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Valuing the expertise of mobile herders in arid South Africa- a photographic essay

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Abstract

Pastoralism has been practiced for millennia in numerous ecosystems across the world. Throughout history, pastoral systems and in particular herding have been replaced by the commercialization of livestock production, which essentially made herders redundant in many sub-Saharan countries resulting in job losses. Herding is however still practiced in many countries, but the essential role of the herder is in many instances snubbed upon and disregarded as trivial work, hence their low social standing within the community. Literature however indicates that herding does offer many benefits over commercial paddock systems e.g. improving rural livelihoods, reviving customary practice, reducing stock theft, reducing predation and improving biodiversity management. The contribution of herders is often underestimated, even within livestock-keeping communities, but is in fact much more complicated and they do far more than meets the eye. This paper (in the form of a photo essay) is an attempt not only to give a human face to herders through a series of photographic images, but to highlight particular activities of herders in the semi-arid Namaqualand region of South Africa. The images show the complexity of herding, which is in fact an artisanal task. It depicts herders in their daily activities as botanists with an in depth botanical knowledge including, taxonomy, phytochemistry, nutritional value, toxicity, cultural, and ritual value. It also depicts herders as midwives during lambing season, practicing nursing, and shows the interaction with their guarding dogs. Furthermore, the images illustrate the gender identity with shepherdesses functioning in an extremely harsh semi-arid landscape. It also shows the interaction between herders at the water point which acts as the gathering point for the exchange of knowledge between these artisans. These results show that the value of herders in dryland farming systems deserve more recognition and they should be key players in policy development.

Introduction

Pastoralism has originated during the Neolithic period on marginal lands not suitable for arable farming and the first traces of pastoralism in Africa dates back to around 9 000 BCE in the Sudan region. By the 17th and 18th centuries pastoralists settled in the Southern African region around livestock kraals and they moved seasonally to sustain the feed requirements of their livestock. Pastoralists adopted a transhumance strategy with their flat tailed sheep breeds and cattle within the reach of grazing and water resources. Their movement into the winter rainfall zone of South Africa benefited the milch pastoral practices of the Khoekhoe (Russel, 2020) as it allowed them to occupy and move between the winter and summer rainfall region. This transhumance movement offered them access to good grazing throughout the year. The colonisation of South Africa resulted in a change in land tenure, economic ideologies and government policies. This in turn led to the degradation or destruction of traditional lifestyles, culture and language of the Khoekhoe. Transhumance movements had to be abandoned or restricted (Hoffman and Rohde 2007) and altered within the boundaries of mission stations (Samuels 2013), such as the Leliefontein and Steinkopf Communal Areas in Namaqualand.

Pastoral systems, and in particular herding, have been replaced by the commercialization of livestock production, which essentially made herders redundant in many sub-Saharan countries leading to job losses. Herding is however still practiced in many countries, but the essential role of the herder is in many instances snubbed upon and disregarded as trivial work. Herders therefore have a relatively low social standing within the Namaqualand communities. Salomon et al. (2013) however indicates that herding does offer many benefits e.g. improving rural livelihoods, reviving customary practice, reducing stock theft, reducing predation and improving biodiversity management. Similarly, Schlecht et al. (2020) describes herding as a multifaceted occupation with the key purpose of ensuring suitable nutrition of the flock by (1) directing livestock to nutritious grazing area and water points, (2) preventing crop damage, (3) keep them separated from other herds, (4) caring for new-born animals, (5) milking of lactating ewes, and (6) protecting the herd from predators and stock theft. The definition in itself illustrates herders' dependence on a diverse and collective knowledge system to fulfil every aspect of the occupation. The aim of this paper is to illustrate that herding as a complex

and multifaceted profession which rely on an array of knowledge systems to successfully raise livestock within harsh and variable arid and semi-arid environments. Visual anthropological techniques were used in the form of still photography to capture and illustrate this complexity and multifaceted characteristics of the herding profession.

Study Site and Methods

The study sites are located in the Namaqualand region which stretches along the north western part of South Africa. The inhabitants of Namaqualand are descendants of the Nama-speaking Khoikhoi pastoralists who lived a transhumance lifestyle within this area before colonisation. Our focus for this study was within the Leliefontein Communal Area which extends over the Kamiesberg mountain range with a total area of approximately 192 000 hectares and the Steinkopf Communal Area, which is estimated to be more than 500 000 hectares in size. Both areas form part of the winter rain fed Succulent Karoo biome, which is renowned for its richness in plant biodiversity, as well as the summer rainfall area of the Nama Karoo biome, which is characterised by a shrubby grassland. Both the biomes are considered semi-desert environments with an annual rainfall of less than 400 mm. Small stock farming, particularly with sheep (Dorper breeds) and goats (Boergoat and Swakara breeds), remains the main land use where poverty coupled with high unemployment rates makes life extremely challenging on these communal areas. To take advantage of these variable grazing opportunities, herders make use of either altitudinal transhumance or lateral movements into the adjacent biome. Samuels (2006) showed that the ages of full-time herders vary between 17 and 71 years of age and they normally live at stockpost scattered around villages.

A collection of photographs was taken of herders over more than a decade of working closely with livestock communities in the Leliefontein and Steinkopf Communal Areas. Herders gave the necessary consent for the pictures to be taken. Pictures were captured digitally using a Canon 50D and a Canon 77D digital SLR camera. Photographs focused on the herder's daily tasks and their interaction with livestock, dogs and the natural environment.

Results

The photo collage in Figure 1 is a representation of the different roles of herders in the study area. A typical herder is illustrated by Fig 1a and shows a slender built male with protective clothing and sunhat to protect against the harsh radiation and extreme heat during the summers. They travel light with only the bare minimum such as a limited supply of water and food to sustain them throughout the day, and a staff (kierie) to assist in walking and as protection against snakes. Herders are accompanied by one or more landrace dogs as shown in the image. Full time herders will normally spend the entire day with the flock guiding them across the landscape to more nutritious fodder (Fig 1 b and c). Even though herding in Namaqualand is a male dominated occupation, one will occasionally find female herders tending to a flock (Fig 1c). Figure 1d and e represents the role of a herder as midwife during the lambing season. In Fig 1e the young herder need to stay with the newly-born kids while keeping an eye on the rest of the flock. Herders tend to animals for their entire life cycle and have to administer medicine to sick animals or provide preventative medication. In the absence of western medication herders would often make use of indigenous knowledge to concoct their own medicine to administer to animals (Fig 1f). Herders generally have very good knowledge of fodder plants, medicinal plants and poisonous plants so they can alter grazing routes to lead animals towards more nutritious fodder plants and medicinal plants, or away from poisonous plants. In Figure 1g a herder shows a highly palatable fodder plant with some medicinal value. Dogs plays a vital role in herding as companionship to the herder and as protection for the flock against predators. Figure 1h displays the interaction of a herder with his small framed dogs that are adapted to the harsh environment. Herders normally live a solitary lifestyle and whenever there is an opportunity to meet, such as at a water point (Fig 1i), it offers the opportunity to share knowledge and experiences concerning livestock (e.g. sickness, medication), rangeland condition (e.g. fodder plants or poisonous plants location), and the presence of predators.



Figure 1: A collage depiction of the roles of herders: (a) a typical herder with dogs, carrying his staff (kierie), water bottle and food for the day, (b) male herder in the Bushmanland area, (c) female herder in Leliefontein area, (d) herder doing midwife duties in the heat of the day, (e) young herder tending to new-born twin Boergoat kids, (f) herder administering locally made medicine to a goat, (g) a herder sharing his knowledge on fodder plants, (h) a herder and his dogs to protect the flock against predators, and (i) herders sharing local and indigenous knowledge at a water point in the Bushmanland region.

Discussion and Conclusions

The collection of images depicts herders in their daily activities. As illustrated in the images they lead or push animals on planned grazing routes. The understanding of plant use and function is an essential part of the job description. Although not formally trained, they seem to have an in-depth botanical knowledge and understanding of taxonomy, phytochemistry, nutritional value, toxicity, cultural, and ritual value. Plants are identified through growth form, morphology and colour of leaves and flowers, scent, toxicity, medicinal value, edibility for people, and palatability for livestock (Samuels et al. 2016). Due to the herders' connection to and understanding of the ecology of the land coupled with ethnobotanical knowledge, they manage to create 'mental landscape maps' which are used to direct livestock to more nutritious forages (Samuels et al. 2018). Similar to what Meuret and Provenza (2015) suggest, they developed very specific grazing menus along routes which caters to the specific needs of the animals. Experienced herders have strong botanical knowledge and are able to identify such fodder plants which livestock would need for optimum production. They also have the ability to identify poisonous plants and an understanding of how the toxicity in such plants fluctuate seasonally. Therefore, planning of such routes becomes more complex after the lambing season where they have to steer the flock with inexperienced lambs away from such 'toxic plant patches' to prevent livestock losses. As livestock managers, they do make use of commercially available medicine or treatment, but if they do not have access to such medicine or if it is too expensive, they revert back to traditional medications. Ethnobotanical knowledge which has been transferred through generations is used to concoct treatments. Assisting ewes in the lambing season is the most challenging task and period for herders as they play a key role as midwives to ensure easy birth or assist in complicated births. Tending to goats during this period is particularly challenging as births normally takes place on the grazing routes. Since these lambs are not able to

walk, herders have to carry them back to the stockpost. Preventing livestock losses is key to any herder, therefore protection of the flock against predators such as jackal, caracal and leopard is also a high priority. Apart from the companionship role dogs play, their main role is to alert the herder of predators and to chase them away from the flock.

We have found that the knowledge required to fulfil the role of herder is quite complex and can be traced across five broad themes which are indigenous, traditional, commercial, scientific, and idiosyncratic (based on individual experience) knowledge systems. The exchange of knowledge between herders normally takes place at the water points. Such gathering places act as informal outdoor classrooms where herding skills, ecological knowledge (e.g. distribution of plants, rangeland condition, weather, location of predators) and even ideas from other media sources are shared. The images in this photo essay illustrates that herding is complex and multifaceted and that it has a complex valuation system which encompasses numerous knowledge systems. Herders provide knowledge and observations that is important for sustainable natural resources management as shown by Molnar et al. (2020) and these are often overlooked. Given the value herding provide in terms of knowledge creation and their role as knowledge holders, we would recommend herding being considered in future policy direction regarding rangeland management in a variable environment.

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