



Livestock Platform Baseline Study

Research into Use Programme - Malawi

Hugh Goyder and Manuel Mang'anya

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Acronyms

CISANET	Civil Society for Agriculture Network
DAHI	Department of Animal Health and Industry
DARS	Department of Agriculture Research Services
ELDS	Evangelical Lutheran Development Service
FIDP	Farm Income Diversification Programme
MDI	Malawi Dairy Industries
MoA&FS	Ministry of Agriculture and Food Security
MRIU	Malawi Research Into Use
NBS Bank	New Building Society Bank
NGO	Non-Governmental Organisation
NICO	National Insurance Company
OIBM	Opportunity International Bank of Malawi
RNRRS	Renewable Natural Resource Research Strategy
SSLPP	Small Scale Livestock Promotion Programme
VSO	Voluntary Service Organisation
WVI	World Vision International

Introduction

Livestock production is an integral part of agricultural production in Malawi. Compared to crop production, livestock constitute a relatively small sub sector in Malawi's agriculture. The livestock sector is typically a low-input-low-output management system with over half a million smallholder families (Ministry of Agriculture and Irrigation). Higher outputs of livestock production are experienced by a relatively small number of large-scale intensive commercial livestock/poultry enterprises, most of which are located in the urban and periurban areas of Blantyre, Lilongwe and Mzuzu cities. Intensive production enterprises include broiler and layer production, beef cattle feedlots and pig and dairy production. These form the major outlets for protein sources in Malawi.

Although the original MRIU Country Strategy document did not specifically identify livestock as one of the commodity platforms, the Malawi National Innovation Coalition proposed that the MRIUP should include livestock owing to its high priority in the country's Agriculture Development Programme. The NIC proposed to begin with piggery and dairy in the first phase. Platform members would include Livestock Associations, NGOs, Livestock Processors, Feed Producers as well as research organisations.

This baseline document has the following objectives:

- to provide an understanding of the innovations context as it affects piggery and dairy in Malawi.
- to assist the Livestock Platform of the MRIUP to assess its progress;
- to offer a basis for future evaluation of the livestock platform.

1. Research Domain

1.1 Relevant RNRSS Research Outputs

The table below shows a few of the relevant RNRSS Research Outputs which will be promoted by the Livestock platform:

RNRSS title	Use of outputs	Constraints to uptake	Opportunities
Snack bags for cows boost smallholder dairy farm's milk production (LPP03)	In Zimbabwe and can be applied in Malawi	<ul style="list-style-type: none"> • Small landholding sizes • Lack of proper information among farmers • Overdependence on tobacco as means of livelihood 	<ul style="list-style-type: none"> • Increased legume farming practice
Cheap, easy to make urea molasses blocks boost milk production (LPP08)	More in Bangladesh but can also be used in Malawi	<ul style="list-style-type: none"> • Lack of information among farmers 	<ul style="list-style-type: none"> • Legume and rice farming practised in some areas where dairy farming exist
Better organisation helps farmers to access markets (CPH10)	In Uganda on maize but can be applied in Malawi on piggery	<ul style="list-style-type: none"> • Lack of appropriate transport for pigs to markets • Lack of market information against over supply of pigs • High incidence of African Swine Fever 	<ul style="list-style-type: none"> • High demand for pigs among processors
More shrubs mean more milk in East Africa (FRP43)	More in East Africa to some extent in Malawi	<ul style="list-style-type: none"> • Lack of agro-dealers for fodder shrub seed • Lack of relevant information among farmers 	A number of districts that keep dairy animals in Malawi have limited land
Pastures,	In Malawi	Lack of information on	Abundant crop

fodders, crops, forage legumes and livestock feeds (NARS)		benefits of proper feeding	residue
Use of forage for livestock supplementation during dry season (NARS)	In Malawi	Altitude of not taking livestock farming seriously	Abundant crop residue

1.2 National Research Outputs

The Department of Agricultural Research and Services (DARS) through the livestock research centre at Lunyangwa in Mzuzu, Chitedze Research Centre and Bunda College of Agriculture have been developing some livestock technologies. These include livestock breeding for adaptability and feeding formulations to increase milk productivity.

Dairy:

Use of crop residue such as cassava chops, mixing of Rhodes grass and legumes, and agroforestry practice have been recommended among other things.

In areas where pasture cultivation is constrained by small land holding sizes, proper land utilisation is encouraged. These include planting of fodder along ridges and use of farm boundaries for agroforestry.

Regarding breeding, cross-breeding of local Zebu with Friesian breed is recommended, to improve dairy productivity.

Piggery:

Use of landrace, large White and Tristar breeds is recommended. Cross-breeding of these hybrids with local breeds is also promoted.

1.3 Innovation Context

Livestock constitute a major protein source as well as an important income source for rural households in Malawi. Livestock is more important in the southern region districts where land holding sizes are small and households cannot rely on little income generated from sell of little crop produce. Increased livestock production also has great export potential to improve export earnings and reduce unemployment for Malawi.

Piggery and dairy production in Malawi is mostly subsistent where the majority of animals are kept under the extensive free-range system of management with little or no supplementation. There are very few large-scale commercial piggery and dairy enterprises and tend to be the intensive type where the use of concentrates and/or protein feed ingredients is common. Available feed resources are either of animal (fishmeal, meat and bone meal) or plant origin (soybean meal, sunflower meal, cottonseed cake and groundnut cake). Neglected or underutilized protein sources include pigeon peas, cowpeas and chickpeas. The animal feed manufacturing industry is generally small with two main feed manufacturers supplemented by on-farm feed mixing. At the smallholder level, there is little financial input in terms of housing, use of drugs and supplementary feeding.

Within the dairy sector, there is an 85,000 metric tonnes milk shortfall with an annual milk production of 35,000 metric tonnes against a demand of 120,000 metric tonnes per annum. This is attributed to various challenges which include limited number of high grade animals, low price of milk offered to farmers; Low productivity of existing animals due to poor feeding, poor management, low grade feeds and diseases eg mastitis; poor breeding practices such as low calving interval and poor AI services, and poor extension services including weak veterinary services. Of these, lack of good quality feed at affordable prices is the major problem.

Although pig production has been increasing over the years among small holder farmers, pig processors have found it difficult to easily access these pigs due to lack of proper marketing infrastructure. This has led to pig processors resorting to importation of pig products. Although the Government of Malawi established livestock marketing during the 1960s to mid 1990s, very few aspects of formalized pig marketing were established and coordinated. Thus, currently one of the critical gaps in pig research and development has been its failure to link farmers to profitable markets and to increase incomes for marketing pigs and pig products. The current pig marketing channels can therefore be described as informal and poorly developed and calls for initiatives to develop interventions to enhance the ability of pig farmers to access marketing opportunities and diversify their links with markets. This is

paramount to raising farmers' income and reducing poverty and should be considered as a best strategy for enhancing the adoption of improved pig production technologies and disease control interventions. The pig industry has also been greatly hampered by the unavailability of formal slaughter and cold chain facilities which are largely owned by individuals who do not handle pigs due to their religious beliefs. The other constraint affecting the pig industry is the frequent outbreak of African Swine Fever which is endemic throughout the country, killing close to 100,000 pigs every year. The absence of the formal slaughter places makes the control of this disease even more difficult when pigs are slaughtered anyhow.

2. Demand Domain

The table below show milk production and number of pigs by small-scale farmers in the last decade.

Year	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
No. Of Dairy Cattle	7,500	8,200	9,000	10,000	12,700	15,000	17,500	20,000	26,000	30,000
Milk Production (metric tonnes per annum)	8,500	9,300	11,000	13,000	15,000	18,000	20,000	24,500	30,000	35,000
Number of Pigs	700,000	750,000	800,000	840,000	900,000	1,000,000	1,200,000	1,350,000	1,400,000	1,500,000

Dairy farming is mostly practised in the Southern and Northern regions of Malawi and very little in the Central region. Land holding size in the Southern region is very small and hence fodder production competes with production for other crops. The Department of Animal Health and Livestock Development has promoted use of crop residue and growing of Rhodes grass especially in the densely populated districts of Thyolo, Mulanje, Chiradzulu, Zomba and Blantyre where adoption level is high. However, a great deal of farmers let their dairy animals on free range feeding in most areas and hence derives little benefit out of livestock farming.

Dairy processors collect the bulk of their milk through bulking groups. However, the cooling facilities in the collection centres are becoming obsolete and require rehabilitating/replacing. The milk prices which are predominantly set by processors from the urban centres are generally low and are discouraging to farmers. The bulking groups are also good channels for information sharing and technology transfer.

Use of local Zebu breed instead of hybrid Fresian or its crossbreeds is common in dairy farming leading to low milk production. Dairy farmers need to be provided with better packaged information to start demanding use of hybrid dairy animals.

In the central region of Malawi, where vast amount of land is available for feed production, farmers need information to change their mind set to begin to view dairy farming as an alternative to tobacco growing in view of declining tobacco prices.

In piggery, promotion of pig farming by various development agents has resulted in an increase in pig re-production. However, piggery farming is constrained by lack of organised markets. Farmers have ended up selling pigs only in local community markets where effective demand is very low and offered them at low prices.

3. Intermediary Domain

3.1 Farmers' Organisations

Dairy:

There is one national dairy organisation "Malawi Milk Producer Association" which is an apex of three regional dairy associations. Its mandate is to oversee activities of regional associations, acts as lobbying group for the voices of dairy farmers at

national level to influence national policies and also as platform to transmit government policies/initiatives to dairy farmers.

At the regional level, each of the 3 country's regions has one dairy association: Mpotto dairy farmers association in the north, Central region milk producers association in the centre and Shire highlands milk producers association in the southern region. The functions of these regional associations are a mirror of the national association at regional level. In addition they also organise dairy farmer trainings. The regional associations have no premises for the secretariats to operate from.

Each association has a number of bulking groups (one within an ecological area) where farmers bring milk for cooling and storage in readiness for processors to buy.

Regional associations have their own extension experts which also includes VSO who are agents of technology transfer. Both the associations and bulking groups are ideal entry points for information sharing.

Piggery:

There are a number of piggery associations across the country formed under various development programmes that aim at promoting piggery farming. Notable ones are Thyolo piggery association and Mgwirizano Piggery Association (in Mulanje) which emanated from the Rural Investment Enhancement Programme.

As indicated elsewhere, although pig population increased tremendously in such areas, lack of properly organised markets and slaughter slabs have resulted in farmers realising low incomes from pig sales.

3.2 Role of NGOs

A few NGOs are involved in promotion of dairy farming. Such NGOs include Land O Lakes, World Vision and Small scale livestock promotion programme. Their efforts mainly focus on distributing dairy animals to farmers and provide extension messages.

Land O Lakes has trained national and regional dairy associations including bulking groups to improve capacity in dairy production. It also imported improved dairy animals and introduced them to selected groups.

With the exception of Land O Lakes, NGOs lack capacity in dairy extension and rely on government staff which is hired on a fee.

NGOs have a role to play in promotion of dairy farming. In the central region, the level of dairy farming practice is very low because of the culture of overreliance on tobacco farming. It is common practise in Malawi in general to keep livestock under free range and not provide proper feeding.

As for piggery, most NGOs have promoted the practice as part of their household income and livelihood enhancement programmes owing to its prolific nature of mass reproduction and quick returns. They have assisted in sourcing hybrid pigs for cross-breeding with local breeds. Regarding extension, NGOs have mostly relied on government veterinary staff in the districts who apparently are too few. NGOs need to start building own capacity in such specialized areas instead of relying on government staff.

3.2 Role of Agro-traders

The level of agro traders in livestock is at a small scale and focuses on drug provision. A few private drug dealers exist such as Share Care Vet and GSJ. The veterinary Assistant Association of Malawi which is also a private firm orders drugs and vaccines which are distributed to its branches in all districts of Malawi.

4. Enterprise Domain

Dairy:

The main dairy product is milk which farmers sell through bulk groups to dairy processors who are few in number. These dairy processors are northern dairy (in the northern region), in the central region (MDI, Katete farm, and Lilongwe dairy) while in the southern region (Dairiboard, Suncrest and Mapanga).

Dairy processors offer unfavourable prices despite farmers being organised in associations. They are the ones who set prices and not dairy farmers. CISANET and Ministry of Trade are currently trying to resolve this contentious issue.

Credit opportunities are too few from financial institutions and farmers feel the conditions for access are too tight. The major lender is OIBM. Although some insurance companies have started offering their services to livestock farmers, only a few are using the facility because of the complex insurance claim process in the event of livestock loss.

A few large scale dairy farms exist in Malawi. Mapanga, katete, Lilogwe dairy and Central Poultry are some of the few large dairy farms. These large farms apply improved feeding practices and use hybrid type of livestock. They could also be used as demonstration units for surrounding small scale farmers. Increased private sector investment has potential to improve the dairy sector in Malawi.

Piggery:

Although piggery farming has been promoted at production level in Malawi, there has been a gap interms of availability of organised marketing and proper slaughter facilities. This has led to most piggery farmers slaughtering pigs in local communities in unhygienic conditions which are breeding grounds for African swine fever. The promotion and practice (by NGO and extension agents) of using one hybrid male pig to service more than one Kholo (Kraal) also spreads ASF in the event of an epidemic.

Lack of organised market facilities has led to some major piggery processor to import pigs for processing because it's more cost effective than to buying from a multitude of small scale farmers who are widely spread in the districts.

Not many livestock processors handle pig processing for religious reasons. S&A Cold Storage which is the largest livestock processor in the whole southern region does not handle pig products for the same reason.

Otherwise financial institutions have started offering services to piggery (NBS and OIBM). NICO insurance company is also offering insurance cover in piggery.

The two diagrams below illustrate the overall innovation system in relation to the dairy and piggery production and marketing.

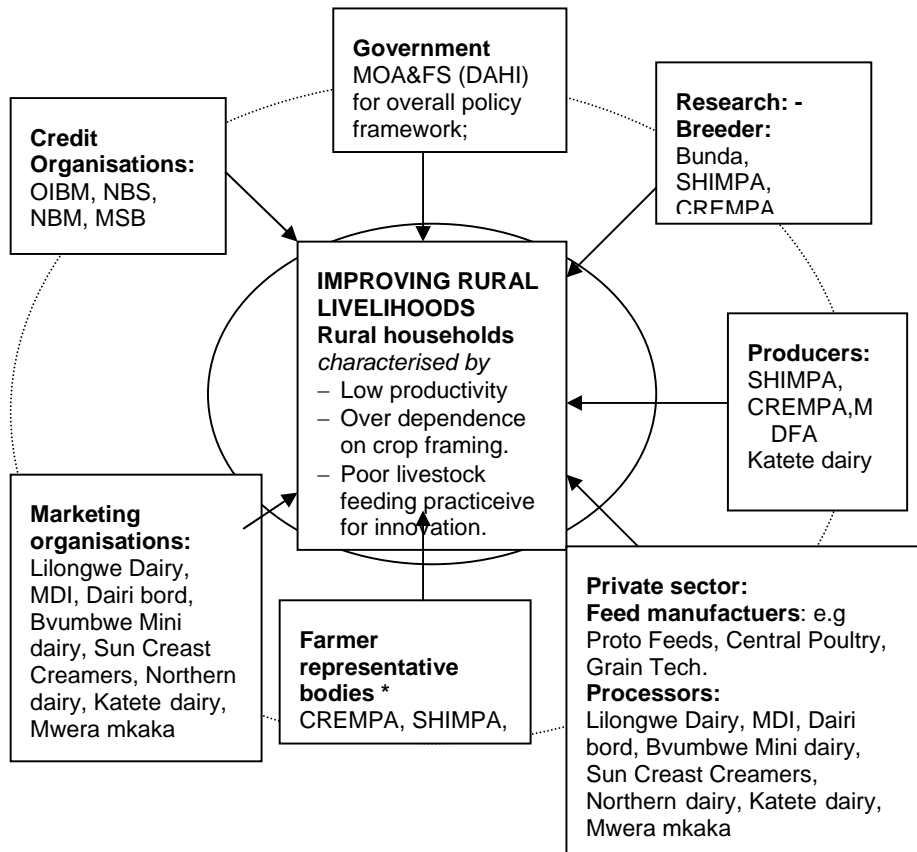


Figure 1: Dairy Production & Marketing System.

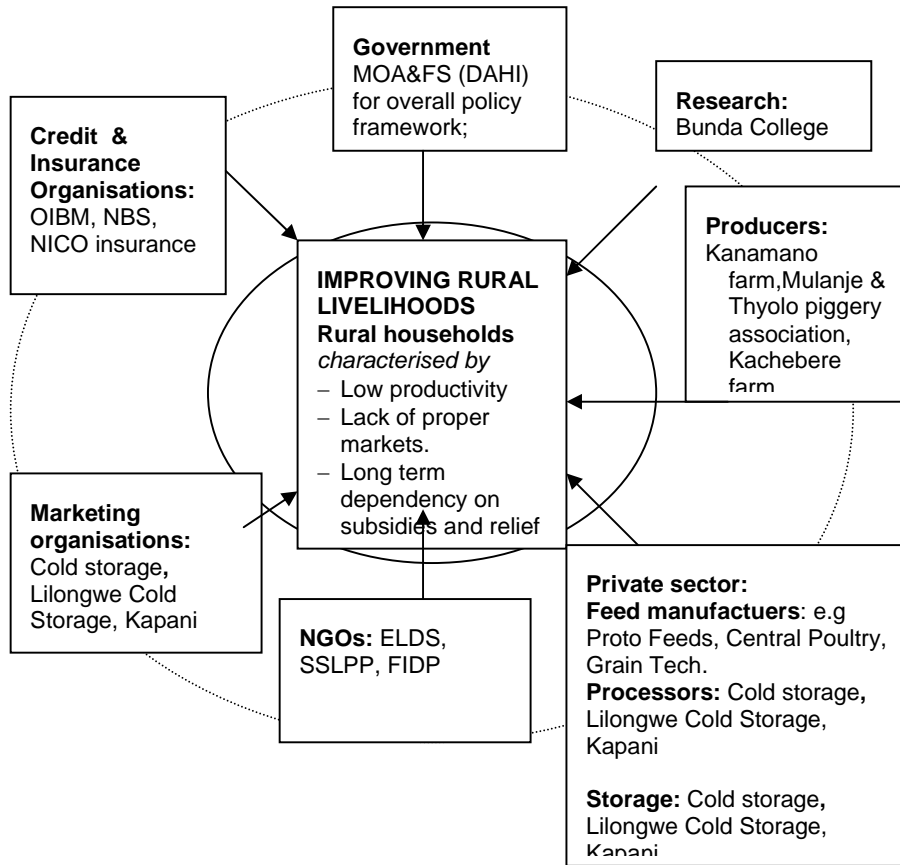


Figure 2: Piggery Production & Marketing System.

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