



Zimbabwe's Dairy Subsector Study



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List of Acronyms

AGRITEX	Agricultural and Technical Extension
ARDA	Agricultural and Rural Development Trust
CFU	Commercial Farmers' Union
DDP	Dairy Development Programme
DII	Development Innovations International
DZL	Dairiboard Zimbabwe Limited
FGD	Focus Group Discussion
GDP	Gross Domestic Product
GMO	Genetically Modified Organism
GoZ	Government of Zimbabwe
ICFU	Indigenous Commercial Farmers' Union
IFAD	International Fund for Agricultural Development
MPA's	Milk Producer Associations
MT/mt	MT/mt: Metric Ton
NADF	National Association of Dairy Farmers
NGOs	Non-governmental Organizations
SNV	Netherlands Development Organization
VCA	Subsector Analysis
ZDIT	Zimbabwe Dairy Industry Trust
ZFU	Zimbabwe Farmers' Union
ZWLAT	Zimbabwe Women, Land and Agriculture Trust
USAID	United States Agency for International Development
USDA	United States Department of Agriculture



Executive Summary

At present Zimbabwe's dairy subsector has 233 large scale producers and 1743 smallholder farmers clustered around 35 Milk Collection Centres. Figures for Nharira MPA show that at least 30% of the smallholder farmers are women.

Dairy production occurs in four main provinces of Mashonaland (including parts of Masvingo), Manicaland, the Midlands and Bulawayo. The numbers of producers and volumes of milk produced shows that the country has lost its self-sufficiency in dairy products and currently depends on imports. The dairy herd is estimated at between 26 and 40 000 cows which excludes beef and draft milking cows that communal and resettlement households use for home consumption and local distribution/sale.

About 11 medium to large scale companies and 13 of the MCC's are involved in small scale processing. Overall milk output has fallen from an early 1990s peak of 260 million litres per year to between 50 and 65 million litres. This drop is associated with herd depletion exacerbated by land reforms which forced massive destocking and low demand due to the socio-economic challenges.

The dairy subsector is supported by a mix of public, private and civil society actors. The strength of support services, the policy and production environment have varied over the years. The subsector feels that it has not received as much support from the government compared to cropping.

For instance, because of government reluctance to support, it is exposed to import competition and high input costs. There has been uncontrolled environmental hazards like veldt fires that destroy pastures and informal hunting which increases risks like the spread of rabies.

Underfunded public sector has left a void in services provided best by the government like breeding, extension, research and general human resource development especially for smallholder dairy. Some of the archaic regulatory instruments require immediate review.

Currently the subsector remains strained by a serious shortage of skilled and experienced technical staff. The other constraints that burden this subsector are:

1. Reduced herd size, low farm-level productivity and sustainability,
2. Reduced producer base, producer viability,

weak succession planning and administrative capacity,

3. Import pressure,
4. Weak actor coordination,
5. Poor animal breeds,
6. Input availability, costs and quality
7. Weak extension and farmer representation, and
8. Lack of liquidity/capitalization.

Above constraints also explain Zimbabwe's failure in terms of milk self sufficiency. While the processing-distribution-retailing end of the subsector has retained key infrastructure and human capital, the production base (number of farmers, herd size and quality) and production practices need strengthening. Processors are convinced of the smallholder value and some like Nestlé and DZL support multi-million dollar restocking efforts.

Keeping this broad consensus in mind, this study makes the following recommendations to SNV:

1. Support herd rebuilding targeting members of selected MPA's through:

- a. Breeding support,
- b. Brokering financial support for acquisition of animals (to a minimum of four milking cows per farmer),

2. Support infrastructural and operational investments at selected MCC's through:

- a. Refurbishing facilities,
- b. Improving milk collection, bulking and processing, and
- c. Strengthening association functionality regarding delivery of member services,

3. Structure and deliver relevant capacity development services to the subsector focusing on:

- a.** Development of a subsector framework;
- b.** Management Information Systems (MIS) support,
- c.** Strengthening dairy extension approaches and their reach,

4. Enhancing smallholder dairy productivity, through:

- a.** Improving on-farm feed supplementation and dairy husbandry practices,
- b.** Strengthening knowledge on intensive production practices,

- c.** Support utilization of MCC's as depots for dairy inputs,
- d.** Partner with other stakeholders to offer training to farmers in on-farm feed production (maize silage, fodder banks, growing of animal fodder crops),
- e.** Improve financial literacy and ready availability of relevant services, and
- f.** Offer other on-demand technical and organizational skills,

5. Support targeted research activities to inform SNV's prioritized areas of support.

*Led by Jonathan M. Kagoro & Kudzai Chatiza
Harare, Zimbabwe, October, 2012*





Background of the Study

SNV was engaged by the Danish International Development Organisation (DANIDA) to implement the Rural Agriculture Revitalisation Project - Commercialisation of Smallholder Farmers (RARP CSF), an initiative which seek to facilitate commercialisation of smallholder agriculture with a view to promote improved household incomes, employment and food security.

The project aim was to reach 280,000 smallholder farming households throughout all eight rural provinces in Zimbabwe.

The development objective of the project was to commercialise smallholder farming in the country by re-instating sustainable commercial input and output marketing channels as well as technical and business development services provision.

The RARP CSF was implemented following an integrated value chain development approach that addresses all constraints hindering growth in specific sub sectors.

The project components which include improving small scale farmers' access to the right and high yielding inputs, development of win-win sustainable contract farming arrangements and provision of effective business development services have been designed to facilitate the revitalisation of the horticulture, oil seeds and dairy sub sectors.

The project's immediate objectives are:

1. To facilitate access to credit for intermediaries in the agricultural and food value chains.

2. To promote private sector competitiveness through "Matching Grants" that will promote technology upgrades and market development.

3. To promote food security through improved access to inputs and output marketing channels and processing services.

4. To facilitate smallholder farmers participation in formal markets through development of the dairy, oil seeds and horticulture value chains.

5. To consolidate and enhance programme development through studies, pilots and innovation.

This study sought to enable SNV-Zimbabwe identify and understand the Dairy sub-sector dynamics regarding actors (from farmers to firms), channels, markets trends, viability and production and consumption trends. Such an understanding would inform SNV's overall exploration of ways to support Dairy production and productivity through, inter alia, enhancing private sector participation and increasing the number of smallholder farmers pursuing Dairy production on a commercial basis under the RARP CSF Dairy component and in future programming of dairy interventions.



Zimbabwe has an agriculture dominated economy. Livelihoods of most Zimbabweans, especially poor rural citizens are heavily reliant on rain-fed agriculture. The agriculture sector comprised smallholder crop growers and livestock rearers on the one hand and a commercial sector previously dominated by large scale commercial farmers, until the land reform programme in 2000.

The Fast Track Land Reform Programme negatively affected the structure and performance of the different agricultural subsectors. Aided by droughts and a cocktail of policies, processes and programmes implemented as part of the land reform programme disrupted key sector relations of trust that underpinned its performance, reduced economic growth and compromised food security.

Concerted efforts have been made by the government and development agencies since 2009 to resuscitate sector viability. A key strategy is to recruit smallholder farmers to plug supply gaps due to absence of large scale commercial farming.

Sector turbulence resulted an increase in private sector participation in rural agricultural economics, interest in sustainable farming and renewal of public-private sector investment (IFAD 2012). New private-sector steered opportunities in agriculture particularly smallholder farming has been well received in Zimbabwe.

1.1 Purpose and Objectives of the Study

The study was commissioned to enable SNV-Zimbabwe to understand dairy sector dynamics (farmers to firms), channels, markets, market trends, production and consumption trends, viability, profitability and activities. This will guide SNV's position in supporting the subsector productivity.

The study's specific objectives were as follows:

1. Investigate the potential for commercializing the smallholder dairy subsector,
2. Verify smallholder ability to meaningfully participate in the subsector,
3. Identify private sector, donors and NGOs to support smallholder dairy,
4. Develop a subsector framework integrating all the identified activities and processes including primary and support services that encourage entrepreneurs to take advantage of the available subsector potential,
5. Identify the subsector challenges and suggest actions to leverage the development of a subsector,

6. Identify funding linkages and other available opportunities,
7. Gauge employment opportunities and access to factors of production by operators along the subsector.

1.2 Underlying Assumptions and Context for the Study

An underlying premise for the study was that Zimbabwe's smallholder dairy farmers could command a large segment of the milk market. But the industry's growth and competitiveness is severely constrained due to seasonality in milk production, severe lack of knowledge and skills, sub standard service provision and input supply. Studies reflect that like other sectors of Zimbabwe, the dairy subsector also needs a framework which facilitate access to inputs (including finance), rewards equity, quality and productivity to underpin smallholder production and productivity.

At present the farmers are currently unable to organize themselves effectively except when they are supported by firm contracts. Examples include Agriseeds contracted smallholder seed producers (SNV Zimbabwe 2012¹) and Union Project supported maize farmers (ZFAT 2012²). While success has been achieved in tobacco, cotton and

to some extent maize, the integration of smallholders in subsectors traditionally dominated by large scale commercial farmers like soya beans, remains rather weak.

Production skills, access to inputs, farmer selection, organizational skills and private sector appetite are important criteria to sustain smallholder activity in such subsectors. This study maps out the existing situation and the potential for private sector involvement in the dairy subsector.

1.3 Structure of the Paper

The report focuses on three main sections:

- i. The subsector structure and trends
- ii. The current sector dynamics or performance
- iii. Recommendations

The paper discusses subsector status with position of SNV interventions in the program. Each of the main section concludes by focusing on the opportunities for smallholder farmers and it could leverage to make the subsector more competitive and contribute to poverty alleviation. Opportunities for private sector leveraging are also articulated alongside the essential capacity development support by SNV.

1 Assignment briefing July 2012, SNV offices, Harare.

2 Interview with Shadreck Hungwe, July 5th, 2012.

2.0

Methodology

2.1 Overview

The overall methodological framework was Value Chain Analysis (VCA). A combination of quantitative and qualitative methodology in the study was used following some key steps:

Step 1: Preliminary Assessment

Analysis of primary as well as secondary data, review of program literature was used to focused on mapping the subsector in terms of its actors' roles and responsibilities, the policy context, constraints faced and responses pursued.

Preliminary assessments helped identify stakeholders within and outside the value chain, such as policy or regulatory institutions and NGOs who generated information about the movement of products, distribution of benefits within the actors' current capacities and also information dissemination amongst participants.

The review of literature unearthed how actors learn about new production techniques and market trends.

Key Informant Interviews and Focus Group Discussions helped identify opportunities, constraints and generate ideas as well as erase differences within stakeholder groups.

Step 2: Sub-sector Mapping and Framework Elaboration

In this step, the study team developed the basic structure of the dairy subsector to illustrate the entire value chain, from raw materials to end markets. The purpose of a visual tool in the analysis was to develop a shared understanding among subsector stakeholders of the current situation of the industry. The map included all the functions and overlays of the subsector and showed the level where the issues and prospects of the subsector existed.

Step 3: Analyses of Opportunities and Constraints

The analysis of the opportunities and constraints was done using the subsector framework as a lens through which the collated data was analyzed to identify systemic issues rather than firm-level problems. The report is based on strategic or meta analysis which compares the general demand for dairy products versus current production.

In the process constraints were discussed and opportunities for unlocking the inherent potential identified. Trend analyses using peak production data and optimum milk supply informed the potential to address constraints at the different points in the subsector map.

Step 4: Validation or Feedback

This stage involved presenting the findings of the subsector analysis to SNV and other stakeholders. Subsector actors responsible for critical market functions, service provision and those performing regulatory and policy functions were brought together. The workshop was attended by forty six (46) experts from government, the private sector and non governmental development organizations.

Step 5: Developing Competitiveness Strategy

The conclusion and recommendations section illustrates a roadmap towards the implementation of viable and agreed interventions to initiate higher rates of growth (competitiveness strategy). The framework for the strategy emphasizes addressing constraints to productivity, socio-economic and technical barriers and engaging with policy and institutional impediments for a sustainable subsector recovery. These require medium to long-term attention to improve producer base strengthening and end market competitiveness.

Category of Organization	Number
1. Farmer Organizations	4
2. NGOs / Development Organizations	7
3. Processors	5
4. Public Sector	3
5. Research Institution	1
Total	20

Table 1: Subsector Institutions by Category

2.2 Study Methods

In terms of methods the study relied on literature review, key informant interviews, focus group discussion with farmers, secondary data analysis and a daylong workshop with sector stakeholders.

Table 2 on the following page shows farmer organizations, private sector players (processors), public sector and research institutions who collaborated for the study.

Sub-sector Function	Organizations
Input Suppliers	Milk Zimbabwe, Capital Feeds
Producers	Smallholder Farmers (Nharira, Marirangwe, Rusitu, Tsonzo) Dairy Development Programme, Kefalos, Alpha-Omega, MilkZim Commercial Farmers (in Goromonzi and Beatrice)
Processors	Dairiboard Zimbabwe (Pvt) Limited, Kefalos, Nestlé, Alpha-Omega and MilkZim
Support Services	AGRITEX, Department of Veterinary Services, Dairy Services, Department of Livestock Production and Development
Farmer Organizations and NGOs	ZFU, CFU, NADF Swedish Cooperative Centre

Table 2: Subsector Institutions by Category

The broad subsector functions of production, bulking, processing, distribution, retailing and the associated regulatory and service provision functions guided the identification of key

informants and organizations as enumerated below:

1. Primary actors in the subsector, their roles, and relationships,
2. Market channels and trends within the subsector,
3. Constraints and opportunities that are holding back growth and competitiveness,
4. Subsector governance structures, inter-firm cooperation, global positioning of the industry (when appropriate),
5. Service providers to the subsector

2.3 Framework for Selecting Respondents

Study respondents were selected based on the subsector roles of the institutions they represent. [Table 2](#) shows the list of subsector institutions identified by function from which respondents were chosen.

2.4 Limitations of the Study

There were challenges regarding authenticity of some data on milk production and the size of the dairy herd and openness to provide firm-level data. The timing of the study also presented considerable pressures as SNV had an eye on distilling some interventions for the impending 2012/13 agricultural season.

Dairying In Zimbabwe

3.0

The dairy subsector is governed by the Dairy Act of Zimbabwe 1977. The industry consists of a number of actors from input suppliers, milk producers, processors, transporters to service providers. Producers are clustered into large scale and smallholder with a medium category made up of small scale commercial farmers. Herd size, which generally determines scale of operations, is a key variable while channels used determined the marketing output. Smallholder producers have small herds of average 3 cows per farmer and predominantly use informal market channels for their milk. But as noted by Marecha (2009) the description of the dairy subsector in terms of size and operations often excludes informal players.

3.1 Large Scale Dairy Farming

The large scale dairy sector started in a formally distinguishable manner in 1910 on large farms with high yielding cows and their hybrids. The land redistribution reform from 2000 forced targeted large scale dairy farms to sell their dairy herds.

Accompanied by macroeconomic policies (Zvomuya 2007) and drought-induced constraints, the year 2000 marked the beginning of a downward trend in milk production in the country. As shown in [Table 3](#) (on the following page) the number of registered dairy farmers dropped from 314 in 2000 to 165 in 2012 with the milking herd dropping from about 30,000 to 20,000 (NADF

2012³). Land seizures thus forced large scale destocking resulting in the herd dropping to 24,000 by 2008 with an output of 40 million litres. The dairy herd further went down to 12,392 by the end of 2011.

3.2 Smallholder Dairy Farming

Smallholder dairying in Zimbabwe was initiated after independence by the Dairy Marketing Board (now Dairibord Zimbabwe Private Limited) before the programme was handed over to the Agricultural and Rural Development Authority (ARDA) under the Dairy Development Programme (DDP). The programme focuses on reducing poverty through the increasing incomes from milk production. Smallholder dairy farmers' contribution has however remained insignificant at 2% measured as a contribution to the national milk pool. Only six⁴ (6) Milk Producer Associations have been able to produce sufficient to deliver to a processor. Based on the January-August production figures for DDP projects, smallholders produce between 75 000 and 110 000 litres (DDP 2012⁵) realizing USD2-3.00/day per farmer.

A combination of factors constrain smallholder production and productivity. Some of the main problems relate to breed quality with local bulls

3 PowerPoint presentation at SNV-convened workshop, September 26th 2012, Holiday Inn, Harare. 4 Maronrangwe, Mayfield, Rusitu, Chikwaka, Tsonzo and Welkom. 5 PowerPoint presentation at SNV-convened workshop, September 26th 2012, Holiday Inn, Harare.

Variable	2000	2001	2002	2003	2004	2005	2006	2010	2012
Registered Producers	314	323	283	280	277	281	282	165	165
Cows in milk	29,975	28,321	28,845	27,667	23,788	22,687	23,200	18,000	20,000
Dry cows	8,993	8,496	8,654	8,301	6,772	7,392	6,720	5,000	5,750
Heifers in calf	7,494	7,080	7,211	6,917	5,947	5,020	5,825	4,500	5,000
Heifers older than 1 year	12,589	11,895	12,114	11,620	9,991	6,584	6,250	5,250	6,000
Heifers under 1 year	11,091	10,478	10,672	10,237	8,802	5,838	5,525	5,000	5,750
Total Female dairy animals	70,142	66,270	67,496	64,742	55,300	47,521	47,520	37,750	42,500
National Milk Intake (Million Litres)	177	172	149	111	94	102	96	47.2	64.4
Average Production per cow per year (Litres)	4,542	4,671	4,047	3,086	3,076	3,391	3,208	2,052	2,500

Table 3: Trends in the large scale dairy sub-sector • Source: NADF, 2012

interfering with herd management, lack of improved feed, lack of easy access to medicines resulting in failure to deal with diseases like mastitis and low productivity resulting in farmers not earning enough to sustain operations of MCC's (see also the Marirangwe case below). Of the 239 Nharirar farmers 91 (38%) are women and only 34 (15%) were milking. About 1/3 of those milking are women confirming their active role in smallholder dairy.

3.3 Sub-Sector Production Trends

Production of milk peaked in the early 1990s when the dairy subsector as a whole produced 260 million litres (GoZ 2012) with 200,000 milking cows as *Figure 1* below shows. Milk production dropped from 260 million litres to below 200 million litres in 2000. The most precipitous drop was between 2000 and 2007 from about 180 million litres to 50 million litres, by more than

70%. This production can easily be correlated to the land reform programme directly along with non-land reform related structural factors which are at also play.

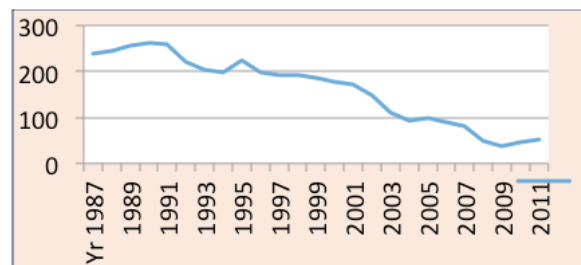


Figure 1: Milk production trends

The decline in the production of milk, has forced the country to import milk from neighbouring countries especially South Africa and Zambia. In 2011 the country imported 41 million litres of milk and related products at a total cost conservatively estimated at USD7 million. Despite not meeting

national demand the dairy industry now shows an upward trend in milk output with an increase of 32% in 2010, compared to the previous year. 2011 milk production reportedly increased by 7%. NADF estimates put output for 2012 at 64.4 million litres (NADF 2012⁶).

3.4 Milk Products

Zimbabwe produces a variety of dairy products using local and imported milk. The milk products in Zimbabwe fall into the categories of liquid milk, foods and beverages. The food category consists of yoghurts, ice cream, powdered milk, cheese and butter while the beverages group is made up of juices.

Pasteurised Milk

The production of pasteurised milk is an important activity in the dairy subsector. Over 60% of the milk produced in Zimbabwe goes to the production of pasteurised milk. The leading five processing companies are involved in the production of the pasteurised milk.

UHT

The main processors produce UHT milk although some of it is imported from South Africa. UHT milk is found mostly in up-market retail shops. The top producer of UHT milk in the country DZL uses under the brand name Dairibord Chimombe.

Cultured Milk

There are different brands of cultured milk that are produced in Zimbabwe. 13 milk collection and processing centres are involved in the production of cultured milk in Zimbabwe. Some small-scale processors produce cultured milk for farm gate

sales such as Magumbo 67kms south of Harare.

Cheese

The production of cheese in Zimbabwe has gone down because of shortage of milk supply and cheese requires more milk per kilogramme relative to other product lines. Kefalos Cheese Factory dominates the production of cheese.

Ice-Cream

The major processors in the country produce different flavors of ice-cream. In the last three years the dairy industry has seen the emergence of small-scale ice cream makers, some of them operating as cottage or home industrial operations. This has been attributed to the availability of affordable ice-cream making machines.

Yoghurt

DZL and Kefalos are the main yoghurt producers in Zimbabwe under different brands. Some of the smallholder milk collection and cooling centres (e.g. Nharira) produce yoghurt at very small levels.

Dairy-based Beverages

DZL leads the production of dairy beverage in Zimbabwe. Small-scale processors have also entered into the competition such as Cascade (Lyons Maid) and Revive (Innscor Group).

3.5 Marketing Structure of the Dairy Sub-Sector

The dairy subsector in Zimbabwe has several players along the subsector functions from input supply to the end market. The key processors and large players in the industry shape the marketing structure.

⁶ Presentation at the SNV-convened workshop (September 26th 2012),

3.5.1 Product Pricing

Prices for milk at production level are usually negotiated between the Dairy Processors Association and the Farmers' Associations. Prices are determined based on input costs plus a profit margin for the producer, forming the base price paid by all processors. An additional premium is paid for quality milk under a scheme run by the Dairy Services which is however currently constrained by resource challenges. Wholesale prices are a function of the production costs and the recommended retail price based on a 10% mark-up. Overall the price of milk per litre offers unfavourable returns due to high costs of production as high costs of feed consumes 70% of production costs.

3.5.2 Marketing Systems

Dairy products in Zimbabwe are marketed mainly through formal channels. The formal market deals mostly with milk coming from commercial producers who have supply contracts with processors. The producers sell raw milk, which is transported to the processors using arranged transportation by NDCZ or NFB. The informal market mobilizes milk predominantly from the smallholder dairy sector who sell up to 68% of their milk through the informal channel (Marecha 2009). Milk vendors are the key players in the informal marketing system.

3.6 Main Actors

Subsector Analysis (SSA) involved developing the subsector map to analyze the dynamics by function as well as key actor. This was followed by identification of constraints and opportunities forming the basis for developing the interventions.

The two broad producer categories can be further divided into four subcategories as shown in the map, on the following page, *Figure 1*.

The first can be further subdivided into a cluster consisting of a smallholder subcategory made up of farmers in communal and resettlement areas and the second is made of smallscale commercial farmers. There is a growing interest amongst small scale producers in the production of own-feed to boost their productivity. The second subcategory consists of small scale commercial farmers. Dairy herds vary between three and ten in this category of farmers which is higher than for the first subcategory. Because of access to sizeable grazing land on their small scale farms this category of farmers are able to have larger herds, better yields per cow and outputs.

The largescale commercial sector has two subcategories of registered commercial dairy farmers and company dairy farms. The first subcategory combines those whose land was not redistributed and a few new farmers. Their husbandry practices are more commercial with connections into formal markets. The fourth subcategory consists of company dairy farms involved in both production and processing. In this category milk is produced and processed into a diversity of products i.e. producer, bulking and processing functions are combined in one comprehensive enterprise. Two main examples of this subcategory are Kefalos and Gushungo Estates (with Alpha Omega as the processor).

The difference in level of operations and their commercialization has a bearing on the types of contact with the private sector in the subsector. Suppliers of relevant animal drugs interact with all farmers while large scale producers of animal

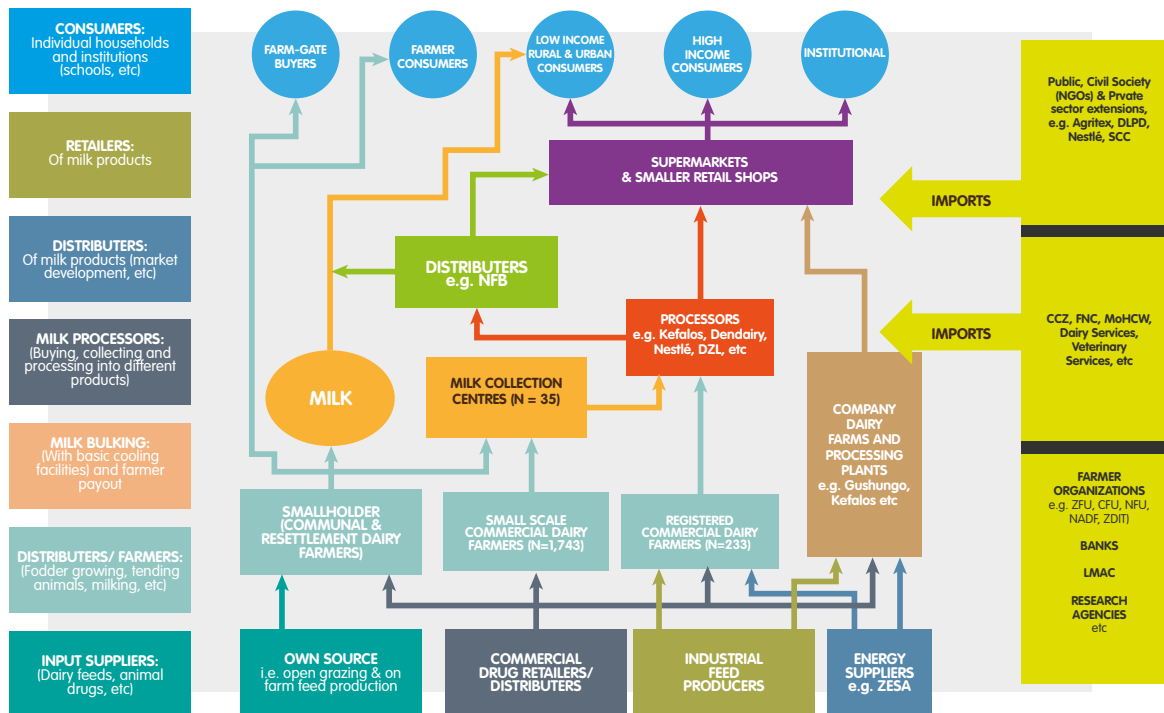


Figure 1:
Dairy Subsector Map

feeds for instance mainly interact with large scale operators (subcategories three and four).

Small scale farmers largely distribute their milk informally through vendors who themselves also source milk from commercial farmers depending on their proximity to large scale processors. The subsector has registered milk dealers who interface between producers and processors. The country has 199⁷ dealers mainly in the Mashonaland (82), Bulawayo (47), Gweru (37) and Manicaland (33) regions. Apart from dealers some 130 medium to large scale producers deliver milk directly to processors in the same regions.

3.7 Summary of Issues on Structure

This section presents the different marketing systems used by the categories of dairy farmers. Smallholders principally use informal and/or local channels while large scale farmers sell through the formal market. There is limited local milk production into the dairy products that Zimbabweans access through the formal market. There is unmet raw milk demand up to 80% in the country. This explains why Zimbabwe's dairy subsector is facing stiff competition from imports unfortunately without any form of protection. The subsector is also facing local constraints arising from disruptions to long-term planning, policy making and effective implementation in the last decade.

4.0

Dairy Sub-Sector Dynamics

4.1 Main Sub-Sector Actors

Table 4 shows the main stakeholders in the sub-sector and their specific roles.

Stakeholder	Roles
Ministry of Agriculture	Provides veterinary services, extension services and milk regulatory services, import and export permits.
National Association of Dairy Farmers	Producer organization for commercial dairy farmers. NADF provides training and extension, veterinary services to its members. It has also sought funding from the European Union to support its members.
Smallholder Dairy Farmers Association	Producer organization for the smallholder dairy projects especially those established by the Dairy Development Programme (DDP).
Zimbabwe Farmers' Union	It represents the smallholder farmers in mostly the communal resettlement areas.
Zimbabwe Dairy Industry Trust	It fosters understanding and goodwill amongst stakeholders, facilitates information dissemination on the key aspects of dairy production and marketing.
Processors (DZL, Nestle, Kefalos)	Involved in processing, packaging and distribution of the dairy products. The processors are also involved in contracting the producers and they also provide extension support services. The processors in some instances act as loan guarantors for the producers.
Input Suppliers	Supply stock feeds, veterinary drugs, medicines, detergents and disinfectants.
Milk Producers	Involved in the production of milk at farm level.
National Dairy Cooperative	It is involved in milk collection and transportation. It also supplies the bulk tanks for cooling the milk. It collects milk for the processors and is involved in the taking of samples of milk to the laboratories for testing. It also delivers mail to the farmers as they collect milk.

Table 4: Main sub-sector stakeholders and their roles • Source: Adapted from Marecha (2009) and Survey Data August 2012

4.2 Input Supply and Utilization

Inputs in the dairy sector include, inter alia, animals, artificial insemination and breeding services, drugs, stock-feeds, transport, milk handling facilities (milk parlours, refrigeration / cooling etc) and farm-level infrastructure (watering and feeding facilities etc).

Financial services and products are also among the input requirements in the dairy subsector. The current poor performance of the industry is attributed to the high costs of production.

The mechanisms for input supply to dairy farmers include:

- a. Own-source (farmer financed and/or produced) i.e. open market sourcing,
- b. Processor support to producers,
- c. NGO/Development Partner support programs, and
- d. Government provision (e.g. extension).

Access and utilisation of inputs differ between the smallholder and commercial dairy farmers. The former graze their animals with minimum feed supplementation. Commercial dairy producers use commercial feeds for their animals, especially the lactating ones and also produce supplementary feeds. The leading commercial suppliers of animal feeds are Agri-Foods, Pro-Feeds and National Foods.

Data from NADF and SCC shows that only 2% of smallholder farmers use artificial insemination (AI) services due to lack of farm level knowhow, challenges of managing the process where animals openly graze and a perception that artificial insemination is expensive.

At present there are no public sector run dairy breeding services in the country with the exception of selected farm level activities. Kefalos farm in Marirangwe is the only farm widely recognized for its breeding services. While other breeders may exist their services are not widely accessible.

Use of vaccines by dairy farmers declined and as per NADF the reasons being unreliable sources (ready availability at trusted sources) and costs.

The study confirmed two critical factors affecting access to and utilization of inputs sourced off-farm. One relates to the extent of commercial approach to dairy farming while the other is a combination of economic factors (affordability and availability). These two factors are interrelated and can be influenced by available knowledge, interaction amongst subsector actors and farm-level innovations.

At the September workshop processors indicated their willingness to support smallholders adopt use of improved inputs. The restocking work being done by DZL and Nestle strengthened the case for structured linkages to address smallholder constraints for those willing to adopt a commercial approach.

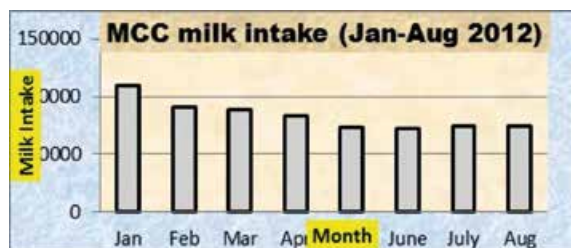
4.3 Production

Using the Mashona breeds smallholders produce largely for household consumption and sell the surplus milk locally through milk collection centres (MCC) or directly to vendors and neighbours. According DDP, 1,743 smallholder farmers that are involved in the semi-commercial dairy production around 20 functional MCC. As per Dairy Services records 17 MCC's had 481 active members with

average of 28 members per MCC. The distribution of the active members per MCC is shown in the bar chart below.

The reduced participation by the members of the different MCC's is related to low level of operations, low commercialization, inefficiency, lack of infrastructure maintenance and low prices offered for delivered milk.

Figure 2 shows the performance of one MCC (Marinrangwe) in terms of active members, herd ownership and production. The production levels by farmers at MCC's varied between 75,000 and 110,000 litres between January to August of 2012 as shown in the graph below. The smallholder dairy farmers shows reliance on-farm resources, lack of good agricultural practices, treatment of beef and dairy cattle alike, ineffective support services and a general non-commercial approach that has reduced dairy productivity.



Graph 2: Milk production by MCC in Zimbabwe
Source: DDP September 2012

Milk deliveries to MCC's reach peak levels during the rainy season when the pastures are good. Earnings per smallholder farmer based on the deliveries is shown in the table below, which are well below the target of USD20/day. At current price of USD1/litre this means each smallholder should produce 20 litres, which is difficult given

the average yield of 2 litres per cow and average ownership of 3 cows per farmer i.e. 6 litres or USD6 per day.



Graph 3: Incomes per farmer through MCC deliveries
Source: DDP September 2012

Individual and company producers are active in the commercial category. According to Dairy Services there are 233 individual commercial dairy producers across the country (NADF figure is 165) in Mashonaland followed by the Bulawayo region. The distribution per province is shown in the pie chart below. Considering that even breeding beef and draft cows are often milked the number of farmers that can reasonably contribute to the national milk pool. At 60-70% female animals of national herd of about 5 million, brings the total potential dairy herd to 3-3.5 million. Low end estimates suggest that even 300 000 smallholder farmers with at least 1 cow can be mobilized to participate in the subsector. There is model where Milk Zim is establishing dairy zones by mobilizing farmers with their Mashona breeds to participate in the subsector (see Figure 2, Box 2 for the model). However, as stated repeatedly in this paper, productivity in this subsector is very low.

Box 2: Milk Zim Dairy Zone Model

Milk Zim (Pvt) Ltd was established in 2008 piloted a Dairy Zone in Domboshava, a smallholder farming community north of Harare. There was grant from the United States African Development Foundation (USADF) to establish Zone facilities. Under the model to improve herd quality and milk production the local indigenous dairy cattle were sold and replaced by exotic breeds. These were purchased by Milk Zim using USADF funds provided.

The Dairy Zone business is still to break-even with 21 cows producing milk. The yield is 240 litres per day, which is selling at US\$ 0,63 per litre, giving a monthly income of approximately US\$ 4 000. With the current herd, the maximum production can be 330 litres per day and it will have to rise to 840 litres per day in order for the Dairy Zone to break even, including the costs of pay-outs to participating farmers and contributions to a Community Benefit Fund. To produce at this level the Zone requires 75 milking cows. A processing facility for fermented milk (lacto) was set up in July 2012 to increase the profit on milk produced at the Dairy Zone.

The company created an "Inclusive Business Strategy" where it engages producers (**Farmers**), processes raw milk (**Processor**), and members of the community as distributors of the product (**Retailers**). A Nutrition Network Group was established to complement the Dairy Zone by selling milk at a competitive price. The farmers benefit from sale of raw milk and retailing of the processed product. The highest participant managed to sell 63 pockets at USD2 each to realize \$126 in July. There are 44 Nutrition Network Partners, 24% are members of the Domboshava Dairy Zone Association and the remainder are women from low income suburbs in Harare. US\$740.00 was paid out as commission in July through this network. This is in addition to US\$720.00 paid as payout to 36 Domboshava Dairy Zone farmers.

MilkZim targets to have more dairy products under the Nutrition Network Partnership like yoghurt and dairy blend. The Nutrition Network Group expanded to more than 100 partners in the low income suburbs of Harare and plans to have 30 in Domboshava. Plans are underway, to place a partner at every school in Domboshava where a "Nutrition Base" will be created. There, a School Milk Nutrition Partner will sell milk and milk products to school children. For schools the target is to sell calcium fortified milk to school children. MilkZim is planning to celebrate this year's World School Milk Day at the Domboshava Dairy Zone.

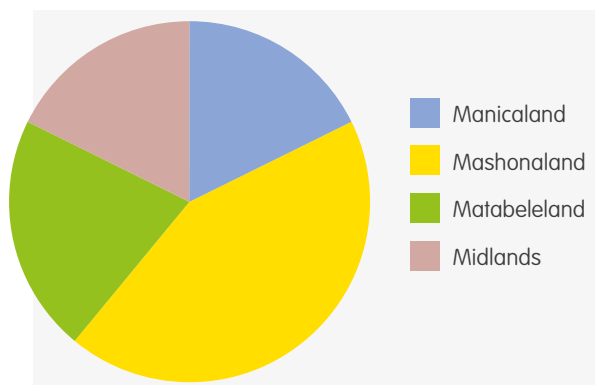
The Dairy Zone model developed by Milk Zim and enables small-scale dairy farmers to take advantage of commercial dairy management methods. Other small-scale dairy farming programmes merely provide a collection point for milk produced by the farmers without offering them the benefit of commercial production techniques. Having provided a jump start through a private sector/community engagement program in the pilot, MilkZim went on to build its business from the capacity building offered to it. The company created three SBUs (**DairyNet**, **FoodNet** and **FeedNet**) that drive objectives surrounding the Dairy Zone Concept. **FeedNet** provides a special formula dairy feed to the dairy operation **DairyNet** drives the Dairy Zone Concept offering technical expertise to emerging dairies on the Dairy Zone Concept. **FoodNet** pursues value addition of the milk from Dairy Zones, beginning with the Domboshava pilot project. FoodNet is also running a small laboratory central to product development and quality control. This FoodNet Laboratory has been a major and consistent source of funding for MilkZim so far getting samples from some of the biggest dairy processors, abattoirs, food companies, dairy farmers, hotels and restaurants, as well as city council for water analysis.

Milk Zim annual turnover has grown to above \$60,000 in just a year. With more Zones under its management, Milk Zim can treble its annual turnover through technical services; feed manufacturing, processing and allied laboratory services. To upscale pilots, MilkZim is aware that one Zone will be under immense financial pressure to meet administrative costs and technical service fees required. So at least 5 Dairy Zones will allow a sharing of these costs amongst the Zones.

Source: Milk Zim, October 2012,

Figure 2:

Box 2 -
MilkZim Dairy
Zone Model
Source:
MilkZim,
October 2012

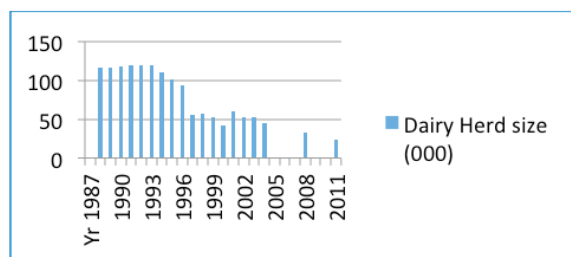


Graph 4: Distribution of Commercial Dairy Farmers by province • Source: Survey Data August 2012

4.4 Production Systems

4.4.1 Herd Size and Composition

As of June 2012, the Dairy Services figures show an estimated herd size of 26,000 with 7,732 or 29.7% cows in milk and 2184 or 8.4% dry, 5158 or 19.8% heifers and 2,022 or 7.8% heifer calves. The herd size trend is shown in *Figure 5* has some data missing for 2005 and 2007. Discrepancies aside, the study shows a correlation between the drop in herd size and production trends (see *Table 3 and Graph 1*).



Graph 5: Size of 'formal' dairy herd
Source: Dairy Services

4.4.2 Milking System

Milking system affects the quality of the milk and subsequently profits. Hand milking has been found to contribute to low production (through milk losses), mastitis and reducing milk quality. Most of the 1,743 small scale producers use hand milking while the commercial producers mainly use machines in installed parlours of varying sophistication.

4.5 Milk Bulking, Collecting and Transporting

Small scale producers do not bulk their milk owing to low volumes and lack of farm-level facilities. They deliver to MCC's within a reasonable period after milking using cans. Some deliver on foot (carried in wheel barrows, on the head etc), on bicycles, animal-drawn carts and vehicles. For smallholder farmers the milk collection takes several forms. In Chikomba (Nharira and Sadza) and Shurugwi districts SCC has established an order bicycle revolving loan facility to deliver milk to MCC.

For distances of more than 10 kilometres milk collection is done either by scotch-cart or the MCC goes out to collect the milk on trucks. Land O'Lakes has come up with donkey milk collection model, which reduces some of the challenges. In terms of milk transportation, the National Dairy Cooperatives (NDC) and NFB, mainly serve small scale operators and producers. NDC offers bulk transportation through a fleet of tankers.

Two producers-processors (Gushungo Estates⁸

⁸ Produce the recently launched Alfa and Omega brand of dairy products

and Kefalos) undertake on-farm processing and/or retailing. Commercial farmers have standard supply contracts with processors mostly with DZL. In the majority of cases the farmers pay the transportation costs.

4.6 Milk Processing

Zimbabwe has 11 large scale milk processors whose distribution by province is shown in the graph below. The products produced are as discussed in section 3.4 above. Overall processing capacity utilization is at 10% mainly due to lack of adequate raw milk locally. Processors are mainly concentrated in the Mashonaland dairy region. 37% MCC's are involved in the processing of milk into cultured milk, yoghurts and ice-cream (*see the Figure 4 below*).

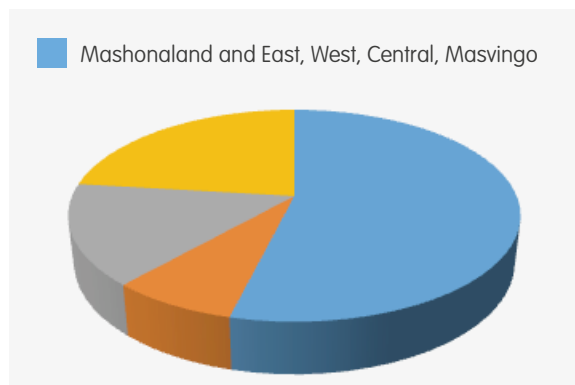


Figure 4: Distribution of MCC per 'dairy province'
Source: DDP and Dairy Services

4.7 Distribution and Retailing of Dairy Products

MCC's that are involved in processing use own transport for product distribution. The selling outlets for the main processors are distributors,

wholesalers and retailers (supermarkets) complemented by factory shops. Vending is also used for retailing of dairy products. Due to the constraints in accessing smaller denominations of cash some of the products normally sell at prices higher than the recommended prices. Main supermarket chains have some flexibility regarding change and thus are usually able to sell dairy products at recommended prices. For MCC's the retailing is done through rural shops within the catchment area and at the centres.

4.7.1 Sub-Sector Market Channels

There are four main end-markets. These are on-farm, rural consumer, low income urban, institutional and high income urban end markets. The on-farm market covers the milk that is consumed by the household and or sold to the neighbours.

The second is the rural consumers end market, which is largely serviced through the MCC's by the smallholder farmers. The third end-market is the low income urban consumers and is serviced by the big processors and milk vendors.

The high income urban consumer end market is serviced by the large processors. Institutions like schools, hospitals, prisons and other facilities combine own production (e.g. boarding schools) and procuring relevant dairy products directly from producers and processors. Data analysis indicate that the dairy sub-sector has four functional channels as described below.

Channel 1 - On-Farm Consumption:

This channel is dominated by the smallholder farmers in the communal and resettlement areas. The milk that is produced by farmers is consumed

on the farm while surplus is usually fermented and used as relish or sold to neighbours.

Channel 2 - Rural Consumers:

The rural consumers end market is largely served by the smallholder farmers through the 13 MCC's and the purchases at neighbouring farmers.

Channel 3 - Low-income Urban Consumers:

This channel is for reaching the low income urban households. The milk from the smallholder farmers is purchased by vendors for onward selling through this channel sometimes using recycled packaging as is the case for milk. The commercial dairy farmers participate by processing the milk, distributing and retailing through the supermarkets to reach the low income urban consumers.

Channel 4 - High Income Consumers:

Channel 4 is the preserve of the commercial dairy farmers through the processing companies. This end market for high income earners is largely through supermarkets.

4.8 Institutional Arrangements For Support Services

There are models for accessing support services through public sector, private sector and NGOs. Provision within each model uses a combination of expert-based and farmer-to-farmer learning approaches. The main areas of service provision to the dairy subsector include:

1. EXTENSION SERVICES:

The main actors in this category include government agencies like the Dairy Development Programme, AGRITEX, ARDA, Veterinary Services and, among others, the Department of Livestock

Production and Development (DLPD) all falling under the Ministry responsible for agriculture. Some NGOs offer training and extension services.

Medium to large scale producers are relatively self-sufficient in terms of extension services. Processors provide technical support on production and marketing issues to smallholder dairy farmers. This is the case with Nestle and DZL who are two of Zimbabwe's main processors. NADF runs 15 training programmes focused on production and information management.

2. FARMER REPRESENTATION & ORGANIZATION:

NADF, CFU, ZNFU, the ZFU and producer associations like MDMA for smallholder dairy farmers. The association collects and disseminates relevant information, advocates for farmers' interests to the government and promotes market development. At national level it collaborates with relevant agencies, and at the medium and local level producer associations provide similar services for their members.

3. RESEARCH SERVICES:

Government agencies, Universities, the Agricultural Research Trust, NGOs and private firms like Agri-Lab undertakes relevant research. Dairy Services is a key repository of data on the subsector. Subsector research is coordinated by the ZDIT in terms of setting priorities in keeping with the agency's mandate of ensuring that technical and management services required by subsector stakeholders are readily available.

4. INPUT PROVISION (INCLUDING FINANCIAL SERVICES):

Providers of inputs are critical to production and productivity and these are mainly private sector providers.

5. REGULATORY FUNCTIONS (POLICY DEVELOPMENT AND MONITORING, PRODUCT QUALITY ASSURANCE ETC):

The Ministry of Agriculture has a key regulatory role but others like the Ministry of Child Care, Food and Nutrition Council also play a critical role particularly regarding quality assurance of dairy products. Some civil society organizations like NADF, Livestock and Meat Advisory Council, the Zimbabwe Dairy Industry Trust and producer associations also perform quasi-regulatory functions through use of standards and relevant by-laws. The Environmental Management Agency (EMA) has become a key regulator of dairy subsector activities in recent years.

6. CONSUMER 'PROTECTION' SERVICES:

The Consumer Council of Zimbabwe, the Ministry of Child Care, the Food and Nutrition Council, the Veterinary Services, the Standards Association of Zimbabwe (through, among others, ISO certification) and organizations interested in child welfare promote consumer interests. Consumer protection services include tracking prices and monitoring the quality of dairy products being sold in the market.

The quality of dairy subsector support has varied over the years. From a precipitous decline from 2000 there are signs of subsector recovery regarding support services since 2009. Shortage of skilled and experienced technical staff remains an issue across all the six areas of support services discussed above.

There are a number of issues of relevance to the subsector. While organizational structures exist there is an impression that government support has neglected the dairy subsector. The

import/export regime under which feed manufacturers operate in a context of 'open borders' against low national production of key raw materials like maize and wheat has reduced price competitiveness.

Environmental management practices have deteriorated as evidenced by veldt fires that destroy pastures and informal hunting which increases risks like the spread of rabies.

Limited fiscal space of the public sector has left a void in services provided by central government particularly breeding and related extension services, research, human resource development and retention for the smallholder dairy sector.

4.9 Summary of Sub-Sector Constraints

1. Reduced herd size, low farm-level productivity and sustainability due to inefficiencies,
2. Reduced producer base, producer viability issues (price stagnation, land issues; space and tenure), issues of weak succession planning (ageing farmers and general youth shunning of farming, which they do not readily see as an area business) and weak administrative capacity,
3. Import pressure in a market plagued by subdued demand due to low consumer incomes,
4. Weak actor coordination, no incentives (reducing number of new entrants) and dilapidated infrastructure (roads, energy etc increasing time outside the cold chain)

5. Poor breeds for the greatest majority of smallholder dairy farmers. Exotic breeds very expensive (cost of animals and requisite management practices) and delivery of AI services, which are relatively affordable is not properly structured,
6. Ease of input availability (feeds, medicine, energy, labour, finance etc), costs and quality (externalities of market liberalization),
7. Weak extension, general service provision and farmer representation, and
8. Lack of liquidity/capitalization for operational and capital investments.

Conclusion and Recommendations

5.0

5.1 Conclusion

The study established that milk production is about 20% of peak production. The disruptions associated with the national land reform programme since 2000 are key reasons behind the near collapse of the subsector. Dairy production occurs in 4 main provinces of Mashonaland (including parts of Masvingo), Manicaland, the Midlands and Bulawayo. Based on numbers of producers and volumes of milk produced it is fair to assert that the country has lost its self-sufficiency.

Availability of dairy products on the market currently depends on imports. Processors are convinced that smallholders can viably contribute to the sub-sector hence efforts at restocking that are targeting both smallholders and large scale producers. DZL demonstrated how Milk Producer Associations, with intensive production, could be as good as and better than individual large scale farmers in certain dairy provinces.

Using the case of Rusitu⁹ only 25 farmers producing 120 litres a day from 10 cows (peak production) will produce 75 000 litres a month surpassing the milk output of the top producer in Chipinge's 60,000 litres (DZL 2012).

⁹ 140 active of 250 members.

5.2 Recommendations

This subsection focuses on recommendations for SNV steering within the framework of its 'way of working' and existing partnerships. They include the following:

1. Support dairy herd rebuilding targeting members of Milk Producer Associations (MPA's) serving selected MCC's. On this aspect SNV could consider:

a. Breeding Support: SNV should consider supporting improved access to AI services. Identification and training public sector extension staff and para-vets to offer heat detection and insemination services with the involvement of private sector players and research institutions. An overall model of working with beef sector farmers (large and small scale) to produce crosses on a commercial basis while building farmer capacities. Cross-breeding will require strengthening of agricultural practices including animal nutrition through feeds production, disease control and general extension.

b. Brokering financial support for acquisition of animals (to a minimum of 4 milking cows per farmer), SNV and other stakeholders should work to increase the density of producers around MCC's by recruiting new farmers to the industry to complement herd rebuilding and breed improvement. The processor-implemented restocking schemes

have some unexplored space. Nestle indicated that of the USD14 million set aside for restocking only USD3 million (21%) had been utilized largely to import improved breeds.

2. Support infrastructural and operational investments at selected MCC's through:

a. Refurbishing facilities and expand MCC-level milk processing activities aimed at meeting both local and external demand for specific products

b. Improving milk collection, bulking and processing: SNV could focus on supporting solar-powered satellite milk cooling facilities where farmers deliver milk over four to six days before it is collected, and

c. Strengthening association functionality regarding delivery of member services,

3. Structure and deliver relevant capacity development services to the subsector focusing on:

a. Development of a subsector framework: which can address policy constraints through a participatory process complemented by capacity building services directly to key actors like Dairy Services Zimbabwe, ZDIT and NADF, among others.

b. Management Information Systems (MIS) support to improve data gathering, storage, sharing. This will improve the quality subsector decisions and actual actions

c. Strengthening dairy extension approaches and their reach including access to and development of appropriate knowledge.

4. Enhancing smallholder dairy productivity, for instance, through improving on-farm feed supplementation and dairy husbandry practices:

a. Strengthening knowledge on intensive production practices

b. Support utilization of MCC's as depots for feed concentrates and other inputs support presence of agro-dealerships in smallholder dairy zones

c. Partner with other stakeholders to offer training in on-farm feed production (maize silage, fodder banks, growing of animal fodder crops),

d. Assist in the creation of farmer-based savings and credit groups to enhance financial literacy. On-demand technical and organizational skills to farmers, farmer organizations.



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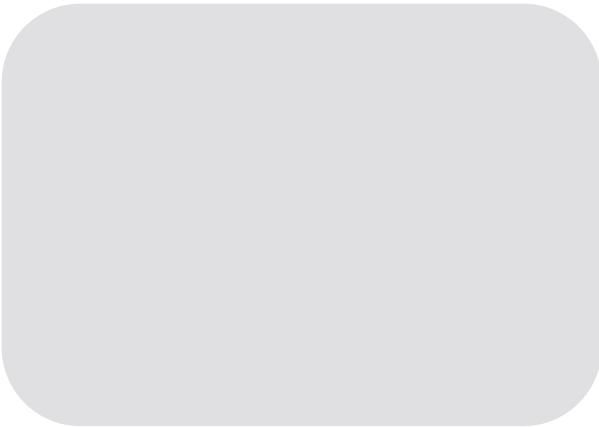
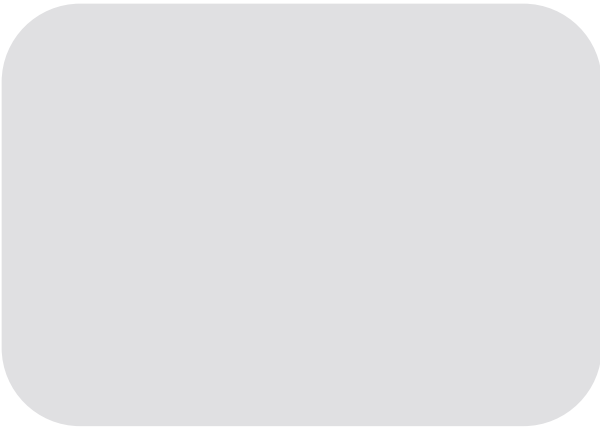
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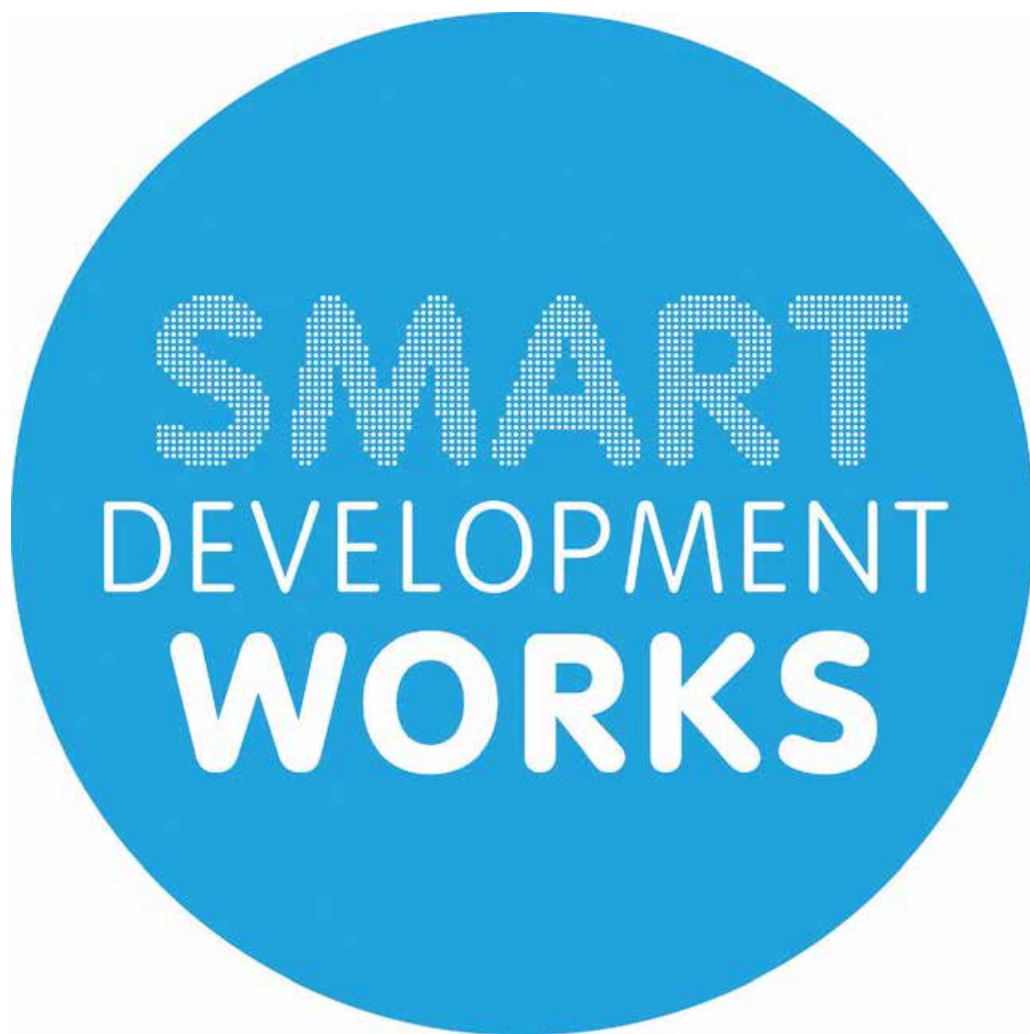
Annexure

Annex 1

Factors	Strengths	Critical Concerns /Weakness	Proposed Interventions	Targeted Beneficiaries	Expected Results
Context					
History and general characteristic of the dairy subsector	<ul style="list-style-type: none"> Available history Available institutions Available data 	<ul style="list-style-type: none"> Bias Lack of resources Lack of accountability Lack of trust Weak documentation 	<ul style="list-style-type: none"> Develop and institutionalise MIS Share information Symposiums and exchange visits 	<ul style="list-style-type: none"> Farmer organisations Government NGOs Private sector 	<ul style="list-style-type: none"> Documentaries Improved access to data
Institutional framework	<ul style="list-style-type: none"> Available frameworks Available institutions 	<ul style="list-style-type: none"> Rigid Weak institutions Lack of vision and strategy Bias 	<ul style="list-style-type: none"> Develop common framework for sector Capacitate local institutions Joint implementation Develop M&E systems 	<ul style="list-style-type: none"> Farmer & their organisations Private sector NGOs Government 	<ul style="list-style-type: none"> Available institutional framework
Value Chain Functions					
Input Supply	<ul style="list-style-type: none"> Inputs readily available in the country 	<ul style="list-style-type: none"> Input prices are prohibitive (make 70% of the total costs) Accessibility challenges as most input suppliers are located in major towns Farmers have limited knowledge in producing feeds on farm Frequent power outage 	<ul style="list-style-type: none"> Train farmers in feed formulation Bulk buying (economies of scale) Engage AGro-dealers to supply some of the inputs Promote use of energy saving technologies (e.g. solar power) 	<ul style="list-style-type: none"> NGOs Smallholder farmers Universities 	<ul style="list-style-type: none"> Cheap and availability
Production	<ul style="list-style-type: none"> Knowledge and skills Available extension staff 	<ul style="list-style-type: none"> Low milk yields among the smallholder farmers Low productivity at farm level Declining dairy herd Poor breeding strategies Poor record keeping Low business skills Weak constitutions Low producer prices 	<ul style="list-style-type: none"> Improved access to inputs and feeds Develop improved production systems e.g. zero grazing Feed animals for high milk production Develop MCC systems Business skills training Rebuild the dairy herd (AI & restocking) 	<ul style="list-style-type: none"> Farmers MCC Extension staff Local leadership 	<ul style="list-style-type: none"> High milk volumes Improved accountability Increased productivity at farm level Improved record keeping Transformed farmers Adopted systems and skills
Milk collection and cooling	<ul style="list-style-type: none"> Facilities available Equipment suitable for production available 	<ul style="list-style-type: none"> Water shortages Milk testing is poor Frequent breakdown of marketing vehicles 	<ul style="list-style-type: none"> Increase access to water by drilling boreholes Set equipment maintenance and management systems 	<ul style="list-style-type: none"> MCC Farmers Extension staff 	<ul style="list-style-type: none"> Improved milk collection and cooling Improved milk and product quality
Processing	<ul style="list-style-type: none"> Available processing capacity in the country Available alternative options for MCC 	<ul style="list-style-type: none"> Poor product quality Low product diversification High costs of inputs Low capacity utilization Unviable milk intakes 	<ul style="list-style-type: none"> Product diversification Enforce regulations 	<ul style="list-style-type: none"> Farmers MCC Processors Dairy services 	<ul style="list-style-type: none"> Improved viability and capacity utilisation Improved quality

Annex 1

Factors	Strengths	Critical Concerns /Weakness	Proposed Interventions	Targeted Beneficiaries	Expected Results
Value Chain Functions continued					
Distribution	<ul style="list-style-type: none"> • Available consumers • Available equipment 	<ul style="list-style-type: none"> • Destructive competition • Poor quality of packaging (smallholder) • Eroded business ethics 	<ul style="list-style-type: none"> • Restore business ethics • Develop attractive packaging 	<ul style="list-style-type: none"> • MCC • Processors 	-----
Retilling	<ul style="list-style-type: none"> • High demand of products 	<ul style="list-style-type: none"> • Loss of market share to imports • Low purchasing power 	-----	-----	-----
Support Systems					
Innovation and learning	<ul style="list-style-type: none"> • Available technocrats • Demand for innovation very high 	<ul style="list-style-type: none"> • High competition from external markets • Low creativity • Poor M&E systems 	<ul style="list-style-type: none"> • Subcontract • Training • Develop M&E systems 	-----	-----
Support organisations	<ul style="list-style-type: none"> • Available organisations • Available institutions • Available knowledge 	<ul style="list-style-type: none"> • Lack of proper coordination • Subjectivity • Development is organisation-driven rather than farmer & needy driven <ul style="list-style-type: none"> • Competition vs complementing each other • Lack of adequate resources • Lack of trust 	<ul style="list-style-type: none"> • Improve coordination • Organise joint workshops • Joint implementation 	<ul style="list-style-type: none"> • Institutions • Farmer organisations • NGOs • Government • Farmers • Private sector 	<ul style="list-style-type: none"> • Improved coordination • Improved delivery systems • Improved transparency and buy-in
Governance	<ul style="list-style-type: none"> • Available policy and by-laws • Government policy supportive 	<ul style="list-style-type: none"> • Lack of accountability • Non-adherence to policy • Weak by-laws • Lack of trust • Political differences 	<ul style="list-style-type: none"> • Review policies and by-laws • Enforce • Empower local capacity builders • Joint implementation • Unity 	<ul style="list-style-type: none"> • Farmers • MCC • Processors • Government • NGOs • Institutions 	<ul style="list-style-type: none"> • Strengthened institutions • Improved confidence and loyalty
Policy and strategy	<ul style="list-style-type: none"> • Available frameworks • Government policy supportive 	<ul style="list-style-type: none"> • Weak policies • Poor strategies and lack of long-term plans • Lack of shared vision • Lack of resources 	<ul style="list-style-type: none"> • Review policies and by-laws • Enforce • Empower local capacity builders • Joint implementation • Set M&E systems 	<ul style="list-style-type: none"> • Government • Farmers • Processors • Local government • Institutions 	<ul style="list-style-type: none"> • Visionary • Informed communities





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