

## *Small-scale livestock farming and primary animal healthcare in South Africa: Challenges and policy implications*

### **Summary**

Livestock health in small-scale farming communities contributes positively to ensure rural development, food security and sustainable livelihoods. Therefore primary animal healthcare (PAHC) is important to ensure that livestock are healthy and free from disease. In South Africa, access to veterinary services, especially for small-scale farmers, remains a challenge due to several factors that include the following: general shortage of available veterinary professionals; deterioration of the veterinary infrastructure; declining resources for veterinary services; and a fragmented PAHC policy regime that is divided among a largely uncoordinated multitude of government agencies.

The policy recommendations provided in this brief emerge out of a pilot study on gendered dimensions of farming systems, rural farmer households and food security conducted in Marble Hall and Rhenosterkop, Limpopo, and a follow-up policy dialogue on PAHC in

South Africa. The key aim of the pilot investigation was to identify some behaviour patterns, usage, uptake, knowledge and attitudes among small-scale farmers in relation to vaccine usage and disease management. The discussion contained in this brief reports on the key findings gained from the study. These confirm that an improved understanding of the challenges facing small-scale livestock farmers in the area of PAHC may contribute to better-focused development of policies and programmes. Key interventions are needed to strengthen the PAHC regime in South Africa:

- development of a comprehensive PAHC policy strategy and implementation plan;
- establishment of a coherent and holistic capacity-building programme for small-scale farmers on PAHC issues;
- skills development focused on establishing local technical capacity for small-scale farmers; and
- development of an animal vaccine access strategy for small-scale farmers.



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## Introduction

There is increasing focus within rural development programmes and projects on the small-scale farmer's livestock production and its impact on household food security, human welfare and socioeconomic development (Quisumbing & Pandolfelli 2010; Reddy et al. 2015). Healthy animals play a central role in ensuring and enhancing food security. Livestock systems are the largest land-use activity on earth and global livestock production is expected to double by 2020.

A central focus in this sector is to ensure that benefits – in particular to small-scale farmers – are obtained in a sustainable manner and, by doing this, to give good effect to the multifunctional nature of livestock in developing communities (Thomas-Slayter & Bhatt 1994). Marble Hall and Rhenosterkop (located near the Mpumalanga/Limpopo border), where the pilot study was conducted, are characterised by challenges such as low employment opportunities, which means that livestock farming takes on a particularly significant role. There are also important arguments that small-scale livestock (and agricultural) farming may be more economical and productive per hectare than large-scale commercial farming, which is an argument for increased support for the small-scale farmer (see Munyai 2012).

A key challenge facing small-scale livestock keepers is animal disease. Livestock diseases impact significantly on people and are an impediment to the livelihoods of resource-poor farmers in Africa and elsewhere in the developing world. Veterinary vaccinations as an intervention have yielded the greatest

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successes in preventing, controlling and reducing the incidence of animal diseases worldwide. Vaccines have been a major contributor in the eradication of diseases such as rinderpest, and in the prevention of countless deaths of livestock as a result of infectious diseases annually (Njeumi et al. 2012). Access to affordable vaccines and knowledge in administering the vaccines for different diseases remain challenges for small-scale farmers. A focus on small-scale farming and PAHC brings to the fore several issues related to broader policy issues on rural development, veterinary extension services, empowerment of small-scale farmers and the development of the livestock sector in the context of small-scale farming.

For the purposes of this brief, the terms 'small-scale farmer', 'smallholders' and 'livestock keepers' are used interchangeably.

## The policy context

In the South African context, rural development within the context of smallholder agriculture has been beset with challenges. Government hopes that through its agricultural and rural development programmes, 'smallholders would be strengthened and their numbers increased, and rural households would produce their own food' (The Presidency 2014: 63) – a goal that has yet to be fully realised.

Hendriks (2013:1) claims that 'the country has no food security information and does not regularly collect such information'. The Twenty Year Review: South Africa 1994–2014, released by the Presidency (2014), seems to confirm this, as no outline of clear government policy or strategy development is laid out in this document. Hendriks (2013) is critical of the government's two key strategy documents in relation to agriculture and food security: the National Development Plan (NDP) and the New Growth Path

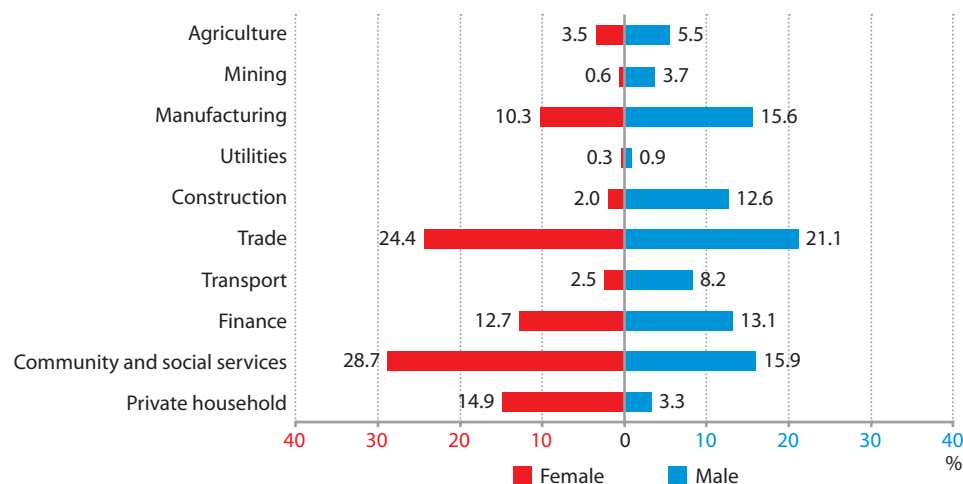
(NGP), the former emerging from the National Planning Commission (NPC) and the latter from the Department of Economic Development. Not only is food security being ignored as a significant issue, with the 2002 Integrated Food Security Strategy for South Africa (DoA 2002) needing significant revisions and review, but the links between poverty, economic growth and food security have not been explored in ways that offer better policy options for enhancing growth with the aim of reducing poverty, increasing employment and simultaneously increasing food security.

In addition, the NDP remains largely silent on the role of livestock production systems. A comprehensive agricultural extension services platform that is responsive to small-scale livestock farming systems is necessary for the economic, social and political development of the agricultural sector and food security of the nation. Agriculture, which is the sixth biggest sector out of 10 in terms of employment for women and the seventh in terms of employment for men (see Figure 1), accounts for just 3.5% of women employed and 5.5% of men (Stats SA 2013).

Twenty years since the start of democracy, government strongly maintains that a dualistic agricultural system between white and black farmers continues to exist, and its approach to reversing the dualistic agricultural economy is reflected in the concern that very few commercial farms are owned by black people (The Presidency 2014).

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**Figure 1:** Gendered employment in the agricultural sector, 2011



Source: Stats SA 2013: 33

Government policies have been characterised by a desire to move smallholders into commercial farming, as well as to make smallholders self-sufficient in terms of food. Government seeks to transform the agrarian terrain through a specific focus on the dispossessed and economically weak, particularly smallholder farmers.

Government policy for agrarian transformation involves ensuring more equitable access to land, water, economic institutions, finance and infrastructure for landless people, farmworkers and smallholder farmers, as well as raising productivity and diversifying rural economies and rural employment. Smallholders would be strengthened and their numbers increased, and rural households would produce their own food (The Presidency 2014).

Currently, South Africa does not have a PAHC policy and strategy. The Department of Agriculture, Fisheries and Forestry (DAFF) has developed an animal disease management plan with the mission 'to ensure that human and animal wellbeing is optimised through strategic livestock development in respect of food security, agrarian transformation and rural development, and in supporting industrial development' (DAFF 2015: 2).

## The problem

Veterinary services are indispensable to the sustained health and well-being of animals. The rolling-back of veterinary extension services in South Africa due to privatisation and government cutbacks over the past decade is a worrying trend. These cutbacks and budgetary constraints initially stemmed from the introduction of the Growth, Employment and Redistribution (GEAR) policy in 1996, which led the then Department of Agriculture (DoA) to cease the supply of chemicals for dipping. Another consequence of GEAR was the cut in the DoA budget, resulting in fewer free veterinary services offered to communal farmers (Jenjezwa and Seethal 2014).

Although the country has a range of veterinary services to support livestock production and trade, access

to veterinary services, especially for small-scale farmers, remains a challenge due to, inter alia, the general shortage of available veterinary professionals, deterioration of the veterinary infrastructure and declining resources/budgets for veterinary services. Constitutional arrangements regarding animal health have compounded the problems. The Constitution of the Republic of South Africa decentralised veterinary services, making it a concurrent function to be performed by both national and provincial veterinary authorities. As a result, the regime of veterinary public health services is fragmented and divided among a largely uncoordinated mass of government agencies (Moerane 2015).

These challenges facing PAHC are confirmed by an evaluation of the performance of South African veterinary services conducted by the Office of International des Epizooties (OIE – the World Organisation for Animal Health) in October 2012 and June 2014, which found that animal health interventions are poorly defined due to policy fragmentation (Songabe 2015).

## Primary animal healthcare in two Limpopo small farming communities

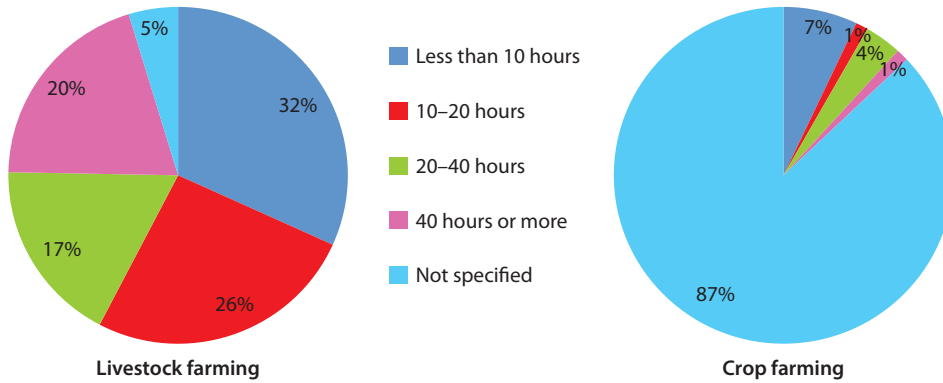
As indicated earlier, livestock production is a major component of South African rural agriculture. Approximately 40% of South Africa's livestock is in the hands of rural communities (Munyai 2012). This high figure is based on the fact that 70% of resource-poor farmers in South Africa are located in the harsh agro-ecological

**Table 1:** The distribution of livestock ownership in the areas studied

Type of livestock	Proportion of households	n
Cattle	94%	80
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**Figure 2:** Time spent on livestock and crop farming (in an average week) in the areas studied



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zones where cropping is unsuitable, and as a result these farmers are forced to rely on livestock for their livelihoods.

The pilot study confirmed that livestock keeping is integral to the communities, with 94% of households surveyed keeping cattle. (See Table 1 for a breakdown; see also Figure 2, which shows the greater significance to these communities of livestock farming compared to crop farming in terms of time dedicated to farming activities.)

The study also revealed that diseases are the main source of loss to stock farmers in the area surveyed. PAHC is therefore an important part of livestock keeping and should be a policy priority.

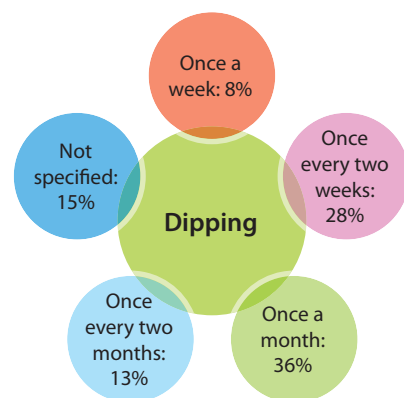
Obstacles facing small-scale farmers in managing animal healthcare processes became evident in the pilot study. PAHC was found to be a key challenge for these communities, given the lack of adequate material resources to prevent, control and treat disease, and the lack of knowledge around causes of and treatments for diseases. (See Figure 3 for an indication of how many respondents engage in dipping their cattle and how often.)

In addition, while two-thirds of households vaccinate their livestock against disease, knowledge of animal diseases, the purpose of vaccines and the diseases which require

vaccinations was very poor. (The high numbers of 'do not know' and incorrect responses to questions related to causes and prevention of diseases feature in Figures 4 and 5.) Many farmers do not act preventatively (and proactively) towards animal disease due to competing demands and scarce economic resources. The health of an animal becomes relevant only when the animal's health is compromised. Knowledge of disease causation, disease prevention methods, and so on was generally poor. Similar findings were noted by authors working elsewhere in the country (see Jenjezwa & Seethal [2014] in the Eastern Cape; Munyai [2012] in Limpopo; and Hesterberg et al. [2007] in Kwa-Zulu Natal).

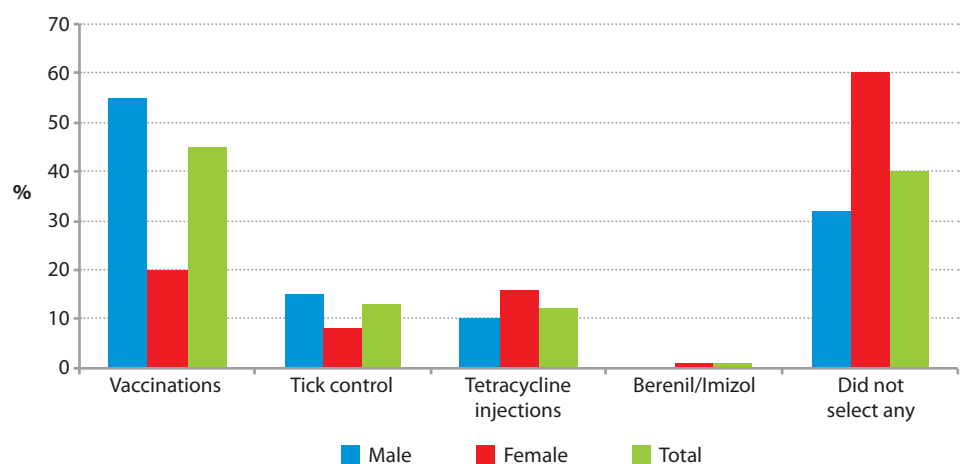
*'In all the dipping I have been to, I haven't seen them [women], in dipping they don't come. I don't know, maybe it is because men are saying they must stay behind or what, and then maybe they're not interested. And again those I have met when they come to ask about an animal, it is because the husband is not there or maybe he passed away or there is no one who can come. So in most cases we [don't] meet so many women in dipping ...'*  
(Pilot study participant)

**Figure 3:** Frequency of dipping for those households indicating that they engage in dipping



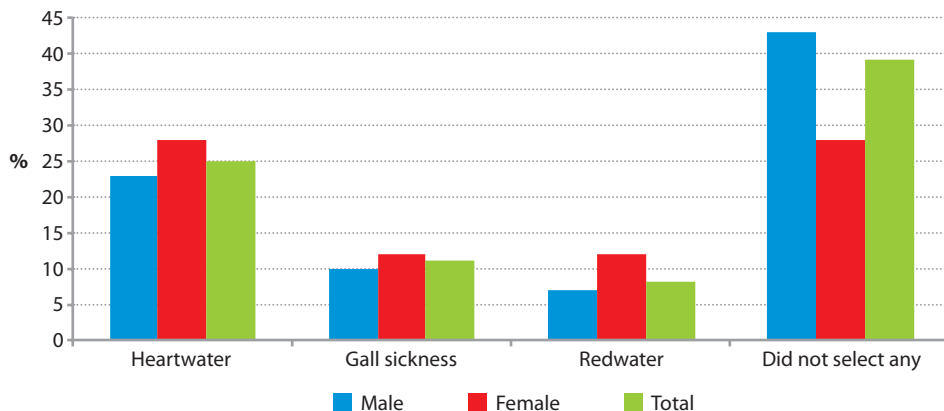
Source: Reddy V, Goga S, Timol F and Molefi S (2016)

**Figure 4:** Methods of preventing tick-borne diseases



Source: Reddy V, Goga S, Timol F and Molefi S (2016)

**Figure 5:** Diseases caused by ticks



Source: Reddy V, Goga S, Timol F and Molefi S (2016)

The gender dimension also proved to be an important factor in PAHC in the two communities studied (see Reddy et al. 2015). As key actors in the agriculture sector, women can play a more vital role in addressing and leading efforts to improve local economic growth by farming with livestock, improving livestock health, and thereby contributing to household food security. Women are also identified as key to rural development strategies in the context of government programmes. However, women are generally marginalised in smallholder livestock farming in the South African context as their role is still perceived as an encroachment on a male domain. For instance, in the community households surveyed it was found that a larger portion of male household heads (58%) compared to female household heads (25%) manage day-to-day farming activities by themselves.

Results from the pilot study and insights from the policy dialogue on PAHC suggest that attention is required in a number of policy domains for small-scale livestock farmers:

- (1) improvements in knowledge about diseases and the role of diseases;
- (2) improvements and development of vaccine practices to assist small-scale farmers, including enhancing access to state animal healthcare services;
- (3) more concrete understanding of the

gendered nature of deep-seated socio-economic deprivation that prevails in communities and households; and (4) stimulation of further research to enhance long-term national strategies on food security through small-scale livestock production by improving animal healthcare (including through the development of new vaccines to combat disease).

## Recommendations

Veterinary extension services and a supportive policy environment play important complementary roles in ensuring effective uptake of vaccines in the overall management of PAHC. Policy efforts in relation to small-scale livestock farming need more integrated alignment with PAHC initiatives in order to improve sustainable rural development. Vaccines, their uptake, and their sustained and effective use are central to PAHC and will empower small-scale livestock communities. Based on the findings of the pilot study, the recommendations are:

### 1. Policy development

- a. The development of a comprehensive PAHC policy and strategy, underpinned by evidence-based interventions, is of utmost importance.

- b. There is also need for policy realignment between livestock production and veterinary services, which are currently treated separately.
- c. The DAFF should provide more concrete long-term plans, policies and budgetary allocations in terms of provision of vaccines and animal health services.

### 2. Capacity building

- a. There is a need to introduce well-designed and effective PAHC programmes, especially in poorly resourced communities, to develop the capacity and knowledge of small-scale farmers.
- b. Animal healthcare training provided by the DAFF should explicitly prioritise both women and men and their gendered relationships.
- c. There is an urgent need to audit the implementation of PAHC and community veterinary services to enhance and scale up veterinary health awareness programmes.

### 3. Access to vaccines and veterinary services

- a. There is a need for the DAFF to assess the cost of vaccines and their accessibility in order to incentivise farmers against over-reliance on cheaper and retrospective methods of disease treatment.
- b. A more responsive relationship between the DAFF's animal health practitioners and livestock keepers is required in order to improve knowledge uptake in relation to vaccines and other preventative health practices.
- c. An increase of state veterinarians in rural and peri-urban areas, along with the promotion of more regular contact between farmers/animals and veterinarians, can enhance the sensitivity and accuracy of disease surveillance, early detection measures and rapid response interventions.

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- This work was carried out with the aid of a grant from the International Development Research Centre (IDRC), Ottawa, Canada, and with financial support from the government of Canada, provided through Foreign Affairs, Trade and Development Canada (DFATD). The views expressed herein do not necessarily represent those of the IDRC or its Board of Governors, or those of the ARC and its Council. This policy brief reflects insights from a pilot study conducted in Marble Hall and Rhenosterkop, Limpopo, of animal healthcare and disease prevention. It includes recommendations from a special follow-up PAHC policy dialogue involving more than 70 participants, including government officials, academics, scientists and NGO members, held at the HSRC in May 2015. We thank the farming communities of Marble Hall and Rhenosterkop for participating in the study.

## POLICY BRIEF AUTHORS

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## Acknowledgments

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## Introduction

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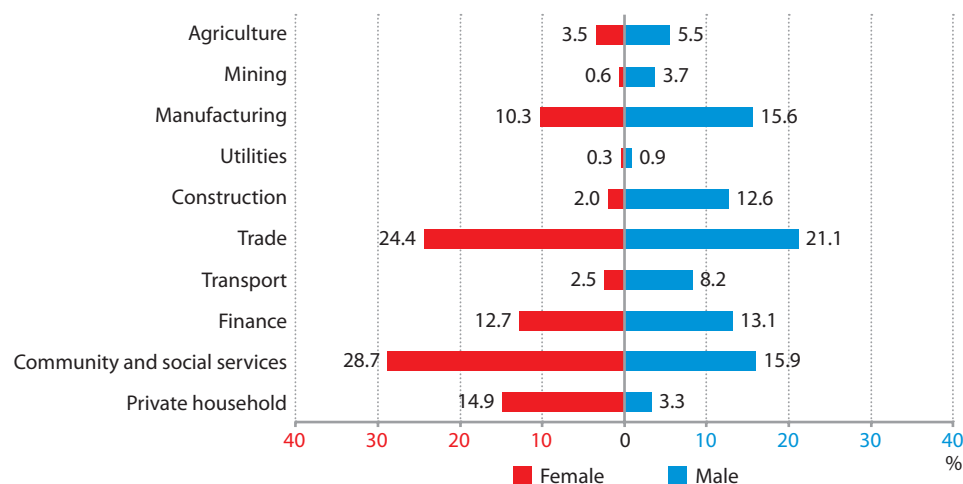
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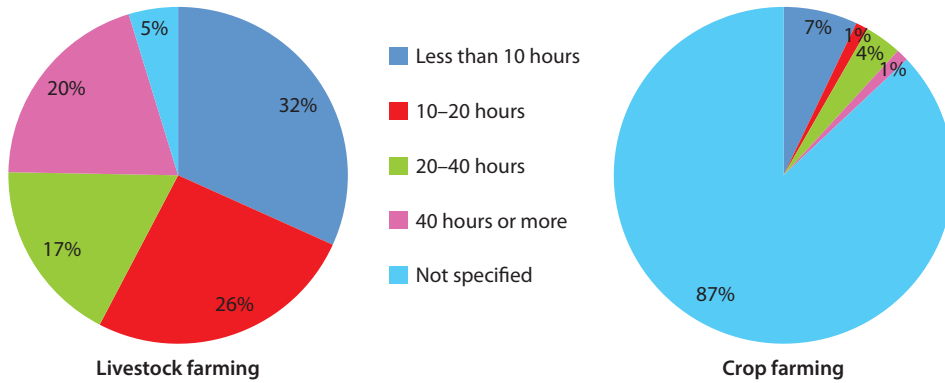
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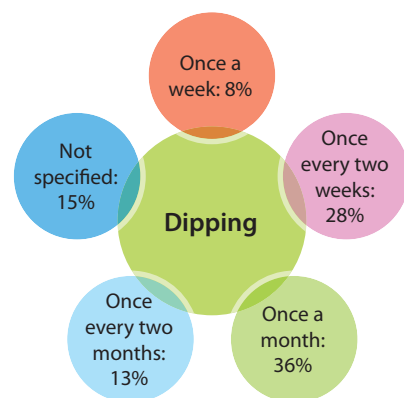
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In addition, while two-thirds of households vaccinate their livestock against disease, knowledge of animal diseases, the purpose of vaccines and the diseases which require

vaccinations was very poor. (The high numbers of 'do not know' and incorrect responses to questions related to causes and prevention of diseases feature in Figures 4 and 5.) Many farmers do not act preventatively (and proactively) towards animal disease due to competing demands and scarce economic resources. The health of an animal becomes relevant only when the animal's health is compromised. Knowledge of disease causation, disease prevention methods, and so on was generally poor. Similar findings were noted by authors working elsewhere in the country (see Jenjezwa & Seethal [2014] in the Eastern Cape; Munyai [2012] in Limpopo; and Hesterberg et al. [2007] in Kwa-Zulu Natal).

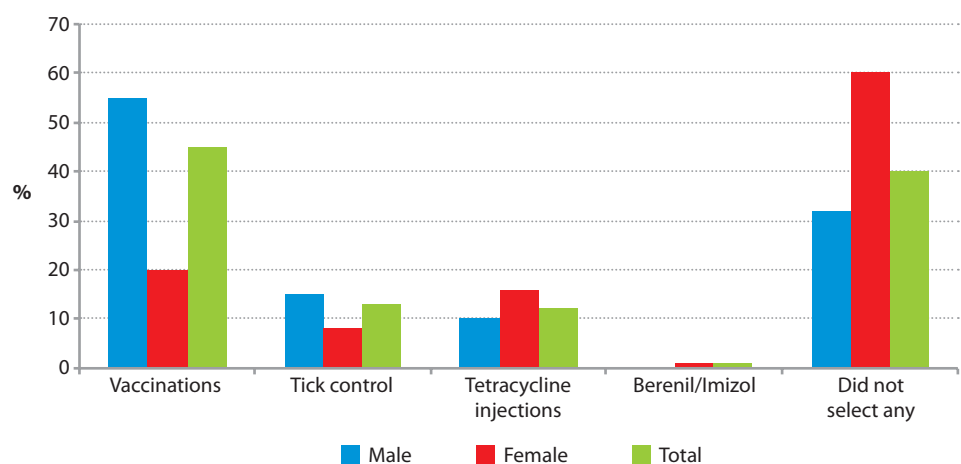
*'In all the dipping I have been to, I haven't seen them [women], in dipping they don't come. I don't know, maybe it is because men are saying they must stay behind or what, and then maybe they're not interested. And again those I have met when they come to ask about an animal, it is because the husband is not there or maybe he passed away or there is no one who can come. So in most cases we [don't] meet so many women in dipping ...'*  
(Pilot study participant)

**Figure 3:** Frequency of dipping for those households indicating that they engage in dipping



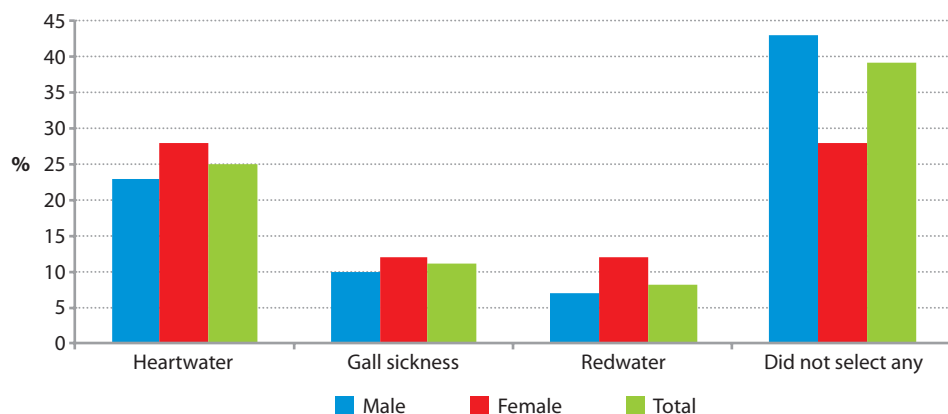
Source: Reddy V, Goga S, Timol F and Molefi S (2016)

**Figure 4:** Methods of preventing tick-borne diseases



Source: Reddy V, Goga S, Timol F and Molefi S (2016)

**Figure 5:** Diseases caused by ticks



Source: Reddy V, Goga S, Timol F and Molefi S (2016)

The gender dimension also proved to be an important factor in PAHC in the two communities studied (see Reddy et al. 2015). As key actors in the agriculture sector, women can play a more vital role in addressing and leading efforts to improve local economic growth by farming with livestock, improving livestock health, and thereby contributing to household food security. Women are also identified as key to rural development strategies in the context of government programmes. However, women are generally marginalised in smallholder livestock farming in the South African context as their role is still perceived as an encroachment on a male domain. For instance, in the community households surveyed it was found that a larger portion of male household heads (58%) compared to female household heads (25%) manage day-to-day farming activities by themselves.

Results from the pilot study and insights from the policy dialogue on PAHC suggest that attention is required in a number of policy domains for small-scale livestock farmers:

- (1) improvements in knowledge about diseases and the role of diseases;
- (2) improvements and development of vaccine practices to assist small-scale farmers, including enhancing access to state animal healthcare services;
- (3) more concrete understanding of the

gendered nature of deep-seated socio-economic deprivation that prevails in communities and households; and (4) stimulation of further research to enhance long-term national strategies on food security through small-scale livestock production by improving animal healthcare (including through the development of new vaccines to combat disease).

## Recommendations

Veterinary extension services and a supportive policy environment play important complementary roles in ensuring effective uptake of vaccines in the overall management of PAHC. Policy efforts in relation to small-scale livestock farming need more integrated alignment with PAHC initiatives in order to improve sustainable rural development. Vaccines, their uptake, and their sustained and effective use are central to PAHC and will empower small-scale livestock communities. Based on the findings of the pilot study, the recommendations are:

### 1. Policy development

- a. The development of a comprehensive PAHC policy and strategy, underpinned by evidence-based interventions, is of utmost importance.

- b. There is also need for policy realignment between livestock production and veterinary services, which are currently treated separately.
- c. The DAFF should provide more concrete long-term plans, policies and budgetary allocations in terms of provision of vaccines and animal health services.

### 2. Capacity building

- a. There is a need to introduce well-designed and effective PAHC programmes, especially in poorly resourced communities, to develop the capacity and knowledge of small-scale farmers.
- b. Animal healthcare training provided by the DAFF should explicitly prioritise both women and men and their gendered relationships.
- c. There is an urgent need to audit the implementation of PAHC and community veterinary services to enhance and scale up veterinary health awareness programmes.

### 3. Access to vaccines and veterinary services

- a. There is a need for the DAFF to assess the cost of vaccines and their accessibility in order to incentivise farmers against over-reliance on cheaper and retrospective methods of disease treatment.
- b. A more responsive relationship between the DAFF's animal health practitioners and livestock keepers is required in order to improve knowledge uptake in relation to vaccines and other preventative health practices.
- c. An increase of state veterinarians in rural and peri-urban areas, along with the promotion of more regular contact between farmers/animals and veterinarians, can enhance the sensitivity and accuracy of disease surveillance, early detection measures and rapid response interventions.

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