

Livestock Production Systems in Zimbabwe (LIPS-Zim)

Background

Livestock provide income and employment to farmers, agricultural service providers, and other actors involved in the value chain in Zimbabwe. The country's livestock production system is characterized by small-scale subsistence farming. Despite the importance of livestock to rural livelihoods, the sector's productivity remains low, a situation that is linked to farmer behaviour, feed unavailability and cost, poor quality of animals, diseases and frequent droughts.

Climate-relevant livestock production practices such as fodder management and conservation, water harvesting, and manure management have been identified as solutions to increase livestock productivity in Zimbabwe. However, the adoption rate of these measures is low due to little understanding of the problems farmers face by the government, development partners and other stakeholders; services for farmers are inadequate, and policy environment is poor.

Animal health management, improved breeds and improved feed are key to enhancing the resilience of the sector. Among other benefits, these can improve veterinary service delivery and disease surveillance, particularly for tick-borne diseases that cause high cattle mortality owing to a lack of repairs of communally owned dip tanks and no regular supply of acaricide.

The Livestock Production Systems in Zimbabwe (LIPS-Zim) project has been designed to address these challenges. The project is investigating the technologies and models that can help to increase the adoption of business and climate-smart feeding practices, adaptive breeds, and animal management practices (stocking rates) that impact livestock production in the country. It is also researching the epidemiology of diseases and the most efficient ways of controlling them.

Objectives

LIPS-Zim is a four-year (Jan 2020 –Dec 2023) project funded by the European Union. It aims to improve livelihoods in Zimbabwe's semi-arid agro-ecological regions IV and V by increasing the adoption of climate-smart innovations in livestock-based production systems, and by improving the surveillance and control of livestock diseases.



The project's specific goals include:

1. Increasing the adoption and scaling of climate-adapted, cost-efficient and science-based livestock production systems.
2. Improving the surveillance and control of livestock diseases.

Approach

To achieve objectives, the project will carry out situation analyses through surveys, group discussions and secondary data reviews. Technologies will be tested and evaluated with selected farmers who will act as learning centres. Furthermore, the project will foster income generation and diversification along the livestock value chain by integrating livestock and crop systems.

Climate change has created environments for the emergence and spread of animal diseases which have impacted livestock productivity. The project will conduct research on vector ecology and migratory patterns of humans which may lead to encroachment of vector habitats, and factors underlying the movement of vectors into new areas.

Animal disease control is premised on a country's capacity for disease surveillance and detection. The project will conduct a comprehensive evaluation of surveillance and control systems in governance, technical practices, communication and sustainability for the purpose of revamping these systems. LIPS-Zim will also implement a participatory epidemiology approach which is cognizant of existing conventional control methods and indigenous knowledge systems.

Partnerships

Led by the International Livestock Research Institute (ILRI), the project is implemented in partnership with the International Maize and Wheat Improvement Center (CIMMYT), the French Agricultural Research Centre for International Development (Cirad), the University of Zimbabwe (UZ), and the Department of Research and Specialist Services (DR&SS).



Project achievements

- Situation analyses have been conducted in all project implementation districts to identify feed challenges, shed light on livestock marketing opportunities for different categories of farmers, and guide stakeholders on the 'best bet' crop, as well as the livestock husbandry and marketing interventions for different farmer types in each district.
- Farming systems typologies have been conducted to guide interventions for strengthening the role of livestock to increase farm productivity, farm income, and food and nutrition security for smallholders. Three farm types have been identified, namely livestock-oriented farms, mixed-crop livestock farms, and off-farm labour-dependent farms.
- Thirteen stakeholder meetings have been held in all six provinces and nine districts. These were attended by farmers, traditional authorities, government and other development partners attended. Inputs from the meetings have helped align project interventions with the district's priorities.
- An activity prioritization workshop was held in Gweru in December 2020, where participants, in consultation with traditional and political leadership, identified representative wards for LIPS-Zim to focus on and validated technologies to be piloted.
- Baseline studies have been conducted in 1,848 households in six districts (Beitbridge, Buhera, Chiredzi, Gwanda, Mutoko, and Nkayi).
- To strengthen laboratories' capacity for disease detection and surveillance, the Tsetse and Trypanosomiasis Control Central Laboratory in Harare and two provincial laboratories—Gwanda and Masvingo—were renovated. Equipment, reagents, and consumables were also purchased and handed over to the three laboratories.
- Forage nurseries were established in Murambinda Ward of Buhera and Nyabote, Zacharia, and Chipwanya wards of Mutoko to demonstrate new climate-smart forage varieties. The nurseries were established to serve as learning centres, provide start seeds, and create a platform where farmers participate individually and jointly in forage variety selection.
- Field days were held in Beitbridge, Buhera, Mutoko districts.
- Learning centres were established in all project implementation districts to evaluate and demonstrate 'best-bet' forages (cereal, forage grass and legume varieties) for subsequent scaling-up, using farmer-participatory methodologies. These activities were supported by field days and farmer feedback meetings.
- In Buhera and Mutoko, varieties of nutrient-dense and drought-tolerant maize were intercropped with different legumes such as Mucuna, cowpeas, and Lablab, to demonstrate options for sustainable intensification in forage production. New legumes that were rolled out included pigeon pea, jack bean, and sunn hemp. Water conservation technologies including conservation agriculture (CA) basins and tied ridging were also rolled-out in these two districts and have so far proved popular with farmers.
- Community-based commercial livestock feed and forage production were introduced by hosting two farmer-managed commercial goat feeding trials in Buhera and Beitbridge districts during the 2021 dry season. The trials showed that farmers (especially women) who have improved knowledge and skills in using home-mixed, legume-based feed supplements benefit from increased household incomes. Ingredient legumes included Mucuna pruriens pods, dried groundnut, Bambara nut, and sugar bean haulms.
- To support the scaling-up and commercialization of livestock feeding operations, the project procured two sets of two-wheel tractors, hand-operated balers, chopper-grinders, and associated machinery in 2021, for distribution to all districts in 2022.
- Research partnerships were initiated with the Food and Agriculture Organization of the United Nations (FAO) to carry out rangeland rehabilitation and development work in Matebeleland South Province.
- Innovation platforms (IPs) that will promote technology adoption and access to markets were set up in four districts (Chiredzi, Beitbridge, Nkayi, and Gwanda) in December 2021.
- A research protocol to describe historical information on the adoption of feed technologies in Buhera and Nkayi districts, and to inform scientists and farmers on issues of on-farm livestock feed to tackle during the dry and wet seasons was developed by the University of Zimbabwe's Animal Science Department.

- Research proposals were co-designed and questionnaires were pre-tested with communities.
- Close to 300 farmers in Binga, Buhera, Gokwe North, Hwange and Mutoko were engaged through innovation communication platforms (ICPs) in 2021. The ICPs established were for livestock diseases, veterinary drugs, fodder production, livestock marketing, governance, advocacy, and culture.

- Nkayi (Sibangelana, Sikhobokhobo, Tohwe)
- Gwanda (Silonga, Matulungundu, Nhwali)
- Chiredzi (Ndali, Chikombedzi, Samba Range)

Next steps

The project is now in the full implementation phase:

- testing technologies in the feed and forage
- improving farmers capacities in understanding animal husbandry principles
- improving understanding livestock value chain markets
- reviewing policies that affect deployment of animal health technologies
- rehabilitating and equipping laboratories for improved disease surveillance and control

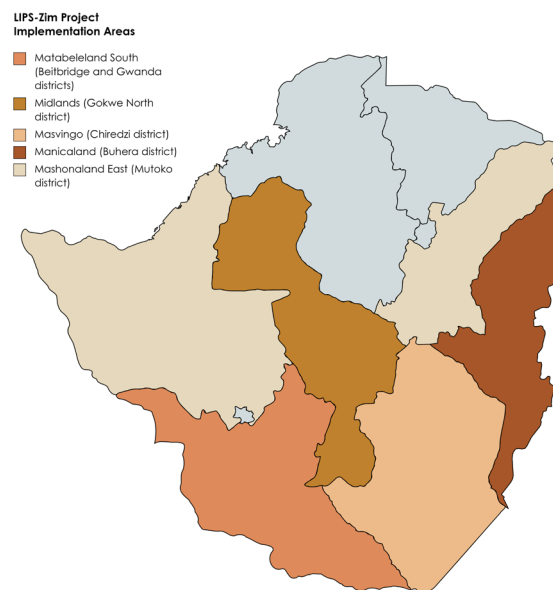
Study site

The project is implemented in nine districts, namely Chiredzi, Gwanda, Beitbridge, Nkayi, Binga, Hwange, Gokwe, Buhera and Mutoko.

Out of these, project implementation wards have been identified in six districts:

- Beitbridge (Shumani FLC, Malusungane, Aluwani FLC)
- Buhera (Chikwekwete, Kwarire, Garawaziva)
- Mutoko (Chipwanya, Nyabote, Zacharia)

Figure 1 Map of Zimbabwe (Source: MapChart)



Disclaimer: This map is provided by the LIPS-Zim project solely to show the project implementation sites. The names used and the borders shown do not imply on the part of the project any judgment concerning the legal status of a territory nor any approval or acceptance of these borders.





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