

The role of the state in stock farming in rural areas: A case study of Hertzog, Eastern Cape, South Africa

Authors:

Vimbai R. Jenjezwa¹
Cecil E.P. Seethal¹

Affiliations:

¹Department of Geography
and Environmental Science,
University of Fort Hare,
South Africa

Correspondence to:

Vimbai Jenjezwa

Email:

vrjenjezwa@gmail.com

Postal address:

Private Bag X1314, Alice
5700, South Africa

Dates:

Received: 30 July 2012

Accepted: 15 July 2013

Published: 19 Aug. 2014

How to cite this article:

Jenjezwa, V.R. & Seethal, C.E.P., 2014, 'The role of the state in stock farming in rural areas: A case study of Hertzog, Eastern Cape, South Africa', *Journal of the South African Veterinary Association* 85(1), Art. #912, 7 pages. <http://dx.doi.org/10.4102/jsava.v85i1.912>

Copyright:

© 2014. The Authors.
Licensee: AOSIS
OpenJournals. This work
is licensed under the
Creative Commons
Attribution License.

Read online:



Scan this QR
code with your
smart phone or
mobile device
to read online.

This study examined the role of the state in providing veterinary services to resource-poor stock farmers. Communal stock farmers in most rural areas have low incomes and generally poor access to commercial veterinary healthcare. The state veterinary services thus offer a means for stock farmers to maintain the health of their livestock and receive information on animal healthcare. Interviews and participant observation were used to collect data about animal healthcare practices in Hertzog, a village in the Eastern Cape Province of South Africa. The findings were that the state played an important role in animal healthcare and in the education of farmers. However, the lack of a skilled workforce was a constraint to effective service delivery, whilst veterinary educational institutions that disseminate information to the stock farmers were not utilised. It is thus important to fully utilise training centres to educate stock farmers and for more incentives to be given to state employees, so as to attract the necessary skilled personnel to improve service delivery.

Introduction

In South Africa, through the Department of Agriculture¹, the state provides veterinary services to stock farmers. The services include: medical care, information and training on livestock management, laboratory testing of medicines and samples for diagnosis of diseases, monitoring and controlling disease risks and outbreaks, and promoting hygiene in abattoirs. Resource-poor stock farmers in rural areas are highly dependent on state veterinary services due to their low incomes, the high cost of veterinary medicines and private services, as well as their limited understanding of animal healthcare. Within this context, the present study examines the role of the state in providing veterinary services and animal healthcare to resource-poor stock farmers in rural areas. More specifically, the present study explains what services are provided and how they are disseminated. In addition, it examines and evaluates the knowledge that stock farmers have of livestock management with regard to disease prevention and control. The present study is based on research undertaken in the small rural village of Hertzog in the Eastern Cape Province of South Africa. It outlines the background of veterinary services and veterinary legislation in South Africa. The present study can be used to better understand the role of the South African state services in regard to stock farming in Hertzog, as it is assumed that the stock farmers' situations and experiences are similar to other resource-poor farmers in the country.

According to information on the website of the Department of Agriculture (n.d.), veterinary services were first established in South Africa in 1870, with the intention of carrying out activities to protect and promote the health of both humans and animals. Early veterinary research and intervention was largely designed to cope with the major epizootics of Rinderpest, in 1896, and East Coast Fever, in 1902. In 1908, the Veterinary Research Institute (now the Onderstepoort Veterinary Institute) was opened in Pretoria to perform research on veterinary practices, livestock diseases and medicines. The training of veterinarians in South Africa was officially launched in 1920 at the Transvaal University College (now University of Pretoria) and the first students qualified in 1924. White and black farmers benefited from veterinary developments because the state wanted both groups to make a living from the land (Brown 2005). During the establishment of the Bantustans in the 1970s, management of the dipping service was handed over to the former homeland (Ciskei and Transkei) administrations. To help generate revenue, stock farmers in the Ciskei paid a fee for each animal that was dipped, whilst in the Transkei, fees were collected in the form of a grazing levy. In the Ciskei, the Department of Agriculture also provided medicines and information about diseases (Dold & Cocks 2001). After the granting of 'independence' to the homelands, enforcement of the dipping programme was gradually relaxed and then completely removed. When the homelands were reincorporated into South Africa in 1994, the Eastern Cape Provincial Department of Agriculture took over responsibility for the dipping service, including

¹In 2009, the name of the Department of Agriculture was changed to the Department of Agriculture, Forestry and Fisheries (Government Gazette no. 32387 of 07 July 2009). However, given that the research on this paper was undertaken prior to the name change, the Department will be referred to as the Department of Agriculture (www.nda.agric.za/vetweb).

the supply of chemicals and personnel. The resource-poor farmers, who were mainly black, had a lot of influence on the services that they required. The Veterinary Services Department tried its best to meet the farmers' service demands. The demands of the farming community continue to inform the services provided (Getchell *et al.* 2002).

State policy on dipping in the Eastern Cape Province has also varied since 1994. Budgetary constraints stemming from the introduction of the Growth, Employment and Redistribution (GEAR) policy in 1996 caused the Department to cease the supply of chemicals for dipping, and it then only supplied personnel (Getchell *et al.* 2002; Masika, Sonandi & Van Averbeke 1997). The GEAR policy was a structural adjustment programme based on neo-liberal economic principles that included privatisation, subsidy removal, downsizing of the public sector and encouragement of small scale black entrepreneurs. Another consequence of GEAR was the cut in the Department of Agriculture's budget resulting in fewer free veterinary services offered to communal farmers (Isaacs, Hara & Nielsen 2005; OECD 2006). In 2008, the National Department of Agriculture took over the running of the Veterinary Services Directorate. The state provided free dip, but responsibility for collection and dipping rested formally with the local areas' dipping committees. In addition, the state introduced legislation to deal with various aspects of livestock farming and other related activities.

There is legislation in place to govern the practices of the Veterinary Services Directorate. Four main acts relevant to this research were studied. The *Animal Diseases Act* (Act no. 35 of 1984 [South African Government Gazette 1984]), the *Meat Safety Act* (Act no. 40 of 2000 [South African Government Gazette 2000]) and the *Animal Identification Act* (Act no. 6 of 2002 [South African Government Gazette 2002]) define the activities of the Veterinary Services Directorate (O. Letuka pers. comm., 07 August 2008). The *Veterinary and Para-Veterinary Professions Act* (Act no. 19 of 1982 [South African Government Gazette 1982]) defines the roles of veterinary and para-veterinary professionals. This section briefly outlines the elements of these acts relevant to the research.

The *Animal Diseases Act* provides for the control of animal² diseases and parasites, so as to promote animal health and related matters. Both stock farmers and state veterinary agents are responsible for maintaining animal health and controlling the spread of disease through vaccination and the early reporting of diseases, amongst other mechanisms. The *Meat Safety Act* provides the measures to promote meat safety, sets the standards for abattoirs and ensures that meat supplied to the consumer is nourishing and free of disease. According to the *Animal Identification Act*, animal owners are required to apply for registration of an identification mark and to mark their livestock in the prescribed manner for identification purposes (South African Government Gazette 2002, s.7 ss.1). It helps livestock owners to claim when their livestock get lost and are impounded. This Act also enables traceability for disease control purposes.

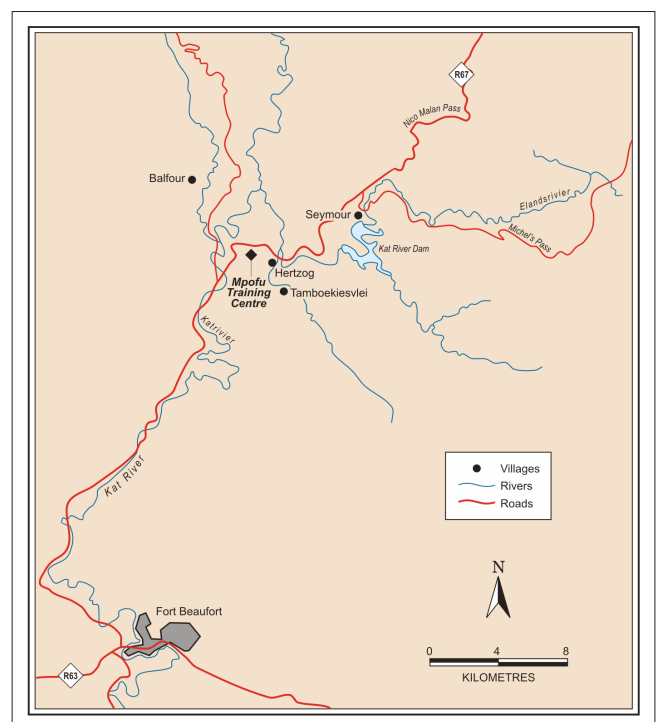
2. In this *Animal Diseases Act*, animals refer to any mammal, bird, fish, reptile or amphibian.

The *Veterinary and Para-Veterinary Act* also defines the roles of the animal health technician (AHT), state veterinarian and other veterinary and para-veterinary professions. The AHT responsibilities in Hertzog include: the inspection of all livestock, game and poultry in disease-control areas, at auction sales and during routine farm visits; implementing vaccination and parasite control programmes; and undertaking meat and abattoir inspections. According to the Act, the AHTs are also required to carry out extension services, including: training and education, collecting specimens for research purposes and providing primary healthcare services to resource-poor communities.

Materials and methods

The research methodology chosen for the present study was the Realist intensive research design, which incorporates a case-study approach with emphasis on qualitative research techniques.

The study incorporated three data-collection phases. The first phase, undertaken during August and September 2008, involved preliminary field research and data collection. It incorporated interviews, participant observation and narrative, and secondary data analysis. During this phase, face-to-face interviews were held with the Eastern Cape's Provincial Director of Veterinary Services (in Bhisho), the state veterinarian, two AHTs (who worked in the Nkonkobe Local Municipality where Hertzog is situated) and a stock farmer. In addition, there was a visit to the Mpofu Training Centre near Hertzog (Figure 1) where farmers are trained in various agricultural practices, including livestock and crop production. These data gathering exercises served to collect information on the extent of state services provided, the problems faced and ethnoveterinary practices.



Source: This figure was drawn by Susan Abraham in 2009, specifically for this research

FIGURE 1: Study area – Hertzog and Tamboekiesvlei, Eastern Cape Province.

Two further data collection periods followed: one in October 2008 and November 2008, and another between March 2009 and June 2009. Pretested interview schedules were used to gather information from stock farmers in Hertzog relating to: their agricultural practices; types of livestock reared; common livestock diseases and medicines used; herding strategies; and the relationship between the AHT and the stock farmers. Based on the average of 35 cattle farmers that the AHT records revealed as having dipped their cattle, a sample of 30 stock farmers and herdsmen was selected. Selection was based on the snowball sampling technique, and with the assistance of the AHT and contacts in the mixed race community of Tamboekiesvlei in Hertzog. This technique enabled the researcher to also interact with farmers who had livestock other than cattle, such as goats and sheep.

The snowball technique involved the identification of one member of the community who linked the researcher with other similar, potential research participants. The advantages of the snowball technique included having participants with similar attributes, thereby enabling comparisons to be made during analysis. Potential research participants who would not have normally been identified by the researcher may also have been suggested. However, since the sampling was not random, statistical inferences such as the sampling error could not be determined. Another disadvantage was that the participants may only have linked the researcher with others of similar nature, thereby reducing heterogeneity of data. Therefore, snowball samples are not considered to be representative of a population (Rubin & Babbie 2005). There were no reliable records of all the stock farmers in the area who owned any type of livestock. Therefore, the snowball technique was used because the only record of stock farmers available was the AHT's dipping records. It was thus assumed that all cattle farmers took their cattle for dipping. The AHT helped link the researcher to the Tamboekiesvlei stock farmers who then suggested other people with livestock who could be interviewed for the purpose of the study.

The interviewees included males and females, and involved persons from different cultural backgrounds who owned or herded livestock. Interviews were also held with representatives from the Department of Agriculture's Provincial Directorate of Veterinary Services offices and the state veterinarian in Fort Beaufort. Narrative analysis was used to analyse the data collected using the stock farmers' personal stories. State veterinary practices throughout history were also studied. Narrative analysis focuses on the sequence of events through which an integrated and descriptive story is developed. This analysis method has the advantage of helping to better understand the present because changes that took place over time are extensively studied. A disadvantage of narrative analysis is that it may be too detailed, especially when a simple and concise understanding is sufficient. Another disadvantage is that if the language of communication is not the interviewees' primary language, they may not express themselves well enough and some information may be lost or misinterpreted (Daiute & Lightfoot 2004; Kvale 2009).

Secondary data analysis was adopted to enrich the present study. This was based on documents, including website materials, journal articles, state documents and publications, and the minutes taken from the information days and other meetings that the AHTs held with the farmers and residents at Hertzog.

Results

This section outlines the structure of the Eastern Cape Department of Agriculture, the state's role in disease prevention and control, as well as the stock farmers' responses to state interventions. Due to unavailability of information on Hertzog alone, the study presents information on the Province. Therefore, a broader outline of the Province within which the case study area is located was studied.

In the Eastern Cape Province, the provincial office of the Department of Agriculture was based in Bhisho, with sub-offices in selected towns that reported to it. The sub-offices had specialised officers who dealt with all forms of agriculture, including livestock, crop and citrus production. For veterinary services, the role players included the state veterinarian, AHTs, community animal health workers (CAHWs), the farming committees and stock farmers. In 2009, the Eastern Cape Province had 389 AHTs who were evenly distributed throughout the Province and were stationed in various municipal wards.

One state veterinarian served the Nkonkobe and Nxuba Local municipalities. He was based in Fort Beaufort (in Nkonkobe), which was the main office for both municipalities. His roles included administration, lecturing to AHTs and dealing with veterinary issues. In addition, in 2008–2009, the Nkonkobe and Nxuba Local Municipalities had 19 AHTs (8 males, 11 females) working in different towns and villages within the municipalities. There were six AHTs in Alice, six in Middledrift, Adelaide had another one, Seymour/Balfour had four, Fort Beaufort had one, and another one was the control AHT. Each AHT served a ward that averaged five villages and some AHTs also served emerging farmers. The AHT visited the area under his or her jurisdiction and assisted stock farmers with diseased or injured livestock. In severe cases, where a veterinarian was needed, the state veterinarian provided assistance. The number of animals that had been assisted was recorded in the various districts and collated at the provincial level.

The Eastern Cape Veterinary Services Directorate provided services mainly to communal and emerging farmers. The role players (state veterinarian and AHTs) had their own duties that were coordinated with the programme and with one another. As a result of sub-offices operating differently across the Province, in terms of specific staffing, management practices and farmers' needs, the provision of services varied spatially. The state provided free services that included the dip, consultations with the AHT and vaccinations for controlled diseases and uncontrolled diseases, such as lymph skin disease (LSD). The state vaccination programmes

took place annually and at specific times of the year. As a result, the state vaccination programme for anthrax, black quarter, sheep scab and tuberculosis testing was widely effective. In 2009 in Hertzog, there were sufficient drugs for all the livestock brought in for treatment; state services were evidently effective, as the diseases vaccinated against did not occur. For example, no case of anthrax was mentioned in any of the interviews with the respondents. The AHTs also ran the vaccination and testing programmes in groups of two or three to assist one another in their respective areas.

The Eastern Cape Department of Agriculture keeps records of the number of livestock that were tested for, and vaccinated against diseases (Table 1). There were no records for black quarter/anthrax and sheep scab for the periods 2001/2002 and 2002/2003. In the 2004/2005 period, the number of livestock tested for, or vaccinated against, tuberculosis, brucellosis and sheep scab decreased. This was attributed to the limited mileage allowed for state vehicles, which limited travel and service delivery. Then in the 2005/2006 period, all figures except for black quarter/anthrax increased. Figures dropped again for all diseases in the 2006/2007 period. This was also attributed to transport limitations and inadequate provision of sufficient equipment.

The services offered to stock farmers in 2008/2009 included: the vaccination of cattle against anthrax and black quarter; testing for brucellosis; dipping cattle; vaccination of dogs and cats against rabies; treating sheep for sheep scab; and vaccinating poultry against Newcastle disease. These services were provided free throughout the Province, with special emphasis on the resource-poor farmers (Allerton 2000). The state veterinarian provided services that were charged for, but these costs were highly subsidised for communal farmers. There was no charge for mileage, but drugs and procedures (e.g. surgery and castration) were charged for. The state had standard rates set for procedures. When there were disease outbreaks, the Department vaccinated the livestock in the affected area and informed stock farmers in surrounding areas. The AHTs undertook awareness campaigns before the actual provision of the service to educate the livestock farmers on the benefits of treating the livestock and how it would be performed. The campaigns were complemented with information days that were held at least once a year in each community served by an AHT.

The state and individual stock farmers were jointly responsible for disease control. The state was actively

involved in providing veterinary support to stock farmers, but resource limitations resulted in the state services being highly ineffective.

The AHT for Hertzog was also responsible for Philipton and Fairbairn villages. She also attended to the needs of individual farmers, such as a cattle farmer with more than 100 head of cattle who resided in eTwatwa. Although the AHT visited the areas under her jurisdiction at least once a week, usually on the dipping day or when called to assist in diagnosing disease, her availability depended on the time of the year. For example, when vaccination or testing programmes were underway, the AHT gave priority to the livestock undergoing vaccination or testing. In the Eastern Cape Province, black quarter was one of the diseases vaccinated against in early summer. In Hertzog, the cattle were vaccinated against black quarter and anthrax yearly.

The Hertzog stock farmers penned the ill livestock and monitored them. The respondents in the present study said that if they could not identify or treat the ill livestock, they contacted the AHT. The AHT for Hertzog (Tamboekiesvlei) felt that local knowledge of diseases was restricted. She agreed that the common diseases in summer were heartwater and redwater. She also emphasised that a range of other diseases such as joint ill, foot rot and screw worm occurred occasionally. If the livestock died, post mortem examinations were performed to determine the cause of death. The respondents mainly looked at the lungs and the gallbladder. One farmer said that when she carried out a post mortem examination, she looked at the gallbladder, for plastics in the stomach and yellow bile. She identified gallsickness (anaplasmosis) during the post mortem examination from a swollen gallbladder and yellow bile spread around the internal organs, as a result of a burst gallbladder.

Lumpy skin disease (LSD) first became common in 2007 and has recurred yearly from then on. In 2007, there was an outbreak of LSD involving about 40% of the cattle in Hertzog; most of the respondents in the present study had lost some cattle during that time. The AHT believed that the state was likely to budget for LSD in 2009, rather than the usual five year cycle, because of the yearly recurrence. However, the state did not provide vaccines for LSD in 2008. In 2008, LSD was in the state's vaccination programme for the summer (October and November). None of the respondents knew the cause of LSD.

The AHT noted that some farmers in Hertzog were able to identify the diseases on their own but they were not sure

TABLE 1: Number of Eastern Cape livestock vaccinated and tested for diseases (2001–2008).

Year	Anthrax and black quarter	Tuberculosis	Brucellosis	Sheep scab
2001/2002	-	-	569	-
2002/2003	-	89 000	-	-
2003/2004	1 403 000	108 113	90 853	3 854 455
2004/2005	1 645 496	55 687	61 454	3 252 418
2005/2006	1 596 785	105 279	72 330	4 529 687
2006/2007	1 237 089	77 615	43 760	4 374 076
2007/2008	1 738 788	75 893	48 107	4 197 313

Note: Please see the full reference list of the article, Jenjzwa1, V.R. & Seethal, C.E.P., 2014, 'The role of the state in stock farming in rural areas: A case study of Hertzog, Eastern Cape, South Africa', *Journal of the South African Veterinary Association* 85(1), Art. #912, 7 pages. <http://dx.doi.org/10.4102/jsava.v85i1.912>, for more information.

what medication to use and the dosage to administer. When a noncontrolled disease was common in Hertzog and the state did not provide treatment for it, she initially gave a general talk at the dipping tank on the administration of the vaccine. She also assisted farmers in the administration of medication, if necessary. For example, during the period of data collection (November 2008 – June 2009), the cattle were vaccinated against LSD, black quarter and anthrax. After the first devastating impact of the disease in 2007, LSD was then (2008/2009) less problematic and knowledge about vaccines was more widespread. When LSD was first observed, the AHT reported it to the state veterinarian and advised the veterinary product stockists such as Umtiza Farmers' Corp to stock up on the vaccines.

In accordance with the *Animal Identification Act*, most stock farmers in Hertzog had their cattle branded. Some farmers only branded their cattle when they were taken to the auction. Most of the stock farmers had stock cards but did not make regular use of them. Few stock farmers brought the stock cards during dipping because herders, and not the cattle owners, took the cattle to the dipping tank.

The main constraints to veterinary service provision in the Eastern Cape Province were finance and human resources. There was a staff backlog, especially amongst the veterinarians and the AHTs. In Hertzog, some stock farmers complained about the unavailability of the state veterinarian. The state veterinarian responded that since he had a large area to cover, cases were dealt with in order of need and in consideration of the veterinarian's other roles. The Department also struggled to retain staff because of the rural nature of the Eastern Cape Province, which discouraged people from going there. The proposed solution was a retention strategy and the Department continues to strive to provide incentives for veterinary staff, particularly for those who work in rural communities. The long-term solution to the staffing crisis was to offer bursaries in engineering, veterinary and agricultural sciences. The limited mileage allowed with a Fleet Africa³ vehicle hampered service delivery because AHTs would not often visit areas that were further away, which is reflected in the Department's reports of 2002–2006.

Few stock farmers from Hertzog attended the training sessions at the Mpofu Training Centre. The respondents attributed this to poor communication of such events and the poor applicability of training programmes to their farming practices. The stock farmers said they did not have the resources to put into practice what was taught. The information days were held in the community and representatives of various divisions in the Directorate of Veterinary Services made presentations. At the information day held in 2008, different types of animal owners were present. A representative of a pharmaceutical company explained each of its products for the different diseases. The AHT alternated between inviting two different companies to market their products. The farmers preferred one of the

company's products, hence the representative from that company visited more often. The AHT explained that the information day was necessary to help better understand the management, diseases and problems faced in raising livestock. Animal owners asked questions and received responses from the panel, which had specialist knowledge on animal welfare and healthcare. In 2008, there were presentations on meat safety, controlled diseases, the vaccination programme and medications provided by the preferred company. The farmers asked questions that included issues about milk safety after vaccination or during illness, hoof diseases, tuberculosis symptoms and mastitis. The animal owners present were keen to learn more about animal healthcare.

The AHT and state veterinarian acknowledged that they knew about the stock farmers' use of ethnoveterinary medicine and their beliefs in the spiritual causes of livestock diseases. The AHT said that some farmers used herbal remedies and believed that witchcraft was the cause of some livestock diseases. The state veterinarian said that the stock farmers who treated their livestock with traditional medicine thought that green, lush vegetation caused the diseases, but have now accepted that herbal remedies do not necessarily assist in the recuperation process for their livestock.

In 2008/2009, the state provided an amitraz-based product in powder form for dipping cattle. The dip used previously was organophosphate based and in liquid form. The liquid dip was phased out because the ticks had become resistant to it. Most farmers in Hertzog believed that the amitraz-based dip was not as effective as the previous one because it did not smell as strongly as the organophosphate dip. However, the respondents still took their cattle for dipping.

There was one dipping tank located next to the Kat River in Hertzog that was used for the cattle from both Hertzog and Tamboekiesvlei. The AHT advised the farmers to dip their cattle at the same time of day so that the efficacy of the dip did not wear off. If there were long delays between the herds going through the dip, the powder sank to the base. The AHT recorded the names of the owners of the cattle and the number of cattle that each person brought for dipping. All of the stock farmers interviewed in the present study dipped their cattle, but some stated that they did not dip their cattle when they were free of ticks. This suggested that some did not connect ticks as vectors of particular diseases.

The dipping committee for the area was a group of five cattle farmers from Hertzog whom the community of stock farmers elected at a meeting that the AHT chaired. This committee organised people to take their cattle to the dipping tank and communicated with the community when dipping was cancelled, for example, when there was bad weather. The cattle were supposed to be dipped fortnightly in winter, and weekly in summer. However, when the temperatures dropped or it was cloudy, the farmers did not dip their cattle because they believed that the cattle felt cold.

3. Fleet Africa is the company that is contracted to manage the Eastern Cape Department's vehicles.

The dipping committee also organised for the cleaning of the dipping tank. A pump kept at the Mpofu Training Centre was used to drain the dipping tank. For a period during which the study was undertaken, the treasurer of the committee used his own vehicle for collecting the pump to clean out the water in the dipping tank. The stock farmers had previously agreed to pay a monthly fee of R5.00 to the treasurer for fuel to transport the pump back and forth. However, farmers did not pay the fee, so nobody was willing to collect the pump and problems arose relating to the cleaning of the dipping tank. The dipping tank was supposed to be cleaned before every third dipping, but most stock farmers did not assist in cleaning.

Discussion

The South African Department of Agriculture has been in existence for a long time and changes in social, economic and political circumstances have reshaped it. The Eastern Cape Provincial Department of Agriculture provides various veterinary services that have evolved yearly due to political and economic changes. The Veterinary Services Directorate has revised its vision and focus; this is partly due to changing conditions, but mainly due to the annual budgetary allocation it receives from the Provincial Department of Agriculture.

The AHT inspects livestock during her visits to Hertzog, in accordance with the *Veterinary and Para-Veterinary Act* of 1982 (*Veterinary and Para-Veterinary Act* 1982). A number of stock farmers support the state veterinary programmes through active participation in the vaccination and dipping programmes. The stock farmers try to make the most of the veterinary services that the state offers them. The use of state veterinary services enables the stock farmers to benefit and gain knowledge, and reduces their dependency on ethnoveterinary medicine. However, the stock farmers feel that the state's veterinary staff has to be more frequently available in order for the state to provide efficient services.

The shortage of veterinary staff in the Department of Agriculture reduces the efficiency of service delivery, especially during the vaccination and testing programmes, which take longer to complete. The AHTs are unable to cater for all the needs of the stock farmers for which they are responsible. The limitations on mileage with the Fleet Africa vehicles also prevent AHTs from regularly visiting villages that are further away from the main stations. On the other hand, the state veterinarian who is responsible for two municipalities is rarely available for consultations with the Hertzog farmers. With one AHT serving about five wards, in 2008/2009 the ratio was about one AHT to 200 livestock farmers in Nkonkobe and Nxuba Local Municipalities.

The AHT for Hertzog assigns the stock farmers dipping days that correspond with the provincial rules for dipping: fortnightly in winter and weekly in summer. However, although all respondents in this study dip their cattle, they do not always follow this timetable, for example, they do

not dip their livestock when it rains. The dipping is effective in spite of constraints such as tensions over cleaning the dipping tank, reluctance of some cattle farmers to dip cattle when they do not see ticks on them (thus depriving their cattle of prophylaxis against ticks), and the belief that the amitraz-based dip is less effective than the previously used organophosphate-based dip. This inconsistent dipping probably limits its effectiveness. There are also longstanding problems with tick resistance to the amitraz-based dip that is used.

The AHT organises information days in Hertzog and training workshops are held at the nearby Mpofu Training Centre. There is active participation of stock farmers during the annual information days. However, the information days are insufficient in keeping the farmers well informed about livestock management and disease. The effectiveness of the information shared with the stock farmers who attend the workshops at the training centre is limited because it often bears little relevance to the farmers' livestock practices. Difficulties with poor communication of the details of the workshops amongst stock farmers in Hertzog impact negatively on attendance. Some respondents had other commitments that prevented their attendance.

The AHT reports cases of controlled diseases when they arise and gives advice on controlled diseases that occur in the area, as outlined in the *Animal Diseases Act*. Information on controlled diseases and other common diseases such as LSD is disseminated at the information days, at meetings and during consultations with stock farmers. The stock farmers do not always follow the advice given and often base their actions on their own knowledge and practical considerations.

In Hertzog, there is little evidence of resistance to scientific animal healthcare approaches. Rather, there is a lack of education and people do not fully understand the treatments and drugs. Staff members from the Department of Agriculture who work in Hertzog are aware of the use of ethnoveterinary medicine but they believe that it is not altogether effective.

The stock farmers in Hertzog interact with one another, the Directorate of Veterinary Services and other state representatives. State economic policies, including GEAR, help to shape the terrain for animal healthcare under the direction of the Eastern Cape Province's Directorate of Veterinary Services. Although the stock farmers have a say in the type of veterinary services offered, the economic policy determines to what extent these are met through budgetary allocations, policy and focus areas. Stock farmers expect the state to do more in terms of the provision of drugs, as well as the vaccine against LSD.

From the data collected, it can be seen that the respondents have had years of experience in livestock management, which has helped them to build their knowledge base in respect of livestock management and animal healthcare. However,

the Hertzog stock farmers are not able to diagnose and treat some diseases, or administer medication properly, and rely on state veterinary staff to assist in this regard. Therefore, state services play an important role in the education of farmers and in providing key veterinary care.

Due to the rural nature of the study area a number of problems were encountered, including the fact that respondents withheld information. Not all respondents provided the number of livestock they owned. Another limitation was that some of the indigenous names of the diseases could not be matched with the scientific or common names. Finally, although it is believed that all cattle farmers participated in the dipping programme, the results were biased because the cattle farming interviewees were limited to those who regularly participated in the dipping programme. However, bias was believed to be low because all the cattle farmers to whom the researcher was referred were in the AHT's dipping records.

Conclusion

The findings of this study indicate that communal stock farmers in Hertzog do not have the necessary knowledge and financial means to practice animal healthcare in such a way as to minimise the loss of livestock. It is thus essential for stock farmers to be educated on why they should follow the dipping programme, regardless of the weather, in an attempt to ensure the good health of their livestock.

The Mpofu Training Centre could also hold awareness meetings in the surrounding communities to encourage farmers to attend workshops and timeously inform them on the dates when the workshops are to be held. The dates of the meetings must be communicated to the larger farming body through the dipping committee. The Department of Agriculture should strive to fill the vacant posts and attract more skilled veterinary staff to state service. This would help improve service provision with regard to livestock farming in rural areas such as Hertzog.

Acknowledgements

The authors are thankful to the Govan Mbeki Research and Development Centre, University of Fort Hare for funding this project and Prof. W. Beinart from the African Studies Centre, University of Oxford for his contribution.

Competing interests

The authors declare that they have no financial or personal relationship(s) which may have inappropriately influenced them in writing this article.

Authors' contributions

V.R.J. (University of Fort Hare) undertook the research, collected the data and wrote the manuscript. C.E.P.S. (University of Fort Hare) supervised the research, edited and revised the draft versions of the manuscript.

References

- Allerton, P.V.L., 2000, Controlled and notifiable diseases, viewed 15 August 2008, from http://agriculture.kzntl.gov.za/portal/publications/newsletters/allerton_pvl/june_2000/allerton_june2000_ctrl_diseases.htm
- Brown, K., 2005, 'Tropical medicine and animal diseases: Onderstepoort and the development of veterinary science in South Africa 1908–1950', *Journal of Southern African Studies* 31, 513–529. <http://dx.doi.org/10.1080/03057070500202139>
- Daiute, C. & Lightfoot, C., 2004, 'Narrative analysis: Studying the development of individuals in society', viewed 06 April 2009, from http://www.uk.sagepub.com/upm-data/4074_Introduction.pdf
- Department of Agriculture, n.d., The development of veterinary services in South Africa, viewed 29 July 2008, from http://www.nda.agric.za/vetweb/History/H_History_Main_Initual.htm
- Dold, A.P. & Cocks, M.L., 2001, 'Traditional veterinary medicine in the Alice district of the Eastern Cape Province, South Africa', *South African Journal of Science* 97, 375–379.
- Eastern Cape Department of Agriculture, 2002, *Eastern Cape Province Annual Report for the year ended 31st March 2002*, Department of Agriculture, Bhisho.
- Eastern Cape Department of Agriculture, 2003, *Eastern Cape Province Annual Report for the year ended 31st March 2003*, Department of Agriculture, Bhisho.
- Eastern Cape Department of Agriculture, 2004, *Eastern Cape Province Annual Report for the year ended 31st March 2004*, Department of Agriculture, Bhisho.
- Eastern Cape Department of Agriculture, 2005, *Eastern Cape Province Annual Report for the year ended 31st March 2005*, Department of Agriculture, Bhisho.
- Eastern Cape Department of Agriculture, 2006, *Eastern Cape Province Annual Report for the year ended 31st March 2006*, Department of Agriculture, Bhisho.
- Eastern Cape Department of Agriculture, 2007, *Eastern Cape Province Annual Report for the year ended 31st March 2007*, Department of Agriculture, Bhisho.
- Eastern Cape Department of Agriculture, 2008, *Eastern Cape Province Annual Report for the year ended 31st March 2008*, Department of Agriculture, Bhisho.
- Getchell, J.K., Vatta, A.F., Motswatswe, P.W., Krecek, R.C., Moerane, R., Pell, A.N., Tucker, T.W. & Leshomo, S., 2002, 'Raising livestock in resource-poor communities in the North West Province of South Africa: A participatory rural appraisal study', *Journal of the South African Veterinary Association* 73, 177–184. <http://dx.doi.org/10.4102/jsava.v73i4.583>
- Isaacs, M., Hara, M. & Nielsen, J.R., 2005, 'South African fisheries reform – past, present and future? (Policy Brief # 16)', viewed 12 May 2008, from <http://www.plaas.org.za/publications/policy-briefs/PB16.pdf>
- Kvale, S., 2009, 'Doing interviews', in U. Flick (ed.), *Doing interviews*, pp. 101–119, SAGE Publications, London.
- Masika, P.J., Sonandi, A. & Van Averbek, W., 1997, 'Tick control by small-scale cattle farmers in the Central Eastern Cape Province, South Africa', *Journal of the South African Veterinary Association* 68, 45–48.
- OECD, 2006, 'Policy reform in South Africa', viewed 09 May 2008, from <http://www.oecd.org/dataoecd/31/45/36581609.pdf>
- Rubin, A. & Babbie, E., 2005, *Research methods for social work*, Thomson Wadsworth Publishers, Belmont.
- South African Government Gazette, 1982, *Veterinary and Para-veterinary Professions Act*, Government Printer, Pretoria.
- South African Government Gazette, 1984, *Animal Diseases Act*, Government Printer, Pretoria.
- South African Government Gazette, 2000, *Meat Safety Act*, Government Printer, Pretoria.
- South African Government Gazette, 2002, *Animal Identification Act*, Government Printer, Pretoria.