

WELFARE OF DOGS KEPT IN THE HOMES AROUND UTHIRU IN KIKUYU DISTRICT,  
KIAMBU COUNTY.

**The project is submitted in partial fulfillment of the requirements for the award of  
Bachelors degree in Veterinary Medicine.**

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**DECLARATION**

I declare that this project is my original work and has not been submitted in any other institution for the award of degree in veterinary medicine.

Name..... Sign..... Date.....

This project has been submitted for examination with the approval of University of Nairobi supervisor.

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## **ABSTRACT**

Animal welfare is the well-being of animals. It is the ability of an animal to interact comfortably with its environment through its physiological, psychological and behavioral systems.

Many households in Kenya own dogs for different purposes but mainly for security/guarding owing to the rising cases of insecurity. However, the dogs kept in many homes have their welfare violated.

The objective of this study was: 1. to determine the state of welfare of the dogs kept in the homes around Uthiru based on the five freedoms, 2. to observe indicators of poor welfare that is easily seen on dogs in the homesteads around Uthiru. This was achieved through administering structured questionnaires in a cross-sectional study of fifty homes around Uthiru area of Kiambu County. The questions in the questionnaire required information of the five welfare freedoms. The investigator administered the questionnaire as the interviewer and the dog owners were the interviewees as respondents.

Over 50% of the respondents violated the dogs' welfare through various ways. The violations observed included: provision of poor quality foods, poorly designed and uncomfortable housing facilities, confinement for long periods of time and lack of medical intervention in case of disease conditions.

The study concludes that issues of animal welfare touching on dogs have either been ignored, or totally or neglected due to lack of adequate laws to protect them or convict those who violate them.



## CHAPTER 1

### 1.0 INTRODUCTION

The domestic dog (*Canis lupus familiaris*) is a furry canid carnivorous mammal, and has long been referred to as “man’s best friend”. The dog has been widely kept as a working, hunting and pet companion. It is estimated there are between 700 million and 1 billion dogs worldwide, making them the most abundant members of the Order Carnivora. Other purposes of the dog are; trailing game, guarding homes and property, herding livestock, sports and circus (Wikipedia, 2015).

Animal welfare refers to the well-being of animals (Hewson, 2003). There are standards that have been set as indicators and measures of animal welfare. However, these standards are under constant review and are debated, created and revised by animal welfare groups, legislators and the academics worldwide (Grandin *et al.*, 2013).

Animal welfare is based on five freedoms which are: 1. Freedom from hunger and thirst by provision of a healthy and wholesome diet and clean drinking water to nourish and sustain life, 2. Freedom from pain, injury and disease through disease prevention and treatment, 3. Freedom from fear and distress by not subjecting the animal to mental/psychological stress, 4. Freedom to indulge in normal behavioral patterns by provision of adequate space and facilities, 5. Freedom from thermal and physical discomfort through the provision of a suitable environment.

The concept of animal welfare began with ancient civilizations, but initial inclusion in public policy was in Great Britain in the 19<sup>th</sup> century. In the 21<sup>st</sup> century it has emerged to be of much interest in science, ethics and animal welfare organizations (Wikipedia, 2015).

The welfare of dogs in the low-income homes in Kenya has not been documented and this is what generated interest in this preliminary survey.

## **1.1 HYPOTHESIS**

Dogs kept in the homes around Uthiru are poorly cared for with respect to all the five freedoms of welfare.

## **1.2 JUSTIFICATION**

Most Kenyan homes have at least one dog particularly due to insecurity. Personal observations in most villages have shown that dogs are underfed and kept under poor conditions. Uthiru area is inhabited by low-income households, which may predispose to dogs being kept in substandard conditions with respect to welfare.

There is no literature available on welfare of dogs in the low-income homes in Kenya. Hence the reason to designing this study to determine the welfare status of dogs in these households.

## **1.3 OBJECTIVES**

**1.4.1.** To determine the state of welfare of the dogs kept in the homes around Uthiru, based on the five freedoms

**1.4.2.** To observe indicators of poor welfare that is easily seen on dogs in the homesteads around Uthiru.

## CHAPTER 2

### 2.0 LITERATURE REVIEW

#### 2.1 Historical background

Historically, the dog was the first animal to be domesticated by man and has long been referred to as “man’s best friend” (Laveaux *et al.*,1789). Since its domestication, the dog has been used for a wide range of purposes from hunting and trailing game (Serpell *et al.*, 1995), guarding homes and property, herding livestock (Williams *et al.*, 2007), sport and circus as well as in battles such as the second world war where dogs were trained to drop bombs in enemy territory or deliver medical supplies to the injured. Dog meat is also considered a delicacy in some Asian communities (Wingfield-Hayes *et al.*, 2002). Dog meat is also consumed in some parts of Switzerland (Schwabe *et al.*, 1979)

However, since its domestication, the domestic dogs have been mostly mistreated or neglected mostly by their owners either due to lack of well defined laws protecting their welfare or due to ignorance or perception of the owners on the comfort and well-being of the dog (Wikipedia, 2015)

The concept of ‘**animal welfare**’ is believed to have originated as an “informal discipline” from different religious ancestors through the ages of civilization. The ancestors held belief in the protection and care of animals at all times (Anonymous 2010).

In practice, animal welfare may have begun in 1882 when Richard Martin, a British member of parliament proposed a bill that sought to offer protection to cattle, horses and sheep from cruelty (Wikipedia 2015).

The first animal welfare organization, “The Society for the Prevention of Cruelty to Animals” (SPCA) was formed in 1824. In 1840 it became “The Royal Society for the Prevention of Cruelty to Animals” and it was mainly involved in recruiting and training personnel whose responsibilities were to identify abuses of animals, gather evidence and report to the authorities (Moss *et al.*, 1961). Similar organizations were later formed around the world including the Kenya Society for the Protection and Care of Animals (KSPCA) formed in 1925.

Animal welfare as a ‘formal discipline’ began in 1965 with the publication of the Brambell Report by the British government which detailed the findings of a committee headed by Prof. Roger Brambell on the welfare of animals kept under intensive livestock husbandry systems in the united kingdom. On this basis the British government set up the Farm Animals Welfare Council in 1979 (Brambell Report, 1965).

With time, the laws have been revised to encompass other domestic animals including chicken, pigs, cats, rabbits, dogs and laboratory animals.

## **2.2 Definitions of animal welfare.**

There is no proper universal definition of “**animal welfare**” or a satisfactory distinction from the term “**well-being**”. However, a consensual definition is essential for practical, legislative and scientific purposes. Animal welfare can thus be defined as the ability of an animal to interact or cope comfortably with its environment resulting to satisfying both its physical and mental state

(Nguhiu-Mwangi *et al.*, 2013). It is the physical and psychological state of the animal as regards its attempt to cope with the environment (Mogoa *et al.*, 2005).

In the context of welfare, “environment” refers to both intrinsic (within the animal) and extrinsic (in the animal’s environment) animal factors to which the animal responds with its physiological and psychological systems. In contrast, animal wellbeing can be depicted as the animal’s perception of its state in trying to cope or adapt to the prevailing environmental conditions. Animal welfare has also been defined by advocating three positive conditions: living a natural life, being fit and healthy and being happy (Webster, 2008).

Concisely, animal well-being is an indication of the current state of the animal but animal welfare is a more general term referring to past, present and future implications of the animal’s state (Nguhiu-Mwangi, 2013).

### **2.3 Good animal welfare.**

Ideally, an animal that is kept in a home for different reasons is entitled to several fundamental freedoms aimed at improving the lives of the animals both physically and psychologically (Webster, 2008).

The five fundamental freedoms include;

- Freedom from hunger and thirst through the provision of food and clean drinking water to maintain health and vigor.
- Freedom from pain, injury and disease through disease prevention and treatment.
- Freedom from fear and distress by not subjecting the animal to mental/psychological stress.

- Freedom to indulge in normal behavioral patterns by provision of adequate space and facilities.
- Freedom from thermal and physical discomfort through the provision of a suitable environment.

Based on the aforementioned five fundamental freedoms, animal welfare can be assessed by considering the response of the animal to its environment using the following schools of thought;

1. **Coping approach** where the animal uses its functioning biological systems to adapt to the prevailing stressful conditions. This state includes how much it is having to do to cope, the extent to which it is succeeding in or failing to cope, and the associated feelings (Broom, 1996).
2. **Feeling approach** where the animal's mental state and feelings are assessed. Feelings are associated with the sensory system which makes the animal aware or conscious of its environment: the absence of strong negative feelings; usually called suffering, and (probably) the presence of positive feelings, usually called pleasure (Duncan, 2005).
3. **Naturalistic approach** where the animal is allowed to thrive in its natural environment and freely express its full range of behaviors (Rollin, 1981).

## **2.4 Legal aspects of animal welfare**

In recent times, animal welfare has developed into a science with growing amount of research whose outcomes have led to reforms in animal welfare and legislation and improved conditions for production animals, research animals, those kept in captivity and companion animals.

In Kenya, the Kenya Society for the protection and Care of Animals established in 1925 is hugely responsible for the issues of animal welfare (Mogoa *et al.*, 2005)

Others include; Animal Welfare Action Kenya (AWAKE) and other several Non-governmental Organizations advancing animal welfare.

The laws protecting the welfare of animals are outlined in the Prevention of Cruelty to Animals Act CAP-360 of the Laws of Kenya (Mogoa *et al.* 2005)

In Kenya, dog welfare abuse results from a variety of causes such as; neglect (Winkler, 2006), malicious physical injury (Main *et al.*, 2003), starvation, inadequate or poor nutrition (Goff, 2006), failure to treat diseases (Winkler, 2006) and confinement (Hristov *et al.*, 2008).

This has greatly been occasioned by a number of factors which include; inadequate legal and policy provisions, inadequate capacity to monitor and minimize cruelty to animal, limited animal extension services and inadequate training in animal welfare and supervision of service providers (Mogoa *et al.*, 2005)

## **2.5 Indicators of poor welfare of dogs.**

Several factors are used to detect issues of poor welfare in the homes as well as directly in dogs.

Some of these indicators include:

- Lack of housing facilities to protect the dogs from adverse climatic conditions such as rain, wind, cold and sunlight. The housing facilities available could also be poorly designed with poor ventilation, unsuitable floors and small sizes relative to the size of the dog (Anonymous, 2015).

- Confining dogs for very long periods is also detrimental to their physical and psychological wellbeing. Dogs get bored when they are left alone for long periods of time. Lack of adequate exercise also leads to health conditions like obesity (Broom & Johnson, 1993). Behavioral abnormalities e.g. excessive barking, repetitive movements and listlessness are usually observed in confined dogs (Mughal, 2002).
- Poor body condition indicates lack of food. This may force the dogs to consider other alternative sources of food e.g. coprophagy, scavenging or preying on livestock such as sheep, goats or poultry within the homes or neighboring homes (Anonymous, 2015).
- Disease conditions, injuries and skin wounds are indicators of poor health. This is assessed through finding out if treatment is provided and the response time in treating sick dogs (Anonymous, 2015).

## **2.6 Assessment of animal welfare.**

Several factors are used as indicators to evaluate the welfare of the dogs and also detect incidences of poor welfare. The most significant and relevant indicators include;

### **2.6.1. Comfort indicators**

The comfort of the animal largely depends on the presence or absence, design and condition of the housing facilities (Corrado *et al.*, 2007).

**(a) Provision of housing facilities** is important in protecting the animal against adverse climatic conditions and attacks from other animals (Broom, 2001).

**(b) Housing design** relates to the size and floor type. The housing facilities should be sufficient for the animal. The floor type should be dry, easy to clean and non-traumatic to the animal (Nguhiu-Mwangi *et al.*, 2012).

**(c) Housing conditions** refers to the ventilation, provision of beddings and cleanliness in the housing facilities. Population in the housing facilities should also be taken into consideration (Nguhiu-Mwangi *et al.*, 2012).

### **2.6.2. Pathological indicators**

This refers to incidences of disease conditions and the time it takes before treatment is instituted. Presence of external injuries, skin wounds and pain may also indicate that there is likely to be a failure to cope in the long term (Broom, 2001).

Good animal welfare requires disease prevention and vaccinations and veterinary treatment (Broom, 2001).

Mortality rate is usually also an indicator of welfare in general and health in particular in the individuals in a population (Broom, 2001).

### **2.6.3. Ethological indicators**

Ethology refers to the behavior of the animal (Wikipedia, 2015). Good animal welfare leads to good animal behavior. This leads to good interaction between the dogs, with other animals and also with humans. This interaction helps in preventing boredom as dogs are known to be very social animals (Anonymous, 2015).

Poor animal welfare leads to agonistic behavior exhibited through fear or increased aggression towards other dogs, other animals and also humans. Fear is manifested

through increased avoidance distance while aggression is expressed through attacking other dogs, other animals and humans (Anonymous, 2015).

## **CHAPTER 3**

### **3.0 MATERIALS AND METHODS**

#### **3.1 Study area**

The study was carried in the homes at Uthiru area of Kikuyu District, Kiambu County, bordering Nairobi County. Uthiru is approximately 22 kilometers west of Nairobi city centre. This is a densely populated peri-urban residential area with majority of the households being low-income and only a few middle-income.

#### **3.2 Study design**

A cross-sectional study was carried out in which 50 homes will be used in the survey. The study was carried out by administering structured questionnaires questions to the dog owners or any responsible adult in the home as respondents (interviewees).

The questions were administered by the investigator as the interviewer who filled the questionnaires according to the responses. The questionnaire consisted of simple questions such as “YES”, “NO”, “GOOD”, “POOR” for objectivity and to avoid subjective responses. The questionnaire is presented in Appendix 1. Each home was visited once for collection of data.

#### **3.3 Selection of the homes.**

A total of 50 homes were selected by following 4 major roads through Uthiru area. Systematic selection of the homes was done by using every 2<sup>nd</sup> home; i.e., entering the 1<sup>st</sup> home and skipping

the second home as 1, 3, 5, 7, 9...n. along the 4 roads. About 12 -13 homes were selected along each of the roads.

### **3.3 Data collection**

Most of the data was collected by the investigator asking the respondents the questions in the questionnaire and filling in the responses. These questions are indicated in the questionnaire in Appendix 1. Other data were collected through observation of the environment where the dogs live and by seeing the condition of the dog as well as its behavior. These observations were recorded in the questionnaire in Appendix 1.

### **3.4 Data management and analysis**

The data was verified and validated as per the entries in the data collection sheets. The data were given numerical codes and entered into Microsoft office excel sheets. Proportions of the findings were generated in percentages of the homes using Microsoft excel.

### **3.6 Data analysis**

The data was analyzed using the MICROSOFT EXCEL to generate simple percentages of the findings and represent the findings in graphs and tables.

The frequencies of the findings were compared.



## CHAPTER 4

### 4.0 RESULTS

The number of respondents interviewed was 50. Forty one (82%) respondents interviewed owned between one and five dogs, seven (14%) of them owned between six and ten dogs and two (4%) respondents owning more than ten dogs. Forty one (82%) respondents kept their dogs for security/guarding, seven (14%) kept them as pets, while two (4%) kept them for breeding/commercial purposes (**Table 1**).

**Table 1 Reasons for keeping the dogs**

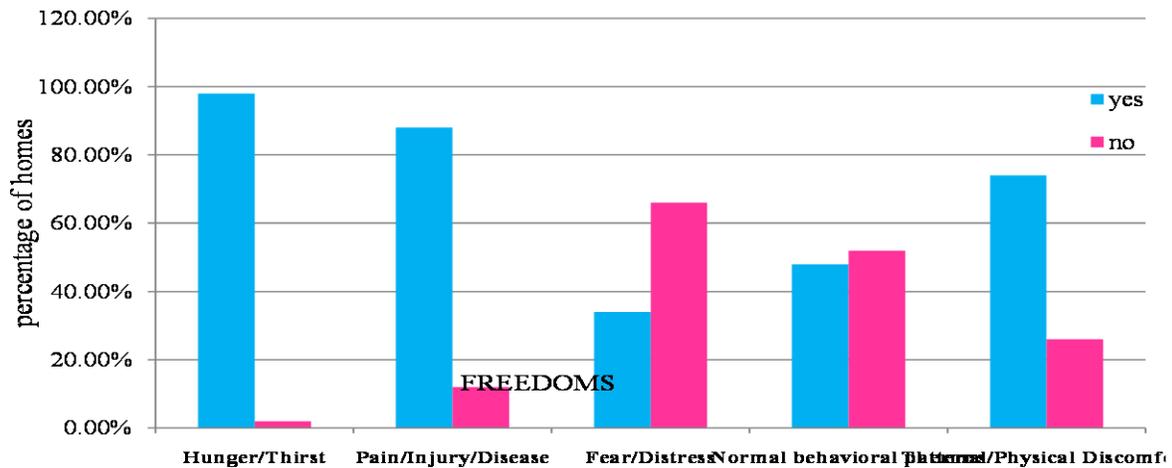
<b>Reasons for keeping dogs</b>	<b>Number of households</b>	<b>Percentage of households (%)</b>
breeding	1	2
pets	7	14
security	41	82
security/breeding	1	2
<b>Grand Total</b>	<b>50</b>	<b>100</b>

Other animals kept in the homesteads apart from the dogs include; cattle, goats, sheep, pigs, poultry and cats.

#### 4.1 Awareness of respondents to the five freedoms.

Twelve (24%) respondents were aware of all the fundamental freedoms that a dog should be granted while thirty eight (76%) respondents were aware of just one or more but not all of the five freedoms (n=50). Only one (2%) respondent was unaware of all the five freedoms while forty nine (98%) respondents were aware of one or more of the five freedoms (n=50) (**Figure 1**).

Forty nine (98%) respondents were aware that dogs should be provided with food and clean



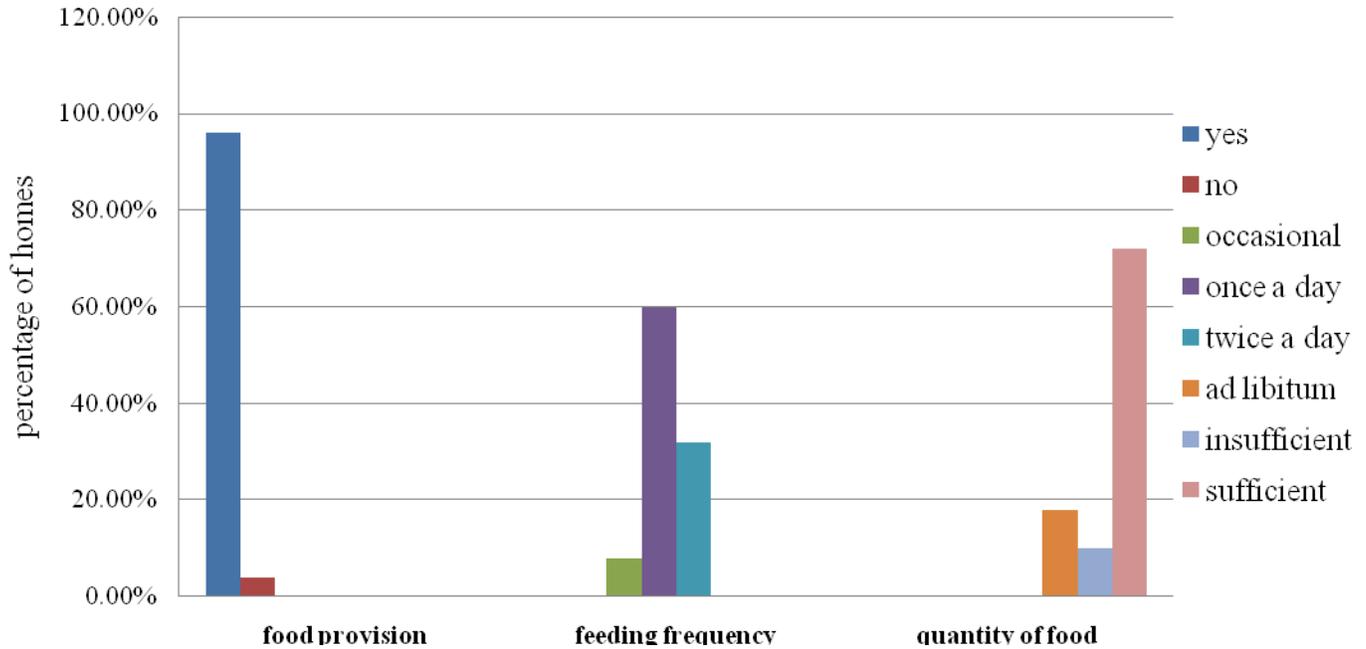
drinking water (n=50) (Figure 1).

**Figure 1: Awareness of the respondents to the five freedoms**

#### 4.2 Provision of food and water

Forty eight (96%) respondents provided food for their dogs while two (4%) of them did not provide food (n=50). Four respondents (8%) provided food for their dogs occasionally, thirty (60%) of them fed their dogs once a day while sixteen (32%) fed them twice daily (n=50) (Figure 2).

Nine respondents (18%) provided food ad libitum, thirty six (72%) provided sufficient quantities while five (10%) provided insufficient quantities or none at all (n=50) (Figure 2).



**Figure 2: Relationship between food provision, feeding frequency and quantity of food provided.**

Twenty six (52%) respondents fed their dogs in the evening, five (10%) fed them in the morning, thirteen (26%) fed them in the morning and evening. Two (4%) respondents fed the dogs midday and in the evening, one (2%) fed them in the morning and midday while three (6%) fed them at any time of the day (Table 2).

**Table 2: Feeding times in different households**

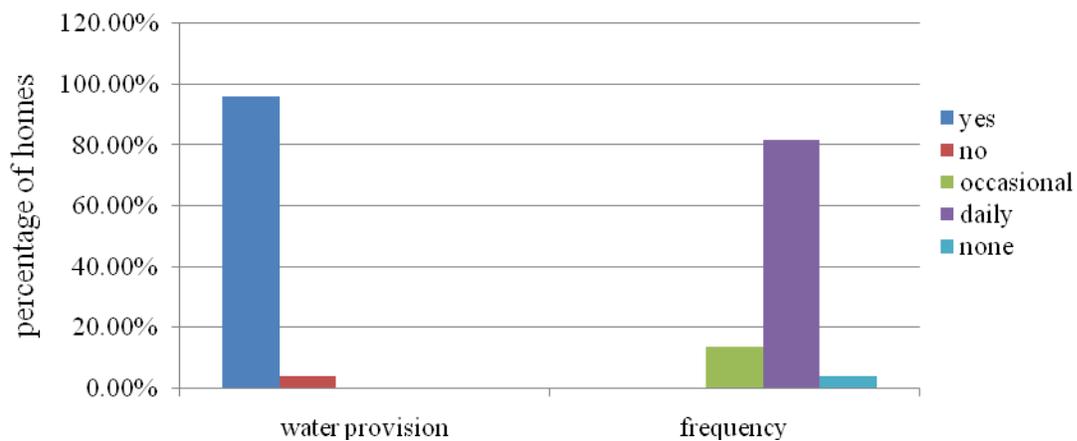
Feeding time	Number of households	Percentage of households (%)
Anytime	3	6
Evening	26	52
midday/evening	2	4
Morning	5	10
morning/evening	13	26
morning/midday	1	2
<b>Grand Total</b>	<b>50</b>	<b>100</b>

Twelve (24%) households fed their dogs on commercial dog food while twenty six (54%) respondents fed their dogs on household leftovers or in combination with commercial dog food, meat, or swill (**Table 3**).

**Table 3: Various sources of food for the dogs in different households**

Source of food	Number of households	Percentage of households (%)
commercial food	12	24
commercial food and meat	3	6
Leftovers	15	30
Leftovers and commercial food	5	10
Leftovers and meat	3	6
Leftovers and swill	1	2
Meat	8	16
Swill	2	4
Swill and meat	1	2
<b>Grand Total</b>	<b>50</b>	<b>100</b>

Forty eight (96%) respondents provided clean drinking water to the dogs while two (4%) respondents didn't provide water at all (**Figure 3**).



**Figure 3: Relationship between water provision/availability to the dogs and the frequency the water is provided.**

In twenty three (46%) of the households, dogs had a good body condition (150 dogs), in twenty two (44%) households (63 dogs), the dogs had fair body condition and in five (10%) of the households the dogs had poor body condition (22 dogs), (n=50) (**Table 4**).

**Table 4: Body conditions of the dogs in various households**

<b>Body condition</b>	<b>Number of households</b>	<b>Percentage of households</b>	<b>No. of dogs</b>
fair	22	44	63
good	23	46	150
poor	5	10	22
<b>Grand Total</b>	<b>50</b>	<b>100</b>	<b>235</b>

#### **4.3 Freedom to indulge in normal behavioral patterns.**

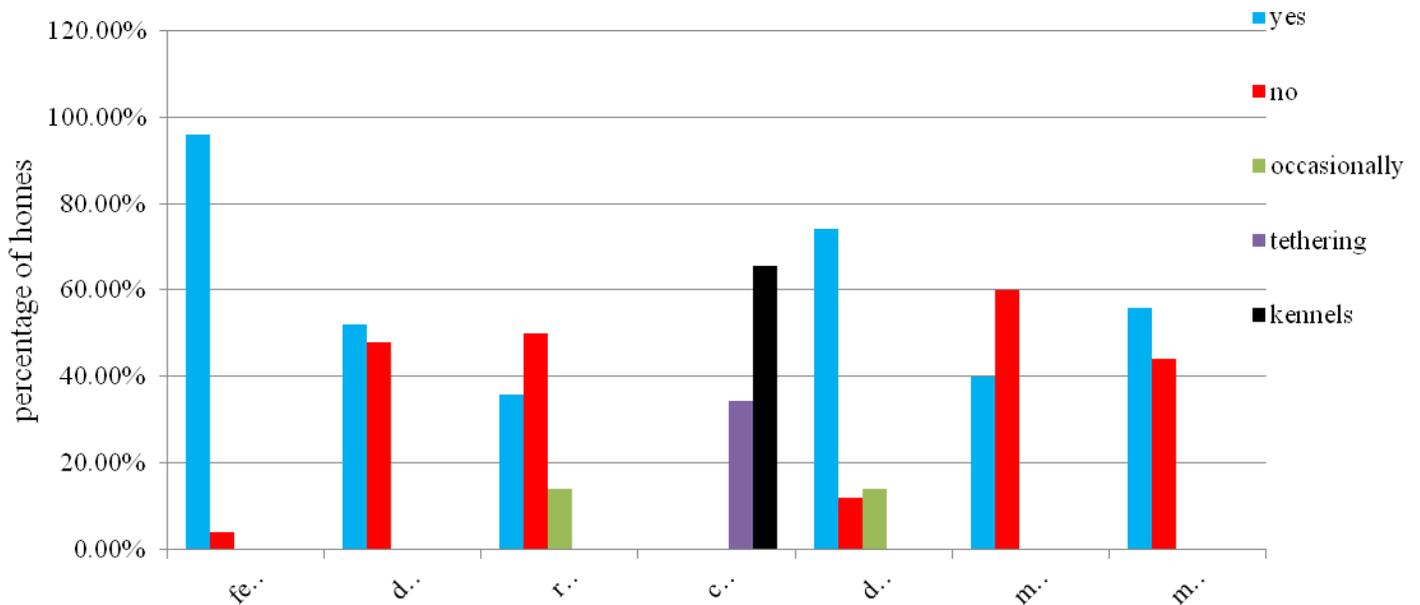
Forty eight (96%) homesteads were fenced while two (4%) of them were not fenced (n=50). Twenty six (54.17%) of the fenced homesteads were dog proof while twenty two (45.83%) of them were not dog proof (n=48) (**Figure 4**).

Eighteen (36%) of the respondents lets their dogs roam freely, seven (14%) let their dogs roam occasionally while twenty five (5000%) confined their dogs (n=50). 65.63% of the confined dogs were confined in kennels while 34.38% were confined by tethering (n=32) (**Figure 4**).

Thirty seven (74%) of the respondents let their dogs mix always, seven (14%) respondents let the dogs mix occasionally while six of (12%) them did not let the dogs mix at all or owned only one dog (n=50) (**Figure 4**).

Thirty (60%) respondents let their dogs mix with other domestic animals while twenty (40%) respondents either did not allow their dogs to mix with other domestic animals or did not own other animals in the homestead (n=50) (**Figure 4**).

Twenty eight (56%) respondents kept the males and females together while twenty two (44%) respondents either kept them separately or owned only one dog (n=50) (**Figure 4**).



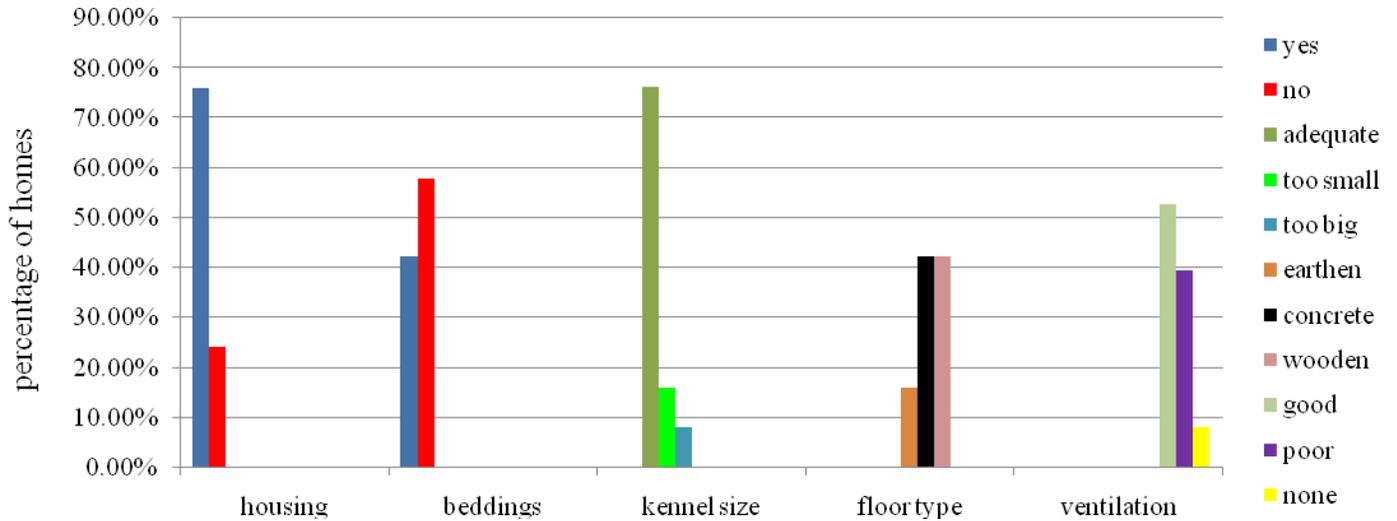
**Figure 4: Relationship between dog confinement and interactions with others of its kind and other domestic animals.**

#### 4.4 Housing/ shelter facilities and comfort

Thirty eight (76%) respondents provided shelter/housing for their dogs while twelve (24%) respondents did not provide (n=50). Sixteen (42.11%) respondents provided beddings for the dogs while twenty two (57.89%) did not provide beddings (n=38). Twenty nine (76.32%) kennels were of adequate size, six (15.79%) were too small and three (7.89%) were too big (**Figure 5**).

Sixteen (42.11%) kennels had concrete floors, sixteen (42.11%) were wooden while six (15.79%) were earthen (n=38) (**Figure 5**).

Twenty (52.63%) kennels had good/proper ventilation, fifteen (39.47%) had poor ventilation and three (7.89%) had no ventilation (n=38) (**Figure 5**).



**Figure 5: Responses on different aspects of housing/shelter for the dogs.**

#### 4.5 Freedom from pain, injury and disease.

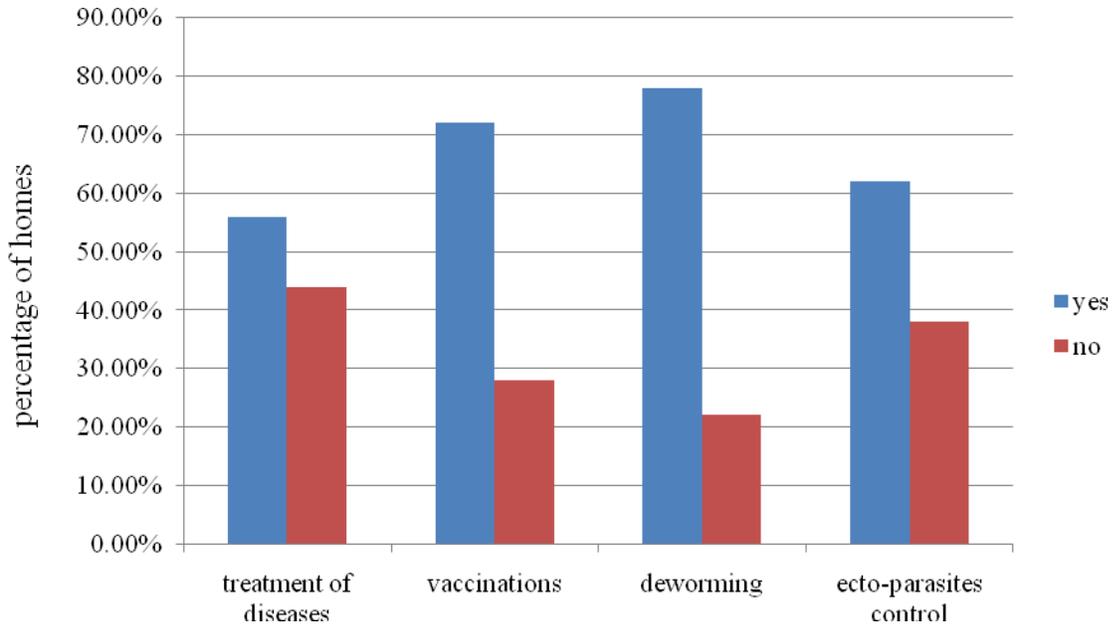
Twenty eight (56%) respondents treated or were willing to treat the dogs if they fell sick while twenty two (44%) did not treat or were not willing to treat the sick dogs (n=50) (**Figure 6**).

Thirty six (72%) respondents had their dogs vaccinated against different disease conditions while fourteen (28%) respondents did not/ have not vaccinated their dogs (n=50) (**Figure 6**).

Thirty nine (78%) respondents had dewormed their dogs while eleven (22%) respondents had not dewormed their dogs (n=50) (**Figure 6**).

Thirty one (62%) respondents had control ecto-parasites while nineteen (38%) respondents did not control ecto-parasites (n=50) (**Figure 6**).

Medical conditions observed include; *otitis externa* in one dog, diarrhoea in three dogs, and dermatomycosis in one dog.



**Figure 6: Responses for treatment of diseases, vaccinations, deworming and ecto-parasites control.**

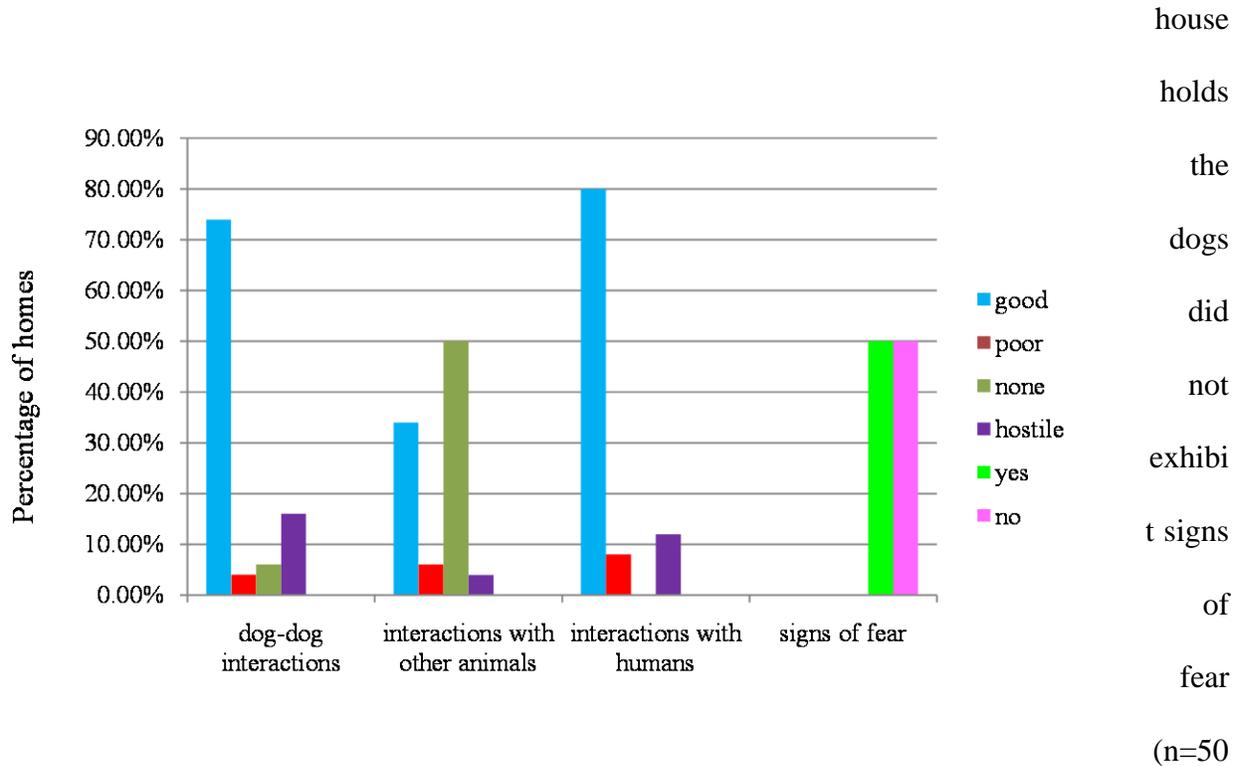
#### 4.6 Freedom from fear and depression

In thirty seven (74%) households, the dogs had good interaction between them, in two (4%) households the dogs had poor interactions, in three (6%) households had no interactions with other dogs and in eight (16%) some dogs were hostile to other dogs (n=50) (**Figure 7**).

In seventeen (34%) households, dogs had good interactions with other domestic animals, in twenty five (50%) households the dogs had no interactions with other domestic animals, in three (6%) households the dogs had poor interactions with other animals while in two (4%) households the dogs had hostile interactions with other animals (n=50) (**Figure 7**).

In forty (80%) households the dogs had good interactions with humans, in four (8%) households the dogs had poor interactions with humans while six (12%) households the dogs had hostile interactions with humans (n=50) (Figure 7).

In twenty five (50%) households the dogs exhibited signs of fear while in twenty five (50%)



(Figure 7).

**Figure 7: Dog interactions with other dogs, other animals and humans**

In 42% of the households, dogs exhibited fear of strangers, in 4% of the households, dogs exhibited fear of strangers and other dogs, in 2% of the households dogs exhibited signs of fear of other dogs, and in 2% of the households dogs exhibited signs of fear to strangers and other household members (**Table 5**).

**Table 5: Presence of fear and different sources of fear in dogs in different households**

<b>Presence of fear</b>	<b>Number of households</b>	<b>Percentages (%)</b>
None	25	50
other dogs	1	2
other household members/strangers	1	2
Strangers	21	42
strangers/other dogs	2	4
<b>Grand Total</b>	<b>50</b>	<b>100</b>

## **CHAPTER 5**

### **5.0 DISCUSSION**

The results of this investigation indicate that the welfare of dogs is generally violated in majority of the households. Among the five freedoms, the freedom from hunger and thirst is given more emphasis than all the other freedoms. This could be attributed to the presence of surplus food in the households which is then given to the dogs or in an attempt to prevent the dogs from roaming in search of food.

Twenty six (54.00%) respondents fed their dogs on household leftovers and swill or in combination with commercial dog food and meat products. This supports the findings of others who stated that dogs can adapt to a wide-ranging diet, and are not dependent on meat-specific protein nor a very high level of protein in order to fulfill their daily dietary requirements (Dewey *et al.*, 2002). However, most human meals cannot wholly provide for the nutritional

requirements of the dogs, while others such as chocolate, grapes and onions can be poisonous to dogs (RSPCA, 2015).

The freedom to indulge in normal behavioral patterns and the freedom from fear and distress are the most violated freedoms with respect to the dogs. The violation of the freedom to indulge in normal behavioral patterns is supported by the fact that 96% of the respondents have put up a fence around their homes, 52% (n=48) of the fences being dog proof while 50% of the respondents confine their dogs either in kennels 65.63% or by tethering 34.38%. Confining dogs for long hours is detrimental to their social and psychological well-being since dogs are very social animals. However, restriction of dog movement is a requirement of many countries due to health and safety concerns to people e.g. dog attacks which may cause deaths, serious injuries or spread of deadly diseases e.g. rabies for which the dog is an important vector. In 2005, the World Health Organization (WHO) reported that 55,000 people died in Asia and Africa from rabies (WHO, 2005). A 2008 study by the United States centre for Disease Control (C.D.C.) estimates that 4.5 million people are bitten by dogs every year (Gilchrist *et al.*, 2015). Restriction of dog movement and interactions is also aimed at controlling breeding and reducing the number of stray dogs in the environment.

Twenty eight respondents (56%) treated or were will to treat their dogs if they fell sick while thirty six of them (72%) had vaccinated their dogs. Dogs are susceptible to various diseases, ailments and poisons, some of which can affect humans (zoonoses) hence the need to treat and/or vaccinate them. These diseases include; rabies, hypothyroidism, diabetes and worms (Ward, 2010).

Thirty one (62%) respondents controlled external parasites (ecto-parasites) on their dogs. Ecto-parasites like fleas, ticks and mites are important disease vectors and also cause discomfort to the dogs.

Thirty nine (78%) respondents had dewormed their dogs using various anti-helminthics which included Plozin<sup>®</sup>, Ascaten-P<sup>®</sup> and Prazivet+<sup>®</sup>. Eleven respondents (22%) had not dewormed their dogs. Internal parasites (worms) can cause a variety of health problems in dogs. Some notable conditions associated with worm infestations in dogs include diarrhea, loss of body condition, weakness and at times fatalities (Amy, 2014). The parasites can also be transmitted to humans (zoonoses). This is supported by the fact that *Toxocara canis* (dog roundworm) and various species of hookworms are found in dog faeces which may contaminate the environment. In Great Britain a study showed 24% of soil samples taken from public parks contained *Toxocara canis* eggs (Nemours Foundation, 2010). In the United States, about 10,000 cases of toxocara infections are reported in humans every year (Huh *et al.*, 2013). Untreated toxocariasis can cause retinal damage and decreased vision while hookworms can cause *cutaneous larval migrans* in humans (Johnson, 2002; Chiodo *et al.*, 2006; Talaizadeh *et al.*, 2007). This supports the need to deworm dogs regularly as a part of good animal welfare which translates to safety to humans.

The living conditions in the housing facilities were not favorable as most of them were of poor standards. Out of the thirty eight respondents who provided housing/ shelter to their dogs, only sixteen provided beddings to their dogs. The bedding material ranged from old mattresses, old blankets, sacks and old clothes. Majority of the floors in the housing facilities were either concrete or wooden at 42.11% each while the rest were earthen. This means that majority of the dogs lived in uncomfortable conditions due to lack of beddings hence sleeping on very cold, hard

or dirty surfaces. Living in cold, dirty or wet kennels predisposes the dogs to diseases. A good and comfortable house should be dry, draught-free, clean and quiet place to rest undisturbed. Dogs should also be granted exercise at least once a day, play, explore, meet other dogs if appropriate and access to a safe hiding place to escape if they feel afraid (RSPCA, 2015). However, 52% of the housing/shelter facilities were of adequate size for the dogs but did not offer extra space for exercise, play or hiding in case they are threatened.

In 25 (50%) households dogs exhibited signs of fear. Dogs respond to fear using various means. Their most common response when approached by strangers is to run away but a small proportion responds with aggression (Ortolani, 2009). A study by Michael Fox says that the dog is the most vocal canid and is unique in its tendency to bark in a myriad of situations. Barking is a way of expressing excitement, fighting, presence of a human or simply because other dogs are barking. Other more subtle ways of expression are; body and facial movements, whines, yelps and growls (Michael, 1971).

## **CHAPTER 6**

### **6.1 CONCLUSIONS AND RECOMMENDATIONS**

#### **6.1.1 Conclusions**

Generally most of the respondents have neglected their dogs with respect to the five animal freedoms but most of them have put great emphasis on provision of food and water.

Majority of the respondents do not know the importance of good dog welfare.

Restriction of dog movement helps in controlling spread of diseases to both animals and humans.

#### **6.1.2 Recommendations.**

Dog movement should be controlled to avoid spread of diseases and reduce the number of stray dogs in the environment. However, these dogs should be provided with adequate food and ensure they live healthy and comfortable lives.

Dogs should be fed on a well-balanced diet that provides all the necessary nutrients. Foods that can potentially harm the dogs health and well-being should be avoided.

Housing facilities for the dogs should be comfortable, appropriate size and well ventilated with beddings provided.

Dogs should be allowed to socialize with others of its kind, other animals and also with humans where necessary to avoid development of agonistic behaviors.

Vaccinations, treatment and deworming should be done on regular basis to ensure dogs live a safe and comfortable life.

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**QUESTIONNAIRE ON THE WELFARE OF DOGS KEPT IN HOMES AROUND UTHIRU AREA OF  
KIKUYU DISTRICT, KIAMBU COUNTY**

Serial number.....

1. NUMBER OF DOGS OWNED.....

2. REASONS FOR KEEPING THE DOG(S)

Security/guard                       pets                       commercial purpose (breeder)

3. OTHER ANIMALS IN THE HOMESTEAD

Cattle   
 goats   
 sheep   
 chicken   
 Rabbits   
 Pigs   
 Cats

4. ANIMAL FREEDOMS THE RESPONDENT IS AWARE OF:

a) Freedom from hunger and thirst   
 b) Freedom from pain, injury and disease   
 c) Freedom from fear and distress   
 d) Freedom to indulge in normal behavioral patterns   
 c) Freedom from thermal and physical discomfort

5. FREEDOM FROM HUNGER AND THIRST

a) **Food provision**                      Food provided                       Dog scavenges for its food                       Both   
 b) **Frequency of feeding**                      Once a day                       Twice a day                       Occasional   
 c) **Time of feeding**                      Morning                       Midday                       Evening                       Any time   
 d) **Quantity of food provided**                      Ad libitum                       Sufficient                       Insufficient                       None   
 e) **Source of food**                      Household leftovers                       Swill                       Commercial dog food                       Meat                       Other   
 f) **Provision of clean drinking water**                      Yes                       No   
 g) **Frequency of water**                      Daily                       Occasional

**h) Feeding containers**                      Each dog(individual)                      Group

**i) Cleaning of feeding containers after each meal**      Yes       No       Occasional

**6. FREEDOM TO INDULGE IN NORMAL BEHAVIOURAL PATTERNS**

**a) Fencing of the homestead**                      Yes                       No

**b) Is the fence dog-proof?**                      Yes                       No

**c) Are the dogs allowed to roam freely?**      Yes                       No                       Occasionally

**(i) If NO, what is the type of confinement?**      Tethering                       Kennels

**(ii) Time of confinement**                      Day time       Night time       Day and Night

**d) if more than one dog, do they mix?**      Yes always                       Yes occasionally

**e) Do dogs mix with other animals?**      Yes                       No

**f) Are the dogs of different sexes (males and females) kept together?**      Yes                       No

**7. FREEDOM FROM THERMAL AND PHYSICAL DISCOMFORT**

**a) Housing provided**                      Yes                       No

**i) If YES, Size of kennel/house**      Adequate                       Too small                       Too big

**b) Ventilation of the kennel/house**      Good                       Poor                       None

**c) Floor type**                      Earthen       Concrete       Wooden       Other

**d) Is there any bedding provided?**      Yes                       No

**i) Name the bedding type.....**

**e) Are the dogs of different ages(adults and puppies) kept together?**      Yes                       No

**i) Individual housing**                       **Group housing**

**8. FREEDOM FROM PAIN, INJURY AND DISEASE**

**a) Are the dogs dewormed regularly?**      Yes                       No

**b) Frequency of deworming**      3 months       6 months       1 year       Other

**(i) Specify drug(s) used.....**

**c) Treatment for other disease conditions**      Yes                       No

**d) Vaccination against common diseases**      Yes       No

(i) Name the diseases.....

**e) Control of external parasites**      Yes       No

(i) fleas       ticks

**f) Type of parasite control**

Washing

Spraying

Others (specify).....

Specify chemical used....., ....., .....

**9. FREEDOM FROM FEAR AND DISTRESS**

**a) Interactions of dog(s)**

(i) With other dog(s)      Good       Poor       None       Hostile

(ii) With other animals      Good       Poor       None       Hostile

(iii) With humans      Good       Poor       None       Hostile

**10. GENERAL EXAMINATION OF THE DOG (TO BE FILLED BY THE INTERVIEWER)**

**a) Body condition of the dog**      Good       Fair       Poor

**b) Does the dog exhibit any signs of fear to;**

(i) The owner?      Yes       No

(ii) Other household members?      Yes       No

(iii) Strangers?      Yes       No

(iv) Other dogs in the home      Yes       No

**c) Any observable external injuries**      Yes       None

(i) Specify location.....

**d) Any other notable medical conditions**      Yes       None

(i) Specify.....