

## **BIBLIOGRAPHY**

BENITO, JUNJUN C. OCTOBER, 2009. Status of Livestock and Poultry Production in Barlig, Mountain Province. Benguet State University, La Trinidad, Benguet.

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## **ABSTRACT**

The study was conducted to evaluate and document the status of livestock and poultry production in Barlig, Mountain Province. Specifically, it aimed to determine the socio-economic profile of the respondents; the different farm animal species commonly raised in the municipality; the number of animals per species raised per household; the reasons of the respondents in raising animals; the sources of stocks and capital of the respondents; the production management practices employed by the respondents in terms of breeds and breeding, housing, feeds and feeding, herd health management, and marketing; the support services availed by the respondents and the problems they encountered in relation to animal raising.

Barlig is composed of 11 barangays but only the top 8 in terms of animal population were covered in the study. From these barangays, a total of 123 actual animal raisers were chosen to serve as respondents in the study. To gather the data, actual informal interviews of the respondents were conducted and some pictures were taken to support some of the information gathered.

Out of the 123 respondents, majority are males, married and with ages ranging from 30-45 years old. Majority of them also had finished high school education and have farming as their main source of living.

The farm animals commonly raised in the locality include swine, chicken, ducks, cattle, carabaos, and geese. Livestock and poultry production in the locality is under the control of backyard raisers or small hold operators. Each household is raising 10 and below number of swine, 1-3 carabaos and cattle, 6-10 chickens and 1-5 geese. Majority of the respondents have been raising swine for 16 or more number of years, 6 years or more for chicken, 1-5 years only for ducks, geese, cattle and carabaos.

There are two main reasons why the respondents are raising these animals. First, is for family use i.e. to serve as source of food most especially if the raisers are to host special occasions like weddings, baptisms, houseblessing, birthdays, celebration of anniversaries and other forms of thanksgiving and to have available animals to slaughter when they perform rituals as part of their culture. The other reason is as source of additional income to the family. In addition to the above mentioned reasons, cattle and carabaos are also raised to help the respondents in their field works.

Based on the results of the study, the respondents, with the exception of swine where majority are raising crossbreds, are all raising native animals. The initial stocks of the respondents were either given to them by their relatives or they have bought them from other raisers most especially those within the municipality.

To reproduce their animals, all the respondents are employing natural mating although some, particularly in swine, are now employing artificial insemination [A.I.]. Despite of the limitations of inbreeding, still many of the respondents are observing it. The other systems observed by the respondents include purebreeding, upgrading and crossbreeding but particularly in swine.

Majority of the respondents said that their sows are farrowing twice a year and are usually giving birth to 6-10 piglets and usually wean 6-10 piglets also. Likewise, majority of the respondents in poultry said that their hens usually lay 6-10 eggs per clutch and the number of eggs hatched that they usually observed is 6-10 also.

All of the respondents are confining their swine in pigpens. No housing, on the other hand, is provided to ruminants. Instead, these are either let-loosed in the mountains or public lands or are tethered in open areas. In chicken, majority of them are confined, however, most of them are confined at night time only. At day time, these are let-loosed. Geese are also subjected to loose housing and majority of the ducks are subjected to semi-confinement.

In feeding, swine are being fed with either indigenous feedstuffs alone or given in combination with conventional feeds. Very few are feeding their swine with pure conventional feeds which refer to hog commercial feeds and “cono”. Cattle and carabaos are being fed with all grass/roughage diet. Chicken are also being fed with rice [cooked or uncooked], palay and corn and the ducks and geese are being with cooked rice or chopped vegetable rejects/grasses or combination of both.

For the herd health management, majority of the swine respondents are bathing their pigs, cleaning the pens of their pigs and are deworming and vaccinating their swine. However, in the other farm animals raised, vaccination nor deworming is not observed by the respondents. Deticking of the ruminant animals is practiced but this is done manually or by hand picking. True to all the animal species, in cases where an animal is affected with a disease, the common practice of the respondents is to butcher it most especially if it is already big enough to slaughter and show very slim chance of recovering.

In terms of marketing, animals are marketed mostly on a per head [“bulto”] basis and are sold directly to consumers. Although others are also selling their animals on a liveweight basis and the “uraga” system particularly to cattle and carabaos wherein the animal carcass is divided by a group of individuals.

All of the respondents said that they did not avail of any support services either from government or non-government organizations. The common problems observed by the respondents include high cost of feeds, lack of market outlets, prevalence of diseases and parasites, lack of technical knowledge, lack of superior breeding stocks, lack of capital , transportation difficulties, lack of government assistance and problem on theft.

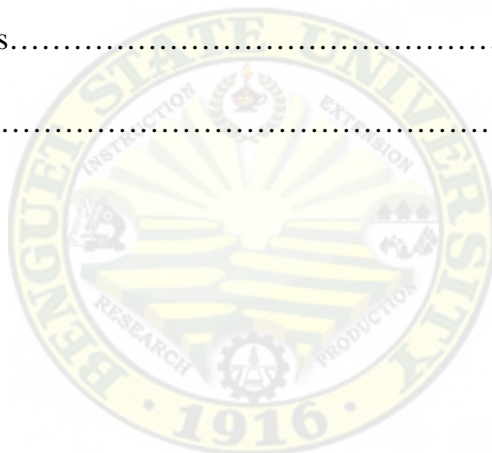
Based on the results of the study, the following are then recommended to help improve the animal industry in the locality. One, is that the local government or concerned government units should create lending institutions with low interest rates to help solve the problem on capital; strengthen their extension services by conducting seminars or trainings on animal raising; have dispersal programs to introduce better breeding stock and help establish market outlets for animal products. Another is for the local officials together with the security department should work together and be more strict in implementing existing policies or even come up with new ordinance to minimize the problem on theft. Moreover, the animal raisers should grouped themselves and form an organization or cooperative to have a stronger representation in availing for any support from the government or non-government organizations.

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## INTRODUCTION

Barlig is one of the municipalities of Mountain Province. It has a total land area of 36,023 hectares and there are 11 barangays comprising it. It has an estimated population of 148,66. Palay is the main crop in Barlig with an estimated production of 1,575 tons per hectare. This is supplemented with root crops and vegetables. However, production is still not enough even for household consumption.

To supplement their income from producing crops, the people are also engaged in animal raising. Swine is the most common livestock raised in the municipality even if swine raising seems not profitable due to the very cold climate which deters the growth of the pigs. Cattle raising maybe a feasible livelihood activity because of the green vegetation but the steep terrain is not suitable for pasture.

Animal raising in the municipality is not yet commercialized and this is probably due to many hindrances such as the high cost of feeds, lack of capital and others. Some changes or actions should be introduced then to help improve the existing management practices and at the same time to maximize the potential of animal raising in the municipality, hence, the need to evaluate and assess the animal industry status together with the production management practices existing in the area

This study focused on the documentation of the status of livestock and poultry production in Barlig, Mountain. Province

It sought to answer the following questions:

1. What are the species of farm animals commonly raised in the municipality of Barlig, Mountain Province?





2. How many animals per species are being raised per household?
3. What are the reasons of the respondents in raising animals?
4. Where did the respondent obtain their animal stock and who provided their capital?
5. What are the production management practices observed by the respondents in terms of breeds and breeding, housing, feeds and feeding, herd health management, marketing and others?
6. What are the support services extended to the animal raisers, either from the government or non-government units in relation to livestock and poultry production?
7. What are the problems encountered by the respondents in relation to animal production?

Generally, this study was conducted to evaluate the status of livestock and poultry production in Barlig, Mountain Province

Specifically it aimed to;

1. Determine the socio-economic profile of the respondents.
2. Determine the species of farm animals commonly raised in the municipality of Barlig, Mountain Province.
3. Determine how many animals per species are being raised per household.
4. To find out what are the reasons of the respondents in raising animals.
5. Determine where did the respondent obtain their animal stock and who provided their capital.
6. Determine the production management practices observed by the respondents in terms of breeds and breeding, housing, feeds and feeding, herd health management.



7. Determine the support services extended to the animal raisers, either from the government or non-government units in relation to livestock and poultry production in Barlig, Mountain Province.

8. Determine the problems encountered by the respondents in relation to animal production.

9. To find out the economic profile of the respondent.

This study was conducted to highlight the management practices being employed by animal raisers in the said locality. The result of the study will benefit not only the researcher but also other people. It will provide information to other raisers to serve as their basis in improving their existing management practices. The data gathered will also serve as basis or guide to local officials or concerned agencies to come up with actions to improve animal production in the municipality. Finally, this study will benefit the animal raisers themselves as they will be the beneficiaries of whatever program that will be implemented leading to the development of the animal industry in the locality.

This study was conducted at Barlig Mountain Province from November to April 2008. The respondents were the actual animal raisers from the eleven barangays of the municipality namely; Chupac, Fiangtin, kaleo, Latang, Lias Kanluran, Lingoy, Lunas, Macalana, Ogo-og, Gawana (poblacion), Lias Silangan.



## REVIEW OF LITERATURE

Asian livestock (1999) cited that meat production absorbs over 600 million tons of concentrate feeds, followed by milk and egg production, with 250 and 100 million tons, respectively. In specialized meat, milk and egg production; feed generally accounts for over half of total cost. Although grass and fodder with a low nutrient density still provide the larger part of the global feed supplies, the world livestock economy has become increasingly dependent on concentrate feeds especially grains. In recent years, approximately 650 million tons of corn grains and wheat have been used in livestock feeding, almost half of the world output of grains.

Farm to market road is one of the major problems of animal raisers in the highland like Mt. Province and nearby provinces particularly Paracelis. Despite this many are still raise animals as a source of additional income. Traditional way and practice of raising animals should be totally discouraged because this result to slow production efficiency of the animal being raised (Dumbab, 2008).

Livestock raising efficiently converts digestible, but in edible and non marketable products in the farm into valuable animal products. Added benefit is in manure which can be dried and used as fertilizers or component is the preparation of compost in the farm. Further more, raising one or more animals can also serve as source of income (Gillespie, 2002).

Baconawa (1998) mentioned that the continuing diminution of the pasture areas for cattle ranching for some reasons like cancellation of pasture lease agreements to give way to establishment of water sheds for multiple di-hydro-electric irrigation projects etc...will continue to set limits to cattle production among hill beef producers. He also mentioned



that many cattle ranchers are already raising goats and sheep as sideline. The rising cost of imported feedstuff like soybean, fish meal, meat and bone meal, feed supplements, feed grains and livestock product is encouraging farmers to raise goat and sheep.

Watson (1999) said that a purebred milking doe is capable of producing three to four liters of milk a day, more than the average natural production of two liters per doe a day. Goat farming requires only a small investment and entails minimal risk, making it ideal for household and subsistence farmers.

Prasad and Bhattacharyya (2001) cited that domestication of goats proved to be one of the most important events in early human civilization since it helped mankind to survive from the ravages of hunger at the face of natural calamities including famines. Through the history of mankind, goats became the ready source of meat, milk, skin and fibers to human beings. To the poor farmers of the existing underdeveloped world, it is a commodity that has constant market demand and potential to fetch cash returns at the hours of need. Goat has the capability to survive on scavenge feeds and fallen leaves or browse and pasture on the forages that other ruminants would not normally consume. In the process of such survival and uncontrolled grazing or otherwise highly degraded lands, goats are often held solely responsible for environmental degradation thereby the valuable contribution of goats to soil fertility and ability to prevent and control of unwanted bushes in rangelands, remains unnoticed.

Irwin and Moofu (1995) reported that many livestock farmers are turning to pig production, although they still cohere or not moving away from the cattle sector. Pig production, they said, is a logical alternative and it is also working well for farmers because it could be on intensive basis. Transport cost is low compared to cattle.



Pawid (2009), in his study on the status of livestock and poultry production in Bontoc, Mt. Province, found that except for swine where there are few respondents raising improved breeds, all of the respondents are raising native/ upgrade animals. Also , except in swine where there are few respondents feeding their animals with pure commercial feeds, all of the respondents are feeding their animals with indigenous feedstuffs or combination of indigenous feedstuffs and commercial feeds, particularly swine

The swine industry is one of the most important among the local animal industries in the country. It tops all other local livestock industries in terms of production and its contribution to the national economy. It contributes about 98% of the country's total pork supply. Pork represents more than 50% of the total animal meat consumed by Filipinos.

Over the past few decades, the swine industry contributed more than 70% of the total animal meat output of local animal industries. In addition, the local swine industries provide income to entrepreneurs who are actively involved in large scale commercial swine production and employment to farm laborers, traders and retailers of swine production inputs and products. It also provides employment to workers in slaughter houses and storage processing plants. Similarly, small farmers in rural, urban and semi-urban areas benefit from swine raising through the additional income and financial security it provides indirectly. It provides income to corn, rice, root crops, and coconut farmer, as it is one of the major markets of their products (PCARRD, 2004).

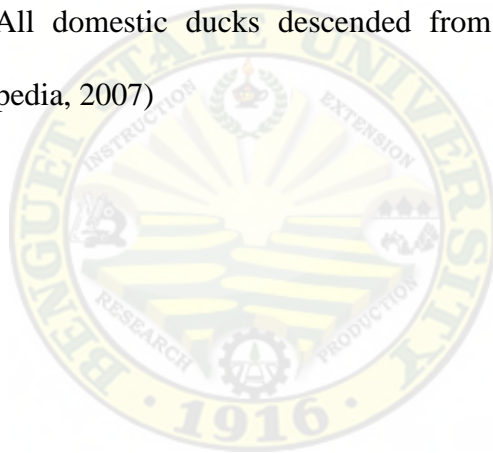
The term poultry is used to designate a group of domestic birds that render an economic service; these birds from choice remain continuously under human protection and control. The species of birds included in poultry are geese, chickens, ducks, turkeys, pheasant, guineas, ostriches and pigeons. Poultry raising is carried all over the Philippines as a home industry. There are several agencies both in public and private that help promote



the poultry industry such as: Department of Agriculture (DA), publications on poultry raising, poultry clubs and poultry shows with display of improved stock, DILG etc. (Dagoon, 1993)

Poultry is one of the world's major and fastest growing sources of meat. It contributed about 38% of the country's total meat supply. The Philippine livestock and poultry industries alone contributed about one third of the value added (GVA) in agriculture (PCARRD, 2004).

Ducks have many economic uses. They are famous because of their meat, eggs and feather particularly their down. They are also kept and breed by agriculturists and often displayed in zoos. All domestic ducks descended from the wild mallard except the muscovy duck (Wikipedia, 2007)



## METHODOLOGY

### Locale and Time of the Study

Barlig is located at the southeastern part of Mountain Province. It is bounded on the north by the province of kalinga, on the south by the province of Ifugao, on the west by Bontoc and on the east by Natonin (Fig.1). It is composed of eleven (11) barangays. However, only the top eight in terms of animal population (Table 1) were considered in the study namely: Fiangtin, Kaleo, Lingoy, Lunas, Macalana, Ogo-og, Gawana (Pob) and Latang. The study was conducted from February to April, 2009.

Table 1. Livestock and poultry population

BARANGAY	CARABAO	CATTLE	GOAT	CHICKEN	DUCK	SWINE	TOTAL
Gawana (Pob)	5	1	-	715	11	38	767
Macalana	6	2	-	562	81	40	700
Latang	-	1	-	496	56	32	608
Ogo-og	15	1	-	381	60	10	457
Fiangtin	13	-	-	371	75	57	516
Kaleo	-	2	-	273	61	46	382
Lunas	8	-	-	286	65	25	387
Lingoy	-	3	-	324	19	13	367
<b>TOTAL</b>	<b>72</b>	<b>10</b>	<b>2</b>	<b>4,005</b>	<b>565</b>	<b>466</b>	<b>5,120</b>

\*Source: Barlig Municipal Agriculture Office (MAO) 2008



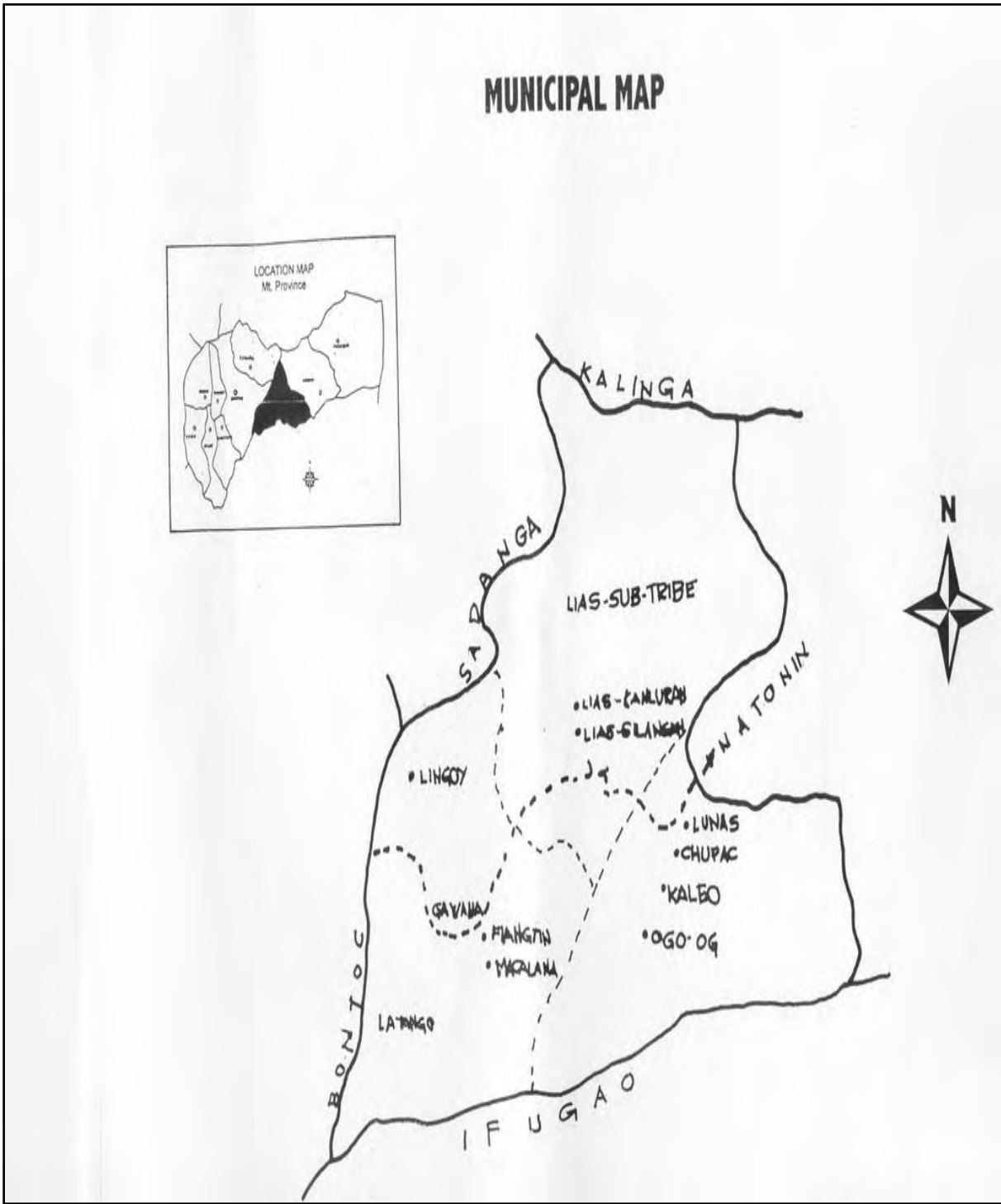


Figure 1. Map showing the locale of the study





### Respondents of the Study

The respondents of the study are residents of the barangays covered in the study who are actually raising animals. The total number of respondents was obtained by getting 10% of the total number of households in each barangay considered. Table 2 shows the number of respondents in each barangays.

### Data Collection

To gather the data an interview schedule prepared before hand and a camera for documentation were used. Using the interview schedule as a guide, an actual informal interview of each of the respondents was done. Also, pictures were taken to support some of the data given by the respondents.

Table 2. Number of the respondents in each barangay

BARANGAY	NO. OF HOUSEHOLDS*	NO. OF RESPONDENTS
Gawana (Pob)	232	23
Macalana	214	21
Latang	121	12
Ogo-og	142	14
Fiangtin	103	10
Kaleo	110	11
Lunas	104	10
Lingoy	221	22
<b>TOTAL</b>	<b>1,247</b>	<b>123</b>

\*Source: Barlig Municipal Agriculture Office (MAO) 2008



## Data Gathered

The data gathered were as follows:

1. General information. This covered the respondent's personal profile which includes such age, sex, civil status, educational attainment and occupation.
2. Years in raising animal. This refers to the length of time the respondents have been engaged in animal raising.
3. Purpose in raising animals. This refers to the reasons why the respondents are raising animals.
4. Classification and number of animals being raised. This included species, breed/strains, and number of animals per species raised by the respondent at the time of the study.
5. Source of stock. This refers to the place or area where the respondents obtained their animal stocks or from whom did they obtain their stock
6. Source of capital. This states who provided the capital of the respondents.
7. Kinds of housing or rearing. It is description of how the animals are confined and the housing materials used, by the respondents.
8. Feeds and feeding management. This includes the types and sources of feeds, frequency of feeding, identification and processing of indigenous or non-conventional feeds, feed supplements or additives used and the systems of feeding the animals observed by the respondents.
9. Breeding management. This includes the methods and systems of breeding, breeding age, length of gestation and litter index.
10. Reproductive performance. This includes the litter size at birth and at weaning and number of eggs/clutch and number of eggs hatched.



11. Herd health management. This includes the different preventive and control measures against diseases observed by the respondents and the diseases that had affected their animals.

12. Marketing management. This includes the methods and systems of marketing employed and other marketing strategies done by the respondents.

13. Support services. This refer to any technical or financial services extended to the farmers from either government or non-government units

14. Problems/Constraints. These include the common problems that the respondents encountered in relation to animal raising.

#### Data Analysis

All the data gathered were consolidated and tabulated. Statistical tools such as percentage, frequency counts and ranking were used to analyze and interpret the data gathered.



## RESULTS AND DISCUSSION

### Profile of the Respondents

The profile of the respondents which includes their; age, sex, civil status, occupation and educational attainment is presented in Table 3.

Age. Out of the 123 respondents, majority (54.47%) or 67 of the 123 respondents are with ages ranging from 30-45 years old, 36 or (29.97%) are with ages ranging from 46-60 years old and 20 (16.26%) are with ages ranging from 61-75 years old. The result of the study shows that majority of the respondent belong to the middle age group.

Sex. In the study the males comprise a larger number which is 74 or 60.16% compared to the females. Generally, the males are responsible in raising ruminant animals such as the cattle, goats and carabaos and the females are responsible in the house management which includes the care of the children and raising of backyard animals like the chickens and geese.

Civil status. Majority (89 or 69.11%) of the respondent are married followed by the singles with a percentage of 17.07% or 21 out of 123 respondents and only 17 or 13.82% are widowed.

Occupation. Majority (77.24%) or 95 of the respondents of this study are farmers, mainly engaged in crop production and only 28 (22.76%) are government employees but are also engaged in animal raising to supplement their family needs.

Educational attainment. Majority (73 or 59.35%) of the respondent have only reached secondary level. Twenty eight (22.76%) have reached or finished college degree or vocational course and only 22 (17.89%) of them have reached or finished elementary level.



Table 3. Profile of the respondents

PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
Age		
30 to 45	67	54.47
46 to 60	36	29.27
61 to 75	20	16.26
TOTAL	123	100.00
Sex		
Male	74	60.16
Female	49	39.84
TOTAL	123	100.00
Civil status		
Single	21	17.07
Married	85	69.11
Widowed	17	13.82
TOTAL	123	100.00
Occupation		
Farmer	95	77.24
Government employee	28	22.76
TOTAL	123	100.00
Educational attainment		
Elementary level	22	17.89
Secondary level	73	59.35
College level/ Vocational	28	22.76
TOTAL	123	100.00



### Species of Farm Animals Raised

Figure 2 presents the different species of animals commonly raised by the respondents. It is presented in the table that the top most species raised by the respondents is swine with 96 respondents out of 123. This is followed by chicken with 84 respondents, ducks, with 26 respondents and then cattle, carabao, geese, and goats with respective number of respondents of 22, 17, 11, and 2.

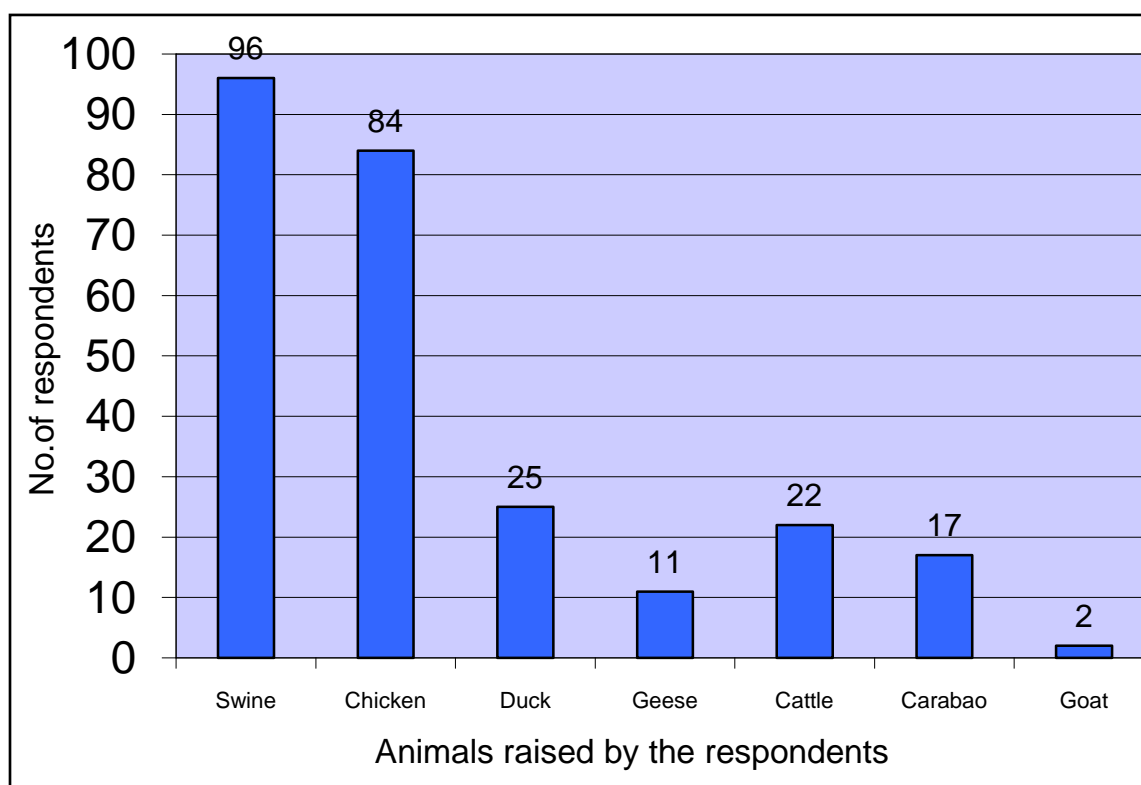


Figure 2. Species of farm animals raised and number of animals per species



## Swine

### Years in Raising Swine

Table 4 presents the number of years the respondents have been raising swine. It is presented that most (47.92%) or 46 of the 96 respondents said that they have been raising swine for 16-30 years and 19 even said that they have been raising swine for 31 or more number of years. Only 31 (32.29%) of the respondents said that they have been raising swine for 15 years and below.

### Number of Swine Raised.

The number of swine raised per house hold is presented in Table 5. It is shown in the Table that 55.21% or 53 of the respondent are raising 6 to 10 heads of swine, 37 (38.54%) are raising 1 to 5 heads of swine and only 6 or 6.25% are raising 11 or more heads of swine. The result reveals that swine raising in the locality is under the control of backyard raisers.

### Source of Stock and Capital

Most (45.83%) or 44 of the respondents said that they have inherited their initial stocks from their parents (Table 6) and normally these were given to them when they got married. Forty one or 42.71% of the respondents said that they bought their stocks from raisers outside the municipality and this is because of their desire to raise other breeds or pigs belonging to improved breeds rather than raising native or upgraded pigs or pigs belonging to improved breeds. To buy the said stocks, all the respondents who brought their stocks said that they made use of their personal money.



Table 4. Number of years in raising swine

NUMBER	NO. OF RESPONDENTS	PERCENTAGE
15 and below	31	32.29
16 to 30	46	47.92
31 and above	19	19.79
<b>TOTAL</b>	<b>96</b>	<b>100.00</b>

Table 5. Number of swine raised per household

NUMBER	NO. OF RESPONDENTS	PERCENTAGE
1 to 5	37	38.54
6 to 10	53	55.21
11 and above	6	6.25
<b>TOTAL</b>	<b>96</b>	<b>100.00</b>

Table 6. Source of stock

SOURCE OF STOCK	NO. OF RESPONDENTS	PERCENTAGE
Inherited	44	45.83
Raisers within the locality	41	42.71
External sources	11	11.46
<b>TOTAL</b>	<b>96</b>	<b>100.00</b>

### Reasons of Raising Swine

All of the respondents said that they are raising swine for family use i.e. to have available swine to butcher when they celebrate occasions like weddings, house blessings, anniversaries, baptisms, graduations, and others or when they perform their rituals as part of their cultures considering that swine is usually the animal required aside from chicken. However, they also said that in cases where there are no occasions to be celebrated that acquire the butchering of pigs, they sell their pigs as additional source of income.





### Housing Management Practices

Types of housing materials. Table 7 presents that majority (65 out of the 96) respondents have swine houses with stone walls and floors, however, 44 of them made use of G.I. sheets as roofing (Fig. 3) and 21 made used of concrete material (Fig.4). Sixteen (16) of the respondents have swine houses with G.I. sheets as roofing, steel or wood wall and concrete floor (Fig. 5 and 6) and 15 have swine houses with G.I. sheets as roofs and concrete floor also but with bamboo walls

The above results reveal that even up to now, majority of the swine raisers in Barlig are still employing the so called traditional swine house i.e. a swine house with stone wall and floor. In fact, these were even built following no specific measurement but depending on the resources available. The most common advancement or improvement made in terms of housing is the use of concrete in constructing swine houses.

Table 7. Types of housing materials used

TYPES OF MATERIALS	NO. OF RESPONDENTS	PERCENTAGE
G.I. sheet roof, stone wall and floor	44	45.83
Concrete roof, stone wall and floor	21	21.88
G.I. sheet roof, steel/wood wall and concrete floor	16	16.67
G.I. sheet roof, wood/bamboo wall and concrete floor	15	15.63
<b>TOTAL</b>	<b>96</b>	<b>100.00</b>





Figure 3. A swine house with stone walls and galvanized roof owned by one of the respondents in barangay Gawana (pob)



Figure 4. A pigpen owned by one of the respondents in barangay Kaleo



Figure 5. A pigpen having a G.I. sheet roof and wood walls owned by one of the respondent in barangay Macalana



Figure 6. A swine house at the backyard of one of the respondents in barangay Lunas

### Breeds and Breeding Management Practices

Breeds. Table 8 shows the different breeds of swine raised by the respondents at the time of the study. It is shown in the Table that majority (61.46% or 59) of the respondents were raising crossbred swine (Fig.7 and 8), mostly crossbreds of large white. Thirty six (36) of the respondents were raising upgrades (Fig. 9 and 10) and only 22 were raising native pigs the more number of respondents raising crossbred swine indicates that the swine raisers in he locality have come to realize the advantage of raising these improved breeds i.e. they have faster growth rate compared to native pig.

Systems of breeding. Crossbreeding, inbreeding, upgrading and pure breeding are the systems of breeding that the respondents employed in raising their swine, however majority (56.25%) or 54 of the respondents said that they have practiced crossbreeding, 43 or 44.79% practiced upgrading, 41 or 42.71% practiced purebreeding especially for the native pigs and only 26 or 27.08% of the respondents said that they have been practicing inbreeding.

Methods of breeding. Majority (71.875% or 69) of the respondents said that they have been employing natural breeding. Only 27 of the respondents said that they have been employing artificial insemination (A.I) through the help of the technician from the municipal agriculture office. According to them, they prefer to use A.I than the natural method because it is less laborious and much cheaper than maintaining a boar.

Breeding age. Majority (52 or 54.17%) of the respondents said that they are breeding their gilts at 8-9 months old which is the recommended breeding age, 31 or 32.29% said that they are breeding their gilts at 6-7 months which is considered early breeding and while there are 13 or 13.54% who said that they are breeding their gilts at 10 months and above especially from those raising the native pigs.



Table 8. Breeds and breeding management practices

PARTICULARS	NO. OF RESPONDENTS*	PERCENTAGE
<b>Breed</b>		
Native	22	22.92
Upgrades	36	37.5
Crossbreds	59	61.46
*Multiple response n = 96		
<b>Breeding system</b>		
Crossbreeding	54	56.25
Upgrading	43	44.79
Purebreeding	41	42.71
Inbreeding	26	27.08
*Multiple response n = 96		
<b>Method of mating</b>		
Natural method	69	71.875
Artificial insemination	27	28.125
TOTAL	96	100.00
<b>Breeding age</b>		
6 to 7 mos.	31	32.29
8 to 9 mos.	52	54.17
10mos. and above	13	13.54
TOTAL	96	100.00





Figure 7. A crossbred sow nursing its piglets owned by one of the respondents in barangay Lingoy



Figure 8. A crossbred gilt raised by one of the respondents in barangay Ogo-og



Figure 9. An upgrade sow raised by one of the respondents in barangay Lingoy



Figure 10. An upgrade boar raised by one of the respondents in barangay Lingoy

Reproductive data. Table.9 shows the reproductive data which includes the number of farrowings per year, litter size at birth and at weaning. It is presented in the Table that 83 or 86.46% of the respondents said that their sows give birth or farrow twice (2) a year. However, 52 or 54.17% of them also said that sometimes their sows give birth only once a year.

Litter size at birth and weaning. It is also presented in the Table 9 that majority (76.04% or 73) of the respondents said that their sows usually give birth to 6-10 piglets. However, there were 36 of the respondents who said that their sows gave birth to 11 or more number of piglets and on the other hand, there were 27 of the respondents who also said that there were times when their sows gave birth to 5 or less number of piglets.

Similarly, for the weaning size, majority (85.42% or 82) of the respondents also said that their sows usually wean 6-10 piglets. However, there were 31 of the respondents who also said that there were times when their sows wean 11-15 piglets and still there were 25 of the respondents who said that there were times when their sows weaned 5 or less number of piglets. The pre-weaning mortality is usually due to poor mothering ability and illnesses like scouring.





Table 9. Reproductive performance data

PARTICULARS	NO. OF RESPONDENTS*	PERCENTAGE
Farrowing per year		
Once	52	54.17
Twice	83	86.46
Litter size at birth		
1 to 5	27	28.13
6 to 10	73	76.04
11 to 15	36	37.50
Litter size at weaning		
1 to 5	25	26.04
6 to 10	82	85.42
11 to 15	31	32.29
*Multiple responses n = 96		

#### Feeds and Feeding Management

The different feedstuffs given to the pigs by the respondents are grouped into conventional, indigenous feeds and combination of both and are shown in Table 10. It is stated in the Table that majority or 46 out of the 96 respondents said that they are feeding their pigs with combination of 2 or more indigenous feedstuffs (Figure 11 and 12). The common indigenous feedstuffs that they are giving are sweet potato leaves, vines and roots, chayote leaves and fruits, banana trunk and kitchen refuses. These are usually chopped and are given to the pigs either raw or cooked (Figure 13) particularly gabi and kitchen refuses. However 38 or 39.58% of the respondents said that they are feeding their pigs with combination of indigenous feedstuffs and conventional feeds and only 12 of the respondents said that they are feeding their pigs with conventional feeds alone. Examples



of the conventional feeds include the commercially prepared hog feeds and Cono.

Shown in the Table 10 are also the systems and frequency of feeding. Out of 96 respondents, majority (76 or 79.17%) of them said that they are feeding their pigs twice a day, and only 20 are feeding their pigs thrice a day especially the younger ones. In terms of the systems of feeding, all of the respondents said that they are practicing individual feeding (Fig. 14) and this is because most of their pigs are confined individually. However, there were 27 of the respondents who also said that they are also practicing group feeding and this is true most especially to piglets. Generally, piglets in a litter are usually confined as a whole; hence, they are fed as a group also.

Table 10. Feeds and feeding management practice

PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
Types of feeds		
Conventional	12	12.5
Combination of indigenous Feedstuffs	46	47.92
Combination of the above	38	39.58
<b>TOTAL</b>	<b>96</b>	<b>100.00</b>
Frequency of feeding		
Twice	76	79.17
Thrice	20	20.83
<b>TOTAL</b>	<b>96</b>	<b>100.00</b>
Systems of feeding*		
Group feeding	27	21.95
Individual feeding	96	78.05

\*Multiple responses  
n = 96





Figure 11. A garden field (“UMA”) planted with sweet potato, gabi and banana that are used as swine feeds



Figure 12. A chayote farm in barangay Latang as a source of feedstuff (leaves) for swine



Figure 13. A cooking vat used in cooking feeds for swine



Figure 14. A hog feed individually by one of the respondents in barangay Ogo-og

### Herd Health Management Practices.

The herd health management practices observed by the respondent are presented in Table 11. It is shown in the Table that out of the 96 respondents, 75 of them said that they are cleaning their pigpens while 21 or 21.875% said that they are not cleaning their pens. Seventy one or 73.96% of the respondents said that they are bathing their pigs most especially if they are affected with external parasites like mange. However, 25 or 26.04% of the respondents said that they are not bathing their pigs. Anyway their pigs are trained and that they are defecating in one side or corner of their pens only away from their sleeping area of course.

It is shown in the table that majority of the respondents (81.21% or 78 and 88.54% or 85) are deworming and vaccinating their swine, respectively most especially the piglets. Deworming is usually done at 35 days old and the common dewormer used is latigo 50. Vaccination against hog cholera on the other hand, is done at 40 days old using pestife or MVP, with MVP being more preferred because it is cheaper. Only 18 of the respondents said that they are not deworming their swine and 11 are not practicing vaccination.

The common diseases encountered by the respondents are diarrhea and fever. Most often these diseases are treated using haerbal medicines like ash. Tobacco and “makabuhay”



Table 11. Herd health management practices

PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
Cleaning of pens		
Yes	75	78.13
No	21	21.88
TOTAL	96	100.00
Bathing of hogs		
Yes	71	73.96
No	25	26.04
TOTAL	96	100.00
Deworming		
Yes	78	81.25
No	18	18.75
TOTAL	96	100.00
Vaccination		
Yes	85	88.54
No	11	11.46
TOTAL	96	100.00

### Marketing Management

The methods of marketing as practiced by the respondents are shown in Table 12. It is shown in the table that majority (86.46% or 83) of the respondents are selling their swine on a per head (“bulto”) basis most especially to culled sows and boars. According to the respondents this method is better because it is less laborious. Threes no need to have a weighing scale and to restrain the animal. The market price is normally dictated by the raisers based on the size or body condition of the animal. Sixty four (64) of the respondents also said that they have marketed their swine on a liveweight basis most especially the growing finishing pigs and still 34 of the respondents said that they



also experienced selling their swine on a dressed weight basis. Most often, the respondents are selling their pigs directly to the consumer and the consumers are usually their neighbors, relatives or friends.

#### Problems/Constraints Encountered

The most common problems encountered by the respondents are high cost of feeds, transportation difficulties, inadequate market outlets, source of breeding stocks, disease and parasites, lack of government support, lack of capital and lack of technical knowledge. These problems are presented in Table 13.

Table 12. Methods of marketing

METHOD	NO. OF RESPONDENTS*	PERCENTAGE
Per head (“bulto”) basis	83	86.46
Live weight basis	64	66.67
Dressed weight basis	34	27.64

\*Multiple response  
n = 96



Table 13. Problems and constraints

PROBLEMS	NO. OF RESPONDENTS*	PERCENTAGE
High cost of feeds	89	92.71
Transportation facilities	75	78.13
Market outlets	72	75
Disease and Parasites	54	56.25
Lack of government support	61	63.54
Source of breeding stocks	30	31.25
Lack of technical knowledge	44	45.83
Lack of capital	55	57.29

\*Multiple response  
n = 96

### Poultry

#### Years in Raising Poultry

Table 14 shows the number of years the respondents have been raising chicken, ducks and geese. With regards to chicken, most or 36 of the respondents said that they have been raising chicken for 6-10 years. Twenty four (24) of the respondents said that they have been raising chicken for 11 and above number of years and another 24 of the respondents said that they have been raising chicken for 5 years or less.

In duck raising, 12 or 48% said that they have been raising ducks from 1 to 5 years and there were 8 of the respondents who responded that they have been raising ducks for 6 to 10 years. Only 5 of the 25 respondents said that they have been raising ducks for 11 years and above. For geese, 7 of the 11 respondent said that they have been raising geese for 1 to 5 years.





### Number of Poultry Raised

The number of birds being raised by the respondents at the time of the study is presented in Table 15. It is shown in the Table that majority (46 or 54.76%) of the chicken raisers were raising 6 to 10 heads. Twenty nine (29) were raising 1-5 chicken and only 9 of the respondents were raising 11 and more number of years. Out of the 25 respondents who were raising ducks, 19 were raising 1-5 ducks and only 6 were raising 6 or more number of ducks. For the geese, out of the 11 respondents, 8 were raising 1-5 birds and only 3 were raising 6 or more number of birds. The above results reveal that poultry raising in the locality is in the hands of backyard raisers.

Table 14. Number of years in raising poultry

NUMBER	NO. OF RESPONDENTS	PERCENTAGE
Chicken		
1- 5	24	28.57
6-10	36	42.86
11 and above	24	28.5
<b>TOTAL</b>	<b>84</b>	<b>100.00</b>
Duck		
1-5	12	48
6-10	8	32
11 and above	5	20
<b>TOTAL</b>	<b>25</b>	<b>100.00</b>
Geese		
1-5	7	63.64
6 and above	4	36.36
<b>TOTAL</b>	<b>11</b>	<b>100.00</b>



### Source of Initial Stock and Capital

Table 16 shows the source of stocks of the respondents. It is shown in the Table that in chicken that majority (86.90%) of the 84 respondents said that they have bought their stocks from other raisers within the locality. However, 45 of the 84 respondents also said that they have bought additional stocks from places outside the locality. To buy these stocks, all of the respondents who bought stocks said that they made use of their personal money to buy such stock. Still there were 56 of the respondents who further said that they have inherited some of their stocks, particularly their initial stocks from their ancestors or these were given to them by their relatives.

Table 15. Number of poultry raised

NUMBER	NO. OF RESPONDENTS	PERCENTAGE
Chicken		
1 to 5	29	34.52
6 to 10	46	54.76
11 and above	9	10.71
<b>TOTAL</b>	<b>84</b>	<b>100.00</b>
Duck		
1 to 5	19	76
6 and above	6	24
<b>TOTAL</b>	<b>25</b>	<b>100.00</b>
Geese		
1 to 5	8	72.73
6 and above	3	27.27
<b>TOTAL</b>	<b>11</b>	<b>100.00</b>



As for the ducks and geese majority (28 or 77.78%) of the respondent shave said that their stocks were given by their relatives. However, there are 13 or 36.11% of the respondents said that they get or bought their stock from outside the locality (Table 17).

### Purpose of Raising Poultry

Table 18 shows that majority (82.5%) or 99 of the respondents said that they are raising poultry for family consumption i.e. as a viand for the family and to have available animal to butcher during special occasions like graduations, wedding and also during birthday celebrations. Only 21 or 17.5% of the respondents said that they are raising poultry as a supplementary source of income.

Table 16. Source of stock of chicken

SOURCE	NO. OF RESPONDENTS*	PERCENTAGE
From raisers within the locality	73	86.90
Given by relatives	56	66.67
From raisers outside the locality	45	53.57

\*Multiple response  
n = 84

Table 17. Source of stock for duck and geese

SOURCE	NO. OF RESPONDENTS*	PERCENTAGE
Given by relatives	28	77.78
From raisers outside the locality	13	36.11

\*Multiple response  
n=36



Table 18. Purpose of raising poultry

PURPOSE	NO. OF RESPONDENTS	PERCENTAGE
For family consumption	99	82.5
As a supplementary source of income	21	17.5
TOTAL	120	100.00

### Breeds and Breeding Management Practice

Breeds. Table 19. Shows the breeds of chicken the respondent are raising. It is shown in the Table that native chicken (Figure 15) are raised by majority (78 or 92.86%) of the respondents. However, there were 63 or 75% of the respondents who said that they are raising upgraded chicken (Figure 16).

For the ducks and geese, all the raisers said that they raised the native breeds of ducks (Fig.17) and geese.

Methods and systems of breeding. True to chicken, ducks and geese, all of the respondents said that they are employing natural breeding to reproduce their birds. For the systems of breeding, all of the respondents said that they have employed inbreeding, purebreeding and upgrading. This is because generally their chickens most specially the natives are let-loosed and with this practiced, the birds mate among themselves or are free to select their own mates. It is then very much possible for a rooster to be paired with

Table 19. Breeds of chicken

BREED	NO. OF RESPONDENTS*	PERCENTAGE
Native	78	92.86
Upgrade	63	75

\*Multiple response

n = 84





Figure 15. Native chickens raised by one of the respondents in barangay Latang

his own pullet offspring, or the hen to be mated by her own male offspring or a pullet to be mated by her own male brother, hence, the practice of inbreeding. Also native hens could have been mated by roosters which are natives also but not related to them, hence the practice of purebreeding. Furthermore, native hens could have been be mated by roosters of improved breeds hence the practice of upgrading.

For the ducks and geese, all of the respondents said that they are employing inbreeding and this is because this birds are completely confined and so the mating between them two related animals is very much possible.



Figure 16. Upgraded chicken raised by one of the respondents in barangay Fiangtin



Figure 17. A duck hen raised by one of the respondents in barangay Lingoy

Reproductive data for chicken. Table 20 shows the reproductive performance of the birds raised by the respondents. As to the number of eggs laid per clutch, majority (79.76% or 67) of the respondents in chicken said that their hens usually lay 6-10 eggs per clutch. However, 52 of the respondents also said that sometimes 10 or more eggs per clutch are laid by their hens and on the other hand, there are 43 of the respondents also said that sometimes 5 or lesser number of eggs per clutch are laid by their hens.

All of the respondents are practicing natural incubation and with it, all of them agree to the observation of some of them that there is a higher hatchability percentage or all of the eggs are hatched when only few eggs are being incubated at a time. However, when there are several eggs incubated at a time, like for example 10 or more, 1-3 eggs are usually left unhatched. It is a common practice of the respondents to remove 1 or more eggs per clutch from the eggs laid by their hens to serve as their viand. Because of this practice, the number of eggs left to be incubated is reduced to a few and usually these are all hatched after the incubation period according to the respondents.

Reproductive data for ducks and geese. Table 21 and 22 presents the reproductive performance of duck and geese, respectively, as observed by the respondents. It is revealed in both Tables that majority of the respondents (21 out of 25 for ducks and 8 out of 11 for geese) said that their hens usually lay 6-10 eggs per clutch. Although some of the respondents said that sometimes their hens lay 11 or more number of eggs and sometimes 5 or less number of eggs.

For the hatchability, the same trend as above is observed for both ducks and geese wherein majority of the respondents also said that 6-10 eggs are usually hatched per



clutch. Although there are times 11 or more number of eggs are hatched and there are even times that 5 or lesser number of eggs are hatched per clutch.

Table 20. Reproductive performance of chicken

PARTICULARS	NO. OF RESPONDENTS*	PERCENTAGE
Number of eggs laid per clutch		
1 to 5	43	51.19
6 to 10	67	79.76
11 and above	52	61.90
Number of eggs hatched/clutch		
1 to 5	40	47.62
6 to 10	66	78.57
11 and above	49	58.33

\*Multiple response  
n=84

Table 21. Reproductive performance of duck

PARTICULARS	NO. OF RESPONDENTS*	PERCENTAGE
Number of eggs laid per clutch		
1 to 5	10	40
6 to 10	21	84
11 and above	9	36
Number of eggs hatched/clutch		
1 to 5	12	48
6 to 10	23	92
11 and above	6	24

\*Multiple response  
n=25





### Housing of Birds.

Table 23 shows the types of housing chickens as practiced by the respondents. It is shown in the table that all of the respondents said that they are employing semi-confinement type of housing. In this type, the chickens are let-loosed and are free to roam around the backyard of the raisers or respondent and even the backyard of the respondent's neighbor or idle lands.

However, 53 of the respondents said that they are also employing complete confinement most especially to their layers and to hens with their own brood during the first few days of brooding. Sample of housing for chicken are shown in Fig. 18-20. Still 76 of the respondents said that they are employing loose housing and this is true most especially to adult birds like pullets, hens and roosters (Fig. 21). In this case, the birds are free to roam around the backyard and also at day time and perch on the branches of trees growing in the backyard or stay in any place where they feel secured.

For the ducks, 22 of the respondents said that they are practicing semi-confinement type and 13 of the respondents are practicing loose-housing type of housing where the birds are let-loosed day and night. In the semi-confinement type, the ducks are confined in an enclosed area but every morning these are brought to the rice paddies, particularly after harvest and before the planting season to search for food and to take a bath and are brought back to the enclosed area in the afternoon.

Finally, for the geese, all of the respondents said that they are subjecting their geese to loose housing



Table 22. Reproductive performance of geese

PARTICULARS	NO. OF RESPONDENTS*	PERCENTAGE
Number of eggs laid per clutch		
1 to 5	3	27.27
6 to 10	8	81.82
11 and above	7	63.64
Number of eggs hatched/clutch		
1 to 5	4	36.36
6 to 10	9	54.55
11 and above	5	45.45

\*Multiple response  
n=11

Table 23. Types of housing chickens

TYPE	NO. OF RESPONDENTS*	PERCENTAGE
Loose housing	76	90.48
Semi confinement	84	100.00
Complete confinement	53	63.95

\*Multiple response  
n = 84

Table 24. Types of housing ducks

TYPE	NO. OF RESPONDENTS*	PERCENTAGE
Free range	13	52
Semi confinement	22	88

\*Multiple response  
n = 25





Figure 18. Poultry cage made of stick owned by one of the respondents in barangay Gawana



Figure 19. Poultry cages made of wood owned by one the respondents in barangay Ogo-og . Usually cages use for chicks



Figure 20. A housing for pullets owned by one of the respondent in barangay kaleo



Figure 21. A group of chicken that are let-loosed in the backyard of the raisers

### Feeds and Feeding Management for Poultry

Table 25 presents the feeds and feeding management practices observed by the respondents. It is presented in the Table that all of the respondents are feeding their birds with indigenous feeds like rice (cooked and uncooked), palay, corn and chopped vegetable rejects or grasses particularly to ducks and geese. However, 31 of the respondents also said that they are feeding their birds with commercial feeds most especially to layers.

For the systems of feeding, majority (80%) of the respondents are broadcasting the feeds to their birds when they feed them most especially the chicken. On the other hand, 52 of the respondents, particularly those raising ducks and geese are employing trough feeding and this is because the feeds are given in wet form.

Similar to the systems of feeding, majority (101 or 84.17%) of the respondents said that they are feeding their birds twice a day. Usually, feeding is done in the morning before the birds are let-loosed and in the afternoon before the birds are confined. However, 89 (74.17%) of the respondents also said that that sometimes they are feeding their birds only once a day particularly to the birds that are let-loosed. Anyway, the birds are going to search for food when they are let loosed.



Table 25. Feeds and feeding management practices

PARTICULARS	NO. OF RESPONDENTS*	PERCENTAGE
Types of feeds		
Indigenous feeds	120	100.00
Commercial feeds	31	25
System of feeding		
Trough feeding	52	43
Broadcasting	96	80
Frequency of feeding		
Once a day	89	74.17
Twice a day	101	84.17
Multiple response n = 120		

#### Flock Health Management Practices

All the respondents in poultry said that they are not deworming nor vaccinating their birds. They even said that when this show symptoms of illness, they just isolate them from the others or butchered them as source of foods. The most common disease they encounter is the so called “Peste”.

#### Marketing Practices

Marketing of birds is not commonly practiced in the locality because almost every household has its own birds most especially chicken. The respondents will only come to sell their birds if they have birds ready for sale and if there are customers. Birds are sold on a per head basis the price depends on the body size and age.



### Problems /Constraints in Raising Poultry

The problems or constraints in raising poultry are presented in Table 26. It is shown in the Table that majority of the respondents (79 or 94.05%) said that market outlet is still their number one concerned. This is followed by diseases and parasites with 68 respondents, high cost of feeds with 44 respondents and then the problem on theft with 16 respondents.

Table 26. Problems/constraints in poultry

PROBLEMS	NO. OF RESPONDENTS*	PERCENTAGE
Market outlets	79	94.05
Disease and parasites	68	80.95
High cost of feeds	44	52.38
Theft	16	19.05

\*Multiple response  
n = 84

### Ruminants

#### Years in Raising Ruminants

For cattle, it is shown in Table 27 that majority (54.55%) or 12 of the 22 respondents said that they have been raising cattle for 1-5 years. This means that they have just started to raise cattle. Eight (8) of the respondents said that they have been raising cattle for 6-10 years and only 2 said that they have been raising cattle for 11 or more number of years.

For the carabaos, Table 23 also shows that 9 of the 17 respondents said that they have been raising carabaos for 1-5 years. Six (6) of the respondents said that they have been raising carabaos for 6-10 years and only 2 said 11 or more number of years.



For the goats, the 2 respondents said that they have just started raising this animal species for 8 months only and according to them they might not continue to raised those animals because they observed that even food is adequate their animal still have very slow growth and this maybe due to the weather condition in the area.

#### Number of Ruminants Raised

The number of ruminants raised per household is presented in Table 28. It is presented that true to both cattle and carabao, majority of the respondents are raising 1-3 heads only with percentages of 59.09% and 58.82%, respectively. This is because their main purpose of raising such animals is to help them in their field works most especially in plowing their fields. Nine out of 22 respondents in cattle and 7 out of the 17 respondents for carabaos are raising 4 or more number of animals. The above results reveal that like swine and poultry, ruminant raising in the locality is on a backyard scale.

Table 27. Number of years in raising ruminants

NUMBER	NO. OF RESPONDENTS	PERCENTAGE
Cattle		
1 to 5	12	54.55
6 to 10	8	36.36
11 and above	2	9.09
<b>TOTAL</b>	<b>22</b>	<b>100.00</b>
Carabao		
1 to 5	9	52.94
6 to 10	6	35.29
11 and above	2	11.76
<b>TOTAL</b>	<b>17</b>	<b>100.00</b>





Table 28. Number of ruminants raised per household

NUMBER	NO. OF RESPONDENTS	PERCENTAGE
Cattle		
1 to 3	13	59.09
4 and above	9	40.90
TOTAL	22	100.00
Carabao		
1 to 3	10	58.82
4 and above	7	41.18
TOTAL	17	100.00

#### Purpose of Raising Ruminants

There are three main reasons why the respondents are raising ruminant animals, one of which is to help them in their field works particularly for cattle and carabaos. Another reason is to have available animals to butcher most especially if they are to host weddings, “canyaos” and other big celebrations. The third reason is to help them in their financial need most especially during emergency cases like for example, if they need money for the tuition fees of their children when they send them to school, to pay for hospital bills, and others. In situations like this, they usually sell their animals to produce the money.

#### Source of Replacement/Initial Stock for Ruminants

The most common (29 or 70.73%) source of stock of the respondent is from their parents through inheritance or they were given to them as gift by their relatives. There were also 18 or 43.90% of respondents who said that their stocks were bought within the locality and 11 or 26.83% of the respondents said that the source of their stock was from other external sources.



Table 29. Source of replacement/initial stocks

SOURCE OF STOCKS	NO. OF RESPONDENTS	PERCENTAGE
Inherited	29	70.73
Bought within the municipality	18	43.90
External sources	11	26.83

\*Multiple response  
n=41

### Source of Capital

Table 30 presents the source of capital of the respondent. Majority (31 or 75.61%) of the respondents said that they used their own money as their capital while 25 out of 41 respondents said that they borrowed their capital from their neighbors or relatives. However, barter change is still practice in this area where they exchange some of their personal belongings just to have an animal to raised.

### Systems of Rearing Animal

For cattle, majority (68.18% or 15) of the 22 respondents said that their cattle are on free range i.e. they are let-loosed in pasture areas normally in the mountains, public or private owned only 7 of the respondents are tethering their cattle (Figure 23) and usually these cattle are used as draft animals.

Table 30. Source of capital

SOURCE OF CAPITAL	NO. OF RESPONDENTS*	PERCENTAGE
Personal money	31	75.61
Loan form private individuals	25	60.98
Barter	12	29.27

\*Multiple response  
n = 41



However, in carabaos, majority (64.71% or 11) of the respondents said that they are practicing both tethering and free range. Only 6 of the respondents said that they are practicing tethering alone. Generally, carabaos on free range in the mountains are brought down to the community or areas near the community and are tethered to be used as draft animals (Fig. 23) by the respondents most especially during the plowing season. For goats, the two respondents said that they are tethering their goats.

Generally, the ruminants are being tethered by the respondents for security reasons i.e. to protect them from theft and for better supervision. Ruminants on range or those that are let-loosed in the mountains are visited by the respondents or raisers once in a while to check on them.

Table 31. Systems of rearing of ruminants

SYSTEM	NO. OF RESPONDENTS	PERCENTAGE
Cattle		
Free range	15	68.18
Tethering	7	31.82
TOTAL	22	100.00
Carabao		
Tethering and free range	11	64.71
Tethering	6	35.29
TOTAL	17	100.00





Figure 22. Native cattle being tethered owned by one of the respondents in barangay Lingoy



Figure 23. A carabao being tethered used as a draft animal owned by one of the respondent in barangay Latang

### Feeds and Feeding Management Practices

All the respondents in ruminant said that they are giving indigenous feedstuffs only to their ruminant animals because they said that commercial feeds is still not available in the locality and it's been their practice since they started raising these animals.

The common indigenous feed stuffs given by the raisers to their animals are stick leaves and some forages and grasses, fresh or dried rice straw and sweet potato leaves and vines

For the systems of feeding majority of the respondents especially those who are raising cattle and goats said that most of their animals are on free range type of rearing and so the 100% grazing of feeding is practiced, the animals are let- loosed in a pasture areas where food is adequate and are allowed to graze. However, for those that are tethered especially the draft animals, these are tethered in areas where grasses are abundant, if not, so the so called “cut and carry” systems or zero grazing is applied by the raisers where in the raisers cut grasses and feed to their animals.

### Breeds and Breeding Management Practices

Breeds. Table 32 presents the breeds of cattle raised by the respondents. It is presented that all the respondents are raising native cattle. However, 6 of them are raising upgraded cattle (Fig. 24 & 25) and the remaining 16 respondents are the ones raising pure native cattle (Fig. 26).

Methods and systems of breeding. All of the respondents said that they are employing natural mating in breeding their cows/carabao. For the systems of breeding, it is also presented in Table 32 that majority (28 out of 41) of the respondents said that they



have employed inbreeding. This is because most of their carabaos and cattle in that barangay are related to each other. Twenty one (21) of the respondents, on the other hand, they said that they have employed outbreeding particularly purebreeding and upgrading.



Figure 24. An upgrade cattle feed with dried rice straw owned by one of the respondent in barangay fiangtin.

Table 32. Breeds and breeding management for ruminants

PARTICULARS	NO. OF RESPONDENTS*	PERCENTAGE
Breeds of cattle		
Native	16	72.73
Upgrade	6	27.27
TOTAL	22	100.00
Breeding system		
In breeding	28	68.29
Out breeding	21	51.22

\*Multiple response  
n =41





Figure 25. A tethered upgrade cattle own by one of the respondents in barangay Lingoy



Figure 26. A native cattle owned by one of the respondent in barangay Lunas

### Herd Health Management Practices for Ruminants

All the respondents said that they are not deworming nor vaccination to their ruminant animals. If ever their cattles or carabaos suffer illnesses the respondents prefer to butcher their animals rather than subjecting them to medication most especially if their animals are big enough for slaughter. Deticking is practiced by the respondents although this is done manually or by had picking.

### Marketing Practices

There are 2 methods of marketing cattle and carabaos in the locality namely “uraga” or “munparti” and the per head “bulto” basis. Twenty seven (27) of the respondents said that they have practiced the “uraga” method and the other 22 said that they have employed the per head or “bulto” method.

### Problems/Constraint Encountered in Ruminant Raising

Table 34 presents the different problems encountered by the respondents in raising ruminants. It is shown in the table that the number one constraints in ruminant raising in the locality are the lack of capital with 39 respondents. This is followed by lack of knowledge with 27 respondents, thieves with 24 respondents, diseases and parasites with 29 respondents and lack of government assistance with 18 respondents.

Table 33. Methods of marketing carabao and cattle

METHODS	NUMBER OF RESPONDENTS*	PERCENTAGE
“Uruga or munparti”	27	69.23
“Bulto”	22	56.41

\*Multiple response  
n = 39





### Support Services Availed by the Respondents

All the respondents in all the animal species included in the study said that they did not avail of any support or assistance from any government unit or non-government organization

Table 34. Problems/Constraint encountered

PROBLEMS	NO. OF RESPONDENTS*	PERCENTAGE
Lack of capital	33	80.49
Lack of knowledge	27	65.85
Thieves	24	58.54
Diseases and Parasite	20	48.78
Lack of government assistance	18	43.90

\*Multiple response  
n =41



## **SUMMARY, CONCLUSION AND RECOMMENDATION**

### Summary

This study was conducted to evaluate and document the status of livestock and poultry production in Barlig, Mt. Province. Specifically, it aimed to determine the socioeconomic profile of the respondents; the different farm animals species commonly raised in the municipality; the number of animals per species raised per household, the reasons of the respondents in raising animals; the sources of stocks and capital of the respondents in terms of housing, breeds and breeding, feeds and feeding, herd health management and marketing; the support services availed by the respondents and the problems they encountered in relation to animal raising.

Barlig is composed of 11 barangays but only the top 8 in terms of animal population were included in the study namely Gawana, Macalana, Latang, Ogo-og, Fiangtin, Kaleo, Lunas and Lingoy. A total of 123 actual animal raisers from the above barangays were chosen to serve as respondents of the study. This total was determined by getting 10% of the total number of household per barangay. To gather data an actual interview of each of the respondents was conducted and some pictures were also taken to support some of the data gathered.

Out of the 123 respondents, majority of them are males, married with ages belonging to the age bracket of 30-45 years old. Majority of the respondents had finished secondary level with farming as their main source of living.

The farm animals mostly raised by the respondents are swine followed closely by chicken and then ducks, cattle, carabao and geese.



## Swine

Ninety six [96] of the 123 respondents are raising swine . Out of the 96 respondents, majority of them said to have been engaged in swine raising for 16 and above number of years and are raising 10 and below number of swine. For the source of stock, 44 of the respondents said that they have inherited their initial stock, 41 bought from other raisers within the municipality and 11 bought from places outside the municipality. All those who bought their stock said that they made use of their own money to buy such stock. Swine according to the respondents are raised for two main reasons, one of which, is for family use i.e. to have available animals to butcher when they celebrate occasions like weddings, house blessings, celebration of anniversaries and others or when they perform their rituals as part of the culture. The other reason is to serve as source of additional income for the family.

All of the respondents are confining their swine in pigpens. Pigpens were built following no specific measurement but depending on the resources they have. Even until now, the traditional swine houses still exist i.e. swine houses with stone walls and floors although the roofing is now made of G.I. sheets and not cogon.

In terms of breeds and breeding, majority of the respondents are raising crossbreds mostly crossbreds of Largewhite, Landrace and Duroc. However, still many of the respondents are also raising native/upgraded pigs. Also, majority of the respondents are breeding their gilts at the age of 8-9 months.

To reproduce their swine, majority of the respondents are employing natural mating but several of them also are now employing A.I. Eighty three [83] of the respondents said that their sows are usually giving birth to 6-10 piglets and wean 6-10



piglets also. However, some of the respondents also said that there are times when their sows are giving birth to 11 or more piglets or even 5 or less number of piglets. The different systems they employed in breeding their swine include crossbreeding, upgrading, purebreeding but still some are even employing inbreeding despite of its limitations.

Majority [76 out of 96] of the respondents are feeding their swine twice a day and some are feeding thrice a day. Most of the respondents are feeding their swine with indigenous feedstuffs or both indigenous feedstuffs and conventional feeds combined together. Only few [12 out of 96] of the respondents are feeding their swine with conventional feeds because of its high cost. The common indigenous feedstuffs include sweet potato leaves, vines and roots; chayote leaves and fruits, banana trunk and kitchen refuses and these are given to swine cooked or uncooked. The conventional feeds, on the other hand, usually refer to the commercial hog feeds and “cono” or ricebran. All of the respondents are also practicing group feeding and this is usually true to young pigs because they are usually confined in groups also.

To help minimize or prevent their swine from being affected with a disease, majority of the respondents are cleaning their pigpens, bathing their pigs and are observing deworming and vaccination particularly against hog cholera. Often times, the respondents are treating their animals if they get sick using herbal medicines like ash, tobacco, and “makabuhay”

To market their swine, majority of the respondents are selling their swine on a per head [“bulto”] basis or liveweight basis. Although some are selling their pigs on a dressed weight basis also.



The common problems/constraints encountered by the respondents include high cost of feeds, transportation difficulties, lack of market outlets, prevalence of diseases and parasites, lack of government support, lack of technical knowledge of the raisers, capital and good breeding stocks.

### Poultry

The poultry species commonly raised by the respondents include chicken, ducks and geese. Majority of the respondents said that they have been raising chickens for 6 and above number of years and 1-5 years only for ducks and geese. These poultry species are raised mainly for family consumption and as additional source of income for the family. The number of birds raised per household is 6-10 heads for chicken and 1-5 heads for both ducks and geese.

All of the respondents are raising native ducks and geese. For chicken, almost all [78 out of 84] are raising native ones also but 63 of the respondents are also raising upgraded chickens. Majority of the respondents bought their stocks from other raisers within the municipality or these were given to them by their relatives although some bought their stocks from other raisers outside the municipality.

To reproduce their chickens, all of the respondents said that they are employing natural mating and are also employing purebreeding, upgrading and inbreeding. True to chickens, ducks and geese, hens usually lay 6-10 eggs per clutch 6-10 eggs per clutch are usually hatched also according to the respondents.

In housing, all of the respondents in chicken said that they are observing semi-confinement wherein their chickens are let-loosed at day time and are free to roam around their backyard or its nearby places but at night time, these are confined. However, 53 of



the respondents also said that they are also employing complete confinement most especially to hens in lay or the hens with their brood during the first few days of brooding. Still 76 of the respondents said that they are also employing loose housing where the birds are let-loosed day and night most especially to adult birds. For the geese, all of the respondents said that they are practicing loose housing. However, for the ducks, majority [22] of the respondents are observing semi-confinement and 13 are observing loose housing also.

In feeding the birds, all of the respondents are feeding their birds with indigenous feeds like rice [cooked or uncooked], palay and corn for chickens and cooked rice or chopped vegetable rejects/ grasses or both feeds, combined together, to ducks and geese. However, 31 of the respondents are sometimes giving their chickens with commercial feeds particularly layers. Feeds are usually broadcasted on the backyard when feeding chickens. Trough feeding is usually observed in feeding ducks and geese because the feeds are usually given in wet form. Feeding of birds is usually done twice a day but many are feeding their birds once a day also and this is most especially true to those that are let-loosed.

For the flock health management, all of the respondents said that they are not deworming nor vaccinating their birds. Also, they said that if their birds get sick, these are rather butchered as source of food particularly if the bird is big enough for butchering.

Marketing of birds is not a common practice in the locality because almost in every household has its own birds, most especially chicken. When there are available customers, birds are usually sold on a per head basis [“bulto”] and the price depends on the body size and age of the bird.



The common problems of the respondents in raising poultry are lack of market outlets, diseases and parasites, high cost of feeds and problem on theft.

### Ruminants

The ruminant species commonly raised by the respondents are cattle and carabao. Majority of the respondents said that they have been raising cattle or carabao for 1-5 years only meaning they have just started raising the animal and are raising 1-3 heads. According to them, cattle and carabaos are raised purposely to help them in their field works and also to have available animal to slaughter most especially if they are to host weddings and other grand celebrations and to help them in their financial needs most especially in emergency cases or when cash is badly needed.

All of the respondents are raising native animals, however, 6 of the 22 respondents in cattle are raising upgraded ones. Most of the respondents obtained their initial stock from their ancestors through inheritance. Others bought their stock from other raisers within and outside the municipality. To buy their stock, majority made use of their own money, others loaned from private persons and some employed the barter system.

To reproduce their animals, all of the respondents are employing natural mating. Despite of the limitations of inbreeding, it is still employed by majority of the respondents. Others are employing outbreeding, particularly purebreeding and upgrading.

For the systems of rearing, 15 of the 22 respondents in cattle are observing free range i.e. the cattle are let-loosed in the mountains or public lands and the remaining 7 are tethering their cattle. For the carabaos, 6 out of the 17 respondents are tethering their



animals and 11 said that they are practicing both tethering and free range. Normally, carabaos on free range are brought down to the community and are being tethered to be used as draft animals.

In feeding, both cattle and carabaos are fed with all-grass/roughage diets and no one among the respondents is giving concentrates to his animals. The 100% grazing is usually applied to animals on free range and zero grazing of the “cut and carry” system is usually applied to those that are tethered most especially those that are used as draft animals.

For the herd health management, all of the respondents said that they are not deworming nor vaccinating their cattle and carabaos. Deticking is practiced but this is done manually i.e. by hand picking. Usually, animals that get sick are rather slaughtered most especially if they are already big enough and showing no signs of recovery.

In marketing, 27 of the respondents said that they have employed the “uraga” or “munparti” method. The remaining 22 of the respondents said that they have applied the per head [“bulto”] basis wherein the market price is dictated by the raiser based on body size and age of the animal.

Finally, the problems encountered by the respondents while raising cattle and carabaos include lack of capital and knowledge of the raisers, theft/stealing, diseases and parasites and lack of government assistance.

### Support Services

All of the respondents said that they did not avail of any support services neither from the government nor non-government organizations in relation to livestock and poultry raising.





### Conclusion

Based on the results of the study, it is therefore concluded that livestock and poultry production in the municipality of Barlig is under the control of backyard raisers or small scale operators. With the exception of swine, where majority of the respondents are raising crossbreds, all of the respondents are raising native animals. The respondents are still not observing most of the recommended practices in managing or raising animals. Support from the government or non-government organizations is lacking.

### Recommendations

Based on the above results of the study, the following are then recommended to help improve the animal industry in the locality. One, is the local government or concerned government units should create lending institutions with low interest rates to help solve the problem on capital; strengthen their extension services by conducting seminars or trainings on animal raising; have dispersal programs to introduce better breeding stock and help establish market outlets for animal products. Another is for the local officials together with the defense department should work together and be more strict in implementing existing policies or even come up with new ordinance to minimize the problem on theft. Moreover, the animal raisers should grouped themselves and form an organization or cooperative to have a stronger representation in availing for any support from the government or non-government organizations.



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APPENDIX A  
Letter to Respondents

Benguet State University  
College of Agriculture  
La Trinidad, Benguet

Dear Respondents,

I am a student of Benguet State University; I am conducting a study entitled “STATUS OF LIVESTOCK AND POULTRY PRODUCTION IN BARLIG, MOUNTAIN PROVINCE”, in partial fulfillment of the degree Bachelor of Science in Agriculture major in Animal Science.

In this connection, I ask your support by accomplishing the attached survey questionnaire completely and honestly. Rest assured that all information will be kept in strict confidentiality and shall be solely for research purpose.

Thank you very much. Your contribution shall go along the way in the completion and realization of this study.

Sincerely yours,

JUNJUN C. BENITO



## APPENDIX B

### Survey Questionnaire

#### I. GENERAL INFORMATION

Name: \_\_\_\_\_

Gender: \_\_\_\_\_

Address: \_\_\_\_\_

Age: \_\_\_\_\_

Civil Status: \_\_\_\_\_

Occupation: \_\_\_\_\_

Highest Educational Attainment: \_\_\_\_\_

Years in Raising Animals:

Farm strain	Animals/species/breed/	Native	hybrid	upgrade	Number of years
Swine					
Cattle					
	Beef				
	Dairy				
Poultry					
	Native Chicken				
	Broiler				
	Sasso				
	Layer				
Goat					
Sheep					
Carabao					

#### Classification and Number of Animals Being Raised

Animal	Class/Age/Weight	Breed/Strain	Purpose	Number of Animals
Swine	Sucking			
	Weaning			
	Grower			
	Sow			
	Boar			
Cattle	Cow			
	Bull			
	Calf			
Native Chicken	Chicks			
	Pullets			
	Hen			
	Rooster			
Duck	Ducklings			
	Hen			
	Drake			





## Number of Animals per House/Pen

Animal	Number of Pens/corral in one house	Area of one Pen/corral	Number of Animals Per Pen/corral	Height of Pen/corral partition	Door size
Swine					
Suckling					
Weaning					
Grower					
Finisher					
Sow					
Boar					
Cattle					
Cow					
Bull					
Calf					
Poultry					
Native chicken					
Chicks					
Pullets					
Hens					
Rooster					

## Facilities

Identify all fixtures and equipment (include improvised equipment) being used in the farm.

\*Support all observations with pictures

## III. FEEDING

## Type and Source of feeds and Frequency of Feeding

Animal	Class/Age/Weight	Type of Conventional Feeds	Source of Conventional Feed	Type of Non-conventional Feeds	Combination of Feeds Stuff
Swine	Suckling				
	Weaning				
	Finisher				
	Sow				
	Boar				
Cattle	Cow				
	Bull				
	Calf				





Animal	Class/Age/Weight	System of Feeding	Frequency of Feeding
Swine	Suckling		
	Weaning		
	Grower		
	Finisher		
	Sow		
Cattle	Boar		
	Cow		
	Bull		
Poultry	Calf		
	Chicks		
	Pullets		
	Hens		
Duck	Rooster		
	Ducklings		
	Hen		
	Drake		

#### IV. BREEDING

##### Breeding Systems

##### a. Out breeding

Pure breeding

Out breeding

Cross breeding

##### b. Inbreeding

close breeding

line breeding

##### c. Upgrading/grading up

Animal	Class/Age/Weight	Breeding System	Mating A.I	System natural	Age of Animals at First Breeding or birth
Swine					
Native					
Upgrade					
Crossbred					
Cattle					
Poultry					
Native chicken					
Duck					
Other specie (specify)					





## Source of Male Breeding Animal

- (1) Owned (2) Borrowed (3) Hired (4) Other terms (specify)

Animal	Source of Breeding animal	Terms of payment for Breeding Service
Swine		
Native		
Upgrade		
Crossbreed		
Cattle		
Poultry		
Native chicken		
Duck		
Other species (specify)		

## Terms of Payment for Breeding Service

- (1) Cash (how much) (2) In terms of Piglets (3) In terms of calves (4) Other terms (specify)

## Birth Rate, Length of Lactation, Frequency of Breeding to conception, Length of Gestation and length of Dry Period

Animal	Farrowing rate	Length of lactation(nursing period) or Age at Weaning	Interval of Breeding to conception	Length of dry period
Swine				
Native				
Upgrade				
Crossbreed				
Cattle				

## Other Reproductive Data

Animal	Litter size at Birth	Litter size at Weaning	Number of Eggs per Clutch	Number of eggs Incubated	Number of eggs Hatched	Number of unhatched eggs
Swine						
Native						
Upgrade						
Crossbreed						
Cattle						
Poultry						
Native chicken						
Duck						

