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Investigating welfare in donkeys: A global review

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Abstract

Donkeys (*Equus asinus*) are among the most resilient yet neglected domesticated animals globally. They play a vital role in supporting the livelihoods of millions of people, particularly in developing regions where they provide transport, agricultural power, and income generation. Despite their immense value, donkey welfare remains a global concern due to poor management practices, overwork, inadequate nutrition, and lack of veterinary care. This review synthesizes existing literature on donkey welfare, exploring housing, nutrition, health, workload, and behavioral management. It also assesses socio-economic factors influencing welfare and the effectiveness of policy interventions. However, donkey welfare continues to be inhibited by poverty among owners, limited awareness of animal care practices, weak enforcement of animal welfare policies, and exploitation through the booming skin trade. The absence of structured welfare programs and lack of access to affordable veterinary services further exacerbate the situation. The review highlights research gaps, emerging challenges such as the skin trade and climate change, and recommends strategies for improving welfare standards globally. The findings emphasize that improving donkey welfare is essential for enhancing productivity, sustaining rural livelihoods, and promoting ethical animal use.

Keywords: Donkey welfare, working equids, animal welfare, working animals, one Health Kenya

1. Introduction

Donkeys are domesticated members of the equid family and have served humankind for over 5,000 years. They are highly valued in many low- and middle-income countries for transportation, draught power, and agricultural work (Grace *et al.* 2022) ^[33]. Globally, the donkey population is estimated at over 50 million, with the majority concentrated in Africa, Asia, and Latin America (FAO, 2023) ^[15]. Despite their vital contributions, donkeys remain economically undervalued, excluded from livestock development policies, and underserved by animal health systems (Geiger *et al.* 2020) ^[34]. This institutional neglect contributes to widespread welfare problems across the world.

Animal welfare, according to the World Organization for Animal Health (OIE), refers to the ability of an animal to cope with its current living conditions. An animal is in a good state of welfare if it is comfortable, safe, healthy, and well nourished. Such an animal is free from distress, pain, and fear, and can express innate behavior. Consequently, good animal welfare requires humane handling of animals, provision of shelter, proper nutrition, and prevention of diseases (OIE, 2015). In many parts of the world, donkeys experience harsh working environments, poor nutrition, overloading, and minimal veterinary intervention. As a result, welfare issues such as wounds, lameness, and exhaustion are common (Onono & Kithuka 2020; Abdifatah *et al.* 2023) ^[35, 1].

Several factors inhibit the realization of good donkey welfare globally. Poverty among owners often limits access to quality feed, water, and veterinary services. Many owners lack adequate knowledge or training on proper husbandry and handling practices, leading to neglect or misuse. Lack of access to affordable veterinary services, weak or absent policy frameworks, limited enforcement of animal welfare laws, and inadequate institutional support also play a role. In recent years, emerging challenges such as the donkey skin trade, urbanization, and climate change have intensified welfare risks by increasing exploitation, reducing grazing resources, and exposing donkeys to extreme conditions. This review examines global

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perspectives on donkey welfare, focusing on management, health, behavior, and policy frameworks. It combines findings from older and recent studies to give a comprehensive picture of the current situation and areas that require improvement.

2. Donkey Welfare Frameworks

Animal welfare can be assessed using two main frameworks: the Five Freedoms and the Five Domains Model. The Five Freedoms (FAWC, 1993) [16] outline the basic conditions required for an acceptable level of welfare. These freedoms state that animals should have freedom from hunger and thirst through access to sufficient food and clean water, Freedom from discomfort through provision of appropriate shelter and a comfortable environment, Freedom from pain, injury, and disease through prevention or treatment of illness through timely veterinary care, Freedom to express normal behavior by having enough space and suitable opportunities to behave naturally and Freedom from fear and distress through calm handling that reduce fear and stress. These freedoms help identify common welfare problems such as inadequate feeding, poor housing, rough handling, and lack of veterinary care.

The Five Domains Model (Mellor & Reid, 2014) [23] builds on the Five Freedoms by providing a more detailed structure for assessing welfare. It evaluates welfare across five key areas, namely nutrition, environment, health, behavior and mental state. Together, these frameworks provide a comprehensive approach for evaluating donkey welfare.

3. Assessment of donkey welfare

Donkey welfare is commonly assessed using standardized animal-based welfare assessment tools, particularly the Standardised Equine-Based Welfare Assessment Tool (SEBWAT), which has been widely applied in low- and middle-income countries. These tools evaluate key welfare indicators including body condition score, presence and severity of wounds or lesions, lameness and gait abnormalities, behavioural responses to humans, and general health status such as hoof condition. Such standardized approaches allow for consistent comparison of donkey welfare across different regions and production systems and are widely recommended in global donkey welfare research and practice (Somerville *et al.*, 2018; Pritchard *et al.*, 2005) [36, 27].

4 Key Domains of Donkey Welfare

Donkey welfare is multi-dimensional and encompasses several interrelated domains, including nutrition, housing and shelter, health and disease management, workload and working conditions, and behaviour and handling. Adequate welfare requires that donkeys have access to sufficient and appropriate feed and water, suitable shelter from harsh weather, timely veterinary care, and humane working practices that include appropriate load limits, rest periods, and well-fitted harnessing. These domains provide a useful framework for reviewing and discussing the main welfare challenges faced by working donkeys globally.

4.1. Housing and Management

The reviewed literature highlights that proper housing and shelter are crucial for donkey welfare worldwide. Donkeys need clean, dry, and well-ventilated shelters to protect them from harsh environmental conditions. However, in many low- and middle-income countries, donkeys often lack adequate shelter, leading to exposure to rain, cold, and mud. Evidence

from East Africa, particularly Kenya and Ethiopia, shows that donkeys are frequently kept outdoors without roofing, leading to hoof and skin issues from prolonged exposure to the elements (Brooke, 2022) [7]. Similarly, in South Asia, inadequate shelter, combined with poor nutrition and heavy workload, negatively impacts donkey health and welfare (Brooke, 2022) [7]. For instance, Pakistan, many donkeys are housed without adequate shelter, particularly in peri-urban and brick kiln settings, where animals are exposed to extreme heat, cold, and rainfall. Studies have reported that most owners do not prioritize shelter construction, resulting in donkeys being tethered outdoors or housed in poorly ventilated structures. In India, donkeys used in brick kilns and construction sites often face similar challenges with minimal shelter, poor ventilation, and limited access to clean water. In Afghanistan, donkeys are typically housed in rudimentary shelters constructed from locally available materials, offering little protection from extreme temperatures. In Latin America, especially Mexico, donkeys used for pack work often face similar challenges with poor housing, leading to increased risks of heat stress and disease (Haddy, Burden & Proops, 2021) [19]. In contrast, China has made notable progress in improving donkey management through semi-intensive production systems. Although traditional extensive systems remain dominant, particularly in rural areas, national surveys indicate that approximately 99.5% of donkeys are provided with some form of shelter. However, shelter quality varies considerably: 44.7% of shelters are converted residential structures, 40.8% are simple brick buildings, and only a small proportion provide adequate bedding (6.2%). Despite this, experimental studies in northern China have demonstrated that improved housing—particularly windproof and insulated structures—significantly enhances growth performance, feed efficiency, and thermal comfort during cold seasons (Wang *et al.*, 2020) [32].

In conclusion, proper shelter is essential for donkey welfare across the globe. When donkeys have safe, dry, and comfortable shelters, they are healthier, more productive, and less prone to disease. Unfortunately, in many regions, inadequate shelter remains a significant challenge, leading to various health and welfare issues. Addressing these shelter needs globally can significantly improve the overall quality of life for working donkeys and contribute to more sustainable and humane practices.

4.2 Nutrition and Feeding

Nutrition plays a vital role in donkey welfare. Donkeys are naturally adapted to dry and semi-arid environments, allowing them to survive on low-quality forage. However, this forage is often insufficient to meet their daily energy needs. In many low-income regions, working donkeys are fed poor-quality forages and agricultural by-products, leading to widespread under nutrition (Hameed *et al.*, 2016; Kamran *et al.*, 2017) [37, 38]. Although many owners provide feed and water during working hours, these provisions are often irregular and inadequate. In Afghanistan, feeding largely depends on low-quality forage and crop residues. In China, feeding practices rely heavily on crop residues such as maize straw (83.1%) and millet straw (85.4%), supplemented with hay (33.0%) and concentrates including maize grain (89.2%), soybean meal (16.9%), and sunflower seed meal (14.8%) (Zhang *et al.*, 2021) [39]. Only 29% of farms provide vitamin or mineral supplements, and access to clean drinking water remains inconsistent. To maintain good welfare, donkeys require consistent access to clean water and forage. According to The

Donkey Sanctuary (2020), adult working donkeys should consume between 1.5% and 2.5% of their body weight in dry matter daily. Supplementation with mineral blocks and salt licks is essential, particularly in dry areas where soils are mineral deficient. When donkeys do not receive adequate nutrition, they suffer from weight loss, weakness, and increased disease vulnerability. Training programs that promote balanced feeding have proven beneficial in communities across Kenya, Ethiopia, and other parts of Africa.

In conclusion, while there have been notable improvements in donkey nutrition in certain regions, significant gaps remain, especially in low-income areas. Continued efforts to enhance the quality of forage, provide adequate supplementation, and ensure consistent access to clean water are essential for improving donkey welfare. Training and education on balanced feeding practices will play a crucial role in bridging these gaps and ensuring better health and performance for working donkeys.

4.3. Health and Disease

Health management of working donkeys remains inadequate across many regions, with skin wounds and lacerations among the most commonly reported health issues, with prevalence ranging from about 31% to over 56% across different studies. These injuries are often linked to poor harnessing, overloading, and a lack of timely treatment. (Haddy *et al.* 2021) ^[19]. Compounding these challenges, preventive healthcare measures like vaccinations and routine deworming are often limited, especially in parts of Africa and Asia (The Brooke, 2022.) This lack of adequate veterinary infrastructure and low owner awareness leaves donkeys highly vulnerable to infections and parasitic diseases. In addition to these vulnerabilities, donkeys also suffer from a range of other health issues, including parasitic infections, respiratory conditions, hoof disorders, and dental problems many of which are preventable with timely veterinary care. Moreover, musculoskeletal disorders such as lameness are widespread. In Kenya, a prevalence of 33.4% of lameness has been reported among working donkeys (Brooke East Africa). Prevalence of 27% was recorded in Ethiopian working donkeys (Ali *et al.* 2016) ^[3]. In this study, 75% of donkeys were lame in one limb, with those bearing loads in excess of 700 kg showing a greater tendency towards lameness (Ali *et al.* 2016) ^[3]. Fifteen percent of equids were found to be lame in studies in Mexico (Haddy *et al.* 2021) ^[19] and Mali (McLean *et al.* 2019) ^[20]. A study in Pakistan identified a consistent, pronounced abnormality impeding forward motion at every stride in 42% of the working donkeys assessed. with prevalence rates around 40% in regions like Somalia, often due to overwork, poor hoof care, and unsuitable working surfaces. Finally, harness-related wounds are a significant concern, particularly when donkeys pull heavy loads using poorly designed rope harnesses, causing wounds on their withers, chest, and back (Davis 2019) ^[6]. Studies in Ethiopia indicate that over 50% of working donkeys have visible wounds (Mekuria *et al.*, 2020) ^[21]. Poor harness design and continuous pressure lead to skin abrasions and deep wounds, which can become infected if not treated. By improving harness design, adding proper padding, and ensuring regular rest, we can significantly reduce these injuries and enhance donkey welfare.

4.4 Workload and Working Conditions

Working donkeys frequently endure heavy workloads that

significantly impact their welfare. Ideally, a healthy adult donkey should carry no more than one-third of its body weight, yet many are forced to haul loads far above this limit, often over long distances and without adequate rest. Such overloading predisposes donkeys to lameness, back pain, and muscle injuries. Additionally, working in high temperatures and on rough terrain can lead to fatigue and long-term health issues. In many low- and middle-income countries, such as those in South Asia and East Africa, donkeys are commonly used for transporting heavy loads in agriculture, construction, and brick-making (Pritchard *et al.*, 2005; Burn *et al.*, 2010) ^[27, 10]. Overloading is especially prevalent in mountainous and urban areas, where donkeys often carry more than their physiological capacity, leading to musculoskeletal injuries and fatigue. Poor harnessing practices further worsen their welfare, with studies in Somalia and Kenya showing that many donkeys are subjected to ill-fitting or improvised harnesses, resulting in severe wounds and chronic pain. For instance, in Somalia, approximately 79.7% of donkeys were reported to lack adequate padding, contributing to high rates of skin lesions (Hussen *et al.*, 2021.) ^[40] In Kenya, poorly designed harnesses are linked to back and girdle wounds. Furthermore, donkeys often work long hours—typically six to ten hours per day—without sufficient rest, shade, or water. This extended workload leads to fatigue, dehydration, and decreased work efficiency. Ensuring proper workload management, including setting load limits, planning rest periods, and using well-fitted harnesses, is essential for improving donkey welfare. Training programs in countries like Pakistan and Ethiopia have demonstrated that educating owners about workload limits and proper harnessing can lead to significant improvements in the animals' well-being.

4.5 Behavior and Handling

Donkeys are highly intelligent animals with strong self-preservation instincts, and their cautious nature is often misinterpreted as stubbornness. Negative handling techniques, such as beating or shouting, can cause fear and stress, reducing their willingness to work (The Donkey Sanctuary 2023). Studies from East Africa and South Asia have documented widespread use physical punishment, with up to 80% of owners admitting to using sticks or whips (Burn *et al.*, 2010; Hussen *et al.*, 2021) ^[10, 40]. Such practices contribute to fear-based responses and long-term physiological stress. Human-donkey interaction plays a critical role in determining welfare outcomes. For example positive reinforcement and gentle handling foster trust, reduce stress, and improve work efficiency. Additionally, Behavioral cues, like ear posture and tail movement, serve as reliable indicators of welfare.

5. Socioeconomic and Cultural Perspectives

Donkeys contribute significantly to the livelihoods of millions of households, particularly in rural and peri-urban areas of Africa and Asia (Fernando & Starkey, 2004) ^[17]. They are often referred to as the “engines of the poor” because they provide affordable transport for goods, water, and agricultural inputs. Their role in women's empowerment is especially important—in many communities, women rely on donkeys for fetching water and firewood, enabling them to save time for other income-generating activities (The Donkey Sanctuary, 2020). Despite their importance, donkeys are undervalued economically and culturally. They are often associated with poverty, leading to neglect and poor welfare. Limited market value also discourages investment in their

care. In some cultures, donkeys are viewed as “low-status” animals, which affects how owners prioritize their health and management (Swann, 2006) [28]. Enhancing welfare therefore requires community-level behavioral change and the integration of donkey welfare into broader livestock and development policies. Awareness campaigns, training programs, and inclusion of donkey owners in cooperatives can improve both welfare and economic productivity (Mekuria *et al.*, 2020) [21].

Furthermore, as urbanization increases, donkeys are increasingly used in brick kilns, garbage collection, and construction work. These sectors are often unregulated, exposing animals to long working hours, poor housing, and abuse (Brooke, 2022) [7]. Addressing these welfare issues demands policy intervention and stronger enforcement mechanisms.

6. Policies, legislation, and Welfare Standards

Donkey welfare has historically received limited policy attention compared to other livestock species. However, several international organizations have developed frameworks to promote humane treatment. The World Organization for Animal Health (WOAH, 2021) outlines welfare standards that include proper housing, feeding, veterinary care, and humane handling. In Africa, animal welfare legislation exists in many countries but is poorly enforced. For example, Kenya's Animal Welfare and Protection Bill (2019) and Ethiopia's Animal Welfare Strategy (2018) provide a legal basis for welfare improvement, but challenges such as low awareness and limited institutional capacity hinder implementation (FAO, 2021). Non-governmental organizations such as Brooke, the Donkey Sanctuary, and SPANA have played an instrumental role in promoting welfare through advocacy, community training, and research. These organizations collaborate with governments to integrate welfare concerns into livestock and transport policies (Burden *et al.*, 2019) [11]. To achieve sustainable improvement, policies should address three main areas: (1) regulation of working conditions, (2) veterinary service access, and (3) public awareness and education. Encouraging multi-stakeholder partnerships among governments, NGOs, and local communities is critical to achieving meaningful progress.

7. Regional Variations in Donkey Welfare

Donkey welfare varies considerably across regions due to differences in economic conditions, production systems, cultural practices and access to veterinary services. In many developing regions, particularly in Africa and South Asia, donkey welfare is generally poor as a result of heavy workloads, harsh environmental conditions, limited resources and low levels of owner education. Donkeys in these settings are often subjected to overwork, inadequate nutrition and limited access to veterinary care, which contributes to high levels of injury, disease and early exhaustion. In East Asia, particularly in China, welfare conditions are more variable. Structured, industry-driven production systems, such as those associated with milk and ejiao production, often benefit from more formal management and semi-intensive farming practices, which can improve welfare outcomes. However, working donkeys in rural areas may still face traditional challenges, including long working hours and limited formal regulation. In Europe and other developed regions, donkeys are more commonly used for dairy production, companionship or therapy, and generally experience better

welfare conditions due to improved management practices and access to veterinary care. Nevertheless, welfare problems such as obesity, dental disease and hoof neglect can still occur, often due to a lack of species-specific knowledge among owners and caregivers.

8. Emerging Challenges

8.1 Climate Change

Climate change intensifies welfare challenges by reducing water and forage availability and increasing heat stress (Pearson *et al.*, 2019) [26]. Prolonged droughts force donkeys to work in harsher conditions.

8.2 The Donkey Skin Trade

Ongoing export of donkey skins to Asian countries is seen, for use in a traditional Chinese medicine, known as ejiao (Carder *et al.* 2019; Gichure *et al.* 2020) [41, 42] and the past decade has seen a marked impact on the donkey population in Kenya. The slaughter of animals for their skins has decreased from a reported 1.8 million in 2009 (Karanja-Lumumba *et al.* 2019) to the most recent population survey of 1.1 million in 2019 (The Brooke 2019). The consequences of donkey slaughter, including donkey theft, poor donkey welfare, decimation of the population of these valuable income earners and essential parts of household work saw a public outcry and lead to the closure of Kenyan slaughterhouses in 2020 and in 2023 to an African Union moratorium on donkey skin trade (Cathcart 2024) [5]. Cross-border movement of donkeys for the purposes of export continues to be a source of infectious disease and facilitates thefts of donkeys in Kenya which sees an increase in their market value (Cathcart 2024) [5]. Many countries have banned the trade, but illegal operations persist (FAO, 2023) [15].

8.3 Technological and Veterinary Gaps

There is limited scientific research on donkey-specific physiology, behavior, and diseases compared to horses. Lack of diagnostic tools and veterinary training further limits effective care (Haddy *et al.*, 2021) [19].

9. Recent Research Trends and Knowledge Gaps

New tools such as the Equid Assessment Research and Scoping (EARS) tool support structured donkey welfare evaluation (Brooke, 2022) [7]. Research continues to expand on topics such as stress indicators, harness design, and owner practices (McLean *et al.*, 2019) [20]. Gaps remain in longitudinal welfare studies, donkey nutrition research, and studies in arid ecosystems. There is also limited research on the socioeconomic impacts of donkey slaughter bans (FAO, 2023) [15].

10. Best Practices and Successful Interventions for Improving Donkey Welfare

Successful interventions aimed at improving donkey welfare have increasingly adopted integrated and community-based approaches, particularly in low- and middle-income countries where donkeys play an essential role in livelihoods. Evidence from East Africa, including Kenya, Ethiopia and Somaliland, shows that welfare improvements are more sustainable when interventions move beyond short-term veterinary treatment to address the underlying social, economic and technical drivers of poor welfare. These include limited knowledge among owners, poverty-related constraints, poor access to appropriate equipment and weak institutional support. By engaging local stakeholders and addressing multiple

determinants of welfare simultaneously, integrated approaches promote long-term behaviour change and community ownership of donkey welfare.

10.1 Integrated Community-Based Approaches

Integrated community-based approaches to donkey welfare focus on involving the entire community rather than targeting only individual animal owners. Successful programmes engage donkey owners, women, youth, community leaders and relevant local authorities, such as agriculture, education and transport departments, to promote shared responsibility for animal welfare. Behaviour change is central to this approach, with participatory learning and action tools used to help communities identify the root causes of poor welfare practices and develop locally appropriate solutions. These participatory methods encourage reflection on harmful practices, such as overloading or harsh handling, and support the adoption of improved behaviours through community-led problem-solving. Interventions are also tailored to local contexts, recognising that donkey welfare challenges vary across urban, rural and arid environments. For example, donkeys working in urban transport settings may face risks related to traffic and hard surfaces, while those in arid regions experience greater challenges related to water and feed scarcity. Addressing these context-specific challenges within a community-based framework has been shown to result in more sustained welfare improvements than externally imposed interventions.

10.2 Knowledge Transfer and Education

Education and knowledge transfer are central components of effective donkey welfare interventions, as many welfare challenges arise from limited awareness of appropriate management, handling and health care practices. Tailored training programmes for donkey owners have demonstrated improvements in wound prevalence and body condition by promoting correct harnessing, appropriate feeding practices and basic first aid. Training sessions that are adapted to local languages and cultural contexts are more likely to be understood and adopted by owners. In addition, integrating animal welfare education into school curriculum and establishing school animal welfare clubs helps to foster empathy towards working animals from an early age. Children often act as important agents of change by transferring welfare knowledge to their families and communities. The use of visual and practical demonstrations, including before-and-after posters, video clips and live demonstrations at markets and water points, further supports learning and encourages the adoption of improved husbandry practices. These participatory education methods are particularly effective in communities with low literacy levels, where visual communication can enhance understanding and retention of key welfare messages.

10.3 Improvement of Husbandry and Equipment

Improvements in husbandry practices and working equipment are essential for reducing injuries and enhancing the overall welfare and productivity of working donkeys. Poorly designed harnesses and packsaddles are a major cause of wounds and infections, particularly when made from inappropriate materials that cause friction and pressure points. Training local artisans and donkey owners to design and produce well-fitted harnesses using locally available materials, such as padded fabric or cotton, has been shown to significantly reduce harness-related injuries. Regular hoof

trimming and basic dental care are also critical for preventing lameness, abscesses and feeding difficulties, which can compromise the animal's ability to work and maintain body condition. In many settings, access to these services is limited, highlighting the need for community-based farriery and basic dental care training. Improvements in nutrition and shelter further contribute to welfare outcomes. The introduction of drought-resistant fodder crops and improved forage management can reduce nutritional stress, particularly in arid and semi-arid regions. Constructing simple shelters or shaded resting areas helps protect donkeys from extreme weather conditions and reduces heat stress, thereby improving comfort and work performance.

10.4 Sustainable Veterinary Service Provision

Sustainable access to veterinary services is fundamental to improving donkey welfare, particularly in rural and underserved communities where formal veterinary services are limited. Capacity building for local animal health providers, including Animal Health Assistants and community-based animal health workers, improves the availability of donkey-specific care. Training these providers in equine health ensures that donkeys receive appropriate diagnosis and treatment rather than being managed using cattle-oriented approaches that may be unsuitable for equids. Mobile veterinary clinics and subsidized care programmes further improve access to essential services, including deworming, vaccination and wound management, particularly for owners with limited financial resources. In cases of severe injury or terminal illness, the availability of humane, legal and culturally acceptable euthanasia services is important for reducing prolonged suffering and preventing abandonment. Strengthening local veterinary service delivery systems enhances continuity of care and supports long-term improvements in donkey health and welfare.

10.5 Advocacy, Legislation and Livelihood Support

Advocacy and supportive policy environments play a critical role in sustaining improvements in donkey welfare. Collaboration with governments to include equines in national, regional and county livestock policies ensures that donkeys receive formal recognition within animal health and welfare frameworks. The enforcement of legislation against illegal and inhumane slaughter practices further protects working donkeys from exploitation. Linking donkey welfare interventions to livelihood support initiatives can reduce the economic pressures that drive overworking and neglect. Livelihood diversification strategies, such as small ruminant fattening and fodder production, provide alternative income sources and reduce reliance on intensive donkey labour. Women's empowerment initiatives are particularly important, as women are often closely involved in donkey care and related income-generating activities. Supporting women to participate in harness production, small-scale trade and welfare-related enterprises enhances household incomes while also improving the value placed on donkey welfare within communities.

10.6 Evidence of Impact from Community-Based Interventions

Evidence from different regions demonstrates the positive impact of integrated community-based donkey welfare interventions. In Ethiopia, community-based programmes have led to substantial reductions in harness-related wounds over multi-year periods, alongside improvements in body

condition and owner knowledge of proper handling practices. In Kenya, the establishment of Community Action Groups and improved access to approved agro-veterinary supplies have increased the availability and quality of donkey health care, contributing to improved wound management and, in some cases, the creation of wound-free working environments. In Somaliland, the formation of donkey-owning associations has improved collective management of water and feed resources, resulting in healthier and more productive animals in certain communities. These examples illustrate how integrated interventions that combine education, improved equipment, veterinary services and community engagement can lead to meaningful and sustained improvements in donkey welfare.

11. Conclusion and Recommendations

Donkeys are invaluable to livelihoods globally, yet remain among the most neglected species in terms of welfare. Poor housing, overwork, inadequate nutrition, and limited veterinary support remain widespread challenges. Emerging threats—such as climate change and the skin trade—further endanger donkey populations. Improving donkey welfare requires integrated strategies involving owner education, improved management, accessible veterinary services, and robust policy frameworks. Collaboration between governments, NGOs, researchers, and communities is essential for long-term welfare improvement. Enhancing donkey welfare strengthens rural livelihoods and contributes to sustainable development.

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