



**Research Article:**

## ***Rural livelihoods and theileriosis in Zimbabwe***

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### **Abstract**

*A livelihoods approach to the impact of livestock diseases particularly theileriosis (January disease) is largely missing in Zimbabwe's rural development literature. This tick-borne disease resulted in widespread decimation of cattle in Zimbabwe and is a current major burden to the farmers in both communal and resettlement areas, and the government. The paper adopts a Sustainable Livelihoods Approach (SLA) and qualitative methodology to explore how rural livelihoods have been affected by theileriosis. Four themes are prioritised – financial burden to the farmers and government; loss of main livelihood source and related benefits; loss of wealth and income; and insecurity and loss of future socioeconomic wellbeing. Addressing the livelihood impact of theileriosis requires concerted effort by the various stakeholders, with the government advancing livestock health as a policy priority.*

**Keywords:** *livestock, sustainable livelihoods approach, theileriosis, tick-borne disease, Zimbabwe*

### **1. Introduction**

Agriculture is the mainstay of Zimbabwe's economy (Chambati and Mazwi 2020). Its pivotal relevance as a livelihood source is widely recognised in most parts of the world. In Zimbabwe, agriculture is among the major socioeconomic activities that contribute significantly to the gross domestic product (GDP) (Murisa and Helliker 2020). Agriculture is thus, significant to the country's economy but several factors are constraining its contribution to community and national development. In this context, the paper explores the impact of *theileriosis* on rural livelihoods in reference to Zimbabwe.

Three central aspects of this paper should be understood from the outset. Firstly, livestock diseases are diverse therefore the paper focuses on *theileriosis* which is a major and topical disease that is decimating cattle in Zimbabwe's communal and resettlement areas. Secondly, the paper is not about the scientific aspects of *theileriosis* and the related interventions but the livelihood dimensions. Thirdly, such focus is essential for establishing a firm foundation for transforming rural livelihoods that are, in Zimbabwe, mainly based on both crop and livestock production (Zimbabwe Ministry of Lands, Agriculture, Fisheries, Water and Rural Resettlement 2020). The importance of agriculture also spans other parts of the Global South (Zimbabwe Democracy Institute 2020).



*Theileriosis* is red water, heart water and gall sickness (Musisi and Lawrence 1995). It is a tick-borne disease that is caused by *theileria parva* and is usually expected between the months of December and March, but often peaks in January and February. However, in Zimbabwe, it has been reported throughout 2020 and the first quarter of 2021 (Ruzvidzo 2021). The main cause of tick-borne diseases is failure to adhere to dipping calendar by the Department of Veterinary Services, resulting in failure to control tick populations. Farmers have not been adhering to dipping regulations because of the unavailability of government-provided dipping chemical (*acaricides*) and failure to mobilise levies for community sourcing. The disease has a fatality rate of up to 90 per cent (Lawrence, Sibeko-Matjila and Mans 2000). The devastating impact of the disease has been experienced in most rural parts of Zimbabwe, with Matabeleland provinces and parts of Dande Valley in Mount Darwin being least affected (*The Herald*, 6 January 2021). Dipping is the most and only effective documented way of managing the disease. In the next section, the conceptual underpinning of this paper - livelihoods approach – is briefly explained.

## 2. Sustainable livelihoods approach to livestock production and rural development

The impact of *theileriosis* on rural livelihoods and broadly rural development can be analysed using the Sustainable Livelihoods Approach (SLA). Tackling poverty and disadvantage is a major priority for different levels of government in Zimbabwe (Government of Zimbabwe 2020), and globally (United Nations 2019). The SLA is a method of understanding the lives of people experiencing poverty and disadvantage. It is a participatory approach that is based on the belief that people experiencing poverty have abilities and assets that can be used to help them to manage and improve their lives (Saunders 2020; Oxfam 2018). The SLA was developed by organisations in the Global South and owes much to the work of Amartya Sen, the United Nations' Human Development Programme and Robert Chambers' work on the 'wealth of the poor' and participatory methodologies. According to Chambers (2019), a livelihood 'comprises the capabilities, assets (including both material and social resources) and activities required for a means of living.' A livelihood is sustainable when it can cope with and recover from stress and shocks, and provide sustainable livelihood opportunities for the next generation, and which contributes net benefits to other livelihoods at the local and global levels, and in the short and the long term.' In the context of this paper, cattle, other livestock and crop production form the livelihood base of the communal farmers. The sustainability of livelihoods linked to cattle are being decimated or eroded due to *theileriosis*.

There are two dimensions to SLA. Firstly, building up a picture of the various livelihood strategies that people adopt, along with the level of assets they have as individuals and within their communities. Secondly, exploring whether these livelihood strategies link and relate to the wider institutions and policies that impact upon their lives. The ways in which people combine their assets to support themselves and their families coupled with the decisions and choices they make within the context in which they live, are what determine their livelihood



strategy and how they manage to get by (Chambers 2019). The SLA starts by looking at the day-to-day experiences of people's lives. It believes that in order to make ends meet, people draw on a range of different assets depending on which ones are available to them. This varies with each individual, household and community. The assets are divided into five interlinked categories and together, these assets allow people to adopt different livelihood strategies in order to achieve their livelihood objectives. These are human, social (social capital), financial, physical and public assets. In the communal area under consideration, livestock is a central livelihood asset.

Krantz (2011) explores the significance of the SLA. It provides a systematic, proven approach to analysing and understanding poverty from a community and individual citizen centred perspective. It helps people (for example, the communal area farmers) to understand and address poverty from a holistic, whole life perspective, rather than simply addressing in isolation the surface problem. As well as the practical help it offers to individuals, the SLA brings a reality and a human face to the experiences of people living in poverty, which can broaden the understanding of local circumstances and subsequent solutions. The SLA is also a useful tool in explaining how policy makers and others can inadvertently misunderstand poverty and as a consequence, implement unhelpful and counterproductive policies to deal with it. It has an essential role in developing appropriate policy responses based on an insightful understanding of the strategies and choices people make on a daily basis in order to survive. The SLA has significant potential to build on community level work already being undertaken by a range of third sector and statutory agencies and can offer a bridge between the work supporting communities and support directed at individuals by the government and other institutions. It is therefore relevant for projects aimed at individuals, families and entire communities. In general, and specifically to livestock diseases, the SLA is not without pitfalls. For example, the approach fails to expose and address the core causes of poverty, inequality and marginalisation, resulting in the development of alternative perspectives on how transformation can be achieved.

### 3. Highlights of the approach and research methods

Shamva is among the districts that constitute Mashonaland Central Province (Zimbabwe National Statistics Agency, ZIMSTAT 2012). Three villages - Chigombe and Kamudyariwa (Ward 7), Munava (Ward 26) – were selected for the study. The selection of these villages was particularly guided by confirmed reports of *theileriosis*. The researcher applied an interpretive research approach and qualitative research methods (see Creswell and Creswell 2018 for detail) due to the need to explore the impact of the disease on livelihoods of the communal farmers. Fieldwork was executed in the January-March 2021 period.

Sampling of the wards and villages was done purposively based on confirmed cases of the disease. The Agricultural, Technical and Extension (Agritex) officer (1), village heads (3), councillor (1) and farmers (30 with 10 coming from each village) who had lost cattle to the disease were also selected purposively. Other villagers (15 - 5 from each village) who had not



yet lost cattle to *theileriosis* were sampled on the basis of convenient availability to complement the main participants. Face-to-face interviews, focus group discussions (FGDs) and participant observations were conducted while fully observing COVID-19 prevention regulations (see Zimbabwe Ministry of Health and Child Care, ZMoHCC 2021), and other ethics of social science research including informed consent, non-coercion, avoidance of harm in its diversity and the right to feedback. Detailed exploration of sampling, data collection and ethics is done by various scholars (Scott-Jones 2015; Creswell and Plano-Clark 2017).

## 4. Results and discussion

This section is composed of selected dimensions of how *theileriosis* is affecting livelihoods in Shamva district. Priority is given to financial burden to the farmers and government, loss of main livelihood source and related benefits, loss of wealth and income, and insecurity and loss of future socioeconomic wellbeing. These feed into the recommendations (included in the conclusion) on how to reduce the impact of the disease.

### *Theileriosis as a financial burden to the farmers and government*

The lived experiences of *theileriosis* in Shamva district revealed high levels of financial burden being borne by the communal farmers. This is occurring in a context where the farmers (in both communal and resettlement areas) are already bearing the brunt of diverse production constraints and poverty (Mazwi 2020). Most of the communal farmers in the study sites are already living in poverty. Moreover, the farmers reported that most of the livestock vaccines are charged in United States dollars, yet most of the farmers are paid in Zimbabwe dollars for selling crop produce to the Grain Marketing Board (GMB). The local currency is used in most local markets. When the Zimbabwe dollar equivalent is accepted for purchasing the vaccines, the rate is inflated. In this context, *theileriosis* has increased the farmers' financial outlay on livestock health against a context where the farmers cannot sustain the cost of the vaccines. The problem is aggravated by the low chances of recovery in affected cattle. Using the SLA, the disease is an obstacle to sustainability of the communal farmers' livelihoods.

The financial burden of the disease is not only experienced by the farmers but also by the Government of Zimbabwe. Instead of channelling financial resources to other community development problems, these are being directed to addressing the disease. In an interview, the Ward Agritex Officer expressed these issues:

January disease is a burden to the government and other development partners. The United Nations through the Food and Agriculture Organisation (FAO) with support of the Japanese Embassy in Zimbabwe is working with Government to implement a US\$300 000 emergency response project. This money could have been directed to other pressing community development projects.



## ***Loss of a main livelihood source and related benefits***

Decimation of cattle has direct and indirect effects on rural livelihood sources and the associated benefits. Zimbabwe's Ministry of Lands, Agriculture, Fisheries, Water and Rural Resettlement (2020) reported that agriculture is a major source of rural livelihoods and the national economy. The Zimbabwe Democracy Institute (2020) also emphasise the importance of agriculture to livelihoods and development in Zimbabwe. Cattle and other livestock are pivotal sources of income, food and related benefits.

Crop production in communal areas is primarily based on cattle draught power. Other household activities also require draught power. Given that about 90 per cent of the country's nearly 5.5 million cattle are owned by small-scale farmers in both communal and resettlement areas (see Mtembo 2021), the decimating impact of *theileriosis* is largely compromising the main livelihood sources of the communal farmers. Overall, both the main and related livelihood sources are being threatened by the disease against a context of intensifying poverty induced by enduring macroeconomic underperformance.

## ***High cattle mortality signifies erosion of wealth and income***

Application of the SLA with full acknowledgement of its weaknesses as an analytical tool portrays cattle as a major wealth and income generation asset for the communal areas. The importance of large livestock such as cattle as a form and measure of wealth to Zimbabwe's farmers, along with sale of small livestock in facilitating a sustainable flow of income are documented (see Chibwana 2016). Cattle and other livestock are therefore an important dimension of sustainable rural livelihoods. Threats to this livelihood base due to *theileriosis* imply a detrimental impact on the wealth base of the communal farmers. One of the villagers summed this argument.

Cattle are our major source of wealth, food and income for school fees, clothing and meeting household needs. The disease has claimed approximately 75 per cent of cattle in this village. Everyone is in a panic mode, and some are selling their cattle for as little as US\$40 each or less. They consider this to be better than losing the cattle to the disease. We are poorer than we were before the disease. We are fast losing our wealth and the government is not assisting us. It will take us many years to accumulate cattle.

## ***Insecurity and loss of 'estate' and future socioeconomic wellbeing***

Deriving livelihoods from cattle (and other livestock), and inheritance have been, and continue to be practiced in most African countries (Freeman et al 2008). In rural Zimbabwe, cattle are an asset for current use, an 'estate' and an inheritance asset. These livelihood dimensions were unanimously emphasised by the communal farmers. Yet, they argued that *theileriosis* has eroded the sustainability of livelihoods based on cattle. Bearing on Chambers' (2019) conceptualisation of the sustainability of a livelihood as when it can cope with and recover from stress and shocks, and provide sustainable livelihood opportunities for the next generation, and which contributes net benefits to other livelihoods at the local and global



levels and in the short and the long term, the situation of the study sites shows serious livelihood challenges due to the disease in the current and future.

## 5. Conclusion

The paper brings to the fore the impact of livestock diseases on rural livelihoods with particular focus on *theileriosis*. While acknowledging that the disease may have multiple effects on livelihoods, the focus of this paper was restricted to four areas. These are: the burden of the disease on the farmers and government; decimation of cattle as erosion of mainstream livelihood and related aspects; reduction of wealth and income; and insecurity and loss of future wellbeing. Despite this restricted focus and use of a single case study, *theileriosis* has devastated rural livelihoods that are anchored on or linked to cattle.

Reducing the impact of *theileriosis* on livelihoods is an urgent priority. Various interventions can be applied. In Zimbabwe, *theileriosis* is a notifiable disease therefore when cases are suspected, the farmers must report to the Division of Veterinary Services. This is closely linked to farmer educational campaigns. The disease is generalised, therefore awareness and sensitisation programmes on the signs and symptoms, prevention methods and treatment protocols should target all provinces. Livestock health educational campaigns should be centred on *theileriosis* but also target other diseases and re-emphasise the importance of livestock dipping and immunisation. Quarantine (prohibition of cattle movement in or out of their areas of habitation) should be enforced by both the Veterinary officers and the Zimbabwe Republic Police (ZRP) to curb regional transmission. While these interventions are important, cattle dipping is the single most important tick control intervention. Accordingly, dipping chemical should be available if the disease is to be effectively controlled, and its impact on livelihoods is to be reduced or curbed. The shortage of dipping chemical is largely attributed to macroeconomic underperformance and inadequacy of foreign currency in a context where the majority of communal farmers are unable to sustainably provide for themselves. The government of Zimbabwe can, therefore, engage both local and international partners for assistance to ensure adequacy of dipping chemical. This is important in complementing the farmers' initiatives for example, cattle levies and associational sourcing of acaricides. Cattle and other livestock are a major component of rural livelihoods therefore, their health should be a policy priority.

## Notes on contributor

**Knobby Tomy** is a Zimbabwean Veterinary Officer. He actively contributes to community and national development through providing specialist animal health services. In addition to specialising in veterinary science, his research and publication focus on the politics of rural livelihoods and agriculture in developing countries. He is an emerging young scholar and has published with Rowman & Littlefield Group Incorporated.



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