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Research Article

Assessment of Welfare and Health Related Problems of Working Equines in Wogera District, Northern Ethiopia

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Abstract

The study was conducted from November 2015 to April 2016with the objective of assessing the welfare and health related problems and management activities on working equines in three selected kebeles of wogera woreda. Both direct (animal based) and owner interview were used to collect data out of total number 390 working equine comprising 246(63.1%) donkeys, 108(27.7%) horses and 36(9.2%) mules were observed for the presence of wound lesions, ectoparasites and lameness. Among the observed equine 19.7%, 72.1% and 8.2% were used for draught, pack and ridden type of work, respectively. Across all species, 51.8 % of animals had a poor body condition score of less than 2; whereas 61.1% of horses and 51.6% of donkeys were in poor body condition. Skin lesions were observed and compared within species, age group, and work type and body condition. Few handlers were known to provide water (20.8%) and feed (30.5%) at market or working sites, butonly few provided shelter at working sites. 43.4% of the respondents provided feed for horses once daily while 31.3%, 14.8% and 10.5 % of the respondents provided feed, two, three, or four times daily, respectively. In conclusion, although owners/users take care of their animals, management constraints like feed shortage, traditional health care, lameness, wound, overworking, overloading, housing problems and different cruelties on the animal together with the occurrence of physical injuries and general maltreatment were prevalent. Further studies and necessary measures should be considered on the health and welfare constraints hindering efficient use of equine in the area.

Keywords: Body Condition; Equine Healthy; Welfare and Wound; Wogera district Ethiopia

Abbreviations:

ºc	:	Degree Centigrade
Km	:	Kilometer
Mm	:	Millimeter

Introduction

There are an estimated 1.8 million horses, 377,000, mules and 4.3 million donkeys working in Ethiopia, harboring the largest population of donkeys in Africa and the second largest donkey population in the world after china[1]. Due to poor infrastructure, transportation by vehicle is virtually inaccessible and hence the role of equines in the socio-economics of the country is substantial [2]. Farmers use alternative means like draught animals especially donkeys and mules to transport crops, fuel wood, water, building materials and people by carts or on their back from farms and markets to home [3,4]. Ethiopia possessed approximately half of Africa's equines population with 37%, 58% and 46% of all Africa, donkeys, horses and mules, respectively[5]. Recent information regarding the contribution of draught animal power to the economies of developing countries is scarce, although in 1998 it was estimated that working animals, including horse, produced 75% of traction energy in the developing world[6] and it has been suggested that more than half of the world's population depends on animal power as its main energy source[7]. Today, draught animals and humans provide an estimated 80% of the power input on farms in developing countries[8],but traction animals are often neglected in the allocation of resources such as food, shelter and appropriate equipment, because members of the poorest section of the society, who cannot afford motorized transportation.

According to recent[9], there are about 2.03 million horses, 7.43 million donkeys, 0.4 million mules, and about 1.16 million

camels in the sedentary areas of the country. Despite their invaluable contributions, equines in Ethiopia are the most neglected animals, accorded low social status, particularly the male working equines. Horses involved in pulling carts often work continuously for 6 to 7 hours/day, carrying 3 to 4 persons (195-260 kg) in a single trip. They are provided with grasses during the night and allowed to graze on pasture in the town fringe during the day. Donkeys often are involved in more multipurpose activities than horses. They transport goods to and from markets, farms, and shops, traveling long distances. They also pull carts carrying heavy loads 3 to 4 times their body weight. They work from 4 to 12 hours/day, depending on the season and type of work. Unlike horses, donkeys are not provided with feed supplements. Some methods of hobbling to restrain cause discomfort and inflict wounds[10,4] and poorly designed harnesses or yokes that may be heavy and ragged have an effect on the animal's health and safety. In addition, from the animals in Ethiopia, donkeys are the major mode of transport. They transport at least 12 different commodities including food to remote areas during war and peace as well as guns and ammunition during war. Some rural Ethiopians recall that in famines of the past they survive by someone bringing in food on donkeys[11].

Feed shortage and disease are the major constraints to productivity and work performance of equines in the region. They are brutally treated, made to work overtime without adequate feed or healthcare. They are suffering from lack of shelter from sun, rain or biting insects at markets or working sites. These have a potential to negatively affect their welfare and quality of life. This was justified by low number of donkeys presented annually to the clinic compared to other domestic animals, 270 donkeys vs. 20,000 head of other domestic animals such as cattle, between 1987 and 1988[12]. This misuse, mistreatment and lack of veterinary care for the animal have contributed enormously to early death, majority of which currently have working life expectancy of 4 to 6 years. However, in countries where animal welfare is in practice, the life expectancy of equine reaches up to 30 years[13].

Even though there are international research institutes in the country, it is extremely reluctant to direct funds and expertise to research on donkey even though equine often support the other livestock system with which they work. Though often been described as sturdily animal (Play significant role) in the farming system and livelihoods the large number of small farmers in wogare district, there are no any researches directed to the socioeconomic importance and health of working equine. Therefore, Objectives of the study was to assessthe welfare status of equines in the study area, to investigate the existing health problem in study area and assessment of diversified use equines in study area

Material and Methods

Study Area

The study was conducted from November 2015 to April 2016 in wogera district is located Amhara Regional stateof the Semien Gondar Zone, which leis about 778km northern ofAddis Ababa. Wegera is bordered on the south by MirabBelessa, on the southwest by Gondar Zuria, on the west by Lay Armachiho, on the northwest by TachArmachiho, on the north by Dabat, on the northeast byJan Amora, and on the southeast by MisraqBelessa. Towns in Wegera include AmbaGeorgis and Gedegde located between 37.3°N and 12.46 °E longitudes and at altitude of 2900 m.a.s.l in northern high land of Ethiopia. The rain full pattern is bimodal with short rainy season from march to May,followed by long rainy season from June to September .it has an average annual rain fall 700mm and the mean annul temperature is 12.7°c. Livestock are the major agricultural resources in the area and has livestock population of 821906 cattle, 51292 sheep, 11479 goats, 162015 poultryand 220557 equines[14].

Study population

The study animals were (Donkeys, mules and horses) from different three kebeles of Wogera districts. Randomly selected donkeys, mules and horses irrespective of age, sex and color at three selected kebeles were examined for any health and welfare problems during the study period at the study areas. The sample size of districts ranged among kebeles of Wogera district according to the availability of and time limitation 390 animals were examined in three kebeles.

Tudy Design and Sampling

A cross-sectional study was done from November 2015 to April2016 in Wogera district. Three kebelespurposively selected based their accessibility number of equine populations in the area. Animals were selected by using simple random methods.

Data Collection

Direct Welfare Assessment

Data collection format for direct assessment was developed and data were collected by direct physical examination of the equine Prior to the assessment, consent was obtained from animal's owners by introducing the objective of the study. Information regarding general body condition such as wound type, dermatological disease, musculo-skeletal disease, other disease signs and behavior, age categories, body condition score, work type and condition of harnessing were properly recorded on data collection format(Figure 1).

Figure 1: Back sore of caused by poor harnessing.

Assessment carried out at field level, market and around homestead on the daytime. Animals were allowed to stand for 5-10 minutes after being held by head collar and lead rope before assessment began, without causing major disturbance to equine routine work. According to[15] age profile of equine classified into four (<5, 6-10, 11-15 and >15) and additionally age of the animal also estimated based on the observation of the front teeth (incisors) [16,17].

Body condition score was done according to the criteria described by[18] and animals were examined from all sides without touching it. The body condition was scored as 0 to 5 (0 = very thin, 1 = thin, 2 = fair, 3 = good, 4 = fat and 5 = very fat). However, for the purpose of data analysis, body conditions 0 to 5 were categorized into three distinct groups: Categories 0, 1 and 2 were grouped as "Poor", category 3 was defined as "medium" and body condition scores 4 and 5 were categorized as "Good"[18]. Wound Assessment was carried out at field level, market and around homestead on the daytime. Body lesions were then recorded with regard to anatomical location as back sore, tail sore, girth sore, bit sore andother sore(Mixed) among the three species animal(Donkey, horse and mule).Wound assessments were expressed as a proportion within each age group, within each work type and within each species [16].

Based on the types of work animals were categorized as draught, pack, ridden and others. "Draught" animals are those used for transport of goods and people by carts. "Pack" animals are those used for transport of goods by pack. "Ridden" animals are those used by owners for no tourist ridding[18].Behavior of the Animal were assessed as depressed, indifferent, alert and friendly approach, Alert and not friendly approach and anxious which involve an observation of general alertness versus unresponsiveness to the environment to correlate these behaviors with physical problem and diseases[18].

Indirect Welfare Assessment

Structured questionnaire was developed to collect data on major welfare problems in working equine such as management practice (feeding, watering, health care and resting time), age of workers and people working on animal. These were questionnaire was randomly administered to all most all available equine owners/user to assess the knowledge and perceptions regarding equine welfareproblemsin the study area.

Data Analysis

In each district, Data were collated according to species, age, sex and work type and were recorded by hand and results (Welfare and health parameter) was inserted in to MS- excel spread sheet program to create a data base and transferred to the STATA software version 17 program and analyzed by using descriptive statistical.

Result

During the study period a total of 390 equines that comprises 246 (63.1%) donkeys, 108(27.7%) horses and 36(9.2%) mules were thoroughly observed for the presence of lesions on different parts of the body, ectoparasites and body condition status. Most horse were kept for draught purposes (57.4%) followed by mules and donkeys. Draught type of work included plunging land (farming) and goods using handmade carts. The majority of horses revealed a thin body condition (61.1%). In general, 72.1%, 8.2% and 19.7%of workingequids were involved in pack,draught and ridden type of work, respectively. From these, 41.5% revealed 51.8%, 30.3% and 17.9% of animals were thin (Poor),medium and good body condition, respectively as shown in (Table 1).

Species	Working type proportion			Body condition score proportion		
	Draught	Pack	Ridden	Poor	Medium	Good
Donkey(n=246)	-	246(100)	-	127(51.6)	76(30.9)	43(17.5)
Horse (n=108)	62(57.4)	33(30.6)	13(12.03)	66(61.1)	26(24.1)	16 (14.8)
Mule(n=36)	15(41.6)	2(5.6)	19(52.8)	9(25)	16(44.4)	11(30.5)
Total	77(19.7)	281(72.1)	32(8.2)	202(51.8)	118(30.3)	70(17.9)

Table 1: Species of working equines, work types and body condition score proportion.

There was a variation among different age groups in draught work type, where age group ageless than or equal to 5 years had 26.2% when compared with in between 6 and10 years,11-15 years and greater than 16years showed that 18.2 % ,13.3%, 22% accordingly. There was also an association between sex and work type; a higher proportion of males were engaged in draught type of work than females (21.7% vs. 13.7%), whereas more male were involved in pack than female (73.4% vs. 68.4%) as showed in (Table 2) (Figure 2).

Variable		Working type with percentage					
		No animal (%)	Drought No. (%)	Pack No. (%)	Ridden No. (%)	X^2	P value
Species	Horse	108(27.7)	62(57.4)	33(30.6)	13(12.8)		
	Donkey	246 (63.1)	-	246(100)	-	318.7	
	Mule	36 (9.2)	15(41.6)	2(5.6)	19(52.8)		0.000
Age	<5 year	103(26.4)	27(26.2)	69(66.99)	7(6.7)	5.535	0.477
	6-10 year	154(39.5)	28(18.2)	112(72.7)	14(9.1)		
	11=15 year	83(21.3)	11(13.25)	65(78.3)	7(8.4)		
	>15 year	50(12.8)	11(22)	35(70)	4(8)		
Sex	Male	295(75.6)	64(21.7)	216(73.2)	15(5.1)	16.937	0.000
	Female	95(24.4)	13(13.7)	65(68.4)	17(17.9)		

Table 2: Description of species, age and sex of the observed animals expressed as a proportion within each work type.

Figure 2: Back sore of donkey caused byover load or poor harnessing.

Variations in body condition were also recorded among animals with different age categories and work type. Concerning work type, draught animals showed high proportion of thin body condition (55.8%) compared to pack (51.9%) and ridden (40.6 %) as shown in (Table 3) (Figure 3).

From the total sample 77.5%of equine were found with wound on different body parts. Bit sore and back sore were found in both species, though the proportion was higher in horses (2.7% and 30.5%) than in donkeys (13.4% and 19.9%) as shown in table 4. limb associated abnormality(Lameness) were highly prevalent across all species, with 14.2%of working donkeys,16.6%of workingmules and 37.03% of working horses showing some degree of gait abnormality, ranging from mildly lame Immobile lame and associated with hoof over growth highly prevalent in donkey than horse and mulewith 18.3%,9.3% and 5.6% respectively.

Variable		Working type with percentage					
		No.of animal observed	Poor	Medium	Good	X^2	P Value
Species	Donkey	246	127(51.6%)	76(30.9%)	43(17.5%)	14..403	
	Horse	108	66(61.1%)	26(24.1%)	16 (14.8%)		0.006
	Mule	36	9(25%)	16(44.4%)	11(30.5%)		
Age	<5 year	103	48(46.65)	33(32.03) 22(21.3)	22(21.3%)	25.163	0.000
	6-10 year	154	70(45.5%)	47(30.5%)	37(24.02%)		
	11-15 year	83	44(53.01%)	29(34.9%)	10(12.04%)		
	>15 year	50	40(80%)	9(18%)	1(2%)		
Sex	Drought	77	43(55.8%)	21(27.3%)	13(16.9%)	3.312	0.507
	Pack	281	146(51.9%)	87(30.9%)	48(17.1%)		
	Ridden	32	13(40.6%)	10(31.25%)	9(28.12%)		

Table 3: Description of species, age and sex of the observed animals expressed as a proportion within each work type.

Figure 3: Leg sore of caused by bad tunicate.

Out of the interviewed, about 43.1%households had one donkey, 13.9% had 2-3 donkey 10.5% households had 4-5 donkeys and 23.5% had two or more donkeys at all. The remaining 10% of household shad two or more data were collected on the traditional management system (Housing, Feeding and Health care) of equine; indicated that all animal owners do provide water and feed to equine at home, only 92.5%provide shelter to equine at home and 7.4%(29) of the owners of horses in ambageorgistown reflected that they couldn't provide shelter at home specially at night and they release to the strait, forest after work, this is due to the fact that the owners donot have their own house and live in rented homes as a result of this, animals were exposed to predators', environmental factors, car accident and easily stolen by thieves. Only few were known to provide water (20.8%) and feed (30.5%) at market or working place, but no one provides shelter as shown in (Table 5) (Figure 4).Accordingly, 43.3% of the respondents provided feed for horses once daily while 31.3%, 14.8%, and 10.5% of the respondents gave twice, three times and four times daily, respectivelyConcerning the health care, out of interviewed equine owners 28(7.2%) treat their animal traditionally (Plant juice) by drenching, pouring on the animalswhich is mainly derived from leaf andseed of tree. In the study sites, there is also a drenching practice of oil in case ofabdominal discomfort (Pain) as shown in (Table 5).The present showed that most of the respondents (78.5%) of the study area had no knowledge and information on equine welfare. The minority of the respondent of the study area separately feeding their animal and give care and rest for sick animalshowedin (Table5).

	Species					
Skin wound type	No animal observed	Donkey (n=246)	Horse(n=108)	Mule(n=36)	X2	P value
Back sore	95	49(19.9)	33(30.5)	13(36.1)	231.1	0.000
Girth sore	51	40(16.3)	10(9.3)	1(2.77)		
leg sore	19	10(4.06%)	9(8.3)	-		
Lip sore	46	-	26(24.1)	20(55.6)		
Tail sore	54	39(15.8)	14(12.9)	1(2.77)		
Bite sore	37	33(13.4)	3(2.7)	1(2.77)		
Non wounded	88	75(30.5)	13(12.03)	-		
Ecto parasite	78	69(28.04)	12(11.1)	-	17.1	0.146
other health problem						
Ocular discharge	101	85(34.6%)	13(12.03)	3(8.33)	77.32	0.000
Abnormal mucosa membrane	123	65(26.4%)	47(43.5)	11(30.5)		
skeletal problem						
Hoof over growth	57	45(18.3)	10(9.3%)	2(5.6)		
Lamness	81	35(14.2)	40(37.03)	6(16.7)		
Fracture	25	10(4.06)	15(13.88)	-		

Table 4: Description of species, age and sex of the observed animals expressed as a proportion within each work type.

Respondent knowledge		Frequency	Percent
Animal welfare	Yes	84	21.5
	No	306	78.5
Animal welfare	Free from thirsty and hunger	79	20.3
	Free from injury and disease	1	0.3
	Free from pain and discomfort	4	1
	No information	306	78.5
Beating of animal	Yes	104	26.7
	No	286	73.3
Care given for sick animal	Yes	344	88.9
	No	46	11.1
Type of care given for sick animal	Taking to vet. Clinic	258	66.2
	House medication	59	15.1
	Giving traditional medication	28	7.2
	No thing	46	11.8

Table 5: Distribution of respondent knowledge on equine welfare (n=390).

Figure 4: Poor body condition of horse caused by malnutrition.

Among the respondents interviewed for this survey 45.6 % of persons working on equine were in adult age group. Regarding persons working on animals 83.1 % of the participants responded as they were working by themselves with their own equines whereas only 16.9 % respondents allow other persons to work on their animals.

Discussion

In this study, it was appreciated that the majority of equine observed (100%) were used for work, mainly used for plunging of land (farming especially horse and mule) and transporting goods and people by cart, packs or ridding. The previous study was 97.8% This observation is in closely agreement with reports by[15,19,20]describing that equids are mainly kept for transport purposes and only rarely as source of meat or milk.Donkeys were dominant(63.1%) followed by horses(27.7%); the population distribution of equine indicates that these animals are highly needed by most rural people for transportation of goods by pack and cart due to their well-built nature and manageable behavior.The current studies were wide spectrum of welfare problems on the study animals, most of which were significantly associated with the assumed risk factors. The observation on the body condition of the animals showed that 51.8%, 30.3% and 17.9% were under thin, medium body and good condition category accordingly but the previous finding was this 31.6%,47.3%and 20.3% were under thin, medium and good body condition This findingis dis agree with, reports by[16]. This may be due to husbandry system and topography of the area.

In the present study, the overall prevalence of wound in working equines was 77.5% which was in disagreement with prevalence reported by[17] in WolaitaSoddoZuria District(58%) [21]in Jordan (59%). In the present study revealed that beat sore, tail base sore, back sore and bite sore were among the major type of wound identified in the area. These wounds are often caused by a combination of multi-factorial reasons. The difference in management and husbandry practices including environmental factors, like bumpy roads and rugged land-scape, the fit of the type of harness material used (natural or synthetic)andsaddle not cover all parts, gravitationalforce directed back ward pulling, the frequency of work and the load all contribute to the onset of health problems. Other possible reasons might also due to the fact that animal owner do not train their equines before using for draught power and animal do not adapted the work easily that result on beat by owner, self-trauma with wheel tree and breeches.

The study revealed that there were different wounds such as Backshore,girth sore and hind quarters 24.3%, 13.1%, 13.8% and %,4.5% accordingly. These were mostly affected body part of equine. Most of this injuries were resulted dueto improper fitting saddle, laceration, abrasion and some of the owners injured equine specially cart horses to treattheir animal and others deliberately create wound to beat directly on it so that the equine move very fast.Most ofthe owners force their animals to work despite the presence mechanical injuries although all owners believe that injuries could reduce the working efficiency of the animal. This is due to lack of alternative incomegenerating mechanism.

Donkeys higher proportion with abnormal behavior such as depression (28.04%)and indifferent(48.8%),lameness and abnormal gait and tail/tail this finding similar with reported by[22]. This might be due to over loading, overworking, and trauma induced by poor harness material. Further analysis indicated that lesions of

back sore, tail sore, ribs/flank, girth sore showed significant association with pack type of work; whereas hook and forelegs lesions, were associated with draught type of work. Pack donkeys had a significantly higher proportion of tail sore than draught animals. It is also supported by[18,20,23] that the chance of tail/tail base lesion occurrence is very high when pack animals frequently walk-with long distances.

Horse demonstrated asinsignificantly higher proportion of lip lesions (24.1) thandonkey (0%). The previous studies revealed that 3.4% and 0.3% reported by[24] the current study is disagreeing.This might be associated with the bit used for leading and braking of draught and ridden mules. Tether/hobble lesions on the limbs were highly prevalent across all species, work types and age groups, although there was a significant difference with in each of these factors. In present finding higher tether/hobble lesions were more common inhorse(63%%) and ridden type of work. Observation in this study area shows that horses were kept usually by tethering hobbling around homestead. As a result, all horse inevitably experienced hobbling lesion at least once in their life. Earlier studies have also mentioned that some method of hobbling to restrain equine cause discomfort and even wounds by[4,10,18,25] also reported contrary findings where ridden animals showed significantly higher prevalence($p<0.01$) of tether/hobble lesions than those doing draught and pack works.The prevalence of ectoparasites was significantly higher in donkeys (28.04%) than horses (11.1%) which was disagree with the prevalence of ectoparasites in donkey(11.4%)and horse(5.6%) reported by[20]these were higher in present studies. This might be due to owner's poor knowledge of medication for parasites.Most equines were observed in this survey mainly related to the musculo-skeletal system including lameness, fracture, hoof overgrowth and abnormal gait. Overall problem of 41.8%, which not close to[26] finding in Mekelle city (18.2%) and higher than[27] finding in Jordan (32.2%). This is likely due tomany reasons such as overloading, lack of hoof care and continuous movement in various landscapes and on rough roads were the main reasons for the occurrences of musculo-skeletal problems. This implies that any type of interaction between limb abnormalities in these animals may have serious welfare and health problems.

From the present study it was observed that among other disease problems the most frequently encountered in the study areas were eye problems such as ocular discharge (25.9%). This finding disagree with the report done by[17] inWolaitaSoddoZuria District(20.9%) these differences might arise due to be difference in topographical nature and misuse; low level of equineshealth care, keeping characteristics of the equines. The current study was 43.3%of the respondents provided feed for horses once daily while 31.3%, 14.8% and 10.5% of the respondents gave two, three and four times daily, respectively. But previous finding was 40% of the respondents provided feed for horses once daily while 25%, 24.7% and 10.3% of the respondents gave two, three and four times daily, respectively. This finding was closely in agreement with in reported by[16,28] which stated that the majority of the respondents (92.5%) in the study sites provided feed at different frequencies in a day. The type and amount of feed fed requirement varies according to the workload of the horses [29].

Anderson and Denni,(1994) [30]suggested that animals, which are being used year round for transport, need more feeds than animals that are only worked for short periods seasonally. In this study 95.7% respondents used to provide available feed mainly grass, straw and few cereal by-products and 92.5% provide shelter at home, however few (30.5%) and 20.8%) respondents provide feed and water respectively at market or working sites. The finding probably was a good indicator about the level of awareness of equine users or owners, where less attention was given to animals at working site.

The current studies that draught animals, only 14.1% provide shelters were sloping floor to allow run off to keep them dry and clean and dung should be removed daily to reduce the problem of flies. Houses need to be periodically disinfected and clean bedding providedthe previous studies were 24.3% reported by[16,28,31] this is disagreeing.Because the current study was lower than the previous finding this might be due to lack of awareness of the owner. The current finding was 76.6%; respondents provide shelter at home during night to protect from predators' or other factors. The community also clean dung daily and provide clean beddings such as dry grass or wheat straw; but none of the respondents did show up the importance of provision of shelter at working site/market site[32,33].

The current study showed that 88.9% of respondent provide care for their sick animal out which 66.2% of respondents took their animals to nearby veterinary clinic, 15.1% provide house medication (treat with medication purchased from local market) and 7.2% gave traditional medications. This result was disagreed with the findings of [26] in Mekelle city that 31.6% of diseased donkeys were taken to the nearby veterinary clinics, 10.5 % were treated traditionally and 57.9% did not get any help from their owner and forced to work regardless of their health problem. Other study also identified that low number of donkeys in Ethiopia presented annually to the clinic compared to other domestic animals by [4]. This difference might be influenced by owner economic status and knowledge on donkey welfare issues as the majority of working animal owners are poor, illiterate and most of them were not aware of animal welfare issues and engaged in earning extra money with the animal.

Conclusion and Recommendations

In conclusion present study revealed that welfare problems were the major problems encountered in working equines in wogera district. Beat sore, tail base sore, back sore and gather bite sore were among the major type of wound identified in working equines in the study area. Others like musculo-skeletal, dermatological diseases and eye problem were commonly encountered health problems in equine. Owner's poor awareness owners to provide good nutrition, veterinary care and animal beating practice were among indicators of poor equine welfare. Therefore, based on the current finding it can be recommended that comprehensive awareness creation on equine welfare issues should be promoted through training, extension service by the government and different NGOs. Policies and legal frameworks that used to support animal welfare issues and inspect animal facilities should be promoted in order to ensure animal welfare issues.

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References

1. Anon (2007) FAO Statistical Database Website. Food and Agricultural Organization of the United Nations.
2. DFID (2006) DFID (Department for International Development) Ethiopia Country Assistance Plan 2006 2010.
3. Fentie G, Teka, Fikadu A, Ayalew N, Tsegalem A (2014) Injuries in Donkeys and Mules: Causes, Welfare
4. Problems and Management Practices in Amhara Region, Northern Ethiopia. Am- Euras J Sci Res 9: 98-104.
5. Mohammed A (1991) Management and Breeding Aspects of Donkey around Hwassa, Ethiopia. In: fielding and R.A. Pearson, (Editors). Donkeys, Mules and Horses in Tropical Agricultural Development. CTVM, Edinburgh UK 185-188.
6. FAO (2003) FAO statistical data base website. Food and agriculture organization, Rome, Italy.
7. OTA (1998) Enhancing Agriculture in Africa: A Role for U.S. Development Assistance, OTA-F-356. U.S. Government printing office, Washington, DC 238.
8. Wilson R (2003) The environmental ecology of oxen used for draught power. agr Eco systs Environ 97: 21-37.
9. Pearson R (2005) Contributions to Society: Draught and Transport. Encyclopedia of Animal Science.Marcel Dekker Inc 248-250.
10. CSA (2014) central statics agency Livestock and Livestock Characteristics in Ethiopia.
11. Alujia A, Lopez (1991) Donkeys in Mexico. In: Fielding D and Pearson RA (Editors). Donkeys, Mules and Horses in Tropical Agriculture Development CTVM, Edinburgh 1-7.
12. Marshal K, Ali Z, Tefera B (1997) Socioeconomic issues of donkey use in Ethiopia: a case study of changing relationships. Paper prepared for ATNESA workshop on improving donkey utilization and management held 5- 9 may, Debrezeit, Ethiopia. (Proceeding to be published).
13. Yilma J, Feseha G, Svendsen E, Mohammed A (1991) Health problems of working donkeys in Debrezeit and Menagesha Regions of Ethiopia. In: D. Fielding and R.A. Pearson (Editors). Donkeys, `Mules and Horses in Tropical Agricultural Development, CTVM, Edinburgh 151-155.
14. Fred O, Pascal K (2006) Extension Approaches to improving the welfare of working equines. Kenya Network for Dissemination of Agricultural Technologies (KENDAT) 1-28.
15. WWAO (2014) wogera woreda agriculture and livestock office.
16. Crane M (1997) Medical. In: Svendsen, E. (ed.): The professional hand book of the donkey. 3 ed. w140 by London: Whittet Books LTD 29.
17. Morka A, Adisalem H, Bojia E, Eyob H, Bedasso M (2014) Health and Welfare Assessment of Working Equine in and Around Nekemte Town, East Wollega Zone, Ethiopia .Am-Euras J Sci Res 9 : 163-174.
18. Tamirat H, Mulisa M, Ayalew N, Teka F (2015) Assessment on Working Donkey Welfare Issue in Wolaita Soddo Zuria District, Southern Ethiopia .Global Veterinaria14: 867-875.
19. Pritchard JC, Lindberg AC, Main DCJ, Whay HR (2005) Assessment of the welfare of working horses, mules and donkeys, using health and behavior parameters. Prev Vet Med 69: 265-283.
20. Salim U, Haimanot D,Tadele K, Tilahun Z, Girma K (2015) Health and Welfare Related Assessment of Working Equine in and Around Batu Town, East Shoa, Central Ethiopia13.
21. Mekuria S, Mulachew M, Abebe R (2013) Management practices and welfare problems encountered on working equids in Hawassa town, Southern Ethiopia. J Vet Med Anim Health 5: 243-250.
22. Burn CC, Pritchard JC, Farajat M, Twaissi AA, Whay HR (2007) Risk factors for strap related lesions in working donkeys at the World Heritage Site of Petra in Jordan. Vet J 178: 263-271.
23. Dennison TL, Khan GS, Khan AR, Pritchard JC, Whay HR (2007) A comparative study of the welfare of equines working in the brick kilns of Multan and Peshawar, Pakistan. In: Pearson RA, Muir CJ, Farrow M, (Ed): The Future for Working Equines; The fifth International Colloquium on Working Equines. Proceeding of an International Colloquium held at the Addis Ababa University, Ethiopia 153-160.
24. Swann WJ (2006) Improving the welfare of working equine animals in developing countries. Applied animal behavior science100: 148-151.

25. Nawaz S, Gondal Z, Habib JI, Shaw MA (2007) The Influence of Cart and Bit Characteristics on presence, size and severity of lip lesions in draught in MARDAN-PAKISTAN. In: Pearson, R.A., Muir CJ, and Farrow. M, (Ed): The Future for Working. The fifth International Colloquium on Working. Proceeding of an International Colloquium held at the Addis Ababa University, Ethiopia, 30 October to 2: 181-188.

26. Solomon M, Rahmeto A (2010) Observation on Major Welfare Problems of Equine in Meskan District, Southern Ethiopia, Livestock Research for Rural Development 22.

27. Kumar N, Fisseha KK, Shishay N, Hagos Y (2014) Welfare assessment of working donkeys in Mekelle city, Ethiopia. Global Veterinaria 12: 314-319.

28. Sameeh M, Dirar M, Zain H, Sarah F (2014) Equinerd diseases and welfare in Jordan: A retrospective study (1261 cases) in Jordan. J Agri Sci 10: 21-24.

29. Dinka HB, Shelima A, AbaltiT, Geleta Mume T, Chala R (2007) Socio-economic importance and management of carthorses in the mid rift valley of Ethiopia. In: R.A. Pearson, Muir CJ, and Farrow. M. 2007. (eds). The Future for Working. The fifth International Colloquium on Working. Proceeding of an International Colloquium held at the Addis Ababa University, Ethiopia: 181-188.

30. Harris PA (1999) Review of equine feeding and stable management practices in the UK concentrating on the last decade of the 20 century. Equine Vet J Suppl28: 46-54.

31. Anderson M, Dennis R (1994) Improving animal based transport options, approaches, issues and impact. In: Paul Starkey E, Mmanual M, Wenya and John S (edS) Improving animal traction technology. Proceeding of the first workshop of the animal traction network for Eastern and Southern Africa (ATNESA) held 18-23 January 1992, Lusaka Zambia: 378-395.

32. Matthewman RW, Dijkman JT, Zerbini E (1993) The Management and Husbandry of Male and Female Draught Animals: Research Achievements and Needs. Research for Development of Animal Traction in West Africa. West Africa Animal Traction Network and International Livestock Centre for Africa, Addis Ababa, Ethiopia: 125-136.

33. Thrus field M (2007) Veterinary Epidemiology. Third Edition, Blackwell Science Ltd, Oxford, 244-245, 249-251 and 258-259.