

RURAL FARMERS' PERSPECTIVES ON STOCK THEFT: POLICE CRIME STATISTICS.

Maluleke, W.,⁵⁵ Mokwena, R. J.⁵⁶ & Motsepa, L. L.⁵⁷

Correspondence Author: Maluleke, W. Email: malulw1@unisa.ac.za

ABSTRACT

Rural farmers are not only facing challenges of severe drought blamed on the El Nino weather pattern, but the stock theft as well. The South African Police's annual crime statistics report and surveys indicates that rural livestock farmers are mostly affected by stock theft in South Africa. The costs paid by these farmers to enhance security in the environs of their livestock roughly precede the financial planning meant for production. However, the research on the extent, economic impact, dark figures and problem areas of stock theft in rural areas remain limited. The National Crime Statistics about stock theft as administered and published by the South African Police Service remains the key focus of this paper. The responses of selected farmers indicate that there is no single solution tailor-made to fight against this phenomenon. The nature of this scourge extremely manifests itself in rural areas because it is not fully tackled by authorities. This paper draws from the detailed statistics reports of stock theft.

Keywords: Crime Statistics, Livestock, Rural farmers, Police Service, Stock theft, Extension implication

1. INTRODUCTION

The literature indicates that animal livestock contributes significantly to the livelihoods of people living in the rural areas of developing countries (De Haan, Van Veen, Brandenburg, Gauthier, Gall, Mearns & Simeon, 2001). South African rural communities are no exception. The literature also asserts that among the difficulties faced by South African livestock farmers in general, stock theft remains one of the biggest challenges. To add to this argument, Geldenhuys (2006: 34) explains that stock theft is an escalating, unnerving and destructive reality, facing or affecting all sectors of the farming community. This includes the commercial farmer, the stud breeder, and emerging farmers, who own only a few herds of cattle (Geldenhuys, 2009:49).

In light of the above, Victims of Crime Survey (2013/2014:3-8) reveals that 1.4% of livestock theft was commonly experienced by households during the period April 2012 to February 2014. And the livestock theft was further perceived to be one of the most common (e.g. 2,018 – 12,7%) and feared (e.g. 1,726 – 10,9%) by households during April 2013 to March 2014 in South Africa. The literature further argues that stock theft also extends to the rural small scale and subsistence farmers, who may own one or two heads of cattle. It is also stated that stock theft occurs more frequently than other types of crime, and that it is a much more serious

⁵⁵ Lecturer, Department of Police Practice, University of South Africa, Pretoria, Brooklyn Campus, South Africa. E-mail: malulw1@unisa.ac.za

⁵⁶ Lecturer, Department of Police Practice, University of South Africa, Pretoria, Brooklyn Campus, South Africa. E-mail: mokwerj@unisa.ac.za – Researcher.

⁵⁷ Lecturer, Department of Police Practice, University of South Africa, Pretoria, Brooklyn Campus, South Africa. E-mail: motsell2@unisa.ac.za - Researcher

threat in South African regions bordering other countries, such as the Eastern Cape (EC), the Free State (FS), KwaZulu-Natal (KZN), and Limpopo (LIM) (South African Police Service, 2012). Furthermore, stock theft crime is not new in South African communities, and some even consider it to be as old as farming itself. In line with this statement it was revealed that cross-border stock theft has intensified since 1990s, and became more widespread, organised and violent. While previously farmers had to deal with petty thieves, who took three to four sheep at a time, they now have to deal with petty thieves and syndicates, who steal truckloads of livestock at a time. Stock theft is affecting the commercial and emerging sectors alike.

It is often reported in the media of the increasing farm murders. The degree of farm attacks has worsened the level of insecurity to both emerging and commercial farmers. Each and every year, the farming sector reserves portions of their incomes and resources to enhance security against the unfolding stock theft phenomenon. The purpose of this paper is to analyse the extent, economic impact, dark figures and problem areas as key indicators for stock theft in South Africa's rural areas. The generated data assisted in refining the appropriate intervention systems and indicators and thresholds to further monitor the changes associated with stock theft in rural areas.

2. PROBLEM STATEMENT

Building from the introductory comments of this paper, Geldenhuys (2012:40) advocates that stock theft is not a new crime – it is probably as old as agriculture itself. In support of this statement; Bell & Pandey, 1997; Buttel, Larson, & Gillespie, 1990; Lasley, Leistritz, Lobao & Meyer, 1995 as quoted by Donnermeyer & Barclay, 2005 (in Clack, 2013:77) are of the view that agriculture remains the largest segment of the economy in most rural communities of developed and developing countries, South Africa included. From the earliest times, stock theft has had far-reaching consequences.

Rural communities regard livestock as “living wealth”, and they are often their only source of income and sustenance. Thus, when their livestock are stolen many households and subsistence farmers lose their livelihoods. But these farmers are not the only ones who suffer on account of stock theft; it also has a serious impact on commercial farmers, and thus the red meat industry as a whole. At the launch of the National Rural Safety Strategy (NRSS) in Bethlehem, the Free State, in July 2011, stock theft was declared a priority crime. It was revealed that it was not easy to police stock theft, as it often entailed long hours spent in the field, lying in wait for stock thieves. Geldenhuys (2012:40) added that, over and above the investigation of stock theft cases, Stock Theft Units (STUs) also have to deal with other issues, including finding stray animals, and assisting in disputes over ownership and branding. Furthermore, it is believed that stock theft is one of the most important challenges faced by resource-poor farmers, with the potential to cripple their livelihoods (Greyling, 2007:41).

Consequently during the 2011/2012 financial year, SAPS (2012:np) reports that stock theft trends in South Africa at that time experienced an increase of 1,5%. It was further revealed that serious crime, relating to property-related crime, amounted to 25,7%; this includes burglary (residential and non-residential), theft of motor vehicles/cycles, theft out of a motor vehicle, and stock theft.

(SAPS, 2012:np) further contends that stock theft decreased by 30,7% over a period of 5 years, from 2004/2005 to 2008-2009, achieving an average reduction of 6,1% per annum.

Between 2009/2010 and 2011/2012 it decreased by 0,8% over a period of 3 years – an average reduction of 0,3% per annum. Overall, there was a 1,5% increase recorded in the 2011/2012 financial year, and collectively, reported stock theft decreased by 31,2% from 2004/2005 to 2011/2012.

The researchers are native residents of South Africa. The corresponding author, Dr. Maluleke grew up in the Xikukwana Village, one of the rural communities in South Africa, situated in Giyani area of Limpopo Province and respectively where complaints of persistent stock theft crime are prevalent. Furthermore, while attending communal meetings and livestock forums across Limpopo Province, the researcher grasped the extent of stock theft crime in the province, including other South African rural communities. The researcher then became concerned about the apparent increase in stock theft. The stock theft epidemic is escalating, and rural livestock farmers seem to be some of the most affected parties. The first researcher, Mr. Mokwena, is an emerging farmer in a rural village in the North West Province and experiences similar challenges. The second researcher, Mokwena, is an emerging farmer in a rural village in the North West Province and experiences similar challenges. The third researcher has a keen interest in policing of livestock, particularly in rural areas where communities depend on subsistence farming.

However, the level of policing of stock theft in rural areas appears to be negligible, and one could conclude that the police's approach to the problem is far from effective. Stock theft is becoming an increasing problem that threatens the livelihoods of livestock farmers directly and poses a serious economic risk. Consequently, the sharp increase in stock theft in rural areas casts a shadow on the preventative measures employed by the SAPS STUs across the country.

For branding purpose, the individual identification of livestock has been practiced for thousands of years. There is biblical evidence that suggests that Jacob, the great herdsman, branded his stock, New American Bible Revised Edition (NABRE), Genesis 30.37-42), as cited in Silveira (2013:4). Egyptians have shown ancient brands on tombs and drawings of the actual work of branding dating back more than four thousand years, California Department of Food and Agriculture [DFA] (2013), as cited in Silveira (2013:4).

There are many purposes to identifying livestock and the author (Silveira, 2013:4-5) provides that the motivations for identification of livestock have not changed significantly over time. The motivations behind identifying animals throughout the world have historically been to be able to find animals in the case of theft or loss, to make economic or value-increasing choices regarding livestock production, and to be able to trace, control and eradicate diseases. These same factors motivate farmers, ranchers and governments to make sure that there is adequate animal identification and monitoring. One of the earliest documented cases of tracing a disease to a specific animal was in 1275. In South African context; permanent identification marks can be put on animals by means of hot-iron branding, freeze-branding or tattooing in line with Animal Identification Act (Act No. 6 of 2002):

- **Hot-iron branding:** The livestock owner burns a mark on the skin of his animals with a hot-iron. You should not brand calves younger than six months of age;
- **Freeze-branding:** A brand mark can also be put on the animals by way of freeze-branding. Freeze branding is done by means of dry ice and alcohol; and
- **Tattoo mark:** Tattoo tongs and ink are used to mark the animals. Calves can be tattooed from one week of age (South Africa, 2015/2008:np).

One such advantage is that stock thieves are more inclined to steal animals that are not marked. The marking of animals ensures positive identification, and proof of ownership. By marking animals, the policing of stock theft can be more effective, and a better recovery rate is ensured. Legal identification marking is very useful and, in cases where stolen or lost animals are found, it is possible to determine who the owner is.

3. PAPER OBJECTIVE(S)

This paper seeks to provide a positive and significant contribution to the cause of creating safety and protection for livestock, the economies of rural South African communities, and the livestock farmers. This was proposed by offering theoretical and empirical foundations on the extent, economic impact, dark figures and problem areas associated with stock theft in rural areas. In support of the researchers' views, Paterniti (2012) suggests that findings of this nature could be used to explore or understand diverse experiences, conduct research for specific needs and values, create educational materials, design interventions, assist organisations in providing services and inform policy.

4. DEFINITION OF RELEVANT CONCEPTS

To clarify the key theoretical concepts used in this paper, the following definitions are provided.

4.1 Livestock/Animals:

Any horse, mule, ass, cattle, sheep, goat, pig, or ostrich, or the carcass, or a portion of the carcass, of any such animal. Whereas, “*animal produce*” means whole, or any part of skins, hides, horns, intestines, heads, parts of bones, claws, semen, or embryos, and any wool, mohair, or ostrich feathers, and ostrich eggs (SAPS, 2012:7). Farm animals (such as cows, horses, and pigs) that are kept, raised, and used by people; animals kept or raised for use or pleasure; especially farm animals kept for use and profit (Webster, 2015). In support to this definition, Wehmeier (2006:865) describes livestock as the animals kept on a farm or ranch (kept in a kraal in the community's facility for their meat, wool or breeding, [research emphasis]), for examples cattle, horses, goats or sheep. Whereas Marckwardt (1995:745) defines livestock as domestic animals kept for farm purposes, especially marketable animals, such as cattle, horses, and sheep.

4.2 Stock theft:

As defined on the website of the Institute of Security Studies (ISS) (<http://www.issafrica.org/crimehub/page.php?>), this term “consists of the stealing of stock or produce belonging to another person.” Stock (noun): means a number of things kept ready to be sold or used (The South African Oxford School Dictionary, 2004:445). Stock theft: Ranges from stealing something for the pot to doing it on an organised scale (Geldenhuys, 2010:39).

5. THE WIDESPREAD AND EXTEND OF ECONOMIC IMPACT OF STOCK THEFT IN SOUTH AFRICA

In an attempt to understand the perspectives of selected stakeholders on stock theft in line with the extent, economic impact, dark figures and problems areas in rural areas, the

researchers deem it necessary to clarify the following concepts (e.g. stock and theft) further. In accordance with the Stock Theft Act (Act No. 57 of 1959) “*stock*” means any horse, mule, ass, bull, cow, ox, heifer, calf, sheep, goat, pig, poultry, domesticated ostrich, domesticated game, or the carcass, or portion of the carcass of any such stock, while the definition of “*animal produce*” means whole, or any part of, skins, hides, horns, intestines, heads, parts of bones, claws, semen, or embryos, and any wool, mohair, or ostrich feathers, and ostrich eggs, (SAPS, 2011:7).

Although the specific statute definition of theft varies by state [in the United States of America], the definition of theft is when one unlawfully, without force, obtains or takes an item of value, from another, with the intent to permanently deprive, theft has occurred. Gilbert (2010:319) goes on to explain that the act of theft consists of the actions of the offender exerting unauthorised control of the property; the mental state is demonstrated by the intent to permanently deprive. Farmers, farm workers, and residents in rural communities are considered soft targets by criminals. This is because of the remoteness of farms, high market value of property, large distances between farms and villages, difficulties to reach the police, as well as basic infrastructure, such as roads. Rural police stations are often isolated, and the police are responsible for policing vast areas.

In 2010 “News24” (South Africa) reports that stock theft in South Africa cost the country's farmers hundreds of millions of rand the previous year (2009). Speaking during the debate on his Department's budget vote in the National Assembly, the former Deputy Minister of the Department of Agriculture Forestry, and Fisheries (DAFF), Pieter Mulder, told Members of Parliament (MPs) that tens of thousands of cattle, sheep, and goats were stolen from farms around the country. South Africa has been experiencing stock theft for years now; this argument is supported by the news report (“Independent Online”) of 22/11/2007, which states that stock theft in South Africa amounted to R327.6 million in 2006, according to the National Stock Theft Forum (NSTF) and in 2015/2016 stock theft is reportedly costing local farmers more than R870 million, (Dube, 2016). “At the moment, stock theft is hampering the profitability of the stock farmers, and it is also interfering with the government's land reform process, as well as the empowering of the emerging farmers”, the Forum added. “For each stock theft incident at a commercial farm, three similar incidents take place among emerging farmers. What makes it worse is that many emerging farmers suffer a total loss of stock – kraals are literally emptied.” The NSTF went on to say that 62,358 cattle, worth R467.6 million, were stolen between April 2006 and March 2007. Of these, only 27,172 animals were recovered, resulting in a loss of R263,9 million. There were also 60,967 sheep lost, at a cost of R45,7 million, and 24,075 goats, at a cost of R18 million. “Stock theft has become a business, and there are clear indications of syndicate involvement.”

The former Minister of Police, Mr Emmanuel Nkosinathi (Nathi) Mthethwa, said that stock theft had increased by 6,5% from the previous report period (2008/2009). In the period from April 2010 to 31 March 2011, the NSTF – which among other consists of representatives from the SAPS, the Red Meat Producers’ Organisation (RPO), and the DAFF, reported that 186,612 cattle, sheep, and goats, with a combined value of approximately R613 million, were reported stolen (Geldenhuys, 2012:40). In addition, Kempen (2011:20) reports that, although there has been an 8,2% decrease in stock theft cases, Minister Mthethwa said that police management was deeply concerned about the number of reported cases. For the 2010/2011 financial year, 30,144 cases were reported, compared to 32,380 in the previous reporting period (2009/2010). However, there is a low decrease in stock theft between 2015/2016 (24715) and 2014/2015 (24965) financial years (Sibanyoni, 2016).

However, the remarks by the former Minister of Police Mthethwa, on the occasion of the release of the 2011/2012 SAPS National Crime Statistics, in Parliament in Cape Town on 20 September 2012, were highlighted as follows: During the reporting period last year (2011/2012), we reported to the nation a decline of 8,2% in the number of reported cases of stock theft but admittedly expressed our dissatisfaction. For the 2011/12 financial year, the decline has been reversed and we experienced a 1,5% increase. The increase means we need to review our approach because we cannot allow this slight increase to be a trend-setting ratio. If we look at an 8-year-period from 2004/05 to date, we see that we had reduced stock theft by 31,2%.

Dedicated focus is now being given to the practical implementation of the Rural Safety Strategy. In this regard, particular focus is being given to cross-border crimes, and stock theft, in particular. The Ministry of Police, community organisations, agricultural organisations, and trade unions continue to work together in addressing rural safety. The days of a sizeable portion of stock theft being ascribed to pot slaughtering are long gone. Criminal syndicates are involved on a large scale.

According to Maré & Schutte (2012:60), "In KZN, 7,500 cases of stock theft were reported, 850 of which went to court, and 326 of which were successfully prosecuted. This indicates a success figure of 38,4 per cent and 61,6 per cent of unsuccessful, untried cases. This is probably an indication of the situation in other provinces as well." The low success rate means producers no longer report stock theft: "Farmers have lost their trust in the SAPS and the Criminal Justice System (CJS)."

Stock theft reportedly not only destroys high potential genetic material, but also threatens the country's food security, making its red meat industry internationally uncompetitive, and negatively impacting the wool industry. It surmised that solving the problem would make "a huge contribution" to the country's self-sufficiency. Furthermore, the stock theft statistics for the period 1 April 2010 to 31 March 2011 show that theft of cattle stabilised, while the figures for recovered cattle increased by 6%. Theft of sheep also remained stable, compared to the previous year, while 4% less sheep were recovered (Maré & Schutte, 2012: 60). According to Clack (2016) 42.95% of cattle stolen are recovered and 57.05% are lost and never recovered and the rate of recovery is also much higher for cattle than it is for sheep.

In light of the above, ISS and Africa Check (2014:np) point out that stock theft was one of the property crimes that decreased in 2014 and reveal that stock theft has decreased by 6,2%. They go on to say that stock theft has shown a steady decrease in the past three years (2011 to 2013). This could be because of the implementation of the Rural Safety Strategy, they said. While this crime has only averaged around 30,000 cases per annum over the past five years, its impact on food security is significant. For traditional small farmers, especially those with cattle and goats, stock theft can cause serious tensions and even manifest in vigilantism and violent conflict, which in turn result in murders, attempted murders and arson, they concluded.

6. PREVALENCE OF STOCK THEFT NATIONALLY

It is very important to note that crime statistics are used to reinforce viewpoints and can form the basis for extensive policy measures in line with prevention or combating of stock theft in South African rural areas. With regards to the use of these statistics for the responsive

mandate, it is essential to be certain of the reliability and validity of the data to avoid reaching evidence-thin conclusions.

Table 1: Property-related crimes: National stats on stock theft in South Africa (Crime Stats South Africa, 2005-2016:np)

2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Total
32675	28742	28828	28778	30043	32380	30144	31009	29889	28026	24965	24715	350 194

From Table 1 above, it can be deduced that reported cases of stock theft has increased drastically and has been unstable over the last 12 years.

Additional data on livestock stolen and recovered in South Africa for the past two years (2007 to 2015) indicates the figures below:

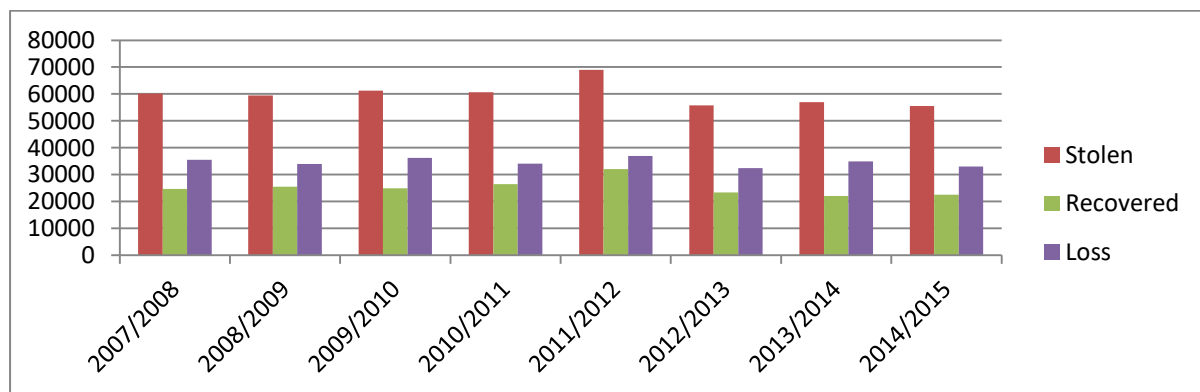


Figure 1a: Cattle

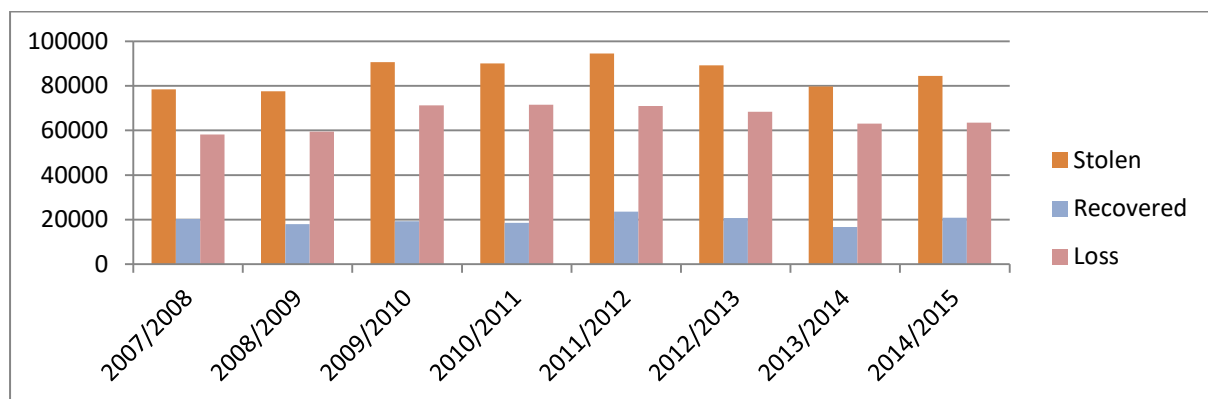


Figure 1b: Sheep

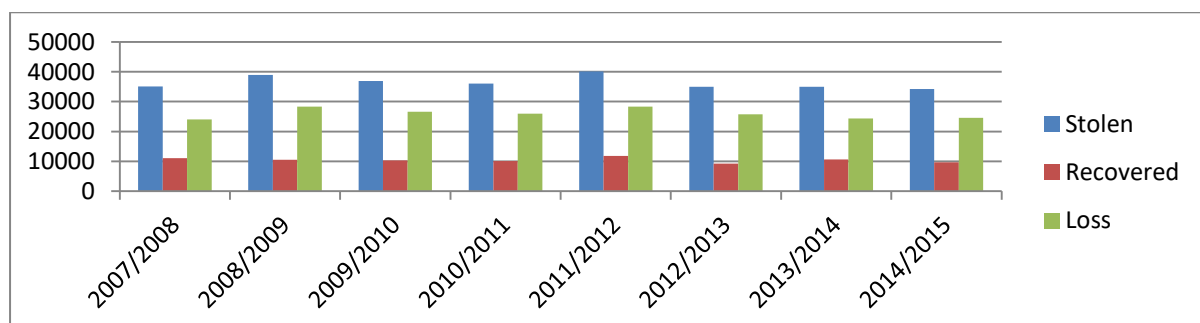


Figure 1c: Goats

Figure 1 a-c: Livestock stolen and recovered - 1 April 2007 to 31 March 2015 (Clack, 2016, citing Stock Theft Head Office Ops, 2012)

Figure 1 provided data from 2007 to 2015 financial years on the number of livestock (cattle, sheep and goat) stolen, recovered and loss accumulated. The rise in stock theft was witnessed and the limitations on recovery procedures.

Table 2: Value of livestock stolen, recovered and lost per species (Clack, 2016)

		2010/2011	2011/2012	2012/2013	2013/2014	2014/2015
Cattle	Stolen	R484,800,000	R621,099,000	R557,820,000	R598,017,000	R610,467,000
	Recovered	R211,664,000	R288,855,000	233,760,000	R231,735,000	R247,632,000
	Loss	R273,136,000	R332,244,000	R324,060,000	R366,282,000	R362,835,000
Sheep	Stolen	R117,022,100	R141,675,000	R138,105,000	R127,540,800	R143,541,200
	Recovered	R24,103,300	R 35,353,500	R 32,052,450	R 26,660,800	R 35,523,200
	Loss	R 92,918,800	R106,321,500	R106,052,550	R100,880,000	R108,018,000
Goats	Stolen	R 53,992,500	R 68,132,600	R 61,230,750	R 62,978,400	R 65,037,000
	Recovered	R 15,117,000	R 20,063,400	R 16,222,500	R 19,080,000	R 18,297,000
	Loss	R 38,875,500	R 48,069,200	R 45,008,250	R 43,898,400	R 46,740,000

When the crime statistics on stock theft on the previous page are taken into consideration, it is clear to see that rural areas are facing a huge stock theft problem. Thus, measures to curb and manage stock theft in South Africa and across its borders, are a major need. This is reported in Table 3 below; highlighting the police stations with higher reporting of stock theft incidences across the country.

Table 3: Police stations where most stock theft cases were reported in South Africa (2011-2012)

No	Station	Province	No	Station	Province
1	Tsolo	EC	10	Nqamakwe	Eastern Cape
2	Maluti	EC	11	Sulenkama	Eastern Cape
3	Amersfoort	Mpumalanga (MP)	12	Bulwer	KZN
4	Mthatha	EC	13	Bergville	KZN
5	Bityi	EC	14	Ermelo	Mpumalanga
6	Harrismith	FS	15	Nqgeleni	Eastern Cape
7	Qumbu	EC	16	Ezakheni	KZN
8	Ladysmith	KZN	17	Dannhauser	KZN
9	Utrecht	KZN			

Geographically, more stock thefts are committed in the provinces indicated above. With regard to the data above, Maré (2012:np) outlines the areas which had most cattle affected by stock theft between 1 April 2011 and 31 March 2012.

Eastern Cape (EC) occupied the first five and seventh spots of the worst ten precincts of stock theft in the 2016 financial year. KwaZulu-Natal (KZN – sixth, eight and nine spots respectively) and North West (ten) form part of the mix. These findings corroborate the views of Geldenhuys (2012:40) who confirms that the hotspot areas for stock theft are Qumbu in the Eastern Cape; followed by Bityi, also in the EC; Utrecht in KZN; Amersfoort in Mpumalanga and Harrismith in the Free State (FS). With regard to this data and Geldenhuys’s confirmation stock theft top ten worst precincts for 2016 across South Africa (Refer to Table 4 below).

Table 4: Ten worst precincts for South African stock theft 2016 (Crime Statistics South Africa, 2016:np)

Precinct	Province	Number of crimes
1. <u>Sulenkama</u>	EC	271
2. <u>Qumbu</u>	EC	206
3. <u>Mthatha</u>	EC	195
4. <u>Maluti</u>	EC	191
5. <u>Mount Frere</u>	EC	186
6. <u>Utrecht</u>	KZN	186
7. <u>Bityi</u>	EC	161
8. <u>Amangwe</u>	KZN	151
9. <u>Bulwer</u>	KZN	148
10. <u>Ventersdorp</u>	North West	141
Total		1812

Table 5 shows the number of reported stock theft cases in South Africa for the last 10 years.

Table 5: Stock theft per category: Reported cases South Africa (SAPS, 2014:np)

Province	2004/ 2005	2005/ 2006	2006/ 2007	2007/ 2008	2008/ 2009	2009/ 2010	2010/ 2011	2011/ 2012	2012/ 2013	2013/ 2014	Percentage change 2012/2013 and 2013/2014
EC	9,038	7,537	6,886	7,050	6,808	7,586	7,498	7,354	7,168	6,477	-9,6%
FS	4,729	4,435	4,700	4,430	5,005	5,033	4,651	4,941	4,616	4,452	-3,6%
Gauteng (GP)	682	630	610	655	798	886	711	633	778	878	12,9%
KZN	7,816	7,479	7,469	7,600	7,541	7,967	7,402	7,743	7,214	7,072	-2,0%
LIM	1,642	1,338	1,734	1,341	1,453	1,552	1,663	897	1,711	1,712	0,1%
MPumalanga (MP)	2,796	2,362	2,539	2,950	3,155	3,330	2,907	2,912	2,707	2,582	-4,6%
North West (NW)	2,765	2,441	2,599	2,488	2,776	3,148	2,728	3,002	3,306	2,702	-11,0%
Northern Cape (NC)	2,087	1,686	1,511	1,472	1,600	1,769	1,589	1,485	1,651	1,271	-23,0%
Western Cape (WC)	1,120	834	780	792	907	1,109	995	952	1,018	880	-13,6%
RSA	32,675	28,742	28,828	28,778	30,043	32,380	30,144	30,949	29,894	28,026	-6,2%

From the above, one may deduce that for the period 2004 to 2014, the distribution of stock theft has remained relatively inconsistent per province. To understand the stock theft ratio per 100 000 of the population, another table is presented below.

Table 6: Stock theft ratio per 100 000 of the population (SAPS, 2014:np)

Province	2004/ 2005	2005/ 2006	2006/ 2007	2007/ 2008	2008/ 2009	2009/ 2010	2010/ 2011	2011/ 2012	2012/ 2013	2013/ 2014	Percentage change 2012/2013 and 2013/2014
EC	131,1	109,3	99,9	102,1	103,5	114,1	111,2	107,7	108,7	97,8	-10,0%
FS	161,1	150,1	158,8	149,7	173,9	173,4	164,7	179,0	167,9	161,7	-3,7%
GP	7,4	6,8	6,4	6,8	7,6	8,4	6,4	5,9	6,2	6,9	11,3%
KZN	79,9	76,0	75,3	75,9	74,6	76,2	69,5	71,6	69,7	67,6	-3,0%
LIM	30,9	25,0	32,3	24,8	27,5	29,7	30,6	34,2	31,4	31,0	-1,3%
MP	81,1	68,1	72,4	83,4	87,9	92,3	80,4	79,6	66,4	62,5	-5,9%
NW	82,4	73,3	77,0	73,3	81,1	91,2	85,2	92,3	85,6	75,1	-12,3%
NC	194,8	156,3	138,1	133,6	142,1	154,1	143,9	135,4	143,2	109,3	-23,7%
WC	24,5	18,0	16,4	16,4	17,2	20,7	19,0	18,0	17,2	14,6	-15,1%
RSA	70,1	61,3	60,8	60,1	61,7	65,7	60,3	61,2	57,2	52,9	-7,5%

Table 7: Stock theft percentage difference on reported cases (SAPS, 2014:np)

Pro- vince	2004/ 2005// 2005/ 2006	2005/ 2006// 2006/ 2007	2006/ 2007// 2007/ 2008	2007/ 2008// 2008/ 2009	2008/ 2009// 2009/ 2010	2009/ 2010// 2010/ 2011	2010/ 2011// 2012/ 2012	2012/ 2013// 2013/ 2013	2012/ 2013// 2013/ 2014	2004/ 2005// 2013/ 2014
EC	-16,6%	-8,6%	2,4%	-3,4%	11,4%	-1,2%	-1,9%	-2,6%	-9,6%	-28,3%
FS	-6,2%	6,0%	-5,7%	13,0%	0,6%	-7,6%	6,2%	-6,6%	-3,6%	-5,9%
GP	-7,6%	-3,2%	7,4%	21,8%	11,0%	-19,8%	-6,8%	17,3%	12,9%	28,7%
KZN	-4,3%	-0,1%	1,8%	-0,8%	5,6%	-7,1%	4,6%	-6,8%	-2,0%	-9,5%
LIM	-18,5%	29,6%	-22,7%	8,4%	6,8%	7,2%	14,1%	-9,8%	0,1%	4,3%
MP	-15,5%	7,5%	16,2%	6,9%	5,5%	-12,7%	0,2%	-7,0%	-4,6%	-7,7%
NW	-11,7%	6,5%	-4,3%	11,6%	13,4%	-13,3%	10,0%	1,1%	-11,0%	-2,3%
NC	-19,2%	-10,4%	-2,6%	8,7%	10,6%	-10,2%	-6,5%	11,2%	-23,0%	-39,1%
WC	-25,5%	-6,5%	1,5%	14,5%	22,3%	-10,3%	-4,3%	6,9%	-13,6%	-21,4%
RSA	-12,0%	0,3%	-0,2%	4,4%	7,8%	-6,9%	2,7%	-3,4%	-6,2%	-14,2%

Table 8: Stock theft percentage difference on crime ratio (SAPS, 2014:np)

Province	2004/ 2005// 2005/ 2006	2005/ 2006// 2006/ 2007	2006/ 2007// 2007/ 2008	2007/ 2008// 2008/ 2009	2008/ 2009// 2009/ 2010	2009/ 2010// 2010/ 2011	2010/ 2011// 2011/ 2012	2011/ 2012// 2012/ 2013	2012/ 2013// 2013/ 2014	2004/ 2005// 2013/ 2014
EC	-16,6%	-8,6%	2,2%	1,4%	10,2%	-2,5%	-3,1%	0,9%	-10,0%	-25,4%
FS	-6,8%	5,8%	-5,7%	16,2%	-0,3%	-5,0%	8,7%	-6,2%	-3,7%	0,4%
GP	-8,1%	-5,9%	6,3%	11,8%	10,5%	-23,8%	-7,8%	5,1%	11,3%	-6,8%
KZN	-4,9%	-0,9%	0,8%	-1,7%	2,1%	-8,8%	3,0%	-2,7%	-3,0%	-15,4%
LIM	-19,1%	29,2%	-23,2%	10,9%	8,0%	3,0%	11,8%	-8,2%	-1,3%	0,3%
MP	-16,0%	6,3%	15,2%	5,4%	5,0%	-12,9%	-1,0%	-16,6%	-5,9%	-22,9%
NW	-11,0%	5,0%	-4,8%	10,6%	12,5%	-6,6%	8,3%	-7,3%	-23,7%	-8,9%
NC	-19,8%	-11,6%	-3,3%	6,4%	8,4%	-6,6%	-5,9%	5,8%	-23,7%	-43,9%
WC	-26,5%	-8,9%	0,0%	4,9%	20,3%	-8,2%	-5,3%	-4,4%	-15,1%	-40,4%
RSA	-12,6%	-0,8%	-1,2%	2,7%	6,5%	-8,2%	1,5%	-6,5%	-7,5%	-24,5%

7. DARK FIGURES ON STOCK THEFT

Kempen (2006:10) states that the annual release of crime statistics is an important occasion. Not only does the public want to know if the country we live in has become safer, but government also has to evaluate whether the ever-increasing number of police officials has a positive effect on the fight against crime. However, it should be understood that some crimes go unreported to the police owing to various reasons (This is specifically true for stock theft cases). As a result the branded “dark figure” (e.g. unofficial crime statistics) is defined as a term employed by criminologists and sociologists to describe the extent of unreported or undiscovered crime. According to Walsh and Craig (2014) the gap between reported and unreported crimes calls the reliability of official crime statistics into question, but all measures of crime have a dark figure to some degree and the gap in official statistics is largest for less serious crimes (http://en.wikipedia.org/wiki/Dark_figure_of_crime). Owing to the dark figures of stock theft it is impossible to give an answer on the extent of stock theft if one bases conclusions on available statistics. With about 1,118 police stations in South Africa and approximately 5,900 crimes reported by the SAPS every day (Crime Statistics South Africa, 2014:np), the researchers are of the opinion that there are still stock theft incidences which go unreported to SAPS in rural areas. This forces the SAPS to take a position on the basis of unverifiable, unreliable or inaccurate data relating mainly to the quantity and quality of the available data.

The study by Clack (2013:np) provides that in South Africa, it is a trait that a large number of economic crimes are never reported to the authorities and livestock theft is no exception. Statistics South Africa reported in 2011 that that 36,3 per cent of stock theft cases was not reported by the victims and in 2012 this number rose to 40,1 per cent (Statistics South Africa, 2011, Statistics South Africa, 2012) (in Clack, 2013:81).

The debates in academic circles about the contributory factors to non-reporting of stock theft are owed to probable causes. Clack (2013:81) agrees and argues that the non-reporting of stock theft cases by livestock owners can be attributed to various reasons. Firstly, 31,8 per

cent of livestock theft cases are not reported due to a lack to trust in the capability of the SAPS to recover the stolen stock and/or to prosecute the case successfully.

Firstly, livestock owners' inaction to report theft can be understood as only 4 per cent of victims are informed that an arrest has been made or that stolen livestock has been recovered. **Secondly**, 30,2 per cent of livestock owners believe that it is not an important enough crime to report to the authorities. Furthermore, this may be true of small livestock such as chickens, but not of larger livestock with a high monetary value and which is addressed in this article. **Thirdly**, 11,8 per cent of the victims of livestock theft use other methods to resolve the crimes, such as to report it to local authorities or a neighbourhood watch. In poorer rural communities these reporting methods have a high prevalence as there is still a high sense of community justice. Lastly, in 8,8 per cent of the cases the SAPS was not available or reachable (Singh, 2005; Burton, Du Plessis, Leggett, Louw, Mistry & Van Vuuren, 2004; Statistics South Africa, 2012) (in Clack, 2013:82).

Other reasons why commercial farmers do not report livestock theft cases is firstly because livestock in South Africa, with the exception of some stud breeders, is not insured. Insurance companies either do not provide this type of insurance or when they do provide it, it is very expensive. The insurance of livestock does not fall in the scope of this paper; however, to understand the extent of the number of livestock theft cases compared to other property-related crimes, it must be noted. In the case of most other property-related crimes, the commodity is insured and in order for the victim to institute a claim for damages the case must be reported to the SAPS, which is not the case with livestock theft that is not insured. Secondly, there is the fear of fines being imposed on victims of livestock theft, due to the fact that animals have not been marked in accordance with the requirements of section 7 of the Animal Identification Act (Act No. 6 of 2002) (DAFF, 2008) (in Clack, 2013:82). Livestock owners are also aware that it is problematic to reclaim unidentified livestock.

8. PROBLEM AREAS WITH STOCK THEFT CASES IN SOUTH AFRICA

The works and research of various authors of the published sources consulted by the researchers support the growing concerns about problem areas of stock theft cases, as identified by Maré (2012:4). However, the said problem areas differ from one country to another as outlined below:

- Stock theft is one of the most difficult cases to resolve.
- Vacant positions in the SAPS create capacity problems.
- The STUs play a huge role in combating stock theft, but capacity problems do exist.
- A lack of knowledge exists among officers of the SAPS, and prosecutors.
- Developing producers, who own at least 40% of all stock, are the most affected by stock theft.
- Stock theft has become a business, and there are clear indications of syndicate involvement. Criminal syndicates are involved in a major way.
- Lower success rates, in terms of guilty findings versus court cases – which culminate in producers' not reporting stock theft cases. Farmers have lost their trust in the SAPS, and the CJS.
- In many cases stock theft destroys high-potential genetic material.
- The Republic of South Africa (RSA) is a net importer of red meat, and stock theft threatens the country's food security.

- Due to stock theft, the local red meat industry cannot be competitive internationally; and
- Stock theft has a negative impact on the industry, and agriculture, in general. If stock theft could be addressed, it would make a huge contribution towards South Africa being self-sufficient.

9. FINDINGS AND DISCUSSION

The data for this paper was collected through the use of research participants from three Focus Group Discussions (FGD), Interviews with the Key Informants (KII) and Observations schedule through court session attendance. The participants consisted of the following selected parties: SAPS STU, local SAPS members, prominent livestock farmers, local community members, Community Policing Forums (CPFs) managers, and leaders of local Faith-based organisations in rural areas.

The selected parties need to understand the extent, economic impact dark figures and problem areas associated with stock theft and their role in preventing this scourge at all costs. The researchers asked the participants to provide their views on whether they considered stock theft to be more widespread in rural areas or not. They were asked to elaborate on their responses. This question sought to investigate whether any of their livestock had been stolen during their livestock farming history. This was to determine whether there had been an increase (or not) in the number of stock thefts in South Africa. The investigation included the type of livestock stolen (cattle, chickens and goats), as these are the most common livestock targeted by the criminal individuals and syndicates, and most community members concentrate on these livestock for their livelihood. The results of this paper show that there was a decrease, at the time of drafting the paper, in cattle, goat, donkey and chicken theft in order of importance.

Examples of some of the responses (quoted verbatim):

*“Yes, it was dominant in the last few years, but currently it is low as the troubling syndicate has been cracked and locked up, some of them are still in the holding cells.” **KII (SAPS STU Member/s).***

*“Stock theft has been an existing phenomenon in our area over the years; it is local, rampant and becoming [a] transitional crime.” **FGD (Local Community Member/s).***

*“Yes, the stock thieves recruit one another, and they have the support of the judicial system, knowing they will win the case, despite the seriousness of this case. Some are government officials with the intention of generating money quick for self-enrichment. In some instances, even the livestock farmers are more involved in committing this crime. Thus, I do not feel that the SAPS did not do enough.” **FGD (Prominent Livestock Farmer/s).***

*“I believe the arrests made in the last few months serve as a warning to other criminals who prey on the community's livestock, in addition, we are working non-stop to stop livestock theft in the area. The status of stock theft crimes in Giyani areas is at a manageable level after a series of arrests has been made in the past six months.” **KII (Local SAPS Member/s).***

“Livestock [theft] is rampant across our communities. Stock thieves are perpetuating poverty among livestock farmers who make efforts night and day to progress, at the cost of much sacrifice. All responsible parties to prevent and combat stock theft should be advised and

"The police's net is closing in on livestock criminals and the situation is not as bad as it was six months ago. Our aim is to make sure we get rid of all of these criminals so the community can have peace of mind knowing their livestock is safe, thus, following a successful sitting with the introduction of MCLF, this is the first step forward for the livestock farmers working together with the STU." FGD (CPF Manager/s).

10. CONCLUSION AND RECOMMENDATIONS

In conclusion, the purpose of this paper was to gather data on the extent, economic impact, dark figures and problems areas of stock theft in South African rural areas. The paper reveals that an inadequate approach in dealing with stock theft in rural areas is prevalent. And in line with the importance of livestock, these species remain an absolute credit to South African rural livestock farmers' families at large. However, the extent and dark figures of this crime undermine the capacity of the police, livestock farmers, and community members.

The researchers are of the opinion that rural livestock farmers in South Africa have expressed concern over the rampant cases of stock theft. Undoubtedly, the escalating stock theft syndicate activities pose a threat to the community.

The livestock farmers' concerned claim that those who have been arrested in connection with stock theft have not received appropriate punishment and the incidences of stock thefts are rising at an alarming rate, affecting their livelihoods. In recent times (2012-2016), media reports, DAFF and SAPS reports indicate that stock theft is prevalent in rural areas. Against this backdrop, by reviewing the previous and latest statistics on stock theft in South African, the researchers are of the opinion that stock theft needs serious attention as indicated by consulted literature in this paper, thus, highlighting the extent of the problem to the small-scale and subsistence rural livestock farmers (commercial farmers) and the economy of the country. The participants on the paper clearly provided that the contributory factors to the increase of stock theft in South Africa lies in the following: high monetary yields in the selling of livestock, lack of proper legislation for the protection and preservation of livestock, poverty, unemployment, under reporting of stock theft incidences, unmarking of livestock, as well as over branding, uneven terrains which are not policeable, alleged involvement of CJS, unattended grazing, vulnerability of livestock or livestock owners negligence, poor documentation of livestock.

Though the paper attempts to reveal good practices, in some instances, in an attempt to reduce stock theft in South African rural areas by understanding the extent, economic impact, dark figures and problem areas associated with stock theft, there are still some challenges to be addressed. These are inadequate resources (e.g. personnel; sophisticated equipment – horses, helicopters, and other resources); negligence by livestock owners; and the backlog of cases caused by poor investigation. The handling of stock theft cases also remains a challenge.

11. RECOMMENDATIONS

From the analysed data by the researchers, it became clear that stock theft is inconsistent in South African rural areas in general and decreasing overall. Thus the current preventative

measures against stock theft in South Africa are slow to deliver dividends; therefore, there is a long way to go to eradicate this scourge completely. This suggests that the strategies implemented so far have not been successful. These inefficiencies should be corrected, and some other strategies that could be employed include the following.

11.1 Intelligence-led operations

Based on the FGDs, KIIs, and stock theft court session observations, one area that still needs improvement by the SAPS in rural areas is the use of information gathered through intelligence, and enforcement, to provide a better understanding of the causes, and consequences, of stock theft syndicates across the country. It would be useful for the STUs Unit Commanders at station levels, as well as the Provincial Stock Theft Forums (PSTFs) in the country, to use, among other, information gathered through intelligence and investigations from scholarly research. These are geared towards the following:

- A theoretical and empirical understanding of the causes of stock theft,
- Including an understanding of one-time, or chronic, offenders,
- The risk factors that fostered their criminality; and
- The risk factors that created the opportunities for stock theft crime.

11.2 Closer collaboration, interaction and information exchange

The crime statistics on stock theft should be released frequently and compared with the patterns of other rural areas across the country in an attempt to provide an insight into the extent of unreported crime. In addition self-report studies should also be compared with official statistics to analyse the dark figure of stock theft and give a clearer picture of the nature and scale of the scourge. The Intelligence-led operations currently employed by the SAPS STUs across the country require a radical, new approach, involving closer collaboration, interaction, and information exchange of all role-players. In the researchers views this radical approach will call for the establishment of an intelligence function that produces operational and tactical intelligence in the South African SAPS STUs, where it is currently inadequate.

The researchers strongly recommend that rural livestock farmers should report all incidences of stock theft to the SAPS. South African SAPS STUs officers should ensure that community meetings are held frequently, and that closer cooperation with all the relevant stakeholders are initiated at all costs – patrols involving the livestock farmers, community, the police, and interested parties are pivotal. The use of informants, and CPFs, to provide detailed information regarding the crime in question should be practised and discussed regularly by the relevant local SAPS police station Commanders and STUs Commanders.

The Agricultural Extension Officers (AEOs) should use their working relationship with farmers to encourage them through their programmes to brand their animals. It is further recommended that the AEOs encourage and motivate the farmers to make sure that every incident of stock theft is captured and also reported to the police. There should be workshops for farmers in consultation with the RPO Stock Prevention Forum on how to preserve stock theft crime scenes. Due to seldom successful prosecution of stock theft cases, prosecutors should also be engaged on the seriousness and impact of stock theft, especially its effect on tax evasion and illegal trade.

11.3 Strengthening the enforcement response and reporting techniques

The South African SAPS STUs need to rise to the challenge of constraints on police resources, by developing innovative, partnership solutions with all relevant stakeholders. They should seek to collate, and disseminate good practices on the prevention, and disruption of stock theft syndicates across the policing area.

The policing of vast rural areas should also be considered. Most livestock are stolen at night, during the day on grazing land, and in the rainy/winter season by individuals and syndicates, who operate across rural areas as masterminds. Therefore the need exists to enable resources and personnel to meet the challenges such as poor infrastructure, and lack of access to certain communities. The researchers recommend for the rural livestock farmers to utilise the existing forums and platforms to address their needs and challenges regarding stock theft.

REFERENCES

- CLACK, W. 2013. The extent of stock theft in South Africa. *Acta Criminologica: Southern African Journal of Criminology*, 26(2).
- CLACK. 2016. Livestock theft report – National Red Meat Producers Congress. Khaya Ibhuesi Conference Centre: Parys.
- CRIME HUB/ INSTITUTE OF SECURITY STUDIES [ONLINE]. 2013. *The Definitions of Crimes used to compile the crime statistics / stock theft*. Available from: <http://www.issafrica.org/crimehub/page.php?page=1000046> (accessed on 25 February 2013).
- CRIME STATS SOUTH AFRICA [ONLINE]. 2014a. Did you know? Available from: <http://www.crimestatssa.com/didyouknow.php> (accessed on 18 November 2014).
- CRIME STATS SOUTH AFRICA [ONLINE]. 2014b. National stats on stock theft. Available from: <http://www.crimestatssa.com/national.php> (accessed on 18 November 2014).
- CRIME STATS SOUTH AFRICA [ONLINE]. 2014c. Worst ten stock theft precincts in South Africa. Available from: <http://www.crimestatssa.com/topten.php> (accessed on 18 November 2014).
- DE HAAN, C., VAN VEEN, T. S., BRANDENBURG, B., GAUTHIER, J., LE GALL, MEARN, R. & SIMEON, M. 2001. *Livestock Development: Implications for Rural Poverty, the Environment and Global Food Security*. Directions in Development, 23241. The World Bank: Washington, D.C.
- DUBE, M. 2016. *Counting the cost of stock theft*. The New Age, 14 August [Online]. Available from: www.thenewage.co.za/counting-the-cost-of-stock-theft/ [accessed on 15 October 2016].
- GELDENHUYS, K. 2006. Stock theft evidence. *Servamus – Community-Based Safety and Security Magazine*, January: 34, 37-38.
- GELDENHUYS, K. 2009. Forensics – physical matching & brand-mark examination on livestock. *Servamus – Community-Based Safety and Security Magazine*, October: 48-49.
- GELDENHUYS, K. 2010. Stock Theft – and what owners can do to protect their stock. *Servamus – Community Based Safety & Security Magazine*, November: 38-41.
- GELDENHUYS, K. 2012. Stock theft workshop in Pretoria. *Servamus – Community-Based Safety & Security Magazine*, June: 40.

- S. Afr. J. Agric. Ext. Maluleke, Mokwena
Vol. 44, No. 2, 2016: 256 – 274 & Motsepa.
DOI: <http://dx.doi.org/10.17159/2413-3221/2016/v44n2a393> (Copyright)
- GELDENHUYS, K.2012. Community policing project: Branding of cattle at Ntunjambili, KZN in: Stock Theft workshop in Pretoria. *Servamus – Community-Based Safety and Security Magazine*, June: 41-41.
- GILBERT, J. N. 2010. *Criminal investigation*. Upper Saddle River: Prentice Hall.
- GREYLING, B. 2007. *Tracing your animals*. ARC-IBD Nafu Farmer Technology. DEC 2007:41.
- INDEPENDENT ONLINE [ONLINE]. 2007. Stock theft hits emerging farmers hard. Oct 22. Available from: <http://www.iol.co.za/news/south-africa/stock-theft-hits-emerging-farmers-hard-1.375891?ot=inmsa.ArticlePrintPageLayout.ot> (accessed on 01 February 2012).
- INSTITUTE FOR SECURITY STUDIES AND AFRICA CHECK [ONLINE]. 2014. Factsheet: South Africa's official crime stats unpacked. Available from: mg.co.za/.../2014-09-22-factsheet-south-africas-official-crime-stats-unpacked.14 (accessed on 10 November 2014).
- KEMPEN, A. 2006. Crime statistics – the story behind the stats. *Servamus – Community Based Safety & Security Magazine*, November, 99:35.
- MARCKWARDT, A. H., CASSIDY, F. G. & MCMILLAN, J. G. 1995. *Livestock*. Webster comprehensive dictionary international edition. Volume two. Chicago: J. G. Ferguson Publishing Company.
- MARCKWARDT, A. H., CASSIDY, F. G & MCMILLAN, J. G. 1995. *Livestock*. Webster comprehensive dictionary international edition. Volume one. Chicago: J. G. Ferguson Publishing Company.
- MARÉ, J. 2012. *National Stock Theft Forum – report – RPO congress*. 2012. Available from: <http://www.rpo.co.za/rpo/StockTheftReportSeptember2012.pdf> (accessed on 04 December 2012).
- MARÉ, J. & SCHUTTE, G. 2012. *Livestock theft figures*. Stock farm: Pretoria.
- MTHETHWA, E. N. 2010. *A focus on the future plans of the South African Police Service, in the short term and medium term*, remarks by the Minister of Police, E.N. Mthethwa, MP at the American Chamber of Commerce in SA dinner. The Castle Kyalami, Gauteng, 24 November 2010. Available from: http://www.saps.gov.za/_dynamicModules/internetSite/newsBuild.asp?myURL=1068 (accessed on 05 December 2012).
- MTHETHWA, E. N. 2011. Public Lecture by the Minister of Police, Nathi Mthethwa, MP titled: “The Big Debate – Crime and its impact on Business” Graduate Business School, Westville Campus University of KwaZulu-Natal, Durban, 17 November 2011. Available from: http://www.saps.gov.za/_dynamicModules/internetSite/newsBuild.asp?myURL=1357 (accessed on 23 November 2012).
- MTHETHWA, E. N. 2011. SAPS Remarks by the Minister of Police, EN Mthethwa, MP on the occasion of the release of the National Crime Statistics, Sheraton Hotel, Pretoria, Gauteng Sep 8, 2011. Available from: <http://www.info.gov.za/speech/DynamicAction?pageid=461&sid=21437&tid=42271> (accessed on 21 November 2012).
- MTHETHWA, E. N. 2012. *Remarks by Minister of Police, E.N. Mthethwa, at the 2012 National Launch of the Operation Duty Calls Festive Season Crime-Fighting Campaign*, Jane Furse Stadium, Sekhukhune District, Limpopo, 12 October. Available from: http://www.saps.gov.za/_dynamicModules/internetSite/newsBuild.asp?myURL=2439 (accessed on 25 February 2013).
- MTHETHWA, E. N. 2013. *Remarks by the Minister of Police: Operation Duty Calls National Festive Season campaign = SAPS Tshwane Training Academy, Pretoria, 15*

January.

Available

from:

<http://www.saps.gov.za/dynamicModules/internetSite/newsBuild.asp?myURL=2732>

(accessed on 25 February 2013)

NEWS24 [ONLINE]. 2010. Stock thieves cost South Africa R366 m, Mar, 13. Available from: <http://www.news24.com/SouthAfrica/News/Stock-thieves-cost-SA-R366m-20100413> (accessed on 20 June 2012).

PATERNITI, D. A. 2012. *Qualitative Research Methods*. Available from: www.ucdmc.ucdavis.edu/publish/facultypdf/search/?p=626. Centre for Health Services Research in Primary Care: Departments of Internal Medicine & Sociology (accessed on 17 May 2012).

SIBANYONI, M. 2016. *Farmers say stock theft on the rise*. Business Reporter, 05 September [Online]. Available from: www.sowetanlive.co.za/business/2016/09/05/farmers-say-stock-theft-on-the-rise [accessed: 2016/10/25].

SILVEIRA, M. 2013. *A review of the history and motivations of animal identification and the different methods of animal identification focusing on Radio Frequency identification and how it works for the development of a Radio Frequency Identification based herd management system on the calpoly dairy*. Degree in Bachelor of Science in Dairy Science. Faculty of the Dairy Science Department, California Polytechnic State University: San Luis Obispo.

SOUTH AFRICA. 2015. *Application for registration of identification mark*. Available from: https://www.westerncape.gov.za/sites/www.westerncape.gov.za/files/assets/departments/agriculture/application_for_registration_of_id_mark-120.pdf. [Accessed: 2016/10/28].

SOUTH AFRICA. 2008. *Identification of animals*. Information Park [Online]. Available from:

https://www.westerncape.gov.za/assets/departments/agriculture/identification_of_animals_feb2008_web.pdf. [Accessed: 2016/10/28].

SOUTH AFRICA. 2011. *South African Police Service Strategic Plan 2010-2014* [Online]. Available from: http://www.saps.gov.za/saps_profile/strategic_framework/strategic_plan/2010_2014/strategic_plan_2010_2014.pdf (accessed on 10 January 2012).

SOUTH AFRICA. 2011. Stock Theft Act, No 57 of 1957. *Juta Law*, 46 (34535), Sep 30:1-2.

SOUTH AFRICAN POLICE SERVICE. 2014. *Crime Research and statistics: Stock theft in RSA for April to March 2004/2005 to 2013/2014 - Crime situation in South Africa (Released September 2014) – crime statistics overview RSA – 2013/2014 – presentation*. Available from: http://www.saps.gov.za/statistics/reports/crimestats/2014/downloads/crime_statistics_presentation.pdf (accessed on 28 September 2014).

SOUTH AFRICAN POLICE SERVICE. 2014. *Crime research and statistics – SAPS – per category: Stock theft: Stock theft in RSA for April to March 2004/2005 to 2012/2014*. Available from: http://www.saps.gov.za/statistics/reports/crimestats/2012/categories/stock_theft.pdf (accessed on 28 September 2014).

SOUTH AFRICAN POLICE SERVICE. 2014. *Crime research and statistics – SAPS – SA crime totals: Crime in RSA National Total for April to March 2004/2005 – 2013/2014*. Available from: <http://www.saps.gov.za/statistics/reports/crimestats/2012/totals.pdf> (accessed on 28 September 2014).

SOUTH AFRICAN POLICE SERVICE. 2012. *Remarks by the Minister of Police, E. N. Mthethwa, MP, on the occasion of the release of the 2011/12 SAPS National Crime Statistics*, Parliament, Cape Town - 20 September 2012 - Full text of crime statistics speech, *Independent Online [Online]*, 2 September 20 [insert year]. Available from:

S. Afr. J. Agric. Ext.
Vol. 44, No. 2, 2016: 256 – 274

Maluleke, Mokwena
& Motsepa.

DOI: <http://dx.doi.org/10.17159/2413-3221/2016/v44n2a393>

(Copyright)

<http://www.iol.co.za/news/crime-courts/full-text-of-crime-statistics-speech-1.1387332>
(accessed on 21 September 2012).

SOUTH AFRICAN POLICE SERVICE. 2012. *Police Population Rations*. Department of police [Online]. Available from:

<http://www.saps.gov.za/dynamicModules/internetsite/buildingBlocks/basePage4/BP444.asp>
(accessed on 21 September 2012).

THE SOUTHERN AFRICAN OXFORD SCHOOL DICTIONARY. 2004. Stock. Cape Town: Southern Africa Oxford University Press (Pty) Ltd.

VICTIM OF CRIME SURVEY [ONLINE]. 2013/14. Available from:
<http://www.statssa.gov.za/publications/P0341/P03412013.pdf>. Statistical release. P0341.
(accessed on 10 June 2015).

WEBSTER, W. 2015. *Definition of livestock*. An Encyclopaedia Britannica Company.

WEHMEIER, S (ED). 2006. *Livestock*. Oxford advanced learner's dictionary. 7th ed. New York: Oxford University Press.

WIKIPEDIA, THE FREE ENCYCLOPAEDIA [ONLINE]. 2014. Dark figure of crime. Available from: http://en.wikipedia.org/wiki/Dark_figure_of_crime (accessed on 10 November 2014).