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COLLEGE OF AGRICULTURE AND VETERINARY SCIENCES,

FACULTY OF VETERINARY MEDICINE

Report submitted in partial fulfilment of the requirements for an award of Bachelors degree in veterinary medicine

A STUDY ON WELFARE OF WORKING DONKEYS IN OLLAINGUSE LOCATION KESSES CONSTITUENCY UASIN GISHU COUNTY.

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DECLARATION

I hereby declare that this project is my own original work and has not been submitted in any other university for the award of any degree.

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I thank God for giving me these special persons and many others whom the size of this report does not allow me to mention their names in person.

ACRONYMS

AHA	Animal health assistant
CAHW	Community animal health workers
Hrs	Hours
Km	Kilometres
KNBS,	Kenya National Bureau of Statistics
pp	Total Pages
Sq.	Square
UK	United Kingdom
Vets	Veterinarians
P	Ploughing
TGC	Transport of Goods by Cart
TGP	Transport of Goods by Park

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ABSTRACT

STUDY ON WELFARE OF WORKING DONKEYS IN OLLAINGUSE LOCATION KESSES CONSTITUENCY UASIN GISHU COUNTY.

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Abstract

Working donkeys provide an essential means of draught power and transport in OllainguseLocation, KessesConstituency, Uasin-gishuCountysuch as for fetching firewood, ploughing, pulling carts, transporting seedlings and crops from farms,carrying charcoal and water from riversand boreholes. However, the keeping of donkeys has not been with the community for long and most donkey owners have limited background knowledgeon appropriate husbandry and handling of working donkeys. This exposes many of these donkeys to poor welfare in living and work environment, sotheir welfare is a cause forconcern. Myths, poor perception andcultural beliefs play a key role indonkey welfare. A study was carried out to assess the welfare status of working donkeys and the common husbandry and management practices in Ollainguse Location. A cross sectional study was carried out to assess welfare of donkeys and to collect management and husbandry information from donkey owners from November to December 2015. Data collection was done through administration of semi-structuredquestionnaires to fifty donkey owners andindividual animal assessments of fifty donkeys (assessment of one working donkey per homestead) and information entered in individual donkey welfare assessment forms. The observations included body condition, demeanour, coat health and occurrence of wounds among other parameters assessed.The study established that the donkey plays a key role in livelihoods of households in Ollainguse location with majority (84%; 42/50) of persons interviewed having donkeys as the sole animal and source of income in their homesteads. Though the donkeys played an important role, (84%; 42/50) of the donkey owners did not shelter their donkeys, with ninety eight percent of those interviewed only allowing their donkeys to feed on pasture with no additional rations. While a majority (84%; 42/50) of donkey owners gave donkeys mineral supplements, the remaining 16% (8/50)

cited issues such as high cost of supplementary minerals and the negative believe that mineral supplements make donkeys lazy as the main reasons as to why they do not offer mineral supplements, Donkey sicknesses was reported as a challenge by seventy eight percent (39/50)owners. There was low access to veterinary services with 50% of owners managing the cases themselves; the other 26% (13/50) were presented to Veterinary Surgeons whereas the other 14% (7/50) were commonly attended by Animal Health Technicians. Majority [54%] of the donkeys were dull and the rest active and alert with one depressed. 68% responded to approach, 62% walking side, 2% tail tuck, 26% did not accept chin contact, presence of ectoparasites in 66%.Donkey owners employed some welfare promoting measures such as use of pads on pack donkeys (86%;43/50) and use of a pipe or clothe under the tail (88%;44/50) in order to reduce risks of injury by the pack load and tail rope respectively. This study has shown that though the donkey is increasingly becoming a key contributor to livelihood enhancement in homesteads, their husbandry and working environment exposes them to welfare challenges such as wounds. Interventions to improve donkey welfare should be geared towards unique challenges facing working donkeys in Ollainguse and should build on local interventions currently in place.

Key words: donkey welfare, Ollainguse location, welfare assessment

CHAPTER ONE

1.0. INTRODUCTION

1.1. Background information

More than half of the human population is dependent on the power provided by the draft animals majority of which are equine. Human and animal welfare are inextricably linked, therefore the welfare of working animals is crucially important not only for their health and survival but for the livelihoods of people. Constraints such as, poverty and lack of knowledge means animal welfare is compromised internationally [*Webber and Rogers 2014]*. The majority of working donkeys are owned by individuals who use them as their sole means of income to sustain often large and extended families*[Webber and Rogers 2014]*.

1.1.1. Management and husbandry of working donkeys

In addition to their traditional role as pack animals are used for cultivation as they are cheaper than oxen and more resistant to droughts, drawing water and pulling carts, transport of farm inputs and produce, charcoal and ferrying firewood. Research suggests that working animals provide approximately 50% of agriculture power needs globally[Swann, 2006]. Most of the roles played by the working donkeys has aided in women empowerment.

1.2. Study Objectives

1.2.1. General objective

To determine the welfare status for workingdonkeys in Kesses constituency, Uasin-gishu county

1.2.2. Specific objectives

In order to achieve the overall objective, the following specific objectives were developed;

1. To establishhusbandryandmanagement of working donkeys in Ollainguse location, Kessesconstituency, Uasin-gishu county.
2. To determine the current welfare statusof working donkeys in Ollainguse location, Kessesconstituency, Uasin-gishu county.

1.2.3. Justification

The donkey is so useful to the residents of Ollainguse location in that most of the people depend entirely to provide food on the table. However, most of the users are only familiar with the use of these donkeys and not on their care and management. This is evidenced by the way people work the donkeys long hours in the day, inadequate grazing time, little resting times, belief that donkeys do not get sick, lack of worm control, inadequate padding, poor tail rope management and presence of wounds which are left untreated predisposing to secondary bacterial infections.

Only a few donkey owners seemed enlightened on donkey care because they provided houses to the donkeys and vaccinated while majority were not aware. Sick donkeys are left to recover on their own or die. This study will focus on the above welfare aspects and try to establish on how to improve this situation.

The welfare of donkeys in Ollainguse Location has never been studied before therefore approves the validity of this study. The results obtained from this study will be disseminated to the animal health officers and animal welfare authorities and explain to some of the donkey owners who were curious about the study. Once applied it is expected that the welfare of the working donkeys in Ollainguse Location and the livelihoods of the people will improve

CHAPTER TWO

2.0. LITERATURE REVIEW

2.1. Donkey use and management

Welfare of an individual is its state as regards its attempts to cope with its environment (*Broom, 1986*). Hence welfare is a characteristic of the individual which varies on continuum from poor to good. Animal welfare assessment is of greatimportance as it helps to identifythe current welfare problems, checkingfarm assurance and legislativerequirements have been met and indicating risk factors leading to welfareissues.

In Kenya working animals such as donkeys have been at thecentre of rural economies anddevelopment which has significantlycontributed to sustaininglivelihoods of dependent communities.Donkey use is gaining importance among many individuals who may not have prior knowledge on donkey husbandry and managementpractices coupled with the societal negative perception andattitude towards users of such donkeys (KENDAT, 2014)Those who use donkeys are seen by theirpeers in other businesses and thesociety as primitive, backward and people of low status. Even among thedonkey owners and users donkey image isnot to be held highly and as aresult they abuse and mistreat their donkeys during handling and working. . Somemyths and believes on donkeys having effecton their welfareas shown in Table 1 below.

Table 1 Common Myths held against donkeys in Kenya and their potential negative welfare impacts

Myths and beliefs	Effect on donkey welfare
Donkey has to be whipped to work	-Pain , suffering and wounds
Donkey suffer from laminitis if given salt	-Lack of essential minerals
Donkey manure cause tetanus	-Isolation and mistreatment
Donkeys never get sick and do not need medication	-Poor body condition and chronic diseases
Donkeys should not be carried on vehicles	-Exhaustion due to long distance travel
A donkey not overworked becomes hostile	-Exhaustion suffering and poor bodycondition
Donkeys only feed at night	-Malnutrition and related disease andcondition
Donkeys don't feel pain	-Pain and fear due to ear cutting, nose-slitting and firing

(Adapted from KENDAT, 2014)

Historically, the main use of donkeys has been for transport [Dijkman and Sims, 1997]. The traditional users posses knowledge about their utilisation and management [Mutharia 1995]. Local sayings reflect communities' attitudes towards donkeys. In south Africa, the longevity of the donkey is celebrated in a local saying that if a donkey is presented at a wedding the grand children will see it [Bekele, 2000]. In Swahili there is a saying that donkeys reward you with a kick. Sometimes the myths associated with donkeys prevent their use especially in those with little experience[Croxton, 1993].

2.2. Donkey welfare assessment

The assessment is commonly done at a single point of assessment such as during work, during rest or during foraging activities. This commonly has the limitation of not picking all the welfare challenges that the donkey could be undergoing. Indeed some of the welfare challenges are seasonalbased; therefore assessments should be scheduled to collect information both of welfare challenging and less challenging seasons so as to get the true picture. Most assessments include animal assessments and resource access for most welfare parameters.

Most assessments are geared towards assessing factors key to both physical and mental health of the animal such as checking for presenceof wounds and demeanour assessments respectively. Resource access assessments such as access to watering troughs with potable water and or feeding troughs with quality fodder indicates a present good welfare state against hunger and thirst.

Freedom from pain injury and disease is attained throughdisease prevention and treatment. Animalbased parameters that are assessedfor this freedom includelameness, skin injuries, anaesthesia useon surgery etc. while resourcebased parameters include records on howsoon animals are treated whenthey get sick, what control methods arethere to control diseases, whichidentification methods are used,vaccination programme etc.

Working Donkeys are equally expected to be free from fear anddistress. This can be attained by avoidingconditions which cause mental stress. Animal based parameters for assessing this freedom includeresponse to approach and handling of the chin. Resource based assessments include checking living and working environment for potentially frightening experiences such as whipping, solitude, poor housing, excessive confinement, use of threatening commands and mistreatment of other animalsin view.

Above assessments also give an indication on the freedom of the working donkeys to indulge in normal behaviour. This behaviour is species specific and is best achieved through environment enrichments and allowing interactions with other animals. One of the commonest welfare challenge to working donkeys is exposureto thermal orphysical discomfort. The freedom from thermal and physical discomfort is easily attainedthrough the provision of a suitable environment

(Pritchard *et al.,* 2005).tailor-made to fit local prevailing situations. This varies in desert areas from winter areas.

2.3. Welfare status of working donkeys

Animal welfare issues in Kenya result from :neglect; malicious physical injury; starvation; confinement; use of inappropriate modes of transport/transportation facilities; manhandling during transportation; overcrowding; overloading; inhumane treatment during restraint; branding and inappropriate working tools among others. This may have been occasioned by: inadequate legal policy and policy provisions; inadequate capacity to monitor and minimize cruelty to animals; limited animal extension services and inadequate training in animal welfare and supervision of service providers (Mogoa *et al.*, 2005).

Problems have been identified in thedelivery of extension message aboutthe maintenance of health and well fedworking animals. There are differentfactors that need to be considered indeveloping effective disease controland prevention programs for workingoxen and equids. Most draught animals are owned by people who lackfinancial means to pay for or accessinformation needed on nutritionsupplements, vaccination and drugtreatment. Due to remoteness from vetservices, preventive measures andlocal remedies should be emphasized (Pearson and Krecek, 2006).

CHAPTER THREE

3.0. METHODOLOGY

3.1. Background information on the study area

The study was carried out in Ollainguse location,Tarakwa ward, Kesses constituency, UasinGishuCounty. Tarakwa ward has a population of 37,683 persons (KNBS, 2010)and a total land surface area of 79.70 sq.km. Tarakwa ward is comprised of four locations namely; Ollainguse, Kipkurere, Tarakwa and Chagaio. It is a plateau area and has a cool and temperate climate.

3.2. Study design

A cross sectional study was carried out to assess welfare of donkeys and to collect management and husbandry information from donkey owners from November to December 2015.3.2 Sample size calculation

The study involved50 households with donkeys in Ollainguse location with 41 in Lainguse sub-location and 9 households in Kamuyu sub-location. The households were selected along a transect route in line with river that stretches from Ollainguse to Kamuyu but covers much of Ollainguse. Due to the small population of households in the study location, there were intensions to cover all the 80 households along the transect line/river with donkeys but only 50 were covered due to time limit.

3.3. Sampling of homes and animals to be assessed

Thenames of the households were wrote on pieces of papers and mixed in a bucket, 50 names were randomly chosen and used for the study. Majority [88%] of households chosen had only

one donkey, pieces of papers were wrote depending on the number of donkeys [2 or 3] in the remaining homestead then picked one from each household.

3.4. Data collection

Data collection involved administration of semi-structured questionnaires (Appendix A)to donkey ownersand observational assessment of individual animals. The questionnaire was designed to capture information on housing of the donkeys, feeding, working, any sicknesses and how promptthey are attended to and challenges faced by theses donkeys while working. Observational assessmentform (Appendix1B)captured information on behaviour of the animal, health and physical status, presence of ectoparasites and any lesions of skin and deeper tissues.

3.5. Data handling, management and analysis

Data collected was cross-checked and information in field record sheets and questionnaires validated. Where clarification was required, the questions were rephrased to capture clearly information provided by respondents. Data record sheets were transported to the office where the data was entered into the computer using MSExcel®2007 (Microsoft Corporation, USA), coded and reorganized where applicable. The computer data files were screened for any errors that might have occurred during data entry and errors were corrected by rechecking against the original data forms.

The data were exported to Instat® 3.36 2006 (University of Reading, UK)statistical package for analysis. Descriptive statistics including, frequencies, means, range, standard deviation were computed. These were used to generate descriptive tables. Prevalence was estimated for welfare parameters and other outcome events. Management and animal level risk factors were investigated for association with donkey welfare.

CHAPTER FOUR

4.0. RESULTS

4.1. Demographic data

Animals studied were donkeys with the highest [82%]; 41/50] number from Lainguse Sub-location with the other 18% (9/50) from Kamuyu (Figure 1).

Most[64.0%; 27/50]donkeys assessed were maleswhereas the other 46.0% (23/50)were females.This was mainly due to the contribution of Lainguse Location where males constituted over seventy (17/41) percent of animals assessed since most animals were assessed in this location. However more (66.7%; 6/9) females than males were assessed in Kamuyu Location [Table 2]

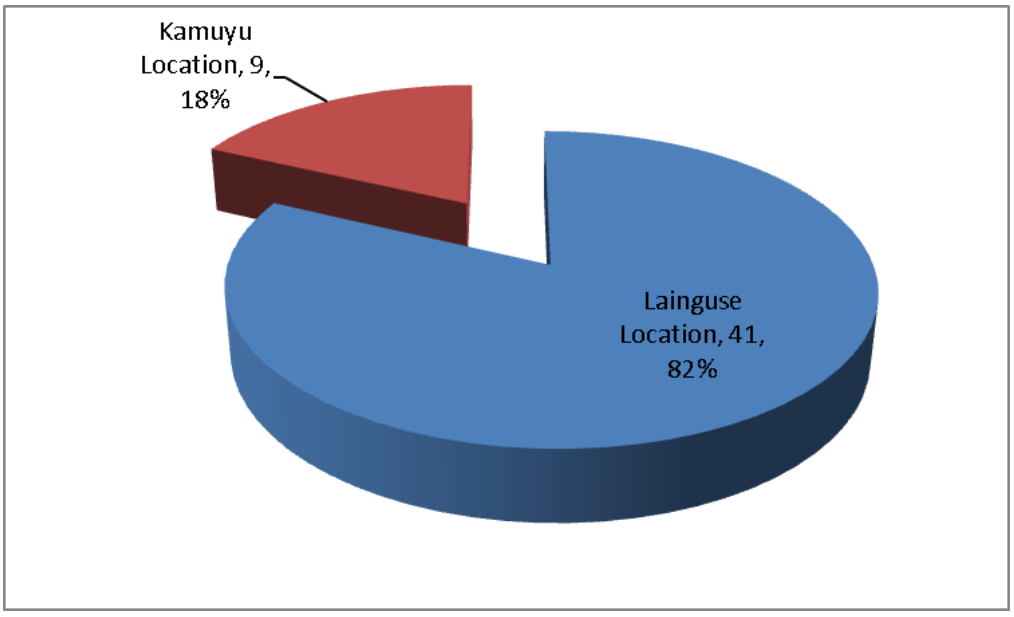

Figure 1Distribution of donkeys assessed per locations

Table 2Sex of donkeys assessed in Ollainguse Location 2015

	Female		Male		Grand Total	
Sub-Location	**No**	**%**	**no**	**%**	**no**	**%**
Kamuyu	6	66.7%	3	33.3%	9	18.0%
Lainguse	17	41.5%	24	58.5%	41	82.0%
Grand Total	**23**	**46.0 %**	**27**	**64.0%**	**50**	**100%**

Majority [60%; 30/50] of the donkeys assessed were between 5 and 15 yearsfollowed [34%; 17/50] by those below 5 years of age. The least [6.0%; 3/50] group was those aged over 15 years old.[Table 3].The age distribution of the donkeys assessed was relatively the same in both Kamuyu and Lainguse Sub Locations as shown in Table 3 below.

Table 3 Age group distribution of donkeys assessed in Ollainguse Location

	< 5		5<X<15		>15		Grand Total	
Sub-Location	**No**	**%**	**No**	**%**	**no**	**%**	**No**	**%**
Kamuyu	3	33.3%	5	55.6%	1	11.1%	9	18.00%
Lainguse	14	34.1%	25	61.0%	2	4.9%	41	82.00%
Grand Total	**17**	**34.00%**	**30**	**60.00%**	**3**	**6.00%**	**50**	**100.00%**

4.2. Husbandry and management of working donkeys in Ollainguse Location, Kesses Constituency, Uasin-gishu County.

4.2.1. Donkey keeping and species mixing

About 84% [42/50] owners do not house their donkeys while 8/50[16%] provided housing none of which comes from Kamuyu (Table 4)

Table 4Table showing sheltering of donkeys

	NO		YES		Grand Total	
Sub Location	**No**	**%**	**No**	**%**	**No**	**%**
Kamuyu	9	100%	0	0.00%	**9**	**18.00%**
Lainguse	33	80.5%	8	100.00%	**41**	**82.00%**

Grand Total	**42**	**84.00%**	**8**	**16.00%**	**50**	**100.00%**

Thirty nine out of fifty (39/50) owners mixed their donkeys with other animals like cattle, while the other 22% (11/50) did not. Most (90%; 45/50) of the donkey owners had other animal in the homestead, the other 10% (5/50) had no other species in the homestead (Table 5).

Table 5 Table showing mixing with other species by donkey owners

	NO		**YES**		**Grand Total**	
	No	**%**	**No**	**%**	**No**	**%**
Kamuyu	7	20.59%	2	22.22%	**9**	**18.00%**
Lainguse	32	79.41%	9	21.95%	**41**	**82.00%**
Grand Total	**39**	**78.00%**	**11**	**22.00%**	**50**	**100.00%**

Most 80%[40/50] of the owners didn't give the reason for not mixing donkeys with other animals while 10% had donkey as the only animal in the homestead. Eight percent (4/50) of the owners said donkeys spread diseases to other animals while the other 2% (1/50) thought that donkeys will kick cattle.

Table 6 Reason for not mixing donkeys with other species

	kick cattle		**Owns only one donkey**		**spread diseases**		**Grand Total**	
	No	**%**	**No**	**%**	**No**	**%**	**no**	**%**
Kamuyu	0	0.00%	1	100.00%	0	0.00%	**1**	**10.00%**
Lainguse	1	11.12%	4	44.44%	4	44.44%	**9**	**90.00%**
Grand Total	**1**	**10.0%**	**5**	**50.00%**	**4**	**40.0%**	**50**	**100.00%**

Most (88%) 44/50 donkey owners had only one donkey in the homestead while 16% (8/50) had two donkeys and those with 3 donkeys were12% (6/50).

Table 7Number of donkeys owned in each homestead

	One Donkey		Two Donkeys		Three Donkeys		Grand Total	
	No	%	no	%	No	%	No	%
Kamuyu	8	88.89%	0	0.00%	3	33.33%	**11**	**18.97%**
Lainguse	36	87.80%	8	19.51%	3	7.32%	**47**	**81.03%**
Grand Total	**44**	**88.00%**	**8**	**16.00%**	**6**	**12.00%**	**58**	**100.00%**

4.2.2. Donkey Feeding and Watering

All owners provided water for their animals. Pasture grazing was highly utilized by almost all the donkey owners [49/50-98%] while only one owner zero grazed his donkey (Table 8)

Table 8 Pasture grazing vs zero grazing

	PASTURE		zero grazed		Grand Total	
	No	**%**	**no**	**%**	**no**	**%**
Kamuyu	8	88.89%	1	11.11%	**9**	**18.00%**
Lainguse	41	100.00%		0.00%	**41**	**82.00%**
Grand Total	**49**	**18.00%**	**1**	**2.00%**	**50**	**100.00%**

Mineral supplementation was carried out by 84% (42/50) of the donkey owners provided mineral supplements to the donkeys while 16% did not offer mineral supplementationsFigure 2 below.Of those that did not give mineral supplements, 12% believed donkeys become lazy when given salt while 10 % said the donkeys do not need to take salts. The other 2% blamed the cost of salt.as shown inTable 9 below.

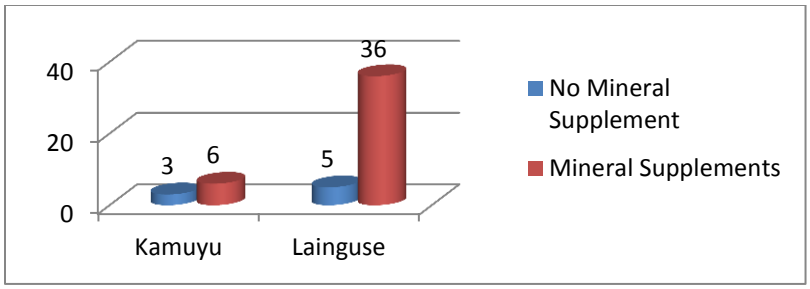

Figure 2 Mineral Supplementation of donkeys in Ollainguse

Table 9 Reason for no mineral provision

	become lazy		don't take		Expensive		Grand Total	
	No	**%**	**No**	**%**	**No**	**%**	**No**	**%**
Kamuyu	2	66.67%	0	0.00%	1	33.33%	**3**	**37.5%**
Lainguse	4	80.0%	1	20.0%	0	0.00%	**5**	**62.5%**
Grand Total	**6**	**75.0%**	**1**	**12.50%**	**1**	**12.50%**	**8**	**100.00%**

4.2.3. Donkey health management

When asked about donkey sicknesses, 39/50[78%] agreed that donkeys get sick while 22% (11/50) said donkeys do not get sick. The proportions were almost the same in the two locations as shown in Table 10.

When asked about what made donkeys not sick, forty nine percent (4/9 believed there are no donkey diseases while 33.33% (3/9) attributed lack of sickness to regular deworming and other 22.22% (2/9) to change of beddings and regular deworming also Table 11

Table 10Donkey owner experience with donkey sickness

	None		YES		Grand Total	
	No	**%**	**no**	**%**	**No**	**%**
Kamuyu	2	22.22%	7	77.78%	**9**	**18.00%**
Lainguse	9	21.95%	32	78.05%	**41**	**82.00%**
Grand Total	**11**	**22.00%**	**39**	**78.00%**	**50**	**100.00%**

Time taken to respond to sickness 14/50-28% responded immediately once the donkey was unwell while 22%[11/50] took more than two days. Some could not respond immediately but took less than 2 days [28%] as shown in Table 11.

Table 11Length of response to sicknesses in days

	<2days		>2days		Immediately		Grand Total	
	no	**%**	**No**	**%**	**no**	**%**	**No**	**%**
Kamuyu	3	33.33%	2	22.22%	3	33.33%s	**9**	**18.00%**
Lainguse	11	26.83%	9	21.95%	11	26.83%	**41**	**82.00%**
Grand Total	**14**	**28.00%**	**11**	**22.00%**	**14**	**28.00%**	**50**	**100.00%**

Sickness manager 25/50-50% of the sick donkeys were attended to by the owner while community animal health workers attended to 3/50[6%] of the cases. The vets attended to 13/50[26%] of the cases and animal health assistants 7/50[14%]. 4% of the donkeys were never attended to at all. No donkey was left unattended to in Kamuyu (Table 12).

Table 12 Persons responding to donkeys for treating diseases

	AHA		**CAHW**		**Owner**		**Vet**		**Grand Total**	
	no	**%**	**No**	**%**	**no**	**%**	**no**	**%**	**No**	**%**
Kamuyu	2	22.22%	1	11.11%	4	44.44%	2	22.22%	9	18.00%
Lainguse	5	12.20%	2	4.88%	21	51.22%	11	26.83%	41	82.00%
Grand Total	**7**	**14.00%**	**3**	**6.00%**	**25**	**50.00%**	**13**	26.00%	**50**	**100.00%**

Most, 48/50-96% of the owners didn't work their donkeys when sick while 2/50[4%] worked them [2% in each sub-location].Worm control; 45/50-90% deworm their donkeys while 5/50[10%] do not with the lowest number from Lainguse (Table 13) A higher number of donkey owners deworm their donkeys once a year[28%]. 24% deworm them twice a year,20% deworm donkeys 4 times a year while 4% do them 6 times per year. 4% never dewormed their donkeys while 8% do not remember. 2% said donkeys have no worms hence no need to deworm while 98% inclusive of some who do not deworm with no reason (Table 13).

Table 13 Worm control

	NO		**YES**		**Grand Total**	
	No	**%**	**no**	**%**	**No**	**%**
Kamuyu	2	22.22%	7	77.78%	9	18.00%
Lainguse	3	7.32%	38	92.68%	41	82.00%
Grand Total	**5**	10.00%	**45**	**90.00%**	**50**	**100.00%**

Most 34/50 [68%] of the donkey owners do not vaccinate their donkeys against common diseases while 18 % did [Table 14]. Six percent vaccinations were done by vet while AHA did 4%. 2% of the owners had only heard of vaccination done in Naivasha. Twenty two percent of the owners were not aware of the diseases that are vaccinated (Table 15).

Table 14 Vaccination

	N/A		**NO**		**YES**		**Grand Total**	
	No	**%**	**no**	**%**	**No**	**%**	**No**	**%**
Kamuyu	2	22.22%	6	66.67%	1	11.11%	9	18.00%
Lainguse	5	12.20%	28	68.29%	8	19.51%	41	82.00%
Grand Total	**7**	**14.00%**	**34**	**68.00%**	**9**	**18.00%**	**50**	**100.00%**

.

Table 15 Vaccinator

	AHA		**Only done in Naivasha**		**Owner**		**Vet**		**Grand Total**	
	no	**%**	**No**	**%**	**No**	**%**	**No**	**%**	**No**	**%**
Kamuyu		0.00%		0.00%		0.00%	1	11.11%	9	18.00%
Lainguse	2	4.88%	1	2.44%	1	2.44%	2	4.88%	41	82.00%
Grand Total	**2**	**4.0%**	**1**	**2.00%**	**1**	**2.0%**	**3**	**6.0%**	**50**	**100.0%**

Slightly less than half [24/50; 48%] of the owners controlled ticks on their donkeys by spraying and others by hand picking while 22% did not. 30% did not indicate whether they control ectoparasites or not. Table 16

Table 16 ectoparasites control for donkeys in Ollainguse

	Not necessary		**Necessary but not controlling**		**Controlling**		**Grand Total**	
	No	**%**	**no**	**%**	**no**	**%**	**No**	**%**
Kamuyu	3	33.33%	3	33.33%	3	33.33 %	9	18.00%
Lainguse	12	29.27%	8	19.51%	21	51.22 %	41	82.00%

Grand Total	**15**	**30.00%**	**11**	**22.00%**	**24**	**48.0%**	**50**	**100.0 %**

4.3. Utilization of working donkeys in OllainguseLocation, KessesConstituency, Uasin-gishuCounty.

Major work done by donkeys was that of transporting goods by pack [64%32/50] followed by those ploughing at the same time transporting goods by pack (28%}. Ploughing and pulling cart are the least. No donkeys were used for purely ploughing and pulling cart in Kamuyu (Table 17)

Table 17 Work type of donkeys in Ollainguse

	P/TGP		**Ploughing**		**TGC**		**TGC/TGP**		**TGP**		**Grand Total**	
	No	**%**	**No**	**%**	**No**	**%**	**No**	**%**	**No**	**%**	**No**	**%**
Kamuyu	2	22.22 %		0.00 %		0.00 %	1	11.11 %	6	66.67 %	9	18.00%
Lainguse	12	29.27 %	1	2.44 %	2	4.88 %		0.00%	26	63.41 %	41	82.00%
Grand Total	**14**	**28.0%**	**1**	**28.0 %**	**2**	**4.0%**	**1**	**28.0%**	**32**	**64.0%**	**50**	**100.0%**

In both locations, ploughing usingdonkeys was not a priority [52%]. Most donkeys in both the locations were used to carry charcoal [31/50-62%]. Eighty percent were used to ferry firewood in both locations. Most of the donkeys in Kamuyu 89% ferry fire wood. 64% of the donkeys in both locations are used for carrying farm produce. 36% are not used. Those used are almost of equal proportions in both the sub-locations.64% of the donkeys in both locations are used for carrying farm inputs. 36% are not used. Those used are almost of equal proportions in both the locations. 32/50 donkey owners use their donkeys to fetch water [64%] while 36% did not (Table 18). Padding; 43/50-86% of the donkey owners prevent contact between the skin and the load on the

back while 10 % do not. 4% use their donkeys in works which do not involve transporting goods by pack (Table 18).

Table 18 Padding of donkeys during load carriage

	N/A		NO		YES		Grand Total	
	No	**%**	**no**	**%**	**no**	**%**	**No**	**%**
Kamuyu		0.00%		0.00%	9	100.00%	9	18.00%
Lainguse	2	4.88%	5	12.20%	34	82.93%	41	82.00%
Grand Total	**2**	**4.00%**	**5**	**10.00%**	**43**	**86.00%**	**50**	**100.00%**

When asked about the type of pad used; 20/50- 40% of the owners use soft clothes as pads, 11/50-22% use mattress, 9/50-18% use maize bags and 2% use blanket. 9/50-18% of the owners use no material at all. Only one owner [1%] in Lainguse location gave a reason of donkeys becoming lazy when padded. Working days per week;Majority of the donkeys are worked for six days in a week[40.80%], 28% are worked for 5 days, 4 and 7 days have a proportion of 11.20% while those worked for three days are 7.20%. only 1.60% owners work their donkeys only one day in a week. Table 22 Most donkeys do the work in a day for 4hrs [34%], followed by those working for 5hrs[22%] and 6hrs[20%], 2hrs[8%],3hrs[12%] and the least being those working for 8hrs[4%]. 48/50[96%] of the owners rest their donkeys after work, no owner in Kamuyu do not rest their donkey while4% in Lainguse do not (Table 19)

Table 19 Working hours per day

	2hrs		3hrs		4hrs		5hrs		6hrs		8hrs		Grand Total	
	No	**%**	**No**	**%**	**No**	**%**	**No**	**%**	**No**	**%**	**No**	**%**	**No**	**%**
Kamuyu	1	11.11%		0.00%	6	66.67%	0	0.00%	1	11.11%	1	11.11%	9	18.00%
Lainguse	3	7.32%	6	14.63%	11	26.83%	11	26.83%	9	21.95%	1	2.44%	41	82.00%
Total	**4**	8.00%	**6**	**12.00%**	**17**	**34.00%**	**11**	**22.00%**	**10**	**20.00%**	**2**	**4.00%**	**50**	**100.0%**

Tail rope management- 44/50 [88%] owners prevent contact between skin at the tail base and the rope while 3/50- 6% do not, the other 6% use their donkeys in works that do not involve passing the rope on the tail (Table 20). 29/50 0wners prevent contact by use of soft cloth while 26% use plastic tube and 2% use thin blanket.

Table 20 Tail rope management

	N/A		**NO**		**YES**		**Grand Total**	
	No	**%**	**no**	**%**	**no**	**%**	**No**	**%**
Kamuyu		0.00%		0.00%	9	100.00 %	9	18.00%
Lainguse	3	7.32%	3	7.32%	35	85.37%	41	82.00%
Grand Total	**3**	**6.00%**	**3**	**6.00%**	**44**	**88.00%**	**50**	**100.00 %**

The rest do not use any material or work done by donkey do not involve passing rope across the tail base from underside. 2% claimed the donkey become lazy while 4% use wide rope at the tail. Distance travelled in a day while working; Majority of the donkeys travel distance less than 5km [34/50-68%] while those going more than 15km are 4%, 14/50-28% travel distances between 5 and 15 km. (Table 21).

Table 21 Distance travelled in a day

	<5km		**5<x<10**		**10<x<15km**		**Grand Total**	
	No	**%**	**no**	**%**	**No**	**%**	**No**	**%**
Kamuyu	4	44.44%	4	44.44%	1	11.11%	9	18.0%
Lainguse	30	73.17%	10	24.39%	1	2.44%	41	82.0%

4.4. Welfare status of working donkeys in Ollainguse location, Kesses constituency, Uasin-gishu County

Fifty four percent of the donkeys (27/50) donkeys were dull with only one donkey in Kamuyu. Others were active and alert except one donkey in Kamuyu which was depressed (Table 22).

Table 22 General attitude of donkeys in Ollainguse

	ALERT		DEPRESSED		DULL		Grand Total	
	No	**%**	**No**	**%**	**no**	**%**	**No**	**%**
Kamuyu	3	33.33%	1	11.11 %	5	55.56%	9	18.00%
Lainguse	19	46.34%	0.00%	0.00%	22	53.66%	41	82.00%
Grand Total	**22**	**44.00 %**	**1**	**2.00%**	**27**	**54.00 %**	**50**	**54.00 %**

Response to observer approach assessment revealed that 30/50-60% of the donkeys moved away when approached while14/50- 28% only turned their head towards the observer while 12% showed no response at all (Table 23).

Table 23 Response to observer approach

	Moves Away		No Response		Turn Head		Grand Total	
	no	**%**	**No**	**%**	**no**	**%**		
Kamuyu	7	77.78%	1	11.11%	1	11.11%	9	18.00%
Lainguse	23	56.10%	5	12.20%	13	31.71%	41	82.00%
Grand Total	**30**	**60.00 %**	**6**	**12.00 %**	**14**	**28.00 %**	**50**	**100.00 %**

Response to walking side of the donkey; 31/50- 62 % of the donkeys turned their heads upon walking their sides while 38% could not (Table 24)

Table 24 Response to walking side the animal

	NO TURN HEAD		TURN HEAD		Grand Total	
	No	**%**	**no**	**%**	**No**	**%**
Kamuyu	2	22.22%	7	77.78%	9	18.00%
Lainguse	17	41.46%	24	58.54%	41	82.00%
Grand Total	**19**	**38.00%**	**31**	**62.00 %**	**50**	**100.00 %**

Most (96%-48/50) donkeys had their tails not tucked in but tucking observed in only two donkeys both in Lainguse and Kamuyu (Table 25).

Table 25 Tail tuck

	NO TUCK		TUCK		Grand Total	
	No	%	no	%	No	%
Kamuyu	8	88.89%	1	11.11%	9	18.00%
Lainguse	40	97.56%	1	2.44%	41	82.00%
Grand Total	**48**	**96.00%**	**2**	**4.00%**	**50**	**100.00%**

Seventy percent (37/50) of the donkeys accepted chin contact more so by the owners while 26% avoided.Body condition score. 38/50-76% of the donkeys had a body condition score of 3 while 11/50-22% had a score of 2 and only one donkey in Lainguse had a score of 1 (Table 26).

Signs of limb tethering Lose of hair as a result of limb tethering was evident in 20/50-40% of the donkeys, 9/50-18% showed shallow grooves while 4% had deep grooves and the rest had no signs of limb tethering. Those donkeys with deep grooves were all from Lainguse (Table 27).

Table 26 Body condition score

	Good Muscle Cover		Prominent Ribs		Slight Muscle Cover		Grand Total	
	No	**%**	**no**	**%**	**no**	**%**	**no**	**%**
Kamuyu	8	88.89%	0	0.00%	1	11.11%	9	18.00%
Lainguse	30	73.17%	1	2.44%	10	24.39%	41	82.00%
Grand Total	**38**	**76.00%**	**1**	**2.00%**	**11**	**22.0%**	**50**	**100.0 %**

Table 27 Signs of limb tethering

	Alopecia		Deep Groove		Groove		None		Grand Total	
	No	**%**	**No**	**%**	**No**	**%**	**No**	**%**	**No**	**%**
Kamuyu	1	11.11%		0.00%	7	77.78%	1	11.11%	9	18.00%
Lainguse	19	46.34%	2	4.88%	11	26.83%	9	21.95%	41	82.00%
Grand Total	**20**	**40.00%**	**2**	**4.00%**	**18**	**36.00%**	**10**	**20.00 %**	**50**	**100.00 %**

There were over sixty percent (33/50- 66%) of the donkeys had ectoparasites while 34% didn't table 28. The donkeys with no single ectoparasite were 17/50-34% whereas 15/50-30% had both

ticks and flies, 12% were only infested by flies with none in Kamuyu while 12/50-24% had only ticks (Table 29).

Table 28 Ectoparasite infestation among working donkeys in Ollainguse

	Absent		Present		Grand Total	
	No	**%**	**No**	**%**	**No**	**%**
Kamuyu	2	22.22%	7	77.78%	**9**	**18.00%**
Lainguse	15	36.59%	26	63.41%	**41**	**82.00%**
Grand Total	**17**	**34.00%**	**33**	**66.00%**	**50**	**100.00%**

Table 29 Type of ectoparasite among working donkeys

	Absent		flies		flies, ticks		Ticks		Grand Total	
	No	**%**	**No**	**%**	**no**	**%**	**no**	**%**	**No**	**%**
Kamuyu	2	22.22%	0	0.00%	6	66.67%	1	11.11%	**9**	**18.00%**
Lainguse	15	36.59%	6	14.63%	9	21.95%	11	2.44%	**41**	**82.00%**
Grand Total	**17**	**34.00%**	**6**	**12.00%**	**15**	**30.00%**	**12**	**24.00%**	**50**	**100.00%**

4.4.1. External wounds/lesions

Most (48/50 96%)donkeys had no lesions in the head while only 4% had alopecia and all were from Lainguse [Table 30]. 34/50- 68% of the donkeys had no lesions on the ears, Thirty percent (15/50) had shallow wounds with only 2% from Lainguse with deep cuts [Table 31]. 39/50-78% donkeys had no lesion on the neck, only 22 % had alopecia with 18.18% from Kamuyu and the rest from Lainguse (Table 32).

Table 30 Head lesions among working donkeys

	Absent		Alopecia		Grand Total	
	No	**%**	**no**	**%**	**No**	**%**
Kamuyu	9	100.00%	0	0.00%	**9**	**18.00%**
Lainguse	39	95.12%	2	4.88%	**41**	**82.00%**
Grand Total	**48**	**96.00%**	**2**	**4.00%**	**50**	**100.00%**

Table 31 Ear lesions among working donkeys

	Absent		Deep Cuts		Shallow sounds		Grand Total	
	No	**%**	**No**	**%**	**No**	**%**	**No**	**%**
Kamuyu	8	88.89%	0	0.00%	1	11.11%	9	18.00%
Lainguse	26	63.41%	1	2.44%	14	34.15%	41	82.00%
Grand Total	**34**	**68.00%**	**1**	**2.00%**	**15**	**30.00%**	**50**	**100.00%**

Table 32 Neck lesions among working donkeys

	Absent		Alopecia		Grand Total	
	No	**%**	**No**	**%**	**No**	**%**
Kamuyu	7	77.78%	2	22.22%	**9**	**18.00%**
Lainguse	32	78.05%	9	21.95%	**41**	**82.00%**
Grand Total	**39**	**78.00%**	**11**	**22.00%**	**50**	**100.00%**

Shoulder and breast,withers and spine and ribs and flank assessment for lesions revealed 66% (33/50) donkeys showed no shoulder and breast lesions while 17/50-34% had alopecia with 88.24% from Lainguse and the rest from Kamuyu [Table 33]. Lesions of withers and spine absent in 32/50 donkeys while 16/50 showed alopecia 81.25% of which were from Lainguse, shallow wounds were observed in 4% of the donkeys [Table 34]. 50% of the donkeys had alopecia on the ribs and flank area with almost equal divisions inbothlocations. (Table 34).

Table 33 Shoulder and breast lesions

	Absent		Alopecia		Grand Total	
	No	**%**	**No**	**%**	**No**	**%**
Kamuyu	7	77.78%	2	22.22%	9	18.00%
Lainguse	26	63.41%	15	36.59%	41	82.00%
Grand Total	**33**	**66.00%**	**17**	**34.00%**	**50**	**100.00%**

Table 34 Withers and spine lesions

Absent	Alopecia	Shallow Wounds	Grand Total

	No	%	No	%	No	%	No	%
Kamuyu	5	55.56%	3	33.33%	1	11.11%	9	18.00%
Lainguse	27	65.85%	13	31.71%	1	2.44%	41	82.00%
Grand Total	**32**	**64.00%**	**16**	**32.00%**	**2**	**4.00%**	**50**	**100.00%**

Table 35 Ribs and flank area lesions

	Absent		Alopecia		Shallow Wounds		Grand Total	
	No	%	No	%	no	%	No	%
Kamuyu	4	44.44%	5	55.56%	0	0.00%	**9**	**18.00%**
Lainguse	20	48.78%	20	48.78%	1	2.44%	**41**	**82.00%**
Grand Total	**24**	**48.00%**	**25**	**50%**	**1**	**100%**	**50**	**100.00%**

Lesions of the fore quarters;Shallow wounds were observed in one donkey from Lainguse. 90 % of the donkeys had no lesions on the forequarters with only 4% showing alopecia and one donkey from Laingusehaving deep cut wounds (Table 36)

Table 36 Fore quarter lesions

	Absent		Alopecia		Deep Cut Wounds		Grand Total	
	No	%	No	%	No	%	No	%
Kamuyu	7	77.78%	2	22.22%		0.00%	**9**	**18.00%**
Lainguse	38	92.68%	2	4.88%	1	2.44%	**41**	**82.00%**
Grand Total	**45**	**90.00%**	**4**	**8.00%**	**1**	**2.00%**	**50**	**100.00%**

Lesions of the hind quarters were present in 76% (38/50) of the donkeys had no lesions on the hind quarters but 16% showed alopecia with one animal having deep cut wounds from Lainguse and 6% of the donkeys showing shallow wounds (Table 37)

Table 37 Hind quarter lesions

	Absent		Alopecia		Deep Cuts		Shallow Wounds		Grand Total	
	No	%	No	%	No	%	No	%	No	%

kamuyu	6	66.67%	1	11.11%	0	0.00%	2	22.22%	9	18.00%
lainguse	32	78.05%	7	17.07%	1	2.44%	1	2.44%	41	82.00%
Grand Total	**38**	**76.00%**	**8**	**16.00%**	**1**	**2.00%**	**3**	**6.00%**	**50**	**100.00%**

Thirty eight percent of donkeys (19/50) showed no lesion on the tail while 16/50-32% had shallow wounds and 15/50-30% were alopecic around the tail region (Table 38)

Table 38 Tail region lesions

	Absent		**Alopecia**		**Shallow Wounds**		**Grand Total**	
	No	**%**	**No**	**%**	**No**	**%**	**No**	**%**
Kamuyu	1	11.11%	2	33.33%	6	66.67%	9	18.00%
Lainguse	18	43.90%	13	31.71%	10	39.02%	41	82.00%
Grand Total	**19**	**38.00%**	**15**	**30.00%**	**16**	**32.00%**	**50**	**100.00%**

Carpus and hock lesions were present in half [50%] of the donkeys which had alopecia of the knees/carpus while the rest were lesionles. Kamuyu had the highest number of donkeys with no lesion[66.67%] as shown in Table 39. 41/50[82%] donkeys had no lesion on the hock while 18% showed alopecia. Majority with no lesion were from Lainguse (Table 40)

Table 39 Knee/carpus lesions

	ABSENT		**ALOPECIA**		**Grand Total**	
	No	**%**	**no**	**%**	**No**	**%**
Kamuyu	6	66.67%	3	33.33%	9	18.00%
Lainguse	19	46.34%	22	53.66%	41	82.00%
Grand Total	**25**	**50.00%**	**25**	**50.00 %**	**50**	**100.00 %**

.Table 40 Hock lesions

	ABSENT		**ALOPECIA**		**Grand Total**	
	No	**%**	**no**	**%**	**no**	**%**
Kamuyu	6	66.67%	3	33.33%	9	18.00%
Lainguse	35	85.37%	6	14.63%	41	82.00%

Grand Total	**41**	**82.00%**	**9**	**18.00%**	**50**	**100.00%**

Hoof shape and sole shape abnormalities were present in most (35/50-70%) of the highest occurrence in 88.89% from Kamuyu while those with normal hoof shape had the highest from Lainguse (Table 41)

Table 41 Donkey Hoof shape

	Abnormal		**Normal**		**Grand Total**	
	No	**%**	**No**	**%**	**No**	**%**
Kamuyu	8	88.89%	1	11.11%	**9**	**18.00%**
Lainguse	27	65.85%	14	34.15%	**41**	**82.00%**
Grand Total	**35**	**70.00%**	**15**	**30.00%**	**50**	**100.00 %**

CHAPTER FIVE

5.0. DISCUSSION

Majority [84%; 42/50] of the donkeys were not housed although donkeys need protection from rain, flies, strong winds and cold nights [Jones, 1991]. The few housed donkeys could not be provided with beddings in the houses and if any were not changed at specific time intervals. Although not all were mixed with cattle for some owners believed they spread diseases and kick cattle while others did not have cattle. Domesticated donkeys interact well with other types of livestock including horses, cows, goats, sheep and llamas and will act aggressively towards other animals only if they feel threatened or are protecting their young.

Majority[98%]of the donkeys were on pastures while onlyone donkey was zero-grazed among those studied. Donkeys are nutritionally adapted to life in arid lands being efficient users of low quality, high fibre food and able to tolerate up to 30% dehydration [Yousef, 1991]. The above adaptations means the donkey can survive on very little but problems arises when there is absolute lack of food or unbalanced diets. Mineral supplementation was an essential provision to majority [84%] while minority [12%] could not cause they reported cases of laziness once the donkeys are given mineral licks, cost of minerals [2%] and that some donkeys never took salt[10%], this translates to lack of essential minerals to the donkeys leading to poor health. The minerals promote overall development, strength of muscles and breeding matters.

Most owners [78%-39/70] reported donkeys becoming sick while a few [22%-11/50] said there are no donkey diseases, this may be attributed to the majority having experience on working donkeys after along stay with. The common health problems including internal parasites,foot conditions, back and harness sores and wounds are usually simple to treat if the owner can afford

the treatment [Aluja and Lopez, 1991; Sims and Maldonado 1991] Sick donkeys were attended to in a span from immediate to more than two days with owners attending to half [50%-25/50] of the cases while CAHW [6%-3/50], vets attended 26%[13/50] of the cases and AHA attended to 14% whereas 4% were never attended to at all. Most owners [90%] dewormed their donkeys while 10% do not. Failure to deworm impacts on the work output of the donkeys [Wells*et al.,* 1998] while routine worming results in increased body condition [Bliss *et al.,* 1985].Vaccination; 34/50[68%] of the donkey owners do not vaccinate their donkeys against common diseases while 18 % did. Regular vaccinations of donkeys are an important part of their primary care to prevent some serious and potentially life-threatening diseases.

Donkey owners in Ollainguse location dependon donkeys for their livelihoods due to their poor living standards and hence can afford , work done by these donkeys include; ploughing, carrying firewood and charcoal, transporting farm produce and inputs, pulling carts and carrying water. Much of these works would have been done by women in the absence of donkeys and therefore donkeys play a key role in women empowerment. Majority [86%] of the owners provide pads to prevent contact between the pack and the skin of the animal, the contact between rope and tail base is prevented by use of soft cloth [58%-29/50] and plastic tube [26%-13/50] , other owners do not prevent for the reason that donkeys become lazy [2%] and use of wide rope [4%]. Inadequate padding and absence of cloth at the tail base together with use plastic tube may cause injury to the animal and hence pain. Wounds are one of the primary welfare concerns of working equids and are often related to harness or load-bearing packs [Sells *et al.,* 2010]. Donkeys in Ollainguse location works between 4 and 6hours per day and are rested after work.

On observation of the donkeys, majority [54%-27/50] were dull and one [2%] depressed and the rest [44%; 22/50] were alert and active. On approaching, 12% [6/50] never responded at all,

majority [60%] moved away while a few [28%-14/50] only turned their heads. Walking down their sides elicited a turn of head to follow the observer in 62% [31/50] of the donkeys. 4% had their tails tucked in. Most donkeys 74%37/50] accepted chin contact by the owners while the rest avoided. The donkeys' response towards people may be affected by the surroundings. A good body condition score was evident in majority of the donkeys 76% [3 1-5] giving an hint on the enough nutrients they get through grazing and good worming [Bliss *et al.,* 1985] while those with fair [2] were 22% and poor [1] 2%. Loss of hair as a result of limb tethering was 40% and 18% incidence of shallow grooves and 4% deep grooves. The above might be due to use of thin rope or too tight on the leg which in addition impairs with blood supply to the limb.

Alopecia was the most notable lesion of the skin in majority of the donkeys this was attributed to inadequate pad or lack of it especially on the back. Shallow wounds and deep cuts as a result of trauma was the least with only 3/50 donkeys. Abnormality of the hoof shape was also high [88.88%] together with that of sole shape and structure, this impairs with the movement of the animal and hence the overall working of the donkey.

CHAPTER SIX

6.0. CONCLUSION AND RECOMMENDATION

6.1. CONCLUSION

From the results of this study, the following conclusions can be drawn;

- Though many donkey owners appreciate good husbandry, most did not provide basic requirements such as housing and concentrate supplementation
- Donkey owners and users are not aware of donkey diseases and have inadequate access to veterinary services
- Most donkeys on Ollainguse are used for transport of goods by pack mainly firewood, water, charcoal and farm produce

6.2. RECOMMENDATION

The following are the suggested recommendations to address above stated findings of the study;

- Training and facilitation of owners to provide housing of donkeys to protect them against harsh environmental conditions and predators, provision of beddings and regularly changing is recommended.
- Owners should be trained on identifying sick donkeys and linked to quality veterinary services for appropriate disease management and improved welfare
- Owners and users should be equipped with knowledge and skills in identifying donkey behaviour and performance and to allow for adequate resting during work to allow for feeding and socialization.
- More research should be conducted to identify the key risk factors for the identified poor welfare parameters and suggested interventions for improved donkey productivity.

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APPENDICES

APPENDIX I: STUDY QUESTIONAIRE ON DONKEY WELFARE

Please fill this questionnaire to the fullest of your ability

1Farmer/user details

Name……Location……Sub Location……

Name of the donkey……Age…….Sex……

Donkey ownership: self ( ) hired( )

II**. HUSBANDRY**

1 Do you house your donkey? Yes or no……..if no why not and where do they rest…….

2 Do you provide beddings in the house?**.....**

3 How often do you change the beddings?**.....**

4 Do you keep donkeys with other animals? Yes ( ) No( )

Give a reason for your answer above……

5 If you keep donkeys on their own, do you separate young from mature and males aside?**.....**

NUTRITION

1 What do you feed donkeys on? Pasture only or zero grazing

If grazing on pastures at what time do they graze?**.....**

2 Do you provide mineral licks to the donkeys? Yes ( ) No( )

If No, why not ……..…….

3 Do you provide water to your donkeys? Yes ( ) No ( )

IfYes,What type of Mineral……. How is it offered? ad libitum lick ( ) Powder in the evening ( ) or how many times in a day…….

If No why not……..

4 What is the source of water? River( ) Borehole( ) Other ( )……

HEALTH

1 Do the donkeys get sick? Yes ( ) No( )a

IfNo; Why do you think so? ……

2How long do you take to respond to the sickness?.....

3 Who manages the donkeys when they are unwell?.....

4 Do you work the donkeys when they are unwell? Yes() No( )

if yes, why……

5 Do you deworm the donkeys? Yes( ) No( )

if yes how often…….

And if no why not?.....

6 Do you vaccinate the donkeys against common diseases? No, why not…….

Yes( ) who does it …… and what diseases?.....

7 How do you take care of ectoparasites?.....

WORKING

1 What kind of work do your donkeys do?

ploughing( )fetching firewood( )carrying charcoal( )transporting seedlings and crops( )ferrying water( ) give any other work it does……

2 Do you provide saddle? Yes( ) No( )

If Yes, what kind of saddle…….

If No,Why not?…….

3 How many days in a week are they worked?.....

4 What approximate time do they work?..... and when do they rest?.....

5 Do you prevent contact between skin and rope at the base of the tail? Yes( ) No( )

If yes, what do you use…….

If not why not why not……

6 What is the longest distance (Km) donkeys travel while working?.....

7 Generally in your opinion what are the challenges facing working donkeys ……

Thanks for your help

APPENDIX II: INDIVIDUAL ANIMAL ASSESSMENT FORM

1 GENERAL INFORMATION

Date…… time…… observer……

Location……..Type of work done by donkey…….

Sex-male or female…….

2 OBSERVATION OF HEAD AREA AND BEHAVIOUR OF THE DONKEY

General attitude 0/1/2…… Response to observer approach 0/1/2/3/4……

Response to working down side of the animal NO=0 Yes=1…….

Tail tuck No=0 Yes=1…… Chin contact accept=0 avoid=1……..

Mucous membranes abnormal No=0 Yes=1…….. age group <5yrs=0 5-15=1 >16=2……

3 OBSERVATION OF HEALTH AND PHYSICAL STATUS OF THE ANIMAL

Body condition score1/2/3/4/5…….. Coat health normal=0 Abnormal=1…….

Signs of fecal Soiling's on Hind limbs No=0 Yes=1…….

Skin tent duration normal=0 abnormal=1…… Signs of heat no=1 yes=2…….

Signs of limb tethering 0/1/2/3…….. signs of firing 0/1/2/3

4 ECTOPARASITES

Ectoparasites no=0 yes=1……

Type of ectoparasites,…….

5 LESIONS OF SKIN AND DEEPER TISSUES 0/1/2/3/4/5

Head……Ears…….Neck…… Breastand shoulder……..

Withers and spine…….. Ribs and flank……. Fore quarters…….

Hind quarters……. Tail and tail base……

Knee/carpuslesions no=0 yes=1……..Hock lesions no=0 yes= 1…….

Hoof shape normal or abnormal……

Sole shape and structure Normal or abnormal……