

## **Information needs for livestock keepers of the Dlangubo village in KwaZulu-Natal, South Africa: the role of extension officers and libraries**

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### **Abstract:**

*In South Africa, livestock keeping is the dominant industry in the agricultural sector. It contributes 49% of agricultural output and enables South Africa to produce 85% of its own meat requirements. It is apparent that livestock is an important asset in the lives of the people globally hence the author is of the view that libraries and extension officers need to play a critical role in ensuring that they remain relevant to the information needs of the livestock keepers especially women as that will help them sustain good socio-economic living conditions. This paper is informed by the findings of the study which was conducted in the village called Dlangubo in South Africa. It was done at a critical time when agricultural farming was affected by drought. Domesticated animals were dying in numbers; artificial dams dried out; grazing lands also dried out and there was no animal feed. In addition the extension officer from the Department of Agriculture (DA) was deployed to a remote area which was difficult for the livestock keepers to reach as the majority of them are pensioners and unemployed. The sampled participants indicated that the extension officer helped in treating various ailments that affected their livestock especially cattle as traditional medicines were gradually disintegrating due to drought. Although they still had knowledge about traditional plants and the types of ailments they cured but it was apparent that modern medicine or animal primary health care services were replacing the traditional knowledge. Therefore the aim of this study is to explore the role that libraries and extension officers can play in order to make themselves relevant to the identified needs of this community. What sustainable intervention programmes can be introduced in order to help the villagers transform their indigenous knowledge into resources for sustainable development and thus reduce poverty; hunger; diseases and unemployment in the area of study. Qualitative approach and grounded theory method were used in this study. Data collection methods included: focus groups; semi-structured interviews; observation including participative method. The basic principles of grounded theory and NVivo software programme also helped in the data analysis of this study.*

**Keywords:** Agriculture; livestock keeping; indigenous knowledge; animal primary health care

## **1. Introduction and background to the study**

Moyo & Swanepoel in Swanepoel, Stroebel & Moyo (2010:1) argue that globally livestock contributes about 40 percent to the agricultural gross domestic product (GDP) and about 30 percent in the developing world. Many authors agree that in Africa livestock has multiple roles. It is critical for the economic, nutritional and social wellbeing of African communities. It can be used for food security; clothing and other products; measure of wealth and social standing; for barter; as lobola or bride price at traditional weddings; as a 'bank' as sometimes animals may be sold to pay for urgent household needs like school fees and funerals. Given the diverse uses of livestock and their socio-economic value in farming communities the loss of a single animal has a significant crippling effect on a family (Meissner, Scholtz & Engelbrecht 2013a: 293-294; Wallace, Mather, Chetty, Goga & Babiuk 2015). Similarly in South Africa livestock keeping is the dominant industry in the agricultural sector. It contributes 49% of agricultural output and enables South Africa to produce 85% of its own meat requirements (Reddy, Goga, Timol, Molefi, Mather, Chetty and Wallace 2015). While the post-1994 South African government initiatives of developing policies and programmes that aim at making South Africa's agricultural sector stronger and more robust cannot be under-estimated but they do not seem to have sufficiently rescued some agricultural farmers from the socio-economic challenges. Some of the major challenges that affect livestock keepers include but are not limited: drought; scarcity of water; scarcity of animal feeds; high death rate of their livestock and lack of access to information including disaster management information. For example Meissner, Scholtz & Engelbrecht (2013b: 305) posit that South Africa boasts of legislations that support animal welfare management like: Animal Diseases Act, 1984; Animal Identification Act, 2002, Animal Improvement Act, 1998; Animal protection Act, 1962; Fertilizers, Farm Feeds, Agricultural Remedies and Stock remedies Act, 1947 but these initiatives do not seem to be sufficiently implemented especially in rural areas.

## **2. Problem statement**

Agricultural extension is explained as the process of transferring agricultural information and technology to farmers for use in production and marketing decisions and similarly transferring information from farmers to researchers (Mugwisi 2014: 53). According to Meissner, Scholtz & Engelbrecht (2013b: 314) in the global world the responsibility of creating an enabling environment for the livestock keepers in order to help them transform from subsistence farming to commercial farming and thus acquire skills of animal welfare management lies with governments. However this study is of the view that animal welfare management needs to be a shared responsibility especially in times of disasters. In South Africa, although this responsibility is entrenched in the Department of Agriculture, Forestry & Fisheries (DAFF) Livestock and Development Strategy (DAFF, 2003) but it does seem to have been sufficiently implemented because of other government priorities; lack of sufficiently trained extension officers; vacancies not being filled; lack of support to research and development; and many other reasons (Meissner, Scholtz & Engelbrecht 2013b: 314). The challenges experienced by the livestock keepers in Dlangubo village confirmed that the agricultural extension system in South Africa is haunted with challenges particularly in the

area of study called Dlangubo village. In addition the extension officer who used to help farmers in treating various ailments that affected their livestock was removed from the area. Due to poor communication it was not clear why he was removed from the area of study. Farmers were concerned that traditional medicines were gradually disintegrating due to drought. Although they still had knowledge about traditional plants and the types of ailments they cured but it was apparent that modern medicine or animal primary health care services were replacing the traditional knowledge.

In addition although some local primary and high schools had functional libraries, information and communication technologies (ICT) and internet services but they were only used for formal education. Libraries played a limited role or did not play any role in the dissemination of agricultural and livestock management information and disaster preparedness and management information. It can be concluded that extension officers and libraries were not sufficiently sharing knowledge or were not sharing knowledge with agricultural farmers especially livestock keepers in order to help them curb the scores of challenges caused by drought. Consequently interest in livestock keeping was slowly disintegrating due to various challenges experienced including climate challenges; scarcity of water and animal feeds; artificial dams and dipping tanks drying out; various diseases affecting livestock and limited or lack of government support.

### **3. Purpose of the study**

Therefore the aim of this study was to understand the challenges and opportunities of livestock farming. In addition what role can libraries and extension officers play in order to make themselves relevant to the identified needs of the livestock keepers? In particular, the study sought to answer the following research questions:

- a) What types of livestock did they keep?
- b) Why were the livestock of value to them or opportunities of keeping those types?
- c) What were the livestock keeping challenges experienced by farmers?
- d) What role did libraries and information and communication technologies (ICTs) play in providing information in relation to their challenges?
- e) What did they know about the South African intellectual property laws?
- f) What model can be used to improve livestock keeping in the area of study?

### **4. Methodology**

Qualitative approach and grounded theory method were used in this study. The basic principles of grounded theory and NVivo software programme also helped in the data analysis of this study. A strong feature of the qualitative approach is the subjective understanding of human experiences in their natural setting (Silverman 2010:119). Hence in this study the researcher relied more on the views of the participants. The research design that was adopted for this study was grounded theory (GT). GT uses a systematic inductive

approach to inquiry followed by a constant comparison of categories in order to generate theory grounded in data (Charmaz, in Denzin & Lincoln 2011:360-361). Data collection methods included: focus groups; semi-structured interviews; observation including participative method. Transect walk was also taken as the researcher, the field worker and some of the livestock keepers visited the field in order to observe the artificial dams and grazing fields that had dried out including the carcasses of dead cattle.

For this study, seven out of eight sub-places of the Dlangubo Traditional Council were sampled. They included Dlangubo, Enqoleni, Fasimba, Khabingwe, MngaMpondo, Mqadayi and Nomyaca. Fasimba was the only sub-place where two focus groups of livestock keepers were interviewed. Each focus group comprised of not more than fourteen participants. The groups were male dominated. Only one focus group had three female participants above the age of sixty. The age ranged from thirty to eighty. The majority were above sixty. The level of education ranged from no formal education; lower primary education; grade twelve to post-secondary education.

## **5. Results**

In this section results are presented in line with the questions that were asked:

### **5.1 The types of livestock that were kept by the farmers**

When asked about the types of livestock that were kept, responses indicated that cattle, goats and chickens were the common types.

### **5.2 The importance of keeping these types**

Responses indicated that the domesticated animal types were important for food security; cultural and economic reasons. For example, participants indicated that they used them for food security and to perform rituals like paying bride's price or lobola in Zulu language, cleansing ceremonies after the death of a family member, et cetera. This was in line with the views of other IK proponents that livestock keeping was a significant activity in house-sustaining functions that allow many households in rural and semi-urban areas to remain food-secure and out of extreme poverty (Reddy et al. 2015).

### **5.3 Livestock keeping challenges experienced by farmers**

As already highlighted the livestock farmers were faced with the challenges of high death rate of their livestock especially cattle due to drought, scarcity of water, artificial dams and dipping tanks dried out; scarcity of food and various diseases and government support was limited and sometimes there was no support at all. In addition, livestock keepers indicated the dire need of the extension officer that the Department of Agriculture deployed to another area. The participants asserted that he played a critical role in providing medication and inoculations that saved the lives of their cattle. The traditional knowledge about medicinal plants was gradually being replaced by the modern innovative medicines the extension officer had diffused relative to the farmers' needs.

#### **5.4 The role of libraries and information and communication technologies (ICTs) in providing relevant information to farmers**

Results indicated that some of the local schools like Fasimba Primary School and Mgitshwa High educators shared information about crop farming with the local crop farmers but not with the livestock keepers. Crop farming information that was shared included the maintenance of good clean crop farming; seasonal crop farming and where and how to get seeds and how to make permaculture manure.

#### **5.5 Knowledge about the South African intellectual property laws**

Sampled participants including educators indicated that they did not have any knowledge about the South African intellectual property laws.

#### **5.6 Model that can be used to improve livestock keeping in the area of study**

Responses indicated that participants would like to have a communal village information centre or a culturally responsive library where various communities of practice (CoPs) like livestock keepers; crop farmers; bead workers and others can sit together with extension officers and information experts in order to share knowledge about their various fields of specialization. In addition the centre should provide spaces for marketing their finished products to the local and international tourists.

### **6. Discussion**

Post-1994, the South African government's national and provincial departments of agriculture (DOA) made concerted efforts to develop policies and programmes aimed at making South Africa's agricultural sector more robust. Crucial to this strategy was the drive to increase equity among farmers in terms of racial and gender representation and access to land, modern technologies and other inputs (Hart & Aliber 2012). While the initiatives are acknowledged, this study argues that they seem to have not been sufficiently realised in other areas as the farmers are still affected by disparities in terms of gender representation in various agricultural activities, including unequal distribution of agricultural resources like modern technologies. With the sampled group of the Dlangubo village, the researcher witnessed a significant disproportionate gender representation with the livestock keepers of the Dlangubo village as there were only three females in a group of twenty eight participants for the livestock keeping function. One of the females had primary education and the other two had no formal education. The majority of the participants above the age of sixty had no formal education and some had primary education up to the level of grade three to five. The level of education was a limiting factor in terms of accessing various information resources like libraries and ICTs as some cannot read and write. Some used their thumbs to sign their names. Given that the provision of basic literacy courses and the re-packaging or reformatting of information in line with their level of education becomes critical.

Similar to the views of Wenhold, Faber, van Averbek, Oelofse, van Jaarsveld, Jansen van Rensburg, van Heerden, & Slabbert (2007:329-330) that in South Africa animals including domesticated chickens, goats and cattle were commonly used as source of food. In addition

domesticated animals were important for cultural and economic reasons. In this context, responses also indicated that the significance of cattle was linked to cultural and economic values. While the importance of using IK, including livestock for socio-economic development, is entrenched in the South African IKS Policy and other legislations, the initiative did not seem to be sufficiently realised in the area of study as the livestock farmers were faced with the challenges of high death rate of their cattle due to drought, scarcity of water, scarcity of food and various diseases and no help was forthcoming. It is apparent that the role of extension officers and libraries is not fully realised in the area of study. They need to avail themselves in helping rural communities deal with the challenges of climatic or weather conditions and other challenges that hinder farmers from using their resources for socio-economic development purposes.

For example Agricultural Research Council-Onderstepoort Veterinary Institute in South Africa and Canadian scientists are currently engaged in a scientific study to develop three innovative livestock vaccines to control five viral diseases. The aim is to protect cattle against viral diseases like Rift Valley Fever (RVF) and lumpy skin disease (LSD); and sheep and goat against RVF, sheep pox (SPP), goat pox (GTP) and peste des petits ruminants (PPR) (Wallace et al. 2015). Libraries and extension officers need to collaborate and ensure that such information reaches the livestock keepers and is effectively used to curb the scores of disasters.

Chisita (2011:3) asserts that the UNESCO Public Library Manifesto describes the public library as the local center of information that provides access to all kinds of knowledge and information. It describes the role of the librarian as that of an active intermediary between users and resources. Further Chisita (2011:3-4) recommends libraries to promote access to information and knowledge by creating an environment that permits face-to-face forums and networks to discuss and debate on issues that might be useful to members of the communities like the use of talk shows that promote intergenerational dialogue between the young and the old on different subject areas like ranging from agriculture, ecosystem, medical care and conflict resolution. Indigenous experts, opinion leaders, village elders and farmer to farmer interaction may all be used in these platforms (Chisita 2011:3-4). Mugwisi (2014:59) underlines that extension officers need to be educated in line with the information needs of the communities they serve. They also need to heighten their access to libraries and collaborate with the information professionals in dealing with the information needs of the people they serve (Mugwisi 2014:58-61).

## **7. Conclusion and recommendations**

This study concluded that information needs for the livestock keepers in the area of study were not sufficiently or were not catered for. The very fact of deploying the extension officer to a remote area where farmers could not reach him as and when needed in times of crisis is an indication that the system was failing them. As Meissner, Scholtz & Engelbrecht (2013b: 314) has already highlighted in this study, in the global world the responsibility of creating an enabling environment for the livestock keepers in order to help them transform from subsistence farming to commercial farming and thus acquire skills of animal welfare

management is a shared responsibility between farmers and governments. Further they underline that in South Africa, although this responsibility is entrenched in the Department of Agriculture, Forestry & Fisheries (DAFF) Livestock and Development Strategy (DAFF, 2003) but has not been sufficiently implemented because of other government priorities like: lack of sufficiently trained extension officers; vacancies not being filled; lack of support to research and development; and many other reasons (Meissner, Scholtz & Engelbrecht 2013b: 314). Given the challenges the livestock keepers were experiencing including climate challenges; dry weather conditions; animal diseases and gender imbalances this study recommends the following:

- Engendered approach to livestock farming activities including educational programmes that will enable farmers to make optimal use of new technologies including libraries and ICTs for knowledge sharing and marketing of their products (Hart & Aliber 2010: 86-88). For example in Uganda the Communication and Information Technology for Agriculture and Rural Development (CITARD) a community based organisation based in Butaleja uses ICTs to help small-scale farmers achieve sustainable development through information sharing on issues like: best agro practices and marketing, environment conservation and clean energy (Kaddu & Haumba 2016:244).
- Engendered approach to the educational programmes offered to the extension officers. Extension officers need adequate training and expertise in order to be able to fulfil their functions including an understanding of the different gendered needs of men and women farmers. This is critical when applying relevant intervention programmes (Hart & Aliber 2010: 88)
- Libraries and extension officers need to be more responsive to the information needs of local livestock farmers. They need to collaborate with other disciplines and ensure that relevant information is repackaged and provided to livestock keepers like information about disaster preparedness and management about climate changes; animal diseases and other animal welfare management issues.
- South African policies like animal welfare management and intellectual property laws need to be sufficiently rolled out and implemented in remote and rural areas.

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## **Biography**

Nomusa Zimu-Biyela (MInf.) is a Metadata Consultant at the Human Sciences Research Council (HSRC), Library & Information Services Department. She is passionate about information for development and is involved in a number of community projects in this area. She is currently completing a doctoral study at the University of South Africa that looks into indigenous knowledge systems in rural South Africa. Metadata Consultant, HSRC Information Services, 134 Pretorius Street, Pretoria 0001, South Africa. Tel: 027 12 3022158. Fax: 027 86 734 5311. Email: [nbiyela@hsrc.ac.za](mailto:nbiyela@hsrc.ac.za)