Feasibility of Organic Certification of Sheep and Goats Produced in Pastoral Systems in Northern Kenya

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Key words: Organic certification; pastoralism; livestock marketing; social and policy issues

Abstract

In pastoral systems of Kenya, sale of small ruminants is the main regular income source for most households. Although the meat of small ruminants produced in Marsabit county is preferred in the domestic market, no mechanisms are in place that allow for a respective price differentiation. Establishing value chains for labelled sheep and goat meat would be an option to allow pastoralists to profit from their high process and product quality. The aim of the current study is to assess the requirements and feasibility to establish a value chain for labelled products (e.g. origin labelled, organic certified) together with the primary and secondary actors in small ruminant supply chain among the Rendille pastoralists in Marsabit county. Overall, 28 group discussions with four Rendille women income-generating community groups and 21 interviews with other relevant stakeholders were conducted. The results show that pastoralists' production is largely compatible with organic standards as livestock is fed on naturally growing fodder with no chemicals applied, and herding allows for animals' natural behaviour. However, a number of challenges hamper organic certification. These include practice of ear notching and castrations without anaesthesia and/or analgesia, supplementary feeding of home-based animals with non-organic feeds during drought, ad-hoc application of veterinary drugs, challenges in record keeping and traceability systems and financial difficulties to undertake internal control and monitoring due to the extensive nature of the production area. Improvement of veterinary infrastructure, innovative record keeping systems for illiterate producers, and further market studies to ascertain demand are recommended. While organic certification is desirable, geographical indication labelling is a feasible starting point that would allow entry into higher priced markets as hurdles to organic certification are addressed.

Introduction

Sale of small ruminants is the main regular income source for more than 2/3 of pastoralist households in northern Kenya (Chantarat *et al*. 2013). Pastoral communities raise their livestock on communal land with livestock production as the economic and cultural center of life (Degen, 2007). Despite the importance of pastoral livestock marketing, the current livestock trade is not profitable for pastoralists and local traders. Most of the sheep and goats are sold in undifferentiated commodity markets, characterized by highly volatile prices (Roba *et al*., 2018). Hence the local traders have no direct links to end buyers, so that they lack information on demanded qualities and quantities (Bailey *et al*., 1999; Roba *et al*., 2018). Although the small ruminants produced in Marsabit County in northern Kenya are preferred in the domestic market, this does not translate into an economic advantage for producers and local traders (Roba *et al*., 2018). Based on this consumer preference, alternative ways of marketing using product labelling can be explored. Product labelling could enable a shift from an undifferentiated commodity market to a niche market that recognizes product quality (Roba 2018, Mathias *et al*., 2010, Imami *et al*., 2011).

As the pastoral livestock production system is a near-natural system, the effort for a conversion to organic production might be low (Ansari-Renani, 2016). Accordingly, the objective of this study is to assess the requirements and feasibility of organic certification of the livestock production of Rendille pastoralists in Marsabit County in northern Kenya as an example for labelled products. The specific objectives are to assess the compliance and non-compliance of pastoral livestock production of Rendille with organic standards, to assess challenges in fulfilling requirements of organic standards and of group certification and to develop ideas to overcome these challenges.

Methods and Study Site

Data collection for this study was conducted from August to October 2019 in the southern part of Marsabit County in the Sub-County Laisamis. The study area is characterised by an arid landscape with sparse bushy vegetation. The rainfall is highly variable and often fails resulting in droughts. The study area population consists predominantly of Rendille pastoralists, who raise livestock as their main livelihood source. Illiteracy and poverty levels are high and the infrastructures (roads, telecommunication, markets, water) are poor (County Government of Marsabit, 2018). The study used collaborative learning approach where the focus was

on mutual learning and on the participation of practitioners in the process of creating new knowledge (Restrepo *et al*., 2014; Christinck and Kaufmann 2018). For the qualitative data collection 28 focus group discussions with a duration of 1,5hrs were conducted with four pastoral community groups. The groups consisted of members of the ethnic community of Rendille, most of whom were women, who were engaged in livestock trade. The introduction of requirements of organic standards based on EU-Regulation and the organic standard of Kenyan certification body EnCert and requirements of group certification according to CERES, (2017) and IFOAM (Lechleitner and May, 2007) was done via posters. In the following the compliance and non-compliance of pastoral livestock production of Rendille with organic standards, challenges in fulfilling requirements of organic standards and of group certification were discussed and ideas to overcome these challenges were developed. Further, two multi-stakeholder-meetings and 21 individual interviews based on topics arose from focus group discussions were conducted with members of the county government, NGOs, a research institute, the private sector, traders and livestock keepers. Data analysis was conducted by inductive coding with MAXQDA 2019 (VERBI Software, 2019).

Results

Areas of compliance of the near-natural pastoral livestock production with organic standards

The study found that pastoral production system follows the requirements for organic production on several aspects such as feeding where livestock are grazed on natural vegetation in open range land. About housing, the livestock are kept in pens, called *bomas*, only at night or for keeping special groups of animals while tethering is not common practice. According to the respondents the size of the bomas can be adapted to the space requirements of the organic regulations.

On the other hand, in the pastoral system, the respondents described that breeding is only done by natural mating. Forbidden techniques such as embryo transfer and oestrus synchronization were not known. This area of animal husbandry can therefore be considered to be in compliance with organic regulations.

Challenges to meet requirements of organic standards

During the dry season supplemental feeds were identified as a risk as it could contain forbidden ingredients, e.g. genetic modified organisms. Also, the Rendille community carry out ear notching, hot iron branding and castrations without use of anesthesia and/or analgesia. This is considered to be against the principle of animal welfare. The first two are carried out for the purpose of identification and they have also a cultural value, as they show clan affirmation. Castration is carried out for a better meat quality and better handling of male animals.

Another challenge is, that a formal livestock identification and traceability system is lacking and currently there is no national policy on traceability and identification. To control compliance with organic requirements accurate records are needed. The interviewed community members currently do not keep written records about production due to illiteracy, additional workload, and mobile herds. In the study area, there is limited supply of veterinary drugs and vaccines. Further, some community members have no trust in vaccination, as they have had bad experiences and there is a lack of adequate communication on the part of the veterinary staff. Diagnostic possibilities are missing, which leads to a trial-and-error application of veterinary drugs. In this way, individual animals might get more conventional veterinary treatments than allowed for organic certification. Hence, the extent and frequency of conventional veterinary treatments is not known, so it is not possible to assess whether requirements can be met. Overall, the limited veterinary infrastructure hampers adequate drug use and therefore endangers organic certification.

Group certification helps to save certification costs. The majority of group members are convinced that they can bring experience gained as income-generating groups into a group certification. Nevertheless, there are costs for certification and training for which financial support is needed. In addition, the high illiteracy makes it difficult to carry out some of the tasks in the group certification. Furthermore, inspections of the mobile herds are time and cost intensive, as the herds are difficult to reach in the dry season due to distance and inaccessible areas, and some impassable roads in the rainy season.

Discussion

The finding that the feeding practices in the pastoral system are an essential fulfilment of the requirements for organic production is based on the extensive grazing systems taking advantage of a very heterogeneous pasture vegetation that gives the meat of the livestock its high quality. Pastoralists detailed knowledge of the rangeland resources guide this grazing system (Krätli *et al*., 2013; Wario *et al*., 2016). Similarly, the study by Ansari-Renani (2016) also concludes that organic certification of sheep and goat farming in Iran is possible. Pastoralist practice supplemental feeding during the dry season, which can be fulfilled through local innovation where

communities establish fodder gardens during rainy seasons for use during dry season (e.g. Kaufmann and DITSL, 2012) instead of relying on feed from outside whose content cannot be ascertained. The housing and reproduction practices among pastoral system are in line with the requirements for organic certification as also observed among Iranian pastoralists (Ansari-Renani 2016).

However, there are certain practices central to pastoralist livestock production that in the current form do not meet the requirements of organic production. For instance, the pastoralists practice castration of bucks without anaesthesia and analgesia to improve the quality of meat (Kaufmann, 1998; Namunai et al., 2008; Warui, 2008) and ear notching and hot iron branding for identification purposes (Mbuku *et al*. 2010). Due to the importance of these routine procedures, exemptions could be requested from the certifier such as EnCert. Otherwise, ear tags could replace traditional identification tags and analgesics should be provided for the routine procedures.

In the last decade, the importance of livestock identification and traceability in improving marketing is being widely discussed in East Africa (e.g., Bett *et al*., 2015). To facilitate acceptance and use of ear tags, Bett *et al*. (2015) recommend the use of ear notching and branding already used by pastoralists to complement the system. However, this requires policy and legal framework, which is currently being discussed and further lobbying by the stakeholders to have it realized. The traceability system will rely on documented livestock records, which is a challenge due to illiteracy. However, pastoralists have a memory-based system that allows them to memorize animal-specific data such as births, sales and losses (Kaufmann, 1998; Mbuku *et al*., 2010). There is need for innovative ways to develop record keeping based on this elaborate system by the pastoralists. The use of pictures of relevant events (e.g. veterinary treatments) or the development of schemes that can be filled in with signs is proposed, based on experiences such as those of Greenwood *et al*. (1987) who worked with illiterate people using a sign-based method. Such innovations can be based on already existing systems e.g. clinic books of children or records for loans in community groups. In order to meet the requirements of organic standards and produce high quality meat, basic veterinary care is needed. However, pastoral systems, despite being a livestock based economics face challenges with veterinary services, also in the larger Horn of Africa (Silkin, 2005), with potential improvements depending on actions by the respective governments. (.

The large body of experiential knowledge held by groups in the region as reported by Arasio *et al*. (2019), is seen as potential to build upon to establish group certification system. The other potential is the availability of young literate school leavers in the communities who can take up the roles in group certification for which they are trained beforehand. Before starting with the implementation, a marketing study should be carried out and potential marketing partners, who are interested in the marketing of prime meat, needs to be identified together with their requirements to establish a contract production. In Kenya, "nyama choma" outlets that refers to roasted sheep and goat meat largely consumed by the middle and high-income groups (Bosire *et al*., 2017; Juma *et al*., 2010) is an opportunity to explore for organic marketing.

Conclusion: Set up a Geographical Indication

Given the above challenges in implementing organic certification in pastoral systems, it is recommended that a geographical indication (GI) be explored as a starting point due a lower number of regulations. The sheep and goats from Marsabit are already preferred in the market and labelling the origin could facilitate the marketing. In other countries, origin-labelling sheep and goat meat have shown beneficial effect on producers' income (Mathias *et al*., 2010). Further, the community groups wished for less strict requirements, as for example challenges in avoiding routine operation may endanger organic certification and it would also make inspections easier to carry out. A GI could implement a basic infrastructure, like ear tags for traceability and innovations for record keeping. In Kenya a GI can be set-up as a collective mark (National Council for Law Reporting Kenya, 2009). If this is in place, it is possible to move step by step to an organic certification.

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