CLIM^2 Project

Diversifying agri-food value chains in Southern Malawi

ILRI, ICRISAT and SSLLP

CLIM^2 DEC MEETINGS, October/November 2019,
in Balaka, Chiradzulu, Thyolo Districts, Malawi




This project is funded by the European Union

Our team

SSLLP
ICRISAT
ILRI
MOAIWD

1. Infrastructure
   3 District offices
   1 Blantyre office
   2 vehicles

2. Staff: 6 scientists, 5 NGO staff, 1 PhD student

What is $CLIM^2$ all about?

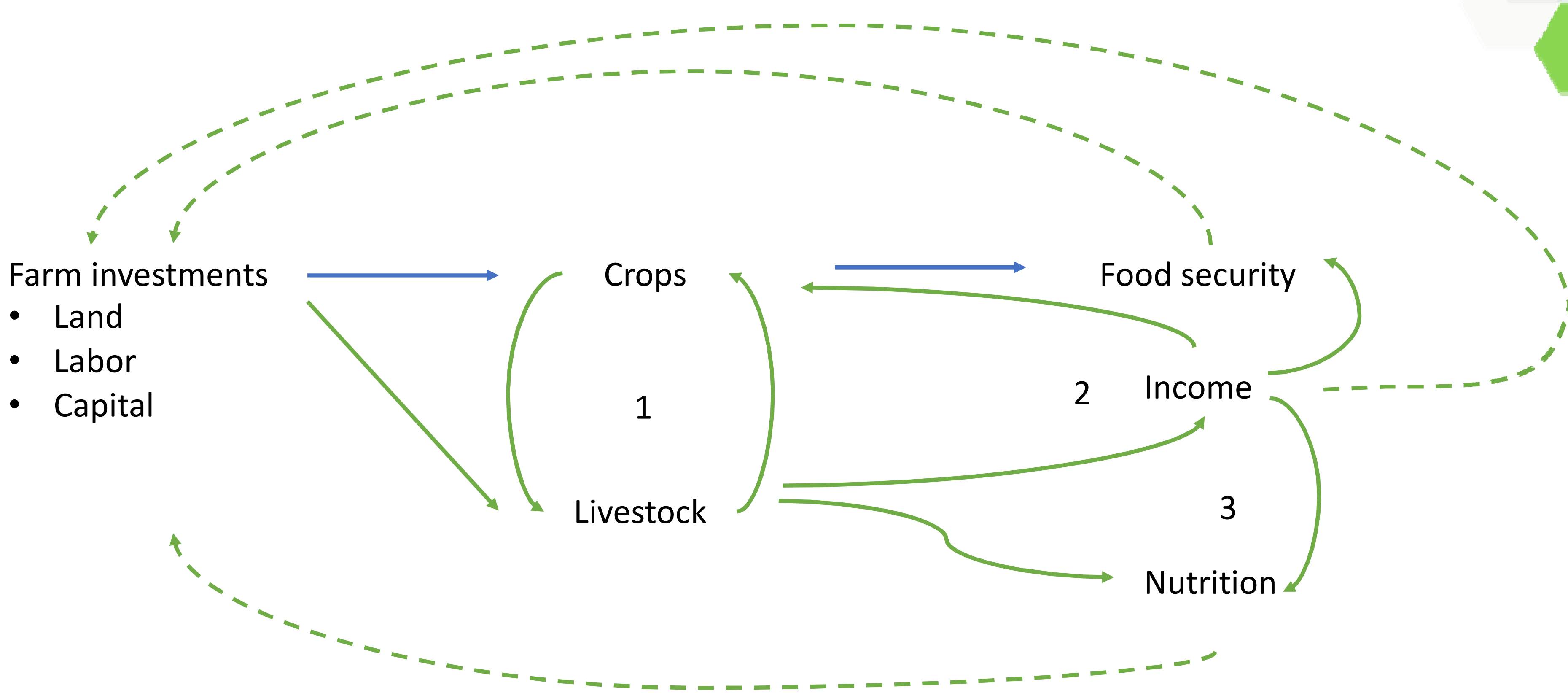
Increased income and livelihoods through diversified and intensified agricultural production and better market access

Our theory of change: Income, food insecurity and nutrition

Farm investments → Crops → Food security

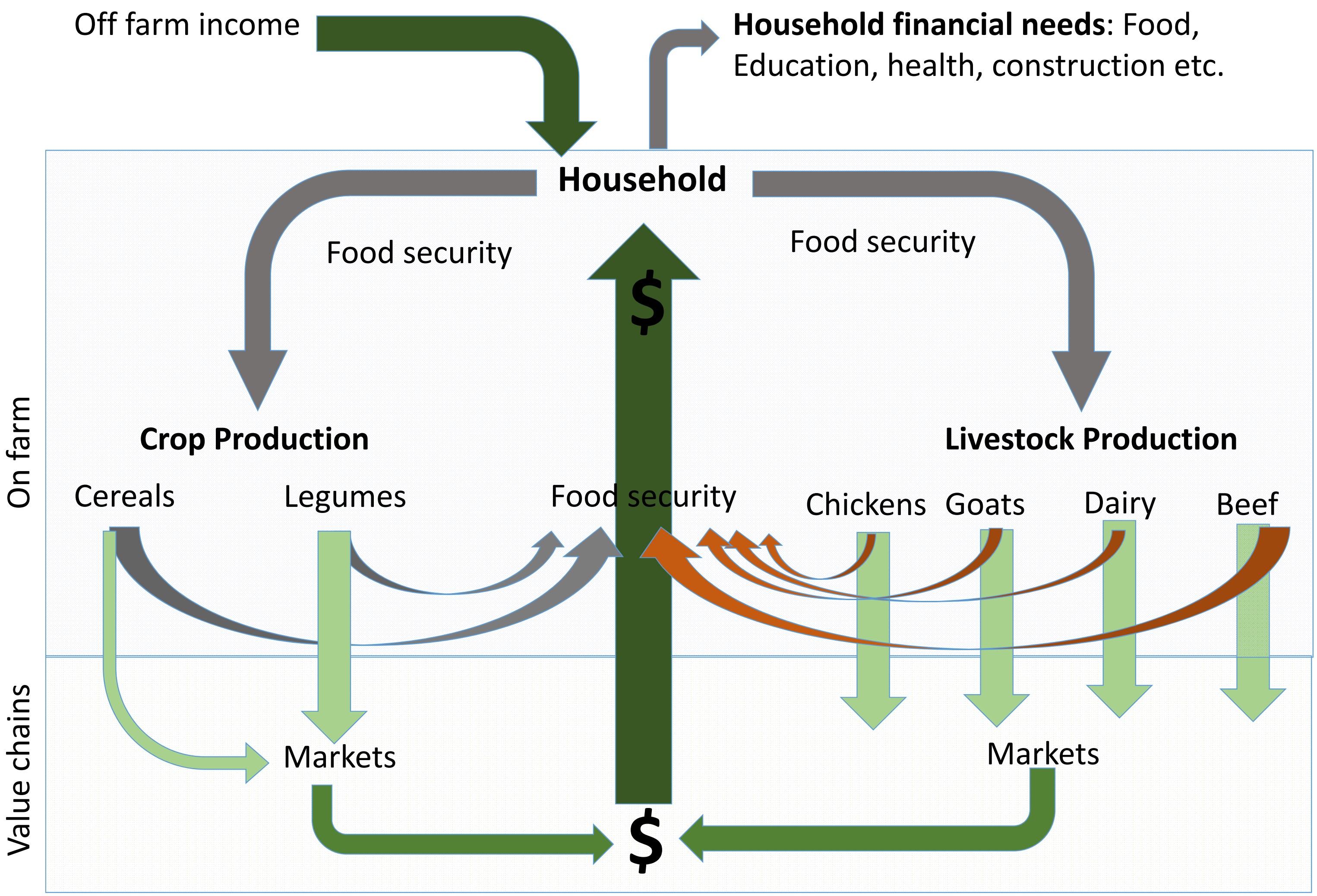
→ Current policy priorities: directing farm investments to produce more maize

Our theory of change: Income, food insecurity and nutrition (1/2)

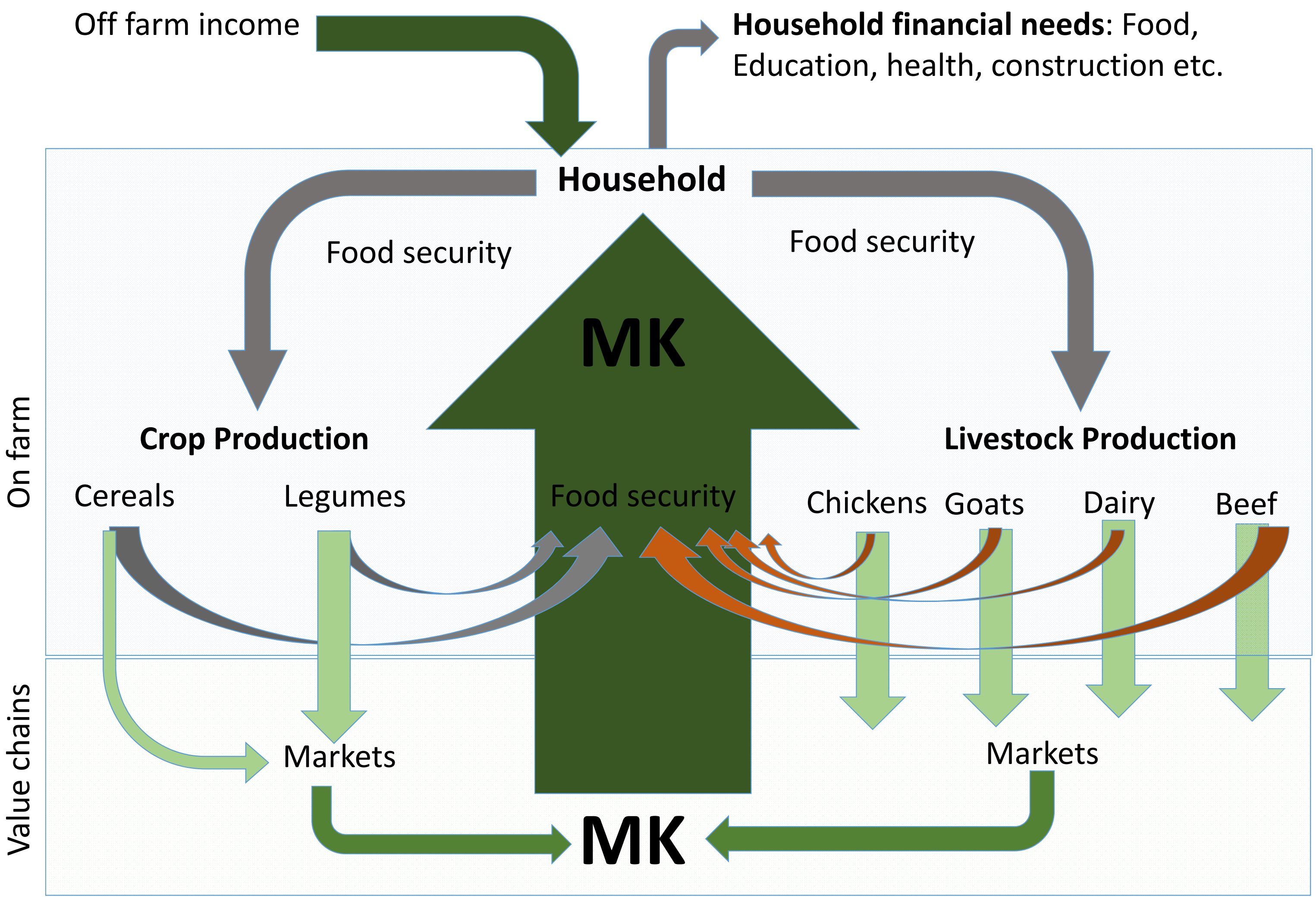


Current policy priorities: directing farm investments to produce more maize
Directions that we need to go if we are to enhance nutrition outcomes
Positive systems feedback loops

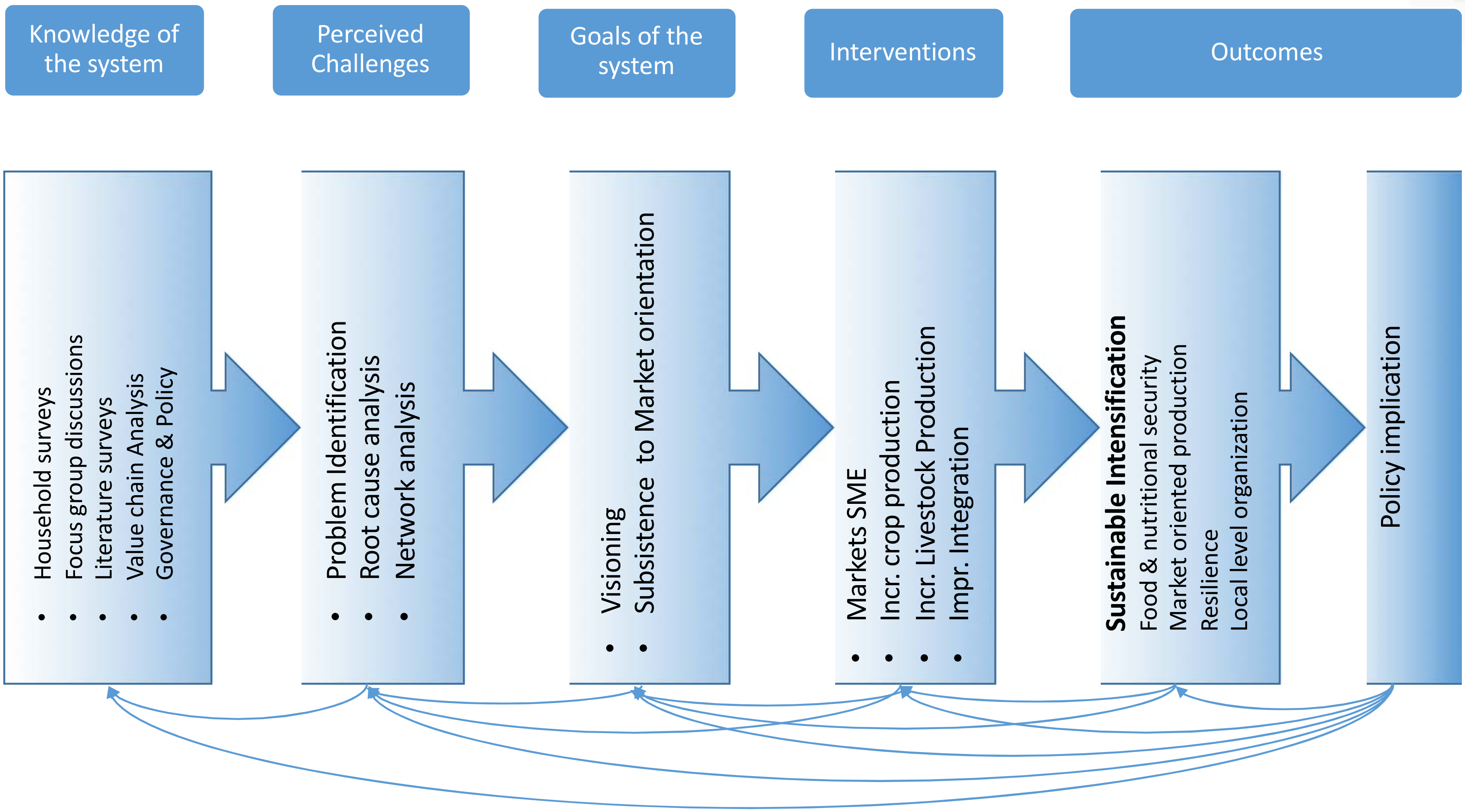
Our theory of change: CROP-LIVESTOCK AND MARKETS (2/2)



Our theory of change: CROP-LIVESTOCK AND MARKETS (2/2)



CLIM² approach and methodology of implementation



Baseline situation: Crops (1/2)

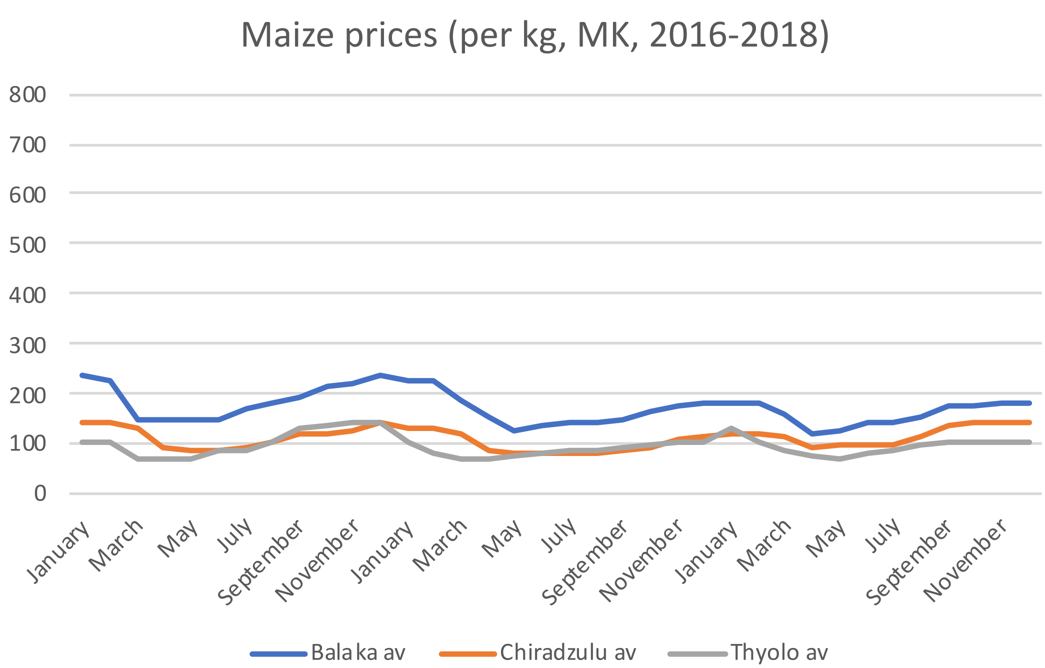
Traditional focus: Maize for food security

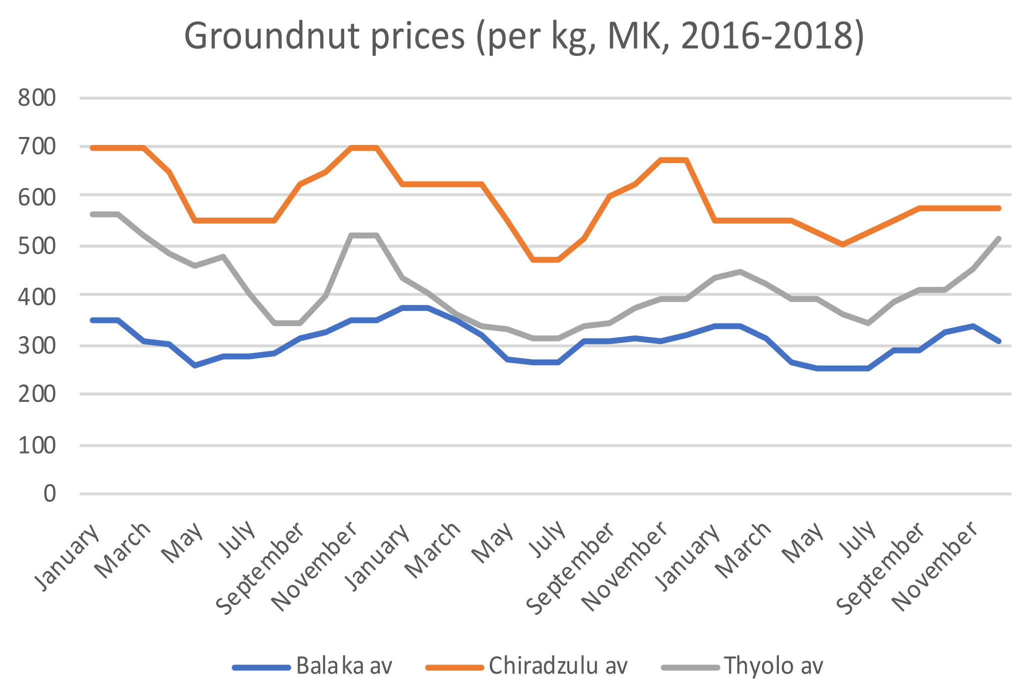
What next?

	Maize	Sorghum	Groundnuts	Pigeon pea	Cowpea
Farmers producing (%)	100.0	31.1	17.4	75.2	17.2
Area (acre)	1.1	0.4	0.4	0.7	0.5
Yield (kg per acre)	501	311	314	174	191
Price (MK per kg)	110	81	158	95	136
Revenue (MK/farm)	42,032	6,351	13,546	6,443	8,998
Costs (MK/farm)	15,232	209	831	1,015	1,617
Netreturns (MK/farm)	28,172	6,273	12,921	5,796	7,692
Netreturns (MK/acre)	39,682	25,820	47,115	14,896	19,005
Cost / Revenue	0.4	0.0	0.1	0.2	0.2

Baseline situation: Crops (2/2)

Average prices for crops sold at rural growth points





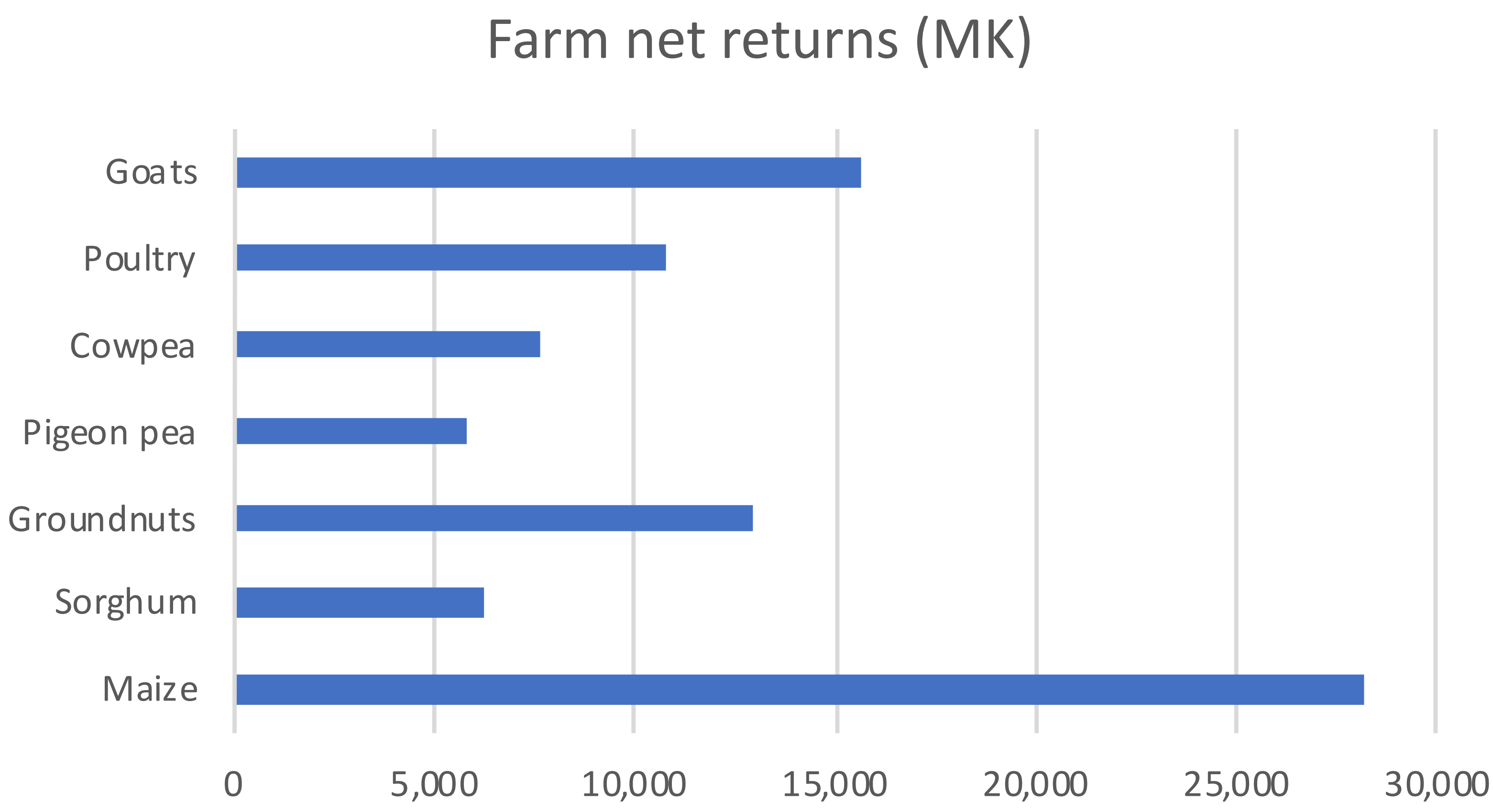
Baseline situation: Livestock (1/3)

Underinvested: Livestock for income and nutrition

More income from livestock
- more money spent on livestock based foods?
- re-investing into the farming system?
- better nutrition?

	Poultry	Goats	Dairy cattle
Farmers producing (%)	46.8	34.0	4.8
Flock size (n)	10.2	3.5	3.8
Losses (%)	170.3	41.1	27.8
Offtake (%)	79.4	32.8	13.1
Price (MK per n)	2,170.4	14,000.0	133,577.6
Price (MK per l)			157.9
Revenue (MK)	12,217	19,345	240,519
Costs (MK)	1,455	2,896	17,454
Netreturns (MK)	10,762	15,644	203,577
Cost / Revenue	0.1	0.1	0.1

Baseline situation: Crop and livestock net returns (2/3)



Baseline situation: Livestock (3/3)

Potential to increase gains from livestock

At district level

- Prices (seasonality, distance)
- Reducing losses

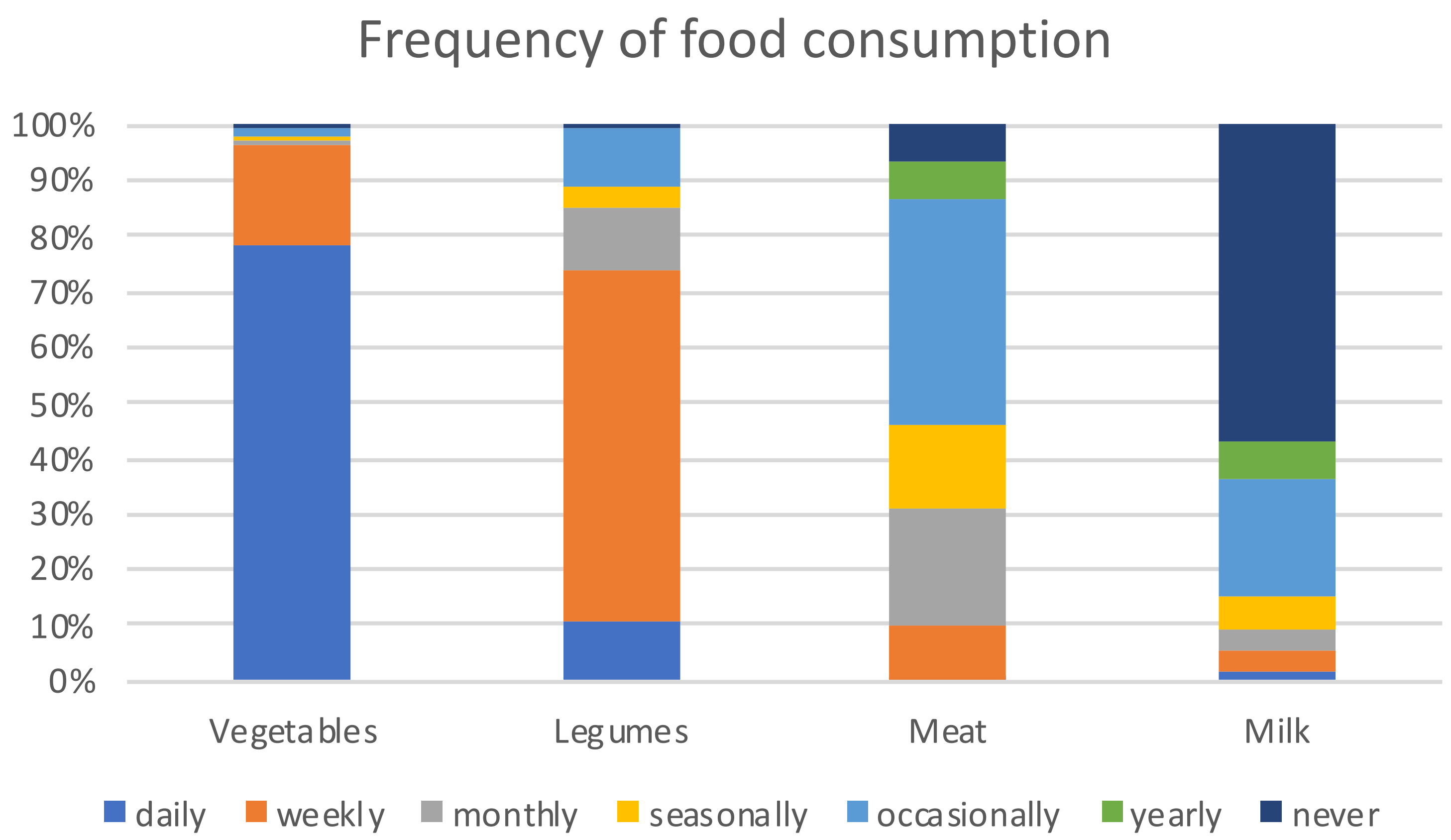
	Poultry	Goats	Milk
n / l sold (per month peak season)	10,000	5,500	55,000
n / l sold (per month off season)	2,500	2,500	44,000
Value sold (per month peak season, MK)	21,900,000	102,200,000	7,034,280,000
Value sold (per month off season, MK)	7,300,000	61,320,000	5,627,424,000
Value lost (per month peak season, MK)	46,971,914	128,061,585	447,636,000
Value lost (per month lean, MK)	15,657,305	76,836,951	447,636,000

Reference unit: Project EPA catchments markets

Baseline situation: Nutrition (1/2)

People in a year live 6.2 months from self-produced foods

Consumption of livestock based foods is underrepresented



Baseline situation: Nutrition (1/2)

Higher income consumers pay for diversity and quality

Low income consumers prioritize availability and affordability

Rural consumers spend large share of income on food

Monthly expenditure on different foods, by consumer types

	Pulses	Eggs	Meat	Milk
Rural consumer	4,726	2,760	5,153	1,696
Low income urban consumer LLW	2,843	2,419	6,173	2,010
Low income urban consumer BTY	4,384	4,706	11,418	2,497
High income urban consumer LLW	8,993	5,220	15,360	7,576
High income urban consumer BTY	7,714	5,786	22,857	10,143

Constraints to more frequent consumption of eggs, by consumer types

	Rural consumer	Low income urban consumer LLW	Low income urban consumer BTY	High income urban consumer LLW	High income urban consumer BTY
Affordability	68	67	57	0	10
Accessibility	18	0	7	0	0
Food quality	6	33	7	27	60
Diversity	3	0	14	40	20

1. Systems Diagnostics

Innovation platforms: Multi-stakeholder planning and feedback

Quantitative data: Baseline and value chains

IP: Visions and challenges

IP: Planning and revision

Gross margins for profitable farming: informing management choices

Baseline and value chain assessment: Informing investment decisions

3rd round of IPs – how to link farmers to markets

24-29.10.2019

About 50 participants per meeting, about one third were women.

IP meetings include representatives from farmer and care groups, government extension and private sector.

2.1 Viable agri-business processing opportunities identified, developed and implemented

Business plan development

4 Companies: structuring the business

2.2 Viable agri-business processing opportunities identified, developed and implemented

Piloting business models, MSMEs, agribusiness companies

Chicken: Fast track the Kuroiler breed (focus in Chiradzulu)

Large scale commercial firms are at the forefront to supply chicken and egg production to domestic markets, imports at the increase - space for smallholder farmers?

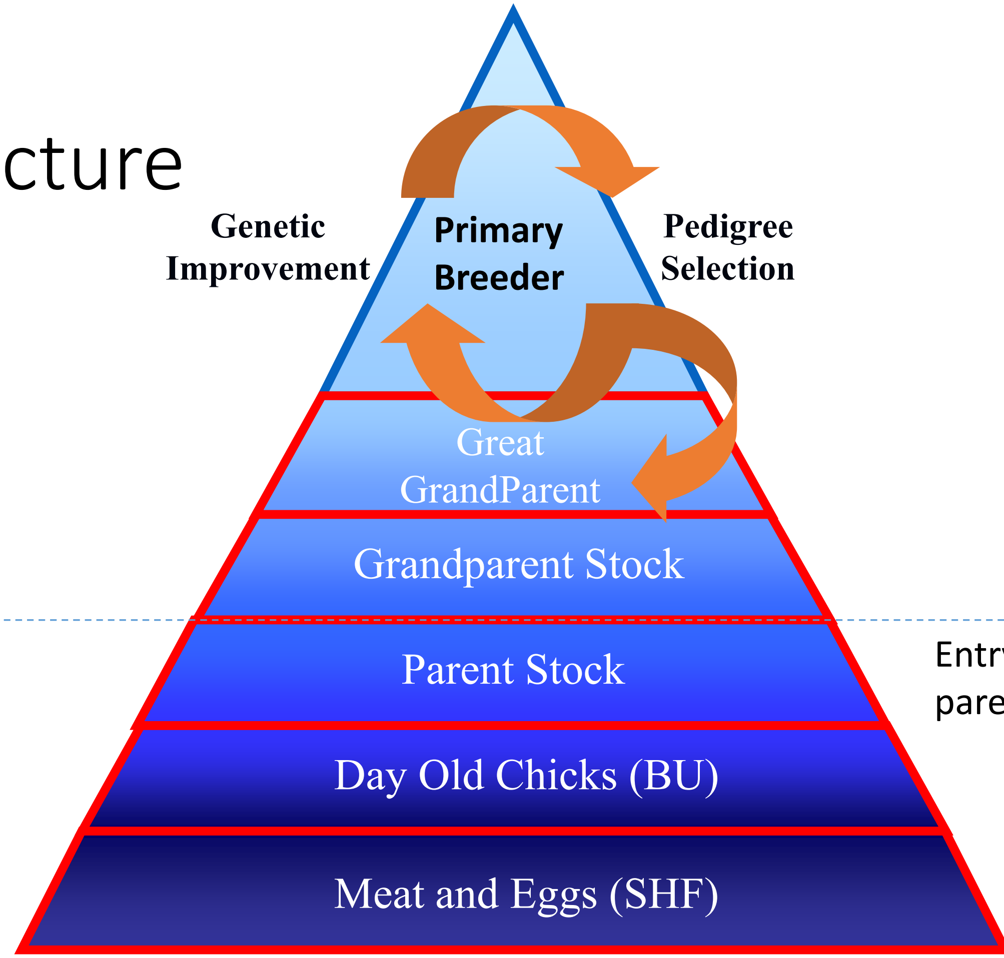
CLIM^2: Smallholder farmer based meat & egg production through dual purpose birds

- 1000 chicken tested at Mikolongwe research station
- 4000 under semi-commercial conditions at Lunzu farm
    - 2000 hens handed over to two SME companies (starter kit, support)
    - 1000 hens handed over to 100 individual farmers
    - Cocks slaughtered – funds reinvested in SMEs
    - 30 chickens for productivity evaluation

Poultry Companies

- Chimtengo, Zaone (Namagazi) Poultry Companies
- Robust business plan development
- Registration of companies
- Construction of own facilities
- Link to inputs – local feed manufacture
- Link to high value local markets
    - Eggs
    - Meat
- Proof of concept

Background: Breeding Structure



Needs private sector Investments

Entry point Malawi: about 1500 parental stock and above

Vision: Brooded and vaccinated Chicken (21 to 42 days old –depending on need of villagers) to villages

Small holder farmers produce meat birds and eggs – Home consumption, income from sale

IP -lessons and preliminary results

- Farmers and consumers are aware on nutritional benefits from chicken and eggs; there is a supply gap of village chickens and eggs at rural markets
- Introduction of the Kurioler allows farmers to benefit from consumption and sale of eggs and meat – the bird does well under local management, mortality is low
- Entry points production:
  - Control of New Castle disease disease to mitigate losses and make more chicken and eggs available for consumption and sale – entry point for SMEs
  - Locally produced feeds to half variable costs - entry point for SMEs
- Entry points marketing:
  - Market channels: For consumers the taste and size of chicken and eggs seems appealing (lower per kg price for meat as compared to broiler, same price for eggs at half the feed cost)
  - Local consumer markets
  - Large organizations, preferential arrangements

What next?

Nutrition	Value addition / market linkages	Policy
Verify the taste of Kuroiler eggs and meat through blind tasting (village chicken, kuroiler, broiler)	Outreach for Kuroiler at DAEC, DEC, DC councillor – brief about chicken and market links, seek support, for higher level dialogue	Inclusive regulations and quality control to ensure smallholder farmers benefit from increasing demand at domestic markets
Promote messages on Kuroiler eggs and meat for nutrition through DEC, DAEC, DNCC, care groups	Inventory and GMA on local market channels that show interest to buy chicken and eggs from farmers / SMEs	Supporting farmer self-organization, access to rural infrastructure, e.g. cold chain
	Farmer market exploration, CLIM and other potential farmer groups, synergies to increase the supply	Government role in controlling contagious diseases
	Prototyping models for SMEs (feed, health), working with gvt-traders-farmer/care groups	Feedback on the release of the Kuroiler
	Continue mentoring SMEs and farmers on chicken production and business model	

Goats: gaps beyond the farm level

Despite ever growing demand for goat meat, and increasing goat populations, there are very little investment in smallholder farmer-based goat value chains.

CLIM^{2} – 40 butchers and municipality as entry point for value chain improvement – SMEs promote goat quality

- improve slaughter slab, water and waste management

Improve meat handling and selling area

- Cooling facilities
- Meat storage, longer shelf life
- General hygiene
- Concept of cost sharing and share holdings
- Business structure, enterprise management

Outstanding

- Goat sales-pen
- Goat market model

Farmer capacity development: goat meat quality and market organization

- Goat meat quality criteria

- Introduction of the scale for understanding price quality relations

- Testing auction procedures

IP -lessons and preliminary results

- Farmers cannot afford to eat goats, even though they are aware of the benefits.
- In comparison to other livestock commodities, goat farmers are less organized. They are not aware of the demand for goats and meat quality at domestic markets.
- A mechanism is required that supports farmers to organize the aggregation of quality goats.
- Creating parallel channels through the auction model can translate quality meat to consumers, with benefits along the entire value chain.

What next?

Nutrition	Value addition / market linkages	Policy
Promote messages on goat feeding and meat for nutrition through DEC, DAEC, DNCC and care groups	Outreach for goat quality meat markets at DAEC, DEC, DC councillor – brief about quality goat market options, seek support, also for higher level dialogue	Prioritize goat production and marketing in policy setting and implementation
	Capacity development for farmers and buyers on meat quality and prices through practical demonstrations	Facilitating policies that encourage farmers to organize around goats markets
	Goat auction as new decentralized market model for quality goat meat, at about 2 sites per EPA, all project sites, during peak market periods • Launch and facilitate setting up the market points (demonstrations, scale, documentation) • Role of the auctioneer	Include goats in nutrition policies
	Complete the goat business model for prototyping, mentoring	Propose the goat quality market demonstration as new extension tool

Dairy: Policy barriers?

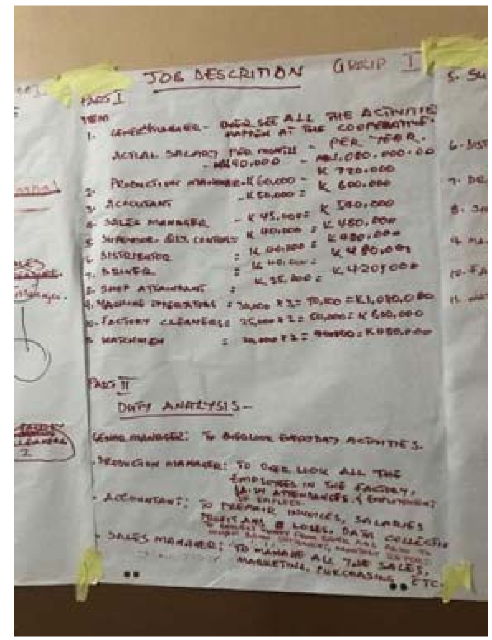
While smallholders have the capacity to produce milk, what at hinders them to reduce losses and add value to milk? Making raw and pasteurized milk locally available improves incomes and nutrition.

CLIM^2: Bvumbwe Dairy Association as entry point for value chain improvement – SME.

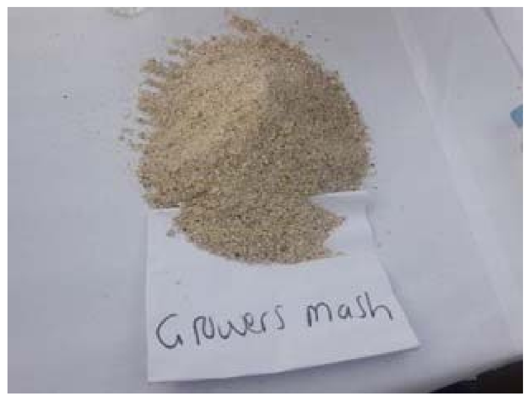
- Renovate the pasteurizing facility
- Packaging
- Capacity building
- Institutional arrangements

Business coaching and mentoring

- Business plan development
- Record keeping
- Costs management
- Markets
- Ownership



Forage Production and Feed Processing



Locally produced, affordable quality feeds:
Feed and fodder production, ration formulation and processing

Artificial insemination support

AI equipment provided to

- Bvumbwe in Thyolo
- Sabuni in Chiradzulu

IP -lessons and preliminary results

Creating parallel channels for milk processing can increase the share of sales to local consumers in bulk, through product differentiation.

This empowers the farmer groups and bulking centers, to manage the processes, as it increases the volumes of milk that they sell.

This increases milk consumption locally.

What next?

Nutrition	Value addition / market linkages	Policy
Promote messages on buying milk locally for nutrition through DEC, DNCC and care groups	Assess gross margins and value addition to highlight profit margins per market channels	Price incentives including minimum price, subsidies to reduce production costs, reduced tax
Awareness creation that farm milk is safe to drink , add value to your locality	MBS to license dairy products	Approve and promote sale of raw milk and pasteurization
	Capacitate existing add 1-2 new SMEs, training and equipment for pasteurization and processing	Strategy to open up markets for local processing and sale of dairy products,
	Lobby for dairy with government departments (education, health & nutrition etc) and stakeholders to budget for dairy as priority food purchases	

3.1 Smallholder agriculture production increased and diversified

On-farm demonstrations and evaluations

Crop diversification with 908 farmers in 36 f- groups @ 7.5t improved seed (sorghum, groundnut, pigeon pea, cowpea, mucuna)

On-farm Kuroiler chicken evaluation: 8 f- groups @ 100 chicken

Groundnuts Participatory Variety Selection: farmers appreciation of residues for feed

Crop residue biomass assessment: Expected biomass yields and quality

3.2 Smallholder agriculture production increased and diversified

FEAST
Feed Assessment Tool

FEAST to identify feeding challenges

3.3 Smallholder agriculture production increased and diversified

Multiple trainings, following IP requirements

Labor saving crop processing
12 groundnut shellers to farmer groups
4 hammer mills for feed companies

Chickens and goats husbandry trainings: 180 farmers, in 6 f-groups

Crop management and post harvest trainings: 180 farmers in 6 f-groups

Feed biomass training: 180 farmers, in 6 f-groups

4. Transformational capacity for sustainability and scaling

Farming systems integration

Improved market linkages through MSMEs

Increased role of private sector

CLIM2 Policy Dialogue on Shaping Agri-food Value Chains For Nutrition and Health in Malawi

Balaka IP

Chiradzulu IP

Thyolo IP

Capacity development, training, year 2 - today

Type of trainings	N trainings / farmer groups	N women	N men
Farmers			
Crop inputs and management	39	642	327
Gross margin analyses	6	141	41
PICS bags trainings	6	130	50
Business plan development	3	35	15
Multiple-stakeholders (govt, priv sect, farmers)			
Poultry training	2	11	25
Second IP meetings	3	37	86
Third IP meetings	3	50	100
Biomass training	6	120	60
Project team			
Communications and blog writing training	1	2	4

Outputs

- Project annual reports
- IP reports (3 per year)
- Technical reports: Baseline, value chain, consumer assessment
- Blogs (8)
- Visibility events
- Website (https://clim.icrisat.org/)

Thank you!

This project is funded by the European Union