

THE EFFICIENCY OF ELECTRONIC BRANDING IN CURBING CATTLE THEFT NGOLERIET SUB-COUNTY, NAPAK DISTRICT



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DECLARATION I NANGIRO ROBERT declare that this dissertation is my original work and has not been

presented for the award of a degree or any other award in	any other university.
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DEDICATION

To my parents Mr. Felix Apollo Nangiro, Jon Hollinger Petters (USA) and Mrs. Anna Chepoknur Apollo, My sisters Mrs. Ruth Lodinyo and Mrs. Betty Chenangat Kibet and my Auntie Anna Abura.

Special dedication to my daughters Esther Chebet and Gabriela Ajore Cheperur, your endurance and perseverance in my absence has been inspiring.

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ABBREVIATIONS

DNA Deoxyribonucleic Acid

EU European Union

FAO Food and Agriculture Organization of the United Nation

FMD Foot and Mouth Disease

GoB Government of Botswana

GoU Government of Uganda

ID Identification

ITDG EA Intermediate Technology Development Group-East Africa

LITS Livestock Identification and Trace back System

OIE World Organization for Animal Health

OPM Office of Prime Minister

RFID Radio Frequency Identification

UPDF Uganda People Defense Forces

ABSTARCT

This dissertation is based on research conducted in Ngoleriet sub County, Napak District. The overall objective was to assess the efficiency of the electronic branding in curbing the cattle theft among the pastoral communities of Ngoleriet Sub County, Napak Distsrict. The research utilized both primary and secondary data collection methods. The sample size was calculated at one hundred respondents representing all the six parishes. The results show that the cattle owners adopted the electronic branding technology for the sake of the safety of their stock, cattle owners encountered soaring incidences of cattle theft before the establishment of the technology, there was substantial reduction of cattle theft after the establishment of the technology. The recovery of stolen cattle was not to the satisfaction of the cattle owners using the tool, electronic branding was not effective in curbing cattle theft according to the cattle owners' perception. This research also revealed that the implementation of the tool suffered numerous challenges which embraces the inadequate information by cattle keepers about electronic branding, Slow tracking of the stolen cattle, conservativeness and void of introducing innovation by the cattle owners, Political interference. Lack of resident electronic branding staff and finally lack of collaboration and communication between farmers and implementers of the cattle theft prevention project. This paper recommends that routine campaign on electronic branding should be done in all the districts of karamoja and the exercise should be owned by the cattle farmers, the cattle theft prevention project should have offices with their staff in each district to respond to queries related to electronic branding and follow up of the stolen animals should be always in time. More research on electronic branding should be done to cover the whole districts so that clear picture of the hindrances on the adoption of the technology will be manifested. Finally electronic branding should be used in disease control and other aspects of value chain in animal production.

CHAPTER ONE: INTRODUCTION

1.1. Background

This research was carried out in Ngolieriet sub county, Napak District on efficiency of electronic branding in curbing cattle theft.

Poverty and conflict are intertwined in Karamoja. Recurrent cattle raids have thwarted economic growth in the region by destroying productive assets, preventing trade, and deterring investment by private sector actors. Ongoing instability has weakened the market system, undercutting the ability of Karamojong pastoralists and agro-pastoralists to support themselves legitimately. A cattle raiding, in turn, is predominantly driven by economic interests.

According to (Rao, 2010-12) rustling menace is prevalent worldwide. He further stated that few systems exist to expressly detect and combat livestock rustling. Serious lack of verifiable proof of ownership is among the contributory cause.

Raiding is a socio-cultural as well as an economic institution, with a variety of underlying motivations. Cattle are key to survival in Karamoja, so there is a constant need to reconstitute herds that are depleted as a result of drought, famine, disease and raiding. This practice serves to redistribute wealth and food within the region and across its porous borders, and to hedge against future ecological uncertainty(Stites & Akabwai, 2009).

In addition to serving as a mechanism for maintaining livelihoods, raiding is also a traditional way to acquire the assets needed to pay bride wealth and gain social status (Stites, Akabwai, Mazurana, & Ateyo, 2007). Today, raiding appears to be traditionally, men and boys were the most common targets of attack, as they are responsible for the community's livestock (Stites, et al., 2007). However, these new sorts of attacks are increasingly targeted at households and non-livestock assets. The most vulnerable populations are typically women, children and the elderly, given their limited protection capacities. Women are particularly susceptible to attack when they

REFERENCES

- Africa, I. T. D. G.-E. (2004). Peace Bulletin. [Newsletter]. (No. 5), 12.
- Besbes B, H. I. (2011). Animal identification for traceability and performance recording: FAO"s multipurpose and integrated approach. FAO-ICAR-FEPALE Workshop on animal identification and recording systems for traceability and livestock development in LAC region, December 2011, Santiago, Chile.
- Besbes B, H. I., Battaglia D, Wagner H. (2010). Animal identification for traceability and performance recording: FAO's multipurpose and global approach EU Conference on Identification and traceability along the food chain, Brussels.
- Bowling, M., Pendell, D., Morris, D., Yoon, Y., Katoh, K., Belk, K., et al. (2008).
 Review: Identification and traceability of cattle in selected countries outside of
 North America. The Professional Animal Scientist, 24(4), 287-294.
- Cappai, M. G., Picciau, M., Nieddu, G., Bitti, M. P. L., & Pinna, W. (2014). Long term performance of RFID technology in the large scale identification of small ruminants through electronic ceramic boluses: Implications for animal welfare and regulation compliance. *Small Ruminant Research*, 117(2), 169-175.
- Fallon, R. (2001). The development and use of electronic ruminal boluses as a vehicle for bovine identification. Revue Scientifique et Technique-Office International des Epizooties, 20(2), 480-486.
- Institute)., I. I. L. R. (2014). Livestock identification and traceability.
- Jain, D. (2014). RFID AND ITS IMPACT ON SUPPLY CHAIN. International Journal of Logistics & Supply Chain Management Perspectives, 2(4), 741-756.
- Knighton, B. (2003). The State as Raider among the Karamojong: Where there are no Guns, they use the Threat of Guns'. *Africa*, 73(03), 427-455.

- M, F. (2009). Animal Identification and Traceability: Public Sector Perspective and Experience from Botswana. Paper presented at International Conference on Animal Identification and Traceability (from Farm to Fork), La Rural, Buenos Aires, Argentina, March 23-25, 2009.
- Marumo, D., & Monkhei, M. (2009). The effects of the European Union (EU)-imposed Livestock Identification and Traceback System on Botswanass s beef exports, Revenue and rural poverty.
- Matete, G., Maingi, N., Muchemi, G., Ogara, W., & Gathuma, J. (2010). Design and development of an electronic identification and traceability system for cattle under pastoral production systems: a case for Kenya. *Livestock Res R Dev.* 22(8), 139.
- Moreki, J. C., Ndubo, N. S., Ditshupo, T., & Ntesang, J. B. (2012). Cattle Identification and Traceability in Botswana. *Journal of Animal Science Advances*, 2(12), 925-933.
- OIE. (2006). General Definitions. Terrestrial Animal Health Code. Article 1.1.1.1. World Organization for Animal Health.
- OIE. (2010). Proceedings of the First OIE Global Conference on Animal Identification and Traceability 'From Farm to Fork', [Book].
- Oladele, O., & Jood, M. (2010). Factors affecting adoption of livestock identification and trace-back system among cattle farmers in Kgalagadi district, Botswana. Livestock Research for Rural Development, 22(8), 2010,
- Peter, L. S. (2015). Cattle economy in Crisis.
- Rao, C. (2010-12). Electronic Identification and Management System for Livestock with Ownership Interface, e-Governance and Global Supply Chain Traceability for Products of Animal Origin.

- Ruhil, A., Mohanty, T., Rao, S., Lathwal, S., & Subramanian, V. V. (2013). Radio-frequency identification: A cost effective tool to improve livestock sector. *Ind. J. Anim. Sci.*, 83, 871-879.
- Siror, J. K., Huanye, S., Wang, D., & Jie, W. (2009). Use of RFID technologies to combat cattle rustling in the East Africa. Paper presented at the INC, IMS and IDC, 2009. NCM'09. Fifth International Joint Conference on.
- Smith, G., Tatum, J., Belk, K., Scanga, J., Grandin, T., & Sofos, J. (2005). Traceability from a US perspective. *Meat science*, 71(1), 174-193.
- Stites, E., & Akabwai, D. (2009). Changing roles, shifting Risks: Livelihood impacts of disarmament in Karamoja, Uganda. *Medford, MA: Feinstein International Center*.
- Stites, E., Akabwai, D., Mazurana, D., & Ateyo, P. (2007). Angering Akuju: Survival and Suffering in Karamoja: Feinstein International Center. Boston.