Review Article

Selected intervention strategies to improve health and welfare of working donkeys in Kenya. A Review

Abstract

Animal health and welfare has gained increasing concern worldwide. Working donkeys are continually exposed to health and welfare challenges which reduce their productivity and household income earned through them. Various interventions have been made to address these challenges, although unsuccessfully. A comprehensive review of the interventions made was conducted to systematically analyze the reasons for failure and triangulate them with donkey health and welfare. Some intervention strategies identified were: (i) Knowledge change through training donkey owners on donkey welfare, handling, feeding, working conditions, routine health checks and basic first aid skills for their donkeys. (ii) Refresher trainings to animal health providers to enhance their capacity in handling equine cases; (iii) direct free or subsidized treatment of donkeys through medical camps; (iv) advocacy and (v) legislation. Some positive changes were recorded in health and welfare of donkeys. However, low adoption of knowledge and skills to change practice, unsustainable approaches which led to delayed treatment due late disease reporting and unwillingness to pay for health services, emerging challenges which complicate ongoing intervention efforts; were identified as the reasons for the persistent health and welfare challenges. The findings would provide policy makers and implementers at county and national level with information they can use to ensure interventions are done in a manner that promotes sustainability of donkey welfare projects; ultimately improving the livelihoods of the donkey owners and users. Lessons of this study will also help project implementers to prioritize areas of intervention in light of the ever changing challenges affecting working donkeys.

Keywords: Working donkeys, Health and Welfare Interventions, Sustainability

Introduction

Domestication of the donkey from the African wild ass, which is estimated at about 6,000 years ago, transformed ancient transport systems in Africa and Asia and the organization of early cities and pastoral societies (Rossel et al., 2008). Since ancient times, donkeys have been essential for transport in arid, rugged, and poorer regions of the globe (Starkey, 2000). Animal welfare remains an area of consistent public concern (Rioja-Lang et al., 2020). Donkey welfare is a complex, multifaceted, international and domestic public policy issue with scientific, ethical, economic, legal, religious and cultural dimension as well as important trade policy implications (WOAH, 2017). Donkey welfare is intrinsically related to other government concerns such as public health, food safety, and long-term socioeconomic environment. It is a responsibility that must be shared among governments, communities and the animal owning communities (WOAH,

2017). In recent years animal welfare, has become an issue of increasing concern in several countries worldwide, including countries in Africa (AWSA, 2017). It is defined as the state of how an animal is coping with the conditions in which it lives. It refers to the state of the animal; the treatment that an animal receives is covered by other terms such as animal care, animal husbandry, and humane treatment" (WOAH, 2016).

Over 7 million people are estimated to benefit directly (Brooke 2015) from an estimated 1.1 million working donkeys in Kenya (KNBS, 2019). Working donkeys are kept under different production areas in the pastoral, rural and peri-urban areas of Kenya. They are used for income generation for many households. Donkeys are more popular choice of work animals for small-holder farmers (Smith and Pearson, 2005). Their versatility and dependability as a source of animal traction exposes them to different health and welfare challenges most of which are related to their working environment. As such, specific management practices need to be devised in order to fully maximize their work output. Some challenges affecting their health include diseases such as African Horse Sickness (Gichure et al., 2020), Toxoplasmosis (Obonyo et al., 2022), Parasitic infections (Mulwa et al., 2020), Wounds (Rayner et al., 2020), Trypanosomiasis (Mukiria et al., 2010), dental problems (Kumar et al., 2014). inadequate or inappropriate nutrition (Rioja-Lang et al., 2020) also shown in Figure 1, feed shortages (Feleke et al., 2015; Hassen et al., 2022), inability of donkey owners and users to recognize, and manage basic welfare issues (such as pain or behavioral problems), lameness, chronic or endemic health issues (Rioja-Lang et al., 2020), overloading, overworking (Hassen et al., 2022; Kumar et al., 2014), inhumane handling (Mesfin, 2008), inappropriate harnessing (Hassen et al., 2022; Kumar et al., 2014) and working in poor roads (Feleke et al., 2015) among others.

Figure 1: Donkeys feeding on vegetable trimmings after delivering farm produce to the market

There has been considerable social scientific interest in the health and welfare of farmed animals (Holloway et al., 2023). This has led to numerous intervention approaches to address the health and welfare challenges of working donkeys in Kenya. This has been enabled through joint efforts by the Kenyan government in partnership with the private sector including Non-governmental Organizations (NGOs) to implement donkey welfare initiatives for more than twenty years. Some NGOs such as Kenya Network for Dissemination of Agricultural technologies (KENDAT) (kendat.org) Brooke East Africa, International Fund for Animal Welfare (IFAW), (Africa Network for Animal Welfare (ANAW), Donkey Sanctuary (DS), Caritas, Kenya Society for the Protection and Care of Animals (KSPCA), Kenya Veterinary Association (KVA), World Animal Protection (WAP), Practical Action and World Society for the Protection of Animals (WSPA).
Figure 2, shows different counties of interventions by different NGOs. KENDAT (in Nairobi, Kirinyaga, Meru, Kiambu, Nyandarua, Kericho, Tharaka Nithi); Practical Action (in Wajir); Caritas in (Kitui); ANAW (in Narok and Kajiado); FSK (in Nakuru, Narok, Bomet and Baringo); AWAPH (in Kisumu); SPANA in (Narok) and KSPCA (in Nairobi, Naivasha, Nanyuki and Mombasa).

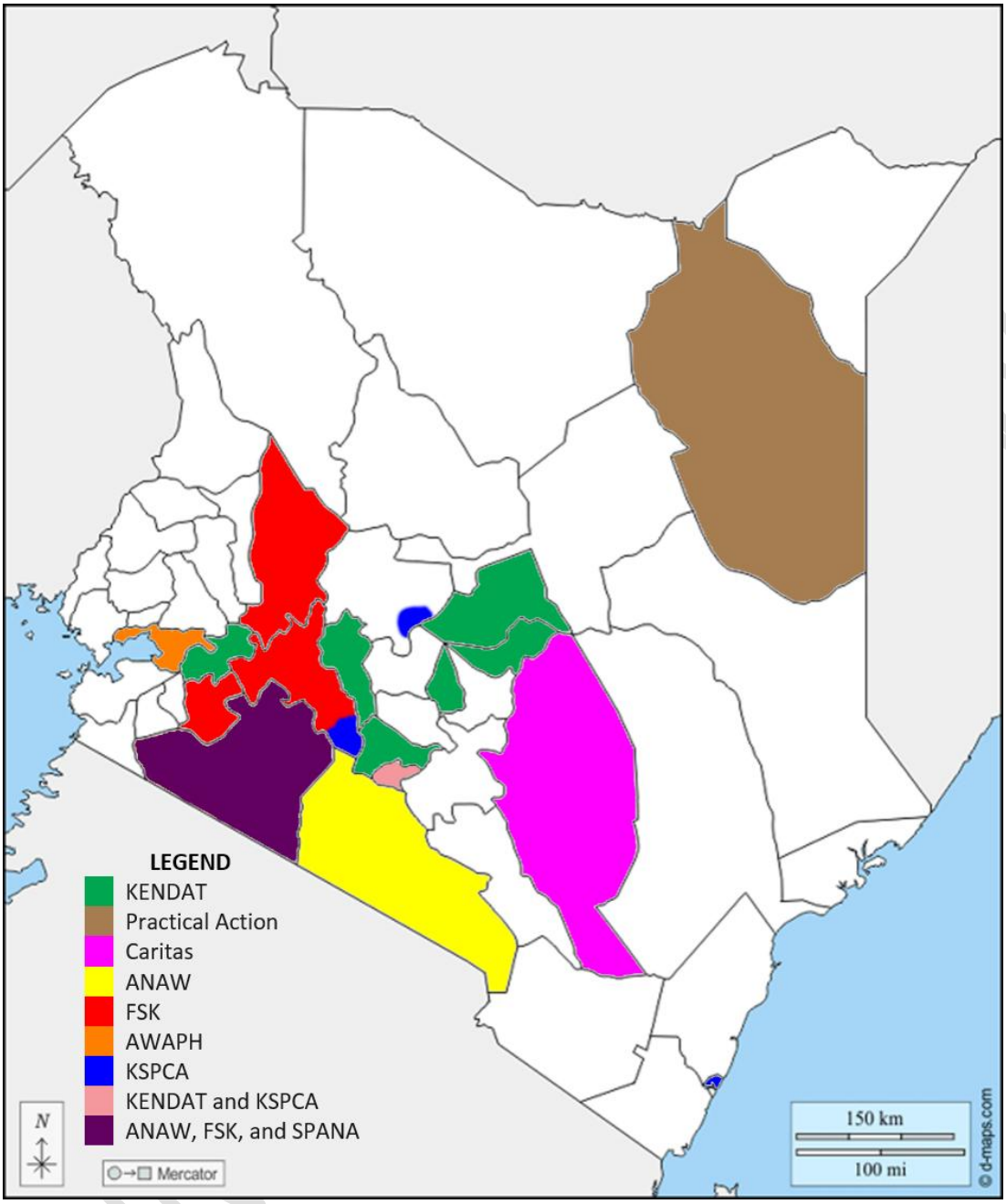

Figure 2 Map of Kenya showing counties of intervention by different NGOs

The approach by these NGOs ensure the safety of donkeys through ensuring good donkey health, good shelter though construction of lockable housing, availability of feed and water, appropriate load, carts and harnesses. Additionally the NGOs are involved in advocacy, research, training, creation of awareness and communication campaigns, refresher training on equine health and management to veterinary surgeons and veterinary paraprofessionals as well as through legislation and development of strategies at regional and national levels (WSPA, 2017).

The intervention seemed to yield some results as depicted by knowledge change by donkey owners, local animal health practitioners, and the general community of highlighting welfare

issues. However, some donkey owners had not utilized the gained knowledge and skills to care for their donkeys. As such, there were some donkeys that still suffered diseases, some were neglected due to these diseases, some donkey owners continued to overload the donkeys, excessively whip them, failed to provide adequate feeds and water; all of which affected their welfare. For Instance, Kielland et al., (2010) reported that farmer's perception and attitude directly relate to human – animal interactions and these attitudes and perceptions affect farmers' behaviours towards animals in terms of the type of feed they feed and the duration that animals spend working.

This calls for a comprehensive review and evaluation of the intervention strategies previously applied in order to determine if these strategies are useful, applicable and sustainable. It is also important to identify the gaps that could lead to persistence in health and welfare challenges among the working donkeys. This will advise future interventions on adoption of more sustainable measures. Adoption of less sustainable intervention measures creates dependency among the donkey owners hence fluctuations in health and welfare and consequently lowering their productivity. When working animals are in a state of good health and welfare, they live longer, are productive and are able to increase their work output hence increased household income earned by owners (Martin et al., 2005). Therefore, this study was conducted with the objectives of reviewing the intervention strategies previously applied to address health and welfare challenges among working donkeys; as well as to identify the gaps that could lead to persistence in health and welfare challenges among the working donkeys.

The findings would provide policy makers and implementers at county and national level with information that they can use to ensure development is done in a manner that promotes sustainability of donkey welfare projects; ultimately improving the livelihoods of the donkey owners and users. Lessons of this study will also help project implementers to prioritize areas of intervention in light of the ever-changing challenges affecting working donkeys.

Study methodology

The study was conducted through a systematic review of the interventions made and triangulating them with the changes in health and welfare and therefore the productivity of the working donkeys though livelihood analysis. The results of other relevant published studies alongside future sustainability, economic and logistical considerations informed the selection of intervention strategies (Stringer et al., 2017).

Review of intervention approaches:

Knowledge change

Training of donkey owners in Kenya occurs through the private extension system mainly delivered by non-governmental organizations or private companies (Nambiro et al., 2005; Rees et al., 2000). The government's role in extension services is often in monitoring and quality control (Muyanga and Jayne, 2008). The NGOs use training as a sustainable intervention approach within their areas of operation (Muyanga and Jayne, 2008), to quickly transfer knowledge, skills, new technologies to farmers (Reddy and Kumar, 2020). Training donkey

owners builds their capacity in animal health and welfare (Onono and Kithuka, 2020; Stringer et al., 2018).

The trainings offered are often short term, lasting approximately between 2 days to 2 weeks (Stringer et al., 2011). The availability of the donkey owners for multiple days is a challenge, (Muyanga and Jayne, 2008), given that any day spent in training means a potential loss of daily income. As such, the attendance to the trainings is often inconsistent and low especially when the trainings are prolonged (Stringer et al., 2011).The content of these trainings is often on routine health checks, early disease reporting, basic first aid (Hassen et al., 2022) as well as basic hoof care and trimming (kendat.org) among others. The content during these trainings should be guided by training needs analysis of the donkey owners (Franz et al., 2010) as well as the scope of what they can do in light of veterinary service regulation. The training delivery methods applied are often participatory (Franz et al., 2010). A combination of group-based and individual activities have been found to be effective in content delivery (Cawley et al., 2023). As much as possible apply adult learning techniques (Chaplowe and Cousins, 2019). Other modes of delivery such as e-learning for the literate category of donkey owners can also be utilized to transfer knowledge (FAO, 2021). Literacy and education levels for the donkey owners is very varied (Hassen, 2022; Yambu, 2018; Stringer et al., 2011). Stringer et al., (2018), compared knowledge change among participants at different literacy levels and found that knowledge change was greater among participants with higher levels of formal education, while participants with lower literacy levels had reduced ability for knowledge acquisition from knowledge-transfer interventions requiring literacy. In light of this, it is important to design short term trainings to donkey owners and utilize delivery methods that provide the maximum transfer of knowledge (Cawley et al., 2023). Grace et al., (2008) evaluated whether knowledge on a specific subject decrease over time and recommended that; in order to reduce this knowledge fade at longer time intervals, the information for owners should be made readily and continually available to farmers, as learning may decay unless reinforced.

Despite the fact that several initiatives have been put in place to train owners and users on the importance of taking good care of donkeys, the uptake of these initiatives remains low among donkey owners and users. An understanding of adoption of knowledge transferred to donkey owners as well as change in practice is crucial. It is important to integrate different perspectives and knowledges as a way of understanding and responding to animal health and welfare concerns (Mahon et al., 2021). A previous study to investigate animal welfare knowledge, attitudes, and practices among livestock holders revealed a clear disparity between knowledge and practices of animal welfare (Alemayehu et al., 2022). This discrepancy between knowledge of action that should be taken and the actual implementation of change is a well-recognized phenomenon (Mahon et al., 2021; Whay et al., 2012; McKenzie-Mohr and Smith, 1999). The process of introducing changes to routine behaviours is difficult (Whay et al., 2012), and presents many challenges when trying to work with farmers to knowledge gained to implement welfare improvement (Whay, 2007). The fact that donkey owners can recognize diseases affecting their donkeys and report the same is a step towards the right direction (Stringer et al., 2017).

For efficiency of knowledge transfer to donkey owners as an animal health intervention; it is proposed that formal education and literacy levels, shorter durations or trainings which should be strengthened with refresher trainings on relevant topics, combined with participatory content delivery methods centered on adult learning techniques should be considered when structuring the trainings. Due to the limited government funding on extension, collaborations with the private sector such as NGOs may be a viable solution to keep the owners informed. The NGOs are also more efficient in extension service delivery (Muyanga and Jayne, 2008).

Refresher training to existing animal Health Providers.

The impact of donkey health and welfare interventions cannot be overstated (Helski et al., 2015). Preserving donkey health and welfare is key to sustaining the livelihood of many populations across the world (WOAH, 2022). Knowledge of animal health providers to handle equine cases was low (Onono and Kithuka, 2020). This could be due to limited training on equine management from the education institutions in Kenya as seen in curricula of training institutions teaching certificate, diploma and degree in animal health and veterinary sciences. This challenge in knowledge and skill levels leads to disparities in case-loads by local animal health professionals when treating donkeys compared to other livestock (Onono and Kithuka, 2020). Access to essential medicines was also a challenge affecting health and welfare due to their high cost (Stevens and Huys, 2017). NGOs have intervened through training of animal health providers and linking the donkey owners to trained animal health providers. These animal health providers are trained on equine behavior, handling and restraint, management of equine diseases, equine drugs, pain relief etc. The Donkey Sanctuary Kenya' approach, for example, was through provision of technical and practical based trainings and support to animal health service providers on donkey diseases and husbandry to enable them provide vet care to donkeys (www.thedonkeysanctuarykenya.org, www.spana.org). Curran et al., (2005) evaluated the impact of this approach and found that donkeys within the intervention areas were significantly healthier and more productive than those in non-intervention areas. These findings are similar to Onono and Kithuka, (2020) who highlighted significant differences on level of knowledge of animal health providers in donkeys in operation areas where donkey welfare projects were being implemented compared to non-operation areas.

A study by Onono and Kithuka (2020) highlighted significant differences on level of knowledge, on types of medicines used for treating health conditions in donkeys. In regions where welfare campaigns were done, the animal health services providers had better knowledge on veterinary medicines used for treatment of donkeys in addition to presence of more veterinary practices which were regulated by the KVB (Onono and Kithuka, 2020). This positive change due to training is therefore encouraged as a way to ensure service provision to donkeys. Strategies such as subsiding retail prices for medicines have been tried (Stevens and Huys, 2017), but the sustainability of this approach is questionable.

Donkey health services provision

Many of the health problems in donkeys are traumatic, mechanical as well as infectious in origin, resulting from the environmental causes and ill-treatment by owners and from critically considered attaches of the working apparatuses (Khan et al., 2013). Delivery of veterinary services in Kenya has evolved through different stages since the era of structural adjustment programmes (SAPs) in the late 1980s. The privatization and subsequent devolution of veterinary services from the national government, together with challenges in the human resource capacity of the DVS, are major constraints to provision of animal welfare services in Kenya (KNAW, 2017).According to Okwiri et al. (2002), privatization of veterinary services resulted in rapid expansion and growth of private veterinary delivery system. The challenges relating to donkey health service provision included unavailability and high cost of equine specific drugs in agro-vets (shops selling agricultural inputs including veterinary drugs) such as those used for pain relief, lack of proper regulations, including selling of veterinary medicines without proper advice on route of drug administration and correct dosages (Ole-Miaron et al., 2004). Outlets selling veterinary medicines within the smallholder farming systems, which are properly regulated, are instrumental for supply of veterinary medicines to farmers (Bett et al., 2004).

Attempts to intervene in health provision by NGOs has been through direct free or subsidized treatment of donkeys in medical camps (www.thedonkeysanctuary.org) as well as mass treatment and vaccination of donkeys in a medical camps (Evans et al., 2019).

This has resulted in a perceived undue competition between NGOs and animal health providers working in the regions. This may cause ripple effects such as reducing the reliability of the animal health providers in project areas when called to treat donkey diseases. Onono and Kithuka, 2020) recorded a lower reliability of 57% in operation areas compared to 71% in non-operation areas when there was no competition. Sustainability of direct treatment can also be evaluated by willingness and actual payment for treatment of donkey diseases. In a study by Onono and Kithuka, (2020), approximately 80% of donkey owners in intervention areas recognize the need to pay for donkey treatment services compared to 94% in non-intervention areas. The actual willingness to pay according to animal health providers was 39% in intervention areas compared to 42 % in non-intervention areas. These results suggest that even though donkey owners have been sensitized on the need to pay for treatment of their donkeys, only a few were actually willing to pay; further emphasizing the sustainability of intervention gaps; unless donkey owners were assured of other benefits of paying for health services (Maggs et al., 2021). Other challenges associated with direct free or subsidized treatment of donkeys were delayed reporting of sick cases, neglecting and abandoning sick donkeys keeping sick donkeys by the road until they are rescued, die or are presented for a mass treatment camp (Biffa & Woldemeskel, 2006).

Improvement of husbandry practices

Animal husbandry is defined as the science of breeding, feeding, and tending domestic animals, especially farm animals (www.thesaurus.com). In this study, husbandry implies aspect of handling and restraint, feeding and watering, housing as well as breeding of donkeys. Donkeys

have been always managed less than other livestock (Marshall & Weissbrod, 2011). Inadequate care remains an issue in donkey husbandry in the developing world (Mutua, 2004).

Improper handling is considered as a major stressor, adversely affecting farm animals (Knowles and Warris, 2000; Minka and Ayo, 2009). It exerts deleterious effects on health, well-being, behavior, performance and production quality (Geverink et al., 1998). The NGOs have focused on humane handling and restraint of donkeys through training donkey owners on the use of halters made from sisal ropes, avoiding the use of nylon ropes, proper control of the donkeys when working by avoiding excessive whipping, proper loading and offering time for resting the donkeys. Although there has been some changes noted in the handling, some poor management continues to be seen through the presence of wounds associated with the use of nylon ropes, skin lesions due to excessive whipping and abnormal aggressing in some donkeys due to harsh treatment. Working donkeys don't usually show aggressive behaviour towards people (Burn et al., 2010). The reason attributed to persistence of the poor management practices is the slow adoption of acquired knowledge and skills (Mahon et al., 2021; Whay et al., 2012), hampered by the owner's 'perception' on welfare as greatly affects how they treat their donkeys (Yumba, 2019). There was also an observed high turnover of donkey owners and users; such that those who had been trained had ventured into other income generating activities, leaving people who were not previously untrained to work with donkeys. As such trainings were highly recommended to continue (Grace et al., 2008). During the trainings the donkey owners should be persuaded that by taking care of their donkeys better, it will not only benefit the donkeys but also themselves; a healthy donkey is a more hardworking donkey (Björkengren, 2016).

Improper harnessing, overloading and overworking are identified as common animal welfare problems affecting donkeys (Kumar et al., 2014). Improper harness and saddles are associated with discomfort, external lesions and fatigue on donkeys (Biffa & Woldemeskel, 2006; Pearson et al., 2003).

Feeding and watering is an important aspect in the husbandry of donkeys. It requires knowledge of the feeding behaviour and nutrient requirements of animals for specific production functions, for instance work (Aganga et al., 2000). Donkeys are commonly fed with poor-quality feed. They suffer chronic under-nutrition conditions especially during the dry season which coincides with the time of agricultural and work operations that require most of the work production from the donkeys (Khan et al., 2015). Greater ability to tolerate thirst, lower water needs compared to other livestock, re-hydrate rapidly and maintain appetite may give donkeys a survival advantage during times of drought over less thirst-tolerant animals (Smith and Pearson, 2005, Aganga et al., 2000). In nature, donkeys are able to adapt to grazing for long periods of time, and forages are the basis of their diet (Smith and burden, 2013). They maintain a low level intake of dry matter relative to their body size. This level of intake is relatively independent of diet quality (Smith and Pearson, 2005). Proper feeding of donkeys enables them to resist better to disease, have a higher rate of reproduction to provide replacement animals and live longer (Ayo et al., 2012).. During feeds and feeding trainings by the NGOs, the practices which were emphasized to the

donkey owners included appropriate nutrition, fodder preservation, as well as watering the donkeys (kendat.org).

The evaluation of the good feeding welfare principle remains multi-faceted and complex (Raspa et al., 2019). Various efforts have been directed towards proper loading. For example, it is recommended that a donkey should not carry more than one third of its body weight by pack, approximately between 40-80 kg, (Pearson et al., 2003), however most donkeys carry weights exceeding these limits. Additionally, it is recommended that donkeys be worked during the cooler parts of the day and also be provided shaded rest during the day when the temperature is high (Duncanson, 2010). However, it is common to find donkeys working throughout the day when their demand is high. It is therefore apparent that some recommendations aimed at improving welfare of donkeys do not actually reach to donkey owners or are not implemented (Björkengren, 2016). There should be a system of unpacking research information to the consumers. This may be done through feedback workshops or through public awareness forums. Indeed, Blokhuis et al., (2010) emphasized that feedback along with practical advice and alternative strategies can help the farmer to improve the animal welfare through informed decisions.

Donkeys are provided a form of enclosure at night which may be inside a fence or in some form of shed, sometimes together with cattle (Björkengren, 2016). Some donkeys are also tethered within the homestead without being enclosed. The enclosures often lack shade leaving them to be exposed to hot sun or rain. Donkey housing continues to receive less attention, and they are kept in an open backyard (Hassen et al., 2022). The limited rescue centers in Kenya do not allow for rehabilitating abandoned donkeys.

Legislation

There are over 25 laws governing the animal resource subsector in Kenya. All these many laws are old, outdated, fragmented and difficult to implement and enforce animal welfare standards. The Prevention from Cruelty to Animals Act CAP 360 (Amended, 2012) despite being one of the most comprehensive animal welfare legislations in Kenya, is equally outdated and not fully compliant with the WOAH animal welfare standards, some of which were adopted as recent as 2016 (welfare of working equids) KNAWS, (2017). The prevention of cruelty to animal act-CAP 360 also failed to mention donkey specifically, but the horse was always mentioned (Laws of Kenya, 2012). Other legislation in Kenya animal which are concerned with welfare include the National Livestock Policy (2008), the Wildlife Management and Welfare Policy (2015) and the Draft Veterinary Policy (2015). Although working equids technically fall under the definition of livestock, they are often not considered as such by policy makers probably because they are not food producing animals. Further, there exists policy and legislation gaps that have been identified in animal welfare; which include weak institutional frameworks for implementation of animal welfare, particularly following devolution of veterinary services, animal husbandry and animal welfare services to the county governments, the lack of formally appointed government structure for providing animal welfare governance at national and county levels. There is

inadequate coordination, collaboration and partnerships for animal welfare. Although two laws (Prevention of Cruelty to Animals Act CAP 360 and VSVP Act CAP 366 mandate the Ministers to develop animal welfare regulation, there is no explanation for the fact lack of animal welfare regulations in Kenya. Subsequently, there are no animal welfare standards, guidelines or codes of practice to guide programs and through priorities. This confirms a weak policy and legislative framework for animal welfare in the country that requires strategic intervention. Lack of animal welfare legislation was also a constraint in improving the welfare of working donkeys in Ethiopia (Björkengren, 2016). It is expected that continued advocacy, animal welfare legislation will be changed and the working environment for donkeys will be better.

Advocacy

NGOs have significantly contributed to advancing animal welfare programmes through advocacy, awareness and communication campaigns (KNAW, 2017). Animal advocacy is the pursuit for the humane treatment of animals and the prevention of their suffering (Waters, 2015). Advocacy is a strong focus point for organizations to influence policy and governmental decision making (Haddy et al., 2022). In advocacy, collaborations are made among varied stakeholders with a common interest in donkey health and welfare such as regional and international NGOs including the KALRO, animal welfare organizations, AU-IBAR, World Organization for Animal Health (WOAH), the World Bank, the United Nation (UN), the Food and Agriculture Organization of the United Nations (FAO) and the European Union. For example, at an advocacy campaign held in the year 2022 themed "Donkeys in Africa: Now and in the Future", stakeholders who were drawn from the regional and international bodies involved in animal welfare agreed to safeguard the donkey which is threatened by overexploitation in the skin trade (panafricandonkeyconference.org).

The World Organization for Animal Health (WOAH, founded as OIE) develops communication programmes to provide governments, the agri-food sector, veterinarians and other professionals, including farmers, with accurate, accessible and up-to-date information on animal welfare. It also works with governments, international and regional organizations, and the private sector to promote its animal welfare standards and makes information available to the general public to raise awareness and promote progress on animal welfare issues (woah.org). Communication of animal welfare information in Kenya is currently not well coordinated in the country (fao.org). The collaborative pooling of experience across different NGOs could help make welfare communication more effective and provide a framework for NGOs in other fields to learn from each other's collective knowledge (Haddy et al., 2022). Communication of research finding is often unavailable or inaccessible to farmers such as donkey owners (Kimeu, 2014). Communication methods for animal welfare content have largely been through the use of print and electronic media, including radio, television programmes and newsletters, magazines, newspapers and social media (email, face-book, twitter and whatsapp) depending on the age and social categories of society.

In Kenya, the donkey was gazetted as a food animal in the year 1999 (GoK, 1999) with the aim of curbing backyard slaughter, improving food safety. Donkey slaughter was then legalized in

Kenya in 2012. This led to the establishment of four export donkey slaughterhouses. Since the donkey population in Kenya and the abattoirs were slaughtering very many donkeys a day, much more than naturally the donkeys can replenish, unsclurpulous businessmen turned to donkey theft, of slaughtering of underage donkeys, of cross-border smuggling of donkeys. This threatened the communities whose livelihoods are dependent on donkeys. Indeed, the Kenya National Bureau of Statistics (2019) indicated a decrease in donkey population over a 10 years period, from 1.8 million donkeys in 2009 to 1.17 million in 2019. There was then advocacy by donkey owners and animal welfare organizations petitioning the state to ban donkey slaughter (Maichomo et al., 2019). The government the instituted a ban of donkey trade and slaughter in Kenya in April, 2020 through The Legal Notice 63 of 2020 published in the Kenya Gazette of 20th April, 2020. (http://kenyalaw.org/caselaw/cases/view/213022). However, the owners of the four donkey slaughterhouses in Kenya appealed this ban stating that it was a violation of the rights of the proprietors of the abattoirs. Kenya's High Court lifted a ban on the slaughter of donkeys for both meat and hide for medicine in the Asian market in March 2021.

Discussion

The welfare of donkeys is crucially important not only for the health and survival of those animals, but also for the livelihoods of those people dependent on them (Mekuria et al., 2013). Prioritization of animal welfare issues can help identify which areas most require research funding and raise awareness of best practices (Rioja-Lang et al., 2020). An understanding of the contribution of donkeys to households, local and national economy may help to mainstream donkeys with other livestock. Stakeholders responded differently with donkeys when compared to other animal species (Mahon et al., 2020). The generation of a farm action plan and subsequent implementation of identified action points can be seen as key process stages towards the target of reducing health and welfare challenges. The process requires the appreciation of the varied income benefits of owning donkeys and keeping them healthy and in a good state of welfare (Maggs et al., 2021). Donkey owners need support in starting and sustaining this process. It is important to note that the process of introducing changes to management practices, strategies and routine behaviours is not easy (Whay et al., 2012). There needs to be a paradigm shift in addressing health and welfare challenges. Importantly, the recognition that management of donkey health welfare requires a multidisciplinary approach. For example, social sciences are increasingly being integrated to help resolve contemporary crises. A paradigm of 'behavioural change is providing apparent solutions to animal health policies (Enticott et al., 2011). This could prove beneficial for animal health and vets: it may lead to more effective design of knowledge transfer mechanisms, for example, to help improve animal health (Enticott, 2008)

There are limited studies documenting intervention strategies to address donkey health and welfare in Kenya; and the impacts thereof. Majority of the evaluation studies were drawn from other developing countries such as Ethiopia, Ghana, Botswana, Pakistan and Somalia, due to limited work on working donkeys in Kenya. These countries are largely comparable in terms of the context of working donkeys.

It would be more valuable to assess the specific issues affecting donkeys according to the different production areas as the issues and the methods of addressing them could be diverse Geiger et al., (2020). A study conducted in Ethiopia (Björkengren, 2016) revealed that; even though donkeys' requirements are similar everywhere, some differences in welfare are seen between those kept in the rural versus the peri-urban areas.

Both the health and welfare and hence the working ability of donkeys can be greatly improved with simple interventions, such as improvements in nutrition, water availability, proper harnessing, and/or balancing loads in carts or on packs (McLean et al., 2020). It is important to appreciate that most welfare problems and remedies were all mediated by human (Webster, 2011). The way humans manage their animals in different parts of the world is a synthesis of cultural norms, experience, learning, received wisdom and trial and error. It is also dependent on income and access to resources (Yumba, 2019). In this regard, addressing donkey welfare problems was about changing human behaviour. The interventions on donkey health and welfare is largely been affected by donkey owners' perceptions and myths concerning their care. The notion that donkeys were regarded as 'the beast of burden' resulted in them being overloaded and overworked; notwithstanding the fact that donkeys needed to rest so that they could be more productive/ efficient (Pearson et al, 1999). Other myths that 'donkeys do not get sick, and if they do, they die' which was probably derived from the fact that donkeys were regarded as sturdy animals, also prevented the owners from seeking early veterinary intervention for their sick donkeys.

Conclusion and recommendations

The success of donkey welfare interventions is hampered by constraints such as emerging theft of donkeys for slaughter due to the rising demand of donkeys to supply the slaughterhouses for their eventual export, low adoption and implementation of acquired knowledge and skills from sensitization trainings on animal welfare, as well as lack financial capability to provide donkeys with proper care. Therefore, long-term economic and financial gains from the use of donkeys should be established. Identification of suitable and relevant intervention strategies for working donkeys well-matched to the agro-ecologies and socio-economic needs of specific regions should also be developed. It is possible to improve the performance of donkey welfare by conducting continued sensitization and training their owners and users as a longer term activity. Effective knowledge-transfer methods and materials for adult learning for donkey owners should be designed and developed. There should be continued multi-disciplinary research conducted to improve donkeys' health and welfare. The findings of these research should be incorporated in extension material and disseminated in structured methods ensuring.

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