

Invisible Allies: Donkeys promote drought resilience in pastoralist communities but are excluded from policy

Emily Haddy^{a,*}, David Obiero Oduori^b, Tesfaheywet Z. Shiferaw^c, Julia Brown^d, Ilan Kelman^{e,f},
Leanne Proops^{a,*} 

^a Centre for Comparative and Evolutionary Psychology, School of Psychology, Sport and Health Sciences, University of Portsmouth, Portsmouth, UK

^b Department of Animal Health and Production, Maasai Mara University, Narok, Kenya

^c College of Veterinary Medicine, Haramaya University, Dire Dawa, Ethiopia

^d School of the Environment and Life Sciences, University of Portsmouth, Portsmouth, UK

^e Department of Risk and Disaster Reduction, Institute for Global Health, University College London, UK

^f UiT The Arctic University of Norway, Tromsø, Norway

ABSTRACT

Severe droughts in East Africa threaten pastoralist livelihoods, with donkeys providing vital but undervalued support in transporting water, food, and resources. This study examines policy and provision for working donkeys in Kenya and Ethiopia, countries severely affected by drought and heavily reliant on donkeys for community resilience. We narratively reviewed national and international documents relevant to donkey welfare, particularly during drought ($n = 77$), spanning animal health, agriculture, climate change, disaster risk management, and water. We found donkeys largely absent—only 17 policies referenced equids, mainly in economic rather than welfare terms. To explore ground realities, lived experience and barriers to successful provision of donkey welfare during drought, we conducted 41 semi-structured interviews with government officials, veterinarians, non-governmental organisation and pastoralist representatives. Stakeholders reported systemic exclusion of donkeys from veterinary curricula, health infrastructure, and drought relief efforts. Barriers to provision included the invisibility of their contributions, a lack of data on their economic value, and livestock models focused on production animals. Recommendations for future policy comprise the explicit inclusion of equids in policy definitions of livestock and corresponding inclusion in livestock and disaster risk management frameworks; ensuring eligibility for feed and veterinary support. Practical improvements could be made regarding welfare law enforcement, integrating donkeys into veterinary curricula, collecting data on their economic value and resilience contributions and prioritising drought preparedness initiatives. A One Health/Welfare approach linking human, animal, and environmental wellbeing, combined with coordinated and context-specific drought interventions, could strengthen community resilience, enhance animal welfare, and safeguard pastoralist livelihoods.

1. Introduction

Extreme weather disproportionately affects vulnerable communities including 60% of the 1.3 billion global poor dependent on livestock for their livelihoods (IPCC, 2023; Thornton et al. 2002). Drought is a complex, slow-onset phenomenon with multifaceted causes and far reaching impacts on the environment, society and economy (Wilhite, 2002; Wilhite and Glantz, 1985). The factors influencing drought impact are by nature interdisciplinary, with physical such as meteorological and ecological influences interacting with socioeconomic influences (Wilhite and Glantz, 1985). Droughts produce severe impacts where there is existing socioeconomic vulnerability (Wilhite, 2002; Wisner et al., 2004). Although historically receiving less research emphasis, factors such as development (or underdevelopment) and political and social history influence drought outcomes (Garcia and

Ellman, 1981; Glantz, 1976; Hewitt, 1983; Holloway, 2000). As such drought management efforts need to address context specific vulnerabilities in order to be sustainable (Wilhite, 2002). From 2020 to 2023, drought severely affected East Africa, particularly arid and semi-arid lands (ASALs), resulting in widespread crop failure, up to 70% livestock loss in some areas and increased conflict over dwindling resources. Resultant poverty and food insecurity were seen (Tedla et al. 2025; UNHCR, 2023), and an estimated 26 million people were threatened with food shortages (FAO and WFP, 2022).

Working donkeys are crucial to rural communities in low and middle-income countries (LMICs) worldwide, as such, there is an urgent need to examine their contributions to sustainable livelihoods and community resilience to extreme weather (Grace et al. 2022). In East Africa, pastoralist communities routinely use donkeys for transporting water, animal fodder, and belongings and donkeys are of significant

* Corresponding author. School of Psychology, Sport and Health Sciences, King Henry Building, King Henry 1 Street, Portsmouth, PO1 2DY, UK.

E-mail address: leanne.proops@port.ac.uk (L. Proops).

<https://doi.org/10.1016/j.jrurstud.2026.104414>

Received 15 December 2025; Received in revised form 24 July 2026; Accepted 11 September 2026

0743-0167/© 2026 The Authors. Published by Elsevier Ltd. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>).

cultural importance. However, during drought, their role becomes even more vital. When water sources close to home dry up, donkeys trek long distances to water, used to sustain people, crops and other animals (Onyango, 2022). They enable access to healthcare facilities, aid distribution centres and markets, provide traction for agriculture, carry animal feed to weakened livestock and, in extreme cases, support migration (Oduori et al., 2026; Kelman et al., 2025). Work with donkeys can provide a direct source of income and support livelihood diversification, reducing vulnerability to future drought and increasing community resilience (Geiger et al. 2020).

A country's management of drought (including preparedness and resilience building) is governed by its policies and protocols. During drought, emergency responses including food, water and healthcare provision, water infrastructure improvement, cash transfers, community capacity building, animal feed provision and veterinary treatment, are often undertaken by governments and NGOs to preserve human and animal lives (Skoufias, 2003; Thomas et al. 2020). Despite their importance in resilience, donkeys are rarely acknowledged in development initiatives, agricultural policies, emergency aid initiatives and drought response programmes, which tend to focus on food production animals (Clancy et al. 2021; Grace et al. 2022). This results in poor outcomes for donkey health and donkey-reliant communities. With increasing global temperatures, ASALs are projected to expand, adding more pressure to fragile environments and agricultural systems and further increasing future drought likelihood (IPCC, 2023). Therefore, the contribution of donkeys in helping communities adapt to these changing conditions needs urgent recognition. Identification of their

importance to drought resilience in policy is vital to enacting changes that will support the adaptation of ASAL communities at ground level.

This paper investigates the extent to which working donkeys are considered in national and international policy and practice, focusing on Kenya and Ethiopia—countries with recent droughts and high donkey populations (10.8 million and 1.2 million respectively (Food and Agriculture Organization of the United Nations, 2024; KNBS, 2019); Fig. 1). Through analysis of 77 documents and 41 key informant interviews, we highlight current gaps in policy, ground realities in practice, and formulate recommendations to improve support for donkey-reliant ASAL communities. The paper first presents both methodologies used, followed by policy analysis results and discussion, moves on to key informant interview results and discussion and concludes with a general discussion and recommendations.

2. Methods

Two complementary methodologies were employed: (1) a policy analysis examining documents across relevant domains (animal health, agriculture, climate change, disaster risk management, and water); and (2) semi-structured interviews with key stakeholders in Kenya and Ethiopia.

2.1. Policy analysis methodology

2.1.1. Policy analysis objectives

To evaluate the extent to which the policy environment in Kenya and

Donkey Population Across Africa

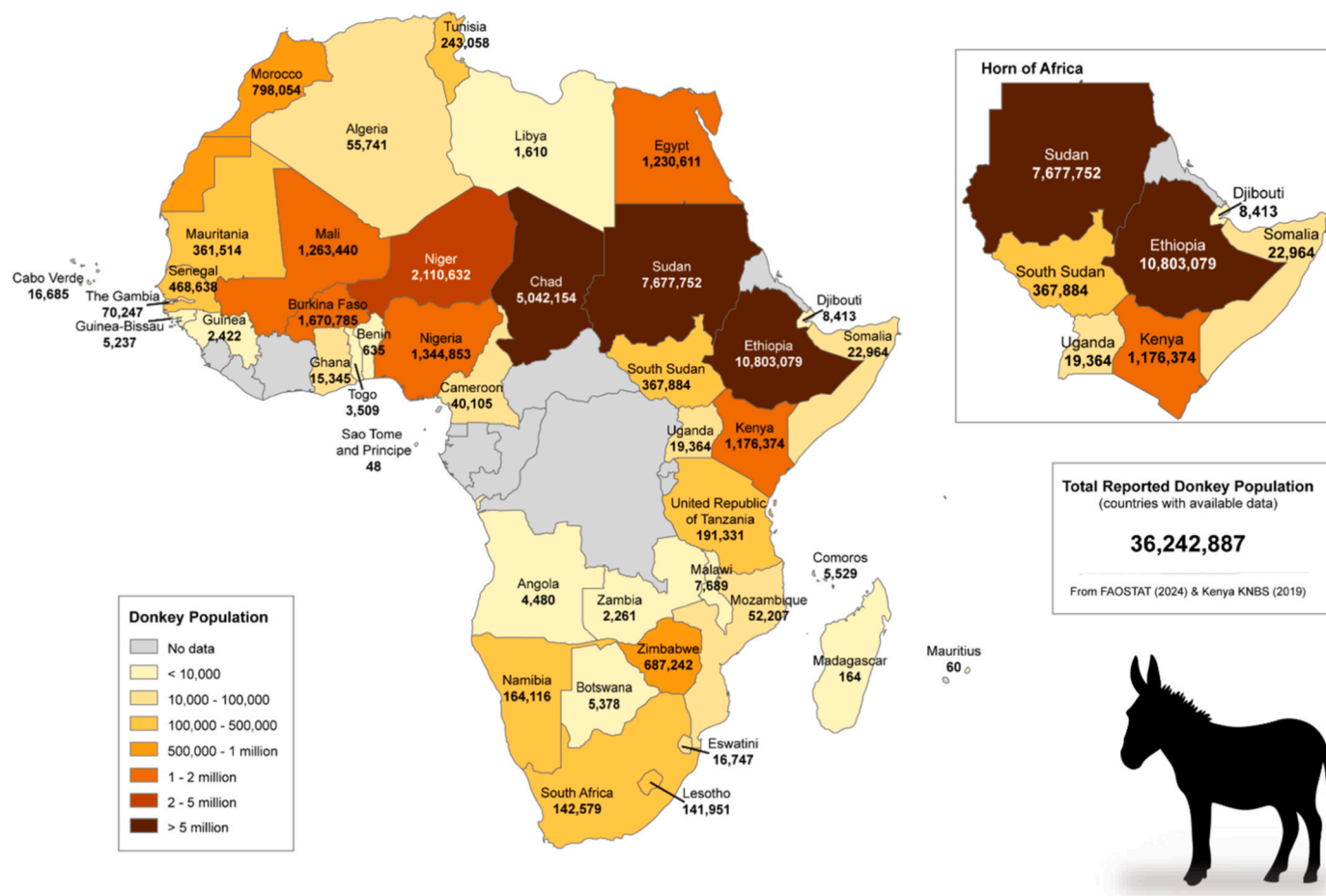


Fig. 1. Reported donkey populations across Africa including our target countries of Ethiopia and Kenya.

Ethiopia adequately supports donkey welfare and equid-reliant communities during drought.

2.1.2. Literature search

A literature search was used to identify national and regional policies, laws and guidelines that may influence the treatment of working donkeys and their owners as they face the challenges of drought. The following policy areas were identified as potentially relevant: animal welfare and/or health, agriculture, climate change, disaster risk management (DRM) and water management. Inclusion criteria for all retrieved documents were: that the document was specific to Kenya or Ethiopia, fell within the preceding policy areas listed and was publicly available in English.

The FAOLEX database was used as the primary repository searched. It is an 'up-to-date legislative and policy database, one of the world's largest online repositories of national laws, regulations and policies on food, agriculture and natural resources management' (Food and Agriculture Organization of the United Nations, 2025). Animal welfare was a key element of the research question and documents searched revealed references to other documents fitting the inclusion criteria that weren't included in the original databases, therefore an additional Google search was conducted with the following terms: animal welfare policy, animal welfare legislation and animal welfare proclamation alongside the country name (separately for both countries). Documents were also sourced from websites of the following organisations and government ministries, identified as having a potential role in animal welfare or drought response:

Kenya - Ministry of Agriculture and Livestock Development, Ministry of Environment and Forestry, Ministry of Water and Sanitation, Ministry of East African Community (EAC), the ASALs and Regional Development, The National Drought Management Authority.

Ethiopia - Ministry of Water and Energy, Ministry of Irrigation and Lowlands, Ministry of Agriculture, National Disaster Risk Management Commission.

A process of citation tracking was employed, where references within initially identified documents were used to locate further relevant documents.

2.1.3. Information extraction

Each identified document was examined in depth by one reviewer and the following details recorded in a spreadsheet: country of origin, whether the document was national or regional, date of issue (between 1964 and 2025), document type (law, policy etc.), policy domain (if DRM, which DRM phase was also noted), species specificity (all animals, livestock, other equids, captive animals etc.), whether donkeys are explicitly mentioned, source of document. Based on data emerging from concurrent participant interviews, we also recorded the following information: whether the term "livestock" was defined, which species of animal are detailed and in what capacity are they referred to (for example whether they were mentioned in relation to disease control, welfare or the country's economy), and whether provision is made for animals in DRM (where relevant). Once this second stage was complete, the extracted information was reviewed and summaries relevant to our research objective are presented as subheadings in the discussion. The process from document sourcing to analysis was conducted between January and May 2025. See Appendix A and OSF Project: Policy Analysis section (<https://osf.io/hw96k>) for a full list of documents included.

2.2. Key informant interview methodology

2.2.1. Interview objectives

To explore participant experiences regarding: a) the role of donkeys in promoting drought resilience, b) knowledge of donkey inclusion in relevant policies, c) the extent of support provided "on the ground" to equid-reliant communities during drought and d) whether additional evidence is needed to inform the inclusion of equids in livestock and

drought-related policy. This study focuses on the responses of participants to themes b-d. See Appendix B and OSF Project: Policy Analysis section (<https://osf.io/hw96k>) for the interview schedule.

2.2.2. Participants

A total of 41 semi-structured interviews were carried out with participants based in Kenya and Ethiopia who were members of four target groups: 1) national government officials and regional officials in ASALs (N = 5 Ethiopia; N = 4 Kenya); 2) vets based in ASALs (N = 8 Ethiopia; N = 4 Kenya); 3) pastoralist representatives in ASALs (N = 1 Ethiopia; N = 4 Kenya); and 4) NGO staff working in localised ASAL areas, or national/international organisations, with a humanitarian or animal welfare focus (N = 8 Ethiopia; N = 7 Kenya). This range of groups was felt to be representative of the different stakeholders involved with both donkeys and ASAL communities (from ground level to initiative conception and policy level) and was thus suitable for capturing the range of views that exist on the topics proposed. A list of potential participants to contact was compiled through combining the professional contact networks of the authors and snowball sampling through suggestions from this network.

2.2.3. Interview protocol

Interviews were conducted between October 2024 and February 2025 and were a mixture of online, phone and in-person formats. Interviews were conducted by three interviewers [blinded], who conducted briefing sessions to standardize their approach to the interviewing process. Six participants were female and 35 were male. All interviews took place in English although the option was offered to complete the interview in a local language if needed. Participants received a document detailing the study information and semi-structured interview themes before interviews were conducted, written consent was obtained and participants were able to withdraw within four weeks of the interview. Online interviews were pre-arranged and took place using Zoom or Google Meet video conferencing software, others were conducted in person or via phone. The [blinded] ethics committee reviewed and approved the study, approval from the Kenyan National Commission for Science, Technology and Innovation was granted, and permission was granted from the Somali Region Animal Health Directorate in Ethiopia.

2.2.4. Interview analysis

All interviews were recorded, and audio files were transcribed using Otter.ai or TurboScribe.ai. Interviews lasted for an average of 34 min (range 14-78 min). Anonymised transcripts were checked against each recording and edited to correct for transcription errors; this process also acted as the familiarisation stage of analysis. The interview data were subjected to thematic analysis, undertaken according to the phases of Braun and Clarke (2006) to identify the common themes occurring across both different topics and different participant target groups. In cases where challenges arose from switching to the use of the local language, the interpretation of words or statements was clarified by consulting team members familiar with the local language. [blinded] reviewed all transcripts and generated initial top-line codes manually to highlight different subjects discussed and within them common concepts that appeared repeatedly across transcripts. Based on these concepts, a list of potential themes was compiled and examined by other authors who reviewed (and merged or separated) themes until a consensus was reached. Transcripts were re-visited to check for concepts that emerged later in the process. Representative participant quotes that illustrated the points made within each theme were collected and presented within the narrative. The four main themes (and their subthemes) are presented as headings in the Results and Discussion section.

3. Policy analysis

3.1. Results

The total number of documents identified as relevant per country was: Ethiopia 26, Kenya 51. These documents were dated between 1964 and 2025 and were classified based on the definitions within the documents themselves as: laws, policies, frameworks, strategies, action plans, regulations and reports. These covered five subject areas (Table 1). If a document included more than one subject area, it was categorised by its primary area. Considerably fewer Ethiopian documents were found, this is likely due to many official documents being in Amharic and unavailable publicly in English.

Of the twenty-six Ethiopian documents, twenty refer to livestock, but only three refer to equids. Of the fifty-one Kenyan documents, forty-five refer to livestock, but only fourteen refer to equids.

3.2. Discussion

Equid inclusion in policy was generally poor, with only seventeen of the seventy-seven total identified documents referencing any equid species. In those policies that referred to equids, production animals remained the focus and in many cases equids were only mentioned once within a list defining the species included in the policy yet were absent from the body of the policy. No documents included a link between donkeys and their role in drought, despite camels being mentioned in this capacity. A strong economic and utility perspective was clear in policy from both countries concerning animals with product value chains, export and Gross Domestic Product (GDP) being driving factors. Further analysis of reasons for donkey exclusion follows in section 2. Suggested provisions for animals in DRM often focussed on owners and livelihoods rather than animal welfare, and no donkey-specific provisions were identified.

3.2.1. Livestock terminology

Many documents used the term 'livestock' but didn't define which species were included in this definition (19/20 Ethiopian and 29/45 Kenyan documents). These documents most often referred to cattle, sheep and goats, rarely equids, especially donkeys. When donkeys were mentioned, they were often not integrated with conventional livestock but referred to as 'working animals', 'emerging livestock' or 'within the animal resource base'. Therefore, we assume that 'livestock' policies do not include donkeys unless explicitly mentioned, an assumption reinforced during Key Informant Interviews. For those policies that did define livestock, definitions were inconsistent, ranging from a list of specific species to 'domesticated or animals kept on the farm'.

3.2.2. Animals as commodities in policy

References to animals in policy were heavily use-based, here termed instrumental. These references positioned animals most often in terms of their role in the livestock/production industries (particularly meat and dairy) and the economic value of those industries to the country's GDP. Many policies identified goals based on increasing livestock productivity, efficiency of value chains and promoting private sector investment.

Table 1

Policy documents categorised by subject area and country. Those referring to working equids are in brackets. For details of individual documents and the context in which livestock are discussed, see [appendix A](#).

Subject Area	Ethiopia	Kenya
Animal Health/Welfare	8 (2)	17 (9)
Disaster Risk Management	2	9
Agriculture	6	14 (5)
Climate Change	8 (1)	8
Water Management	2	3

For example, the development programme Kenya Vision 2030 ([Ministry of State for Development of Northern Kenya and other Arid Lands, 2012](#)) has identified agriculture as one of the key sectors to deliver the 10 percent annual economic growth rate envisaged under its 'economic pillar'. Similarly, documents often mentioned the role of animals as being a source of livelihoods for people; in Kenya this was particularly associated with ASAL regions. Instrumental language was often used to refer to animals such as 'assets' or 'animal resource base'. Even within animal health documents, animal welfare was rarely mentioned, instead, the focus remained on the economic importance of livestock. For example, in the recent Kenyan Livestock Bill ([Kenyan Ministry of Agriculture and Livestock Development, 2024](#)), animal welfare was mentioned only once, whereas livestock value chains and marketing were frequently discussed. Even in animal health documents, for example, the Animal Health Strategy and Vision for Ethiopia ([International Livestock Research Institute and Ministry of Agriculture, 2013](#)), good livestock health is discussed primarily in terms of the economic gain for the livestock sector and where welfare is considered, it is in the context of increased productivity. Reports highlight a lack of operationalisation of welfare principles and focus on welfare in the animal production industry ([IGAD, 2017](#); [International Livestock Research Institute and Ministry of Agriculture, 2013](#)).

3.2.3. Provision for animals in DRM

Considering the focus of this research on the role of donkeys in drought, we specifically examined any stated provisions for animals in DRM. Limited provisions were identified regarding animals, some focussed solely on animal owners rather than the animals themselves, for example, livestock insurance schemes. No donkey-specific provisions for DRM were seen in the identified documents of either country, although they may benefit from some measures, such as increased pasture availability, even if this is targeted at cattle. Country-specific provisions included:

Kenya: Destocking/livestock offtake programmes, livestock insurance schemes enabling pastoralists to claim back money after the death of livestock in disasters, improvements in livestock marketing, early warning systems, emergency funding, increasing private sector investment in livestock and improving meat, milk and hide value chains. Emphasis was also put on breeding programmes to increase selection for more drought-resistant animal breeds. Proposed preventative measures identified that are beneficial to livestock included establishing emergency feed reserves and feed production programmes, pasture conservation, vaccination programmes, health surveillance for disease control, increasing staffing for extension and animal health services, improving veterinary facilities, rehabilitation of rangeland, improving watering access and support for water harvesting.

Ethiopia: Restocking of animals post-disaster, early warning systems, genetic improvement of livestock species to increase drought and disease tolerance, improving livestock marketing facilities and value chains, and grazing restrictions in some areas. Proposed preventative measures identified that are beneficial to livestock included improving water supplies and rehabilitating water sources, improving animal health infrastructure, improving pasture and rangeland management, establishing drought reserves of feed and forage, protecting core breeding animals through livestock feed supplementation and emergency animal health interventions.

3.2.4. Animal welfare policy

Kenya: Although the Prevention of Cruelty to Animals Chapter 360 is the main law protecting animal welfare, 8 laws were found governing areas that feed into animal welfare (such as disease control and branding). These are fragmented, and their jurisdiction falls under multiple government and county government departments resulting in practical difficulties implementing animal welfare standards ([IGAD, 2017](#)). Many current laws are outdated; some were originally written in the 1960s and have been amended slightly in the years since, but are still not fit for

purpose in the current environment (World Organisation for Animal Health, 2015).

A new Livestock Bill was introduced in 2024 (Kenyan Ministry of Agriculture and Livestock Development, 2024). Livestock is defined in the bill and includes draught animals, which are described as “an animal used to draw a load and includes a camel, donkey, horse, mule or ox”. Animal welfare does not feature heavily in the bill, with only two mentions: once being development of the livestock sector through objective (r) ‘protection of animals and their welfare’, the other being a section on county government animal control and welfare regarding the licensing of dogs and provision of facilities for the accommodation, care and burial of animals. The main foci of the bill are disease eradication, livestock sector productivity, value chains and marketing. However, the bill does describe the need for measures to deal with disasters in the livestock sector, setting out the expectation that county governments in collaboration with national government will ‘put in place emergency measures to mitigate disasters affecting livestock’. Although guidance on how this is to be achieved is not detailed in the bill, both emergency preparedness and disaster mitigation are mentioned, suggesting both pre-emptive DRM and disaster response elements. It is also noted that an ‘Animal Welfare and Protection Bill’ has been under deliberation since 2019 but has not yet been ratified.

Ethiopia: There were 4 laws found governing areas that impact animal welfare such as disease control and live animal marketing, however in Ethiopia's criminal code it is only an offence to commit acts of cruelty to an animal in a publicly observable place. A report on the animal health subsector determined that “existing laws are obsolete and fail to comply with current scientific developments and international standards” (International Livestock Research Institute and Ministry of Agriculture, 2013).

However, a new animal health and welfare proclamation was established in 2025 which sets out the duty of an animal owner in providing suitable diet, water, shelter, veterinary care, handling and transportation (Federal Democratic Republic of Ethiopia, 2025). The proclamation also prohibits the cruel treatment of animals (including the overloading or overworking of any working animal). This represents a step big forward in comparison to previous legislation. However, there are no penalties described in this part of the legislation, whereas for other sections (such as movement of animals without a permit or failure to notify of a disease threat) fines are detailed and an enforcement structure provided. The welfare section states that the details on animal welfare will be provided by a regulation but no timescale is given. It should also be noted that, without associated governmental support and infrastructure, placing the duty of care primarily on donkey owners and fining individuals who fail to maintain welfare standards, may leave some of the poorest and most marginalised communities at a further disadvantage, particularly during prolonged droughts.

3.2.5. Comparison with international guidelines

Key international guidelines explicitly mention working equids or working animals. The Livestock Emergency Guidelines and Standards (LEGS) are a set of international guidelines and standards that aim to improve the quality and livelihood impact of livestock-related projects in humanitarian situations, including drought (LEGS: Livestock Emergency Guidelines and Standards, 2014). LEGS focuses on animals that contribute to people's livelihoods and, as such, includes working equids, highlighting their importance as pack animals for transportation of aid and basic necessities and their support of women in particular. The Sendai Framework for Disaster Risk Reduction (successor to the Hyogo Framework), although not explicitly referring to equids, acknowledges the importance of livestock and working animals to livelihoods and calls for their protection (United Nations, 2015). Other international guidelines that acknowledge working equids include the OIE Terrestrial Animal Health Code Chapter 7.12 (OIE, 2018), which details advice for management of equids during periods of feed shortage. The Essential Veterinary Medicines List provides guidance on drugs and

vaccines that should be available to treat food-producing animals worldwide and includes working equids as they are considered to play a critical role in food production value chains (World Veterinary Association, 2024). These international guidelines were poorly reflected in the national documents we analysed. Although the identified disaster risk management documents were published over a similar period (2012–2018) to international guidance such as the LEGS (LEGS: Livestock Emergency Guidelines and Standards, 2014), they failed to recognise the role of donkeys in drought resilience. Only one document explicitly referred to working animals, with no specific mention of donkeys.

3.2.6. Limitations

Although the search was time limited and so may not represent the full extent of literature available, we continued our search for some time after locating the final document, ensuring that the process was reasonably exhaustive. However, literature had to be publicly accessible online to be included and be available in English, this is likely to have particularly impacted the number of documents examined for Ethiopia as both Amharic and English are used for official documents, whereas in Kenya English is commonly used.

4. Key informant interviews

4.1. Results and Discussion

Within the key informant interviews, four main themes were identified with respect to policy: 4.1. Lack of donkey inclusion across multiple spheres, 4.2. Potential benefits of and barriers to including donkeys in policy, 4.3. Current drought initiatives and their efficacy, 4.4. Challenges to successful emergency drought provision. Sections 4.3 and 4.4 are not specific to the role of donkeys but examine drought related support provided to donkey reliant communities. Direct quotes are displayed with a pseudonymised participant number and country identifier: K for Kenya and E for Ethiopia. Additional relevant quotes are available in Appendix C and OSF Project: Policy Analysis section (<https://osf.io/hw96k>).

4.2. Lack of donkey inclusion across multiple spheres

An absence of provision for donkeys was notable across many aspects of regulation and service provision. This encompassed a lack of inclusion in policies, in disaster relief efforts, in the veterinary curriculum and in animal health infrastructure. The absence of donkeys in all types of policy documentation was a gap that participants frequently discussed in the context of both Ethiopia and Kenya, leaving donkey owning communities unsupported: “most of the policies, even the agricultural policy, you see, the mechanization policy, the climate resilience, all those, you don't find, actually, the equines being mentioned directly” (E28).

Donkeys are similarly absent from drought preparedness and drought relief initiatives, despite interventions for other livestock existing. If drought is forecast, animal-based preparedness plans are activated, including worming and vaccination initiatives, however, “the donkeys were generally left out. Nobody was thinking about them” (K11). At later drought stages in both Kenya and Ethiopia, supplementary feed rations for livestock are common, however donkeys are not accounted for, as provision is focused on livestock species with direct production value: “then when the fodder goes the priority is not for donkeys, not for mules, just for animals with salvage value. I mean those food animals, for example, sheep, goats, you know, cattle” (E14). One participant noted: “I've only worked in one program where donkeys were included as part of the intervention, and they were not given food. They were only given rabies vaccination. ... We counted all the other animals as part of the animals to get supplementary feeding” (K16). The ‘invisible’ role that donkeys play feeds into them being overlooked when it comes to the formulation of disaster relief initiatives. One participant described the scenario of a child

focussed relief scheme to provide milk. Despite donkeys playing a vital role in the milk production value chain, they were not taken into account: *“They see the human being first, and they see the cattle, the producer of the milk, and the consumer of the milk, the in-between connection they don't see”* (K16). Another factor highlighted was the metrics that are used to plan provisioning at the national level. Relevant authorities often rely on records of the species and number of animals that have died but donkey deaths are not systematically recorded. The role that donkeys play in supporting both humans and other livestock through drought rarely factors into the decision-making process.

Our veterinarian participants shared their experiences of receiving little (E2), or no training on donkeys (K1). This has led to practising veterinarians being under equipped to treat common donkey health problems and potentially utilising inappropriate treatments: *“We only learnt about few diseases of donkeys, a lot about horses ... We try to extrapolate what we know from the horse to the donkey, which is not always true”* (K16). It was suggested that the low priority of the donkey in community hierarchies may influence veterinary training (K16). The number of veterinarians that specialise in donkey treatment are few and tend to be found in urban areas such as Nairobi in Kenya (K34), which means that pastoralist communities often have no access to veterinary services and lose animals because they cannot be treated (E28). It should be noted here that veterinary respondents were older alumni and that integration of aspects of donkey medicine into the Kenyan veterinary curriculum has recently improved, however the impact of these developments at ground level may take time to be felt. Owners also called for more clinical services for donkeys to be available at local level. This is especially important during drought, when environmental conditions increase disease susceptibility.

The lack of policies and resources addressing donkey health was recognised as having direct consequences for animals on the ground, for example movement permits to prevent disease are not required for donkeys (K3), health inspection regulations are absent (K26) as are guidelines on ethical euthanasia (E28). This leads to lack of provision for donkey needs. Those local vets who treat donkeys have a lack of available donkey suitable drugs, particularly anaesthesia and pain relief (E28), with a lack of profitability suggested to be a driver of these issues: *“I don't think major companies are going to invest in medicine for donkeys. Who is going to buy? When the people cannot even feed the donkey”* (K16). Parallels were also seen in the feed industry: *“I don't even think there is any company in Kenya which makes feeds for donkeys. We always find feeds made for cattle and all those. But there's nothing completely for donkeys”* (K5). The lack of animal health infrastructure to keep donkeys healthy results in poor productivity and poor outcomes for donkey reliant households.

4.3. Barriers and benefits to including donkeys in drought and welfare policy

Including donkeys in animal welfare and DRM policy could yield major benefits, such as better recognition of their needs, access to funding, and investment in supportive infrastructure for donkey-reliant communities to survive droughts. However, participants noted key barriers: limited evidence of their economic contribution, the challenge of valuing their ‘invisible’ roles, and difficulties integrating working animals into systems designed for production species. They also stressed that policy recognition would only be meaningful if effectively enforced at ground level.

Participants felt that including equids in policy would increase knowledge of the species and allow for donkey-specific legislation on husbandry, health, and working practices. As one noted: *“They have no basics on how to feed a horse ... they subject it to the same feeding regime as a cow ... if they get to understand that working equids are significantly different ... that bit of background is always important”* (K3). Unlike cattle and sheep, whose needs are clearly set out, donkeys lack such recognition.

Including donkeys in policy could have wide-ranging effects across

systems guided by policy including governmental funding: *“funding in our country ... depends whether we have a policy or not. Since we don't have a policy related to donkeys, the government may not allocate fund to such activities”* (K1). Policy inclusion is also a prerequisite for humanitarian initiatives. Their absence from policy also hampers educational resource development: (E28). Inclusion in livestock policy could also improve access to resources such as food, water, veterinary care and vaccination programs (E25; K39), and potentially ease current restrictions on essential medicines: *“we can bring lots of antibiotics ... but strict control [exists] bringing pain medicines ... that will be solved ... if we include them in our policies”* (E28).

Participants hoped donkey-specific legislation would improve current vague laws that hinder enforcement in cases of animal cruelty. Existing Kenyan law was seen as lenient and ineffective: *“it's.. not taken seriously ... it exists, but the fine ... is not as punitive as we think we should be”* (K21), with calls for harsher penalties to raise the donkey's value (K7). In Ethiopia, until the 2025 proclamation, cruelty was only punishable in public, and even then rarely enforced: *“during market day ... beating donkey ... is not really an issue from policy perspective”* (E29). Participants stressed that policy inclusion would only matter if enforced (E10). While some respondents expressed optimism that *“people will wake up”* (K11) if animal welfare laws are enforced, some doubted that enforcement was likely: *“we produce policies, just put them on the shelf”* (E30), noting routine gaps between written policy and practice: *“there are policies that say all children should go to school. But ... do all children go to school? No”* (K36). Effective enforcement was thought to depend on properly training and resourcing those tasked with the role.

However, participants acknowledged major challenges to getting donkeys on government agendas, chiefly due to a lack of evidence of donkeys' economic importance and their low perceived value. In both Kenya and Ethiopia *“the priority for the government is for those animals which bring foreign currency directly, like sale of meat, sale of hide”* (E14). Thus, economic arguments were seen as most persuasive: *“what is the actual economic value of equines, give me numbers”* (E28). However, donkeys' ‘invisible’ services make quantification difficult, and they are largely absent from national economic reports, unlike production animals where outputs are easily measured.

4.4. Current drought initiatives and their efficacy

This, and the subsequent section of the paper focus on wider DRM and drought responses within ASAL communities, donkey specific content can be found in section 4.1. Drought is a complex phenomenon, with no widely accepted or universal definition; and it is argued that there cannot and should not be one (Glantz and Katz, 1977; Wilhite and Glantz, 1985). As a ‘creeping’ phenomenon the onset and end of a drought are often difficult to determine (Wilhite, 2002). However given the grounded approach that this study took, we have focused responses to drought into three operational phases: preparedness, response and recovery. We discuss the initiatives that participants had observed and felt were needed across these drought response phases to improve resilience, prosperity and animal welfare outcomes. Both Kenyan and Ethiopian interviewees noted that droughts are now far more frequent, reducing recovery time and trapping communities in chronic poverty: *“previously, it was like every 10 years ... it's become like every three years and in some areas, even two years”* (E6). Without careful and holistic planning, the increased frequency of droughts can undermine long-term resilience. Many stressed that focusing only on aid during severe drought leaves people unprepared: *“the drought is recurrent ... it might not be totally prevented, but people can be empowered to resist or be resilient”* (E14). As a result, participants agreed that greater emphasis on preparedness could reduce the worst impacts of drought. While both government and NGOs are shifting from reactive aid to preparedness, most noted that sustained support across all drought phases is essential, as focusing on only one phase leaves communities vulnerable: *“the best approach is to have programs that carry on both during drought and also after drought ... because by*

doing that, there is that continuity" (K1).

Preparedness was seen as key, both administratively—"it's better to do a lot of policy processes earlier ... so that impact of drought can be minimized" (K39)—and in project delivery: "we would prefer initiating the support before drought is severe ... because at recovery stage we will already have had the damages" (K4). Without pastoralist community resilience, the resulting loss of animals drives irreversible environmental impacts and erosion of cultural practices, with people leaving the pastoral way of life completely (E29). Participants highlighted that some lessons were being learnt from past droughts and that investing early was more efficient: "investing \$1 in pre-disaster is better than investing \$100 after the disaster" (E41). Preparedness activities included mapping vulnerable areas, collecting meteorological data and providing a needs assessment alongside early warning systems with field monitors tracking crops, livestock, and nutrition (K10). Information was relayed through websites, bulletins, radio, and regular community outreach (K10). Efforts sometimes focused on farmers or pastoralists, who were encouraged to sell animals early: "so that [they] will not lose, like the other times ... almost 100%" (K26). Communities were also advised to stockpile resources, including storing affordable feed in advance before it becomes expensive (K5). Grazing management was another preparedness strategy (K39). Community preparedness in veterinary medicine is also necessary to avoid prices rising so high that no one can afford them due to limited supplies.

During the emergency response phase, initiatives centred on preserving life and meeting the basic needs of both humans and animals: "the most important priority is to quickly distribute emergency relief such as food and water, prevent loss of life" (E10). Aid for people included food, water, health services, cash, and clothing. "The community comes together" (E32), self-organising and, for example, selling small stock to hire water transport. Government support for pastoralists included facilitating migration and temporary access to protected areas. This support can also involve appropriate clothing for a change in environment: "because the pastoralists come from very hot zones, and come to Jijiga ... it's very cold ... so they give them jackets and sweaters" (E32). Animal-focused responses primarily involved feed distribution and destocking, particularly of cattle: "if we have information on ... carrying capacity ... we will be able to manage the stocking rate" (K4).

The recovery phase focused on restoring livelihoods and pre-drought productivity, for example, through seed, cash, or restocking. This stage was resource-intensive, yet rebuilding was seen as crucial to break the drought spiral: "we intervene on the emergency, but ... emphasis on the rebuilding ... can help win some of these areas out of these drought cycles" (K3). Participants also noted that support was often withdrawn too quickly: "when the first [rain] drop comes in, oh, now drought is over, so they start to dismantle their tents and leave [but] ... rain might bring in pasture in a week or two for animals, but not for humans. Human beings might not eat grass!" (E14).

4.5. Challenges to successful emergency drought provision

When asked whether current drought support initiatives in pastoralist areas were effective, it was apparent that, regardless of location, there were common issues impacting the ability of drought initiatives to maximally support communities. These included: broader bureaucratic and resource challenges, alongside challenges specific to pastoralist communities.

Although participants felt that there was a lot of knowledge on drought cycle management and policies are in place, some reported that bureaucratic challenges led to a lack of initiation of these policies on the ground (K16). Early warning data was sometimes ignored by the government until too late: "We have the early warning ... but they wait! They are competing with the vultures! They have the advantage for six months in trying to prevent the calamity ... they are coming at an emergency, when the vulture is sitting on the head of my donkey, and then they are also waiting when the children are emaciated, pregnant mothers, elderly people" (K38).

Drought support is only triggered once an official declaration is made, often leaving smaller, localised crises unaddressed despite many animals dying: "a drought is a drought when it's declared by the President ... if it's not declared, those supports are not there" (K1). National thresholds in Kenya and Ethiopia require multiple regions to be affected, by which point "we've lost almost all our resources" (E6). Political considerations are also thought to delay action: "the government actually delays drought response intentionally ... hoping that it can reach a level so that the international people can bring the money" (K5). Participants also highlighted flaws in early warning systems; meteorological forecasts were often unreliable and satellite imagery could also misrepresent ground realities, showing an area to be greener and in a better condition than the reality (E29). Once drought support is triggered, it is usually delivered by multiple government and NGO actors, but differing mandates often fragment responses, coordination across departments can be slow and bureaucratic, causing delays. Efforts to improve this included coordination platforms and steering groups used avoid duplication. Despite such systems, delays remain common: "a lot of time money comes towards the end of drought, when everything has died" (K16).

As pastoralists put it: "money comes with the vultures ... the support of government (also) comes with the vultures ... the day livestock is dead and vultures are coming to eat. It's the time government also comes with their pellets".

Participants also acknowledged the resource challenges that limit provision. Both governmental and NGO drought responses were constrained by limited funds. The perceived increased frequency of significant drought hampers NGO fundraising efforts: "I have fundraised for drought, and there's nothing more difficult than that. Why? you keep telling the donor the same thing" (K3). In Kenya, tensions arose over resource allocation, with calls for stronger support to county governments "which are near the community ... so they can implement their project effectively" (K37). Despite comprehensive planning, delivery often fell short and rations were diluted against guidelines: "there are clear guidelines on the amount of and frequency of feeding of livestock, for the amount of daily ration you give to each animal, and how long and how you feed it. These all are indicated in the guideline, but when you see the actual practice on the ground, it's totally different" (E30). Misappropriation further undermined aid — elites or officials often redirected resources: "before reaching the common minority, some things disappear in the middle" (K26). Access to veterinary drugs was also problematic: "it took us more than two months to buy ... by then the incident had already passed" (E28). Participants highlighted missed opportunities for proactive disease control: "one of our biggest problem is diseases ... we can do the vaccinations ahead of time. We can train the people now" (E28).

Participants also felt that the marginalisation of rural and pastoral communities impeded drought responses. Emergency assistance guidelines were seen as urban-centred and ill-suited to pastoral contexts, leaving rural areas disadvantaged across both study countries. Even within rural populations, a pervasive issue was that livestock initiatives were often deprioritised in favour of human aid. When initiated, the success of animal-focussed initiatives also lagged behind that of human-focussed initiatives: "it has improved crop production, and you find that most areas now are not relying on relief food ... [but] for the part of fodder production, very minimal has been done" (K34). The unique attributes of pastoralist communities in both countries can also complicate aid delivery. Many communities are nomadic: "pastoralists are moving from one place to another looking for water ... even finding them where they have moved to becomes a challenge" (K5). Limited infrastructure and staffing made outreach at scale in remote areas difficult: "we are few compared to the community that we serve, so the farmer-to-staff ratio needs to be adjusted" (K12). While centralising support would be logistically easier, it was noted this conflicts with pastoral culture (E15). Participants also highlighted mismatches between funded livelihood initiatives and pastoral needs. Tensions also arise between traditional and government systems: "there are significant ... traditional resource management systems ... like grazing management systems ... [but] not any policy processes that

support them” (K39). Poorly planned interventions risk unintended consequences and conflict, for example newly established water sites “need to be properly sited ... pasture within the zone of influence of a water point ... can easily be lost to any other person” (K39) so “there is a lot of conflict happening during that time because of grazing land and water, so the policy should consider that in avoiding conflict based on rangeland management” (E41). Greater community input and flexibility in the development of initiatives was suggested, with some organisations formulating support initiatives with significant community input. However, feedback after implementation was rarely sought: “you barely get anybody in government ... going back to ask communities—did this work?...so people or other governments will keep doing the same thing the same way, sometimes expecting different results ... but how do you do it better if you actually didn't go back to these people and ask, where did we go wrong?” (K3). Where community participatory plans were developed they were not always actioned, “the disconnect is still there” (K39).

4.5.1. Limitations

Snowballing from a combined professional contact network risks selection bias, although it allowed trust between interviewer and participant that led to open conversations. Fewer pastoralist representatives were identified in Ethiopia compared to Kenya; thus the opinions of this target group are likely underrepresented. Less than 15% of participants were female and as such female views are likely underrepresented, however this gender discrepancy is reflective of the current reality of gender ratios in the participant groups.

5. General discussion

Findings from both methodologies demonstrate that in Kenya and Ethiopia, the contributions of working equids, particularly donkeys, are overlooked at multiple levels. Their exclusion from policy has serious consequences for donkey-reliant communities, especially those affected by drought, whose resilience depends heavily on donkey productivity.

Many of the experiences described by our study participants are mirrored elsewhere in the world. Despite reliance on equids by an estimated 600 million people as a source of income (Sommerville et al. 2018) it is still true that donkey contributions to human livelihoods have been largely unexplored (Geiger et al. 2020). The difficulties in quantifying their (often indirect) contributions economically also represents a wider problem for working equids in terms of policy inclusion where they remain overlooked in favour of other livestock species (Grace et al. 2022; Pritchard, 2010). Similar situations have been reported in terms of animal health infrastructure and interventions across LMICs with limited veterinary provisions prioritised for production animals (Bonsi et al. 2023). Equids are commonly absent from veterinary curricula (Grace et al. 2022), 50% of veterinarians working for equid welfare NGO Brooke across 13 countries had received little to no equine veterinary education prior to joining the organisation (Hirson et al. 2014). Lack of accurate country level information on working equid populations is globally widespread and can hamper equid welfare and disease control efforts (Norris et al. 2021). For working equids to be recognised in DRM policy and humanitarian programming, evidence of their importance in supporting community resilience in LMICs will be required, a task that will fall to researchers and practitioners (Clancy et al. 2021).

The findings from participants on drought provision are consistent with wider development literature. Hierarchies within emergency response organisations can result in informal reports from those on the ground being ignored until it is too late (Devereux, 2009). Evaluations of drought programmes highlight the importance of acting on early warning data (Thomas et al. 2020), tailoring responses to each incident (Gautam, 2006), and prioritising risk reduction over reactive coping, which improves welfare and poverty outcomes (Skoufias, 2003) and can be more cost-effective for DRM (Rose et al. 2007; USAID, 2018). A holistic approach to emergency management is increasingly recognised as essential, incorporating human wellbeing, animal welfare, and the

environment (Squance et al. 2021). Environmental degradation—including deforestation, overgrazing, and erosion—is strongly associated with drought vulnerability, underscoring the need for environmental protection as a form of mitigation (Gautam, 2006). At household level, informal coping strategies such as selling draught animals may provide short-term relief but undermine long-term economic growth (Skoufias, 2003).

With recurrent droughts predicted to intensify in future (IPCC, 2023), resilience building is a priority. An integrated, holistic approach at both policy and programme levels will be essential to enable adaptation to increasingly arid environments and ensure drought responses are effective. Including donkeys in policy and emergency drought strategies can strengthen resilience to long-term climate change while also improving responsiveness to immediate crises, both within Africa and beyond.

5.1. Recommendations and future directions

At the **policy** level we suggest that definitions of livestock are amended to explicitly include donkeys and other working equids as part of policy reform. This will place them on an equal footing with other species, securing provision for them in livestock initiatives such as health surveillance and welfare guidelines. We recommend that animal welfare policies include clear and enforceable mechanisms in order to maximise the translation of top-level policy into actions effective on the ground. Recognising the roles of donkeys and other working equids within DRM policy is also critical. Reflective of their pivotal role in sustaining communities and supporting both humans and other livestock for DRM they need to be included in drought provisions such as veterinary initiatives and establishment of donkey fodder reserves for emergency use.

In terms of **animal health** we recommend that donkey-specific modules are added to veterinary curricula and that community husbandry programmes are run alongside the training of veterinarians and para-vets already working in communities to improve donkey specific competencies. In terms of research, we recommend that data is collected to quantify donkeys' contributions to community resilience and GDP, including recognition of their indirect roles, in order to facilitate a more accurate reflection of their economic value. Investigation of the impact of severe drought on donkey health should also be a research priority. We recommend that donkeys are provided for within current animal health infrastructure, and are able to access essential equine veterinary medicines.

In terms of **drought management and emergency response** we suggest that a holistic One Health/Welfare approach is utilised which takes into account the linkages between environmental, human and animal wellbeing. Reflective of this interdisciplinarity we recommend coordinated drought responses employing effective inter-departmental and inter-organisational communication strategies. We recommend employing tailored drought responses that reflect local contexts including the challenges faced by pastoralist communities. We emphasise the need for drought preparedness alongside continuity of support in order to buffer the impacts of drought, build resilience, and help break poverty spirals. This includes advanced preparation of reserves of vaccines, veterinary drugs, and feed alongside timely action on early warning data.

6. Conclusion

Our results showed that donkeys are largely absent from relevant environmental, agricultural, disaster management and welfare policy, with only 17 of 77 documents directly referencing equids. Our key informant interviews support these findings, reporting systemic exclusion of donkeys from policy, veterinary services and drought interventions, despite their widely acknowledged and critical role in supporting pastoralist cultures (Oduori et al. 2026). Future research

should quantify the direct and indirect economic benefits of working donkeys to communities and evaluate the effectiveness of including donkeys in policy and drought interventions. By recognising the importance of donkeys as integral components of livestock systems and including them in policy and practice, governments and organisations have the opportunity to improve animal welfare and strengthen livelihoods and drought resilience for millions of people in East Africa and globally.

CRediT authorship contribution statement

Emily Haddy: Writing – original draft, Project administration, Methodology, Funding acquisition, Formal analysis, Data curation, Conceptualization. **David Obiero Oduori:** Writing – review & editing, Project administration, Methodology, Funding acquisition, Data curation. **Tesfaheywet Z. Shiferaw:** Writing – review & editing, Project administration, Methodology, Data curation. **Julia Brown:** Writing – review & editing, Methodology, Funding acquisition, Conceptualization. **Ilan Kelman:** Writing – review & editing, Methodology, Funding

acquisition, Conceptualization. **Leanne Proops:** Writing – review & editing, Supervision, Project administration, Methodology, Funding acquisition, Formal analysis, Data curation, Conceptualization.

Declaration of competing interests

The authors have no competing interests (financial or non-financial) to declare.

Acknowledgements

We would like to thank all of our participants for their valuable insights and for giving up their time to take part in this study. We would also like to thank Gemma Carder (Brooke) and Jo Hockenhull (The Donkey Sanctuary) for their insights, discussions and support for this project. This work was supported by a British Academy ODA Challenge-Oriented Research Grant [grant number IOCRG\100697] awarded to LP.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.jrurstud.2026.104414>.

Appendix B. Interview Schedule

Semi Structured Interview Themes

Working animals as agents of climate-related drought resilience in marginalised communities: Semi-structured Expert Interviews

**** Before the interview can formally begin, the PI will ask the interviewee to confirm they have read, understood and accept the participant information sheet and consent form – this verbal consent will be recorded. We will remind participants that they are able to withdraw from the interview at anytime up until the point of anonymisation ****

Themes:

1) Brief Work Profile

- Can you briefly describe your current role and how long you have worked within your organisation?

2) The role of donkeys in drought resilience

- Do you believe that donkeys play a role in helping communities to be more resilient to droughts?
- Can you talk me through how this happens and how you have experienced or witnessed this?
- Can donkeys play a role in preserving pastoralist cultures?
- Do you feel that the benefits of donkey ownership are different based on owner gender?

3) The current policy environment

- How much/little do local and national livestock policies include working equids (donkeys, horses and mules)?
- How much/little do local and national climate policies include working equids (donkeys, horses and mules)?
- What do you think the benefits of including working equids in these policies would be?
- What do you think the barriers or challenges of including working equids in these policies would be?
- What are the key current policies or protocols on drought assistance or support initiatives for communities in the case of drought?
- To what extent have these been put into action during the recent periods of drought?
- Do you feel that these have worked effectively or not and what are the reasons for this?

4) Policy and practice

- Do you feel that there are currently any gaps between what is written in policies and guidelines and what is put into place on the ground?
- If you could (for example with an unlimited budget), would you make any changes to policies or drought strategies and what would these be?
- Where do you think the priorities in provisioning should be throughout the drought cycle? (For example should more support be provided to communities when drought occurs initially or to help recover after a drought?)
- Do you feel that different types of support should be provided throughout the different stages of the drought cycle and what would these types of support be?

5) Further Information

- How could further evidence or research results on these topics be used?
- In what format would any evidence or research results be most useful to you?
- Is there anything else that you feel we should know?

Appendix C. Additional Quotes

4. Key Informant Interviews

4.1. Lack of donkey inclusion across multiple spheres

Policy

“currently, as it is, there's nothing at all for donkeys completely ... there is always that challenge in Kenya, that non-food animals almost miss out on all policies” (K5).

“those communities with donkeys, they are unsupported” (E15).

Disaster Relief Efforts

“it is common to find the government organizing mass deworming in sheep and goats, in cattle to make sure that they are able to go through the drought with the minimum feeding, with no worms.” (K11).

“I think in climate and drought ... every you know, emergency is related to very valuable animals. When you say very valuable animal it's cattle, especially the milk one, so the donkey has nothing from this” (E29).

“I think at the national level, when NDMA and other relevant authorities are working on this, I think the main question they usually ask themselves is how many animals and which species have died. So, when they list the animals that have died, then donkeys and camels are usually not there in the list” (K35).

“So, when they list the animals that have died, then donkeys and camels are usually not there in the list” (K35).

Veterinary Curriculum

“Those people who concentrate on donkeys, mostly in Kenya, they come from Nairobi, and you find that a farmer here has a problem, and he or she doesn't know where to solve the problem” (K34).

“Especially equine medicine is difficult to find in the pastoral areas ... they tend to lose a number of animals rather than focusing on treating” (E28).

Animal Health Infrastructure

“when the donkeys get sick or they need assistance, food or anything, they the owners just have problems really sourcing for it” (K5).

4.2. Barriers and benefits to including donkeys in drought and welfare policy

Increase knowledge and donkey-specific legislation

Unlike donkeys, “it is almost very clear how you treat them (cattle and sheep) before slaughter. How you water them” (K11)

Access to resources

“as long as it's not within the livestock policy setup, then it will never be considered even with mainstream donors” (K16).

“the reason that they failed was they were not passing through the government channel ... It should be a government agenda” (E28).

“livestock policy will improve access to resources such as food and water and veterinary care” (E25)

“major vaccination exercises will also consider donkeys” (K39)

Improved Enforcement

“we experience a lot of welfare issues ... the law is very vague because the policies are not yet done” (K26).

“Good policies and guidelines are of little use if they are not properly implemented on the ground” (E10).

“if ... owners know if you do this, you are breaking the government policy ... and can be punished ... people will wake up” (K11).

Limited Evidence of Donkeys' Economic Importance

“as soon as we show the economic benefits ... then it will start capturing the minds of the policy makers” (K35).

“we lack evidence how these equines are contributing into household economy and national GDP” (E6).

“they are doing everything, but no-one recognizes” (E14).

“in our national economic review reports ... hardly do you find the contribution of a donkey sighted anywhere” (K11).

“for dairy animals ... we're able to provide milk ... but for donkeys, how are we going to measure the impact?” (K16).

4.3. Current drought initiatives and their efficacy

Preparedness

“there is a lot of dropout from the pastoral system ... almost all of the animals get lost so there is a lot of burden on natural resource. Those drop out people ... need to cut trees for charcoal production or any petty trade” (E29).

“it will give you the coverage or the extent of what is needed ... in which community, in which area, and to what extent” (E15).

“keep the meat in dry form ... keep [water] for drought times” (E27).

“we purchased it ... but the price goes up because it was not available. Those kind of preparedness should be there” (E28).

Response

“sometimes in the case of drought, [what is] effective is immediate crisis management” (E9).

“government is supporting also movement of pastoralists ... transportation services ... access into protected areas” (K39).

Recovery

“so that they can replace the core [breeding animals] who have perished” (E27).

“from the emergency to recovery, they usually need a lot of resources to kick back to their normal livelihoods” (K20).

4.4. Challenges to Successful Emergency Drought Provision

Bureaucratic Challenges

“there's a lot of knowledge on drought cycle management ... the policies are there, it's complacency” (K16).

“in some woredas¹ we predicted drought ... in the third season it rained. Other areas predicted normal rainfall did not rain” (E15).

“vegetation in pastoral areas seems okay ... but on the ground animals are dying and people are malnourished” (E29).

“these things are happening, but in isolation. So people just focus on their own way of intervening” (K21).

“sectoral delivery is sometimes delaying the effectiveness” (K39).

“different departments ... are usually grouped in to discuss” (K4).

“Bureau of Disaster Risk Management was providing early warning, WFP cash distribution, VSF rehabilitation of water schemes” (E15).

¹ A woreda is an administrative division (area) managed by a local government.

Resource Challenges

“sometimes you don't receive a fund that you need to respond to the need of the communities” (E27).

“we are not fully implementing the resilience plans because of limited resources” (K4).

“even with the little food ... elites within the community are the ones who benefit” (K35).

Marginalisation of Rural and Pastoral Communities

“policy might not consider a local consistency leading to one size fits all” (E9).

“most of the policy makers ... focus on the larger population, forgetting the rural population” (K7).

“rural and remote communities often get very minor assistance compared to a populated area” (E22).

“the logistics will be first used to deliver human food before ... livestock food” (K16).

“the kind of value chains that support the livelihoods of pastoralists, they do not pick those” (K26).

“the best scenario is to involve the community in identifying their issues” (K1).

“NGOs work with communities, develop a very beautiful policy with a very clear plan but it's just terrible because government will say that there are not enough resources to implement that ... nobody is even referencing those documents to do any development plan, development activities ... the disconnect is still there” (K39).

Data availability

The data are shared as a supplementary file.

Policy Data - please note that the link above is temporary for review purposes and will change to a public link once the manuscript is published. (Original data) (osf)

References

- Animal Health and Welfare Proclamation No. 1376/2025, 2025. Retrieved from. <http://ethiodata.et/animal-health-and-welfare-proclamation-no-13762025/>.
- Animal Health Strategy and Vision for Ethiopia. <https://cgspace.cgiar.org/server/api/core/bitstreams/e16625ad-5ba2-4ab1-a019-ba016f98c775/content>, 2013. Retrieved from.
- Bonsi, M., Anderson, N.E., Carder, G., 2023. The socioeconomic impact of health problems of working equids in low- and middle-income countries : a scoping review on the female-gender perspectives. *CABI One Health* 2 (1), 1–9.
- Braun, V., Clarke, V., 2006. Using thematic analysis in psychology. *Qual. Res. Psychol.* 3 (2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>.
- Clancy, C., Watson, T.L., Raw, Z., 2021. Resilience and the role of equids in humanitarian crises. *Disasters* 46 (4), 1075–1097. <https://doi.org/10.1111/disa.12501>.
- Devereux, S., 2009. Why does famine persist in Africa? *Food Secur.* 1 (1), 25–35. <https://doi.org/10.1007/s12571-008-0005-8>.
- FAO and WFP, 2022. Hunger Hotspots FAO - WFP Early Warnings on Acute Food Insecurity. Retrieved from. <https://www.wfp.org/publications/hunger-hotspots-fao-wfp-early-warnings-acute-food-insecurity-november-2023-april-2024>.
- Food and Agriculture Organization of the United Nations (FAO), 2024. FAOSTAT: crops and livestock products: asses. <https://www.fao.org/faolex/en/>.
- Food and Agriculture Organization of the United Nations (FAO), 2025. FAOLEX Database. <https://www.fao.org/faolex/en/>.
- Garcia, R., Ellman, M., 1981. *Drought and Man*. Pergamon Press, Oxford.
- Gautam, M., 2006. Managing drought in Sub-Saharan Africa: policy perspectives. In: *IAAE Conference*. Queensland.
- Geiger, M., Hockenhull, J., Buller, H., Tefera Engida, G., Getachew, M., Burden, F.A., Whay, H.R., 2020. Understanding the attitudes of communities to the social, economic, and cultural importance of working donkeys in rural, peri-urban, and urban areas of Ethiopia. *Front. Vet. Sci.* 7, 60. <https://doi.org/10.3389/fvets.2020.00060>.
- Glantz, M., 1976. Politics of natural disaster. *Perspective* 5 (6), 137.
- Glantz, M.H., Katz, R.W., 1977. When is a drought? *Nature* 267 (5608), 192–193. <https://doi.org/10.1038/267192a0>.
- Grace, D.C., Diall, O., Saville, K., Warboys, D., Ward, P., Wild, I., Perry, B.D., 2022. The global contributions of working equids to sustainable agriculture and livelihoods in agenda 2030. *EcoHealth* 19, 342–353. <https://doi.org/10.1007/s10393-022-01613-8>.
- Hewitt, K., 1983. *Interpretations of Calamity*. Allen & Unwin, London.
- Hirson, T., Saville, K., Skippen, L., 2014. The use of interactive online learning platforms to improve resources for working equid veterinary education in low income countries. In: *The 7th International Colloquium on Working Equids*. London, p. 196.
- Holloway, A., 2000. Drought emergency, yes..drought disaster, no: southern Africa 1991–93. *Camb. Rev. Int. Aff.* 14 (1), 254–276. <https://doi.org/10.1080/09557570008400341>.
- IGAD, 2017. Kenya National Animal Welfare Strategy. Retrieved from. <https://faolex.fao.org/docs/pdf/ken210708.pdf>.
- International Livestock Research Institute and Ministry of Agriculture, 2013. Animal health strategy and vision for Ethiopia. Retrieved from. <https://cgspace.cgiar.org/server/api/core/bitstreams/e16625ad-5ba2-4ab1-a019-ba016f98c775/content>.
- IPCC, 2023. Climate change 2023: synthesis report. Retrieved from. <https://www.ipcc.ch/report/ar6/syr/>.
- Kelman, Ilan, Carder, Gemma, Abera, Cherinet, Negash, Tsegaye, Jacob, Elizabeth, Pandey, Priya, Yadav, Bhavna, Ogwankwa, Franklin, Flores, Fredred Valdivia, Martínez, Verónica Artola, Mendoza, Guizell Box, Gondal, Javed Iqbal, Nawaz, Sher, Seck, Mactar, 2025. Working Equids in Disasters: Local Concerns and Inspirations. *The Palgrave Handbook of Human-Animal Interactions in the Global Context of Climate Change, Disasters, and Other Crises*. Springer Nature Switzerland, Cham, ISBN 9783032003126, pp. 91–109. https://doi.org/10.1007/978-3-032-00313-3_4. https://link.springer.com/10.1007/978-3-032-00313-3_4. (Accessed 11 November 2025).
- Kenya National Bureau of Statistics (KNBS), 2019. 2019 Kenya Population and Housing Census: Agriculture (Livestock Population Tables). Kenya National Bureau of Statistics, Nairobi, Kenya. <https://www.knbs.or.ke/reports/kenya-census-2019/>.
- LEGS: Livestock Emergency Guidelines and Standards, second ed., 2014. Practical Action Publishing Ltd, Rugby, UK. <https://doi.org/10.3362/9781780448602>.
- Livestock Bill, 2024. Retrieved from: https://www.kenyalaw.org/kl/fileadmin/pdfdownloads/bills/2024/TheLivestockBill_2024.pdf.

- Norris, S.L., Little, H.A., Ryding, J., Raw, Z., 2021. Global donkey and mule populations: figures and trends. *PLoS One* 16 (2). <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0247830>.
- Oduori, David Obiero, Haddy, Emily, Zeryehun, Tesfahaywet, Brown, Julia, Proops, Leanne, 2026. Burdens, Bonds, and Biases: The Sociocultural Role of Donkeys in Pastoralist Communities. *Anthrozoös* 1–20. <https://doi.org/10.1080/08927936.2026.2683217>. <https://www.tandfonline.com/doi/full/10.1080/08927936.2026.2683217>. (Accessed 24 June 2026).
- Oduori, D.O., Haddy, E., Zeryehun, T., Brown, J., Proops, L., 2026. Burdens, bonds, and biases: the sociocultural role of donkeys in pastoralist communities. *Anthrozoös* 1–20. <https://doi.org/10.1080/08927936.2026.2683217>.
- OIE, 2018. Terrestrial animal health code. Chapter 7.12: Welfare of Working Equids. Retrieved from. https://www.woah.org/fileadmin/Home/eng/Health_standards/tahc/2018/en_chapitre_aw_working_equids.htm.
- Onyango, S., 2022. Report on the Impact of Drought in Kenya on Donkeys. Nairobi, Kenya.
- Pritchard, J., 2010. Animal traction and transport in the 21st century: getting the priorities right. *Vet. J.* 186 (3), 271–274. <https://doi.org/10.1016/j.tvjl.2010.08.004>.
- Rose, A., Porter, K., Dash, N., Bouabid, J., Huyck, C., Whitehead, J., Shaw, D., Eguchi, R., Taylor, C., McLane, T., Tobin, L.T., Ganderton, P.T., Godschalk, D., Kiremidjian, A. S., Tierney, K., West, C.T., 2007. Benefit-cost analysis of FEMA hazard mitigation grants. *Nat. Hazards Rev.* 8 (4), 97–111.
- Skoufias, E., 2003. Economic crises and natural disasters: coping strategies and policy implications. *World Dev.* 31 (7), 1087–1102. [https://doi.org/10.1016/S0305-750X\(03\)00069-X](https://doi.org/10.1016/S0305-750X(03)00069-X).
- Sommerville, R., Brown, A.F., Upjohn, M., 2018. A standardised equine-based welfare assessment tool used for six years in low and middle income countries. *PLoS One* 13 (2), 1–22. <https://doi.org/10.1371/journal.pone.0192354>.
- Squance, H., MacDonald, C., Stewart, C., Prasanna, R., Johnston, D.M., 2021. Strategies for implementing a one welfare framework into emergency management. *Animals* 11 (3141). [https://doi.org/10.1016/S0925-7535\(00\)00018-7](https://doi.org/10.1016/S0925-7535(00)00018-7).
- Tedla, M.G., Cho, Y., Rasmy, M., 2025. Exploring the dynamics of flood and drought hazards and adaptation strategies in the horn of Africa. *Water Int.* 50 (3–4), 225–234. <https://doi.org/10.1080/02508060.2025.2463797>.
- Thomas, E., Jordan, E., Linden, K., Mogesse, B., Hailu, T., Jirma, H., Thomson, P., Koehler, J., Collins, G., 2020. Reducing drought emergencies in the Horn of Africa. *Sci. Total Environ.* 727, 138772. <https://doi.org/10.1016/j.scitotenv.2020.138772>.
- Thornton, P., Kruska, R., Henninger, N., Kristjanson, P., Reid, R., Atieno, F., Otero, A., Ndegwa, T., 2002. Mapping Poverty and Livestock in the Developing World. Nairobi, Kenya. Retrieved from. <https://cgspace.cgiar.org/items/38ec53fc-57d2-4db6-b08f-49fac74db83b>.
- UNHCR, 2023. UNHCR's Drought response in Ethiopia, Kenya and Somalia. Retrieved from. <https://reliefweb.int/report/somalia/ehagl-region-unhcrs-drought-response-ethiopia-kenya-and-somalia-30-sep-2023>.
- United Nations, 2015. Sendai Framework for Disaster Risk Reduction 2015–2030. Geneva. Retrieved from. <https://www.undrr.org/publication/sendai-framework-disaster-risk-reduction-2015-2030>.
- USAID, 2018. Economics of resilience to drought in Ethiopia, Kenya and Somalia. Retrieved from. <https://www.preventionweb.net/publication/economics-resilience-drought-ethiopia-kenya-and-somalia>.
- Vision 2030 Development strategy for Northern Kenya and other Arid Lands, 2012. <https://faolex.fao.org/docs/pdf/ken179242.pdf>. Retrieved from.
- Wilhite, D.A., 2002. Combating drought through preparedness. *Nat. Resour. Forum* 26 (4), 275–285. <https://doi.org/10.1111/1477-8947.00030>.
- Wilhite, D.A., Glantz, M.H., 1985. Understanding the drought phenomenon: the role of definitions. *Water Int.* 10 (3), 111–120. <http://digitalcommons.unl.edu/droughtfacub%0AWilhite>.
- Wisner, B., Blaikie, P., Cannon, T., Davis, I., 2004. *At Risk: Natural Hazards, People's Vulnerability and Disasters*. Taylor & Francis.
- World Organisation for Animal Health, 2015. Veterinary legislation identification mission report Kenya. Retrieved from. <https://tr-africa.oie.int/wp-content/uploads/2019/11/kenya-2012-vlsp.pdf>.
- World Veterinary Association, 2024. Essential veterinary medicines list. Retrieved from. <https://worldvet.org/evml/>.