BIBLIOGRAPHY

ANA B. MENDOZA, April, 2006. **BASELINE STUDY ON DOGS CHARACTERISTICS IN RELATION TO COMMUNITY WELFARE**. Benguet State University, La Trinidad, Benguet.

Adviser: Julia A. Solimen, Ph.D

ABSTRACT

The study was conducted to have a baseline study on dogs characteristics in relation to community welfare specifically to find out the dog owner's profile and dog management practices by dog owners, the profiles and descriptions of dogs; to establish the morphometric data of dogs; and to determine the relationship between the selected socio-economic variables and dog characteristics. There were 216 respondents owning 312 dogs.

Morphologic and morphometric data were gathered using visual examination and manual distance measurement. After the collected data were entered into the corresponding data sheet, they were statistically analyzed using descriptive statistics and principal component analysis and chi-square test.

On owner's profile, the majority are females, above middle age, most are college graduates. Their primary occupation is farming. Most dog owners are average income earners. Less than half of the respondents live in a traditional family house and some live in a modern family house. The majority of the houses have no enclosures.

Many dogs are offspring of the owner's bitch and some are received as gift from people in the neighborhood. The majority of the dogs are used as guard dogs and some use them as guards and at the same time pets. A great majority of the dogs are left to roam around the

owner's house where most of these dogs secure shelter. Almost all household members feed the dogs twice a day with kitchen left-overs.

A great majority of the respondents do not consult veterinarian due to unavailability of veterinary services, fees and medicines rather they confine them and care for them when dog get sick.

Dog profile indicates the female.male a ratio of 1:1.2, and a great majority is less than one year of age. The majority are judged as aggressive dogs. Many are vaccinated against rabies and dewormed.

Morphometric examinations resulted in only one group of dogs examined, the so-called "Native" dogs which may be described as having a single, short, smooth coat in a diverse array of coat textures. Color varies from brown to a combination of 2 to 3 primary colors. They present no specific markings, and the back may arch over the loin or level back with tucked up abdomen. The head is long, tapering with a flat skull and belongs to the mesaticephalic skull formation. The ears are erected and are set within the level of the eyes. The eyes are oval, or brown, have saucy to gruff eye expression; and have a short eyebrows, short eyelashes and dark eye rims. The dogs have down face, black, roman, nose and flared nostrils, level mouth and snippy muzzle. The shoulder slopes to a narrow straight front and the hind legs are straight stifled with cat feet. The tail is tapering and set low. They do not present breeching color inside the thigh, have an oval chest, no dewlap, shallow furrow, not prominent keel, not prominent occiput, straight stop, not chiseled, short coupled, well ribbed up and are cobby. The dog moves in a well balanced manner.

There is no significant difference in the morphometrics of dogs examined. The dogs differ only in their external features. On the other hand, there is a significant difference among age, educational attainment, occupation and level of income between barangays.

TABLE OF CONTENTS

INTRODUCTION

Background of the Study

Thousands of years ago, man and dog teamed together, benefiting from each other's company. As the years progressed, different types of dog evolved, some to hunt with man, others to work in different ways and yet others purely as companions. The tasks that dogs have performed throughout the centuries are many and varied. They have guarded man, protected his flocks, chased and retrieved game, pulled heavy burdens, sought out and saved lost souls from snowy and difficult terrain even from the sea. The list of tasks is endless. Now people are thoroughly familiar with the important work carried out by police and sniffer dogs. Some dogs act as 'eyes' for the blind, others as 'ears' for the deaf, and many help to make life a great deal easier for those who are disabled in other ways (Cunliffe, 2000). In some parts of the world, Dog remain an item in the human diet (Encarta Interactive World Atlas, 2004). Some people raise dogs for income.

The sizes of different segments (owned, unowned) of a dog population depend heavily on the proportion of the human population keeping dogs, tolerating dogs, or rejecting dogs in their neighborhood. Dogs can be kept as pets and companions, for hunting, as guard dogs, draught animals, for food or for

commercial buying and selling. For certain tasks special breeds are raised. Besides, the duties dogs are kept for; they may also fulfill beneficiary

functions in other ways. Dogs can also be rejected because they bite, or because they are disease vectors, pests or nuisances.

There are qualitative and quantitative differences in what people think the functions of dogs are and what dogs really do. In different cultures dogs are regarded as supernatural and the environmental setting determine the conditions in which dogs are kept, how much they are cared for and the degree of governmental regulations and disease control measures (WHO, 1987).

The domestic dog is the most widespread of domestic creatures, living everywhere that its human counterparts do. It surpasses all other domestic animals with their sheer diversity of its many breeds (Encarta Interactive World Atlas, 2004).

The dog is a canine carnivorous mammal that has been domesticated for at least 14,000 years and perhaps as long as 150,000 years based on recent evidence. In this time, the dog has developed into hundreds of breed with a great degree of variations. For example, heights range from just a few inches to nearly three feet, and colors range from white to black with red, grays, and browns also occurring in tremendous variations of patterns. Dogs, like humans, are high social animals and pack hunters; this similarity in their overall behavioral design accounts for

their trainability, playfulness, and their ability to fit into human households and social situations (Wikipedia, 2005).

Different countries operate under diverse ruling bodies and many interesting breeds of dogs are found throughout the world, but are not known in the United Kingdom because it is an island nation. Because quarantine laws have been stringent until now, freedom of movement for dogs to and from Britain is not as easy as in the majority of countries (Cunliffe, 2000).

Many dog breeds show more variation in size, appearance, and behavior than any other domestic animal. Within the range of extremes, dogs generally share attributes with their wild ancestors, the wolves. Dogs are predators and scavengers, possessing sharp teeth and strong jaws for attacking, holding, and tearing their food.

Their legs are designed to propel them forward rapidly, leaping as necessary, to chase and overcome prey. Consequently, they have small, tight feet, walking on their front toes; their rear legs are fairly rigid and sturdy; the front legs are loose and flexible, with only muscles attaching them to the torso.

Generally, dogs are described as having a striking difference in body shape. The head may be round and acromegalic or has a flat muzzle (Boxer and Pug), or it may be long and slender with an extended nose (Wolfhound and Greyhound). The body ranges from short (Pug), rounded (Bulldog) and narrow (Whippet), to long (Dachshund), deep (Greyhound), wide (St. Bernard) and

tapering (Afghan). The legs are long and slender in some, short and stocky in others. Some toy breeds have thin and spindly legs; the chondrodystrophoids have short, heavy bent and twisted legs. The tails range from long, slender and straight, to short heavy and curled, and in a few the tail does not protrude at all. Hair coats may be of any color or combination of colors except green; length and texture range from almost complete absence of hair in a few breeds from Mexico, South America and Ceylon, to hair that reaches the floor and covers the eyes. All breeds in spite of their differences in size, shape and characteristics share the loyal devotion of man (Getty 1975).

Most of the dogs in the Cordillera are called mongrels, which mean that they are of mixed parentage of unknown ancestry. Although we hear of numerous stories of mongrels being abandoned and left to roam are heard, there are many others that are well cared for and much loved pets, providing much pleasure and companionship as compared to a pedigreed dogs. Some dogs indeed are bred together from a sire and dam selected for their attributes.

Statement of the Problem

The Philippines, has no records of dog characteristics. Local dogs are characterized on the basis of the descriptions given by other countries. Further, the locality has dog populations susceptible to rabies and cultural activities leading to the endemic dog rabies situations. Furthermore, dog control and rabies

vaccination programs cannot be assessed. There is a need to characterize dogs, their susceptibility to rabies and its effect on the human population.

Objectives of the Study

In general, this study of morphological characteristics using morphometry and visual examination in relation to socio-economic development was conducted as a contribution to the field identification and characterization of dogs in relation to socio-economic benefits of dogs in La Trinidad, Benguet.

Specifically, the study was conducted to:

1. Determine the dog owner's profile and current management practices for their dogs between barangays;

2. Determine the physical profiles of dogs;

3. Established the morphometric data of dogs;

4. Determine the groupings of dogs found in the study area;

5. Determine the relationship between some selected socio-economic variables of owners and dog characteristics.

Importance of the Study

There is a need for documentation and baseline information on the different characteristics of dogs along sociological data regarding dog-human relationship to determine the characteristic of dogs in relation to the way

owners/people treat them and further understand the presence of dog populations susceptible to rabies and cultural activities leading to endemic dog rabies situations and better understanding of dog demography, ecology, behavior and human cultural practices as related to the effectiveness of dog control and rabies vaccination programs.

The morphometric data gathered would serve as a scientific record of the animal, which may help researchers and students alike as their guide. Since the study entailed morphological characterization, it would be useful in the field identification of the animal. It is sought to provide a basis for further studies, which will ensure the conservation, optimum utilization and sustainability of dogs in La Trinidad, Benguet.

Scope and Delimitation of the Study

Included in the study were dogs aged 3 months to 10 years regardless of sex, all dogs regardless of breed and dogs that were in-heat or were in the early stages of pregnancy to late pregnancy were not measured but the physical profiles of these dogs were considered. Only one dog among siblings was included in the study.

On the other hand, those not included in the study were aggressive dogs because they cannot be handled by the owner and attempts to bite; dogs showing

slight deformities on the body, head and limbs, and groomed dogs. Households with no dogs were not included.

METHODOLOGY

Locale and Time of the Study

Physical characteristics and morphometric data were gathered in two barangays: Betag barangay, which is within the valley floor to represent urban barangay, and Beckel barangay, which is located outside the valley floor of La Trinidad, Benguet to represent rural barangay. The study was conducted in summer of SY 2004 – 2005.

Respondents

Random sampling was used to choose the respondents of the study with the barangay as the stratum. The heads of the household were the respondents.

Respondents were selected based on being owners of a dog and on being owners or occupies of the premises on which the dog is found.

The number of respondents in each barangay was computed by the Sloven-formula, as follows:

$$N = \frac{N}{1 + Ne^2}$$

Where: n = number of samples

N = number of households

e = degree of error at 5%
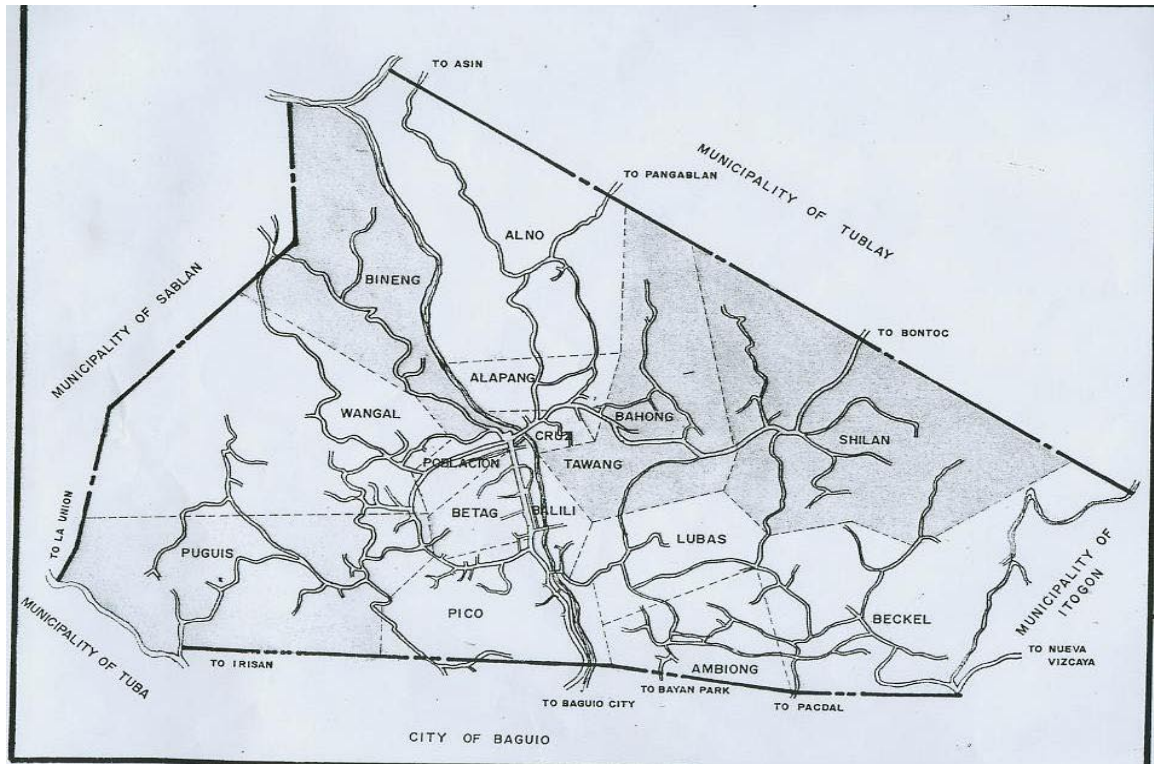
Figure 2. A map showing the study area

Data Gathering Procedure.

Field observation and structured interview questionnaire were used in the study. Owner' profiles were gathered using the survey questionnaire. The animal specimens were studied morphometrically using manual distance measurement. Morphological profiles were gathered through visual examination.

The taxonomic method applied was the "non-dimensional species analysis", which was named after Mayr's "non-dimensional species" (Mayr's, 1942; 1970, as cited by Deigo, 1998).

Each morphometric variable was measured using either a caliper; foot rule, meter stick, or steel measuring tape, and each were measured from point to point. Morphometric data gathered from the animals were recorded in their corresponding individual data sheet.

Sample animals were muzzled before the morphometric data were gathered.

Pretest

The data sheet constructed was pretested. Each data sheet contains the profile of the owner, questions on economic benefits of dog keeping, how they treat dogs, morphologic profiles and morphometric variables of the selected animals. Pretesting of data sheet was done on five dogs outside the study area.

Instrumentation

Field observation and structured interview questionnaire were used in the study. The following were the data noted in the individual data sheet.

Owners profile such as the age, sex, civil status, educational attainment, occupation, level of income, types of home, enclosure of homes, number of persons in the household, the source of dog, the use of dogs, confinement, dog's shelter, who fed the dogs, source of food given to the dogs, persons that handle or play with the dog, consultations to veterinarians and care given to sick dogs.

Dog's profile includes age, sex, temperament vaccination against rabies, and deworming.

The following physical characteristics were determined:

1. Coat

a. The types of coat were classified into single coat or double coat (Figure 3).

Double   Single

Figure 3. Descriptions of coat

b. The length of coat were classified into long, medium, short (Figure 4).

Long coat   Medium coat   short coat
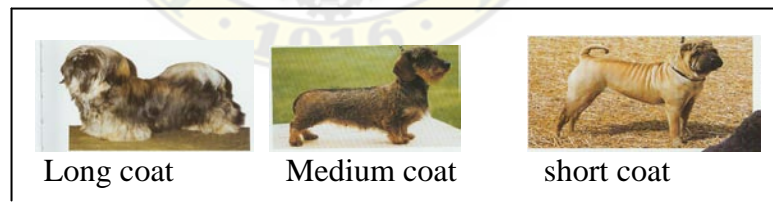
Figure 4. Descriptions of coat length.

c. The Coat texture or quality were classified into broken, Bear-like, dense mane, smooth coats, briskly, harsh coat, curly, "pily, Long, fairly coarse coat, wire coat and stand off coat (Figure 5).

Figure 5. Descriptions of coat texture

2. Colors and markings

The colors included were black, brown, red, yellow, gold, gray, blue, sable, white, brindle, black and tan, black/tan/white, liver/tan/white, and merle (Figure 6).

Figure 6. Coat colors of dogs

a. Specific markings were mask, pips and pencilings. (Figure 7)

Dark mask around the Muzzle and eyes	Pips above the eyes	Pencilings(on top of each toe)
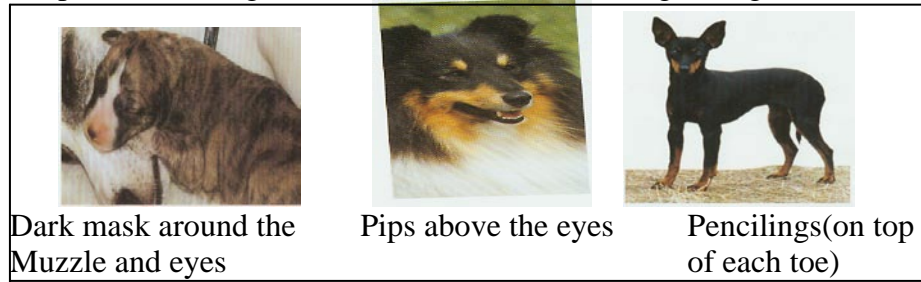
Figure 7. Specific markings of dogs

b. The presence of other distinguishing marks such as stockings, socks, mottled coat, Lozenge mark or spot, and spectacles in the eyes (Figure 8).

Stockings	Socks	Spectacles
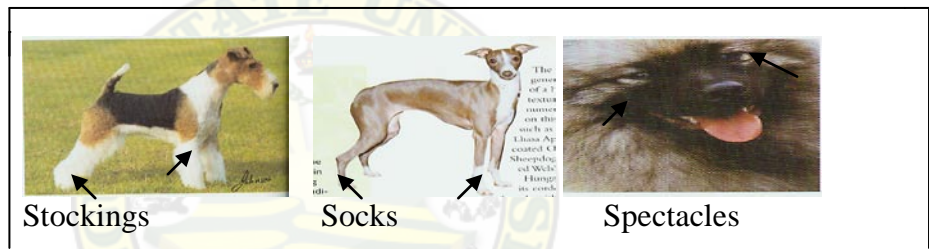
Figure 8. Other distinguishing marks

3. The back and underline
   a. The back was characterized as arched over the loin, level back, long back, roach back, sloping back, straight back and wheel back (Figure 9).
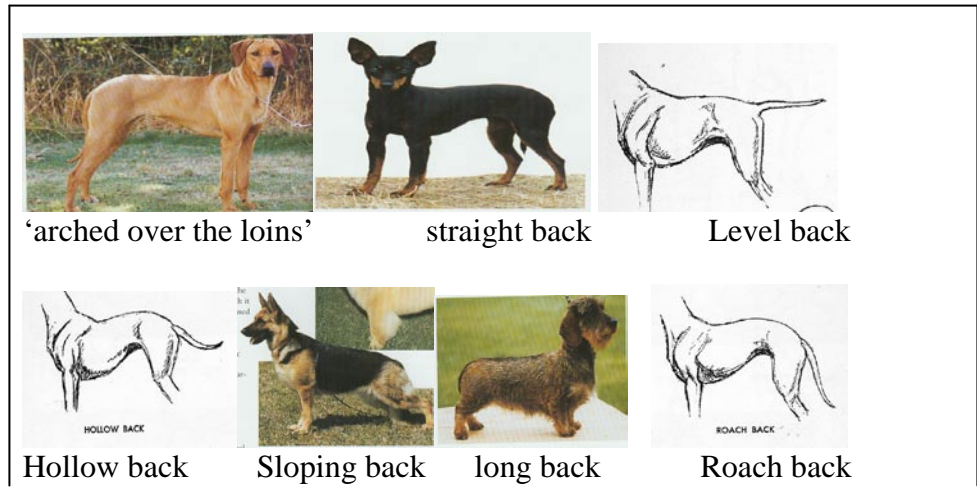
Figure 9. Characterization of the back

b. The underline was described as tucked up, or full abdomen (Figure 10).

Figure no. 9. Example of dog with
Tuck-up abdomen

4. Head and skull. This described the head shapes, skull shapes and the formation of the skull.

a. The head shape was described as apple head, balanced head, brick shaped head, cone-shaped head, fox like head, pear-shaped head, long or tapering head, short or round head, and wedge-shaped head (Figure 11).
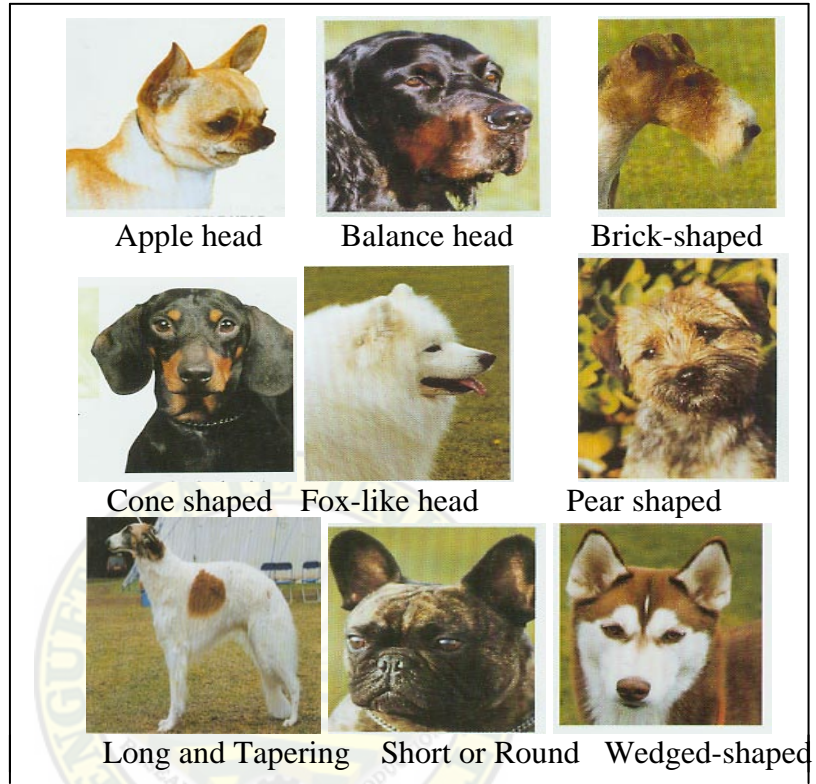
Figure 11. Descriptions of head shape

b. The skull shapes were described as broad, flat, oval, rounded and bumpy (Figure 12)
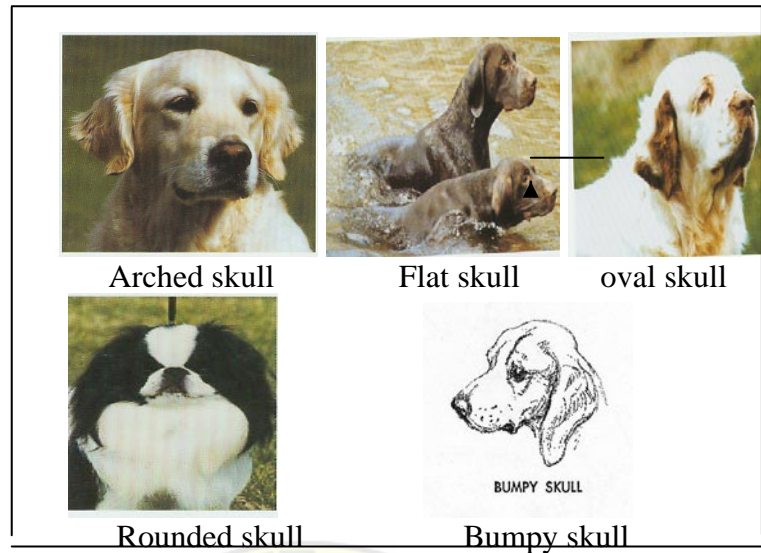
Figure 12. Descriptions of skull shapes

    c. The skull formation was classified into brachycephalic, dolichocephalic, and mesaticephalic.

5. Ear shape and ear set

    The ear shaped was described as bat ear, blunt-tipped ears, button ears, candle-flamed ears, cocked ears, cropped ears, drop ears, prick ears, filbert-shaped ears, flying ears, folded, ears, heart-shaped ears, hooded ears, lobe-shaped ears, rolled ears, rose ears, triangular ears and v-shaped ears (Figure 13).

    The ears were described as high set or and low.

| Bat ears | Candle-flame ears | Cocked ears |

| drop ears | prick ears | Prick ears |

| Button ears | Semi prick ears | Drop ears |

Hooded ears

Figure 13. Descriptions of ear shape

6. Eyes and eye expression

    a. The eye shape was described as almond, deep-set, globular, oval, round and triangular (Figure 14).

Round eyes   Deep set eyes   Oval eyes   Round eyes
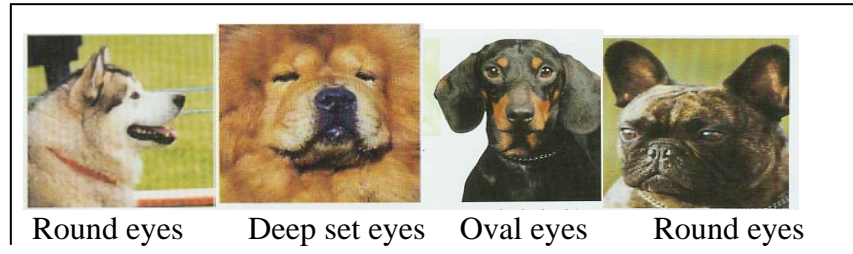
Figure 14. Descriptions of eye shapes

b. The eye marking were determined on the presence of spectacles, pips, four eyes and domino (figure 15).

Spectacles   Four eyes   Pips (melon pips)   Domino pattern
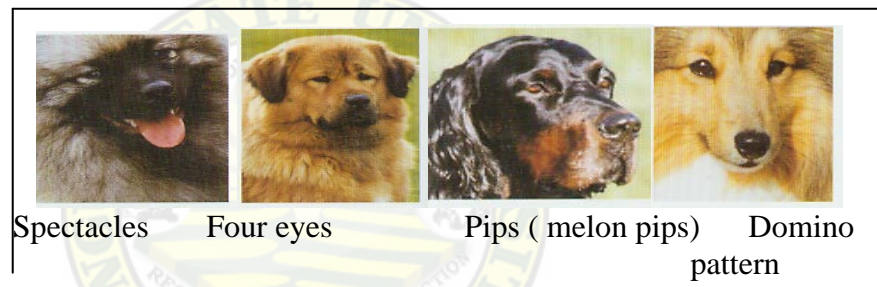
Figure 15. Different eye markings

c. The eye colors determined were black, blue clear eyes, walleye and brown color.

d. The eye expressions were described as eastern, gruff, monkey –like, ape-like and saucy (Figure 16).

Eastern   Monkey-like   saucy

Ape-like   Gruff
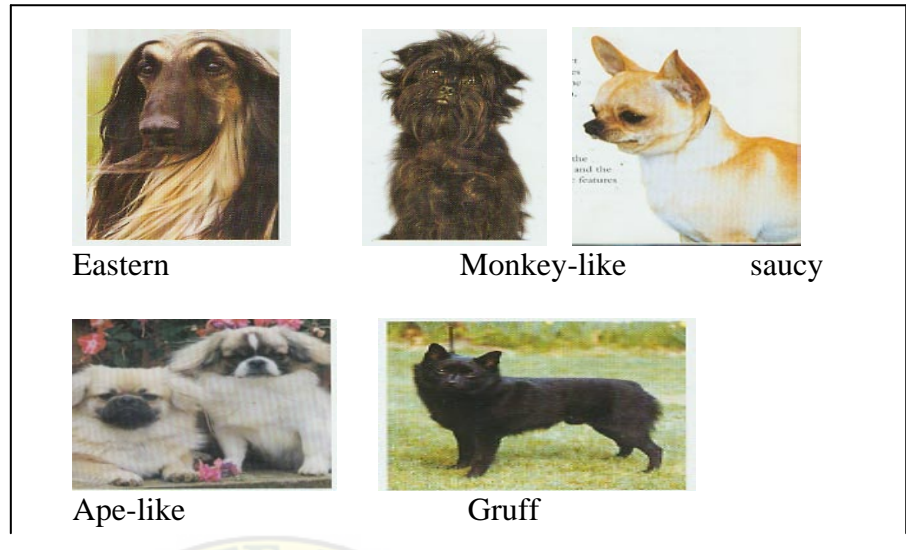
Figure 16. Descriptions of eye expressions

e. The eyelashes were classified as short, medium or long (Figure 17)

Figure no. 17. Long eyelashes

f. The eyebrows were classified as long, medium, or short (Figure 18).

Figure 18. Eyebrows of a miniature
wire-haired dachshund

g. Eye rims were described as dark or light color.

h. The third eyelids were described as prominent or hidden.

7. The descriptions of the face were classified into down face, dish face, cheeky face (Figure 19).

| Cheeky face | Dish face | Down face | Broken face |
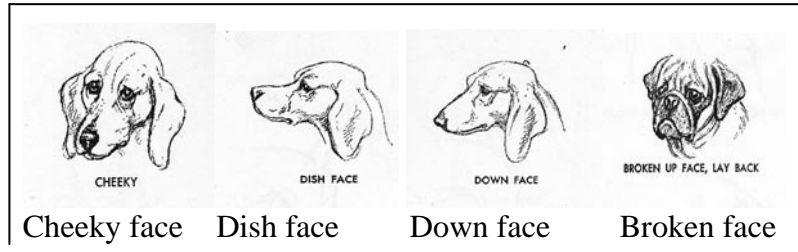
Figure 19. Descriptions of dogs face

8. Nose
   a. The shapes were described as ram's nose, roman nose or butterfly nose (Figure 20).

Rams's nose   Roman nose   Butterfly nose
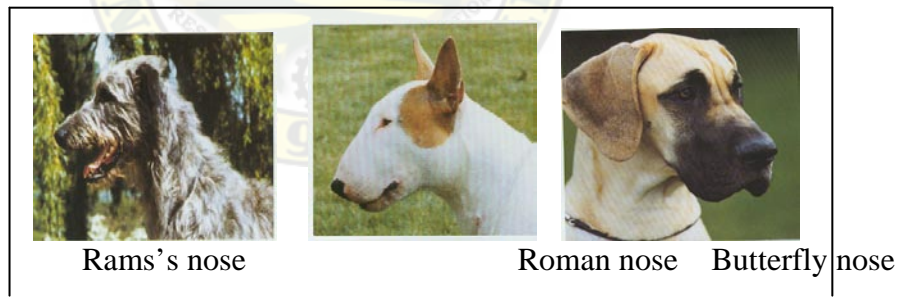
Figure 20. Descriptions of the shape of nose.

   b. The color. The colors were categorized into brown or liver spot, fleshed colored, winter nose, self-colored nose (Figure 21).

Brown or liver nose Fleshed-colored nose Winter nose
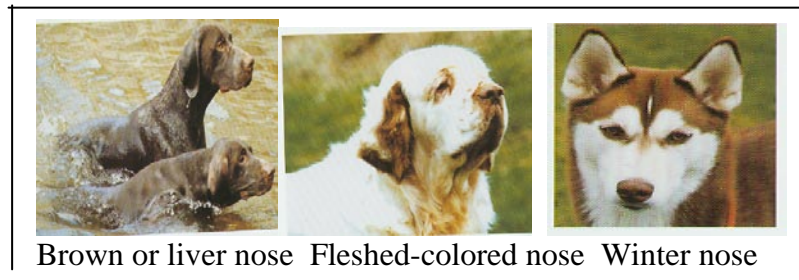
Figure 21. Descriptions of nose' color

    c. Nostrils. The nostrils were described as flared or pinched (Figure 22).

Flared nose   Pinched nose
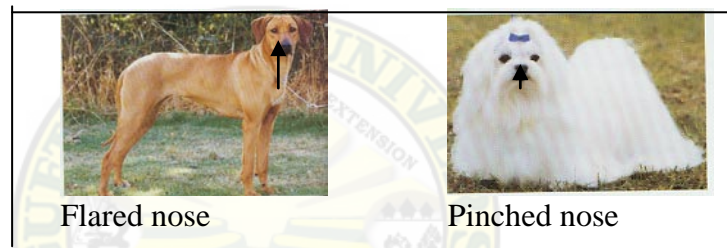
Figure 22. Descriptions of nostrils

9. The mouth was described as level mouth, undershot or over shot (Figure 23).

LEVEL MOUTH   UNDERSHOT MOUTH   OVERSHOT MOUTH
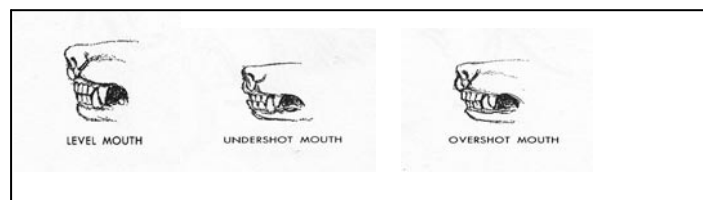
Figure 23. Different Levels of the mouth

10. The muzzle was described as snippy, blunt or rounded or full muzzle (Figure 24).
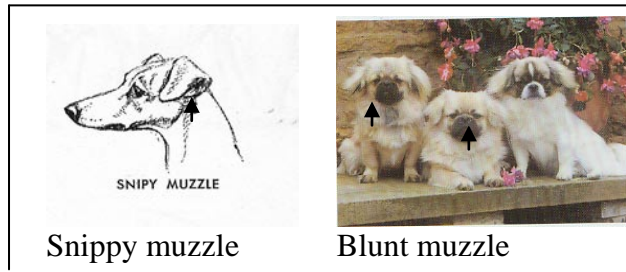
Figure 24. Descriptions of muzzle

11. The shoulders were described as sloping or straight shoulder (Figure 25).
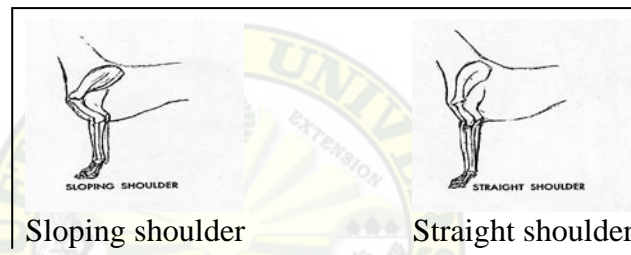
Figure 25. Descriptions of dogs' shoulder

12. The fronts and feet. These described the front and feet in a normal standing position.

   a. The front were described as bowed front, crooked front, horseshoe, straight, wide front, fiddle front, narrow front, out of elbow, knucked over, or down in pastern (Figure 26).

Bowed front   Crooked front   Wide front

Straight front

Fiddle front   Narrow front   Out at elbow
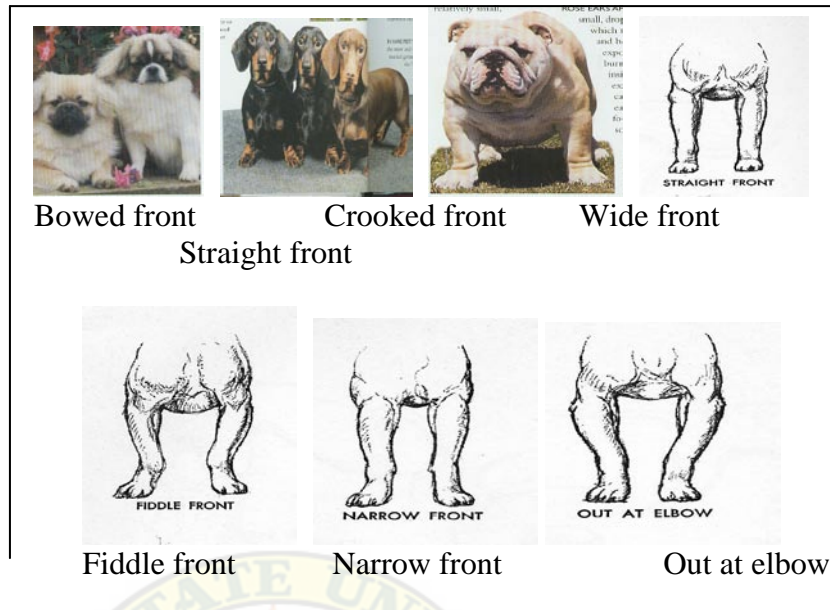
Figure 26. Descriptions of dogs' front

13. The feet were described as cat feet, hare feet, oval feet, webbed feet or paper foot (Figure 27).
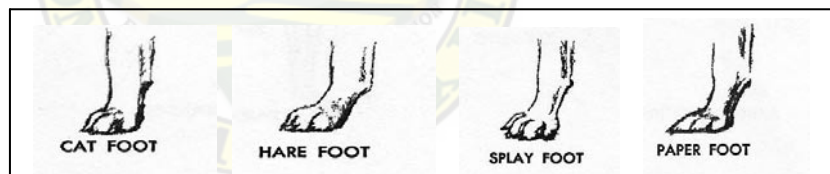
Figure 27. Descriptions of dogs' feet

14. The hindquarters were described as cow-hocked, angulated over angulated, straight stifled, or moderately angulated (Figure 28).

Cow hocked   Correct Hind end   Straight stifled   Moderately   Over angulated
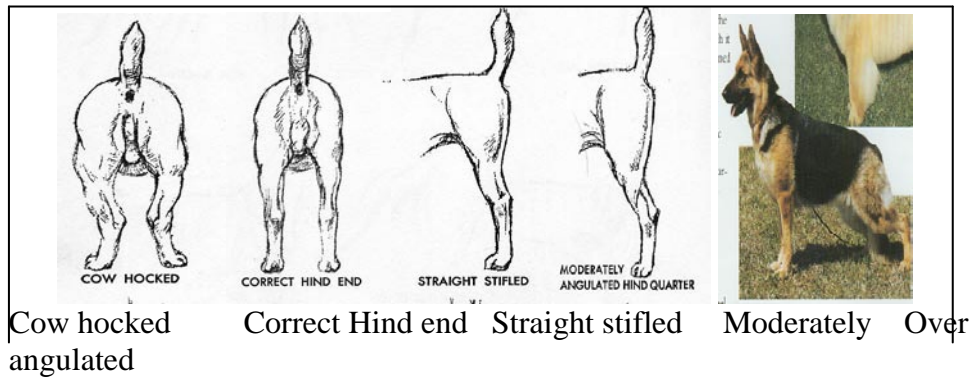
Figure 28. Description of the hindquarters

15. The tail shape and tail set. These described the tail shape and position.

    The tail shape was categorized into bee sting tail, brush tail, curled tail, docked tail, flagpole tail, hook tail, plumed tail, rat tail, ring tail, sabre tail, snap tail, stumpy tail, tapering tail, or tufted tail. (Figure 29).

Bee sting tail   Brush tail   Curled tail

Docked tail   Flagpole tail   Crank tail

Hooked tail   Plume tail   Rat tail

Docked tail   Ring tail   Saber tail

Scimiter tail   Tufted ail   Snap tail

Stumpy tail   Sword tail   Tapering tail
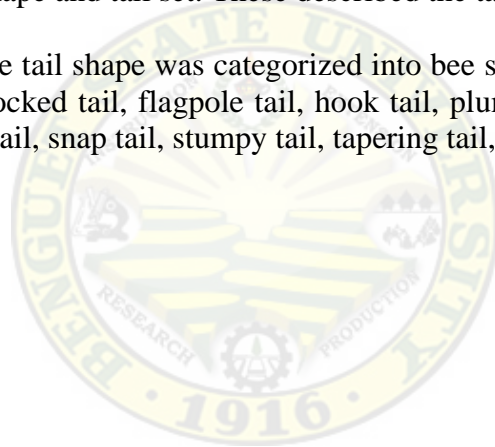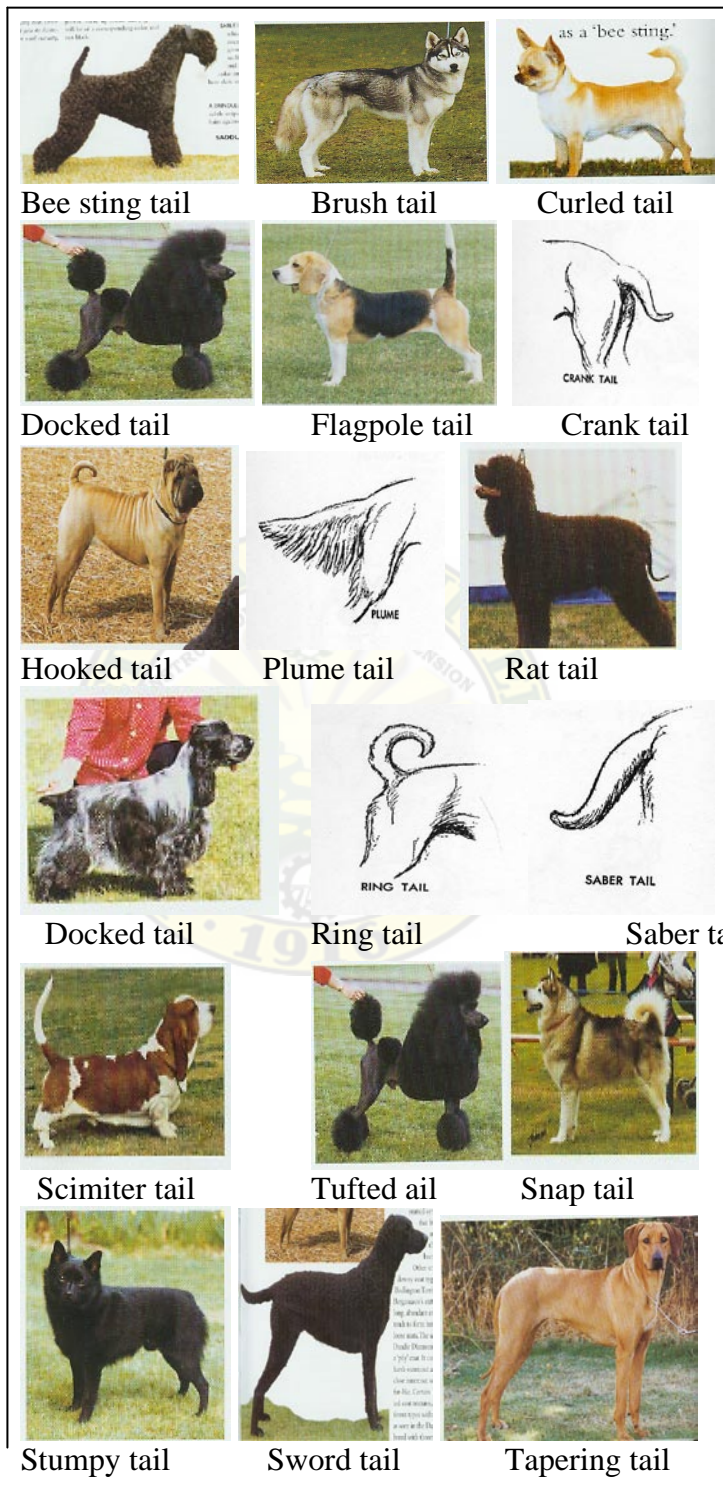
Figure 29. Description of the Tail

The tails were set at the level of the croup, high set or low set.

16. The movements were categorized into paddling, weaving, correct movement and poor movements (Figure 30).

Correct movement   Paddling Weaving   Good Movement

Poor movement rear   Good Movement rear   Poor movement side
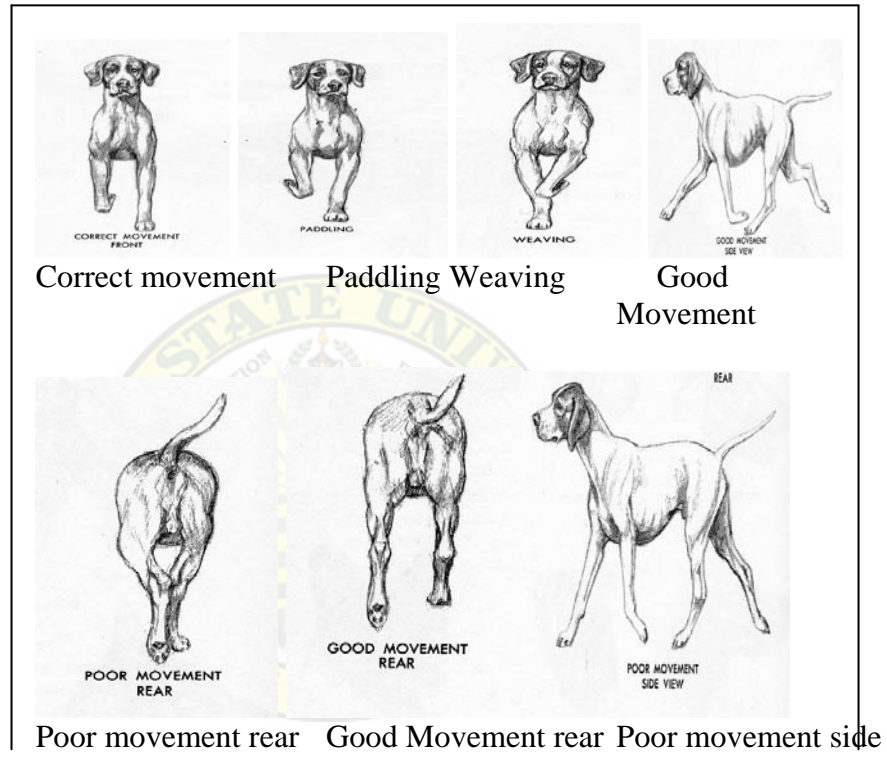
Figure 30. Description of dog's movement.

18. Other features:
    a. The balance described the over all symmetry which gave the harmonious and well-proportioned blends of the various parts which described the whole dog.

    b. The breeching described the presence of tan-colored hair on the inside of the thighs (Figure 31).

Figure 31. Dog's
breeching

c. The Chest was described as barrel shape or oval shape.

d. The chiseling described the clean contours and lines, primarily around the head and foreface. The dog was described as chiseled or not chiseled.

e. Coupling was described as long or short coupling (figure 32)

Long coupling   Short coupling
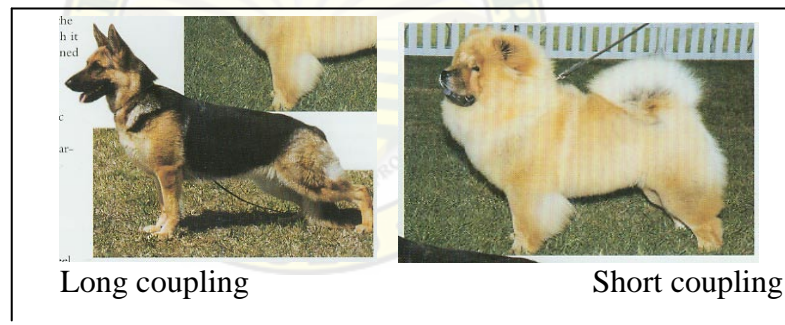
Figure 32 . Short and long coupling dog

f. The crest were described as prominent or not prominent

g. The dewlap was described as exaggerated or not (Figure 33).
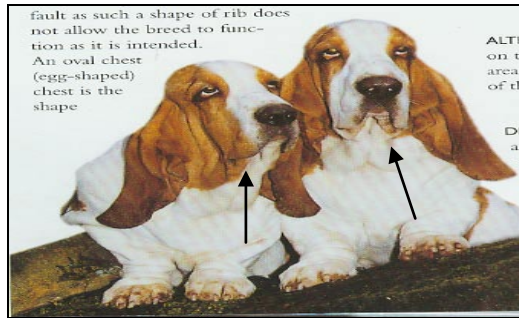
Figure 33. An example of dogs with prominent Dewlap

g. The furrow was described as deep, shallow or none (Figure 34).
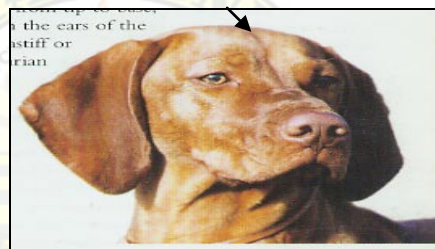
Figure 34. An example of dog with furrow running from the center of the skull toward the stop

i. The keel was described as prominent or not (Figure 35)
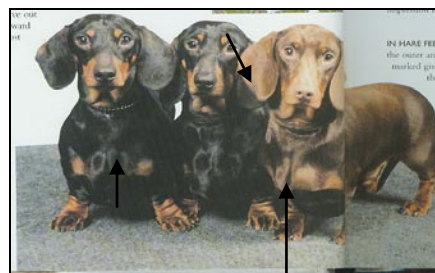
Figure 35 an example of dogs with a prominent keel

j. The racy described the elegant appearance of a dog while cobby dog is described as strong and yet compact or weak and yet lean. The dog was described as elegant or cobby (figure 36)

| Elegant dog | cobby dog |
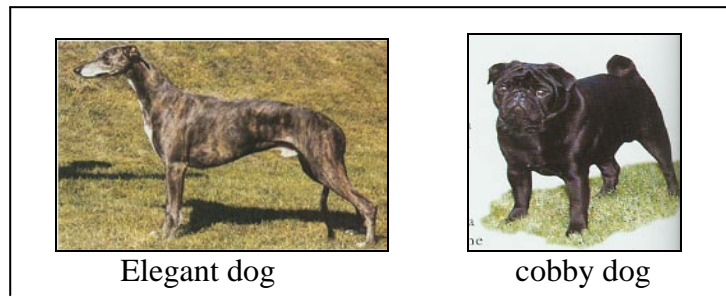
Figure 36. An example of an elegant and a cobby dog.

B. Morphometric variables gathered were:

1. Dorso-ventral diameter of muzzle (DVDM). This was the widest distance from the apex of the philtrum of the muzzle (Figure 37, nr 6).

2. Distance between lateral sides of suzzle (DBLSM). This was the widest distance from the dextral to sinistral sides of the muzzle (Figure.37, nr 3).
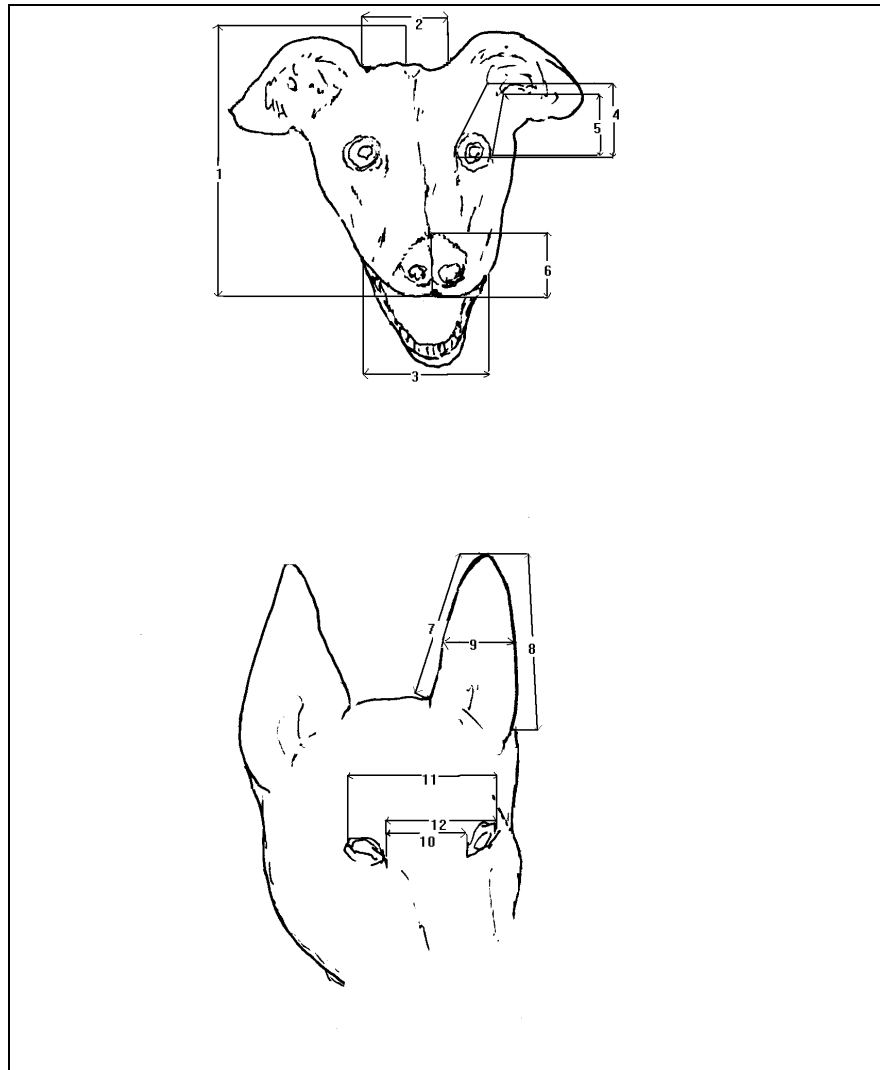
Figure 37. Schematic illustration of measurements on the head: 1 –HL; 2- DBE; 3 – DBLSM; 4- LLCBLE; 5 – RLCBLE; 6 - DVDM; 7 – LEL/F; 8 – LEL/B; 9 – LEW; 10 – BMCE; 11 – DBLCE; 12- DBLCMCR

3. Tip of muzzle to angle formed by frontal and nasal regions (TMAFNR). This was measured from the apex of the muzzle to the angle formed between the frontal and nasal regions of the face (Figure 38, nr 6).

4. Angle formed by the frontal and nasal regions to poll (AFFNRP). This was measured from the angle formed between the frontal and nasal regions to the dorsal most of the head (Figure 38, nr 7).

5. Head depth (HD). This was measured laterally from the highest point of the head to the level of the angle of the jaw.

6. Jaw to tip of muzzle (JTM). This was measured diagonally from the level of the angle of the jaw to the apex of the muzzle (Figure 39, nr 1)

7. Head Length (HL). This measurement was taken from the Occiput to tip of the muzzle (Figure no. 37, nr 1).

8. Jaw to angle formed between frontal and nasal regions (JAFFNR). This was measured between the level of the angle of the lower jaw to the angle formed between the frontal and nasal regions of the face (Figure 38, nr 3).

9. Jaw to lateral commissure of the lips (JLCL). This was measured from the lower jaw to the lateral commissures of the left lips (Figure no. 38, nr 4).
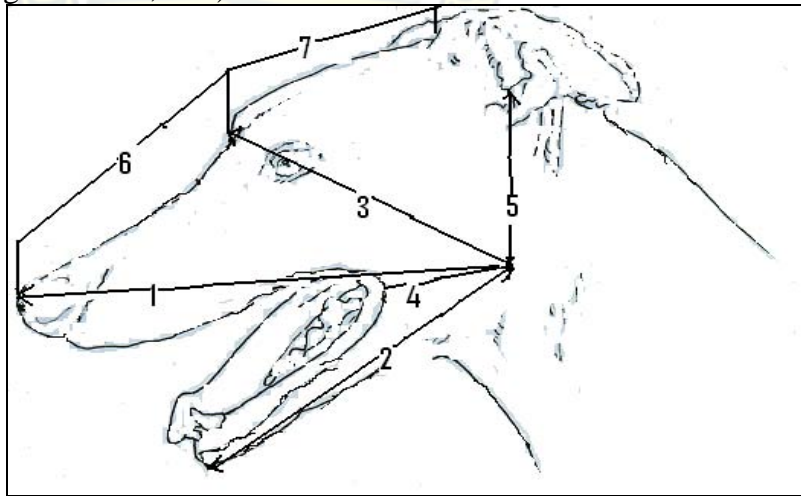
Figure38. Schematic illustration of measurements on the lateral part of the Head: 1 – JTM; 2 – VJL; 3 – JAFFNR; 4 – JLCL; 5 – LEBJ; 6 - TMAFFNR; 7 - AFFNRP

10. Distance between the lateral canthus of the eyes (DBLCE). This was taken from the lateral canthus of the left Eye to the Lateral Canthus of the Right eye (Figure no. 37, nr 11).

11. Distance between the medial canthus of the eyes (DBMCE). This was taken from the medial canthus of the left eye to the medial canthus of the right eye (Figure no. 37, nr 10).

12. Distance between left lateral canthus of left eye to medial canthus of the right eye (DBLCMCR). This was the distance between the lateral canthus of the left eye to the medial canthus of Right eye (Figure 37, nr 12).

13. Left medial canthus to tip of muzzle (LMCTM). This measurement was taken from the medial canthus of the left eye to the apex of the muzzle Figure 39, nr 5).

14. Left lateral canthus to tip of muzzle (LLCTM). This was taken from the lateral canthus of the left eye to the apex of the muzzle (Figure 39, nr 6).

15. Left lateral canthus to base of the left ear (LLCBLE). This was measured from the left lateral canthus of the base of the left ear (Figure 37, nr 4).

16. Left medial canthus to the base of the Left ear (LMCBLE). This was measured from the left medial canthus to the base of the left ear (Figure 38, nr 3).

17. Left lateral canthus to poll (LLCP). This was measured from left lateral canthus to the dorsum most of the head (Figure 39, nr 3).

18. Left medial canthus to poll (LMCP). This was measured from the left medial canthus to the dorsum most of the head (Figure 39, nr 4).

19. Head width (HW). This was the widest distance between the left and right sides of the head (Figure 39, nr 2).

20. Facial width (FW). This was the widest distance between the left and right sides of the face (Figure 39, nr 1).

21. Facial depth (FD). This was the measured from dorsum of the face
    to the level of the lower jaw (Figure 42, nr 7).
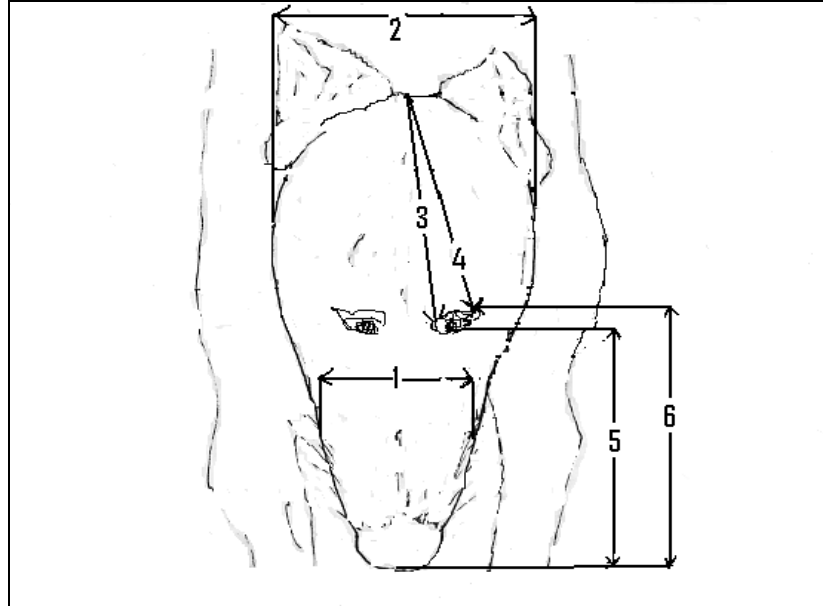
Figure 39. Schematic illustration of measurements on the head
    dorsal View: 1 – FW; 2 – HW; 3 – LLCP; 4 –LMCP;
    5 –LMCTM;   6 - LLCTM

22. Distance between the ears (DBE). This was the widest distance
    between the base of the left and right ears (Figure 37, nr 2).

23. Left ear length/front (LEL/F). This was measured from the base to
    the tip of the left ear on the backside (Figure 37, nr 7).

24. Left ear length/back (LEL/B). This was measured from the base to
    the tip of the left ear on the backside (Figure 37, nr 8).

25. Left ear width (LEW). This was the widest distance between the
    edges of the left ear pinna (Figure 37, nr 9).

26. Left ear base to jaw (LEBJ). Measurement was taken from the base
    of the left ear to the left lower jaw (Figure 38, nr 5).

27. Neck depth (ND) This was measured from the highest dorsal point
    of the neck to the lowest ventral point of the lower jaw (Figure 42,
    nr 6).

28. Ventral jaw width (VJW). This was the widest distance between the lateral sides of the ventral jaw (Figure 40, nr 3).

29. Neck width (NW). This was the widest distance between the left and right sides of the neck (Figure 41, nr 1).

30. Dorsal neck length (NL). This was measured from the base of the head to the highest point between the shoulders (Figure 42, nr 2).

31. Ventral neck length (VNL). This was measured from the manubrium following a straight line to the base of the mandible (Figure 40, nr 2)

32. Ventral jaw length (VJL). This was measured from the base of the mandible following a straight line to the level of the first incisor teeth (Figure 40, nr 1).

33. Ventral chest length (VCL). This was measured from the anterior of the manubrium to the xiphoid process (Figure 40, nr 4).

34. Abdominal length (Abd.L). This was measured from the xiphoid process to the base of the vulva in the female and to the base of the testicles in males (Figure 40, nr 5).
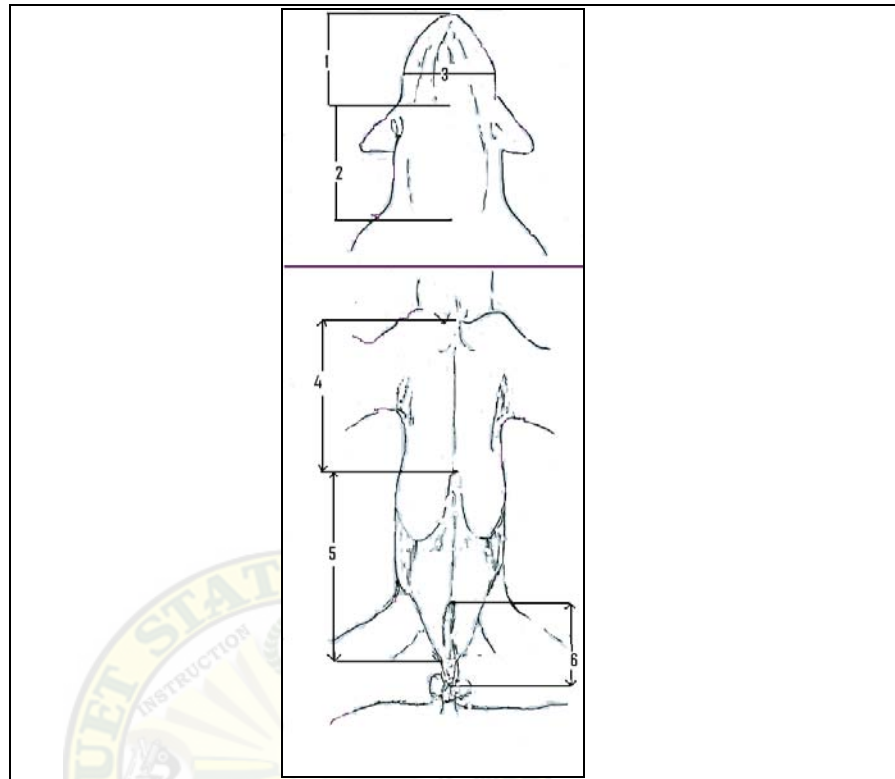
Figure 40. Schematic illustration of measurements on the entral
neck and abdomen: 1- VJL; 2 - VNL; 3 – VJW; 4 –
VCL; 5 – bdL; 6 – PL

35. Back width (BW). This was the widest distance between the left
and right sides of the Back (Figure 41, nr 3).

36. Shoulder width (SW).This was the widest distance between the
lateral sides of the left and right shoulders (Figure 41, nr 2).

37. Shoulder depth (SD). This was measured from the level of the
ventral keel following an imaginary line to the level of the withers
(Figure 42, nr 5).

38. Body depth (BD). This was measured from the level of the
umbilicus following an imaginary line to the level of the back
(Figure 42, nr 4).

39. Body length (BL). This was measured from the base of the head to
tail head (Figure 42 nr 1).
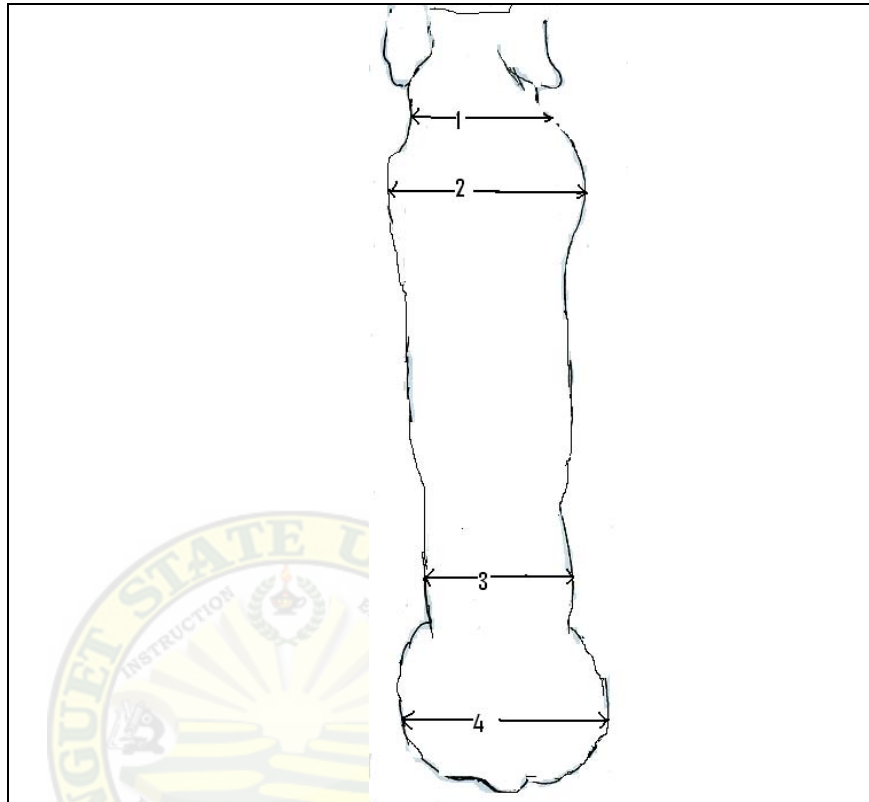
 Figure 41. Schematic illustration of the measurements on the
          back dorsal   view: 1 – NW; 2 – S; 3 – BW; 4 –
          HiW.
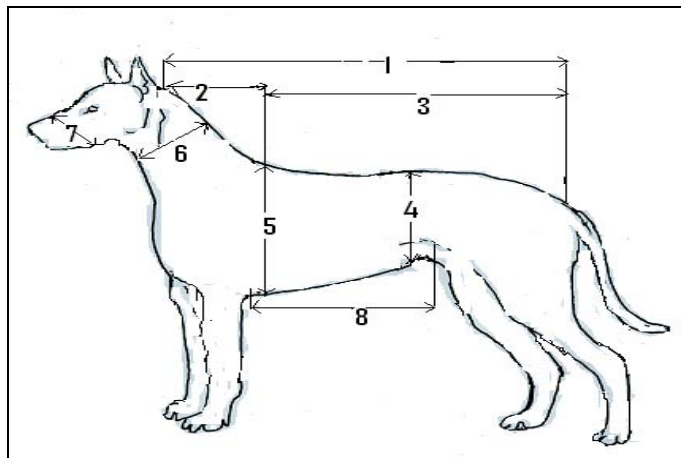
Figure 42. Schematic illustration of the measurements

on the lateral side of the body: 1-   BL; 2-
NL; 3 – THPBS; 4 – BD; 5 – SD; 6 – ND;
7 - FD; 8 – LALG

40. Tail head to point between shoulders (THPBS). This was measured from the dorsal portion of the tail head to the highest point between the shoulders (Figure 42, nr 3).

41. Left axilla to left groin (LALG). This measurement was taken on the left sides between the axilla and Groin (Figure 42, nr 8).

42. Point between shoulders to digital surface of anterior limb (PBSDSAL). This was the vertical measurement from the point between the shoulders and the digital surface of the left anterior limb (Figure 43, nr 2).

43. Point between shoulders to sole of anterior limb (PBSSAL).This was the distance from the highest point between the shoulders to the part of the digital pad touching the ground of the left anterior limb (Figure 43, nr 1).

44. Axilla to tip of dew claw (digit I) of anterior limb (ATDCAL) .This was measured vertically from the medial side of the limb from the axilla to the tip of Dewclaw (digit 1) of the anterior limb of the left anterior limb (Figure 44, nr 2).

45. Axilla to tip of digits of anterior limb. (ATDAL). This was measured vertically on the medial side of the forelimb from the axilla to the part of the tip of the digits touching the ground of the left anterior limb (Figure 43, nr 1).

46. Left axilla to right axilla (LARA). This was the widest distance between the Medial sides of the left axilla and the right axilla.
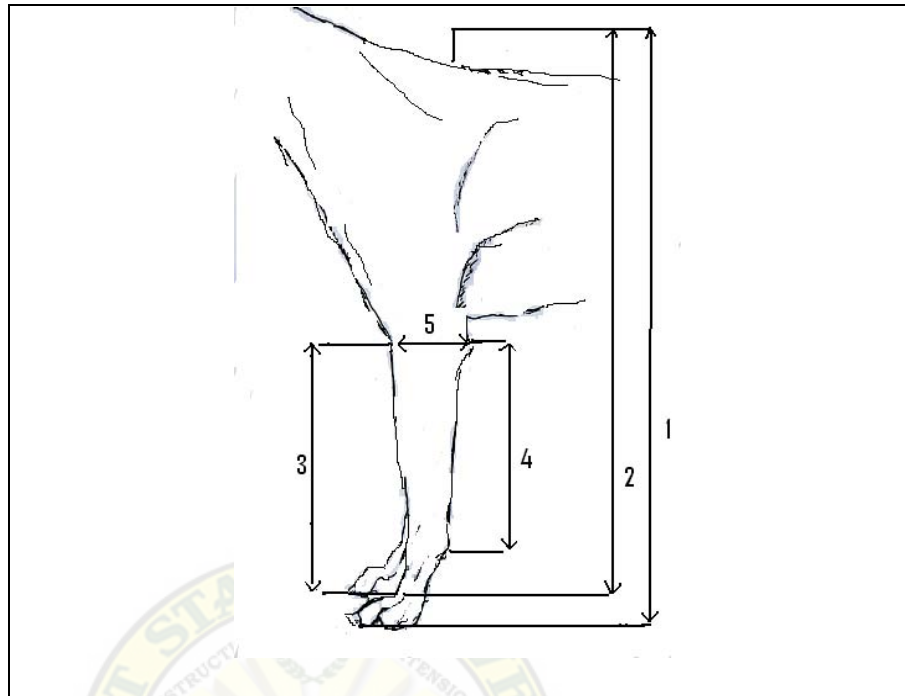
Figure 43. Schematic illustration of measurement on the lateral
side of left anterior Limb: 1 - PBSSAL; 2 - PBSDSAL;
3 - EJDSD; 4 - EJCJ; 5 - OPCE

47. Axilla to olecranon process of the elbow (AOPE). This was
    measured vertically from the Axilla to the olecranon process of the
    elbow of the left anterior limb (Figure 44, nr 6).

48. Olecranon process to point of elbow (OPPE). This was a horizontal
    measurement from the point of the olecranon process to point of
    elbow (Figure 43, nr 5).

49. Elbow joints to tip of dewclaws (EJTDC). This was measured
    vertically between the elbow joints to the Tip of Dew Claws of the
    left anterior limbs (Figure 44, nr 4).

50. Elbow joints to tip of digits (EJTD). This was measured from the
    elbow joints to the tip of digits of the left anterior limbs (Figure 44,
    nr 3).

51. Elbow Joints to the Antebrachiocarpal joint (EJAJ). This was
    measured from the elbow joint to the antebrachiocarpal joints of
    the left anterior limbs (Figure 43, nr 4).
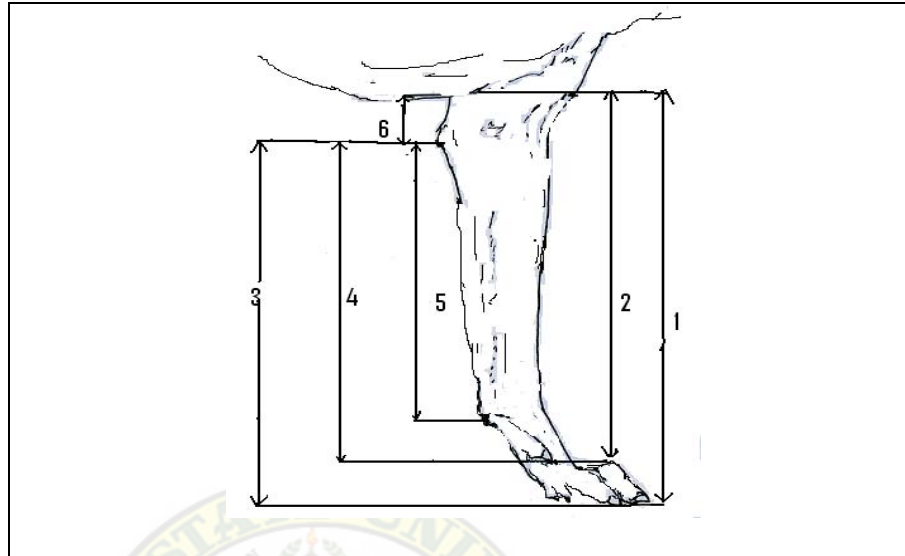
Figure 44. Schematic illustration of measurements on the medial side of left anterior limb: 1 – ATDAL; 2 – ATDCAL; 3 -EJTD; 4 – EJTDC; 5 – EJAJ; 6 - AOPE

52. Elbow joint to the dorsal surface of the digits (EJDSD). This was measured from the elbow joint to the dorsal surface of the Digits of the left anterior limb (Figure 43, nr 3).

53. Antebrachiocarpal joint to tip of dew claw (AJTDC). This was measured from the antebrachiocarpal joint to the tip of dewclaws of the left and right anterior limb (Figure 46, nr 2).

54. Antebrachiocarpal joint to tip of digits (AJTD). This was measured from the antebrachiocarpal joints to the tip of digits of the left anterior limb (Figure 46, nr 1).

55. Carpal pads to metacarpal pads (CPMP). This was measured from the carpal pads to the metacarpal pads of the left anterior limb (Figure 45, nr 1).

56. Carpal pads to tip of dew claw (CPTDC). This was a diagonal line on the medial side between the carpal pads and the tip of dewclaw of the left anterior limb (Figure 45, nr 2).
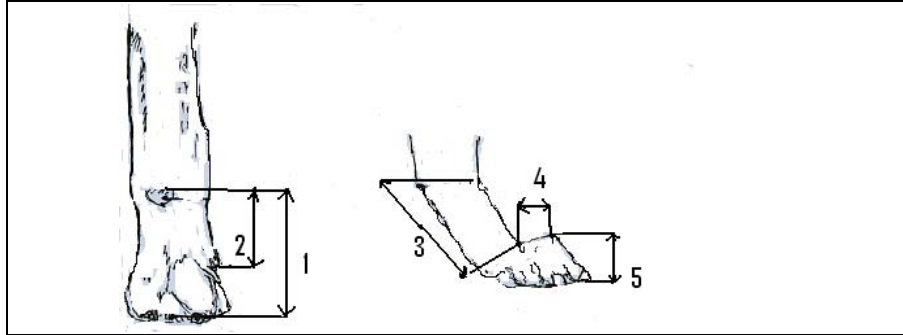
Figure 45. Schematic illustration of measurements on the left caudal view and dorsal view of the anterior foot: 1 – CPMP; 2 – CPTDC; 3 - CJDSD; 4 – MJPPIJ; 5 - PPIJTD

57. Carpal joint to dorsal surface of the digits (CJDSD). This was measured cranially from the carpal joint to the dorsal surface of the digits of the left anterior limb (Figure 45, nr 3).

58. Tip of dew claw to digital tip (TDDT). This was measured from the tip of the dewclaw to the tip of the digits touching the ground of the left anterior limb (Figure 46, nr 3).

59. Front feet width (FFT).This was the widest distance between the medial and lateral sides of the Dorsal surface of the digits of the left of anterior limb (Figure 46, nr 4).

60. Metacarpophalangeal joint to point of proximal interphalangeal joint (MJPPIJ). This was a measurement taken from the dorsal surface of the Digits from the metacarpophalageal joint to the point of proximal interphalangeal joint of the left anterior limb (Figure 45, nr 4).

61. Point of the proximal interphalangeal joint to tip of digits (PPIJTD). This was measured from the point of the interphalangeal joint to the tip of the digits of the left anterior limb (Figure 45, nr 5).

62. Hip width (HiW). This is the widest distance between the lateral sides of the left and right hips (Figure 41, nr 4).
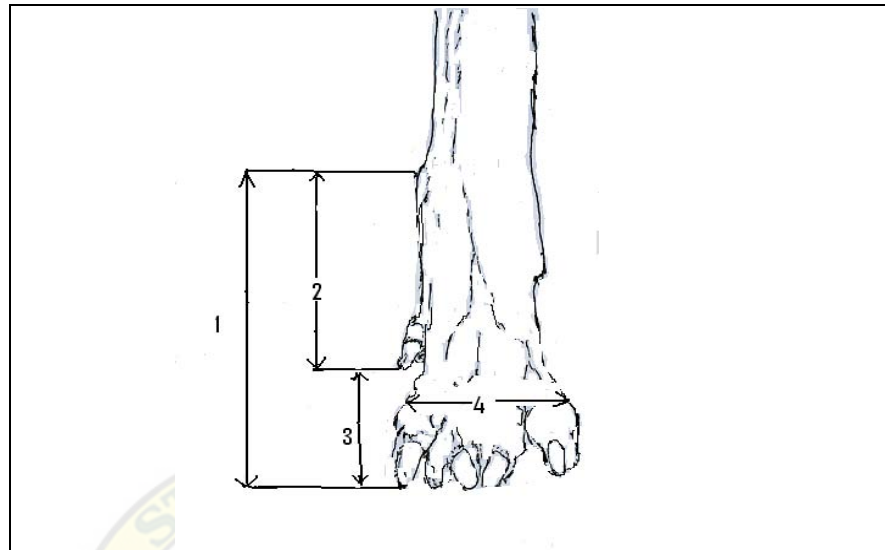
Figure 46. Schematic illustration of measurements on the left anterior foot: 1 – AJTD; 2 – AJTDC; 3 – TDDT; 4 -FFW
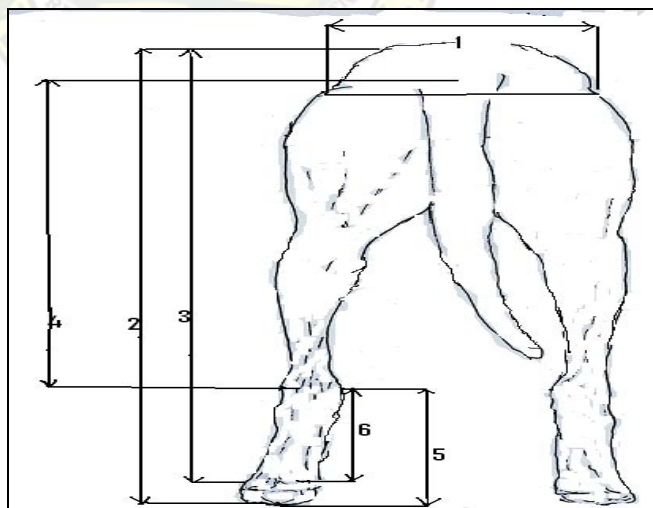
Figure 47. Schematic illustration of measurements on the Posterior limb caudal view: 1 -TH; 2- RDT; 3 – RMP; 4 – THPH; 5 – PHTFD; 6 – PHMP

63. Thigh width (TW). This is the widest distance taken from lateral side of the thigh of the right posterior limb to the left lateral side of the left posterior limb caudally (Figure 47, nr 1).

64. Rump to metatarsal pad (RMP). This is the vertical measurement from the rump to the metatarsal pad of the left posterior limb (Figure 47, nr 3).

65. Rump to digit tip (RDT). This was the vertical measurement from the rump to the down part of the tip of the digit touching the ground of the left of posterior limb (Figure 47, nr 2).

66. Rump to stifle joint (RSJ). This was a vertical measurement taken from the rump to the stifle joint of the left posterior limb (Figure 49, nr 1).

67. Rump to point of the hock (RPH). This measurement was taken from the rump to the point of the hock of the left posterior limb (Figure 49, nr 2).

68. Groin to metatarsal pad (GMP). This is taken on the medial side of the limb from the groin to the metatarsal pad of the left posterior Limb (Figure 48, nr 1).

69. Groin to digit tip (GDT).This was taken on the medial side of the limb from the groin to the tip of the digit touching the ground of the left posterior limbs (Figure 48, nr 2).

70. Tail head to the point of the hock (THPH). This was a vertical measurement from the root of the tail to the point of the hock of the left posterior limb (Figure 47, nr 4).

71. Point of the hock to metatarsal pads (PHMP).This was measured caudally from the Point of the Hock to the Metatarsal Pads of the left posterior limbs (Figure 47, nr 6).
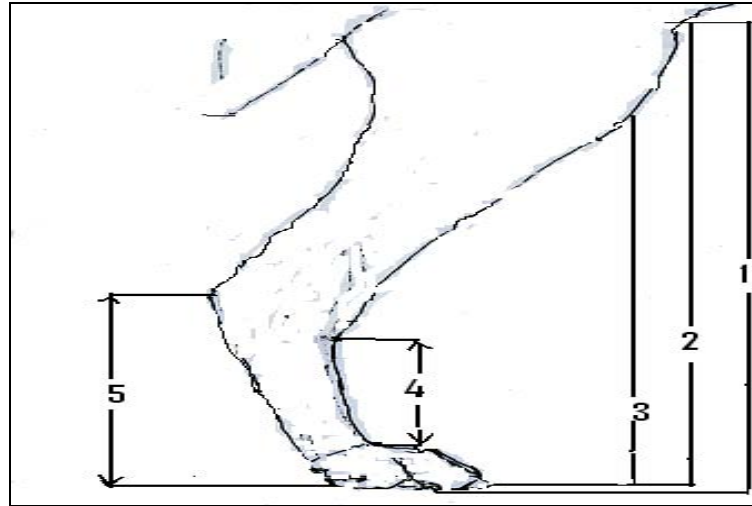
Figure 48. Schematic illustration of measurements on the left medial side of posterior limb: 1 – GMP; 2 – GDT; 3 – SJDT; 4 –HJDSD; 5 – PHDT

72. Point of the hock to digit tip (PHDT). This was measured from the point of the hock to the tip of the digits touching the ground of the left posterior limbs (Figure 48, nr 5).

73. Hock joint to dorsal surface of digit (HJDSD). This was measured cranially from the hock joint to the dorsal surface of the Metatarsophalangeal Joint of the left posterior limb (Figure 48, nr 4).

74. Metatarsophalangeal joint to proximal interphalangeal joint (MJPIJ). This was a measurement taken on the dorsal surface from the metatarsophalangeal joint to the point of proximal interphalangeal joint of the left posterior limbs (Figure 49, nr 5).

75. Point of proximal interphalangeal joint to the digit tip of posterior limb (PPIJDTPL). This was a measurement taken from the dorsal surface of the point of the proximal interphalangeal joint to the tip of the claw touching the ground of the left posterior limbs (Figure 49, nr 6).

76. Hind feet width (HFW). This was a widest distance taken on the dorsal surface of the digits of Posterior limb from medial to lateral sides of the left posterior limb (same as figure 47, nr 4).

77. Metatarsal pad to tip of digit tip (MPTDT). This was a measurement taken from the lateral side of the metatarsal pad caudally to the tip of the digits located anteriorly of the left posterior limbs (same as figure 45 nr 1).

78. Point of the hock to the tip of the first digit (PHTFD) .This was measured medially from the point of the hock to the level of the first digit. (Figure 47, nr 5).
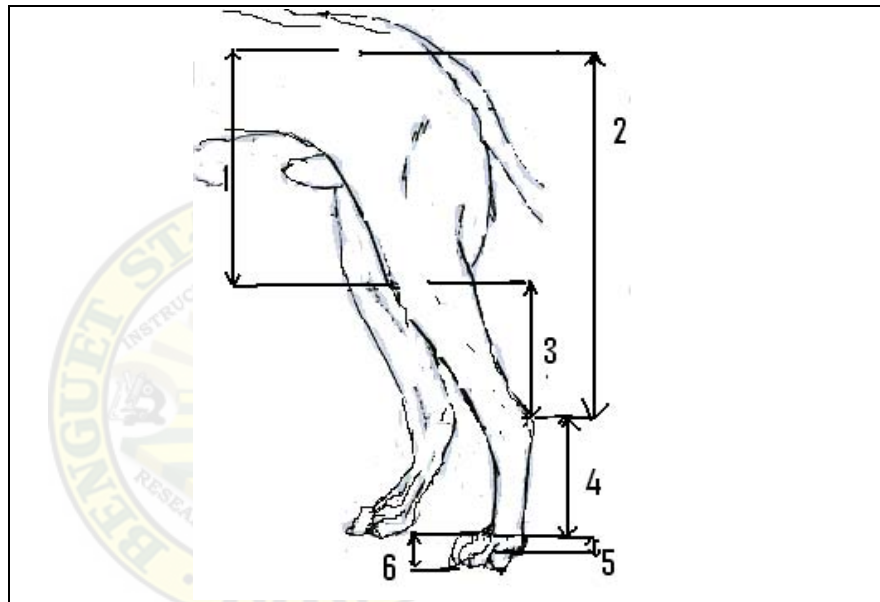
Figure 49. Schematic illustration of measurements on the left lateral part of Posterior Limb: 1 – RSS; 2 – RPH; 3 – SJPH; 4 – HJDSD; 5 – MJPPIJ; 6 – PPIJDTPL.

Plate No. 1. Measuring the dog from the point between
shoulders to the sole of anterior limb.

Plate no. 2. Measuring the head depth of the dog

Data analysis

Both morphologic and morphometric data collected were tabulated,

categorized, and analyzed. The number of specimens (n) and mean were obtained

on the morphologic data. The morphometric data was analyzed using descriptive statistics and principal component analysis (PCA).

The measurements were expressed as ratios of a reference length. All the measurements of the body were expressed as percentage of the body length.

Principal component analysis (PCA) was done using the STATISTICA (statsoft Inc.) package (version 5.0 for analysis and graphs).

PCA is one of the multivariate methods most frequently applied to biological problems. It is by far the most widely used method for morphometric analysis. Since the group structure is not known in advance, PCA is the most appropriate tool to use in the study. This tool reduces the dimensionality of the data set by representing the observed variables as functions of a smaller number of latent factors which are uncorrelated with another and ideally can be interpreted (Schaefer, 1991 in Diego, 1998).

Size describes the magnitude of a given character while shape implies the relationship between two or more characters (Somers, 1986 in Deigo, 1998). Since morphometric variables are always size- related (allometry), the raw data was needed to be log-transformed prior to analysis. The covariance matrix was used for the log-transformed morphometric data in calculating for the principal components. The first Principal Component (PC I) was interpreted as the "size" factor since all the characters are positively correlated with this component

although shape and size are actually incorporated into this component (Humphries et.al., 1981 in Deigo, 1998).

The second (PC II) and third (PC III) were regarded as "shape" factors (Cracraft, 1976 as cited by Deigo, 1998) independent of size. In order to partition out effects of age and size such as growth, only the "shape" factors were used for discriminating against species groups. A categorized scatter plot of the factor scores for every two principal component axes was used to visualize the results of the analysis.

RESULTS AND DISCUSSION

Profile of Respondents

Table 1 presents the distribution of respondents by sex, civil status, citizenship, age, educational attainment, occupation and level of income.

A total of 216 respondents were interviewed and 312 dogs were examined in the study.

Results show there are more female respondents than male in barangays Beckel and Betag. A great majority of them married, and a few are single. Only two respondents are widowed. The respondents are all Filipinos. There are more women respondents because they are the ones who do most of the household chores. Staying most of the time, they have more time spent with their dogs. They bathe and feed them while men have to go out to work on the farm or in the office.

The age and civil status of respondents from Beckel and those respondents from Betag do not significantly differ.

Table 1 also shows that in Beckel most of the respondents range in age from 46 to 61 years. The rest of the respondents range in age from 26 to 35, 36 to 45 and 10 to 17 years. Conversely, in Betag respondents range in age from 36 to 45 years followed closely by those aged 46 and above. The reason for more respondents range in age from 36 to 45 years in barangay Beckel is that a high

people are employed in government and private establishments in nearby barangays and city.

Table 1 further shows the highest educational attainment of respondents. In Beckel, a great number of respondents are elementary graduates, and a few are either high school or college graduates. In contrast, almost or majority are college graduates in Betag and some are high school graduates. The reasons for the high number of college graduates in Betag are that it is an urban area where employment offers a reason to live in and that it is near schools. In Beckel, the interviewed respondents said that they lack education because schools are located far away, parents do not give financial support, and they help with the house chores and farm work most of the time.

Educational attainment is important as it determines their understanding of dog behavior, the purpose of acquisition and the way they treat dogs. It is also important since their behavior, values and habits towards dogs are affected by their educational level.

The occupation of respondents varies. In Beckel, the majority, and the rest of the respondents are students, housekeepers, employee/s, or businessman. In Betag, a great number of the respondents are businessmen or employees. Some are farmers, students, housekeepers, retired/veteran, driver construction workers/carpenters, housemaids, miners or mechanics. Farming being the greatest occupation of respondents in Beckel shows that it is mainly an agricultural lot.

Businessmen being the greatest number in Betag show that it is a highly developing urban area. Employee/s being the second highest is due to private and public establishments that offer employment.

In terms of income in thousand per month, the majority of the respondents in Beckel earn an income of Php 5001 to 10,000, or Php 5001 and below. In barangay Betag, a great majority have an income of Php 10,000 and above, or Php5001-10,000.

The respondents from the two barangays significantly differ in age, educational attainment, occupation and level of income. The result implies that the respondents in Betag earn higher income than the respondents in barangay Beckel because of the fact that Betag is a tourist destination due to its strawberry plantation and the presence of many institutions and business establishments.
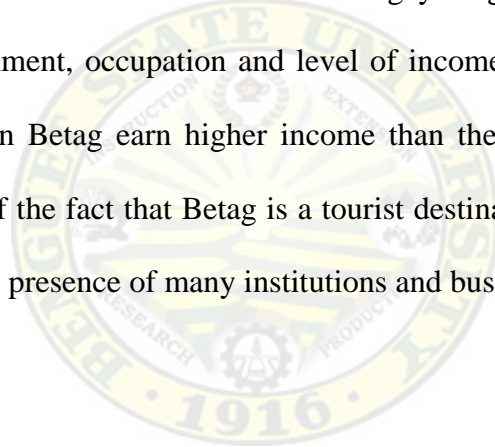
Table 1. Distribution of respondents according to sex, civil status, age, educational attainment, occupation and level of income

	BECKEL		BETAG		TOTAL	
	Number	%	Number	%	Number	%
Sex:						
Male	37	44	63	48	100	46
Female	47	56	69	52	116	54
Total	84	100	132	100	216	100
	$^{NS}X^2c = 0.2797$		$df = 1$	$X^2t = 3.841$		
Civil status:						
Single	21	25	36	27	57	26
Married	62	74	95	72	157	73
Widow/er	1	1	1	1	2	1
Total	84	100	132	100	216	100
	$^{NS}X^2c = 0.0213$		$df = 2$	$X^2t = 5.991$		
Age (year)						
17 and below	14	17	6	5	20	9
18-25	10	12	17	13	27	13
26-35	18	21	27	20	45	21
36-45	12	14	43	33	55	25
46 and above	30	36	37	28	67	31
No response	0	0	2	1	2	1
Total	84	100	132	100	216	100
	$*X^2c = 17.2121$		$df = 5$	$X^2t = 11.070$		
Educational attainment:						
Elementary levell	20	24	7	5	27	12
Elementary grad	18	21	5	4	23	11
High school leve	17	8	8	6	15	7
High school grad	16	19	14	11	30	14
College level	8	9	33	25	41	19
College graduate	9	11	63	48	72	33
Vocational	2	2	1	1	3	1
No schooling	4	5	0	0	4	2
No response	0	0	1	7	1	0
Total	84	100	132	100	216	100
	$*X^2c = 67.5429$		$df = 8$	$X^2t = 15.507$		

Table 1. Continued...

	BECKEL		BETAG		TOTAL	
	Number	%	Number	%	Number	%
Occupation:						
Businessman	6	7	33	25	39	18
Farmer	41	49	21	16	62	29
Employee/s	8	10	32	24	40	19
Student	16	19	20	15	36	17
Housekeeper	11	13	11	8	22	10
Housemaid	1	1	1	1	2	1
Construction/carpenter	0	0	3	2	3	1
Miner	0	0	1	1	1	1
Standby/unemployed	0	0	2	1	2	1
Mechanic	0	0	1	1	1	1
Driver	0	0	3	2	3	1
Retired/veteran	1	1	4	3	5	2
Total	84	100	132	100	216	100
	$*X^2c = 43.89$	$df = 11$	$X^2t = 19.675$			
5,000 and below	24	29	11	8	35	16
5,001 – 10,000	29	34	42	32	71	33
10,000 and above	7	8	53	40	60	28
NA	24	29	26	20	50	23
Total	84	100	132	100	216	100
	$*X^2c = 33.52$	$df = 3$	$X^2t = 7.815$			

*Significant at 0.05 level of significance

 NS – not significant

Table 2 shows the average number of persons in one household categorized by age brackets. The table shows that in Beckel, the majority of the persons in one household range in age from 18 to 50 years. Some range in age from 11 to 17, 5 to 10 years, less than 5 years and more than 10 years old. In barangay Betag, majority of the persons in one household range in age from 18 to

50 years. Some range in age from 11 to 17 years, less than 5 years, or more than 50 years old.

There is an average of 5.405 and 5.16 members in one household in Barangays Beckel and Betag respectively. The number of persons in one the household indicates the persons that can feed and care for the dogs in case the owner is out of town.

The numbers of persons in Beckel significantly differ from the number in Betag. The difference may be attributed to the location of the barangays. Betag is within the valley floor where more people converge because of employment and is near to schools and other government institutions; conversely, Beckel is outside the valley floor which represents a type of a rural setting. Result further implies a higher work force in Betag.

The table further shows the different types of home of respondents. In barangay Beckel, a great majority or respondents live in a traditional family house. Some live in a modern family house. In Betag, some live in traditional family house, either in a modern family house, in a home in multi-apartment, in apartment above commercial area, in a farm house and or in a canteen. The type of home indicates that dogs live with the owners whatever the type of home.

The type of home of respondents in Beckel differs significantly from the type of home of respondents in Betag. Comparatively, the obvious difference is that there are not so many apartments in Beckel. The multi-apartments and

apartments above commercial area are found in Betag. Apartments in Betag are one of the earning businesses in the area.

In terms of house enclosures, In Beckel, almost all have no fence or wall, few have a fence or wall but does not restrain dog and, or have a fence or wall that completely restrains a dog. Whereas in Betag, many have fence or wall that completely restrains dog, some do not have fence or wall and/or have fence or wall but does not restrain a dog.

The presence or absence of enclosures around the respondents's home in Beckel significantly differs from the presence or absence of enclosures around the respondents' home in Betag. The high number of respondents' home with enclosures in barangay Betag can be attributed to their added security against intruders and to set boundaries between lands since this is a place where different classes of people can be found and a small piece of land is very valuable to the owners of the land. In Beckel, the high number of home without fence or wall as enclosures indicates that their neighbors may be family relatives.

In terms of controlling dogs' mobility, respondents from Betag can better control their dogs with the aid of fence or walls compared to barangay Beckel where there are no enclosures of the house.

Table 2. Number of persons per household categorized by age brackets and Distribution of respondents as to the type of home and enclosure of home

	BECKEL		BETAG		TOTAL	
	Number	%	Number	%	Number	%
Number of persons per household (year)						
< 5	46	10	48	7	94	8
5 – 10	52	11	37	5	89	8
11 – 17	81	18	83	12	164	14
18 – 50	235	52	507	74	742	65
More than 50	40	9	6	1	46	4
Total	454	100	681	100	1135	100

$*X^2c = 85.45$ $df = 4$ $X^2t = 9.488$

	BECKEL		BETAG		TOTAL	
Type of Home:						
Traditional family house	57	68	42	32	99	46
Modern family house	27	32	40	30	67	31
Apartment above commercial Area	0	0	13	10	13	6
Home in multi-apartment	0	0	33	25	33	15
Farm house	0	0	3	2	3	1
Canteen	0	0	1	1	1	1
Total	84	100	132	100	216	100

$*X^2c = 46.38$ $df = 5$ $X^2t = 11.07$

*Significant at 0.05 level of significance

 NS – not significant

Table 2. Continued...

	BECKEL		BETAG		TOTAL	
	Number	%	Number	%	Number	%

Enclosure of Home:						
No fence or wall	78	93	46	35	124	57
Fenced or walled but does not restrain dog	5	6	36	27	41	19
Fence or wall, completely restrains dog	1	1	50	38	51	24
Total	84	100	132	100	216	100

$$*X^2c = 77.7062 \qquad df = 2 \qquad X^2t = 5.991$$

*Significant at 0.05 level of significance

 NS – not significant

Management of Dogs by Owners

Table 3 shows the distribution of dogs as to the sources. It shows that in Beckel less than half were offspring of their own bitches. Some dogs are, received as gift from neighbor, received as gift from outside neighborhood, bought or traded from neighbor, bought or traded from outside neighborhood and/or found on the street In Betag, some dogs were offspring of their own bitches, received as gifts from neighbors, bought or traded from outside neighborhood, received as gift from outside neighborhood, bought or traded from neighbor, found on the street and/or unclaimed patient.

The sources of dogs in Beckel do not significantly differ among the sources of dogs in Betag.

The high percentage of the offspring of the owners' bitches is attributed to high reproductive efficiency of owned dogs and to females

Table 3. Distribution of dogs as to sources

SOURCES	BECKEL		BETAG		TOTAL	
	Number	%	Number	%	Number	%
Offspring of own bitch	51	46	68	34	119	38
Bought from or traded With neighbor	11	10	18	9	29	9
Bought from or traded with outside neighborhood	9	8	31	15	40	13
Received as gift from Neighbor	20	18	60	30	80	26
Received as gift from outside neighborhood	19	17	22	11	41	13
Found on the street	1	1	1	1	2	1
Unclaimed patient	0	0	1	1	1	1
Total	111	100	201	100	312	100

$$^{NS}X^2c = 12.1821 \qquad df = 6 \qquad X^2t = 12.592$$

*Significant at 0.05 level of significance

NS – not significant

retained as replacements. That dogs received as gifts from neighbors as the second highest percentage may be attributed to the Filipino values of keeping and gift giving. It may be inferred that whatever is the source of dog and whatever are the characteristics of the dog, respondents willingly accept them as their dogs.

Table 4 shows the distribution of dogs as to the uses. In Beckel, almost all are used as guard dogs. Some are used as both guard and as pet dogs, claimed it is a pet dog only and /or claimed it is a source of income. In Betag, Many are able to make them as guard dogs. Some use them as guard and pet dog, pet dogs only and/or serves as a source of income. This finding implies that whatever is the characteristic of dogs, respondents are able to make use of

Table 4. Distribution of dogs examined as to their uses

USES	BECKEL		BETAG		TOTAL	
	Number	%	Number	%	Number	%
Guard dog	94	85	87	43	181	58
Pet	3	3	26	13	29	9
Source of income	1	1	12	3	13	2
Both as guard & pet	13	12	76	38	89	29
Total	111	100	201	100	312	100
	$*X^2c = 50.7083$		$df = 3$		$X^2t = 7.815$	

*Significant at 0.05 level of significance

 NS – not significant

them as guard dogs, pets, or for income by selling puppies as like what commercial breeders do and for slaughter as dog meat.

The use of dogs as guard by the majority of the respondents may be attributed to the ability of the dogs to sense intruders and protect their masters.

The uses of dogs in Beckel significantly differ from its uses in Betag. The difference lies on the purpose by which respondents acquire their dogs.

Table 5 shows the distribution of persons who can handle and play with the dogs. In Beckel, Many of the dogs examined are handled by adults of household. Some dogs are handled by, anybody, neighbors, children and adult of household and/or children of adult. In Betag, the majority are handled by owner. Some are handled by adults of household, by children of household, handled by children and adult of household and there are dogs not handled by anybody.

The persons who handle and play with dogs at Beckel differ significantly from persons who handle dogs in Betag. The difference lies in the fear of the person to handle the dog because it might bite and the fear that
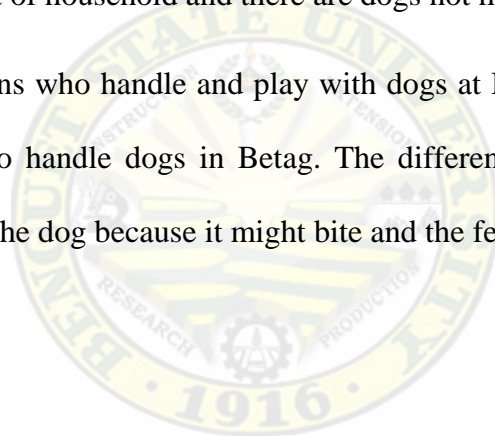
Table 5. Distribution of persons who handles or play with the dog

PERSONS	BECKEL		BETAG		TOTAL	
	Number	%	Number	%	Number	%
Owner	47	42	113	56	160	51
Adults of household	49	44	67	33	116	37
Children of household	2	2	9	4	11	4
Neighbors	4	4	0	0	4	1
Nobody	0	0	3	1	3	1
Anybody	6	5	0	0	6	2
Children and adult of Household	3	3	9	4	12	4
Total	111	100	209	100	312	100

$$*X^2c = 26.758 \qquad df = 6 \qquad X^2t = 12.592$$

*Significant at 0.05 level of significance
 NS – not significant

they might be infected with rabies when bitten. The result also implies that not everybody can handle a dog unless it is your own dog. Further, a dog submits to its master and not to anybody else because of fear. It barks to warn a stranger or to bite because it is its nature to protect itself and survive.

Table 6 shows the distribution of dogs by confinement. Dogs examined in Beckel are mostly free roaming dogs, some are leashed, or are confined. A majority of those examined in Betag are free-roaming and some are leashed or confined. The findings indicates that many dogs roam in the vicinity of the owner's house either in the porch, inside the house, within the frontage of the

house, under the house or these dogs may roam outside the owner's house but they usually return home anytime of the day usually in the

afternoon. Dogs in kennels are those that are used by commercial breeders for breeding and selling pups example is a rottweiler dog examined in Betag.

The number of dogs leashed in barangay Betag is attributed to the barangay ordinance regarding loitering of dogs in the streets. This is also supported by WHO (1987) stating that tying dogs is our society's "protection" against bites and rabies and is part of a new law implemented in urbanized areas in the country.

The number of confined dogs in Beckel differs significantly from the number of confined dogs in Betag. The difference may be attributed to the use of dogs and its the temperament. For example dogs that are too aggressive are tied and a dogs used as guards must be unleashed to roam and protect the surrounding of the owner.

Table 6. Distribution of dogs as their confinement

	BECKEL		BETAG		TOTAL	
	Number	%	Number	%	Number	%
Confined	3	3	29	14	32	10
Leashed	24	22	57	28	81	26
Free roaming	84	76	115	57	199	64
Total	111	100	201	100	312	100

$$^*X^2c = 14.6515 \qquad df = 2 \qquad X^2t = 5.991$$

*Significant at 0.05 level of significance

 NS – not significant

Table 7 shows the distribution of dogs as to shelter. It shows that a great majority of the dogs examined live around the owner's house either within the house, under the house, or in the porch of the house. Only few dogs in Beckel live in a kennel house. Some dogs examined in Betag live in kennel houses. There are more free roaming dogs in Beckel than in Betag. Extra spaces previously used for other animals serve as shelter for dogs. Only 3 dogs are housed in a pigpen percent of the dogs were housed in a pigpen.

Free roaming dogs are not tied by the owners and they are found anywhere in the neighborhood. Results show that respondents allow their dogs to roam anywhere around their house. The number of dogs housed in kennels can be attributed to the knowledge and concern of the respondents about the welfare of their dogs or dogs with a particular breed. The number of free roaming dogs

though they are few can have an impact on rabies incidence in the community since uncontrolled activities of these dogs are open to infection through contact with a stray dog and eating contaminated garbage.

The kinds of dog's shelter in Beckel did not differ significantly from the kind of dog's shelter in Beta, that there is no significant difference among the description of the dog's shelter between barangays Beckel and Betag.

Table 8 shows the distribution of dogs as to the kind of food given. In Beckel, Almost all received kitchen left over. Only few received home cooked vegetable refused mix with rice tuyo/fish gills, and/or received dog food. As compared to Betag, Almost all received kitchen leftovers. Some received commercial dog food, received commercial dog food with rice, received home cooked vegetables mixed with rice/tuyo/fishgills and/or only one received family garbage and waste.
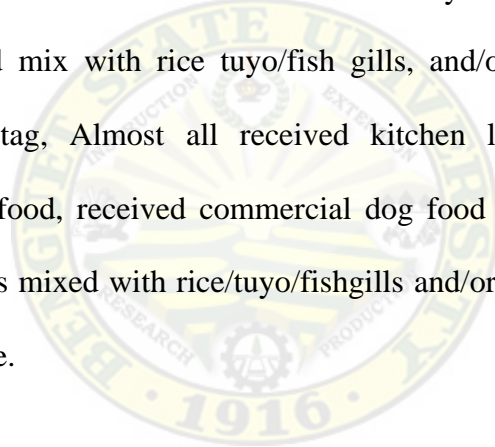
Table 7. Distribution of dogs as to shelter

SHELTERS	BECKEL		BETAG		TOTAL	
	Number	%	Number	%	Number	%
Kennel house	10	9	35	17	45	14
Owner's house	89	80	154	77	243	78
Free roaming	11	10	10	5	21	7
Pigpen	1	1	2	1	3	1
Total	111	100	201	100	312	100

$$^{NS}X^2c = 6.2134 \qquad df = 3 \qquad X^2t = 7.815$$

*Significant at 0.05 level of significance

NS – not significant

The food given to dogs in Beckel differs significantly from the food given to the dogs in Betag. The difference may be attributed to the presence of established breeds in Betag that receive dog foods or may be attributed to the knowledge of respondents of the quality of food given for the dogs.

The high number of dogs receiving kitchen leftovers is attributed to the knowledge of respondents on what to feed to the dogs. Cooking of vegetables mixed with tuyo/fishgills for dogs foods for dogs is done by older people who feel secure with their dogs and those that fatten dogs for income. The dogs that receive dog foods are commercial breeders whose puppies are sold.

Comparatively, the difference between Beckel and Betag is the presence of dogs with established breeds. All dogs examined in Beckel receive kitchen leftovers and home cooked vegetables mixed with   something palatable. In Betag, there are those with established breeds that are given with commercial dog food, others fed dog food because this is the formulated food that should be given to the dogs.

In a publication on dog ecology in central Philippines, Beran, 1982) stated that owned dogs scavenged garbage, received leftover human food and frequently ingested human feces. Food quality, distribution and availability are heavily dependent on cultural practices and on human attitudes towards dogs. Dog-feeding habits have public health implications (hygiene, spread of parasitic diseases, etc.).

Wikipedia, the free encyclopedia (2005) state that a carnivore does not necessarily mean that a dog's diet must be restricted to meat alone. This

Table 8. Distribution of dogs as to the kind of food given

KIND OF FOOD	BECKEL		BETAG		TOTAL	
	Number	%	Number	%	Number	%
Commercial dog food	1	1	10	5	11	3
Kitchen leftovers	101	91	177	88	278	89
Family garbage and waste	0	0	2	1	2	1
Home cooked vegetable refuse, Rice/tuyo/fish gills, etc.	9	8	3	2	12	4
Commercial dog food with rice	0	0	9	4	9	3
Total	111	100	201	100	312	100

$$*X^2c = 17.6369 \qquad df = 5 \qquad X^2t = 11.07$$

*Significant at 0.05 level of significance

 NS – not significant

statement supports the result. Unlike a true obligate carnivore, such as cat, a dog is able to healthily digest a variety of foods including vegetables and grains, and in fact requires a large proportion of these in its diet.

Table 9 shows the frequency of feeding dogs. Almost all dogs in Beckel are fed twice a day. Some receive foods thrice a day and/or received food anytime as long as food is available. In Betag, A great majority of the dogs examined

received foods twice a day. Some receive foods thrice a day,   some receive foods anytime and/or some received foods once a day.

Dog feeding in Beckel differs significantly from dog feeding in Betag. It may be inferred that the frequency of feeding the dogs in Beckel is different from that of dogs in Betag. However, both barangays feed dogs anytime, once a day or three times a day depending on the availability of food, the nature of work of the owner, the availability of person who will feed the dogs and the accessibility of markets selling dog food/s.

The result corroborates the statement cited in the complete dog book (1964) that it is better and necessary to feed small amounts of food at frequent intervals than it is to feed large amounts once or twice daily. By feeding frequently, the total amount of food ingested may be increased, and still the pup's stomach is not overloaded. Young puppies should be fed four times daily; once at each household mealtime and once at bedtime. At three to four months of age, this can be reduced to three times daily; at six months of age, twice daily, and after one year, once daily may be adequate. However, most should be given at night if the dog shall sleep or a lighter meal if the dog should serve as a watchdog.

The right quantity of food according to literature on the complete dog book can be estimated by the following: wet meal or canned -one ounce per pound of body weight of the dog per day. This is usually enough for young growing dogs. One-half to three-quarter ounce per pound of body weight- This is

usually enough for maintenance of older animals. Dry meal –1 to 2lb of dry meal per 30lb of dog. This measure is often useful in estimating quantities of meal to mix when feeding several dogs. Adult dogs will usually require one main meal daily, with a light snack given at the other end of the day. On the other hand, this may be divided into two smaller meals if preferred.

Table 9. Distribution of dogs by frequency of feeding

FREQUENCY OF FEEDING	BECKEL		BETAG		TOTAL	
	Number	%	Number	%	Number	%
Once a day	0	0	4	2	4	1
Twice a day	99	89	149	74	248	79
Thrice a day	8	7	42	21	50	16
Anytime	4	4	6	3	10	3
Total	111	100	201	100	312	100

$$*X^2c = 12.6974 \qquad df = 3 \qquad X^2t = 7.815$$

*Significant at 0.05 level of significance

 NS – not significant

Table 10 shows the person who fed the dogs. Most of the dogs examined in Beckel are a great majority of household members. Some are fed by household members, boarders and neighbors and/or by neighbors. In Betag, almost all dogs are fed by household members. Some are fed by household members, boarders and neighbors and/or dog finds its food.

The persons who fed dogs in Beckel differ significantly from those who feed dogs in Betag. The result indicates that dogs receive from different persons aside from the owners and household members in the two barangays.

Table 11 shows the distribution of dogs as to consultation to veterinarians. Almost all of the dogs examined are referred to a veterinarian and few dogs are referred to a veterinarian in Beckel. In barangay Betag, the majority are not brought or referred to a veterinarian. However, less than half are referred to a veterinarian.

Table 10. Distribution of dogs examined as to who feed them

WHO FED THE DOGS?	BECKEL		BETAG		TOTAL	
	Number	%	Number	%	Number	%
Household members	97	87	190	94	287	92
Neighbors	2	2	0	0	2	1
Dog finds its food	0	0	2	1	2	1
Household members, borders and neighbors	12	11	9	5	21	7
Total	111	100	201	100	312	100

$$*X^2c = 9.3870 \qquad df = 3 \qquad X^2t = 7.815$$

*Significant at 0.05 level of significance

NS – not significant

The consultation with a veterinarian in Beckel differs significantly from consultation with a veterinarian in Betag. The very low consultation to the veterinarians by respondents in Beckel may be attributed to the availability of veterinary services in the area and the awareness to the kind of consultation compared to Barangay Betag. Though they are accessible to veterinary services,

the cost of consultation hinders respondents from Betag to do so. This finding further implies that there is a need to institute a lay and professional education on instituting proper care to dogs in relation to the Animal Welfare Act 8485.

Table12 shows the measure/s done by owners to their sick dogs. It shows that almost all the dogs in Beckel are cared for/confined. Some are to a vet and few are butchered. In Betag, a great majority are cared for/confined. Some are taken to a vet, are butchered and/or are killed.

Table 11. Distribution of dogs as to its referral/consultation to a veterinarian

	BECKEL		BETAG		TOTAL	
	Number	%	Number	%	Number	%
Yes	14	13	89	44	103	33
No	97	87	112	56	209	67
Total	111	100	201	100	312	100
	$*X^2c = 32.3614$		$df = 2$		$X^2t = 5.991$	

*Significant at 0.05 level of significance

 NS – not significant

Table12. Distribution of dogs as to the measures done when dogs get sick

MEASURES	BECKEL		BETAG		TOTAL	
	Number	%	Number	%	Number	%
Cared for/confined	106	96	135	67	241	77
Killed	0	0	2	1	2	1
Taken to a vet	4	4	48	24	52	17
Butchered	1	1	16	8	17	5
Total	111	100	201	100	312	100

$$*X^2c = 32.7314 \qquad df = 3 \qquad X^2t = 7.815$$

*Significant at 0.05 level of significance

NS – not significant

The measures done to sick dogs in Beckel differ significantly from those measures done by owners in Betag. The difference may be attributed to the availability of veterinary services, accessibility of veterinary medicines, the cost of medicines/consultations and hospitalization of dogs.

The numbers of dogs butchered in Betag is higher than in Beckel because respondents from Betag view dog meat as an alternative source of cheap protein.

<u>Profile of Dogs Examined</u>

Table 13 shows the distribution of dogs by sex. In Beckel, a great majority are females than male and/or male neutered dogs. In Betag majority are female than male and/or male and 1% male neutered dogs

Sex ratios are commonly expressed as the number of males per 100 females. Sex ratios are also used to calculate other statistics. Variation in dog/sex ratios may significantly influence productivity of the population. Data on sex ratios are needed in order to understand and interpret other vital statistics that are frequently expressed separately for each sex (Downing, 1980). The sex ratio of the dogs examined is 1:1.54 and 1:1.25 in barangays Beckel and Betag, respectively. The finding implies that there is a higher productivity of dogs in Beckel than in Betag.

The sex of dogs examined in Beckel does not differ significantly from the sex of dogs examined in Betag. It may thus be inferred that both barangays have male, female and neutered dogs.

Table 13. Distribution of dogs examined by sex

SEX	BECKEL		BETAG		TOTAL	
	Number	%	Number	%	Number	%
Male	43	39	88	44	131	42
Female	67	60	110	55	177	57
Neutered	1	1	3	2	4	1
Total	111	100	201	100	312	100
	$X^2c = 1.02758$		$df = 2$		$X^2t = 5.991$	

*Significant at 0.05 level of significance
 NS – not significant

Table 14 shows the distribution of dogs examined by age. In Beckel, Many examined dogs are less than 1 year old. Some are 1-2 years, 3-5 years or more than 5 years old. In Betag, many examined dogs are also less than one year of age. Some are 1-2 years, 3-5 years or more than 5 years old

The ages of dogs examined in Beckel do not significantly differ from those of dogs examined in Betag. The findings imply that both barangays have all dogs of all ages. The number of dogs examined with to less than one year of age is attributed to their docility and playfulness.

Age ratio or the number of animals that occur in each age class can provide important information regarding the population. For example, young to adult ratios are an indication of natality and productivity of the population and of

the pattern of mortality (Downing, 1980). In the study, the dogs examined are not

too young nor not too old. The mean age is 2 years.

Table 14. Distribution of dogs examined by age

AGE	BECKEL		BETAG		TOTAL	
	Number	%	Number	%	Number	%
Years						
<1	47	42	80	40	127	41
1-2	37	33	54	27	91	29
3-5	21	19	48	24	69	22
>5	6	5	19	9	25	8
Total	111	100	201	100	312	100

$^{NS}X^2c = 3.39654$ $df = 3$ $X^2t = 7.815$

*Significant at 0.05 level of significance
NS – not significant

Table 15 shows the distribution of dogs examined by temperament. In

barangay Beckel, aggressive temperament accounts for the greatest number. Some

have a friendly temperament and/or docile temperament. In Betag, the great

majority are aggressive, although some are friendly and a few are docile or

sensitive.

The two barangays do not significantly differ in their dogs in regard to

their temperament. It may be inferred that the types of temperament that the dogs

have do not vary between the animals in the two barangays.

Aggression, according to Onayd (2000), can be hormonal or medical in nature but in most cases in the Philippines it is due to poor socialization. It was further stated that an aggressive dog is not given enough exposure to other dogs and humans. Unsocialized dogs that are allowed to interact with other dogs and humans tend to be overly defensive. They view other dogs and humans as threats, and thus act aggressively to warn them off. They are labeled fierce and vicious but ironically, they are in fact fearful dogs. Normal dog bites; it is their nature to survive. Either a dog withdraws from a threat or uses its teeth – it is a normal canine behavior. Dogs do not welcome strange things easily; any new thing can be a menace.

Table 16 shows the distribution of dogs examined as to the vaccination against rabies. In Beckel, the majority are not vaccinated against rabies although many are. In Betag, many dogs examined are not vaccinated a great majority are. The high percentage of dogs vaccinated in Betag is attributed to

Table 15. Distribution of dogs examined as to temperament

TEMPERAMENT	BECKEL		BETAG		TOTAL	
	Number	%	Number	%	Number	%
Docile	7	6	14	7	21	7
Friendly	41	37	68	34	109	35
Aggressive	63	57	112	56	177	56
Sensitive	0	0	7	3	7	2
Total	111	100	201	100	312	100

$$^{NS}X^2c = 4.122 \quad df = 3 \qquad X^2t = 7.815$$

*Significant at 0.05 level of significance

 NS – not significant

the barangay ordinance and to the awareness of residents of the effect of rabies in humans. The high number of unvaccinated dogs in Beckel is due to the absence of rabies vaccination drives in the area. Rabies is a zoonotic viral disease mainly of the nervous system that can be transmitted from dog to man through bite of infected dog. There are many vaccines against diseases of dogs but rabies is the only one considered because it is endemic in the area and its effect on human once bitten by infected dog is always fatal.

The number of dogs vaccinated against in Beckel differs significantly from the number of dogs vaccinated in Betag. This finding implies that the respondents in Betag are more aware of rabies and its effect on humans than the

respondents in Beckel. This calls for more information drive as well as vaccination drive in the study area.

Table 16. Distribution of dogs examined as to their vaccination against rabies

	BECKEL		BETAG		TOTAL	
	Number	%	Number	%	Number	%
Yes	50	45	129	64	179	57
NO	59	53	70	35	129	41
Do not know	2	2	2	1	4	1
Total	111	100	201	100	312	100

$$*X^2c = 10.7408 \qquad df = 2 \qquad X^2t = 5.991$$

*Significant at 0.05 level of significance

NS – not significant

Table 17 shows the distribution of dogs examined as to their deworming. In Beckel, almost all dogs examined are not dewormed. Conversely, in Betag, a great majority are of the dogs examine are dewormed by owners or are taken to vet for that dewormer. Two dogs are not known if dewormed or dewormed because they have received them as gift for neighbor. Not Only one percent do not know if the dog was dewormed because it was just a given to them.

The number of dogs dewormed in Beckel differs significantly from that of dogs dewormed in Betag. The findings imply that respondents from Betag are more knowledgeable of worms affecting their dogs and that means many of them

dewormed their dogs. Deworming of dogs should be done to get rid of the internal parasites of the dogs that impede absorption of consumed nutrients and causes lower resistance to infection. As per recommendations by manufacturers and veterinarians, puppies should be deworm as early as 14 days and then repeat after two weeks until four months old then treat it as adult. Adult dogs should be deworm every three months.

Table 17. Distribution of dogs examined as to deworming

	BECKEL		BETAG		TOTAL	
	Number	%	Number	%	Number	%
Yes	21	19	136	68	157	50
No	90	81	63	31	153	49
Do not know	0	0	2	1	2	1
Total	111	100	201	100	312	100
	$*X^2c = 71.0155$		$df = 2$		$X^2t = 5.991$	

*Significant at 0.05 level of significance

NS – not significant

Descriptions of Dogs Examined

Table 18 shows the distribution of dogs examined as to type, length and coat texture/quality. There are more dogs with single coat than dogs with double coat in Beckel and in Betag. The findings indicate that both types of coats can be found in Beckel and in Betag because the weather, which has an effect on coats, is almost similar in both barangay. Double coat is a coat type which has an outercoat and undercoat. The undercoat is usually short, soft, and dense and acts as a protective layer against water and elements; while it is also a support to the outercoat. The outer coat is generally longer than the undercoat. Single coat has no undercoat, only an outercoat.

In terms of length, there more short coated dogs in both barangays. A great majority of the dogs examined in Beckel have a short coat. Some have a medium coat and few have a long coat. Similarly, in Betag, short coated dogs account for the most number. Some have a medium coat or a long coat.

In terms of quality of coat, in Beckel, many have smooth coat. Some have briskly coat, briskly harsh coat, long fairly coarse coat, stand offs, dense mane, pily/crisp coat, wire coats, wavy coats, long stand offs, curly coats or bear like coat. Similarly in Betag, some have smooth coats, briskly harsh coat, short briskly coat, long fairly coarse coat, stand-offs, broken coat, wavy coats, long stand offs coats, wire coats, dense mane, or curly coats.

The length of coat and the coat texture of dogs examined in Beckel have a significant difference among those of dogs examined in Betag. This finding implies that the length of coat and coat texture vary from place to place. The reasons for the differences may be that breeds such as smooth haired dachshund, German shepherd and rottweiler at present in Betag or that dog taken form outside neighborhoods have parents with long or short smooth hair. The difference in the coat texture is attributed to the quality and quantity of foods given to the dogs.

Table 18. Distribution of dogs examined as to coat description

COAT	BECKEL		BETAG		TOTAL	
	Number	%	Number	%	Number	%
Types:						
Double coat	40	36	95	47	135	43
Single	71	64	106	53	177	57
Total	111	100	201	100	312	100
	$X^2c = 3.841$		$df = 1$		$X^2t = 3.841$	
Length:						
Long	2	2	19	9	21	7
Medium	52	47	87	43	139	44
Short	57	51	95	47	152	48
Total	111	100	201	100	312	100
	$*X^2c = 6.66676$		$df = 2$		$X^2t = 5.991$	

Table 18. Continued ....

COAT	BECKEL		BETAG		TOTAL	
	Number	%	Number	%	Number	%
Coat texture/quality:						
Broken	0	0	8	4	8	3
Bear like	1	1	1	0	2	1
Dense mane	6	5	3	1	9	3
Curly coats	1	1	2	1	3	1
Stand offs	5	5	8	4	13	4
Pily/ crisp coat	5	4	1	0	6	2
Long fairly coarse	6	5	17	8	23	7
Briskly harsh coat	9	8	50	25	59	19
Short briskly coat	23	21	38	19	61	19
Long stand off	1	1	6	3	7	2
Wire coats	3	3	5	2	8	3
Smooth coats	49	44	56	28	105	34
Wavy coats	2	2	6	3	8	3
Total	111	100	201	100	312	100

$$*X^2c = 33.5247 \qquad df = 12 \qquad X^2t = 21.026$$

*Significant at 0.05 level of significance

 NS – not significant

Table 19 shows the distribution of dogs examined as to color as found, there is a great variety of colors among the dogs examined. In **B**eckel, black and brown account the greatest number. Some have black/tan, sable, black/white, white, Brown/white, red, cream, white/fawn/tan, black/white/tan or

brindle/dapple. In Betag, brown color predominates over the other colors such as sable, white, black/white, black, black/tan, white/fawn/tan, red, brown/white, cream, black/white/tan or gray.

The coat color of dogs examined in Beckel does not a significantly differ from that of dog Betag. In other words, colors observed in Beckel are similar to those observed in Betag.

The differences in coat color of dogs are explained by Willis (1998) who said that coat color in various dogs is often influenced by interaction between genes. Dog breeds have an agouti coat color series being, A, a^y, a^w, a^s, a^t which leads to a variety of coat colors. Not all breeds have these alternatives, but all breeds carry the gene even if they only have one version of it.

Table 20 shows the distribution of dogs as to specific and other markings. Almost all dogs examined in Beckel have no markings. Few have pips over the eyes, a mask and/or penciling over the toes. Similarly in Betag, the great majority of the dogs examined have no markings. Few have pips over the eyes or a mask around the face.

Table 19. Distribution of dogs as to the coat colors

COAT COLORS	BECKEL		BETAG		TOTAL	
	Number	%	Number	%	Number	%
Black/white	10	9	22	11	32	10
Gray	0	0	3	1	3	1
Red	8	7	17	8	25	8
Brown	19	17	30	15	49	16
Black	19	17	18	9	37	12
White	10	9	22	11	32	10
White/fawn/tan	4	4	16	8	20	6
Sable	11	10	26	13	37	12
Brindle/dapple	1	1	6	3	7	2
Brown/white	9	8	12	6	21	7
Black/white/tan	1	1	3	2	4	1
Black tan	14	13	17	8	31	10
Cream	5	4	9	4	14	4
Total	111	100	201	100	312	100

$^{NS}X^2c = 12.5319$ $df = 12$ $X^2t = 21.026$

*Significant at 0.05 level of significance

NS – Not Significant

The specific marking of dogs examined in Beckel differ significantly from those of dogs examined in Betag. The difference may be accounted for by those dogs that have pips over the eyes and pencilings over the toes in Barangay Betag. This result can be attributed to crossbreeding of purebred dogs with mongrels present in the study area.

The table further shows that almost all dogs examined in Beckel have no distinguishing marks around the body. However, some have socks, a

splashed/mottled coat, or stockings on the feet. In Betag, a great majority no have other distinguishing marks. Few have socks, stockings, splashed/mottled coat, lozenge mark and/or spectacled eyes.

The distinguishing marks observed on dogs in Beckel do not significantly differ from those on dogs in Betag. In other words, markings such as the socks and stockings are exhibited by dogs in both barangays.

Table 20. Distribution of dogs examined as to the specific and other
distinguishing marks

MARKINGS	BECKEL		BETAG		TOTAL	
	Number	%	Number	%	Number	%
Specific markings						
mask	1	1	21	10	22	7
Pips	7	6	31	15	38	12
Pencilings	1	1	0	0	1	1
Absent	102	92	149	74	251	80
Total	111	100	201	312	312	100

$*X^2c = 18.7382$ $df = 3$ $X^2t = 7.815$

Table 20. Continued...

MARKINGS	BECKEL		BETAG		TOTAL	
	Number	%	Number	%	Number	%
Specific markings						
Other Distinguishing marks						
Stockings	5	4	25	12	30	1
Splashed/mottled	1	11	2	1	3	1
Socks	16	14	35	17	51	16
Lozenge mark/spot	0	0	1	1	1	1
Spectacles	0	0	1	1	1	1
Absent	89	80	137	68	226	72
Total	111	100	201	100	312	100

$$^{NS}X^2c = 7.6161 \qquad df = 5 \qquad X^2t = 11.070$$

*Significant at 0.05 level of significance

 NS – not significant

      Table 21 shows the distribution of dogs as to the descriptions of the back and underline. The table shows that there are more level (Plate 3) back dogs in Beckel than in Betag. Betag has more examined dogs with arched over the loin, a hollow back, straight back, sloping back or long back than in Beckel.

      The types of back observed among dogs in Beckel differ significantly from those observed among dogs in Betag. The difference may be attributed to incorrect position during examination because the animal exhibit fear.

The table further shows that a great majority of the dogs observed in both barangays have a tucked up abdomen and some exhibit a full abdomen. The underline of dogs observed in Beckel does not significant differ from that of dogs observed in Betag. That is, both barangays have tucked up and a full underline abdomen.

Table 21. Distribution of dogs examined as to the descriptions of the back an
Underline

BACK and UNDERLINE	BECKEL		BETAG		TOTAL	
	Number	%	Number	%	Number	%
Back:						
Arched over the loin	43	39	87	43	130	42
Level back	52	47	57	28	109	35
Long back	0	0	4	2	4	1
Roach back	3	3	5	2	8	3
Sloping back	1	1	12	6	13	4
Straight back	6	5	15	7	21	7
Wheel back	0	0	2	1	2	1
Hollow back	6	5	19	9	25	8
Total	111	100	201	100	312	100

$$X^2c = 16.995 \qquad df = 7 \qquad X^2t = 14.067$$

Underline:						
Tucked up	70	63	125	62	195	62
Full	41	37	76	38	117	38
Total	111	100	201	100	312	100

$$^{NS}X^2c = .02331 \qquad df = 1 \qquad X^2t = 3.841$$

*Significant at 0.05 level of significance NS – not significant

Table 22 shows the distribution of dogs examined as to the description of the head and skull. The table shows that head shape of dogs examined in

Plate no. 3. Red colored dog with a level back

Beckel is identical to that of dogs examined in Betag. Some dogs have a head that is long and tapering, balanced, fox like, cone shaped, a wedge-shaped, apple, rounded, brick-shaped or pear-shaped. Similarly in Betag, the dogs examined have heads that is long and tapering, balanced, fox-like, wedge-shaped, pear-shaped, cone-shaped, short and rounded, brick-shaped or an apple shaped.

There is a variation in the skull of the dogs examined in the two barangays. In Beckel, the greatest numbers have an oval skull. The skull of some are arched, bumpy, a flat, rounded skull or a broad skull. Betag has a higher percentage of dogs with flat skull than Beckel. The skull of some is bumpy, broad, rounded, arched or oval.

The table further shows that there is a variation on the number of dogs belonging to the three skull formation. Comparatively, there are more dogs in Beckel belonging to the mesaticephalic skull formation than in Betag. In Betag,

the number of dogs under the brachycephalic and dolichocephalic skull formation

is higher than that in Beckel.

The head shapes, skull shapes and skull formation observed on dogs

examined in Beckel differ significantly from those observed on dogs in Betag.

This implies a certain preference of respondents to the size of the skull of dogs

among the respondents in Betag. The difference may also be attributed to the

Table 22. Distribution of dogs examined as to the descriptions of the head
shape, skull shape and Skull formation of dogs examined

HEAD	BECKEL		BETAG		TOTAL	
	Number	%	Number	%	Number	%
Head shape:						
Apple head	2	9	5	2	7	2
Balanced head	26	24	60	30	86	28
Brick shaped head	1	1	4	2	5	2
Cone-shaped head	13	12	10	5	23	7
Fox-like head	25	22	16	8	41	13
Pear shaped head	1	1	14	7	15	5
Long and tapering	29	26	68	34	97	31
Short or Rounded	3	3	7	3	10	3
Wedge-shaped head	11	10	17	8	28	9
Total	111	100	201	100	312	100

$^{*}X^2c = 24.832$ $df = 8$ $X^2t = 15.507$

	BECKEL		BETAG		TOTAL	
Skull shape:						
Arched skull	18	16	18	9	36	11
Broad skull	9	8	24	12	33	11
Flat skull	16	14	78	39	94	30
Oval skull	41	37	9	4	50	16
Rounded skull	10	9	22	11	32	10
Bumpy skull	17	15	50	25	67	21
Total	111	100	201	100	312	100

$^{*}X^2c = 68.7006$ $df = 5$ $X^2t = 11.070$

	BECKEL		BETAG		TOTAL	
Skull Formation:						
Brachycephalic	16	14	43	21	59	19
Mesaticephalic	94	85	131	65	225	72
Dolichocephalic	1	1	27	13	28	9

| Total | 111 | 100 | 201 | 100 | 312 | 100 |

$$^{*}X^2c = 18.303 \qquad df = 2 \qquad X^2t = 5.991$$

*Significant at 0.05 level of significance   NS - not significant

fact that there are more purebred dogs in Betag than in Beckel that show a particular head shape, skull shape and skull formation.

Table 23 shows the distribution of dogs examined as to the descriptions of the ears and ear set. More dogs have folded ears in Beckel and more dogs exhibit pricked ears in Betag. Similarly, more dogs in Beckel exhibit cocked ears or bat ears than the number of dogs exhibiting the same ear shapes in Betag. The result adds up to the finding of Credo, (2005) that in Taguig, Metro Manila, most of the purebred and half-bred dogs have pricked ears but the result contradicts Credo's statement stating that most of the native dogs have dropped ears.

The ear shape of dogs examined in Beckel differs significantly from that of dogs examined in Betag. The ears of dogs in Beckel may be folded but those dogs Betag are erect.

Table 23 also shows that many dogs in Beckel have ears set high. Some are set within the level of the eyes and few have low set ears. In Betag, one half of the dogs have eyes set within the level of the eyes. Some are set high and few are set low.

The ear set of dogs examined in Beckel does not significantly differ from that of dogs in Betag. In other words, the ear set of dogs examined in Beckel is

similar to the ear set of dogs in Betag. The result may be explained by Cunliffe (2000) who said that ears are held differently when the dog is alert; most dogs move their ears to a greater or lesser extent when wishing to hear more.

Table 23. Distribution of dogs examined as to the Descriptions of the Ears and ear set

EARS	BECKEL		BETAG		TOTAL	
	Number	%	Number	%	Number	%
Shape:						
Bat ear	23	21	26	13	49	16
Hooded ear	8	7	8	4	16	5
Button ear	2	2	27	13	29	9
Candle flamed ear	0	1	1	1	1	1
Cocked ear	16	14	30	15	46	15
Cropped ear	0	0	1	1	1	1
Drop ear	2	2	31	15	33	11
Prick ears	27	24	49	24	76	24
Folded ears	33	30	28	14	61	19
Total	111	100	201	100	312	100

$^*X^2c = 37.4108$ $df = 8$ $X^2t = 15.507$

Ear set:						
High set	51	46	72	36	123	39
Low set	13	12	28	14	41	13
Set within the level of the eyes	47	42	101	50	148	47
Total	111	100	201	100	312	100

$^{NS}X^2c = 3.06977$ $df = 2$ $X^2t = 5.991$

*Significant at 0.05 level of significance

 NS – not significant

Table 24 shows the distribution of dogs examined as to the description of the eyes. Among dogs examined in Beckel, less than half have oval shaped eyes.

Some have an almond shape, a round shape or deep-set eyes. Among dogs examined in Betag, some have oval shaped, a round, an almond shape or deep-set eyes. Most all of the dogs examined in Beckel have no eye markings. Few have pips over the eyes and/or a spectacle eyes. Among dogs examined in Betag, a great majority shows no eye markings. Some have pips over the eyes, and few have spectacle eyes or black color around the eyes.

The table also shows that brown eyes predominate over the black eyes. A great majority of the dogs examined in Beckel have brown eyes. Few have black eyes, deep irish eyes or a wall eyes. In Betag, the majority have brown eyes. Few have a black, wall eye, deep iris or shades of bluish gray.

In terms of the length of eyelashes and eyebrows, eye rims and exposure of third eyelid, almost all dogs examined have short eyelashes, short eyebrows, dark eye rims and hidden third eyelid. Few dogs exhibit a medium a long eyelashes and short eyebrows, liver brown eye rims and exposed third eyelid in the two barangays studied.

In terms of eye expression, many dogs examined in Beckel have a gruff eye expression. Some have a saucy expression or an eastern expression. In Betag, many have a saucy - eye expression. Some have a gruff expression, an eastern expression, an ape-like or a monkey-like expression.

The eye shape, eye markings, eye color, length of eyelashes and the length of eyebrows in Beckel differ significantly from those in Betag.

Overall, there are variations of the shapes, colors, the lengths of eyelashes and eyebrows among dogs Beckel and Betag and similarity in terms of eye expressions, and color of the eye rim. The findings may have seen the effect or influence of the presence of purebred dogs in Betag. Like for example dachshund and Shih Tzu that are not found in Beckel.

Table 24. Distribution of dogs examined as to the descriptions of the eyes

EYES	BECKEL		BETAG		TOTAL	
	Number	%	Number	%	Number	%
Eye shape:						
Almond shape	39	35	53	26	92	29
Deep set	3	3	5	2	8	3
Oval eyes	52	47	79	39	131	42
Round eyes	17	15	64	32	81	26
Total	111	100	201	100	312	100
	$*X^2c = 10.3681$		$df = 3$		$X^2t = 7.815$	
Eye Markings:						
Spectacles	1	1	16	8	17	5
Pips/melon pip	20	18	46	23	66	21
Black around the eyes	0	0	3	1	3	1
Absent	90	81	136	68	226	72
Total	111	100	201	100	312	100
	$*X^2c = 10.7757$		$df = 3$		$X^2t = 7.815$	
Eye color:						
Wall eye	5	4	29	14	34	11
Brown	77	69	116	58	193	62
Black	15	14	35	17	50	16
Deep irish	14	13	20	10	34	11
Shades of blue gray	0	0	1	1	1	1
Total	111	100	201	100	312	100
	$* X^2c = 9.72883$		$df = 4$		$X^2t = 9.488$	
Eye lashes:						
Long	0	0	13	6	13	4
Medium	6	95	18	9	24	8
Short	105	5	173	85	25	88

Total	111	100	201	100	312	100

$$^*X^2c = 9.164 \qquad df = 2 \qquad X^2t = 5.991$$

Eyebrows:

	BECKEL Number	%	BETAG Number	%	TOTAL Number	%
Long	1	1	13	6	14	4
Medium	2	2	15	7	17	5
Short	108	97	13	86	281	90
Total	111	100	201	100	312	100

$$*X^2c = 10.1451 \qquad df = 2 \qquad X^2t = 5.991$$

*Significant at 0.05 level of significance

NS – not significant

Table 24. Continued...

EYES	BECKEL Number	%	BETAG Number	%	TOTAL Number	%
Eye rims:						
Dark	103	93	188	93	291	93
Liver/brown	8	7	13	6	21	7
Total	111	100	201	100	312	100

$$^{NS}X^2c = 0.0623 \qquad df = 1 \qquad X^2t = 3.841$$

	BECKEL	%	BETAG	%	TOTAL	%
Third eyelid:						
Exposed	2	2	2	1	4	1
Hidden	109	98	199	99	308	99
Total	111	100	201	100	312	100

$$^{NS}X^2c = 0.36776 \qquad df = 1 \qquad X^2t = 3.841$$

	BECKEL	%	BETAG	%	TOTAL	%
Eye Expression:						
Eastern/oriental	31	28	49	24	80	26
Gruff	43	39	68	34	111	36
Monkey Expression	0	0	2	1	2	1
Ape-like	0	0	2	1	2	1
Saucy	37	33	80	40	117	38
Total	111	100	201	100	312	100

$$^{NS}X^2c = 3.8422 \qquad df = 4 \qquad X^2t = 9.488$$

*Significant at 0.05 level of significance

NS – not significant

Table 25 shows the distribution of the dogs examined as to their faces almost all of the dogs examined in Beckel have a down face. Few dogs exhibit a dish face, cheeky face, or broken face. In Betag, a great majority of the dogs examined have a down face. Some exhibit a dish face. Few dogs exhibit a cheeky face or a broken face.

Table 25. Distribution of dogs examined as to their faces

FACES	BECKEL		BETAG		TOTAL	
	Number	%	Number	%	Number	%
Down face	93	84	134	67	227	73
Dish face	10	9	51	25	61	19
Broken face	3	3	1	1	4	1
Cheeky face	5	4	15	7	20	6
Total	111	100	201	100	312	100
	$^{*}X^2c = 16.3627$		$df = 3$		$X^2t = 7.815$	

*Significant at 0.05 level of significance

NS – not significant

The types of face exhibited by dogs in Beckel differ significantly from those exhibited by dogs examined in Betag. That is the faces of dogs observed in Beckel are different from those dogs observed in Betag.

This result conforms with the finding of Credo,(2005) that in Taguig, Metro Manila stating the majority of dogs whether purebred, half bred or native were considered as having a down face.

Table 26 shows the distribution of dogs examined as to the nose. In Beckel, most have a black nose. Few have a brown/ liver nose, a self-colored nose, a winter nose, or a butterfly nose. Among dogs examined in Betag, a great majority have a black nose (Plate 4). Few have a self-colored nose, butterfly nose, brown/liver nose or a winter nose.

The table further shows that the number of roman-nosed and ram's nosed dogs observed in Betag are higher than that of dogs in Beckel. Almost all dogs examined from the two barangays have a flared nose than a pinched nose.

Plate No. 4. A dog with a flat skull, shallow furrow, flying ears
      Which is set within the level of the eyes. It has brown
      eyes, dark eye rims with eastern eye expression. The
      nose is black with flared nostrils.

The color of the nose and the kind of nostrils of dogs examined in Beckel differ significantly from those of dogs observed in Betag. The shapes of the nose examined in the barangays not significantly differ.

Table 26. Distribution of dogs examined as to the nose

NOSE	BECKEL		BETAG		TOTAL	
	Number	%	Number	%	Number	%
Nose color:						
Brown/liver	15	13	20	10	35	11
Self-colored	5	4	30	15	35	11
Winter nose	4	4	4	2	8	3
Butterfly nose	2	2	23	11	25	8
Black	85	77	124	62	209	67
Total	111	100	201	100	312	100
	$*X^2c = 19.1182$		$df = 4$		$X^2t = 9.488$	
Shape:						
Ram's nose	40	36	57	28	97	31
Roman nose	71	64	144	72	215	69
Total	111	100	201	100	312	100
	$^{NS}X^2c = 1.9676$		$df = 1$		$X^2t = 3.841$	

Table 26. Continued...

NOSE	BECKEL		BETAG		TOTAL	
	Number	%	Number	%	Number	%
Nostrils:						
Flared	63	57	161	80	224	72
Pinched	48	43	40	20	88	28
Total	111	100	201	100	312	100
	$^{*}X^2c = 19.2418$		$df = 1$		$X^2t = 3.841$	

*Significant at 0.05 level of significance

NS – not significant

Table 27 shows the distribution of dogs examined as to the descriptions of the mouth. Almost all dogs examined from the two barangays exhibit a level mouth. Few exhibit an overshot or an undershot mouth. Overshot mouth is the description used when the upper jaw protrudes a little rostrally than the lower jaw and undershots when the lower jaw protrudes a little rostrally than the upper jaw.

The levels of the mouth of dogs examined in Beckel do not differ significantly from those of dogs examined in Betag. The result seems to contradict the finding of Credo (2000) that more than half of the native dogs showed overshot mouths but 44 percent have level mouths.

Table 28 shows the distribution of the dogs as to the description of the muzzle. The majority of the dogs examined in both barangays have snippy muzzles while less than half have blunt muzzles. The result disagrees with the findings of Credo that native dogs have blunt muzzles.

The descriptions of the muzzle of dogs examined in Beckel differ

Table 27. Distribution of dogs examined as to the level of mouth

MOUTHS	BECKEL		BETAG		TOTAL	
	Number	%	Number	%	Number	%
Level mouth	109	98	191	95	300	96
Undershot	1	1	4	2	5	2
Overshot	1	1	6	3	7	2
Total	111	100	201	100	312	100
	$^{NS}X^2c = 1.9987$		$df = 2$		$X^2t = 5.991$	

*Significant at 0.05 level of significance
NS – Not significant

Table 28. Distribution of dogs examined as to the descriptions of the muzzle

MUZZLE	BECKEL		BETAG		TOTAL	
	Number	%	Number	%	Number	%
Snippy	58	52	105	52	163	52
Blunt	53	48	96	48	149	48
Total	111	100	201	100	312	100

$$^{NS}X^2c = .00000096 \qquad df = 1 \qquad X^2t = 3.841$$

*Significant at 0.05 level of significance
  NS – not significant

significantly from those of dogs examined in Betag. Thus, there is a variation in the descriptions of the muzzle in the two barangays studied. The variation of muzzle is due to the effect or influenced of the presence of purebred males that may have mated female mongrels and resulted to a blunt or snippy muzzle of their offspring.

Table 29 shows the distribution of dogs examined as to the descriptions of the front limbs. Almost all dogs examined in Beckel have sloping shoulders. Few exhibit a straight shoulder. In Betag, a great majority has sloping shoulders and some have straight shoulders. A Sloping shoulder (Plate 5) indicates that the shoulder blades are positioned correctly to allow adequate or good forward extension of the forelegs, and straight shoulder indicates that the angle at which the shoulder blade is placed too upright, hence forward movement is restricted. Hence, most of the dogs examined move faster than dogs with a straight shoulder.

Plate No. 5. Dog with sloping shoulder, cat feet, and straight stifled and curved tail

The table also shows that among the dogs examined in Beckel, some exhibit a narrow and fiddle front and a few exhibit a straight front, a wide front, bowed front, or out of elbow. Among dogs examined in Betag, straight front accounts for the greatest number. Some exhibit a narrow front and few exhibit a fiddle front, wide front, crooked front, bowed front or out of elbow. The result varies with the finding of Credo (2005) that in Taguig, Metro Manila that 91 percent of the purebred and 60 percent of the half-bred have narrow front, 48 percent native dogs have straight front legs.

The table further shows that a great majority of the dogs examined in Beckel exhibit cat feet, some exhibit hare feet and few exhibit splay feet or oval feet. In Betag, many exhibit cat feet. Some dogs exhibit hare feet and few exhibit splay feet, oval feet, paper feet or webbed feet.

The result supports the observation of Credo (2005) on the feet of dogs that there were a greater number of dogs with hare feet whether these were purebred, half-bred or native.

The descriptions of the shoulders, front and feet of dogs examined in Beckel differ significantly from those of dogs examined in Betag. That is, the descriptions vary from the two barangays. The difference may be attributed to the adaptation of the dogs to the terrain of the study area.

Table 29. Descriptions of the front limbs of dogs examined

FRONTS and FEET	BECKEL		BETAG		TOTAL	
	Number	%	Number	%	Number	%
Shoulder:						
Sloping	99	89	142	71	241	77
Straight	12	11	59	29	71	23
Total	111	100	201	100	312	100

$^*X^2c = 13.9872$ $df = 1$ $X^2t = 3.841$

Front:						
Bowed front	3	3	4	2	7	2
Crooked front	0	0	6	3	6	2
Gun-barrel front	0	0	1	1	1	1

Horse-shoe front	0	0	2	1	2	1
Straight front	15	14	82	41	97	31
Wide front	12	11	10	5	22	7
Fiddle front	40	36	31	15	71	23
Narrow front	40	36	60	30	100	32
Out of elbow	1	1	5	2	6	2
Total	111	100	201	100	312	100

$*X^2c = 40.848$ $df = 8$ $X^2t = 15.507$
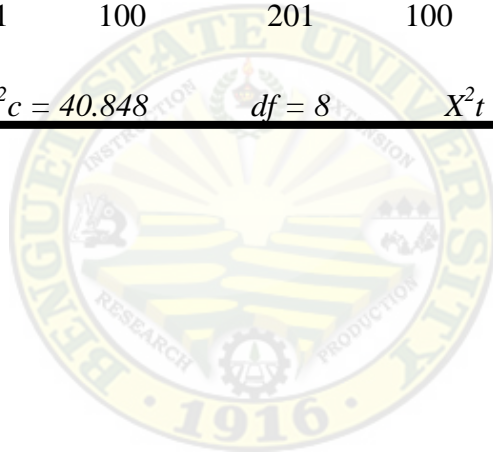
Table 29. Continued...

VARIABLES	BECKEL		BETAG		TOTAL	
	Number	%	Number	%	Number	%
Feet:						
Cat feet	68	61	86	43	154	49
Oval feet	1	1	10	5	11	4
Splay feet	5	4	14	7	19	6
Hare feet	37	33	81	40	118	38
Webbed feet	0	0	1	1	1	1
Paper feet	0	0	9	4	9	3
Total	111	100	201	100	312	100
	$^*X^2c = 15.4626$		$df = 5$		$X^2t = 11.070$	

*Significant at 0.05 level of significance

 NS – not significant

Table 30 shows the distribution of dogs as to the descriptions of the hindquarters. In Beckel, less than half exhibit a straight stifled; some exhibited a moderately angulated hindquarters, correct hind end or cow-hocked hindquarters. In Betag, some exhibit a straight stifled, moderately angulated, correct-hind end

or cow-hocked hindquarters. The hindquarters commence at the pelvic girdle and encompass the area of the dog from there downward. The angulation of the hindquarters varies very much according to the breed.

The descriptions of the hindquarters of dogs examined in Beckel differ significantly from those of dogs examined in Betag. This observation means that the hindquarters of the dogs from the two barangays vary. The significant differences of the descriptions of the hindquarters are due to abnormal stance during examination or the animal is uneasy during the examination.
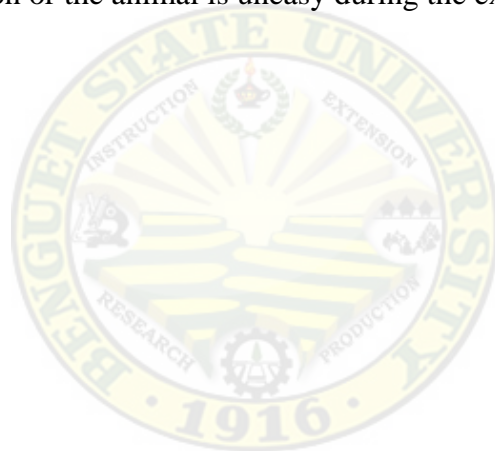
Table 30. Distribution of dogs examined as to the descriptions of the
Hindquarters

VARIABLES	BECKEL		BETAG		TOTAL	
	Number	%	Number	%	Number	%
Cow- hocked	5	4	39	19	44	14
Correct hind-end	14	13	28	14	42	13
Straight stifled	54	49	69	34	123	39
Moderately angulated	38	34	65	32	103	33
Total	111	100	201	100	312	100

$$^*X^2c = 15.145 \qquad df = 3 \qquad X^2t = 7.815$$

*Significant at 0.05 level of significance

NS – not significant

Table 31 shows the distribution of dogs as to the description of the tails. It showed that among dogs examined in Beckel, many have tapering tail and some exhibit brush tail, curled tail, plumed tail, snap tail, saber and ring tail, a flagpole, a bee sting tail, a tufted and/or stumpy tail. Among the dogs examined in Betag, some have tapering tail, plumed tail, saber tail, brush tail, curled tail, tufted, stumpy, snap tail, ring tail, bee sting tail, docked tail, flagpole or a hook tail.

The table further shows that among dogs examined in Beckel, a great majority exhibit a low set tail. Some have a tail that is set within the level of the croup and/or a tail that is set high. Similarly among dogs examined in Betag, less than half have their tails set low. Some are set within the level of the croup or set high.

The tails observed among dogs examined in Beckel differ significantly from those observed among dogs in Betag. The findings indicate that the way dogs carry their tails depend upon some factors such as mood, position of tails, and length of the tail. Fear may provoke the dog to tuck in its tail inside its hindlegs.

Table 31. Distribution of dogs examined as to the descriptions of the tail

TAILS	BECKEL		BETAG		TOTAL	
	Number	%	Number	%	Number	%
Shape:						
Bee sting	2	2	5	3	7	2
Brush tail	31	28	21	10	52	17
Curled	8	7	15	7	23	7
Docked tail	0	0	5	2	5	2
Flagpole tail	2	2	3	1	5	2
Hook tail	0	0	3	1	3	1
Plumed tail	6	5	45	22	51	16
Rat tail	0	0	1	1	1	1
Ring tail	3	3	6	3	9	3
Sabre tail	3	3	27	13	30	10
Snap tail	5	4	9	4	14	4
Stumpy tail	1	1	8	4	9	3
Tapering tail	49	44	46	23	95	30
Tufted tail	1	1	7	4	8	3
Total	111	100	201	100	312	100
	$^*X^2c = 54.3017$		$df = 13$		$X^2t = 22.362$	
Tail set: Set within the level						
of the croup	37	33	61	30	98	31
High	7	6	46	23	53	17
Low	67	60	94	47	161	52
Total	111	100	201	100	312	100
	$^*X^2c = 14.3349$		$df = 2$		$X^2t = 5.991$	

*Significant at 0.05 level of significance

NS – not significant

Table 32 shows the distribution of dogs as to other descriptions (Breeching style, chest, furrow, keel, Occiput and Stop) Almost all dogs examined from the two barangays do not exhibit breeching style or color marking inside the thigh, have an oval chest, have no dewlap, have a shallow furrow, not prominent keel, occiput and straight stop.

The descriptions of the chest, presence of dewlap, furrow, and keel among dogs examined in Beckel differ significantly from those of dogs observed in Betag. The differences may be due to error in the examination/observation, abnormal position and the nutritional status of the animal during examination.
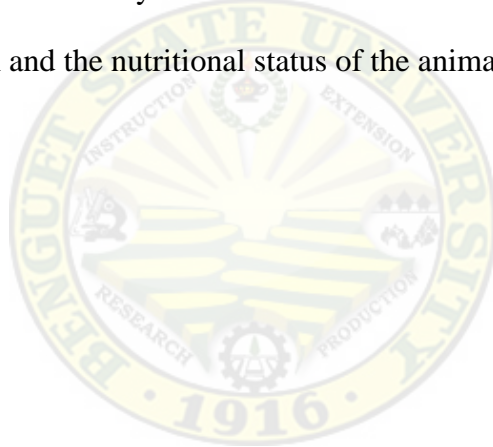
Table 32. Distribution of dogs examined as to breeching, chest, dewlap,
furrow, keel, Occiput and stop.

	BECKEL		BETAG		TOTAL	
	Number	%	Number	%	Number	%
Breeching:						
Present	9	8	21	10	30	10
Absent	102	92	180	89	282	90
Total	111	100	201	100	312	100

$^{NS}X^2c = 0.4504 \qquad df = 1 \qquad X^2t = 3.841$

	BECKEL		BETAG		TOTAL	
Chest:						
Barrel chest	1	1	38	19	39	12
Oval Chest	110	99	163	81	273	88
Total	111	100	201	100	312	100

$^{*}X^2c = 21.194 \qquad df = 1 \qquad X^2t = 3.841$

	BECKEL		BETAG		TOTAL	
Dewlap:						
Present	37	33	16	8	53	17
Absent	74	67	185	92	259	83
Total	111	100	201	100	312	100

$^{*}X^2c = 32.6472 \qquad df = 1 \qquad X^2t = 3.841$

	BECKEL		BETAG		TOTAL	
Furrow:						
Deep	2	2	18	9	20	6
Shallow	109	98	183	91	292	94
Total	111	100	201	100	312	100

$^{*}X^2c = 6.09942 \qquad df = 1 \qquad X^2t = 3.841$

	BECKEL		BETAG		TOTAL	
Keel:						
Prominent	0	0	4	2	4	1
Moderately prominent	24	22	20	10	44	14
Not prominent	87	78	177	88	264	85
Total	111	100	201	100	312	100

$^{*}X^2c = 9.90839 \qquad df = 2 \qquad X^2t = 5.991$

Table 32. Continued...

VARIABLES	BECKEL		BETAG		TOTAL	
	Number	%	Number	%	Number	%
Occiput:						
Prominent	1	1	4	2	5	2
Moderately prominent	21	19	58	29	79	25
Not prominent	89	80	139	69	228	73
Total	111	100	201	100	312	100
	$^{NS}X^2c = 4.50756$		$df = 2$		$X^2t = 5.991$	
Stop:						
Dished	1	1	7	3	8	3
Straight	100	99	194	96	304	97
Total	111	100	201	100	312	100
	$^{NS}X^2c = 1.90773$		$df = 1$		$X^2t = 3.841$	

*Significant at 0.05 level of significance

 NS – not significant

The descriptions on the breeching style, occiput and the stop of dogs examined in Beckel not have any significantly differ from those dogs in Betag.

Table 33 shows the distribution of dogs examined as to the other descriptions (chiseling, coupling, well-ribbed up, compactness and balance). In Beckel, a great majority do have either modeling appearance or have a short coupled. Similarly, in Betag, most of the dogs examined do not have a modeling appearance and majority is short coupled. Coupling is the area that joins the chest to the hindquarters. Short coupling enables the dog to turn faster than the dog with

long coupling. The distance between the last rib and the start of the hindquarters when relatively short (short-coupled) gives strength in this region.

The table also shows that almost all dogs examined from the two barangays are well ribbed up. A well-ribbed up (Plate 6) dog is one that has a rib that extends well back along the length of the whole body. The table further shows that the majority of dogs examined from the two barangays are cobby or well balanced dogs.

The descriptions on coupling, well-ribbed up, and the compactness of dogs in Beckel differ significantly from the descriptions on coupling, well-ribbed up, and the compactness of dogs in Betag. The difference may attribute to the presence of purebred dogs that are described as racy in barangay Betag like Doberman and German shepherd dogs and the error during examination where the dog can taut itself during examination.

Chiseling and the total symmetry did not differ significantly between barangays.

Table 33. Distribution of dogs examined as to chiseling, coupling, well-ribbed
up, compactness and balance

VARIABLES	BECKEL		BETAG		TOTAL	
	Number	%	Number	%	Number	%
Chiseling:						
Chiseled	38	34	51	25	89	29
Not chiseled	73	66	150	75	223	72
Total	111	100	201	100	312	100
	$^{NS}X^2c = 2.75394$		$df = 1$		$X^2t = 3.841$	
Coupling:						
Long	35	32	93	46	128	41
Short	76	68	108	54	184	59
Total	111	100	201	100	312	100
	$^*X^2c = 6.41906$		$df = 1$		$X^2t = 3.841$	
Well-ribbed up:						
Yes	110	99	179	89	289	93
No	1	1	22	11	23	7
Total	111	100	201	100	312	100
	$^*X^2c = 10.5656$		$df = 1$		$X^2t = 3.841$	
Compactness of dog:						
Cobby	76	68	107	53	183	59
Racy	35	31	94	47	129	41
Total	111	100	201	100	312	100
	$^*X^2c = 6.84$		$df = 1$		$X^2t = 3.841$	
Balance:						
Yes	110	99	199	99	309	99
No	1	1	2	1	3	1
Total	111	100	201	100	312	100
	$^{NS}X^2c = 1.51664$		$df = 1$		$X^2t = 3.841$	

*Significant at 0.05 level of significance

NS – not significant

Plate No. 6. A well rib, short coupling, not chiseled dog.

The table 34 shows the distribution of dogs examined as to the movements. Almost all dogs examined in Beckel and Betag have a good movement from front and side view (Plate 7).

The movements of dogs examined in Beckel differ significantly from those dogs examined from those dogs Thus, it may be inferred that the movement desired means that the movement varies between the two barangays. The differences may be attributed to the terrain and physical status of the animal.

Plate 7. Dog with a balance gait

Table 34. Distribution of dogs examined as to descriptions of the movements

MOVEMENTS	BECKEL		BETAG		TOTAL	
	Number	%	Number	%	Number	%
Paddling	0	0	13	6	13	5
Weaving	1	1	5	2	6	4
Good movement						
Front and side view	109	98	175	87	284	2
Poor movement						
Front and side view	1	1	8	4	9	91
Total	111	100	201	100	312	100
	$^*X^2c = 11.4395$		$df = 3$		$X^2t = 7.815$	

* Significant at 0.05 level of significance

NS – not significant

Principal Component Analysis

The results of a Principal Component Analysis (PCA) of 79 log-transformed morphometric variables are shown on Figure 49.
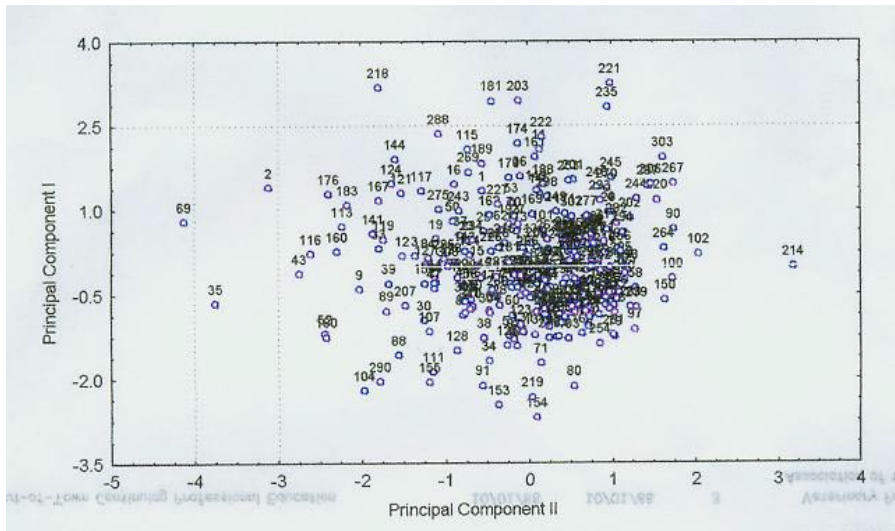
Figure 50. A scatter plot of PC I versus PC II

Plotting PC I against PC II does not lead to the formation of groups among the 295 dogs as valid number. All measurements from the head are expressed as percentage of the head length while measurements from the other parts of the body except the head are expressed as percentage of the body length. PC I is interpreted as size factor since all characters are positively correlated with this component. PC II is regarded as the 'shape" factor independent of size. Size describes the magnitude of a given characters and shape implies the relationship between two or more characters.

Table 35 shows the principal component loadings. The asterisk indicates the variables that have a significant contribution to the formation of groups among the dogs examined.

In PC 1 the variables that have the most significant contribution are %PBSSAL, %RDT and %PHDT. In PC II, % DBLCE is the only significant variable.

Another scatterplot is made between PC II and %DBLCE , the only variable that contribute significantly to PC II to find out if the result of plotting PC I against PC II can be duplicated.
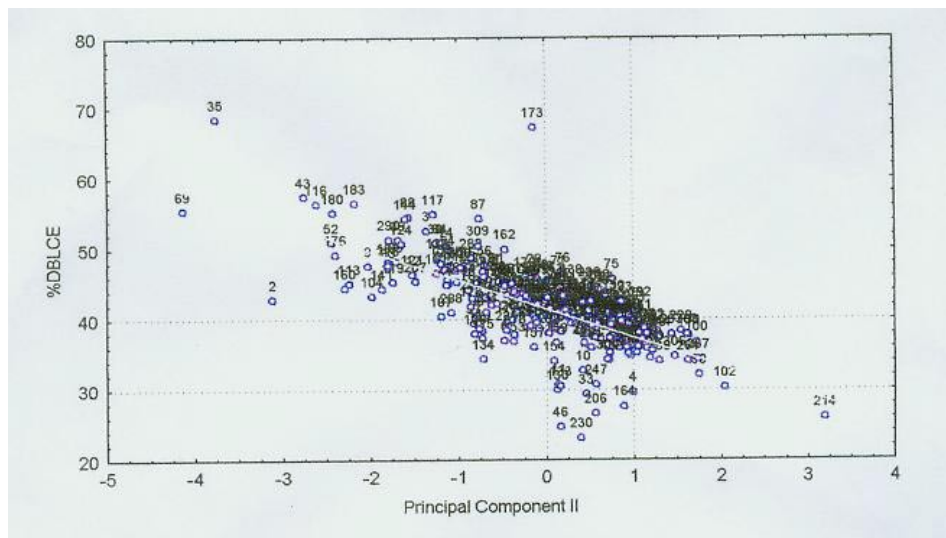
Figure 51. A scatter plot of PC II versus %DBLCE

Plotting PC II against % DBLCE shows that there is still only one distinct group formed among the 295 dogs examined that has been accepted as valid.

Figure 50 shows that the distance between the lateral canthi of the eyes of the dogs examined is short, and since there is no significant difference in the distance between the medial canthi of the eyes, the shape of the eyes is oval.

Table 35. Principal Component loadings for 75 log transformed variables (n=295)

Variables	PC I	PC II
% AFFNRP	.16234	-.376293
% TMAFNR	-.11759	-.067340
%DBE	-.03092	-.630994
%DBLSM	.14661	-.279605
%DVDM	.11004	-.457768
%DBMCE	.14310	-.550281
%DBLCE	.06035	-.706838*
%DBMLCRL	-.02098	-.565041
%LLCP	.07497	-.589440
%LMCP	.15654	-.626559
%LLCTM	.07531	-.359899
%LMCTM	-.2577	-.404873
%LLCBLE	-13203	-.392669
%LMCBLE	-.01221	-.406398
%LEL F	.14376	-.652809
%LEL B	.10327	-.670986
%LEW	.02274	-.620424
%JAFFNR	.21129	-.358064
%LLCJ	.12078	-.369823
% JTM	.18058	-.344065
%LEBJ	.06361	-.490123
%FW	.07627	0.617404
%HW	.05570	-.564163
%NL	.13316	-.280187
%THPS	.10561	.210209

%BD	.45839	0.217580
%SD	.33814	.152025
%ND	.40384	-.164262
%HED	.59820	-.173656
%FD	.64898	-.139163
%LALG	.29086	.023101
%HIW	.50588	-.239296
%BW	.51748	-.167145
%SW	.54027	-.149276
%NW	.44697	-.021554
%VJW	.59561	-.017223
%VJL	.40505	.106498
%VCL	.41656	-.097709
%VABL	.32209	-.138663
%VNL	.44928	.003601
%PBSSAL	.75860*	.333923
%ATDCAL	.60524	.249271
%AJTDC	.49239	-.126929
%AJTD	.59769	-.79246
%FFW	.66285	-.099393
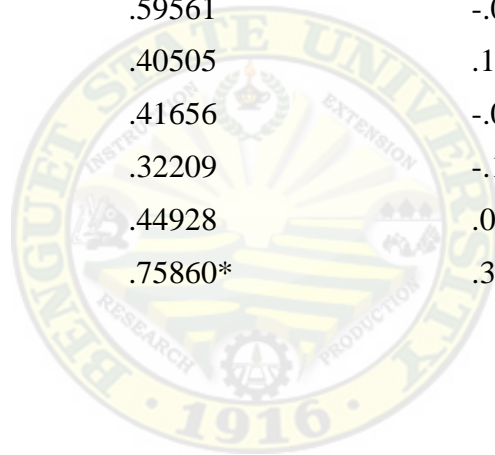
%LARA	.42045	-.149234
%TDDT	.46390	.007320
%CPMP	.56677	.134636
%CPTDC	.42450	-.139448
%CTDS	.55638	.033549
%MJPIJ	.58181	-.280527
%PPIJTD	.58388	-.133562
%RDT	.74086*	.271643
%RMP	.68938	.337102
%THPH	.47868	.185542
%TW	.54810	-.098601
RPH	.48157	.380354
%RSJ	.48214	.216436
%PHDT	.77247*	-.031715
%PHMP	.69356	.029967
%BFW	.56272	-.015686
%HJDSD	.38618	-.170826
%MPTDT	.57846	-.286728
%PPIJDTPL	.53777	-.127725
%GDT	.61732	.313651
%GMP	.55965	.333142
%PHIFID	.66031	-.073131
Expl. Var	15.62462	7.788125
Prp.Totl.	.20833	.102842

Table 36..Morphometeric data of dogs examined (n=295)

	Range	Standard

Variable	Mean	Minimum	Maximum	Deviation
AFFNRP	10.31	7.10	16.30	1.60
TMAFNR	8.21	4.62	14.96	1.89
DBE	7.59	3.98	11.56	1.42
DBLSM	3.79	1.80	9.31	1.10
DVDM	4.14	1.88	9.62	1.03
DBMCE	4.14	2.23	9.89	.78
DBLCE	7.68	4.50	13.60	1.16
DBMLCRL	6.40	4.07	17.20	1.30
LLCP	9.24	5.45	15.00	1.49
LMCP	10.11	6.44	14.03	1.49
LLCTM	9.88	4.50	13.50	1.72
LMCTM	7.75	4.36	13.70	1.48
LLCBLE	5.91	2.72	11.00	1.29
LMCBLE	8.10	3.94	13.00	1.62
LEL F	8.50	5.33	13.10	1.37
LEL B	8.22	5.00	12.39	1.30
LEW	5.02	2.06	9.68	1.11
JAFFNR	8.77	3.97	15.10	1.62
LLCP	7.78	4.00	14.40	1.51
JTM	14.25	7.30	23.00	2.65
LEBJ	4.95	2.08	13.74	1.33
FW	5.14	2.99	9.10	.98
HL	18.67	11.10	25.10	2.81
HW	8.90	5.56	13.40	1.46
BL	54.03	25.80	78.80	10.17
NL	13.04	6.20	23.20	3.51

Variable	Mean	Minimum	Maximum	Standard Deviation
THPS	41.03	19.00	64.00	8.22
BD	12.30	7.40	25.20	3.05
SD	17.13	9.20	31.40	5.01
ND	8.95	4.31	19.00	2.14
HED	9.10	5.40	19.20	1.79
FD	5.85	3.05	9.78	.99
LALG	23.97	11.75	41.20	5.88
HIW	11.15	6.79	20.00	2.23
BW	9.79	5.29	17.00	2.04
SW	10.27	5.58	19.80	2.18
NW	7.08	3.32	19.90	2.01
VJW	6.07	3.05	10.40	1.09
VJL	12.36	5.50	23.00	2.74

Table 37.   Continued...

Variable	Mean	Range		Standard Deviation
		Minimum	Maximum	
		11.72	36.00	
VCL	23.18			5.01
VNL	14.33	6.20	28.00	3.58
PBSSAL	41.11	19.90	61.40	8.15
PBSBSAL	38.54	18.00	57.70	7.98
OPCEJ	5.17	2.07	10.70	1.21
EJSDSD	19.47	10.00	36.00	4.42
EJAJ	13.90	5.30	26.50	3.72
EJTD	22.28	12.00	39.20	4.47
EJTDC	19.38	8.60	29.50	4.02
AOP	7.13	3.00	14.90	2.06

ARDAL	28.81	10.20	49.60	6.61
AJTDC	6.47	3.20	16.50	1.96
AJTD	9.52	4.50	20.00	2.23
FFW	4.38	2.10	8.78	.97
LARA	9.48	4.50	21.0	2.53
TDDT	5.06	1.20	10.00	1.25
CPMP	6.40	2.40	10.00	1.54
CPTDC	5.45	2.30	12.50	1.62
CTDS	6.23	2.50	11.00	1.41
MJPIJ	1.85	1.10	5.00	.43
PPIJTD	2.67	1.18	5.00	.54
RDT	41.09	21.00	58.20	7.90
RMP	40.36	13.50	59.0	8.21
THPS	41.03	19.00	64.00	8.22
THPH	27.48	12.00	47.60	6.55
TW	11.97	6.10	27.20	2.82
RPH	29.77	7.50	45.30	7.32
RSJ	19.05	8.30	34.80	4.65
PHDT	14.21	8.40	25.00	2.31
PHMP	12.46	6.00	20.50	2.21
BFW	4.11	2.00	8.00	.86
HJDSD	9.79	4.10	23.70	2.93
MPTDT	1.88	1.03	3.50	.38
PPIJDTPL	2.70	1.50	5.30	.59
GDT	32.07	14.00	49.00	7.03
GMP	31.99	14.30	47.50	7.18
PHIFID	13.31	7.00	22.80	2.40

<u>Relationship Between Dog Characteristics and Respondent's Selected Socio-
economic Variables</u>

The choice of dog characteristics has an impact on the way owners treat their dogs.

Table 37 shows that length of coat and tail shapes of dogs are the dog characteristics that significantly   relate to level of income. It may be inferred that these characteristics have an effect on the level of income. For example, the higher the income the shorter the coat and tapering tail is preferred than the other characteristics such as coat texture and coat color.

Table 38 shows that coat texture and skull shapes are the dog characteristics that significantly relate to age of respondents. These are the characteristics that have an effect on the age of respondents.

Table 37. Relationship between level of income of Respondents and dog characteristics

Dog characteristics	X^2_c	$X^2 0.05$	Remarks
Sex of Dog	6.56	12.59	Not significant
Age of Dog	5.10	16.72	not significant
Temperament	11.71	16.92	not significant
Types of coat	1.39	7.81	not significant
Length of coat	13.90	12.59	significant
Coat texture	37.04	49.77	not significant
Coat color	38.59	49.77	not significant
Skull shapes	7.62	25.00	not significant
Ears of dog	19.35	32.67	not significant
Color of eyes	12.79	21.02	not significant
Tail shape	61.77	55.76	significant
Height of dog	9.19	12.59	not significant

Table 38. Relationship between the of Age of respondents and dog
              Characteristics

Dog characteristics	X^2_c	$X^2 0.05$	Remarks
Sex of Dog	4.72	11.07	not significant
Age of Dog	20.44	21.02	not significant
Temperament	11.99	21.02	not significant
Types of coat	7.59	9.48	not significant
Length of coat	8.81	15.51	not significant
Coat texture	67.74	67.50	significant
Coat color	41.39	67.50	not significant
Skull shapes	32.34	31.40	significant
Ears of dog	27.30	41.34	not significant
Color of eyes	24.31	26.30	not significant
Tail shape	63.71	67.50	not significant
Height of dog	5.87	15.51	not significant

For example, smooth coat and flat skull are dog characteristics more commonly seen among dogs in the study area.

Other characteristics such as sex, age, temperament, and type of coat, length of coat, coat color, ears, and color of eyes, tail shape and height do not significantly relate to age of respondents.

Table 39 shows that age of dogs, type of coat, length of coat, coat texture, skull shapes, ears of dogs and tail shape are dog characteristics that significantly relate to Educational attainment. This means that these are the characteristics that

have an effect on educational attainment for a choice of a dog. For example, the higher the educational attainment, young dogs are more preferred because studies show that young dogs are easily trained in the way they are desired.

Table 39. Relationship between Educational attainment of respondents and dog characteristics

Dog characteristics	X^2_c	$X^2 0.05$	Remarks
Sex of Dog	16.72	23.64	not significant
Age of Dog	46.36	32.67	significant
Temperament	29.83	32.67	not significant
Types of coat	21.17	14.06	significant
Length of coat	38.75	23.68	significant
Coat texture	112.54	101.88	significant
Coat color	96.41	101.88	not significant
Skull shapes	76.59	49.77	significant
Ears of dog	100.34	49.77	significant
Color of eyes	24.72	41.34	not significant
Tail shape	173.14	113.41	significant
Height of dog	9.23	23.69	not significant

Table 40 shows that age, type of coat, coat texture, coat color, skull shapes, and ears of dogs, color of eyes, tail shape and height of dogs are the characteristics that do not significantly relate to occupation. This means that these are the characteristics that have an effect on the choice of dog by occupation.

Characteristics such as age of dogs, temperament of dogs, and length of coat do not significantly relate to occupation. These characteristics have no effect on the choice of dogs by occupation. For example, a farmer can choose any age of

dogs that he likes, a businessman can choose whatever the temperament of dogs

is, and an employee can choose any length of coat.

Table 40. Relationship of Occupation of respondents and dog characteristics

Dog characteristics	X^2_c	$X^2 0.05$	Remarks
Sex of Dog	48.70	28.86	significant
Age of Dog	37.57	40.11	not significant
Temperament	38.91	40.11	not significant
Types of coat	29.20	16.92	significant
Length of coat	27.29	28.86	not significant
Coat texture	204.92	124.34	significant
Coat color	131.04	124.34	significant
Skull shapes	89.79	61.63	significant
Ears of dog	74.47	61.63	significant
Color of eyes	52.25	49.77	significant
Tail shape	181.50	124.34	significant
Height of dog	64.72	28.86	significant

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

Three hundred twelve dogs from Betag and Beckel were examined to determine their characteristics in relation to community development and specifically to determine the dog owner's profile and the way by which they care for their dog, the physical profiles of dogs, establish morphologic and morphometric data of dogs and to determine the relationship between the socio-economic profile of dog owners and the dog characteristics.

The Salient Findings of the Study are:

1. There are more female than male respondents, great majority are married, and the greatest number range in age from 46 and above years. There are more farmer respondents in Beckel and more businessman respondents in Betag.

The respondents have an income of an average of Php 5,001 to 10, 000 a month. A great majority of the respondents live in a traditional family house. Many of the houses do not have enclosures.

Many dogs examined are offspring of the owner's bitch. The majority of the dogs are used as guard dogs hence many are left to roam around the house of the owner. Almost all dogs are fed with kitchen left-overs twice a day by household members.

Less than half of the respondents consult veterinarian about their dogs because of high consultation fees, high cost of medicines and the accessibility or the availability of veterinarians. Thus most of the respondents confine and give human medicines to their sick dogs.

2. There are more female dogs examined than male dogs with a sex ratio of 1:1.2. Many of the dogs examined are less than one year old. The majority are aggressive. There are more dogs vaccinated and dewormed in Betag than in Beckel.

3. In morphologic examination, the majority have short, single, smooth coat, and color brown predominates over other coat colors. Almost all dogs examined from the two barangays have no markings. Many dogs have a back which arched over the loin and have tucked-up abdomen.

The head is long, and tapering with a flat skull and of the mesaticephalic skull formation. The greatest numbers of dogs have pricked ears set within the level of the eyes; have oval eyes with short eyelashes, short eyebrows, dark eye rims and hidden third eyelid; saucy eye expressions, down face, black, roman nose, pinched nostrils, level mouth, and a snippy muzzle. A great majority has a sloping shoulder, narrow front, cat feet; many have straight stifled and a tapering tail.

Almost all dogs have no breeching style inside the thigh, have an oval chest, have no dewlap, have a shallow furrow, have no keel; are well ribbed up

and not chiseled; have no prominent occiput but have a straight stop. Almost all dogs not chiseled, short coupled and cobby.

3. In morphometric examination, only one group of dogs has been examined in both barangays studied.

4. The length of coat is significantly related to income and educational attainment. Tail shape is significantly related to income, educational attainment and occupation. Coat texture and skull shapes significantly relate to age of respondents, educational attainment and occupation. Age of respondents, types of coat and ears of dogs significantly relate to educational attainment and occupation. And coat colors, color of the eyes, height of dogs significantly relate to occupation only.

Conclusions

Based on the findings, the following conclusions are drawn:

1. In the selected socio-economic variables such as age of respondents, occupation, level of income and educational attainment, the respondents from Beckel differ significantly from those of Betag

Respondents are aware of dog management and its effect on the community but the cost and the availability of veterinary services hinder them to give a more proper management to their dogs.

2. There is a significant difference among the morphology of dogs between barangays in terms of color, coat texture and length of coat, skull shape, color of the eyes, ear shape and set, tail shape and set, shoulders, fronts and feet.

3. There is no significant difference in the morphometrics of dogs in the two study area.

4. There is a significant difference among the selected socio-economic profile of respondents to preference of dog characteristics.

Recommendations

Based on the result, it is recommended that more studies on dogs be made especially dogs in the highlands; such studies should use parameters with low standard deviations. Further, it is recommended a similar study be conducted using the morphometric data of known breeds as standards to be compared with the so-called native dogs.

It is further recommended that the municipal ordinance prohibiting dogs from loitering within the prohibited zones in La Trinidad be strictly observed and implemented since no program for the control of rabies in dogs can succeed without full government support and full cooperation of the people in the locality. (Prohibited zones include residential, commercial and institutional as parks, public roads, schools and other public places)

LITERATURE CITED

CUNLIFFE, JULIETTE. 2000. The Encyclopedia of DOG BREEDS. Paragon
    Publishing. Queen Street House, 4 Queen Street, Bath BA1 1HE, UK.

DIEGO, R.C. 1998. Contribution to the Systematic Revision of the Southeast
    Asian   Clarid Catfishes of the Genus Clarias (Siluriformes, Clariidae).
    Master Thesis. University of Ghent. Belgium.

DONE,S.H. Color Atlas of Veterinary Anatomy. THE DOG AND CAT. Vol.
    3. Mosby-Wolfe. London.

ENCARTA LIBRARY REFERENCES. 2004. Encarta Interactive World
    Atlas.

GETTY, ROBERT. 1975. Sisson and Grossman's. The Anatomy of the
    Domestic Animals. 5th ed. Vol.2. W.B. Saunders Company.
    Philadelphia. London. Toronto.

KAPOOR, V.C. 1998. Principles and Practices of Animal Taxonomy. Science
    Publishers Inc. Enfield, New Hampshire 03748, USA. Pp. 9,18,24, 33,
    40-43, 100-101.

LABOTAN, ALLAN N. 2004. Identification and Characterization of the
    Philippine 'Native Pig' Using Morphometry. Unpublished
    Undergraduate Thesis, Benguet State University, La Trinidad,
    Benguet.

LUMBAO, B. ONAYD. 2004. MAG-SAO AY DI BIRO. Understanding and
    Training Dogs in the Philippine Context. Dog scout of the Philippines.
    www.dogs scout Philippines.com. Tri-Milson's Publication. TOCS
    Ave. Cor. Warm St. Virginia Summerville Subdv. Mayamot, City of
    Antipolo.

REIST, J.D. , 1986. An Empirical evaluation of Coefficients used in residual
    and allometric adjustment of size covariation. Canada Journal,
    Zoology, 64:1363-8.

THE COMPLETE DOG BOOK. 1964. New Revised Edition . an Official
    Publication   of the American Kennel Club. Garden City Books,
    Garden City, N.Y. Pp. 60-75 and 263-270.

WORLD HEALTH ORGANIZATION (WHO). The Dog Population in Urban and Rural areas:The Dog Functions in Human Societies. Guidelines For Dog Rabies Control. Geneva, June 1987. Page

WILLIS, M. B.1998. Dalton's Introduction to Practical Animal Breeding. 4th ed. Blackwell Science Inc. USA. Pp. 16 & 20.

WIKIPEDIA, 2005. The free encyclopedia. http://en. Wikipedia.org/wiki/dog, 2005.

WIKIPEDIA,2005.The free Encyclopedia.http://en. ikipedia.org/wiki/mixed-breed- Dog,

WIKIPEDIA. 2005. The free encyclopedia. http://en. Wikipedia.org/wiki/coat-%28dog%29

Appendix A

DATA SHEET

Barangay: _____Date of Data Collection: _____ Sample animal #: _____

I. Name of Owner: _____   Age: _____

Address: _____
Sex: _____Male: _____ Female
Civil Status: _____Married   _____ Sinlge _____ Widow/Widower ____Others (specify)
Citizenship: _____Filipino _____American _____Chinese _____ Others (Specify)
Number of Persons in the household: _____
Educational Attainment: ____ high school level   _____ High school graduate

          ____ Elementary level   _____ Elementary graduate

          ____ College Level   _____   College graduate

          ____ Vocational   _____   Others (specify)

Occupation: _____ Businessman _____ Farmer   _____ Student
      _____ Employee _____ Others (Specify)
Level of income: _____5, 000 and below _____ 5,001 – 10,000 ___ 10,001 and above

Persons who handle and play with the dog: _____ Owner _____ adults of Household

      _____ children of household _____ friends
      _____ Neighbors
_____Strangers____ nobody
Number of persons in household: _____ less than 5 years old _____ 5-10 years old

      ____ 11-17 years old ____ 18-50 years old ___ more than 50 years old
Type of home: _____Traditional single-family house _____ Modern family house

      _____ Apartment above commercial area _____ home in multi-apartment

_____ Farmhouse _____ tent _____ others (Specify)

Enclosure of home: _____ No fence or wall _____ fence or wall, but does not restrain dog

_____ fence or wall, completely restrains dog _____ others (specify)

Source of dog: _____ offspring of own bitch

_____ Bought or traded from neighborhood

_____ Bought or traded from outside neighborhood

_____ Received as gift from neighbor

_____ Received as gift from outside neighborhood

_____ Others (specify)

Use of dog: _____ guarding the premises _____ herding

_____ hunting _____ pet

_____ meat source _____ Source of income

_____ Breeding purposes_____ Others (Specify)

Is the dog: _____ Confined? _____ Leashed? _____ free roaming?

The dog's shelter __ a dog's kennel ____ owners house _____ free roaming ____Others (specify)

Who fed the dog? __Household members ___by neighbors __dog finds its food _ Others (specify)

Source of food: _____ Commercial dog food _____ family garbage and waste

_____ Kitchen left overs _____ small rodents

_____ Others (specify)

How often is the dog fed? _____ once a day _____ twice a day _____ thrice a day

Is the dog vaccinated against rabies? _____ yes _____ No

Is the dog deworm? _____ yes (if yes how often) _____ No

Do you consult veterinarians about your dogs? ____ yes ____ No. If No, why? _____

What do you do when your dog get sick? _____ Care for/confined _____ killed

_____ Taken to a vet_____ Butchered

II. Animal Profile:

Name: _____ Age: _____ Sex: _____

Temperament: _____docile _____friendly _____sensitive

_____aggressive _____ Others (specify)

PHYSICAL CHARACTERISTICS:
PUT A CHECK MARK IN EACH OF THE BLANKS. WRITE NECESSARY
DESCRIPTIONS THAT ARE NOT INCLUDED IN THE CHOICES.

1. Coat: a. Types: _____ double coat _____ single coat _____ Others
(describe) _____
      b. Length: _____ long_____ medium_____ short_____ Others (describe)
_____
      c. Coat textures/quality:
                _____ broken _____
briskly, harsh coat
                _____ bear like _____ short
briskly coat
                _____ dense mane _____ long standoff
                _____ curly coats _____ Corded Coat
                _____ stand-offs _____ wire coat
                _____ pily coat _____ smooth
coat
                _____ long, fairly coarse _____ Others
(describe) _____
                coat
2. Colors and Markings:
      a. Colors: _____ black/white _____ red
                _____ gray _____ roan
                _____ black/tan _____
brown/white
                _____ brown _____
white/tan
                _____ sable (specify)_____
brindle/dapple
                _____ cream _____
white/black/tan
                _____ merle _____ others
(describe)
      b. Specific markings like the presence of :
                _____ mask _____ pips _____ pencilings
      c. Other distinguishing marks (if any) such as:
                _____ stockings _____ socks
                _____ splashed coat _____ Lozenge mark
or spot
                _____ spectacles _____ others(specify)
_____

3. Back and underline:
   a. Back

_____	arched over the loin	_____	straight back
_____	level back	_____	wheel back
_____	long back	_____	camel back
_____	sloping back	_____	hollow back
_____	roach back	_____ arched-shape	wheel back
_____	others		(describe)

_____

4. Head and skull

   a. Head shape:

_____	apple head	_____	otter head
_____	balanced head	_____	pear-shaped head
_____	brick-shaped head	_____	long and tapering head
_____	clean head	_____	ram's head
_____	cone-shaped head	_____	short or round head
_____	egg-shaped head	_____	wedge-shape head
_____	fox like head	_____	square-off head
_____	others(described)	_____	

   b. Skull shapes:

_____	arched skull	_____	oval skull
_____	broad skull	_____	rounded skull
_____	flat skull	_____	bumpy skull

_____ others(describe) _____

    c. Division of skull formation:

_____ brachycephalic _____ mesaticephalic

_____ dolicocephalic

5. Earshape and Ear set:

    a. shape: _____ bat ear _____ heart-shape ear

_____ blunt-tipped ears _____ button ears

_____ hooded ears _____ candle-flamed ear

_____ lobed shaped ears _____ cocked ears

_____ low-set ears _____ cropped ears

_____ rolled ears _____ drop ears

_____ rose ears _____ prick ears

_____ tulip ears _____ filbert-shaped ears

_____ V-shaped ears _____ flying ears

_____ triangular ears _____ folded ears

_____others(describe) _____

    b. Ear set:

_____ high set _____ low set

_____ set within the level of the eyes

6. Eyes and eye Expression:

    a. Eye shape:

_____ almond eye _____ obliquely placed eyes

_____ deep set eyes _____ oval eyes

_____ globular eyes _____ round eyes

_____ haw eyes _____ triangular eyes

_____ Others(describe)
_____

b. Eye marking:

_____ spectacles _____ pips
(melon pips)
_____ four eyes _____
domino pattern
_____ Others(describe):
_____

c. Eye color:

_____ black _____ brown
_____ wall eye _____
others (specify)_____

d. Eyelashes:

_____ long _____
medium
_____ short

e. Eyebrows:

_____ Long _____
medium

_____ short

f. Eye Rims:

_____ dark eye rims _____ Liver eye rims
_____ others (describe)

g. Third eyelid:

_____ exposed _____
hidden
_____ others (describe)
_____

h. Eye expression:

_____ eastern/oriental _____
ape-like
_____ gruff _____
saucy
_____ monkey like _____
Others (describe)

7. Face

_____ down face _____ cheeky

_____ dish face _____ frog face

_____ broken face _____

others(describe) _____

8. Nose

a. Nose color: _____ brown/liver nose _____ self-colored nos

_____ fleshed colored _____ winter nose

_____ others (describe)

_____

b. Shape:

_____ ram's nose _____ roman nose
_____ butterfly nose _____ others

(describe) _____

9. Mouth

_____ level mouth _____ undershot
_____ overshot _____ others(

describe) _____

10. Muzzle

_____ snippy muzzle _____ blunt muzzle

_____ others(describe) _____

11. Shoulders:

_____ Sloping shoulder _____ straight shoulder

12. Fronts and feet

a. front _____ bowed front _____ fiddle front
_____ crooked front _____ narrow front
_____ gun-barrel front _____ out of elbow

_____ horse shoe front _____ knucked over

_____ straight front _____ down in pastern

_____ wide front _____ others

(describe) _____

b. feet

_____ cat feet _____ hare feet

_____ oval feet _____

webbed feet

_____ splay feet _____ paper

foot

_____ others(describe)

_____

13. Hindquarters

_____ cow-hocked _____ straight stifled
_____ correct hind end _____

moderately angulated

_____ over angulated _____ Others

(describe) _____

14. Tail shape and tail set
    a. Tail shape

_____ bee sting   tail _____

plumed tail

_____ bob tail _____

pot-hooked tail

_____ brush tail _____ rat tail
_____ carrot-shaped tail _____

ring tail

_____ cocked-up tail _____ sabre

tail

_____ crank tail _____

scimiter tail

_____ curled tail _____ screw

tail

_____ docked tail _____ sickle

tail

_____ flagpole tail _____ snap

tail

_____ flat tail _____

squirrel tail

_____ gay tail _____ stumpy

tail

_____	hook tail	_____	
sword tail			
_____	horizontal tail	_____	
tapering tail			
_____	kinked tail	_____	tufted
tail			
_____	otter tail	_____	others
(describe) _____			

15. Movements

_____	paddling	_____	correct
movement front			
_____	weaving	_____	good
movement side view			
_____	poor movement rear	_____	good movement
rear			
_____	poor movement side view	_____	
others (describe)			

16. Other features:

a. Balance:

_____	yes	_____	no

b. Breeching _____ present _____ absent

c. Chest _____ barrel chest _____ oval chest

_____ others (describe)

_____

d. Chiseling:

_____	Chiseled	_____	not chiseled

e. Coupling _____ short coupling _____ long coupling

f. Dewlap _____ present _____ absent

g. Furrow _____ deep _____ shallow

h. Keel _____ prominent _____ not prominent

_____ moderately prominent

i. Occiput _____ prominent _____ not prominent

_____ moderately prominent

j. Stop _____ dished _____ straight

k. Well-ribbed up _____ yes _____ no

l. Describe the dog as a whole:

_____ cobby? _____ racy?

MORPHOMETRIC VARIABLES:
FILL UP THE NECESSARY MEASUREMENTS ON THE SPACE PROVIDED.

Measurements on the left lateral part of the body:

BD _____ FD _____ HD _____

ND _____ LALG _____ SD _____

Measurements on the back

BL _____ BW _____ HIW _____

NL _____ NW _____ SW

THPS _____

Measurements on the ventral neck and abdomen:

VJL _____ VJW _____

VNL_____

VCL _____ VAL _____

Measurements on the head:

Frontal view

AFFNRP _____ DBE _____ DBLSM _____

DVDM _____ LLCBLE _____ LMCBLE _____

TMAFNR _____

Dorsal view

DBMCE _____ DBLCE _____ FW _____

HL _____ HW _____ LLCP _____

LMCP _____   LMCTM   _____
LLCTM_____
DBMLCLERMC _____

Lateral view
 JAFFNR _____   JLLCL _____   JTM
_____
 VJL _____   LEL/F _____   LEL/B
_____
 LEW _____   LEBJ _____

Measurements on the anterior limbs:
 Left lateral view:
  EJDSD _____   OPCE _____   PBDSAL
_____
  PBSSAL _____

 Left Medial view:
  AOP _____   ATDAL _____   ATDCAL
_____
  EJAJ _____   EJTD _____   EJTDC
_____

 Left frontal view:
  AJTDC _____   AJTD _____   FFW
_____
  LARA _____   TDDT _____

 Left caudal view(foot):
  CPMP _____   CPTDC _____

 Left dorsal view (foot)
  CTDS _____   MJPIJ _____   PPIJTD
_____

Measurements on the hind limbs:
 Left caudal view
  PHDT _____   PHMP _____   RDT
_____
  RMP _____   THPH _____   TW
_____

Left lateral view
        BFW _____   HJDSD   _____
MPTDT _____
        PPIJDTPL _____   RPH _____   RSS
_____
        SJDT _____
Left medial view
        GDT _____   GMP _____   PHFID
_____

Appendix B

COMUNICATION

Benguet State University
GRADUATE SCHOOL
La Trinidad, Benguet

April 28, 2005

PEDRO GOLOCAN JR.
Barangay Captain
Betag

Sir:

      I am conducting a study entitled "Characterization of Dogs in Relation to Community Development" in La Trinidad, Benguet in fulfillment of my graduate Studies.

      In this regard please allow me to use your dogs as my sample specimen and your people as my respondents in gathering my data.

      Thank you very much

Respectfully yours:

(SGD)ANA B. MENDOZA
      Student

Noted:

(SGD)JULIA M. SOLIMEN, Ph.D
      Adviser

Approved:

(SGD)PEDRO GOLOCAN JR.
Barangay Captain

Appendix C

COMMUNICATION

Benguet State University
GRADUATE SCHOOL
La Trinidad, Benguet

April 28, 2005

MURPHY QUEZON
Barangay Captain
Beckel

Sir:

      I am conducting a study entitled "Characterization of Dogs in Relation to Community Development" in La Trinidad, Benguet in fulfillment of my graduate Studies.

      In this regard please allow me to use your dogs as my sample specimen and your people as my respondents in gathering my data.

      Thank you very much

Respectfully yours:

(SGD) ANA B. MENDOZA
      Student

Noted:

(SGD)JULIA M. SOLIMEN, Ph.D
      Adviser

Approved:

(SGD)MURPHY QUEZON
Barangay Captain

BIOGRAPHICAL SKETCH

Ana Badival-Mendoza is the sixth of the 10 children of Mr. And Mrs. Antonio Badival of Atok, Benguet. She is happily married to Tito P. Mendoza, who worked presently as a fireman at Baguio City Fire Station, and by whom she is blessed with three children, two boys and one girl.

She finished her Elementary Education at Celo Haight Elementary School (CHES), Sayangan, Atok, Benguet on March 1986 and her high school education at Saint Paul's Academy on March 1990. She obtained her degree in Doctor of Veterinary Medicine at Benguet State University in March 1996. She took the Board of Veterinary Medicine that same year and luckily she became one of the licensed veterinarians that year.

In September –December 1996, she volunteered at Philippine National Red Cross – Benguet Chapter as a one of the primary health care volunteers. In February –December, 1997, she was hired as a breeding section supervisor at First Great Fortune Farm, Bo, Cupang, Pandi, Bulacan.

In 1998, she applied at Alpha Pet Care Center, A small animal clinic at #57 M. Roxas Street, Trancoville, Baguio City and fortunately she was hired as an assistant resident veterinarian. She worked at APCC for more than two years.

In November 2000, she applied at Benguet State University as an instructor and was   luckily hired as a substitute of Dr. Jocelyn Runas, who went

for a study leave. When Dr. Runas came back, the author was hired as a contractual instructor until given a temporary in April, 2003.

Presently, the author handles subjects in animal production, Animal Nutrition, Principles of Genetics, Veterinary Physiology and sometimes as a substitute instructor in Veterinary Anatomy.