164	5.8	0.3	!!
Kabadula	Kabadula	2,780	586	1,253	4.7	2.1	ok
William	total	7,668	1,258	952	6.1	0.8	!!
Salumeji	total	8,510	1,399	1,609	6.1	1.2	ok
Frank	total	5,702	1,163	1,203	4.9	1.0	ok
NTONDEZA	Ntondeza	1,008	310	796	3.3	2.6	ok
	Isso	510	159	347	3.2	2.2	ok
	Kapidigula	341	73	216	4.7	3.0	ok
Chambuluka	Chambuluka	1,660	312	475	5.3	1.5	ok
Mbande	total	7,818	1,712	1,016	4.6	0.6	!!
Mologeni	Mologeni	2,064	424	314	4.9	0.7	!!
Supuni	Supuni	5,380	640	809	8.4	1.3	ok
Thuboyi	Thuboyi	761	501	174	1.5	0.3	!!
Patalao	total	3,214	813	795	4.0	1.0	ok
Mkanyoza	total	5,947	1,192	1,849	5.0	1.6	ok
Mangulenje	Mangulenje	1,275	477	459	2.7	1.0	ok
Singano	Singano	1,452	323	324	4.5	1.0	ok
Kampani	total	5,392	1,048	1,063	5.1	1.,0	ok
Tomali/ Mangulenje	Total	6,675	2,289	1,521	2.9	0.7	!!
Ndakwera	total	3,673	946	964	3.9	1.0	ok
Total		**97,817**	**21,250**	**20,376**	**4.7**		

Another method for finding the estimate of the population and households directly affected by the SVIP project is by using the spatial data related to the Enumeration Areas the same way as for the whole SVIP area in section

3.1. The boundaries of the EAs and the GVHs are not corresponding, but in the spatial map we can identify all the EAs which is partly of wholly covered by the GVHs, from where we have obtained the field population data, as shown in *Figure 7* below. We can then calculate the total population and households within these EAs.

Figure 7Enumeration Areas and GVHs in Phase 1 boundaries



The latest EA data are from 2008, so it is necessary again to increase the numbers with 26% to get a projected estimate of the population and households in 2016. The results are then 95,009 persons and 20,590 households, which is a little lower than the information from the GVHs, but not significantly different.

Another recent dataset is from the Main Canal route, where the number of directly affected buildings are registered and the number as well as the number of persons in each individual household. These data can verify that the household size for the SVIP area seems to be between 4.3-4.6.

Based on the various sources we estimate the total population and number of households directly affected by the Phase 1 to be 95,000 persons and 21,000 households.

For phase 2 we have no detailed field data, and can only use the projected 2016 data for the Ngabu and Mbenje TAs, which is 127,971 persons and 27,367 households.The figures can be seen Table 110 below.

In total for phase 1 and 2 we then have an estimate of 222,971 persons and 48,367 households, directly affected by the SVIP project.

Table 110Estimates of directly affected population and households in SVIP

	Year	Population	HHs	hh size	Comments
FOR PHASE 1:					
Phase 1 population data from GVHs	2016	97,817	21,250	4.60	Information given by the GVHs
digitized buildings in GVHs affected by phase 1	2014		20,376		
GVHs phase 1 from EA 2008 data	2008	75,344	16,328	4.61	Population &Households in Phase 1
GVHs phase 1 2016 based on population projection	2016	95,009	20,590	4.61	With 26% increase from 2008
Canal route data	2016	515	118	4.36	
Best estimate of population and households in Phase 1	***2016***	***95,000***	***21,000***	***4.52***	
FOR PHASE 2:					
TAs phase 2 from EA 2008 data	2008	101,484	21,703	4.68	(Ngabu + Mbenje)
TAs phase 2 2016 based on population projection	***2016***	***127,971***	***27,367***	***4.68***	***with 26% increase***
PHASE 1 AND 2:					
Estimated total directly affected pop./HHs in SVIP	***2016***	***222,971***	***48,367***	***4.61***	***SVIP phase 1 and 2***

Appendix 6 Survey Instruments

Household Questionnaire

Ministry of Agriculture, Irrigation and Water Development

SHIRE VALLEY IRRIGATION PROJECT

COMMUNICATION, COMMUNITY PARTICIPATION, LAND TENURE AND RESETTLEMENT FRAMEWORK (CCPLTRF)

HOUSEHOLD QUESTIONNAIRE

BEFORE YOU START THE INTERVIEW

HOUSEHOLD INFORMATION PANEL	
HH1. Number interviewer	Each interviewer is given a unique number to be used by her/him only
HH2. Phase	□ Phase 1 □ Phase 2
HH3. EA Number ……	From list of EAs in Manual and as given by GL
HH4. Village Name _____	Select from dropdown list. If other is selected, write name of village
	□ Kasisi

HH5. TA Name _____	□ Katunga □ Lundu □ Maseya □ Ngabu
HH6. District Name _____	□ Chikhwawa □ Nsanje

PRESS ENTER to go to the next page

Click HH Questionnaire

The following appear automatically:

- Your interviewer number at the top of the page written in red
- Enumeration Area number
- Household number (is automatically generated by the application)
- Village name
- Date of interview

HH7. GPS coordinates of the HH – TAKE ON TABLES	Latitude : - …… Longitude: ……

INTRODUCTION and WELCOME

GREET AND WELCOME INTERVIEWEE.

MY NAME IS ..... WE ARE PART OF A FIELD TEAM HIRED BY GOM TO CONDUCT RESEARCH ON THE SHIRE VALLEY IRRIGATION PROGRAMME. THE FIELD STUDY WILL PROVIDE IMPORTANT INFORMATION TO DESIGN THE SHIRE VALLEY IRRIGATION PROGRAMME. THE PROJECT IS EXPECTED TO COVER THIS AREA AS WELL. WE ARE HERE ON BEHALF OF THE GOVERNMENT OF MALAWI TO LEARN FROM YOU AND GET YOUR VIEWS ON HOW THE IRRIGATION PROJECT COULD BE ORGANISED. YOUR ANSWERS WILL BE USED TO DECIDE HOW THE SVIP IS GOING TO BE IMPLEMENTED. THEREFORE YOUR VIEWS ARE VERY IMPORTANT. WE KINDLY REQUEST YOU TO PARTICIPATE IN THE INTERVIEW AND BE OPEN.

ZIKOMO, IFE NDIFE A BUNGWE LA COWI AMENE TATUMIDWA NDI BOMA, KUZAPANGA KAFUKUKFUKU WOKHUZANA NDI ULIMI WA NTHILIRA WA SHIRE VALLEY IRRIGATION PROGRAME, UMENE BOMA LIKHAZIKITSE KUNO KU CHIGWA CHA SHIRE. CHOLINGA CHA KAFUKUFUKU AMENEYU NDIWOFUA KUTI TIMVE MAGANIZO ANU PA NTCHITO YIMENEYI, NDIPO KHALANI OMASUKA.

INFORMED CONSENT

I WILL NOW READ A STATEMENT WHICH I WILL KINDLY REQUEST YOU AGREE TO.

I WANT YOU TO KNOW THAT IF YOU DECIDE TO PARTICIPATE IN THIS INTERVIEW AND ANSWER QUESTIONS, WHAT YOU
TELL ME WILL BE KEPT PRIVATE. ALL OF THE ANSWERS WE GET FROM VARIOUS INTERVIEWS WILL BE PUT TOGETHER
SO THAT NO ONE WILL KNOW WHAT YOU TOLD ME. IT IS UP TO YOU TO DECIDE IF YOU WANT TO TALK WITH ME IN THIS INTERVIEW. IF YOU DECIDE TO ANSWER THE QUESTIONS TODAY, YOU CAN STILL REFUSE TO ANSWER ANY
QUESTIONS YOU DON'T WANT TO ANSWER, OR STOP THE INTERVIEW COMPLETELY AT ANY TIME. YOUR ANSWERS ARE IMPORTANT BECAUSE THEY WILL HELP TO DESIGN A GOOD SVIP THAT WILL IMPROVE THE LIVELIHOOD OF THE
PEOPLE. BECAUSE YOUR ANSWERS ARE IMPORTANT, I WOULD LIKE TO ASK YOU TO GIVE ME YOUR TRUE RESPONSES.

TIKUFUNA TIKUTSIMIKIZILENI KUTI MUKHALE OMASUKA CHIFIKWA ZIMENE TIKAMBILANE PANO ZIKHALA ZA CHISINSI,

SITIUZA WINA ALIYENSE, NDIPO ZIKANGOGWIRITSIDWA NTCHITO YA KAFUKUFUKU YOKHA . PAKHALA FUNSO LIMENE
SIMUKUFUNA KUYANKHA, NDINU OMASUKA KUTELO.

DO YOU AGREE TO TALK WITH ME AND ANSWER SOME QUESTIONS TODAY?KODI NDINU OMASUKA KUTENGA NAWO MABLI PA KAFUKFUKU AMENEYU?

☐Yes, permission is given ⇨Begin Interview.
☐No, permission is not given ⇨End Interview.

HH8. Write name of Household Head	……
HH9. Permission given for the interview	□ YES – tick box and continue with the interview □ NO – Do not tick box, and end the interview. Close the record by clicking on the 'X' at the top right of the sheet

FILL IN:

SECTION 1 DEMOGRAPHY *(1MBR in the application)*

LIST OF HOUSEHOLD MEMBERS

FIRST, PLEASE TELL ME THE NAME OF EACH PERSON WHO USUALLY LIVES HERE, STARTING WITH THE HEAD OF THE HOUSEHOLD.

List the head of the household in line 01. List all household members (HL2), their relationship to the household head (HL3), and their sex (HL4).Use an additional questionnaire if all rows in the List of Household Members have been used.

							If age 15 or older	*If age 5 or older*		*For ages 5-24 years*	*For children age 0-17 years*	
HL1. *Line no.*	**HL2.** *Name List the name of the person interviewed first*	**HL3.** WHAT IS THE RELATION-SHIP OF (*name*) TO THE HEAD OF HOUSE-HOLD?	**HL4.** IS (*name*) MALE OR FEMALE? 1 Male 2 Female	**HL5.** HOW OLD IS (*name*)?	**HL6.** WHAT IS (*name's*) RELIGION? 1 Christianity 2 Islam 3 Traditional 3 No Religion 6 OTHER	**HL7.** WHAT IS (*name's*) ETHNIC GROUP? 1 Yao 2 Lomwe 3 Nyanja 4 Ngoni 5 Chewa 6 Mang'anja 7 Sena 8 Tonga 9 Tumbuka 10 OTHER	**HL8** WHAT IS (*name's*) CURRENT MARITAL STATUS? 1 Never married 2 Married monogamous 3 Married polygamous 4 Separated 5 Divorced 6 Widowed	**HL9.** IS (*name*) ABLE TO READ OR WRITE? 1 Yes 2 No	**HL10.** WHAT IS THE HIGHEST LEVEL OF SCHOOL (*name*) HAS ATTENDED? Level: 0 Never been to school 1 Jun Primary 2 Sen Primary 3 Jun Secondary 4 Sen Secondary 5 Higher 8 Don't Know	**HL11.** IS (*name*) CURRENTLY ATTENDING SCHOOL? 1 Yes 2 No	**HL12.** IS (*name*)'S BIOLOGICAL MOTHER ALIVE YES NO UNKNOWN	**HL13.** IS (*name*)'S BIOLOGICAL FATHER ALIVE? YES NO UNKNOWN
Line	Name	Relation*	M F	Age	Religion	Ethnic	Marital Status	Y N	Education Level	Y N	Y N U	Y N U
01		___ ___	1 2	__ __	__	__	__	1 2	__	1 2	1 2 3	1 2 3
02		___ ___	1 2	__ __	__	__	__	1 2	__	1 2	1 2 3	1 2 3
03		___ ___	1 2	__ __	__	__	__	1 2	__	1 2	1 2 3	1 2 3
04		___ ___	1 2	__ __	__	__	__	1 2	__	1 2	1 2 3	1 2 3
05		___ ___	1 2	__ __	__	__	__	1 2	__	1 2	1 2 3	1 2 3
06		___ ___	1 2	__ __	__	__	__	1 2	__	1 2	1 2 3	1 2 3
07		___ ___	1 2	__ __	__	__	__	1 2	__	1 2	1 2 3	1 2 3

							If age 15 or older	*If age 5 or older*		*For ages 5-24 years*	*For children age 0-17 years*	
HL1. *Line no.*	**HL2.** *Name* *List the name of the person interviewed first*	**HL3.** WHAT IS THE RELATION-SHIP OF (*name*) TO THE HEAD OF HOUSE-HOLD?	**HL4.** IS (*name*) MALE OR FEMALE? 1 Male 2 Female	**HL5.** HOW OLD IS (*name*)?	**HL6.** WHAT IS (*name's*) RELIGION? 1 Christianity 2 Islam 3 Traditional 3 No Religion 6 OTHER	**HL7.** WHAT IS (*name's*) ETHNIC GROUP? 1 Yao 2 Lomwe 3 Nyanja 4 Ngoni 5 Chewa 6 Mang'anja 7 Sena 8 Tonga 9 Tumbuka 10 OTHER	**HL8** WHAT IS (*name's*) CURRENT MARITAL STATUS? 1 Never married 2 Married monogamous 3 Married polygamous 4 Separated 5 Divorced 6 Widowed	**HL9.** IS (*name*) ABLE TO READ OR WRITE? 1 Yes 2 No	**HL10.** WHAT IS THE HIGHEST LEVEL OF SCHOOL (*name*) HAS ATTENDED? Level: 0 Never been to school 1 Jun Primary 2 Sen Primary 3 Jun Secondary 4 Sen Secondary 5 Higher 8 Don't Know	**HL11.** IS (*name*) CURRENTLY ATTENDING SCHOOL? 1 Yes 2 No	**HL12.** IS (*name*)'S BIOLOGICAL MOTHER ALIVE YES NO UNKNOWN	**HL13.** IS (*name*)'S BIOLOGICAL FATHER ALIVE? YES NO UNKNOWN
Line	Name	Relation*	M F	Age	Religion	Ethnic	Marital Status	Y N	Education Level	Y N	Y N U	Y N U
08		___ ___	1 2	__ __	__	__	__	1 2	__	1 2	1 2 3	1 2 3
09		___ ___	1 2	__ __	__	__	__	1 2	__	1 2	1 2 3	1 2 3
10		___ ___	1 2	__ __	__	__	__	1 2	__	1 2	1 2 3	1 2 3
11		___ ___	1 2	__ __	__	__	__	1 2	__	1 2	1 2 3	1 2 3
12		___ ___	1 2	__ __	__	__	__	1 2	__	1 2	1 2 3	1 2 3
13		___ ___	1 2	__ __	__	__	__	1 2	__	1 2	1 2 3	1 2 3
14		___ ___	1 2	__ __	__	__	__	1 2	__	1 2	1 2 3	1 2 3
15		___ ___	1 2	__ __	__	__	__	1 2	__	1 2	1 2 3	1 2 3
Tick here if additional questionnaire used ☐												

* *Codes for **HL3**: Relationship to head of household:*

01 Head household
02 Spouse/Partner
03 Son / Daughter
04 Son-In-Law / Daughter-In-Law
05 Grandchild
06 Parent
07 Parent-In-Law
08 Brother / Sister
09 Brother-In-Law / Sister-In-Law
10 Uncle / Aunt
11 Niece / Nephew
12 Other relative
13 Adopted / Foster/ Stepchild
14 Servant (Live-in)
96 Other (Not related)
98 DK

LI. *Plot no.*	**L3.** IN WHOSE NAME (*Record the line no. from HL.1)*	**L4**. TENURE 1 Leasehold Customary land 2 leasehold private land 3 Rented in land 4 Other	**L5.** USER (*Record the line no. from HL.1)* .	**L6.** SIZE (ACRES) (1 HA=2.47 ACRES)	**L6.1** DISTANCE TO MAIN DWELLING UNIT (METRES)	**L7.** LEGAL STATUS 1 Customary 2 Private 3 Other	**L8** CROPS GROWN 01 Maize 02 Rice 03 Sorghum 04 Millet 05 Cassava 06 Groundnuts 07 Beans 08 Soybeans 09 Sugarcane 10 Cotton 11 Tobacco 12 Sweet potato 13 Irish potatoes 14 Vegetables 15 Other	**L9.** MAIN LAND USE 1 Agriculture (Crops) 2 Irrigation 3 Grazing 4 Settlement 5. Business 6. Rented out 6. Other	**L10.** IS THE LAND UNDER DISPUTE? 1 Yes – *tick and answer next questions* 2 No – *do not tick*	**L12.** TYPE OF DISPUTE 1 Family 2 Neighbour 3 Village head 4 Public 5 Other (specify)	**L13.** DISPUTE REDRESS MECHANISMS 01 Within family 02 Village Head 03 Group VH 04 TA 05 Paramount 06 DC 96 Other (specify)
Line	Line No	Tenure	Line No	Acres	Metres	Legal status	Crops grown	Land use	Dispute	Dispute Type	Dispute redress
1	___ ___	__	__ __	__	___	__	__	__	1 2	__	___ ___
2	___ ___	__	__ __	__	___	__	__	__	1 2	__	___ ___
3	___ ___	__	__ __	__	___	__	__	__	1 2	__	___ ___
4	___ ___	__	__ __	__	___	__	__	__	1 2	__	___ ___
5	___ ___	__	__ __	__	___	__	__	__	1 2	__	___ ___
6	___ ___	__	__ __	__	___	__	__	__	1 2	__	___ ___
7	___ ___	__	__ __	__	___	__	__	__	1 2	__	___ ___
8	___ ___	__	__ __	__	___	__	__	__	1 2	__	___ ___
9	___ ___	__	__ __	__	___	__	__	__	1 2	__	___ ___

Section 2: Land Inventory - Land Inventory and Land Use of land owned and used (*2 LAND in application)*

SECTION 3: HOUSEHOLD ECONOMY AND FOOD SECURITY

SECTION 3A: ECONOMY *(3 ECNMY in applications)*

NO	QUESTIONS	RESPONSE	
200.	WHAT IS YOUR MAIN SOURCE OF INCOME?	Crop production sales ..... 01 Livestock production sales ..... 02 Natural resource products ..... 03 Formal permanent employment ..... 04 Casual labour (Ganyu) ..... 05 Semi-skilled contract work ..... 06 IGAs. ..... 07 Asset sales ..... 08 Land rentals ..... 09 Gifts/remittances ..... 10 Pension. ..... 11 Employed as tenant ..... 12 Other _____ 96 (***Specify***)	ONLY ONE ANSWER
201.	APART FROM YOUR MAIN SOURCE OF INCOME, WHAT ARE YOUR OTHER SOURCES OF INCOME?	Crop production sales ..... 01 Livestock production sales ..... 02 Natural resource products ..... 03 Formal permanent employment ..... 04 Casual labour (Ganyu) ..... 05 Semi-skilled contract work ..... 06 IGAs. ..... 07 Asset sales ..... 08 Land rentals ..... 09 Gifts/remittances ..... 10 Pension. ..... 11 Employed as tenant ..... 12 Other, _____ 96 (***Specify***)	MORE THAN ONE ANSWER POSSIBLE
202.	HOW MANY MEMBERS OF YOUR HOUSEHOLD, INCLUDING YOURSELF, REGULARLY WORK OR CONTRIBUTE SOME INCOME OR FOOD TO THE HOUSEHOLD?	Number of male members- /___/___/ Number of female members- /___/___/	
203.	CAN YOU LIST ALL ACTIVITIES YOUR HOUSEHOLD (ALL MEMBERS) HAS USED TO EARN INCOME (BE SPECIFIC, E.G. SOLD LIVESTOCK=MK5000) IN THE PAST 12 MONTHS		

NO	QUESTIONS	RESPONSE	

NO	ACTIVITY	AMOUNT (MALAWI KWACHA) IN LAST 12 MONTHS
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

204.	WHICH MONTH OF THE YEAR DOES YOUR HOUSEHOLD FIND IT MOST DIFFICULT TO EARN INCOME?	January ..... 01 February..... 02 March ..... 03 April..... 04 May ..... 05 June ..... 06 July..... 07 August..... 08 September ..... 09 October ..... 10 November ..... 11 December……..……..12 No month……..……..13 No answer ……..20

SECTION3B: OWNERSHIP OF PRODUCTIVE HOUSEHOLD ASSETS

LIST ALL ASSETS THAT YOUR HOUSEHOLD OWNS AND INDICATE THEIR TOTAL CURRENT MARKET VALUE

	YES	NO	NUMBER OWNED	MARKET VALUE (MALAWI KWACHA)
MOTORCYCLE	1	2	……	……
PUSH BICYCLE	1	2	……	……
OXCART	1	2	……	……
IRON SHEET (USED)	1	2	……	……
TELEVISION (TV)	1	2	……	……
DINING TABLE	1	2	……	……
BED	1	2	……	……
MATTRESS	1	2	……	……
FRIDGE	1	2	……	……
RADIO	1	2	……	……
CELL PHONE	1	2	……	……
RIDGER	1	2	……	……
TREADLE PUMP	1	2	……	……
PANGA	1	2	……	……
HOE	1	2	……	……
AXE	1	2	……	……
CHAIRS	1	2	……	……
LORRY.	1	2	……	……
SMALL CAR	1	2	……	……
MOTORISED PUMP	1	2	……	……

SECTION 3C: POVERTY ASSESSMENT

NO	INDICATOR NUMBER AND DEFINITION	RESPONSE
900	HOW MANY MEMBERS DOES THE HOUSEHOLD HAVE? ***DON'T ASK, USE HOUSEHOLD SCHEDULE***	A. SEVEN OR MORE
		B. Six
		C. Five
		D. Four
		E. ONE, TWO, OR THREE
901	IS THE (OLDEST) FEMALE HEAD/SPOUSE ABLE TO READ AND WRITE IN CHICHEWA OR ENGLISH?	A. NO
		B. YES, ONLY CHICHEWA
		C. YES, ENGLISH (REGARDLESS OF CHICHEWA)
		D. NO FEMALE HEAD/SPOUSE
902	THE FLOOR OF THE MAIN DWELLING IS PREDOMINANTLY MADE OF WHAT MATERIAL?	A. SMOOTHED MUD, OR SAND
		B. SMOOTH CEMENT, WOOD, TILE, OR OTHER
903	THE OUTER WALLS OF THE MAIN DWELLING OF THE HOUSEHOLD ARE PREDOMINANTLY MADE OF WHAT MATERIAL? ***DON'T ASK, OBSERVE***	A. MUD (*YOMATA*), OR GRASS
		B. MUD BRICK (UNFIRED)
		C.COMPACTED EARTH (*YAMDINDO*), BURNT BRICKS, CONCRETE, WOOD, IRON SHEETS, OR OTHER
904	THE ROOF OF THE MAIN DWELLING IS PREDOMINANTLY MADE OF WHAT MATERIAL? ***DON'T ASK, OBSERVE***	A. GRASS, PLASTIC SHEETING, OR OTHER
		B. IRON SHEETS, CLAY TILES, OR CONCRETE
905	WHAT KIND OF TOILET FACILITY DOES THE HOUSEHOLD USE? **MULI NDI CHIMBUDZI CHOTANI?**	A.NONE, TRADITIONAL LATRINE WITHOUT ROOF SHARED WITH OTHER HOUSEHOLDS, OR OTHER
		B. TRADITIONAL LATRINE WITHOUT ROOF ONLY FOR HOUSEHOLD MEMBERS
		C. TRADITIONAL LATRINE WITH ROOF SHARED WITH OTHER HOUSEHOLDS
		D. TRADITIONAL LATRINE WITH ROOF ONLY FOR HOUSEHOLD MEMBERS, VIP LATRINE, OR FLUSH TOILET
906	WHAT IS THE HOUSEHOLD'S MAIN SOURCE OF LIGHTING FUEL? **MUMAUNIKIRA CHANI**	A. COLLECTED FIREWOOD, PURCHASED FIREWOOD, GRASS, OR GAS
		B. PARAFFIN, OR OTHER
		C. BATTERY/DRY CELL (TORCH), CANDLES, OR ELECTRICITY, SOLAR
907	DO ANY MEMBERS OF THE HOUSEHOLD SLEEP UNDER A BED NET TO PROTECT AGAINST MOSQUITOS AT SOME TIME DURING THE YEAR? **ALIPO ALIYENSE MNYUMBA AMENE AMAGONA MU MASIKITO**	A. NO
		B. YES
908	DOES THE HOUSEHOLD OWN ANY TABLES? **MULI NDI TEBULO** ***DON'T ASK, CHECK ASSET SCHEDULE***	A. NO
		B. YES
909	DOES THE HOUSEHOLD OWN ANY BEDS? **MULI NDI BEDI?** ***DON'T ASK, CHECK ASSET SCHEDULE***	A. NO
		B. YES

SECTION 3D: FINANCIAL INCLUSION

NO	QUESTION	RESPONSE	
500.	DO YOU OR ANY MEMBER OF YOUR HOUSEHOLD BELONG TO A VILLAGE SAVINGS AND LOAN SCHEME OR ANY RELATED SAVINGS GROUPS?	Yes ..... 1 No 2	
501.	DO YOU OR ANY MEMBER OF YOUR HOUSEHOLD HAVE A BANK ACCOUNT WITH ANY FORMAL BANK?	Yes ..... 1 No 2	2⇨503
502.	HAS SOMEONE IN YOUR HH HAD A LOAN FROM ANY FORMAL BANK IN THE PAST 6 MONTHS (EVEN IF THE LOAN HAS BEEN REPAID)?	Yes ..... 1 No 2	
503.	DO YOU OR ANY MEMBER OF YOUR HOUSEHOLD HAVE A MOBILE MONEY ACCOUNT? (MPAMBA, AIRTEL MONEY AND ZOONA)	Yes ..... 1 No 2	2⇨505
504.	IF YOU HAVE A MOBILE MONEY ACCOUNT, WHICH MOBILE MONEY PROVIDER DO YOU SUBSCRIBE TO? *Multiple responses possible*	TNM .....A AIRTEL.....B ZOONA.....C Other _____ X (***Specify***)	
505.	DO YOU OR ANY MEMBERS OF YOUR HOUSEHOLD HAVE CASH SAVINGS ANYWHERE, INCLUDING MONEY IN THE MOBILE PHONE ACCOUNT?	Yes ..... 1 No 2	2⇨507
506.	WHERE DO YOU OR ANY MEMBERS OF YOUR HOUSEHOLD USUALLY SAVE YOUR MONEY? *Multiple response possible*	At home .....A With friends .....B FORMAL BANK.....C VSL/SACCO/COOPERATIVE .....C MONEY LENDER .....D FARMERS CLUBS.....E MOBILE MONEY ACCOUNT.....F Other _____ X (***Specify***)	
507.	DO YOU OR ANY MEMBER OF YOUR HOUSEHOLD RUN ANY BUSINESS?	Yes ..... 1 No 2	2⇨SECTION 6
508.	IN WHOSE NAME IS THE BUSINESS REGISTERED *Multiple response possible, IF MORE THAN ONE MEMBER HAS A BUSINESS*	01. Adult man 02. Adult woman 03. Jointly adult man and adult woman 04. Youth man 05. Youth woman 06. Not registered 07. Other_____	

NO	QUESTION	RESPONSE	
509.	HOW DO YOU FINANCE YOUR BUSINESS/SOURCE OF CAPITAL FOR YOUR BUSINESS? **Multiple answers possible**	01. Own funds 02. Katapila/Informal Money Lender 03. Family member 04. Banks 05. Microfinance programme (e.g Finca, Microloans etc) 06. VSL and other informal group members/ internal loan 07. No external financing 99. Other_____	

SECTION 3F: FOOD SECURITY

NO	QUESTIONS	RESPONSE	SKIP
800.	WHICH CROP IS YOUR MAIN FOOD CROP IN THIS HOUSEHOLD?	MAIZE……01 SORGHUM/*MAPIRA*……02 MILLET/*MAWERE*……..03 RICE……..……04 CASSAVA……..05 SWEET/IRISH POTATOES……...06	
801.	WHICH CROP IS YOUR SECONDARY FOOD CROP IN THIS HOUSEHOLD?	MAIZE……01 SORGHUM/*MAPIRA*……02 MILLET/MAWERE……...03 RICE……..……04 CASSAVA……..05 SWEET/IRISH POTATOES……...06	
802.	WHAT IS YOUR MAIN SOURCE OF FOOD IN THIS HOUSEHOLD?	Own production .....1 Purchase from market .....2 Relief/donations .....3 Casual labour (ganyu) .....4 Other (*specify*) _____ 6	
803.	HOW LONG DID YOUR OWN HARVEST FOR 2013/14 LAST (IN MONTHS)	……MONTHS	
804.	WHICH MONTHS OF THE YEAR DOES YOUR HOUSEHOLD FIND IT MOST DIFFICULT TO FIND FOOD THAT IS ENOUGH FOR ALL HOUSEHOLD MEMBERS? **(MORE THAN ONE ANSWER POSSIBLE)**	January .....01 February .....02 March .....03 April .....04 May .....05 June .....06 July .....07 August .....08 September .....09 October .....10 November .....11 December .....12 No difficult month 13	

NO	QUESTIONS	RESPONSE	SKIP
805.	WHEN YOU RUN OUT OF FOOD THAT YOU PRODUCE HOW DO YOU FIND FOOD? (MORE THAN ONE ANSWER POSSIBLE)	Purchase..... A Food for labour ..... B Relief..... C Ganyu ..... D Change type of meal ..... E Sell household assets..... F Sell livestock..... G Use winter cropping..... H Reduce meal frequency ..... I Eat wild food stuff ..... J Savings..... K Remittance from relatives..... L Other _____ X (***Specify***)	
806.	HOW MANY FULL MEALS DID THE HOUSEHOLD HAVE YESTERDAY FROM TIME OF WAKING UP TO TIME GOING TO BED?	Number of meals	
807.	HOW MANY TIMES DID YOU FEED CHILDREN BETWEEN 24 – 59 MONTHS FROM THE TIME OF WAKING UP TO THE TIME OF GOING TO BED?	Number of meals ..... No eligible Child – do not fill anything	

SECTION 3G: HOUSEHOLD DIETARY DIVERISTY

Instructions: *Start with the first food or drink consumed in the morning by* ***someone in the household*** *and go systematically through 24 hours. When the respondent has finished, probe for meals and snacks not mentioned by asking "anything else?" and "what about [insert group - if no items in that group were mentioned]"*

Enumerator Read: NOW I WOULD LIKE TO ASK YOU SPECIFICALLY ABOUT THE FOOD THAT ANYONE IN YOUR HOUSEHOLD ATE YESTERDAY. PLEASE DESCRIBE THE FOODS AND DRINKS (THIS INCLUDES MEALS AND SNACKS) THAT YOUR HOUSEHOLD ATE YESTERDAY FROM THE TIME YOU GOT UP TO THE TIME YOU WENT TO SLEEP AT NIGHT. LET'S START WITH WHEN YOUR HOUSEHOLD FIRST WOKE UP.

- WHEN YOU FIRST WOKE UP, DID ANYONE EAT OR DRINK ANYTHING? [UNDERLINE THE ITEMS SHE LISTS].
- DID ANYONE EAT OR DRINK ANYTHING AFTER THAT? [UNDERLINE THE ITEMS SHE LISTS].
- WHAT ABOUT AFTER THAT?

  CONTINUE THIS PROCESS UNTIL SHE SAYS NOBODY IN THE HOUSEHOLD ATE OR DRINK ANYTHING ELSE YESTERDAY DURING THE DAY OR NIGHT.

TSOPANO TIKAMBIRANE ZAKUDYA KAPENA ZAKUMWA ZIMENE MUNADYA KAPENA KUMWA DZULO KUYAMBIRA MMAWA, MASANA MPAKA MADZULO PAKHOMO PANU PANOKUPATULA ZIMENE MUNADYA KWINA.

NO	QUESTION	RESPONSE	
C1	CEREALS (NSIMA, PORRIDGE, RICE, BREAD, THOBWA OR ANY OTHER FOODS MADE FROM MILLET, SORGHUM, MAIZE, RICE, WHEAT)	Yes.....1 No 0	
C2	VITAMIN A RICH VEGETABLES AND TUBERS (PUMPKIN, CARROTS, SWEET POTATOES THAT ARE ORANGE INSIDE)	Yes.....1 No 0	
C3	WHITE TUBERS AND ROOTS (WHITE POTATOES, WHITE YAMS, CASSAVA, OR FOODS MADE FROM THESE)	Yes.....1 No 0	

NO	QUESTION	RESPONSE	
C4	DARK GREEN LEAFY VEGETABLES (DARK GREEN/LEAFY VEGETABLES, INCLUDING WILD ONES + LOCALLY AVAILABLE VITAMIN-A RICH LEAVES SUCH AS CASSAVA LEAVES, SWEET POTATO LEAVES, PUMPKIN LEAVES ETC.)	Yes.....1 No 0	
C5	OTHER VEGETABLES (OTHER VEGETABLES (E.G. TOMATO, ONION, EGGPLANT) INCLUDING WILD VEGETABLES)	Yes.....1 No 0	
C6	VITAMIN A RICH FRUITS (RIPE MANGOES, PAPAYA, PEACHES)	Yes.....1 No 0	
C7	OTHER FRUITS (OTHER FRUITS, INCLUDING WILD FRUITS)	Yes.....1 No 0	
C8	ORGAN MEAT (IRON-RICH) (LIVER, KIDNEY, HEART OR OTHER ORGAN MEATS OR BLOOD-BASED FOODS)	Yes.....1 No 0	
C9	FLESH MEATS (BEEF, PORK, LAMB, GOAT, RABBIT, WILD GAME, CHICKEN, DUCK, OR OTHER BIRDS)	Yes.....1 No 0	
C10	EGGS (ANY TYPES OF EGGS EATEN)	Yes.....1 No 0	
C11	FISH (FRESH OR DRIED FISH)	Yes.....1 No 0	
C12	LEGUMES, NUTS AND SEEDS (BEANS, PEAS, LENTILS, GROUNDNUTS, SOYA BEANS, PUMPKIN AND SUNFLOWER SEEDS OR FOODS MADE FROM THESE)	Yes.....1 No 0	
C13	INSECTS (INSECT LARVAE, LAKE FLY, ANTS, GRASSHOPPERS)	Yes.....1 No 0	
C14	MILK AND MILK PRODUCTS (MILK, CHEESE, YOGHURT OR OTHER MILK PRODUCTS E.G. CHAMBIKO)	Yes.....1 No 0	
C15	OILS AND FATS (COOKING OIL, PALM OIL, FATS, MARGARINE OR BUTTER ADDED TO FOOD OR USED FOR COOKING, INCLUDING ANIMAL FAT)	Yes.....1 No 0	
C16	SWEETS (SUGAR, SUGAR CANE, HONEY, SWEETENED SODA OR SUGARY FOODS SUCH AS CHOCOLATES, SWEETS OR CANDIES)	Yes.....1 No 0	
C17	SPICES, CONDIMENTS (SPICES (SOY SAUCE, HOT SAUCE, PEPPER ETC) CONDIMENTS (BLACK/WHITE PEPPER, SALT))	Yes.....1 No 0	
C18	BEVERAGES (COFFEE, TEA, ALCOHOLIC BEVERAGES (MASESE, MTONJANI, KACHASU, CHIBUKU))	Yes.....1 No 0	

SECTION 4: AGRICULTURE
SECTION 4A: CROP PRODUCTION

600. WHICH CROPS DID YOUR HOUSEHOLD GROW DURING LAST RAINY SEASON (2014-15) AND WHAT WAS THE SIZE OF CROPPED AREA AND THE YIELD (KG OR BAG OF 50 KG)?

C1. CROP	**DID YOUR HOUSEHOLD GROW THIS CROP?** 1=YES 2=NO	**C2.** AREA ***(ACRES)***	**C3.** YIELD (QUANTITY) *Unit of measurement = kgs)*	**C4.** HOW MUCH OF LAST CROP IS USED FOR: *Unit of measurement =kgs)*		**C7.** WHERE SOLD 1 Local market 2 Trader 3 Elsewhere	**C8** WHEN SOLD 1 Two Months after harvest 2 Later than two months
Crop	Y N	Area	Kilogrammes	Kgs consumed	Kgs sold	Place sold	Time sold
01. MAIZE	1 2						
02. RICE	1 2						
03. SORGHUM	1 2						
04. MILLET	1 2						
05. BEANS	1 2						
06. GROUNDNUTS	1 2						
07. PIGEON PEA	1 2						
08. COW PEA	1 2						
09. COTTON	1 2						
10. SUGARCANE	1 2						
11. SOYBEANS	1 2						
12. TOBACCO	1 2						
13. CASSAVA	1 2						
14. IRISH POTATO	1 2						
15. SWEET POTATO	1 2						
16. PAPRIKA	1 2						
17.CHILLIES	1 2						
18. VARIOUS VEGETABLES	1 2						
19. OTHER CROPS	1 2						

SECTION 4B: USE OF AGRICULTURAL INPUTS

DI. INPUT	**D2.** DID YOU USE/APPLY LISTED INPUTS 1 Yes 2 No	**D3** ON WHICH CROPS DID YOU USE/APPLY INPUTS?	**D4.** WHERE DID YOU GET INPUTS 1 Agro dealer at village 2 Agro dealer market away from village 3 FISP (Coupon system) 4 Gift from relatives / friends 5 NGO support 6 Local vendor/markets 7 Own produce	**D5.** DID YOU GET THE INPUTS WHEN YOU NEEDED THEM? 1 Yes 2 No	D6. COULD YOU PAY FOR THE INPUTS? 1 Yes 2 No
01. ORGANIC FERTILIZER					
02. INORGANIC FERTILIZER					
03. IMPROVED SEED					
04. CHEMICALS					
05. CONSERVATION AGRICULTURE					
06. LOCAL SEED VARIETIES					

SECTION 4C: ACCESS TO AGRICULTURAL EXTENSION

NO	QUESTION	RESPONSE	SKIP
1500.	HAS ANY AGRICULTURAL EXTENSION WORKER VISITED YOU OR ANY MEMBERS OF YOUR HOUSEHOLD IN THE LAST 12 MONTHS?	Yes.....1 No 2	2⇨1505
1501.	WHICH AGRICULTURAL EXTENSION WORKERS VISITED YOU? (***MORE THAN ONE ANSWER POSSIBLE***)	GOVERNMENT EXTENSION WORKER…..A NGO EXTENSION WORKER……..B LEAD FARMER……..C Other (*specify*) _____ 96	
1502.	HOW MANY TIMES IN THE LAST 12 MONTHS?	Number of times …… /___ / ___ /	
1503.	DO YOU USE THE EXTENSION MESSAGES PROVIDED?	SOMETIMES .....1 ALWAYS.....2 NOT AT ALL……3	
1504.	HOW USEFUL WAS THE MESSAGE	VERY USEFUL..... ……..1 USEFUL..... ……2 NOT USEFUL AT ALL……..……3	

NO	QUESTION	RESPONSE	SKIP
1505.	ARE YOU OR ANY MEMBER OF YOUR HOUSEHOLD A MEMBER OF ANY FARMER CLUB/FARMING GROUP?	Yes.....1 No 2	
1506.	WHAT IS THE MAIN METHOD THROUGH WHICH YOUR HOUSEHOLD ACCESSES AGRICULTURAL RELATED INFORMATION AND MESSAGES?	Radio.....1 Newspapers.....2 Extension workers.....3 Local leaders.....4 Religious leaders.....5 Private company.....6 Television.....7 District Officials.....8 Friends.....9 From my club or group.....10 From community meetings.....11 From training/workshops/conference.....12 Other (*specify*) _____ 96	
1507.	WHAT OTHER WAYS DOES YOUR HOUSEHOLD ACCESSES AGRICULTURAL RELATED INFORMATION AND MESSAGES? ***(MORE THAN ONE ANSWER POSSIBLE)***	Radio.....1 Newspapers.....2 Extension workers.....3 Local leaders.....4 Religious leaders.....5 Private company.....6 Television.....7 District Officials.....8 Friends.....9 From my club or group.....10 From community meetings.....11 From training/workshops/conference.....12 Other (*specify*) _____ 96	
1508.	FOR THE SVIP, HOW WOULD YOU WANT TO RECEIVE MESSAGES? ***(MORE THAN ONE ANSWER POSSIBLE)***	Radio.....1 Newspapers.....2 Extension workers.....3 Local leaders.....4 Religious leaders.....5 Private company.....6 Television.....7 District Officials.....8 Friends.....9 From my club or group.....10 From community meetings.....11 From training/workshops/conference.....12 Other (*specify*) _____ 96	

SECTION 4D: IRRIGATION AND PARTICIPATION IN SVIP

NO	QUESTIONS	RESPONSE	
900.	HAVE YOU OR ANY MEMBERS OF YOUR HOUSEHOLD PRACTICED IRRIGATION THIS YEAR 2015?	Yes.....1 No 2	2⇨904
901.	IF YES, WHAT IS/ARE THE SOURCE(S) OF IRRIGATION WATER? ***(MORE THAN ONE ANSWER POSSIBLE)***	Gravity small-scale irrigation system .....01 Lift irrigation system pumping water from stream/river.....02 Spring .....03 Shallow open wells .....04 Deep borehole .....05 Water harvesting structure (pond/reservoir) .....06 Dambo (bucket irrigation) .....07 Other (*specify*) _____ 96	
902.	IF YES, HOW MANY ACRES OF YOUR ARABLE/FARM LAND HAS BEEN USED FOR IRRIGATION?	…….. (ACRES)	
903.	IF YES, WHAT IS THE METHOD OF IRRIGATING YOUR HOUSEHOLD'S FIELDS?	Basin..... A Furrow/Treadle pump ..... B Sprinkler..... C Drip ..... D Water can……E Other (*specify*) _____ X	
903.1	IF, YES WHAT CROPS HAVE YOU GROWN ON THE IRRIGATED LAND? ***(MORE THAN ONE ANSWER POSSIBLE)***	MAIZE……A RICE……B SORGHUM……C MILLET……D BEANS……E GROUNDNUTS……F PIGEO PEA……G COW PEA……H COTTON……I SUGARCANE……J SOYBEANS……K TOBACCO……L CASSAVA……M IRISH POTATO……N SWEET POTATO……O PAPRIKA……P CHILLIES……Q VARIOUS VEGETABLES……R Other crops……S	AFTER ANY RESPONSE GO TO 907

NO	QUESTIONS	RESPONSE	
904.	IF NO, WHY DO YOU NOT PRACTICE IRRIGATION?	Lack of technical know how..... A Lack of materials ..... B Labour shortage ..... C Not interested ..... D Land shortage.....E No reliable source of water.....F No suitable or no land.....G No market for crops grown.....H No funds to invest .....I Other (*specify*) _____ X	
905.	IF NO, HAVE YOU EVER PRACTICED IRRIGATION BEFORE?	Yes.....1 No 2	2⇨907
906.	WHAT IS THE MAIN REASON THAT YOU STOPPED?	Lack of technical know how..... A Lack of materials ..... B Labour shortage ..... C Not interested ..... D Land shortage.....E No reliable source of water.....F No suitable or no land.....G No market for crops grown.....H Irrigation scheme broke down.....I Other (*specify*) _____ X	
907.	HAVE YOU EVER HEARD ABOUT SVIP WHICH THE GOVERNMENT INTEND TO ESTABLISH IN THIS AREA?	Yes.....1 No 2	2⇨909
908.	HOW DID YOU FIRST HEAR ABOUT THE SVIP?	Radio.....1 Newspapers.....2 Extension workers.....3 Local leaders.....4 Religious leaders.....5 Private company.....6 Television.....7 District Officials.....8 Friends.....9 From my club or group.....10 Other (*specify*) _____ 96	
909.	ARE YOU WILLING TO PARTICIPATE IN THE SVIP PROGRAMME?	Yes.....1 No 2	
910.	DO YOU HAVE ANY CONDITIONS FOR YOUR PARTICIPATION IN THE SVIP? ***(MORE THAN ONE ANSWER POSSIBLE)***	Keep my plot/s..... A Get financial support to develop my plot/s . B Government provide extension services .... C None ..... D Other (*specify*) _____ X	

NO	QUESTIONS	RESPONSE	
911.	IF YOU PARTICIPATED IN THE SVIP, WHAT DO YOU PERCEIVE TO BE YOUR MAIN BENEFIT?	Food security ..... A Increased agricultural productivity income ..... B Able to send children to school ..... C None.....D Other (*specify*) _____ X	
912.	ARE YOU WILLING TO PAY FOR IRRIGATION WATER UNDER THE SVIP?	Yes.....1 No 2	2⇨914
913.	HOW MUCH ARE YOU WILLING TO PAY PER MONTH PER ACRE?	MK _____ (*Insert Figure*)	
914.	ARE YOU WILLING TO PARTICIPATE IN THE SVIP EVEN IF IT IS DECIDED ON YOUR BEHALF, WHAT CROPS YOU CAN GROW UNDER IRRIGATION?	Yes.....1 No 2	1⇨916
915.	IF NO, WHY NOT?	Maintain what I know ..... A Don't want to take a risk ..... B Want to decide myself what crops to grow. C Other (*specify*) _____ X	
916.	ARE YOU WILLING TO RENT OUT YOUR LAND TO OTHER SMALLHOLDER FARMERS IN THE PROJECT?	Yes.....1 No 2	
917.	ARE YOU WILLING TO RENT OUT YOUR LAND TO OTHER COMMERCIAL FARMERS IN THE PROJECT?	Yes.....1 No 2	
918.	ARE YOU WILLING TO EXCHANGE YOUR LAND FOR SHARES IN AN IRRIGATION ORGANISATION THAT MANAGES THE LAND ON YOUR BEHALF?	Yes.....1 No 2	
919.	ARE YOU OR ANY MEMBER OF YOUR HOUSEHOLD A MEMBER OF AN IRRIGATION CLUB IN THIS YEAR OF 2015?	Yes.....1 No 2	
920.	ARE YOU OR ANY MEMBERS OF YOUR HOUSEHOLD A MEMBER OF A WATER USER ASSOCIATION (WUA) IN THIS YEAR OF 2015?	Yes.....1 No 2	

SECTION 5: LIVESTOCK ISSUES

NO	QUESTIONS	RESPONSE	SKIP
1000	DOES YOUR HOUSEHOLD HAVE ANY LIVESTOCK?	Yes.....1 No 2	2⇨1400 ***VERIFY THE RESPONDENT DOES NOT HAVE ANY***

	TYPE	E1 DOES YOUR HOUSEHOLD HAVE (*livestock*)		E2 NUMBER (QUANTITY)	E3 MARKET PRICE PER ANIMAL (MK)
		Y	**N**		
01	OX/BULL- LOCAL	1	2		
02	OX/BULL- IMPROVED	1	2		
03	COW - LOCAL	1	2		
04	COW- IMPROVED	1	2		
05	SHEEP	1	2		
06	GOAT- LOCAL	1	2		
07	GOAT- IMPROVED	1	2		
08	PIG-LOCAL	1	2		
09	PIG-IMPROVED	1	2		
10	DONKEY	1	2		
11	RABBIT	1	2		
12	TURKEY	1	2		
13	DUCK	1	2		
14	GUINEA FOWL	1	2		
15	PIGEON	1	2		
16	CHICKEN-LOCAL	1	2		
17	CHICKEN-IMPROVED	1	2		
96	OTHER SPECIFY	1	2		
96	OTHER SPECIFY	1	2		

SECTION 5A: LIVESTOCK FEEDING AND MANAGEMENT

NO	QUESTIONS	RESPONSE	SKIP
1100.	**WHAT ARE THE MAIN SOURCES** OF ANIMAL FEED FOR YOUR LIVESTOCK?	Free Grazing land ..... A Individual grazing land..... B Fodder crops ..... C Crop residue ..... D Weeds/thinning ..... E Hay ..... F Industrial by-products ..... G Other (*specify*) _____ X	
1101.	IS THERE SUFFICIENT ANIMAL FEED FOR YOUR HOUSEHOLD'S LIVESTOCK THROUGHOUT A YEAR WITH NORMAL RAINFALL?	Yes..... 1 No 2	
1102.	WHAT ARE THE MAIN SOURCES FOR WATERING LIVESTOCK OF YOUR HOUSEHOLD?	Stream/river ..... A Spring ..... B Well..... C Pond ..... D Borehole ..... E Other (*specify*) _____ X	
1103.	IS THERE SUFFICIENT WATER FOR YOUR HOUSEHOLD'S LIVESTOCK THROUGHOUT A YEAR WITH NORMAL RAINFALL?	Yes..... 1 No 2	
1104.	WHAT ARE THE MAIN LIVESTOCK PRODUCT(S) OF YOUR HOUSEHOLD?	Dairy ..... A Meat..... B Mutton..... C Skin/hide ..... D Egg ..... E Other (*specify*) _____ X	

SECTION 5B: LIVESTOCK PRODUCTS

6.1	WHAT IS/ARE THE MAIN LIVESTOCK PRODUCT(S) THAT YOUR HOUSEHOLD PRODUCES AND WHICH PROPORTION OF YOUR LIVESTOCK PRODUCTS IS USED FOR HOME CONSUMPTION OR SALE? **PA ZINTHU ZOMWE MUMAPEZA KUCHOKERA MU ZIWETO ZANU NDI ZOCHULUKA BWANJI ZIMENE MUMAGWIRITSA NTCHITO PAKHOMO KAPENA KUGULITSA?**				
		USE		**WHERE SOLD** 1 Local market 2 Vendor/trader 3 Elsewhere	
		HOME CONSUMPTION (%)	**Sale (%)**		
A	DAIRY				
B	MEAT				
C	MUTTON				
D	SKIN/HIDE				
E	EGG				
X	**OTHER**				

SECTION 5C3: LIVESTOCK MARKETS

NO	QUESTIONS	RESPONSE	SKIP
1300	DO YOU REGULARLY SELL YOUR LIVESTOCK?	Yes .....1 No 2	2⇨1400
1301	IF YES, WHAT IS THE MAIN REASON FOR SELLING LIVE ANIMALS?	Need for cash for purchasing food ..... A Investment ..... B Need cash for social reasons (i.e. wedding, Funeral, school fees, hospital) ..... C Repayment of loan ..... D Other (*specify*) _____ X	
1302	WHERE DOES YOUR HOUSEHOLD USUALLY SELL ITS LIVESTOCK PRODUCTS AND/OR LIVE ANIMALS?	Local market .....1 Vendor/trader .....2 Elsewhere 3	

SECTION 5D: ACCESS TO VETERINARY SERVICES

NO	QUESTIONS	RESPONSE	SKIP
1400.	DOES YOUR HOUSEHOLD HAVE ACCESS TO VETERINARY SERVICES?	Yes.....1 No 2	2⇨1402
1401.	IF YES, WHO PROVIDES VETERINARY SERVICES?	Cooperative ..... A Government veterinary staff ..... B NGO(s) ..... C Private veterinary service provider ..... D Other (*specify*) _____ X	
1402.	DOES YOUR HOUSEHOLD USE VETERINARY DRUGS?	Yes.....1 No 2	2⇨1404
1403.	IF YES, FROM WHOM COULD YOUR HOUSEHOLD BUY VETERINARY DRUGS?	Cooperative ..... A Government veterinary staff ..... B NGO(s) ..... C Private veterinary service provider ..... D Other (*specify*) _____ X	
1404.	IF NO, WHAT IS/ARE THE REASON(S) THAT YOUR HOUSEHOLD CANNOT EASILY PURCHASE VETERINARY DRUGS?	Too far ..... A Too expensive ..... B Not readily available ..... C Other (*specify*) _____ X	

SECTION 6: ACCESS TO WATER AND SANITATION

NO	QUESTIONS	RESPONSE	SKIP
1600	WHAT IS THE MAIN SOURCE OF DRINKING WATER FOR MEMBERS OF YOUR HOUSEHOLD?	Piped water into dwelling.....01 Piped into yard or plot.....02 Public tap/kiosk.....03 Borehole .....04 Protected shallow well .....05 Protected spring .....06 Rainwater collection .....07 Unprotected dug well.....08 Unprotected spring .....09 Pond, river or stream .....10 Other (*specify*) _____ 96	
1601	HOW LONG DOES IT TAKE TO GO THERE, GET WATER, AND COME BACK?	Number of minutes ……. Water on premises .....995 Don't know.....998	
1602	HOW DO YOU MAKE WATER SAFE FOR DRINKING IN YOUR HOUSEHOLD?	Boiling ..... A Chlorination/Waterguard..... B Covering the container ..... C Not required..... D Do not do anything ..... E **Filtering……** **……..F**Other (*specify*) _____ X	
1603	DOES YOUR HOUSEHOLD HAVE A PLATE DRYING RACK? (THANDALA LOYANIKIRAPO MBALE)	Yes.....1 No 2	
1604	DOES YOUR HOUSEHOLD HAVE A BATHING SHELTER?	Yes.....1 No 2	
1605	DOES YOUR HOUSEHOLD HAVE A DRYING LINE?	Yes.....1 No 2	
1606	DOES YOUR HOUSEHOLD HAVE A TOILET?	Yes.....1 No 2	2⇨1610
1607	WHAT KIND OF TOILET FACILITY DOES YOUR HOUSEHOLD USE? **MULI NDI CHIMBUDZI CHOTANI?**	Flush to sewage system or septic tank .....01 Improved pit latrine (e.g. VIP).....02 Traditional pit latrine .....03 Open pit .....04 Bucket.....05 No facilities or bush or field .....06 Other (*specify*) _____ 96	

SECTION 7: GENDER

SECTION 7A: GENDER AND DECISION MAKING AT HOUSEHOLD LEVEL

(PANO TIKAMBILANA ZA AMENE AMAGWIRITSA NTCHITO KAPENA AMAPANGA ZIGANIZO PA KATUNDU WOSIYANASIYANA WA PAKHOMO PANO)

NO	QUESTIONS	RESPONSE		SKIP
	KEY ASSETS	WHO IS THE MAIN USER OF THIS ASSET?	WHO IS THE MAIN DECISION MAKER ON BUYING AND SELLING THIS ASSET? ALI NDI MPHAMVU YOGULITSA NDI NDANI?	
1700	LAND	Male spouse. .....1 Female spouse/FHH .....2 Jointly .....3 Male child.....4 Female child.....5 Other members of the household.....6 Other (*specify*) _____99	Male spouse .....1 Female spouse/FHH.....2 Jointly.....3 Male child.....4 Female child.....5 Other members of the household.....6 Other (*specify*) _____ 99	
1701	OXCART	Male spouse. .....1 Female spouse/FHH .....2 Jointly .....3 Male child.....4 Female child.....5 Other members of the household.....6 Other (*specify*) _____99	Male spouse .....1 Female spouse/FHH.....2 Jointly.....3 Male child.....4 Female child.....5 Other members of the household.....6 Other (*specify*) _____ 99	
1702	TREADLE PUMP	Male spouse. .....1 Female spouse/FHH .....2 Jointly .....3 Male child.....4 Female child.....5 Other members of the household.....6 Other (*specify*) _____99	Male spouse .....1 Female spouse/FHH.....2 Jointly.....3 Male child.....4 Female child.....5 Other members of the household.....6 Other (*specify*) _____ 99	
1703	LARGE LIVESTOCK	Male spouse. .....1 Female spouse/FHH .....2 Jointly .....3 Male child.....4 Female child.....5 Other members of the household.....6 Other (*specify*) _____99	Male spouse .....1 Female spouse/FHH.....2 Jointly.....3 Male child.....4 Female child.....5 Other members of the household.....6 Other (*specify*) _____ 99	

NO	QUESTIONS	RESPONSE		SKIP
	KEY ASSETS	WHO IS THE MAIN USER OF THIS ASSET?	WHO IS THE MAIN DECISION MAKER ON BUYING AND SELLING THIS ASSET? ALI NDI MPHAMVU YOGULITSA NDI NDANI?	
1704	SMALL LIVESTOCK	Male spouse. .....1 Female spouse/FHH .....2 Jointly .....3 Male child.....4 Female child.....5 Other members of the household..... ....6 Other (*specify*) _____99	Male spouse ..... .1 Female spouse/FHH..... .2 Jointly..... .3 Male child.....4 Female child.....5 Other members of the household .....6 Other (*specify*) _____ 99	
1705	BICYCLE	Male spouse. .....1 Female spouse/FHH .....2 Jointly .....3 Male child.....4 Female child.....5 Other members of the household..... ....6 Other (*specify*) _____99	Male spouse ..... .1 Female spouse/FHH..... .2 Jointly..... .3 Male child.....4 Female child.....5 Other members of the household .....6 Other (*specify*) _____ 99	
1706	RADIO	Male spouse. .....1 Female spouse/FHH .....2 Jointly .....3 Male child.....4 Female child.....5 Other members of the household..... ....6 Other (*specify*) _____99	Male spouse ..... .1 Female spouse/FHH..... .2 Jointly..... .3 Male child.....4 Female child.....5 Other members of the household .....6 Other (*specify*) _____ 99	

DECISION MAKING (ALI NDI MPHAMVU PA ZINTHU ZIMENEZI NDI NDI NDANI, ONY MAIN PERSON?)

NO	QUESTION	RESPONSE	
1707.	WHICH MEMBER OF YOUR HOUSEHOLD USUALLY MAKES DECISIONS ABOUT MAKING LARGE HOUSEHOLD PURCHASES?	Male spouse..... 1 Female spouse/FHH… ..... 2 Jointly….. ..... 3 Male child.....4 Female child.....5 Other members of the household ..... 6 Other (*specify*) _____ 99	

DECISION MAKING (ALI NDI MPHAMVU PA ZINTHU ZIMENEZI NDI NDI NDANI, ONY MAIN PERSON?)

NO	QUESTION	RESPONSE	
1708.	WHICH MEMBER OF YOUR HOUSEHOLD USUALLY MAKES DECISIONS ABOUT MAKING HOUSEHOLD PURCHASES FOR DAILY NEEDS?	Male spouse..... 1 Female spouse/FHH… ..... 2 Jointly….. ..... 3 Male child……4 Female child……5 Other members of the household ..... 6 Other (*specify*) _____ 99	
1709.	WHICH MEMBER OF YOUR HOUSEHOLD USUALLY MAKES DECISIONS ABOUT HOW TO USE THE MONEY THAT THE MEN BRING TO THE HOUSEHOLD?	Male spouse..... 1 Female spouse/FHH… ..... 2 Jointly….. ..... 3 Male child……4 Female child……5 Other members of the household ..... 6 Other (*specify*) _____ 99	
1710.	WHICH MEMBER OF YOUR HOUSEHOLD USUALLY MAKES DECISIONS ABOUT HOW TO USE THE MONEY THAT THE WOMEN BRING TO THE HOUSEHOLD?	Male spouse .....1 Female spouse/FHH….....2 Jointly…..…..3 Male child……4 Female child……5 Other members of the household.....6 Other (*specify*) _____99	
1711.	WHICH MEMBER OF THE HOUSEHOLD DECIDES :		
1712.	WHICH CROPS TO GROW EACH YEAR?	Male spouse..... 1 Female spouse/FHH… ..... 2 Jointly….. ..... 3 Male child……4 Female child……5 Other members of the household ..... 6 Other (*specify*) _____ 99	
1713.	WHETHER TO PARTICIPATE IN THE SVIP OR NOT?	Male spouse..... 1 Female spouse/FHH… ..... 2 Jointly….. ..... 3 Male child……4 Female child……5 Other members of the household ..... 6 Other (*specify*) _____ 99	

DECISION MAKING (ALI NDI MPHAMVU PA ZINTHU ZIMENEZI NDI NDI NDANI, ONY MAIN PERSON?)			
NO	**QUESTION**	**RESPONSE**	
1714.	TO SELL CROPS?	Male spouse..... 1 Female spouse/FHH… ..... 2 Jointly….. ..... 3 Male child……4 Female child……5 Other members of the household ..... 6 Other (*specify*) _____ 99	
1715.	WHERE TO SELL CROPS?	Male spouse..... 1 Female spouse/FHH… ..... 2 Jointly….. ..... 3 Male child……4 Female child……5 Other members of the household ..... 6 Other (*specify*) _____ 99	
1716.			
1717.	TO RENT OUT OR IN LAND	Male spouse..... 1 Female spouse/FHH… ..... 2 Jointly….. ..... 3 Male child……4 Female child……5 Other members of the household ..... 6 Other (*specify*) _____ 99	
1718.	WHETHER TO USE CHEMICAL FERTILIZER OR NOT	Male spouse..... 1 Female spouse/FHH… ..... 2 Jointly….. ..... 3 Male child……4 Female child……5 Other members of the household ..... 6 Other (*specify*) _____ 99	
1719.	WHETHER TO USE ORGANIC FERTILIZER OR NOT?	Male spouse..... 1 Female spouse/FHH… ..... 2 Jointly….. ..... 3 Male child……4 Female child……5 Other members of the household ..... 6 Other (*specify*) _____ 99	

Enumerator's Remarks:

_____

Supervisor's Remarks:

_____

END OF QUESTIONNAIRE

Thanks for your participation!

Focus Group Discussion Checklist

Government of Malawi

MINISTRY OF AGRICULTURE, IRRIGATION AND WATER DEVELOPMENT

SHIRE VALLEY IRRIGATION PROJECET

COMMUNICATION, COMMUNITY PARTICIPATION, LAND TENURE AND RESETTLEMENT FRAMEWORK (CCPLTRF)

DRAFT CHECKLIST FOR FOCUS GROUP DISCUSSION WITH COMMUNITY MEMBERS, FARMERS AND OTHER INTEREST GROUPS

Date of FGD		**FGD Type**	**Number of participants**
District		**Male adult**	
TA		**Female adult**	
Village name		**Young female**[74]	
Name Village Head		**Young male**	
EA number		**Cluster Number**	
Name of Facilitator		**Signature of Facilitator**	
Name recorder/ note taker		**Signature recorder**	
Name of Quality Manager		**Signature of Quality Manager**	
General comments/observations by facilitator/note taker			

[7474] Young female / Young male are persons above the age of 18 to 35 years

INTRODUCTION

Welcome

Greet and welcome FGD participants. Explain that we are a team of researchers from COWI and CDM hired by the Government of Malawi to conduct research on the Shire Valley Irrigation Project. Part of the research is to hold meetings with all stakeholders to understand their views and priorities which will be used to design the SVIP. The project will cover this area as well hence the need to discuss with you and learn from you. This is why we are now here to hear and learn from you what you feel about this development initiative by the Government of Malawi. Be open. Because we are holding discussions with various stakeholders, we would like to record the discussion so that we do not forget your views.

My name is ..... and I will facilitate the discussions; we have ....., who will take notes and make other observations; and there is also....., who is the supervisor.

Group Consent

I WANT YOU TO KNOW THAT IF YOU DECIDE TO PARTICIPATE IN THIS FOCUS GROUP DISCUSSION (FGDS) YOUR CONTRIBUTION WILL BE KEPT PRIVATE. ALL OF THE ANSWERS WE GET FROM VARIOUS FGDS WILL BE PUT TOGETHER AND WILL NOT BE ATTRIBUTED TO A PARTICULAR FDG. ALSO I WILL NOT WRITE DOWN YOUR NAME AND WHERE YOU LIVE, AND THEREFORE THERE WILL BE NO WAY ANYONE CAN LINK WHAT YOU TELL ME TODAY WITH YOU INDIVIDUALLY AND THE FOCUS GROUP. IT IS UP TO YOU TO DECIDE IF YOU WANT TO PARTICIPATE IN THIS FGDS. IF YOU DECIDE TO PARTICIPATE IN THEFGDS, YOU CAN ANSWER SOME QUESTIONS OR REFUSE TO ANSWER ANY QUESTIONS YOU DON'T WANT TO ANSWER, OR WTHDRAW FROM THE FGDS COMPLETELY AT ANY TIME. HOWEVER,YOUR ANSWERS ARE IMPORTANT BECAUSE THEY WILL HELP GOVERNMENT OF MALAWI TO FORMULATE THE SVIP. BECAUSE YOUR OPINIONS AND VIEWS ARE IMPORTANT, I WOULD LIKE TO ASK YOU TO GIVE ME YOUR TRUE RESPONSES. ASK FOR PERMISSION TO TAKE A PHOTOGRAPH OF THE GROUP. DO YOU AGREE TO COLLECTIVELY PARTICIPATE IN THE FGDS TODAY?

Yes _____ 1 No _____ 0 ⇨ END INTERVIEW

TAKE A PHOTOGRAPH OF THE FGD.

TAKE THE GPS COORDINATES OF THE PLACE THE FGD IS HELD.

Explain that we will discuss a number of topics related to the SVIP

Topic 1: History of the village (5 minutes)

Let us start by discussing the history of this village:

1.1 When was this village established? Which group settled first and where did they come from?

1.2 Why did this group come here?

1.3 Why did they leave the former place?

1.4 Overtime have new groups of people settled in the village? And Why? How were they integrated? What problems arose and how were these addressed?

1.5 Since the village settlement what the population trend?

1.6 How has the population impacted on landholdings over the years? What has changed and what has not changed? Why have these things changed?

Topic 2: Agriculture, livestock and Food Security (20 MINUTES)

We would like to discus with you issues related to agriculture and food security in your area.

2.1 What are the most commonly grown crops used for food in your area? What are the main cash crops?

2.2 What are the main factors that affect production of food crops in your area? Discuss why and how those factors cause or affect crop production.
And whether these main factors that affect crop production are different for men, women, young men and young women.

2.3 What can be done to address the constraints?

2.4 What cultivation methods do you use? And why?

2.5 What are the most commonly kept livestock k in your area?
And whether the types of livestock kept are different for men, women, young men and young women

2.6 What challenges would you foresee with the coming in of the SVIP? Are these different for women, men, youth, or the poor? How should those challenges be addressed

2.7 What are the main factors that affect livestock production in your area? Discuss why and how those factors cause or affect livestock production. And whether these are different for men, women, young men and young women

2.8 What can be done to address the constraints?

2.9 What grazing methods do you use? And why?

2.10 What challenges would you foresee with the coming in of the SVIP? Are these different for women, men, youth, the poor? How should those challenges be addressed?

2.11 Access to and use of livestock services and dip tanks. Constraints in access and strength and challenges

Name livestock	What they do	Used	Strengths	Challenges/Areas	Their	Support

extension service/ dip tanks		**(how often, by which groups?)**		**for improvement**	**potential role in SVIP**	**needed to address challenges**

Topic 3: Land tenure and use (15 Minutes)

We would like to discus with you how land in managed and used in your area by different user groups.

3.1 Can you describe the types of land tenure which exist in your area/village?

3.2 Out of the land tenure types you have identified, which one is predominant?

3.3 Generally in this community, how do men here use their land?

3.4 Generally in this community, how do women use their land?

3.5 Generally in this community, how do young male people use their land?

3.6 Generally in this community, how do young female use their land?

3.7 Generally in this community, how do the very poor use their land?

3.8 Generally in this community, how do the better off and the rich use their land?

3.9 If there are differences between how men and women use their land, why are these differences in your view?

3.10 If there are differences between how young men and young women use their land, in you view, why are these differences?

3.11 How are land disputes handled? Formally? Informally? By whom? Are these different for women/man/female youth, male youth, poor and more wealthy?

3.12 For a couple, in whose name should land be registered? A man, a woman or both? What would be the advantages of registering land in the name of both man and woman?

3.13 Should land of minors be registered in their name? What would be the advantages?

Topic 4: Land Allocation (15 minutes)

We would like to discus with you how land is allocated in your area by different user groups.

4.1 If someone wants land in your village, what process does he or she need to follow in your village?

4.2 Describe the process for the following land uses:

Land use	**Process for allocation**
Settlement	
Garden/farming	
Irrigation	
Grazing,	
Business shop etc.	
Forestry	

4.3 Is the process the same for different people, including the women, men, poor, youth and the rich? If there are differences, what are the differences?

4.4 What are the main challenges that people face when accessing land for any type of use?

4.5 How are these challenges addressed?

Your views (5 Minutes) *(This information can be obtained from all respondents)*

Finally, we have come to the end of the discussions; do you have any views in general or about the project in particular?

Government of Malawi

MINISTRY OF AGRICULTURE, IRRIGATION AND WATER DEVELOPMENT

SHIRE VALLEY IRRIGATION PROJECET

COMMUNICATION, COMMUNITY PARTICIPATION, LAND TENURE AND RESETTLEMENT FRAMEWORK (CCPLTRF)

DRAFT CHECKLIST FOR FOCUS GROUP DISCUSSION WITH COMMUNITY MEMBERS, FARMERS AND OTHER INTEREST GROUPS

Date of FGD		**FGD Type**	**Number of participants**
District		**Male adult**	
TA		**Female adult**	
Village name		**Young female**[75]	
Name Village Head		**Young male**	
EA number		**Cluster Number**	
Name of Facilitator		**Signature of Facilitator**	
Name recorder/ note taker		**Signature recorder**	
Name of Quality Manager		**Signature of Quality Manager**	
General comments/observations by facilitator/note taker			

[7575] Young female / Young male are persons above the age of 18 to 35 years

INTRODUCTION

Welcome

Greet and welcome FGD participants. Explain that we are a team of researchers from COWI and CDM hired by the Government of Malawi to conduct research on the Shire Valley Irrigation Project. Part of the research is to hold meetings with all stakeholders to understand their views and priorities which will be used to design the SVIP. The project will cover this area as well hence the need to discuss with you and learn from you. This is why we are now here to hear and learn from you what you feel about this development initiative by the Government of Malawi. Be open. Because we are holding discussions with various stakeholders, we would like to record the discussion so that we do not forget your views.

My name is ..... and I will facilitate the discussions; we have ....., who will take notes and make other observations; and there is also....., who is the supervisor.

Group Consent

I WANT YOU TO KNOW THAT IF YOU DECIDE TO PARTICIPATE IN THIS FOCUS GROUP DISCUSSION (FGDS) YOUR CONTRIBUTION WILL BE KEPT PRIVATE. ALL OF THE ANSWERS WE GET FROM VARIOUS FGDS WILL BE PUT TOGETHER AND WILL NOT BE ATTRIBUTED TO A PARTICULAR FDG. ALSO I WILL NOT WRITE DOWN YOUR NAME AND WHERE YOU LIVE, AND THEREFORE THERE WILL BE NO WAY ANYONE CAN LINK WHAT YOU TELL ME TODAY WITH YOU INDIVIDUALLY AND THE FOCUS GROUP. IT IS UP TO YOU TO DECIDE IF YOU WANT TO PARTICIPATE IN THIS FGDS. IF YOU DECIDE TO PARTICIPATE IN THEFGDS, YOU CAN ANSWER SOME QUESTIONS OR REFUSE TO ANSWER ANY QUESTIONS YOU DON'T WANT TO ANSWER, OR WTHDRAW FROM THE FGDS COMPLETELY AT ANY TIME. HOWEVER,YOUR ANSWERS ARE IMPORTANT BECAUSE THEY WILL HELP GOVERNMENT OF MALAWI TO FORMULATE THE SVIP. BECAUSE YOUR OPINIONS AND VIEWS ARE IMPORTANT, I WOULD LIKE TO ASK YOU TO GIVE ME YOUR TRUE RESPONSES. ASK FOR PERMISSION TO TAKE A PHOTOGRAPH OF THE GROUP. DO YOU AGREE TO COLLECTIVELY PARTICIPATE IN THE FGDS TODAY?

Yes _____ 1 No _____ 0 ⇨ END INTERVIEW

TAKE A PHOTOGRAPH OF THE FGD.

TAKE THE GPS COORDINATES OF THE PLACE THE FGD IS HELD.

Topic 5: Re-allocation of land for the SVIP (15 minutes) KAGAWIDWE KA MALO

We would like to discus with you issues very sensitive issues about land re-allocation and resettlement.

5.1 How should land for irrigation be re-allocated?

5.2 How should the land be valued? What criteria should be used? e.g. the value of the land or same size of land or same fertility of total land?

5.3 Who should be involved and decide on the re-allocation of land?

5.4 What should happen to people who do not want to participate in the irrigation project?

5.5 If not satisfied with land re-allocation and compensation processes, where should the affected people lodge their complaints?

5.6 In your opinion, which groups of people are likely to be affected most by the re-allocation of land? And what are the reasons?

	Male	**Female**	**Young Male**	**Young Female**	Poor
Most affected					
Reason/s					

Topic 6: Resettlement due to SVIP (15 minutes)

We would like to discuss with you issues very sensitive issues about resettlement of some people as a result of implementation of the SVIP.

6.1 A few people will have to move to make place for the infrastructure such as canals. Roads, pumping station. How should these people be compensated?

6.2 What criteria should be used to value the land?

6.3 Who should implement the resettlement and compensation process?

6.4 In your view, what steps should be followed in resettling people?

6.5 What should be considered when resettling project affected people? (How should the resettlement be carried out?)

6.6 If not satisfied with land resettlingand compensation processes, where should the affected people lodge their complaints?

6.7 In your opinion, which groups of people are likely to be affected most by the resettlement? And what are the reasons?

Action/Reason	Male	Female	Young Male	Young Female	Poor Osauka
Resettlement Kusamutsidwa kupita malo ena					
Reason/s Zifukwa					

6.8 What can be done about each of the issues mentioned? Should it be different for women, men, young females and young males?

Topic 7: Irrigation (15 Minutes)

We would like to discus with you issues related to irrigation in your village/community.

7.1 Are there any members of your community that are involved in irrigation?

7.2 Are you involved in irrigation yourself?

7.3 For those not involved, why are they not involved? What factors constrain people from engaging in irrigation? Explain each factor in detail for each group

Group	Current participation (High Medium and Low)	Reasons for limited or low or no participation	Reasons for high participation	Reasons for medium particiption
Women				
Men				
Young men				
Young women				
Poor people				
Not poor and not rich				
Rich people				

7.4 For those involved, how did they start to engage in irrigation? What motivated them? Did they get help to start the irrigation scheme? From whom?

7.5 In your view what are the benefits of irrigation?

7.6 How do people (men, women, young men and young women) generally get messages on irrigation? What are the main advantages and disadvantages of using this? What is the most important way that you would like to get irrigation messages?

7.7 What irrigation issues/challenges are particularly pertinent to your subgroup (female, male, youth-female and youth-male)?

7.8 How do you think such challenges can be addressed?

Topic 8: Community Participation in the SVIP (20 Minutes)

We would like to discus with you issues to do with community participation in the SVIP programme.

8.1 What is your opinion on proposed SVIP?

8.2 How would the SVIP benefit females, males, youth-males and youth-females?

8.3 How would the SVIP benefit the poor?

8.4 If the SVIP is to be successful and help the poor, what do you think should be done?

8.5 In your view, how should people participate with their land in the SVIP? Are there differences for the participation of male, female, young male and young female? How do you explain the difference responses?

8.6 If you participated in the SVIP, how many of you are willing to jointly register land? Disaggregate response by male, female, young male and young female.

8.7 How do you think about joint land registration for a married couple?

8.8 How should the management of SVIP be organised – farmer managed, hire organization to assist in the interim or continuously? How do you explain your choice?

Topic 9: SVIP Management

We would like to discuss irrigation management of the SVIP. This is an opportunity for you to express your views and opinions on how you would like the SVIP to be managed.

9.1 In your opinion, how should the SVIP be organised? What type of organisation (Cooperative, Trust, WUA, company, etc.) would you prefer? Justify your preference.

9.2 How should shares of each farmer in the irrigation organisation be determined? According to land size? Level of investment? Level of farming, subsistence or commercial? Type of crops grown, food or cash crops?

9.3 How should the size of the irrigation blocks should be determined? Number of farmers per a block? Hectarage? Or technical manageability?

9.4 Who should manage and farm the irrigation block:

- Farmers themselves
- Management company initially whilst the farmers are learning
- Management company always

Justify your preference/s.

9.5 What crops should be grown?

- Commercial crops only? If yes which ones?
- Subsistence crops only? How can the cost of the project be recovered?
- Mixture of commercial and subsistence crops? If yes, what percentage commercial and subsistence crops?
- How should livestock owners be treated in the irrigation scheme? Limit the number of livestock kept within the irrigation project area? Allowed to grow livestock fodder?

9.6 What is your opinion on paying for water and other services to be provided by the SVIP management?

9.7 How much would farmers be willing to pay for irrigation water for one acre of land per month? Could they afford more?

Your views (5 Minutes) *(This information can be obtained from all respondents)*

Finally, we have come to the end of the discussions; do you have any views in general or about the project in particular?

COWI

Government of Malawi

MINISTRY OF AGRICULTURE, IRRIGATION AND WATER DEVELOPMENT

SHIRE VALLEY IRRIGATION PROJECET

COMMUNICATION, COMMUNITY PARTICIPATION, LAND TENURE AND RESETTLEMENT FRAMEWORK (CCPLTRF)

DRAFT CHECKLIST FOR FOCUS GROUP DISCUSSION WITH COMMUNITY MEMBERS, FARMERS AND OTHER INTEREST GROUPS

Date of FGD		**FGD Type**	**Number of participants**
District		**Male adult**	
TA		**Female adult**	
Village name		**Young female**[76]	
Name Village Head		**Young male**	
EA number		**Cluster Number**	
Name of Facilitator		**Signature of Facilitator**	
Name recorder/ note taker		**Signature recorder**	
Name of Quality Manager		**Signature of Quality Manager**	
General comments/observations by facilitator/note taker			

[7676] Young female / Young male are persons above the age of 18 to 35 years

INTRODUCTION

Welcome

Greet and welcome FGD participants. Explain that we are a team of researchers from COWI and CDM hired by the Government of Malawi to conduct research on the Shire Valley Irrigation Project. Part of the research is to hold meetings with all stakeholders to understand their views and priorities which will be used to design the SVIP. The project will cover this area as well hence the need to discuss with you and learn from you. This is why we are now here to hear and learn from you what you feel about this development initiative by the Government of Malawi. Be open. Because we are holding discussions with various stakeholders, we would like to record the discussion so that we do not forget your views.

My name is ..... and I will facilitate the discussions; we have ....., who will take notes and make other observations; and there is also....., who is the supervisor.

Group Consent

I WANT YOU TO KNOW THAT IF YOU DECIDE TO PARTICIPATE IN THIS FOCUS GROUP DISCUSSION (FGDS) YOUR CONTRIBUTION WILL BE KEPT PRIVATE. ALL OF THE ANSWERS WE GET FROM VARIOUS FGDS WILL BE PUT TOGETHER AND WILL NOT BE ATTRIBUTED TO A PARTICULAR FDG. ALSO I WILL NOT WRITE DOWN YOUR NAME AND WHERE YOU LIVE, AND THEREFORE THERE WILL BE NO WAY ANYONE CAN LINK WHAT YOU TELL ME TODAY WITH YOU INDIVIDUALLY AND THE FOCUS GROUP. IT IS UP TO YOU TO DECIDE IF YOU WANT TO PARTICIPATE IN THIS FGDS. IF YOU DECIDE TO PARTICIPATE IN THEFGDS, YOU CAN ANSWER SOME QUESTIONS OR REFUSE TO ANSWER ANY QUESTIONS YOU DON'T WANT TO ANSWER, OR WTHDRAW FROM THE FGDS COMPLETELY AT ANY TIME. HOWEVER,YOUR ANSWERS ARE IMPORTANT BECAUSE THEY WILL HELP GOVERNMENT OF MALAWI TO FORMULATE THE SVIP. BECAUSE YOUR OPINIONS AND VIEWS ARE IMPORTANT, I WOULD LIKE TO ASK YOU TO GIVE ME YOUR TRUE RESPONSES. ASK FOR PERMISSION TO TAKE A PHOTOGRAPH OF THE GROUP. DO YOU AGREE TO COLLECTIVELY PARTICIPATE IN THE FGDS TODAY?

Yes _____ 1 No _____ 0 ⇨ END INTERVIEW

TAKE A PHOTOGRAPH OF THE FGD.

TAKE THE GPS COORDINATES OF THE PLACE THE FGD IS HELD.

TOPIC 10: CAPACITY AND INSTITUTIONAL ASSESSMENT (20 MINUTES)

We would like to discus with you which institutions provide services to your community and how you think these should be involved in the SVIP.
Tsopano tikambilane za mabungwe osiyanasiyana omwe amagwila ntchito ku dera lino komanso mukuganiza kuti mabungwe amenewa azagwila ntchito ndi project ya mthilira motani

List all organisations that are providing various services to your village/GVH at the moment.
Tchulani mabungwe onse omwe akugwila ntchito zosiyanasiyana mmudzi muno komanso dera la agulupu pakadali pano.

Name of organisation/institution? Dzina la bungwe	**What services do they provide** Amapanga chani	Power status(VP =Very powerful, P=Powerful, NP=Not Powerful) **Mphanvu zake**	**How many people are participating?** Ndi a anthu angati amene akutengapo mbali			**What challenges do you face working with this organization** Ndizovuta zanji zomwe mukukumana nazo pogwila ntchito ndi bungwe limeneri	**What could be done to address these challenges** Mavuto amenewa mungathane nawo bwa**nji?**
			Men abambo	**Women** amayi	**Youth** achinyamata		
Government related institutions Mabungwe a boma							

Name of organisation/institution? Dzina la bungwe	**What services do they provide** Amapanga chani	Power status(VP =Very powerful, P=Powerful, NP=Not Powerful) **Mphanvu zake**	**How many people are participating?** Ndi a anthu angati amene akutengapo mbali			**What challenges do you face working with this organization** Ndizovuta zanji zomwe mukukumana nazo pogwila ntchito ndi bungwe limeneri	**What could be done to address these challenges** Mavuto amenewa mungathane nawo bwa**nji?**
			Men abambo	**Women** amayi	**Youth** achinyamata		
Civil society organizations **Mabungwe omwe si a boma**							
Community-based institutions Mabungwe a kumidzi							

Name of organisation/institution? Dzina la bungwe	**What services do they provide** Amapanga chani	Power status(VP =Very powerful, P=Powerful, NP=Not Powerful) **Mphanvu zake**	**How many people are participating?** Ndi a anthu angati amene akutengapo mbali			**What challenges do you face working with this organization** Ndizovuta zanji zomwe mukukumana nazo pogwila ntchito ndi bungwe limeneri	**What could be done to address these challenges** Mavuto amenewa mungathane nawo bwa**nji?**
			Men abambo	**Women** amayi	**Youth** achinyamata		

SWOT ANALYSIS

What are the mains strengths of this community in terms of development activities?

Mphanvu zenizeni za deralino pankhani ya chitukuko ndi zotani?

What are the main weaknesses of this community in terms of development activities?

Zofooka zenizeni za dera lino pa nkhani ya chitukuko ndi zotani?

What are the main opportunities for strengthening collaboration with various institutions in this area?

Pali mwayi otani olimbikitsa mgwilizano ndi mabungwe osiyanasiyana mdera lino

What are the risks that may weaken the collaborating with various institutions in this area?

Ndizopinga/ ndiziopsyezo zanji zomwe zingasokonezekapena kufooketsa mgwilizano ndi mabungwe osiyanasiyana mdera lino

What do you think needs to be done to build the capacity of this community to effectively facilitate development activities?

Mukuganiza kuti pachitike chani cholimbikitsa kuthekera kwa anthu a mdera lino popangitsa ntchito za chitukuko mwadongosolo

Institutions that are not active in the community, but there services are highly demanded by the community
Mabungwe omwe aliko mdera lino komwe ntchito zawo sizioneka, koma inu mmazifunitsitsa. Enaso okuti kuno kwanu kulibe koma inu ntchito zawo mmazifuna

List all organisations that are providing various services to your village/GVH at the moment.
Tchulani mabungwe onse omwe akugwila ntchito zosiyanasiyana mdera lino komanso dera la a gulupu anu pakadali pano.

Name of organisation/institution? Dzina la bungwe	**What services do they provide** Amapanga chani	Power status(VP =Very powerful, P=Powerful, NP=Not Powerful) **Mphanvu nzawo**	**Demand level** **Highly demanded=HD** **Medium Demand=MD** **Low demand=LD** Kufunika kwake	**What could SVIP do to bring these institutions to the community** Kodi project ya nthilirayi ingachitepo chain kuti ibweretse mabungwewa
Government related institutions Mabungwe a boma				
Civil society organizations Mabungwe omwe si aboma				
Community-based institutions Mabungwe a ku midzi				

Key Informant Interview Checklist

COWI

Government of Malawi

MINISTRY OF AGRICULTURE, IRRIGATION AND WATER DEVELOPMENT
SHIRE VALLEY IRRIGATION PROJECET

COMMUNICATION, COMMUNITY PARTICIPATION, LAND TENURE AND RESETTLEMENT FRAMEWORK (CCPLTRF)
DRAFT KEY INFORMANT INTERVIEW CHECKLIST FOR KEY INFORMANTS

Date of Interview		**Name of Key informant**	
District		**Title**	
TA		**Organisation**	
Village		**Telephone Number**	
Name Village Head		**EA number**	
Name interviewer		**Gender Interviewee (MA, FA, YF, YM)**	
General comments/observations by facilitator/note taker			

You will interview:

1. *Traditional Leaders (VHM, GVHM),*
2. *Politicians (MP, Councillors),*
3. *District Officials – 1) District Lands Officer, 2) District Commissioner (DC), 3) District Agriculture Officer (DAO),*
4. *Agribusinesses: 1) ILOVO, 2) AgricCane (Ethanol Company),*
5. *Irrigation Schemes in and around the project : 1) Nchalo Estate of Illovo, 2) Kasintuhula, 3) Phata SugarCane Cooperative, 4) AgriCane Sugarcanse estate, 5) DCGL,*
6. *Farmers organisations: 1) Livestock Farmers Association, 2) Rice Growers Association, 3) Women Farmers Groups, 4) Groups under IGA project,*

INTRODUCTION

Welcome

Greet and welcome KII participant. Explain that we are a team of researchers from COWI and CDM hired by the Government of Malawi to conduct research on the Shire Valley Irrigation Project. Part of the research is to hold meetings with key informants in order to have their in depth views on some issues surrounding the SVIP. Such information could be used in designing the SVIP and how the project will be implemented. The project will cover

this area as well hence the need to discuss with you and learn from you. Be open. Because we are interviewing many key informants, we would like to take notes of the discussion so that we do not forget your views.

My name is ..... and I will facilitate the discussions; we have ....., who will take notes and make other observations; and there is also....., who is the supervisor.

Key Informant Consent

I WANT YOU TO KNOW THAT IF YOU DECIDE TO PARTICIPATE IN THIS KEY INFORMANT INTERVIEW (KII) AND ANSWER QUESTIONS, WHAT YOU TELL ME WILL BE KEPT PRIVATE. ALL THE ANSWERS WE GET FROM VARIOUS KIIS WILL BE PUT TOGETHER SO THAT NO ONE WILL KNOW WHAT YOU TOLD ME. AND THERE WILL BE NO WAY ANYONE CAN LINK WHAT YOU TELL ME TODAY WITH YOU. IT IS UP TO YOU TO DECIDE IF YOU WANT TO PARTICIPATE IN THIS KII. YOU DECIDE TO ANSWER ANY OR SOME QUESTIONS; YOU CAN ALSO REFUSE TO ANSWER ANY QUESTIONS YOU DON'T WANT TO ANSWER, OR STOP THE KII COMPLETELY AT ANY TIME. HOWEVER,YOUR ANSWERS ARE IMPORTANT BECAUSE THEY WILL HELP THE GOVERNMENT OF MALAWI TO FORMULATE THE SVIP. BECAUSE YOUR OPINIONS AND VIEWS ARE IMPORTANT, I WOULD LIKE TO ASK YOU TO GIVE ME YOUR TRUE RESPONSES. DO YOU AGREE TO PARTICIPATE IN THE KII TODAY?

☐ *Yes, permission is given ⇨Begin Interview.*
☐ *No, permission is not given ⇨End Interview.*

[**NOTE THAT INTRODUCTION AND KEY INFORMANT CONSENT WILL APPLY TO ALL KIIS**]

QUESTIONS TO ALL KEY INFORMANTS

Explain that we will discuss five very short topics, including but not limited to land, land allocation and resettlementin the SVIP

Topic 1: Land administration

1.1 What is current land tenure system in your area/your district?
1.2 How is land managed in your area/district?
1.3 What do you know about the proposed land tenure under the proposed SVIP?
1.3 What are your views on land tenure under the proposed SVIP? And why?
1.4 Any example/s within your area/district where land tenure changed as a result of irrigation scheme/s?
1.5 How did that affect the people? Was the effect different for women, or men and the youth? In what way was it different? Why?
1.6 What can SVIP do differently?

Topic 2: Land allocation

You will interview Traditional Leaders (VHM, GVHM), Politicians (MP, Councillors), District Lands Officer, District Commissioner (DC), District Agriculture Officer (DAO), ILOVO, Ethanol Company, Phata Sugar Company, DCGL, Livestock Farmers Association, Rice Growers Association, Women Farmers Group, Groups under IGA project, Livestock Association (for Chikhwawa and Nsanje), Other irrigation schemes within and around the project area, Agricane Company Limited

2.1 How is land allocation done in your area/district with respect to: grazing, settlement, farming (including irrigation)?
2.2 How would you ensure that land allocation to female-headed, male-headed and child-headed households is fair?
2.2 How would you ensure that land allocation to the poor households is fair?
2.3 Who should have any role in land allocation in the SVIP?
2.4 What kind of role should chiefs, politicians, and religious leaders play in land allocation under the SVIP?

Topic 3: Resettlement

You will interview Traditional Leaders (VHM, GVHM), Politicians (MP, Councillors), District Lands Officer, District Commissioner (DC), District Agriculture Officer (DAO), ILOVO, Ethanol Company, Phata Sugar Company, DCGL, Livestock Farmers Association, Rice Growers Association, Women Farmers Group, Groups under IGA project, Livestock Association (for Chikhwawa and Nsanje), Other irrigation schemes within and around the project area, Agricane Company Limited

3.1 Have you had any experiences whereby you had to move people in your area/district to other places? Can you explain those experiences?

3.3 Are you aware that government might resettle some people in order to order to pave way for the SVIP infrastructure such as canals, roads, pumping station etc. How should these people be compensated? What criteria should be used to value the land?
3.4 Who should implement the resettlement and compensation process?
3.5 In your view, what steps should be followed in resettling people?
3.6 What factors or safeguards should be considered when resettling project affected people?
3.7 If not satisfied with land re-allocation and compensation processes, where should the affected people lodge their complaints?
3.8 What support should the government render to the resettled people and for how long?

Topic 4: Irrigation block management

You will interview Traditional Leaders (VHM, GVHM), Politicians (MP, Councillors), District Lands Officer, District Commissioner (DC), District Agriculture Officer (DAO), ILOVO, Ethanol Company, Phata Sugar Company, DCGL, Livestock Farmers Association, Rice Growers Association, Women Farmers Group, Groups under IGA project, Livestock Association (for Chikhwawa and Nsanje), Other irrigation schemes within and around the project area, Agricane Company Limited

4.1 In your opinion, how should the SVIP be organised? What type of organisation (Cooperative, Trust, WUA, company, etc.) would you prefer? Justify your preference.
4.2 How should shares of each farmer in the irrigation organisation be determined? According to land size? Level of investment? Level of farming (subsistence or commercial?) Type of crops grown (food or cash crops?)
4.3 How should the size of the irrigation blocks be determined? By number of farmers per a block? Hectarage? Or by technical manageability?
4.4 Who should manage and farm the irrigation block:
- Farmers themselves
- Management company initially whilst the farmers are learning
- Management company always

Justify your preference/s.

4.5 What crops should be grown in the irrigation blocks?
- Commercial crops only? If yes which ones?
- Subsistence crops only? How can the cost of the project be recovered?
- Mixture of commercial and subsistence crops? If yes, what percentage commercial and subsistence crops?
- How should livestock owners be treated in the irrigation scheme? Limit the number of livestock kept within the irrigation project area? Allowed to grow livestock fodder?

4.6 How much would farmers be willing to pay for irrigation water for one acre of land per month? Could they afford more?

Topic 5: Capacity and institutional assessment

You will interview Traditional Leaders (VHM, GVHM), Politicians (MP, Councillors), District Lands Officer, District Commissioner (DC), District Agriculture Officer (DAO), Livestock Farmers Association, Rice Growers Association, Women Farmers Group, Groups under IGA project, Livestock Association (for Chikhwawa and Nsanje)

5.1 What are the key primary and secondary organizations and institutions currently operating in the irrigation in the district and community level? Where are they located and what are their roles?

Type of organization	Names of the organizations or institutions	Location	Their roles
1. Primary			
2. Secondary			

5.2 What is your assessment of the overall performance of these institutions/organizations in irrigation in the area?
5.3 What are their overall capacity constraints?
5.4 What are their training capacity needs to better support SVIP?
5.5 What are their technical capacity needs to better support SVIP?
5.6 What are their leadership capacity needs to better support SVIP?
5.7 What are the existing societal/cultural norms and practices that support implementation of the SVIP?
5.8 What are the existing societal/cultural norms and practices that have potential to hinder implementation of the SVIP?
5.9 What should be done to address these norms in respect of SVIP?

Key Informant: District Irrigation Officer

Explain that we will discuss about three very short topics, including but not limited to land, tenure, plot allocation and irrigation management in the SVIP.

Topic 1: Land tenure

1.1 What type of land tenure prevails in government irrigation schemes?
1.2 Did communities react in any way? What was the reaction? And how did you deal with it?
1.3 What is government planned land tenure for the SVIP? And why?

Topic 2: Land re-allocation

2.1 Do you have any experiences with land allocation? If yes, what are your experiences?
2.2 What plot allocation system prevails in government irrigation schemes?
2.3 What are your recommendation regarding land re-allocation for the SVIP
- How should it be done?
- Who should be doing the land re-allocation?
- How should the system ensure that women, men, youth and poor are all treated fairly?
- What criteria should be used to valuate land?
- How should people who do not wish to participate in the SVIP be treated?

2.4 What are your recommendations on grievance redress mechanisms for the SVIP?
- How should it be done?
- Who should be doing the grievance redress?
- How should the system ensure that women, men, youth and poor are all treated fairly?
- What should be the appeal mechanism?

Topic 3: Resettlement

3.1 Do you have any experiences with resettlement? If yes, what are your experiences?
3.2 What are your recommendation regarding land resettlement for the SVIP
- How should it be done?
- Who should be doing the land resettlement?
- How to ensure that women, men, youth and poor are all treated fairly?
- What criteria should be used to valuate land?
- How should they be compensated for the loss of land?

3.3. What are your recommendations on grievance redress mechanisms for the SVIP?
- How should it be done?
- Who should be doing the grievance redress?
- How to ensure that women, men, youth and poor are all treated fairly?
- What should be the appeal mechanism?

Topic 4: Irrigation Management

4.1 What operational arrangements are in place for existing government irrigation schemes?
4.2 What operational system for the SVIP do you recommend?How will farmers be organised?
4.3 What role will farmers play in the management of the SVIP?
4.5 What role will farmers play towards payment for the cost of the project?
3.6 How will SVIP management ensure that farmers are charged fairly for water usage and services to be provided by the project?
3.7 What size do you recommend for an irrigation block? In hectares and in number of farmers. What is the rationale for that?
3.8 What support do farmers need to establish their management?
3.9 What support is needed to enter into commercial farming? What organizations could provide that support? What are their strengths and areas for improvement? What capacity development do the organizations need?

Topic 5: Capacity and institutional assessment

5.1 What are your highest irrigation related academic qualifications and which year did you attain them?
5.2 What are your highest other non-irrigation related academic qualifications and which year did you attain them?
5.3 What is your competence level in the following skill areas on a scale of 1-5 (1 being lowest, 5 being highest):

1. Project development and management
2. Participatory farmer engagement and planning capacities
3. Demand driven extension capacities
4. Irrigation water management
5. Irrigation maintenance support capacities
6. Financing and contract management capacities
7. Project development and evaluation capacities
8. Costing capacities
9. Strategic management capacities
10. Participatory demand- and market-driven development planning
11. Financial management capacities
12. Human resources management capacities
13. Communication between management and farmers/farmer groups
14. Establishing commercial farming (transition from subsistence to commercial farming
15. Establishing management entities and capacities
16. Contract management
17. Monitoring and Evaluation
18. Gender mainstreaming
19. Financial management
20. Training skills

5.4 What would you say are your three priority training needs or areas (from the list in 4.3) for you to improve performance in your present position and irrigation scheme management as a whole?
5.5 What are the critical non-training related interventions that could compliment the training efforts in your position? (Examples may include lesson learning workshops, regular M&E sessions, exchange visits, appropriate guidance manuals, regular meetings that address commonly experienced skills requiring training)
5.6 What do you think are the drivers of poverty in the shire valley?
5.7 What are the drivers of wealth in the shire valley?
5.8 Between men and women, who do you think is mostly affected by poverty in the project area?
5.9 Between boys and girls, who do you think is mostly affected by poverty in the project area?

5.10 What do you think are the poverty impacts on women in the project area? What can be done to address them?
5.11 What is your source of information on agriculture production in the project area? (Examples include Training, Radio, TVM, Literature, Extension worker, Fellow farmer, etc.)
5.12 What is the ONE most preferred source of information on agriculture production in the project area?

Key Informant: District Agricultural Officer

Explain that we will discuss about three very short topics, including but not limited to crop production, marketing and extension service issues, in the SVIP

Topic 1: Crops

1.1 What crops do farmers grow in the proposed project area? Which are main food and cash crops?
1.2 What were crop yields for 2014/15 season?What are potential yields for main crops? And how do you explain the difference?
1.3 What challenges are there for crop production? How will the challenges be addressed? And what will be the role of irrigation in this regard?
1.4 What are the three main commercial crops with the highest income generating potential now and over ten years?

Topic 2: Marketing

2.1 How do you describe marketing of agricultural produce in the proposed project area?
2.2 What types of markets and how many of each are available in the area? And how reliable are the markets?
2.3 What effect has marketing had on agriculture development in the area?
2.4 What challenges do farmer experience in marketing their produce? How can the challenges be addressed?

Topic 3: Poverty Reduction

3.1 How do you characterize poverty in the district/proposed SVIP area?
3.2 How does it affect female headed, male headed and child/youth headed households?
3.3 What role would the SVIP play in poverty reduction in the project area and beyond?

Topic 4: Extension services

4.1 What type of extension services are available within this area (agriculture, livestock, farmer organization)?
4.2 How do you characterize extension services in your area of operation?
4.3 What are key challenges?
4.4 How will the coming of the SVIP affect provision of extension services?
4.5 What measures/steps should be put in place to ensure effective extension services in SVIP?

Topic 5: Capacity and institutional assessment

5.1 What are your highest agriculture related academic qualifications and which year did you attain them?
5.2 What are your highest other non-agriculture related academic qualifications and which year did you attain them?
5.3 What is your competence level in the following skill areas on a scale of 1-5 (1 being lowest, 5 being highest):

1. Project development and management
2. Participatory farmer engagement and planning capacities
3. Demand driven extension capacities
4. Financing and contract management capacities
5. Project development and evaluation capacities
6. Costing capacities
7. Strategic management capacities

8. Participatory demand- and market-driven development planning
9. Financial management capacities
10. Human resources management capacities
11. Communication between management and farmers/farmer groups
12. Establishing commercial farming (transition from subsistence to commercial farming
13. Establishing management entities and capacities
14. Contract management
15. Monitoring and Evaluation
16. Gender mainstreaming
17. Financial management
18. Training skills

5.4 What would you say are your three priority training needs or areas (from the list in 4.3) for you to improve performance in your present position?
5.5 What are the critical non-training related interventions that could compliment the training efforts in your position? (Examples may include lesson learning workshops, regular M&E sessions, exchange visits, appropriate guidance manuals, regular meetings that address commonly experienced skills requiring training)
5.6 What do you think are the drivers of poverty in the shire valley?
5.7 What are the drivers of wealth in the shire valley?
5.8 Between men and women, who do you think is mostly affected by poverty in the project area?
5.9 Between boys and girls, who do you think is mostly affected by poverty in the project area?
5.10 What do you think are the poverty impacts on women in the project area? What can be done to address them?
5.11 What is your source of information on agriculture production in the project area? (Examples include Training, Radio, TVM, Literature, Extension worker, Fellow farmer, etc.)
5.12 What is the ONE most preferred source of information on agriculture production in the project area?

Key Informant: District Veterinary Officer/Animal Husbandry Officer

Explain that we will discuss about five very short topics, including but not limited to livestock population, marketing and disease control issues, in the SVIP area

Topic 1: Livestock Population

1.1 How do you characterize livestock situation in proposed SVIP area?
1.2 Which livestock is kept in the SVIP area?What is the population of each type of livestock? And what is the trend of livestock population in the last five years?

Topic 2: Grazing land and water for livestock

2.1 What is the situation on grazing area in your area of operation? How do you describe the quality of grazing land?
2.2 What are the problems/challenges grazing land?
2.3 How can the problem/s with grazing land be addressed?
2.4 What impact/threatif any would the SVIP have on the grazing land?
2.5 What is the situation on water for livestock? Where do livestock drink water from? Shallow wells? Boreholes? Rivers/streams

Topic3: Disease

3.1 What are main livestock diseases in the proposed SVIP area? And what is the economic importance of each disease?
3.2 What control measures has the Department put in place?How effective are the measures?
3.3 What are the challenges in managing livestock diseases?
3.4 What impact might the SVIP have on livestock disease patterns?

Topic 4: Marketing

4.1 Are there organized livestock markets in the area? How many and where are they?
4.2 How are farmer made aware of livestock markets?
4.3 How are prices determined?What do farmers say on prices?
4.4 What impact will the SVIP have on marketing livestock? (livestock routes, demand for livestock, etc.)

Topic 5: Capacity and institutional assessment

Add questions on livestock and livestock and related organizations and their coverage area / strengths and areas for improvement / support needed to be able to be involved in SVIP

5.1 What are your highest livestock related academic qualifications and which year did you attain them?
5.2 What are your highest other non-livestock related academic qualifications and which year did you attain them?
5.3 What is your competence level in the following skill areas on a scale of 1-5 (1 being lowest, 5 being highest):

1. Project development and management
2. Participatory farmer engagement and planning capacities
3. Demand driven extension capacities
4. Livestock management
5. Financing and contract management capacities
6. Project development and evaluation capacities
7. Costing capacities
8. Strategic management capacities
9. Participatory demand- and market-driven development planning
10. Financial management capacities
11. Human resources management capacities
12. Communication between management and farmers/farmer groups
13. Establishing commercial farming (transition from subsistence to commercial farming
14. Establishing management entities and capacities
15. Contract management
16. Monitoring and Evaluation
17. Gender mainstreaming
18. Financial management
19. Training skills

5.4 What would you say are your three priority training needs or areas (from the list in 4.3) for you to improve performance in your present position and irrigation scheme management as a whole?
5.5 What are the critical non-training related interventions that could compliment the training efforts in your position? (Examples may include lesson learning workshops, regular M&E sessions, exchange visits, appropriate guidance manuals, regular meetings that address commonly experienced skills requiring training)
5.6 What do you think are the drivers of poverty in the shire valley?
5.7 What are the drivers of wealth in the shire valley?
5.8 Between men and women, who do you think is mostly affected by poverty in the project area?
5.9 Between boys and girls, who do you think is mostly affected by poverty in the project area?
5.10 What do you think are the poverty impacts on women in the project area? What can be done to address them?
5.11 What is your source of information on agriculture production in the project area? (Examples include Training, Radio, TVM, Literature, Extension worker, Fellow farmer, etc.)
5.12 What is the ONE most preferred source of information on agriculture production in the project area?

Key Informant: Commercial Livestock Farmers

Explain that we will discuss four very short topics, including but not limited type of livestock, grazing land, marketing and disease control

Topic 1: Types of Livestock and grazing land

1.1 What livestock do you keep on your farm/ranch? How many of each type do keep?
1.2 How big is your farm/ranch?What is the size of your grazing (in hectares) area?
1.3 How do you manage your grazing area to maintain quality? Do you seek technical advice on that? From who? How do you characterize such advice?
1.4 In the event that you need additional grazing area, where do you graze your livestock?
1.5 In your view, what impact will the SVIP have on your business? How should the negative impacts be mitigated?

Topic 2: Disease control

2.1 What livestock diseases are prevalent on your farm/ranch and in this area? And which diseases are wide spread?
2.1 How are livestock diseases important to you?
2.3 How do you protect your livestock from diseases?Do you get any technical advice? From who?
2.4 What livestock control measures are in place?
2.5 Who is responsible for enforcing the livestock disease control measures?
2.6 How effective are the livestock disease control measures?

Topic 3: Marketing

3.1 How would you describe marketing of livestock in this area?
3.2 Where do you sell your livestock? How far? And how are livestock sold? (live, carcass or both)
3.3 How many animals did you sell in the last 12 months? What was the average price?
3.4 How are prices determined?

Topic 4: Use of funds

4.1 How have you utilized the funds you realized after selling livestock in the last 12 months?
4.2 What else would you have liked to do?

Key Informant: Large Scale Irrigation Operator

Explain that we will discuss five very short topics, including but not limited to public access to land and water, labour issues in view of the SVIP

Topic 1: Land acquisition and re-allocation

1.1 How was the land acquired? Were there any challenges? If yes, how were they addressed?

1.2 Did the land acquisition process lead to displacement of some people who had to be resettled? If yes, how was resettlement done?

1.3 How was the land re-allocation done at the start of the project?

- Explain the process
- Who was involved
- Were there any challenges? If yes, how were they addressed? If you were to do the project again, what would you do differently now?

Topic 2: Farm management and sharing of profits and communication

2.1 How is decision on the following made?

- What to grow?
- Divisions between commercial and subsistence farming made?
- Division of profits
- Profit levels
- Paying out to farmers

2.2 Who is managing the farm? And under what arrangement? Are there any challenges? If yes, what are they and how are they addressed?

2.3 How does the organization communicate with farmers? Is it through farmer representative? And vice versa?

2.4 Does the organization experience labor-related conflicts with farmers? If yes, how are they resolved? If farmers are not satisfied, are there appeal mechanisms in place? How long does the process take?

Topic 3. Labor force

3.1 Where does the organization mainly get its unskilled and skilled labor from?

3.2 Would the coming of the SVIP have any effect on your organization's labor requirements? If negatively impacted, how does the organization intends to address the effect?

Topic 4: Water

4.1 What is your current water requirement? Currently, is your water requirement being met fully?, If not, how big is the deficit? And how do you mitigate it impact?

4.2 What will be your water requirement in the next five years?

4.3 In your view, what will be the effect on your water usage with the coming of the SVIP? Do you have alternative source of water apart from the Shire River?

Topic 5: Support received

5.1 Has the organization received any support? If yes, what type of support? From who, When? And was it at a cost or free? If at a cost, how much?

Topic 6: Capacity and instructional assessment
Organization set up

1.1 What are your organization's goals and objectives?
1.2 What activities are you involved in generally?
1.3 Which of those are related to the SVIP?
1.4 What is your assessment of the organization in terms of strengths, weaknesses, opportunities and threats?

Engagement with farmers

2.1 What kind of services do you offer to farmers?
2.2 How does your organization communicate with farmers? Is it through farmer representative? Open forum? Or other means?
2.3 How do farmers communicate with the organization?

Engagement with SVIP

3.1 What do you consider are the potential roles you can play in the implementation of the SVIP
3.2 What roles can you play to facilitate commercial investment in irrigation and public private partnerships in service delivery

Key Informant: NGOs/CBOs

Explain that we will discuss some short topics, including but not limited to public awareness, people involvement and land governance issues, in the SVIP area

Topic 1: Socio-economic characteristics

1.1 What do you think are the drivers of poverty in the shire valley?
1.2 What are the drivers of wealth in the shire valley?
1.3 Between men and women, who do you think is mostly affected by poverty in the project area?
1.4 Between boys and girls, who do you think is mostly affected by poverty in the project area?
1.5 What do you think are the poverty impacts on women in the project area? What can be done to address them?
1.6 What is your source of information on agriculture production in the project area? (Examples include Training, Radio, TVM, Literature, Extension worker, Fellow farmer, etc.)
1.7 What is the ONE most preferred source of information on agriculture production in the project area?

Topic 2: Resettlement

2.1 Do you have any experiences with resettlement? If yes, what are your experiences?
2.2 What are your recommendation regarding land resettlement for the SVIP

- How should it be done?
- Who should be doing the land resettlement?
- How to ensure that women, men, youth and poor are all treated fairly?
- What criteria should be used to valuate land?
- How should they be compensated for the loss of land?

2.3. What are your recommendations on grievance redress mechanisms for the SVIP?

- How should it be done?
- Who should be doing the grievance redress?
- How to ensure that women, men, youth and poor are all treated fairly?
- What should be the appeal mechanism?

Topic 3: Knowledge management

3.1 What mechanisms are there to enhance knowledge generation and exchange in implementation of the SVIP at district and community level?

Key Informant: National Level Organizations

Thematic area	Questions	Organization to be interviewed
Organizational or institutional mandate	1. What is your organizational mandate? 2. What has been your experience so far in implementing your mandate in terms of strengths, weaknesses, opportunities, threats, etc)? 3. What can you recommend should be done to enhance implementation of your organizational mandate? 4. What is the current organizational structure of your organization/institution? 5. Which of the roles in the structure are relevant to the SVIP?	1. Ministry of Agriculture, Irrigation and Water Development 2. Ministry of Lands 3. Ministry of Local Government 4. Ministry of Gender 5. Ministry of Youth 6. Shire Basin Management & Development Authority 7. Land Resources Conservation Dept. 8. Southern Region Water Board 9. Electricity Supply Commission of Malawi 10. Greenbelt Initiative (GBI) 11. National Association of Smallholder Farmers of Malawi (NASFAM) 12. Farmers Union of Malawi
Project management	**1.** What are the staff/personnel numbers, type and levels in your organization/institution (disaggregate the departmental numbers by gender) **2.** What is the current vacancy rate in your organization? **3.** What has been the impact of the current vacancy rate on your organization/institution? **4.** Describe the training needs of your organization/institution to effectively support the SVIP? **5.** What are the existing M&E mechanisms in your institution/organization? **6.** What is your assessment of their adequacy? **7.** What should be done to integrate SVIP in your M&E mechanisms? **8.** What is your assessment of your organizational capacity to facilitate commercial investment in irrigation and public private partnerships in service delivery? **9.** What is your assessment of the adequacy of existing infrastructure/assets in your organization/institution to support implementation of the SVIP?	1. Ministry of Agriculture, Irrigation and Water Development 2. Ministry of Lands 3. Ministry of Local Government 4. Ministry of Gender 5. Ministry of Youth 6. Ministry of Finance & Development Planning 7. Shire Basin Management & Development Authority 8. Land Resources Conservation Dept. 9. Southern Region Water Board 10. Electricity Supply Commission of Malawi 11. Greenbelt Initiative (GBI) 12. National Association of Smallholder Farmers of Malawi (NASFAM) 13. Farmers Union of Malawi
National planning and budget framework	1. What is your assessment of the extent to which the SVIP has been integrated in strategic plans and annual plans of your organization 2. What is your overall assessment of the effectiveness of the national budget framework in terms of strengths, weaknesses, opportunities and threats? 3. Has the SVIP been included in planning and national budget framework? 4. If not, why? 5. What should be done to include the SVIP in the national planning and budget framework	1. Ministry of Finance 2. Ministry of Agriculture, Irrigation and Water Development 3. Ministry of Lands 4. Ministry of Local Government 5. Ministry of Gender 6. Ministry of Youth 7. Ministry of Finance & Development Planning 8. Shire Basin Management & Development Authority
Coordination and Institutional linkages	**1.** What are the current coordination mechanisms in which you are involved with others as an organization/institution? **2.** How do these coordination mechanisms function? **3.** In what way are the existing coordination mechanisms relevant to SVIP? **4.** If not, how should they be to benefit the SVIP? **5.** What incentives can improve support coordination and collaboration for implementation of the SVIP 6. What is your assessment of the institutional linkages between the irrigation sub-sector and the wider agriculture, water resources and environment sectors as related to SVIP	1. Ministry of Agriculture, Irrigation and Water Development 2. Ministry of Lands 3. Ministry of Local Government 4. Ministry of Gender 5. Ministry of Youth 6. Shire Basin Management & Development Authority 7. Land Resources Conservation Dept. 8. Southern Region Water Board 9. Electricity Supply Commission of

	7. Define the mandates and functional delineation between institutions in delivering irrigation, agricultural development and auxiliary services 8. What is your assessment of coordination and accountability between organizations in the sector to deliver on sub-parts of the program	Malawi 10. Greenbelt Initiative (GBI) 11. National Association of Smallholder Farmers of Malawi (NASFAM) 12. Farmers Union of Malawi