



## ZAGP News

### The Newsletter for the Zimbabwe Agricultural Growth Programme (ZAGP)

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#### EDITORIAL

##### Reducing the Cost of Feed

Welcome to Issue 28 of ZAGP News, the newsletter for the European Union-funded Zimbabwe Agricultural Growth Programme (ZAGP).

In this issue, we focus on the ZAGP initiatives to reduce the cost of feeds for livestock producers. Feed is the largest single cost item for livestock and poultry production, accounting for 60%–70% of the total cost. These costs are largely absorbed by the producers, often with significant financial loss and ultimately leading to higher product prices.

Additionally, producers are unable to purchase quality feed during the long dry winter period when natural pasture and rangeland are depleted. The feed is too expensive due to the high maize and soya prices and farmers do not have information on the economic benefits of high quality supplementary feed.

ZAGP is working on a range of interventions to tackle the cost of feed to ensure increased profitability, production and productivity. This issue gives a highlight of the activities being undertaken such as promoting on-farm production of fodder crops such as Lucerne, Velvet Beans, Lab lab, sorghum, Bana Grass among others.

Beyond production, these initiatives also focus on the processing of feed to reduce reliance on bought-in feeds.

Other key activities across the livestock value-chains and support projects include:

- Investments in fodder and feed production equipment by producers and feed entrepreneurs through matching grants and smart subsidies.
- Bulk procurement of feeds through arrangements with private sector partners.
- Chemical evaluation of feed ingredients.
- Feed trials to determine the efficacy of feeds made using alternative and cheaper raw materials to those normally used by commercial companies.
- Building the capacity of key government regulatory authorities for testing of quality and safety of animal feed enhanced.

In this issue, we also introduce a Policy Monitor section, where every month, we analyse the development and implementation of key policy issues affecting the performance of the livestock value-chains. This will allow the programme to identify potential gaps and outline areas for improvement,

Happy reading!

*(Cover photo: Cattle auctioning happening at the Joel Satellite Cattle Business Centre in Kwekwe district, Midlands province).*

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### ZAGP POLICY MONITOR (Poultry and Pork Value-Chains)

ZAGP seeks to improve viability of small to medium scale livestock producers through improved productivity, reduced cost of production and reduced transaction costs in marketing produce by organised groups of farmers.

Key to reduction in the cost of production is enabling farmers to access genetic resources at lower prices and promotion of local feed production by farmers utilising raw materials either from their own production or from neighbours. ZAGP projects have demonstrated that farmers can reduce feed costs by more than 20% when they collectively buy raw materials and mixing their own feeds.

ZAGP has facilitated achievement of reduced cost of production through the following investments:

- Helping farmers acquire high quality genetics at more affordable cost in order to improve their productivity while concomitantly lowering the cost of production. These include importation of pig breeding stock from South Africa and contracts for the production of point-of-lay layer chickens and day-old broiler chicks
- Group purchasing of discounted feeds or feed raw materials;
- Farmer group-owned trucks to enable members to collectively buy inputs; and
- Feed mixers for use by groups of pork and poultry producers.

However, sustainability of the above investments is under threat from the following current policies:

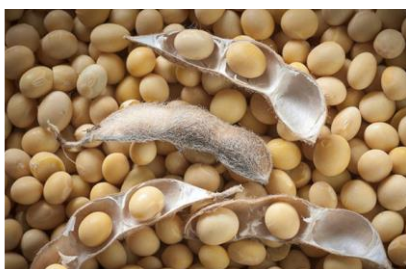
#### Duties on Imported Hatching Eggs



The local production capacity of farmers involved in poultry breeding is unable to meet increased demand attributable to economic growth. This has led to acute shortages of day old chicks on the market and an increase in the prices of day old chicks. Shortages disproportionately affect small-scale producers as larger-scale poultry producers have long-term supply arrangements with the breeders and hatcheries. A day-old chick that cost US\$0.75 in 2020 is now costing US\$0.95 to US\$1.00 US currently. The inability of poultry breeders to meet about 50% of demand for day old chicks is constraining national efforts to achieve NDS I target of increasing poultry meat production from 98,000 MT to 150,000 MT in five years.

Duty-free importation allowance granted by the Government of Zimbabwe in March 2021 through Statutory Instrument 100 of 2021 expired at the end of August 2021. This means any imports of hatching eggs from outside the Southern African Development Community (SADC) to supplement locally produced hatching eggs will attract 40% duty. With a ban on hatching egg exports by Zambia and an Avian Influenza induced ban on importation of hatching eggs from South Africa, the local breeders can only import from outside SADC. To lower the cost of day-old chicks and improve their availability to smallholder poultry farmers the Ministry of Lands, Agriculture, Fisheries, Water and Rural Resettlement together with the Ministry of Finance and Economic Development need to re-instate the duty-free import quotas for hatching eggs from non-SADC countries.

#### Statutory Instrument 145 of 2019 and 97 of 2021



These Statutory Instruments ban the sale of maize and soya beans by farmers to their neighbouring pig and poultry farmers. Livestock farmers can only buy maize supplies either from farmers they forward contract and after registration of such contract farming arrangements with the AMA, or from the Grain Marketing Board (GMB) depots, most of which are located very far from their farms. Even though the Government set prices of maize paid to maize farmers may be equal to GMB selling prices, the transportation cost from depot to farm adds an extra cost to the livestock farmers eroding their profitability. In the case of soya beans, farmers have little chance of procuring from their local GMB depots as priority is given to oil expressers and large stockfeed manufacturers most of whom are located outside the districts where the soya bean crop is grown. Livestock farming using locally produced grain and soya beans contributes to local economic development through conversion of lower valued grains into high-value livestock products such as meat and eggs. Farmers have been complaining that oil expressers are currently procuring soya beans at ZWL48,000 from GMB. After processing the oil, they sell the soybean meal by-product at US\$650 per tonne ex-factory.

The rationale of Government policy in this regard is to mitigate side-marketing of contracted crops. However, organised livestock farmer groups facilitated by extension workers and GMB collection point officers can supervise the direct sales from neighbouring farmers to ensure only non-encumbered grain and soya beans are traded between farmers. The efficiency gains from farmer-to-farmer trade in these products are significant and need to be encouraged as far as possible.

## TranZDVC Reducing Cost of Feed for Dairy Producers



**25%**

Reduction in cost of feed through production of on-farm feeds

**30%**

Reduction in cost of feed through implementation cost effective feed options



The Transforming Zimbabwe's Dairy Value-Chain for the Future (TranZDVC) project conducted a nationwide analysis on the contribution of feed to the total variable cost of milk production. It was noted that on average, feed constitutes up to 70% of total variable costs (TVC) in the dairy value-chain.

Protein is the most expensive but key ingredient for improved milk quality and quantity. Only about 55% of small-scale farmers are reported to be producing own feed for their dairy enterprises. To reduce the cost of feed, farmers need to increase own feed production.

TranZDVC is building the capacities of dairy producers on good feeding practices to increase both the productivity of dairy cows and profitability.

The project is aiming for a 25% reduction in cost of feed through production of on-farm feeds and 30% reduction in cost of feed through implementation of cost-effective feed options.

### TranZDVC Reducing Cost of Feed for Dairy Producers

#### Progress Towards Reducing Feed Costs



Feed formulation demonstration in Chikomba district

- **Bulk procurement of feeds through a tripartite arrangement involving dairy producers, milk processors and milk collection centres.** At least 490 producers have benefitted from the arrangement. The large-scale processors involved are Dairibord Zimbabwe, Kefalos, Dendairy, Prodairy and Nestle Zimbabwe. Feedmix, National Foods, Country Feeds and Profeeds are the stock feed manufacturers involved. The dairy producers are saving about 5% on procurement of stock feed through bulk buying and shared transport costs.
- **10 fodder entrepreneurs invested in feed production equipment.** At least 95 hectares of silage was cultivated, processed and preserved for dairy producers. Over 500 tonnes of silage has been preserved for sale to dairy farmers and out-grower schemes.
- **425 farmers trained** on dairy animal nutrition standards and cost effective feed options.
- **120 lead farmers capacitated** with seed for 0.25 hectares each of forage cereal (maize or sorghum) and legume (velvet bean and cow pea) demo plots. An average of 5 tonnes of cereal silage and 0.75 tonnes legume hay was produced from the demo plots.
- **Sourcing of stock feed raw materials** for on-farm feed formulations. At least 730 tonnes of feed raw materials (cotton seed cake, wheat bran, maize bran, sunflower cake, soya meal/cake and molasses) procured to date.



*After investing in a water supply system, I have transformed my dairy enterprise and I am now producing more milk.*

*Having a reliable water source has enabled me plant pastures as supplementary feed for the dairy cows.*

*I planted Rhye Grass, Wild Oats and Lurcene after receiving training on fodder production and feed processing as a strategy to reduce cost of feed.*

*We received training from the project on the production of pastures and producing feed for our dairy cows. Commercial feeds are very expensive and producing our own feed reduces production costs significantly resulting in improved profitability.*

**ESTHER MARWA**

*Dairy Producer – Mashonaland East Province*



### On-Farm Feed Formulation to Increase the Profitability of Poultry Producers



The [Inclusive Poultry Value-chain \(IPVC\)](#) project looks at profitability as a function of cost reduction more than other relevant parameters. Given the fact that poultry feed constitutes 70-75% of the production costs, the project has introduced and piloted a localised feed production model to assist poultry producers to reduce their cost of production.

IPVC engaged animal nutrition experts to assist farmers with feed formulation software, manuals, and the actual practical trainings to empower farmers with the relevant skills. Through these on-farm feed formulations, farmers have been reducing their production costs by 20-30% depending on the line formulated.

Members of the Poultry Business Associations (PBAs) are engaging with Feedmix Laboratory for testing of the formulated feeds. To further support this component, the Harare and Masvingo Poultry Business Units procured mobile feed units with a production capacity of 0.4 metric tonnes per hours (4MT/8-hour day).



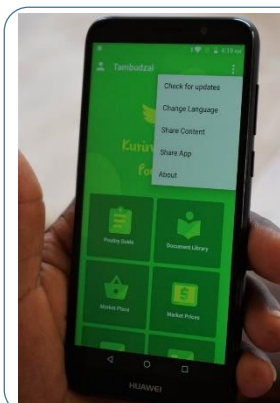
*With formulating my own feed, I have realised that I save between **US\$123 to US\$143** per tonne of broiler starter. A tonne of broiler starter on the market is ranging between **US\$520 and US\$540**.*

*The main ingredients we use are maize, soya bean, premix, and sunflower seed. My chicks are growing well and weighing 180g at three weeks, which is quite impressive.*

**JABULANI MOYO** – Poultry Producer, Midlands Province

### Bulk Procurement Towards Reducing Cost of Feed for Poultry Producers

Among services offered by the Poultry Business Units (PBUs), is the bulk procurement of feed. The PBUs purchase feed in bulk, and in turn sell it to registered farmers at a discount. Currently 2,546 producers are registered and paid-up PBA members across all five project clusters. By the end of August 2021, the PBUs had cumulatively sold 1,678 tonnes of feed to members. Poultry producers get an average saving of between US\$0.80 and US\$2.00 per 50kg bag of feed.



### Kurima Mari Poultry App

Learn more about improving productivity and profitability in poultry through the Kurima Mari Poultry App. The app has an online/offline feature that allows farmers to use the information on the app even when connectivity is poor or unavailable.



### Agricultural Centres of Excellence Tackling the Cost of Feed

The [Zimbabwe Knowledge and Innovation Systems \(ZAKIS\)](#) project is implementing interventions that are helping farmers to reduce the cost of feeds for farmers in the target districts. These include chemical evaluation of feed ingredients, promotion of on-farm fodder production and fodder preservation.



Analysis of feed ingredients

ZAKIS refurbished and installed state-of-the-art equipment in the nutrition laboratory at the Matopos Agricultural Centre of Excellence. The laboratory informs farmers on nutritional value of on-farm feed formulations and fodder.

Laboratory Research Officer at Matopos, Theresa Rukuni said, “We analyse feed ingredients samples to get their nutritional value. This helps farmers to grow the fodder and formulate feeds that improve the productivity of their animals. The samples are brought in by field researchers and who relay the results to the farmers through extension officers.”

To date, the laboratory has analysed 236 feed samples for broilers, cattle, small ruminants, and rabbits. The samples were drawn from individual farmers, ZAKIS target beneficiary communities in Matobo and Insiza districts and the IPVC project.

“The new equipment that was brought by ZAKIS has improved our efficiency; we now have the capacity to process 20 samples per day where in the past we could only manage samples per day. Also, the turnaround time for delivering results has been reduced from two weeks to three days,” said Theresa.



On-farm fodder production

During the 2020-21 cropping season, the project established 34 fodder production demonstration sites in 12 wards in Matobo and Insiza districts. The project distributed seeds for fodder crops that include velvet bean, hyacinth bean (*Lablab purpureus*), Sun Hemp and Bana Grass. The plots are serving as fodder seed multiplication hubs and field schools for fodder production and preservation.



Fodder preservation training

Fodder preservation training was conducted for 50 (18 women, 32 men) ward based Agritex and Veterinary extension officers drawn from Matobo and Insiza districts. The trained staff will share the hay and silage making knowledge with farmers in their wards. Preserved feed is vital for livestock during the dry season as it eliminates the need for farmers to buy commercial feeds. To date 515 female and 590 male farmers have been successfully trained. The project plans to take the training to the target districts of Mhondoro-Ngezi and Chegutu.

### Trials on the Efficacy of Feeds Made Using Alternative and Cheaper Raw Materials



The Value-chain Alliance for Livestock Upgrading and Empowerment (VALUE) project undertook feed trials to determine the efficacy of feeds made using alternative and cheaper raw materials to those normally used by commercial companies.

In relation to the pork value-chain, the specific aim was to replace maize as an energy component with alternative cereals namely, Pearl Millet, White and Red Sorghum. These traditional small grains are normally cheaper than maize whose use is competitively fought with humans. Furthermore, there was focus on trying to reduce dependence on soya as a source of protein given that it is in short supply and very expensive, in this experiment, the usage of sunflower cake was explored.

The focus with the goat value-chain was primarily on the utilization of naturally available legume pods as the protein base. Given the availability of these pods in winter and in the drier parts of the country where most goats thrive, certain pod species were selected for testing in diets formulated to be cheap and effective.



Pig straight grower and finisher feed cost per bag is averaging at **US\$24**

Home mixing grower and finisher meal using concentrate average cost is **US\$21.68**



**120.7 tonnes**

Feed produced by goat farmers and integrators



**219 tonnes**

Feed produced by pork value-chain integrators



**669.5 tonnes**

Feed procured by farmers through bulk procurement arrangements

#### Preliminary Findings from the Feed Research

##### Pork Value-Chain

- Maize can be successfully replaced by small grains in pig grower and finisher diets.
- Pearl millet offers alternative advantage to maize in the diets as it consistently out-performed the maize –based diet.
- While sorghum treatments somewhat lagged behind others in out-right growth performance, the performance is acceptable, especially where maize is simply not available.
- The performance of pigs on Red Sorghum diet came as a pleasant surprise. Further investigation is warranted to see if cheap treatment of Red Sorghum with say, Poly-ethylene glycol to counter tannins, cannot bring forth bigger performance gains.
- The feeds tested were demonstrably cheaper than those on the commercial market.
- Sunflower cake enabled the lowering of cost by reducing particular dependence on commercial amino acids, especially methionine which is very expensive.

##### Goat Value-Chain

- The feeds tested were over 30% cheaper than the Commercial Goat Feed used as the positive control.
- Unfed goats (veld fed) performed poorly during the duration of the experiment and started to lose weight as the veld deteriorated.
- Supplemented goats gained weight and produced a good carcass with adequate fat-cover.
- Use of pods to supplement goats is certainly the way to go. It is further proposed that farmers use these feeds to flush female does three weeks prior to breeding to improve chances of getting twins and triplets.
- Feeding the goats as in this experiment allowed easier management as the goats came back to kraal in anticipation of their second feed serving. This fits in well with the husbandry practices in Zimbabwe.

## Increasing Beef Production and Productivity



Bulk buying and bulk transportation reduces the cost of feed. Suppliers on the other hand find it easy to manage the last mile delivery process.

Beef cattle production in Zimbabwe depends mainly on natural rangelands for feed supply. The animals also scavenge for feed in the cropping fields during the off season. However, these two sources cannot provide good nutrition to the animals throughout the year, as during the dry season, feed supply decreases significantly in both quantity and quality. Supplementation, priority feeding and feedlotting using on farm resources or bought in feeds will become inevitable options to optimise production and productivity. In beef cattle production, cost of feeds for supplementation or feedlotting ultimately defines profitability.

More than 2200 farmers have been participating in these nutritional intervention programmes under the [Beef Enterprise Strengthening and Transformation \(BEST\)](#) project.

### Summary of activities to reduce cost of feeds under BEST

#### Fodder production

- Demonstration and seed multiplication plots at all Cattle Business Centres (CBCs)
- Demonstration and seed multiplication plots at lead farmers
- Stimulating fodder producers

#### Nutritional interventions

- Improvements of low-quality roughages and supplements
- On-farm feed formulations and Good Animal Husbandry Practices (GAHPs) to increase animal response
- Effective use of range resources, fodder flow plans

#### Innovations at CBCs

- Bulk procurements and last mile delivery at CBCs
- Hay production at the Lapache CBC (Mwenezi district); harvesting natural hay
- In-situ grazing at the Balu CBC (Matabeleland North district)



### Increasing Beef Production and Productivity



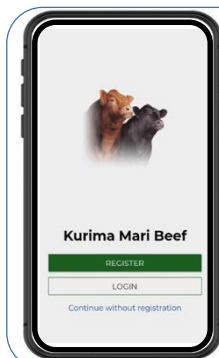
More than 2,200 farmers have been participating in nutritional intervention programmes. Feedlotting has commenced with Gokwe and Chiredzi districts receiving 60 tonnes of pen feed while most deliveries are lined up for all sites that are set to induct cattle this season.

First Mutual Microfinance is financing the feeder finance scheme in a coordinated deal structuring arrangement, with farmers providing cattle, and private sector partners offering technical advice and formal markets.

Laboratory tests are underway for farm rations, previous results from Lapache hay show a Crude Protein content of plus 8%, which is set to improve as the grass establishes, receives fertilisers and hay quality improving under controlled water supply, unlike during the time of last sampling which was post the incessant rains period which might have leached many nutrients.

Farmers generally find it hard to finance supplementary feeding nor afford bought in feed for feedlotting. On farm feed production efforts cut the cost of feeds by more than 50%, yet bulk procurements and last mile delivery options eliminate costs of transportation yet also come with associated bulk discounts of up to 20%.

In the 2021/22 season, the project has already started feedlotting in some sites using the previous tested working arrangements, mobilisations/preparations are underway for other sites. In addition, on farm rations are being promoted including bush meal diets from already collected ingredients. The project seeks to scale up fodder production at CBCs, lead farmers and their followers riding on the improved seedbank, with 13,000kgs of seed already processed and earmarked for the upcoming season. The project tractors and hay harvesting equipment are in the action districts, these will help in maximising timely harvesting of natural hay which will supplement the irrigable sites.



### Kurima Mari Beef App

Have you downloaded the Kurima Mari Beef app yet? Get quick access to all matters related to beef farming. Features include tips on marketing, animal health, production, access to finance, policy matters and a farmers' chat room.



## Capacity for Testing of Quality and Safety of Animal Feed Enhanced for Key Government Regulatory Authorities



The Microwave Digester at the Government Analyst Laboratory

The [Transforming Zimbabwe Animal Health and Food Safety Systems for the Future \(SAFE\)](#) project is designed to create a conducive environment for the livestock value-chains to thrive with guarantees of good animal health and food safety from farm to fork. Whilst several value-chains are looking at reducing the cost of feed, the SAFE project is complementing these by capacitating (technical and functional capacity building) government institutions in the testing of animal feeds.

This is being done to ensure production of feeds that are safe for the target animal species and feed that will not compromise the safety of animal food products.

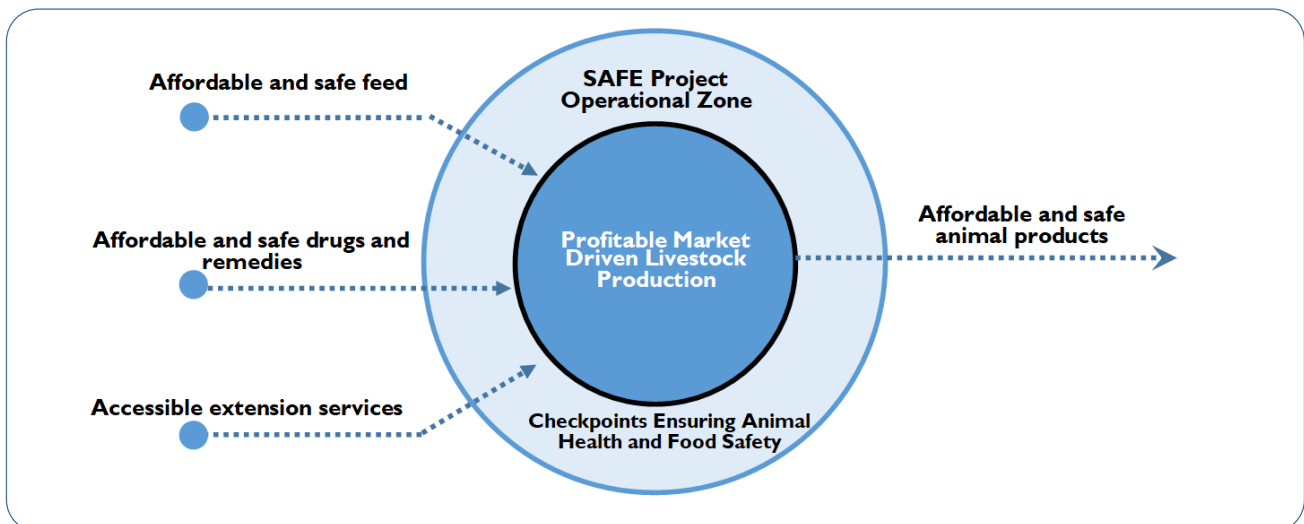
While there is full recognition of the need to reduce the cost of feeds to improve viability of livestock production enterprises, it is also important to ensure such low cost feeds still comply with the mini-mum standards for feed quality and safety.

In line with this important need the SAFE project has enhanced the capacity of the Central Veterinary Laboratory (CVL) and the Government Analyst Laboratory (GAL) to analyse feed samples and various animal products to ensure compliance with minimum quality and safety standards.

The GAL was supported with a Microwave Digester used in sample preparation and an Ultraviolet (UV) spectrophotometer for testing of heavy metals, veterinary drug residues and pesticide residues in stock feeds.

On the other hand, the CVL was supported with laboratory reagents that are critical for conducting of tests on various animal source foods for a variety of things like anti-microbial residues, aflatoxins and heavy metals. The laboratory equipment was procured to enhance the two competent authorities' capacity to monitor the quality and safety of livestock feeds as well as animal source products for human consumption.

In addition, the project through the Department of Veterinary Services (DVS), is developing technical bulletins on animal nutritional disorders for all livestock species. This is crucial in providing knowledge and technical support to extension workers, livestock dipping committees, farmers as well as other ZAGP projects.



## PROJECT NEWS

### ZAKIS Launches Digital Agriculture Platforms

The ZAKIS project launched three online agricultural digital platforms on 20 August 2021. Working in collaboration with the Ministry of Lands, Agriculture, Fisheries, Water and Rural Resettlement, the project developed ZimAgriHub, a farmer focused online portal, In-Service Training application and Lead Farmer Online Training Programme.

Speaking during the launch, Permanent Secretary for Ministry of Lands, Agriculture, Fisheries, Water and Rural Resettlement: Dr. John Basera stated that the innovations developed by ZAKIS focus on empowering farmers as well as agricultural extension officers, researchers, students and other stakeholders.



[Watch full video of the launch](#)

### IPVC to Open Mutare Live Birds and Egg Market Place and Butchery



The Inclusive Poultry Value-Chain (IPVC) Project will be opening to the public the Mutare live birds and egg market place and butchery facility in collaboration with the Mutare City Council, Provincial Agritex and Department of Veterinary Services, on the 9th of September 2021.

“The facilities are set to bring poultry farmers close to the consumer market for more profits. Further by providing decent and hygienic physical market spaces, the markets help in ensuring better food safety for customers”, said Project Team Leader, Joseph Matiza.

“The IPVC program is currently developing capacity of over 5,000 small scale poultry producers, and has so far managed to have 2568 of the producers organized into poultry business associations that operate, business hubs, which provide poultry value-chain services to members. For the past 12 months, producers have benefited from discounted sales, through bulk procured commercial stock feeds and day old chicks, totalling 1678 MT of feed and 218 204 day old chicks, valued at over USD1 million”, added Mr Matiza.

The live bird sheds have a capacity of 1 584 birds and stainless tables for egg trays, while the butchery’s cold chain has a capacity of holding up to 2000kg of poultry meat at any given moment. It is expected that with monthly trading volumes of 2000 birds by the live bird market and 2000kg of poultry meat by the butchery, there market places should be able to operate viably as independent businesses.