

BIBLIOGRAPHY

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ABSTRACT

The study was conducted to determine the status of livestock and poultry industry in Tanudan, Kalinga from December, 2008 to January, 2009. Specifically, it aimed to determine the socio-economic profile of the respondents; the different farm animals they are raising and their number; the reasons of the respondents in raising such animals; the sources of their stock and capital; the support services availed either from government or non government organizations; problems encountered in raising animals and different production management practices in terms of housing, breeds and breeding, feeds and feeding, herd health management and marketing.

Ten barangays of Tanudan which were chosen based on animal population were considered to represent the municipality. From these barangays, a total of 103 respondents who are actual animal raisers were selected to serve as respondents.

Out of the 103 respondents, majority of them are females, married and belong to the age bracket of 41-50 years old. Their major source of livelihood is farming and most of them have graduated high school.

The common farm animal species raised in the locality include swine, chicken, carabaos, cattle, ducks and goats and these are all raised in the backyards. Each household is raising 1-5

swine, 1-5 hens, 1-3 duck hens, 1 carabao, 1-2 cattle and 1-2 goats. Generally, the animals are raised mainly for family use i.e. as source of viand for the family most especially chicken or as source of food during special occasions and as source of additional income. In addition, carabaos are raised mainly as draft animals. Among the different farm animals raised in the municipality, the goat species is the one recently introduced.

Based on the results of the study, the raisers are still observing traditional practices in managing their animals. Because of this, the performance of their animals is generally low. Practically, the animal breeds raised are still the native breeds although there are some for upgrade swine, chicken and goats. Inbreeding is still practiced despite of its limitations. The feeds offered to the animals most especially ruminants are pure indigenous feedstuffs. Generally, feeding of the animals is done to satisfy the animal's craving for food and oftentimes without considering whether the ration is nutritionally balanced or not. In housing, still semi-confinement is observed by a majority of swine raisers. No vaccination or deworming is even administered to the animals. Except for a few who availed of a loan from a cooperative, all of the respondents said that there were no technical nor financial support extended to them from both government and non-government organizations.

For problems encountered, lack of market outlet is common and this is true to all the farm animals being raised. The other problems encountered include lack of capital, high cost of feeds, low market price of products, animal diseases and parasites, problem on theft and astray dogs particularly for chicken. Lack of technical assistance and inadequate supply of feeds or limited grazing lands particularly for the ruminants are also a problem.

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 concerned local government agencies should strengthen their extension services by conducting seminars or trainings on animal production to the animal raisers and by having dispersal programs to introduce better breeding animals to the raisers. Another is that the animal raisers should form an organization or cooperative among themselves to have a stronger representation in availing support services either from government or non-government organizations. Moreover, the local government should perhaps create lending institutions with lower interest rates to help solve the problem on shortage of capital in animal raising and they should help create market outlets for animal products thereby encouraging raisers to increase their production.



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INTRODUCTION

The Philippines is one of the agricultural countries in Asia. According to the Department of the Agriculture [1999], it has been noted that two thirds of its population is engaged in farming.

Tanudan is the fourth largest among the rest of the municipalities of Kalinga, almost equal in size with the combined area of the municipalities of Pasil, Rizal and Lubuagan. From the total area, 18.64% is devoted to agriculture, 43.46% for permanent crops, 24.12% as an arable land, 28.30% is being used as pasture and 0.31% is intended for other uses. Rice is the principal crop but coffee, beans, mango, tobacco and bananas are also produced in abundance.

Livestock play an important role in improving the rural economy of the Cordillerans by providing employment and as source of additional income particularly for small/marginal farmers and landless livestock producers/laborers. Of the livestock, cattle and buffalo are the most significant contributors to the economy through producing meat, milk and skin.

However, the production of livestock animals are not yet truly productive in Tanudan, Kalinga because of the lack of knowledge in caring and managing of animals despite of the help of local government units and extension workers. This study then was formulated to document the current status of livestock and poultry production in Tanudan, Kalinga.

The study aimed to document the management practices employed by the livestock and poultry raisers in the said municipality. It sought to answer the following questions:



1. What are the species of farm animals commonly raised in Tanudan, Kalinga?
2. What are the reasons of the raisers or respondents in raising animals?
3. Where did the respondents buy or get their animal stocks and who provided their capital?
4. How many animals per species are being raised per household?
5. What are the breeds/strains per species of animals that are being raised in the municipality of Tanudan, Kalinga?
6. What kind of housing management do they respondents provide to their animals?
7. What kind of feeds do they give and how do they feed their animals?
8. What are the breeding management practices observed by the respondents?
9. What are the herd health management practices of the respondents?
10. How do the respondents market their animals and animal products?
11. What are the support services extended to the respondents in relation to animal production?
12. What are the common problems encountered by the respondents in relation to raising of animals?

Generally, the study was conducted to determine the status of livestock and poultry production in Tanudan, Kalinga. Specifically, it aimed to:

1. Determine the socio-economic profile of the respondents;
2. Determine the species, breeds/strains of farm animals commonly raised in Tanudan, Kalinga;



3. Determine the reasons of the respondents in raising animals;
4. Determine the source of animal stocks and capitals of the respondents;
5. Determine and document the different management practices in terms of housing, feeds and feeding, breeding, marketing and herd health management practices employed by the respondents;
6. Determine the support services availed by the livestock and poultry raisers in the locality; and
7. Determine the common constraints or problems faced by the animal raisers in relation to animal production.

The researcher's findings is expected to help improve the livestock and poultry production in the locality. To the animal raisers, the results can serve as their basis in making innovations or improvements in their management in raising animals. Also, it can help other people interested to invest in animal raising to come up with their final decisions. It can also serve as reference materials to students and other researchers to come up with follow-up researches. Moreover, it can serve as basis of the local officials and other concerned government units to plan and conceptualize project proposals leading to the improvement of the animal industry in the locality. Whatever development done to the animal industry, the final beneficiaries will be the animal raisers themselves.

This study on the status of livestock and poultry production was conducted in Tanudan, Kalinga. The respondents were actual animal raisers from the 10 chosen barangays. The study was limited on the profile of the respondents; the different animal species being raised; the number of animals raised per household; the source of stocks and capital of the respondents; the problems of the respondents in relation to animal



production; the support services availed by the respondents from government or non government units and the production management practices observed by the respondents which include breeds and breeding, feeds and feeding, housing, herd health management, and marketing of animals.



REVIEW OF LITERATURE

The 'itik' Muscovy duck and the 'bibe' or "pato real" are the two kinds of ducks well known in the Philippines. "Itik" is raised near rivers, lakes and ponds where there are plenty of snails and small clams. Its flesh is not very tasty. It doesn't sit so that its eggs have to be set under hens. Its eggs hatch in 28 days. The 'bibe', on the other hand, has tasty meat and lays good eggs. It is a good sitter and brooder. It hatches its own eggs in 33 days (Garcia and De Lara, 1999).

According to Ayeras (1998), native chickens are referred to as the common backyard chicken raised by farmers. He added that the existing native chicken is definitely not considered a breed but a mongrel because of undetermined number of cross breeding with previously imported chicken in the country. Their exact origin is no longer known and there are no determinant characteristics which occur in the different generations. Some native chickens resemble one or two of the characteristics of some of the known breeds of chickens.

Pfizer/PCARRD (2006) stated that, in general, the poultry populations of the Philippines consist primarily of chicken and a significantly smaller population of other poultry species. The chicken inventory, which is presented by type shows that broiler population increased from about 28 million in 1995 to about 40 million in 2005 with an average annual growth rate of 3.63%. The broiler population is distributed throughout the country; however, highest concentration (31%) is observed in the central Luzon region where most commercial broiler farm are also located.

PCARRD (1999) stated that among the crop residues, rice straw is the most abundant and widely used in many Asian countries that have progressive livestock or



dairy industries. Full utilization of rice straw as livestock feed is constrained by its low nitrogen and mineral contents. Furthermore, finding shows that feeding of urea treated rice straw with limited supplementation is one appropriate feeding strategy for improving meat and milk production of the village level. It is technically possible and economically feasible.

Willard, S.T. et al. (2004) stated that the rate of genetic improvement through selection depends on several factors. The differences in production level for individual animals for characteristics such as milk production, rate of gain, weaning weight, and so on, must exist. Otherwise, there would be no basis for selection. Heritability is the percentage of total variation that is controlled by genetic makeup of the individual. This portion of the variation is also referred to as genetic variation. Heritability for most economic traits in farm animals ranges from 0% to 60%; milk production 25%; number of pigs per litter 5% to 10%; yearling body weight in sheep 20% to 59%; feedlot gain in beef cattle 50% to 55%; and fertility in cattle 5%.

Native pigs are hardy. Its upkeep is not expensive. The female regularly farrows regularly but it is small and ugly. The snout is long and pointed. The ears are small and erected. The back is low and the stomach hangs to the ground. The ham is spare. The litter is small and they are of different colors, either black or white. The breed is wild and is hard to handle even after long confinement. The birth weight is 0.6 kg and at 6 months, the native pig weighs 9.9 kg. Even if it is fed with the medium ration, the weight will not improve (Dagoon, 1990).

The current practice of low input, high return goat production system, evolved over many decades, if not centuries, would not be easy to replace in the developing



countries. Application of known technologies e.g. improved breeding, balance nutrition and appropriate health care (which is key to improved production) demands prior or simultaneous upliftment of socio-economics status of the goat owners. To begin with, improved goat rearing with limited capital should naturally be conceived as a part of the total enterprise of the household, mixed with one or the other agricultural endeavors and not as an exclusive occupation for livelihood (Journal-Asian livestock, 2000).

In selecting goat as breeders or replacement stocks, consider the breeding objective or purpose for which these goats will be used or utilized, either for meat and /or milk and other important economic traits. Thus, traits such as growth rate, prolificacy, body size, milk yield, and resistance to diseases and adaptability to environment and production conditions are the major considerations when choosing goats to be raised. Native goats are noted for disease resistance and prolificacy; hence, they can survive even when raised under marginal environment, yet they can still give birth to 2-3 kids at kidding (PCARRD, 2006).

Goat is a good source of income in terms of meat and milk. They are easy to handle because they are more domesticated than other ruminants. Women and children will find it easy to tend goats. Goats are hardy animals and they subsist on vegetation that has no value to other types of livestock. They thrive on herbs, tree leaves, flower and vegetable crops, wild plants, peelings of vegetable and fruits, and even kitchen slops. The main reason why farmers prefer to raise goats over other ruminants is the relatively low initial investment needed for the project. Furthermore, goat raising offers a faster rate of investment return. Goats mature faster than cattle or buffaloes and therefore reproduce within shorter generation intervals (Anonymous).



Goats have the capability to survive on scavenge feeds and fallen leaves or browse and pasture on forages that other ruminants would not normally consume. Throughout the history of mankind, goats became the ready source of meat, milk, skin, and fiber to human beings (Journal-Asian Livestock, 2000).

Livestock play an important role in improving the rural economy of Pakistan by providing employment and a source of additional income particularly for small and marginal farmers and landless livestock producers and laborers. Of the livestock, cattle and buffaloes are most significant contributors to the economy through production of essential food items like milk and meat; products for industrial use like hides/skins, bones and blood; and also farm yard manure for improving soil fertility; and providing 75-80% of draught power for land cultivation and rural transport (Journal-Asian Livestock, 2000).

According to Cox (2003), there is now ample evidence that livestock farmers will adopt new technology if it meets their needs to provide high quality products in the most economic ways. Public concerns for animal welfare and for the traceability of an animal's life history have further broadened the scope for Precision Livestock Farming, since they involve both animal-specificity and site-specificity.

Utan (2008), concluded that animal raisers in Tinglayan, Kalinga still rely on tradition way of rearing livestock and poultry. Technical knowledge, modern system of production and support such as conduct of free seminars and trainings is very much lacking as well as free consultations and medications should be delivered to the clientele. Animal dispersal program should be strengthened so that improved animals will be introduced in Tinglayan.

Ongyao (2007), stated that most of the livestock and poultry raisers are raise



upgrade and also native breed of chicken, duck, swine, cattle and carabao in Tabuk. Traditional management practices for all these animals are practiced by the majority of the respondents. He also stated the preference for upgrade and native animals is attributed to their resistance to diseases and parasites. Respondents claimed that their animals are used for food and as source of additional income.

Palangyo (2008), suggested remedies include regular and continuous seminar and training on animal raising to improve their knowledge on the current proper management practices, involving themselves in cooperative loans and animal raisers should consult their veterinarian in the city.



METHODOLOGY

Locale and Time of the Study

The municipality of Tanudan is mostly mountainous and hilly with a wide range of timberland. Flora and fauna abound in the place. It is bounded on the north by the municipality of Tabuk, on the south by Mountain Province, on the west by the municipality of Tinglayan and Lubuagan and on the east, by a part of Paracelis, Mountain Province [Fig. 1].

The prevailing climate of the municipality is categorized under type III classification of the weather bureau. Relative dry season occurs from the months of February to May while the rest of the year is generally wet. Heaviest rainfall is observed in the month of September. Typhoons usually strike during July to December.

The municipality is composed of 16 barangays. However, only the top 10 in terms of animal inventory were included in the study namely Anggacan, Dacalan, Dupligan, Gaang, Lay-asan, Lower Lubo, Lower Taloctoc, Mabaca, Pangol and Upper Taloctoc [Table 1]. This study was conducted from December, 2008 to January, 2009.

Respondents of the Study

The respondents of the study were town people engaged in animal raising from the barangays covered in the study. The number of respondents in each barangay was obtained by taking 10% of the total number of households in that respective barangay [Table 2]. Random sampling was employed in choosing the said respondents.



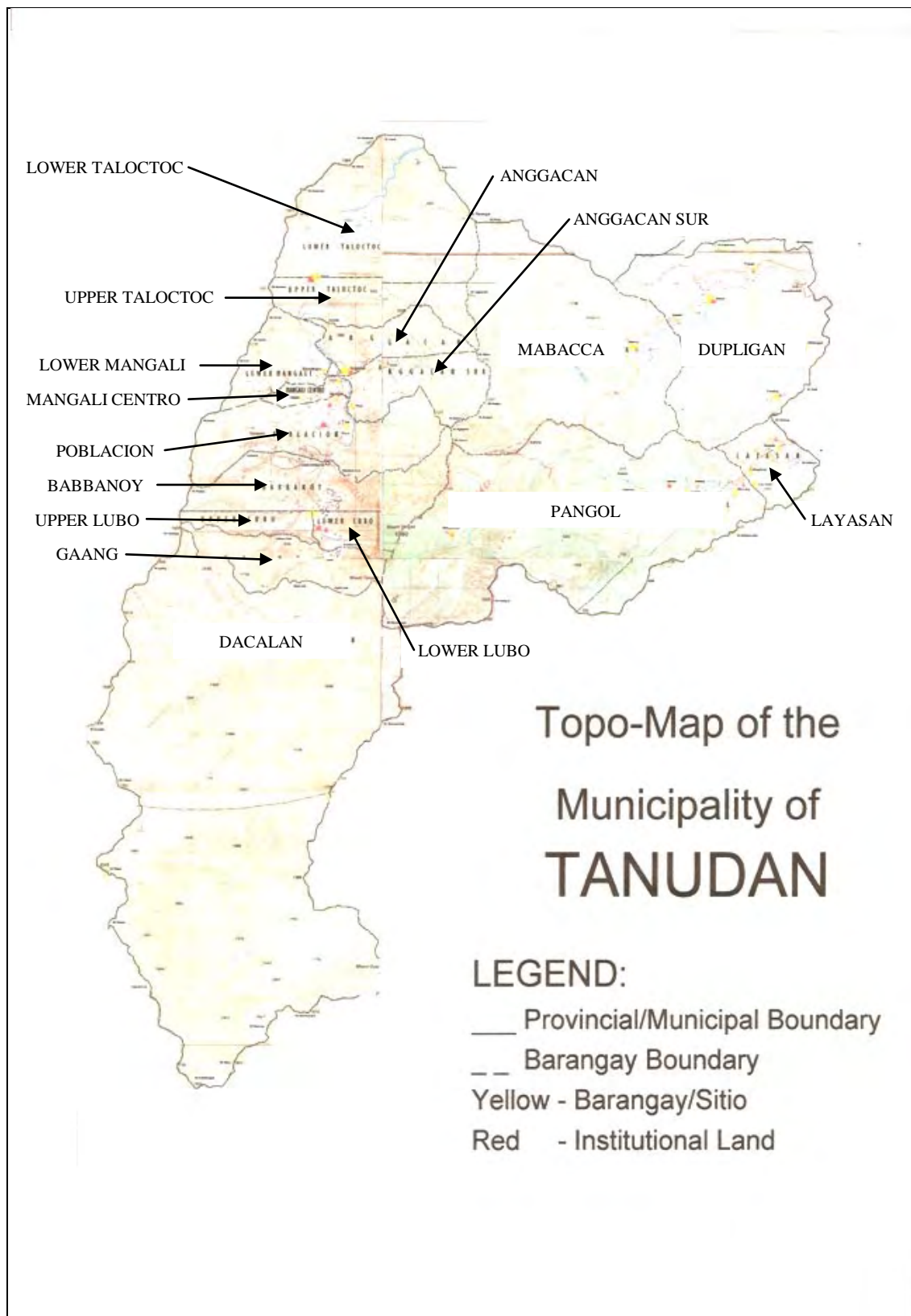


Figure 1. Municipality of Tanudan, Kalinga



Table 1. Livestock and poultry population in Tanudan, Kalinga

BRGY.	CATTLE	CARABAO	GOAT	SWINE	CHICKEN	DUCK	TOTAL
Anggacan	5	53	-	30	525	38	651
Anggacan Sur	5	19	1	71	469	-	565
Babbanoy	6	15	-	181	411	-	613
Dacalan	1	41	-	201	591	3	837
Dupligan	6	252	39	419	2,141	203	3,060
Gaang	24	28	-	199	739	5	995
Layasan	139	33	43	204	882	117	1,418
Lower Lubo	68	67	-	320	691	11	1,157
Lower Mangali	-	2	-	18	132	12	164
Lower Taloctoc	37	42	1	152	575	35	842
Mabacca	16	42	1	177	492	41	769
Mangali Centro	26	33	7	65	429	28	588
Pangol	184	219	128	446	1,716	94	2,787
Poblacion	3	18	-	23	279	23	346
Upper Lubo	10	31	3	160	358	-	562
Upper Taloctoc	32	47	-	142	445	38	704

*SOURCE: Municipal Agriculture Office (2008)



Table 2. Number of respondents per barangay

BARANGAY	NO. OF HOUSEHOLDS*	NO. OF RESPONDENTS
Anggacan	59	6
Dacalan	82	8
Dupligan	211	21
Gaang	95	10
Layasan	64	6
Lower Lubo	115	12
Lower Taloctoc	77	8
Mabacca	111	11
Pangol	123	12
Upper Taloctoc	90	9
TOTAL	1,027	103

*SOURCE: Census (2008)

Data Collection and Gathering

The study made use of an interview schedule prepared before hand and a camera for documentation. Actual informal interviews were carried out using the prepared interview schedule as a guide to gather information's from the respondents. Home visits were conducted in order to get better pictures on the data the respondents were giving. The dialect in the locality was used to avoid communication gaps.

Data Gathered

The data gathered were as follows:



1. Socio-economic profile. This included information on the respondent's name, age, sex, occupation, civil status and his highest education attainment.
2. Years in raising animals. Refers to the length of time the respondents have been raising livestock and poultry.
3. Classification and number of animals being raised. This includes the breeds/strains and purpose for which animals are raised and number of animals raised per species per household.
4. Source of stock. This refers to the area where the respondents obtained their stocks or from whom did they obtain their stocks.
5. Source of capital. This states who provided the capital of the respondents.
6. Housing management practices. Included in here are the kinds of housing or rearing provided to the animals and housing materials used.
7. Feeds and feeding management practices. These include the types of feeds, frequency and systems of feeding, and supplements or feed additives employed by the respondents.
8. Breeding management practices. These include the systems and methods of breeding, source of sires, terms of payment for breeding services, breeding age, length of gestation, farrowing/calving rate and some reproductive data.
9. Herd health management practices. These include the different preventive and control measures against diseases and parasites observed by the respondents.
10. Marketing management. This includes the animal products and the marketing strategies employed by the respondents.
11. Support services. These refer to any support extended to the respondents,



technical or financial, from government units, state universities and non-government organizations in relation to animal raising.

12. Problems/constraints encountered. These refer to the problems encountered by the respondents in relation to livestock and poultry production.

Data Analysis

All 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

Table 3 shows the profile of the respondents which includes sex, age, civil status, highest educational attainment and means of livelihood.

Sex. Results show that more females [56 out of 103] are involved in raising animals than males with 47 respondents. This is because generally, housewives are the ones responsible in taking good care of the children and the home. While at home, they also engage themselves in raising animals particularly those that can be raised at home like swine and poultry to help their husbands provide the needs of their respective families. Husbands or the males on the other hand, are generally the ones involved in other means of livelihood like field works which include the care of larger animals like carabaos and cattle.

Age. The age of the respondents ranged from 21 to 51 and above. Majority [56.31%] or 58 of the respondents fall under the age bracket 41-50 years of age. Twenty [20] or 19.42% were within the range of 31-40 years of age; 18 fall under the age bracket of 51 and above and only seven had ages ranging from 21-30 years of age. The result reveals that majority of the respondents belong to the middle age group.

Civil status. Results of the study revealed that all except 4, who are singles, of the respondents are married. However, 13 of the 99 married respondents are widower. Being married, they have to look for other sources of income to provide the needs of their families and raising animals is one possible source.

Educational attainment. Most [46.60%] or 48 of the respondents were able to finish high school, 24 [23.30%] finished elementary level, 19 [18.45%] finished college



and only 12 [11.65%] of the respondents had no formal education because of financial problems.

Means of livelihood. The major source of livelihood of the respondents is farming with 93 respondents. Only 10 [9.71%] are government employees. The later are receiving fixed salaries but still they have to engaged themselves in animal raising as additional source of income or to help provide the needs of their families.

Table 3. Socio economic profile of the respondents

PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
Sex		
Male	47	45.63
Female	56	54.37
TOTAL	103	100.00
Age		
21-30	7	6.80
31-40	20	19.42
41-50	58	56.31
51 and above	18	17.48
TOTAL	103	100.00
Civil status		
Single	4	3.88
Married	86	53.50
Widow/er	13	12.62
TOTAL	103	100.00
Educational attainment		
No-formal education	12	11.65
Elementary	24	23.30
High school	48	46.60
College	19	18.45
TOTAL	103	100.00
Occupation		
Farming	93	90.29
Government employee	10	9.71
TOTAL	103	100.00



Species of Farm Animals Raised

Table 4 and Fig. 2 show the different species of farm animals raised by the respondents. It is shown that swine and chicken dominate the other animal species being raised. All of the 103 respondents are raising swine and chicken. Next to swine and chicken, is carabao with 66 [64.08%] respondents, cattle with 49 respondents, ducks with 36 respondents and finally goats with 23 respondents.

Table 4. Species of farm animals raised by the respondents

SPECIES	NO. OF RESPONDENTS*	PERCENTAGE
Swine	103	100.00
Chicken	103	100.00
Carabao	66	64.08
Cattle	49	47.57
Duck	36	34.95
Goat	23	22.33

* Multiple response
n=103



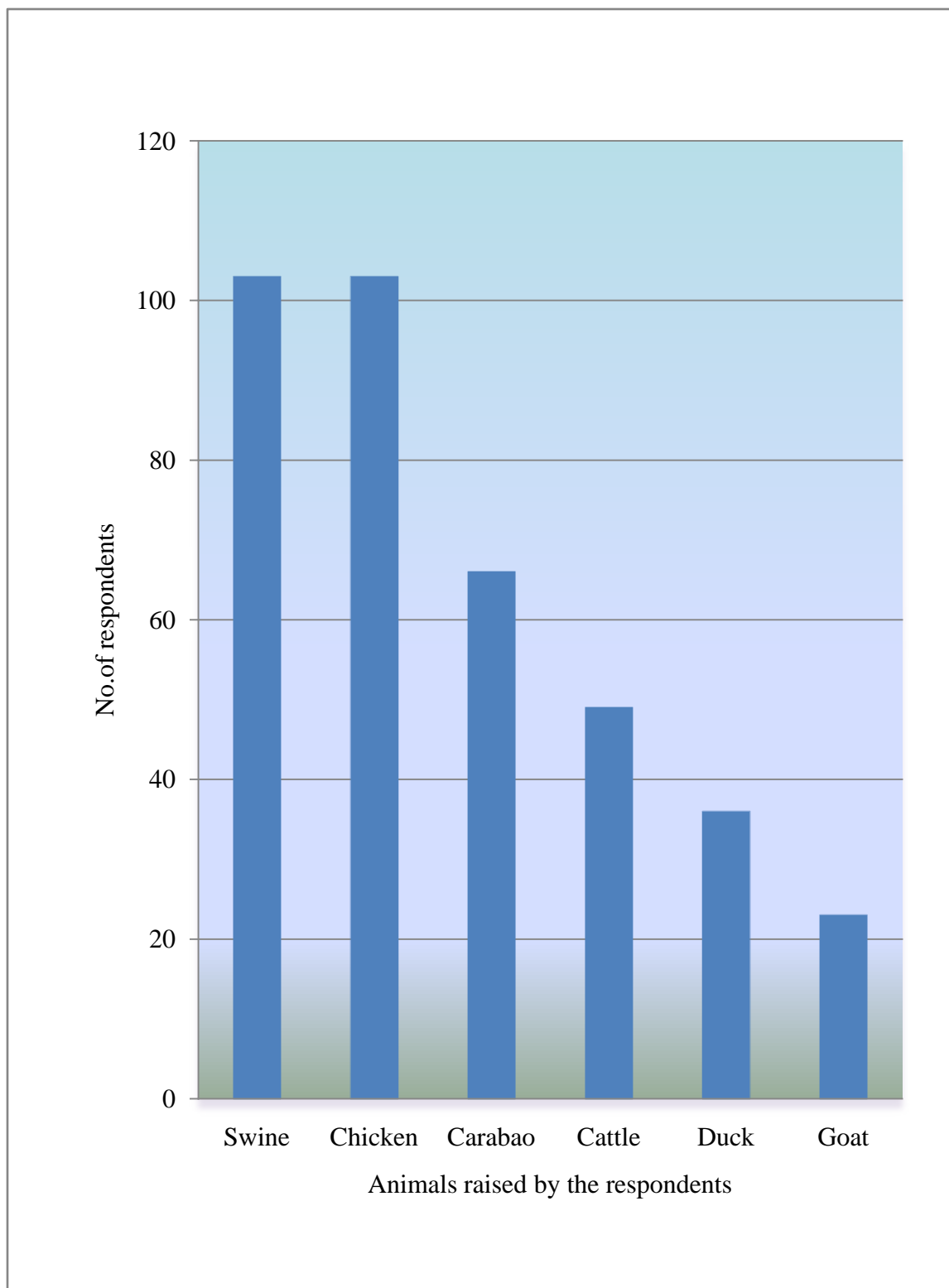


Figure 2. Species of farm animals raised and number of animal per species



Swine

Years in Raising Swine

Table 5 presents the number of years the respondents have been raising swine. It is presented that majority [67.96% or 70] of the respondents have been raising swine for 11 or more number of years. Twenty one [21] of the respondents said that they have been raising swine for 6-10 years and only 12 said for 1-5 years.

Reasons in Raising Swine

There are two main reasons why the respondents are raising swine and these are for family use and as source of additional income. Swine are usually butchered for food during special occasions like weddings, baptisms, anniversary celebrations and other forms of thanksgiving. However, if these are not used for such occasions, these are sold as additional source of income to help provide other needs of the family.

Table 5. Number of years in swine raising

NUMBER OF YEARS	NO. OF RESPONDENTS	PERCENTAGE
1 – 5	12	11.65
6 – 10	21	20.39
11 and above	70	67.96
TOTAL	103	100.00



Number of Swine Raised

Table 6 presents the number of swine raised by the respondents. It is presented in the table that for young animals and finishers, most of the respondents are raising 1-5 pigs. Only few are raising 6 or more number of pigs. For sows and boars, most of the respondents are raising 1-2 heads only. The above results reveal that swine raising in the locality is in the hands of backyard raisers.

Table 6. Number of swine raised per household

NUMBER OF SWINE	NO. OF RESPONDENTS*	PERCENTAGE
Sucklings		
1 – 5	8	7.77
6 – 10	2	1.94
Weaners		
1 – 5	9	8.74
6 – 10	4	3.88
Growers		
1 – 5	23	22.33
6 – 10	6	5.83
Finishers		
1 – 5	18	17.48
6 – 10	11	10.68
Sow		
1 – 2	43	41.75
3 – 4	16	15.53
Boar		
1 – 2	22	21.36

*Multiple response
n=103



Source of Stock and Capital

Results of the study revealed that majority [79.62% or 82] of the respondents obtained their stocks through inheritance or from their relatives within the locality. Only 21 of the respondents had bought their stocks from other raisers within the locality just the same [Table 7]. From the above 21 who bought their stocks, 5 of them borrowed from a cooperative and all the rest made use of their personal money.

Breeds and Breeding Management Practices

Breeds. Table 8 shows the breeds of swine raised by the respondents. It is shown in the table that majority [69.93% or 71] of the respondents are still raising native pigs [Fig. 3]. Thirty two [32] of the respondents are raising upgraded pigs [Fig. 4]. No one among the respondents is raising any of the improved breeds nor even a crossbred.

Table 7. Source of stocks of the respondents

SOURCE	NO. OF RESPONDENTS	PERCENTAGE
Inherited	82	79.61
Other raisers within the locality	21	20.39
TOTAL	103	100.00





Figure 3. A native pig raised by one of the respondents in barangay Lower Lubo

Methods and systems of breeding. At the time of the study, only 69 of the 103 respondents were into breeding and the remaining 34 were into growing-finishing operation. All of the above 69 respondents said that they have observed natural mating in reproducing their pigs. They also said that they have been employing inbreeding and this is because most of them are making use of their own boars to breed their own gilts and sows even if these are related to each other. Also, almost all of the pigs in one sitio are related to each other so even if one of the respondents borrows the boar of his neighbor, still inbreeding is practiced.

Source of boar. Forty seven [47] of the respondents said that they are borrowing the boars of their neighbors or friends to breed their sows and gilts. Only 22 of them said that they are making use of their own boars to breed their sows and gilts [Table 9].

Frequency of breeding to conception and farrowing rate. All of the 59 respondents



who are into breeding breed their sows/gilts once before conception. Likewise, all of them said that their sows farrow once a year.

Table 8. Breeds of swine raised by the respondents

BREED	NO. OF RESPONDENTS	PERCENTAGE
Native	71	68.93
Upgrade	32	31.07
TOTAL	103	100.00

Table 9. Source of boars used by the respondents in breeding their sows

SOURCE	NO. OF RESPONDENTS	PERCENTAGE
Borrowed	47	68.12
Owned	22	31.88
TOTAL	69	100.00





Figure 4. An upgraded boar raised by one of the respondents in barangay Gaang

Feeds and Feeding Management Practices

Types of feeds. The types of feeds given by the respondents to their pigs are presented in Table 10. It is presented in the table that majority [57.28%] of the respondents are feeding their pigs with combinations of conventional feeds and indigenous feedstuffs. The conventional feeds include commercial hog feeds [Fig. 5] and ricebran. However, ricebran is usually the one used because it is very much available in the locality. Kalinga, in general, is one of the sources of ricebran brought to other places most especially Cordillera Region.

Thirty one [31] of the respondents are feeding their pigs with combinations of different indigenous feedstuffs which include kitchen food refuses. Only 13 of the respondents are feeding their pigs with pure conventional feedstuffs which could be either ricebran or commercial hog feeds alone or combination of both.



Types of indigenous feeds. The common indigenous feedstuffs used by the respondents as feeds to their pigs are camote leaves and vines, gabi most especially “bila” [Fig. 6] and kitchen food refuses [Fig. 7]. The kitchen food refuses refer not only to the left over foods but also parts of vegetables not cooked for human consumption like peelings, stems and old leaves. Generally, the camote leaves and vines and gabi are chopped and then cooked before being fed to the pigs.

Table 10. Types of feeds provided to the swine by the respondents

TYPE	NO. OF RESPONDENTS	PERCENTAGE
Conventional feeds	13	12.62
Combination of indigenous feedstuffs	31	30.10
Combination of conventional feeds And indigenous feedstuffs	59	57.28
TOTAL	103	100.00





Figure 5. Conventional feeds given by one of the respondents in barangay Pangol to his pigs



Figure 6. A gabi (bila) used by one of the respondents in barangay Layasan as feeds to his pigs



Figure 7. Kitchen food refuse used by one of the respondents in Lower Taloctoc as feeds to his pigs

Systems and frequency of feeding. The system of feeding employed by the respondents depends on the types of feeds given and the class of swine being fed. Generally, wet feeding is practiced when indigenous feeds are fed to the pigs and dry feeding is practiced when commercial feeds are fed to the pigs. All of the respondents said that they are employing both individual and group feeding although in most cases, group wet feeding [Fig.8] is observed. Individual feeding is observed if the pig is confined alone in a pen. All of the respondents are feeding their pigs twice a day, one in the morning and another in the afternoon.





Figure 8. Wet group feeding practiced by one of the respondents in barangay Lower Lubo

Housing Management Practices

Housing is considered one of the major inputs in raising pigs because this provides protection to the pigs against direct sunlight and excessive rain and a dry place for sleeping. Table 11 shows the types of confinement and Table 12 shows the types of housing materials used by the respondents in constructing their swine houses.

Types of confinement. Results of the study revealed that majority [59.22% or 61] of the respondents are practicing semi-confinement where the pigs are confined at night and are let loosed at day time and only 42 [40.78%] are completely confining their pigs. In semi-confinement, the pigs, usually after being fed in the morning, go out from their confinement and roam around the locality to look for additional food like scavengers [Fig. 9]. In the afternoon before it gets dark, the respondents go and call for their pigs to



go home. The pigs, upon hearing the call of the raiser, go to where the call is coming from after which, they go to their confinement on their own.

Housing materials. Majority [82.53% or 85] of the respondents are confining their pigs under their houses and this is to save expenses on materials for roofing. The walls are made of wood slats or stone and the earth or soil as flooring. Sixteen [16] of the respondents have swine houses with G. I sheets roofing, the soil as flooring and with walls made of wood slats or stone. Only two of the respondents have swine houses with G.I. sheets roofing and with concrete walls [hollow blocks] and floors.

Table 11. Types of confinement observed by the respondents

TYPE	NO. OF RESPONDENTS	PERCENTAGE
Complete confinement	42	40.78
Semi-confinement	61	59.22
TOTAL	103	100.00





Figure 9. Semi confined native pigs roaming around owned by one of the respondents in barangay Anggacan

Table 12. Types of housing materials used by the respondents

HOUSING MATERIALS	NO. OF RESPONDENTS	PERCENTAGE
Under house with wood walls and soil as flooring	53	51.46
Under house with wood walls and soil as flooring	32	31.07
G.I. sheets roof with wood walls and soil as flooring	12	11.65
G.I. sheets with stone walls and soil as flooring	4	3.88
G.I. sheets roof with concrete walls and floors	2	1.94
TOTAL	103	100.00



Herd Health Management Practices

Table 13 presents the common herd health practices observed by the respondents in controlling or preventing swine diseases and parasites. It is shown in the table that majority [91.26% or 94] of the respondents most especially those who are completely confining their pigs are cleaning their pig pens. Only nine among the respondents said that they are not cleaning their pig pens.

It is also shown in the table that majority [62.14 or 64] of the respondents most especially those who are completely confining their pigs are bathing their pigs. Only 39 of the respondents said that they are not bathing their pigs.

Table 13. Methods of preventing and controlling swine diseases and parasites observed by the respondents

TYPE	NO. OF RESPONDENTS	PERCENTAGE
Cleaning of pens		
Yes	94	91.26
No	9	8.74
TOTAL	103	100.00
Bathing of Pigs		
Yes	64	62.14
No	39	37.86
TOTAL	103	100.00



However, all of the respondents said that they are not deworming nor vaccinating their pigs. They also said that they are not observing disinfection. The common diseases or illnesses that had affected their pigs are diarrhea, colds and fever.

Marketing of Pigs

All of the respondents said that they are selling their pigs directly to the buyer on a per head or “bulto” basis. This is because weighing scales are not readily available. The market price is dictated by the raiser based on age and body size and it is up to the buyer to negotiate.

Problems /Constraint Encountered by the Respondents

Table 14 presents the problems or constraints encountered by the respondents in raising swine. Among the problems mentioned in the table, lack of capital ranks first with 88 respondents. This was followed by high cost of feeds with 67 respondents, low market price of product with 53 respondents, animal diseases with 26 respondents and finally lack of market outlet with 19 respondents.

Chicken

Years in Raising Chicken

Table 15 shows the number of years the respondents have been raising chicken. It is shown that majority [67.96% or 70] of the respondents have been raising chicken for 21-30 years. Twenty five [25] or 24.27% said that they have been raising chicken for 11-20 years, five said for 31 years and above and only three said that they have been raising chicken for 1-10 years.



Table 14. Problems/Constraints encountered by the respondents in raising swine

PROBLEM/CONSTRAINT	NO. OF RESPONDENTS*	PERCENTAGE
Lack of capital	88	85.44
High cost of feeds	67	65.05
Low market price of product	53	51.46
Animal diseases	26	25.24
Lack of market outlet	19	18.45

* Multiple response
n=103

Table 15. Number of years in raising chicken

RANGE	NO. OF RESPONDENTS	PERCENTAGE
1 – 10	3	2.91
11-20	25	24.27
21-30	70	67.96
31 and above	5	4.86
TOTAL	103	100.00

Number of Chicken Raised

Table 16 presents the number of chicken raised by the respondents at the time of the study. As presented, all of the 103 respondents had chicks, 99 had pullets, 72 had hens and 58 had roosters.

It is also presented in the table that majority [60.19%] or 62 of those who had



chicks are raising 6-10 chicks. Thirty two [32] or 31% of the respondents were raising 11 or more number of chicks and only 9 were raising 1-5 chicks.

For pullets, majority [72.82%] or 75 of the 99 respondents are raising 6-10 pullets. Twenty two [22] or 21.36% of the respondents were raising 1-5 pullets and only 2 were raising 11 or more number of pullets.

For hens, most [37.86%] or 39 of the respondents had 1-5 hens. Twenty three [23] had 6-10 hens and only one had 11 or more number of hens.

Finally for roosters, most [36.89% or 38] of the respondents had 6-10 roosters and 20 had had 1-5 roosters.

Table 16. Number of chickens raised per household

CLASS	NO. OF RESPONDENTS*	PERCENTAGE
Chicks		
1 - 5	9	8.74
6 - 10	62	60.19
11 and above	32	31.07
Pullets		
1 - 5	22	21.36
6 -10	75	72.82
11 and above	2	1.94
Hens		
1 - 5	39	37.86
6 - 10	23	22.33
11 and above	1	0.97
Roosters		
1 - 5	20	19.42
6 -10	38	36.89

*Multiple response
n=103



The above results reveal that even if majority of the respondents had been raising chicken for a long time, still no one among them is into commercial scale. It also reveals that chicken raising in the locality is in the control of backyard raisers.

Reasons in Raising Chicken

All of the respondents said that they are raising chickens for family use i.e. as viand for the family or in times when they have visitors and to have available animals to butcher during special occasions like birthdays, graduation, weddings, baptisms, and even in the performance of their rituals. However, if there are available buyers, then the respondents also sell their chicken as additional source of income to meet their needs.

Source of Stock and Capital

Table 17 presents the source of stocks of the respondents. It is shown that majority [69.90% or 72] of the respondents obtained their stocks through inheritance from their parents or relatives residing within the locality just the same. The inheritance of chicken is a common practice in the locality. Newly wed couples are normally given chicken by their parents as stocks to start with. Some parents or relatives are giving the newly weds with a pair of hen and a rooster. Others are giving a hen together with its brood.

Only thirty one [31] of the respondents said that they bought their stocks from other raisers or suppliers within the locality. To buy these stocks, they said that they made use of their personal money.



Table 17. Source of stock of chicken of the respondents

SOURCE	NO. OF RESPONDENTS	PERCENTAGE
Parents/Relatives	72	69.90
Other raisers/Suppliers	31	30.10
TOTAL	103	100.00

Breeds and Breeding Management Practices

Breeds/Strains of chicken. All of the respondents are raising native/upgraded chicken [Fig. 10, 11 & 12]. However, seven of the respondents are also raising Sasso and four are raising Jolo chickens in addition to the native chickens they are raising [Table 18]

Methods and systems of breeding. All of the respondents are practicing natural breeding or mating. Likewise, all of them said that they have probably observed inbreeding, purebreeding and even upgrading. This is because the chicken of the respondents are let-loosed and that roosters have access to the hens or pullets. As such, it

Table 18. Breeds/Strains of chicken raised by the respondents

BREED/STRAIN	NO. OF RESPONDENTS*	PERCENTAGE
Native/Upgrade	103	100.00
Sasso	7	6.80
Jolo	4	3.88

*Multiple response
n=103



is very much possible that roosters are mated to their own mother hens or pullets which they sired. If not, pullets are possibly mated to their own sibling roosters, hence, the practice of inbreeding. Also, two native chickens which are not related to each other could have been mated together, hence the practice of purebreeding. Furthermore, it is also possible that the Sasso/Jolo chicken could have been mated to the native chicken, hence, the practice of upgrading.

Source of rooster. All of the respondents said that rooster is not a problem to them because many of them have roosters. In fact, even if one does not have one, still rooster is not a problem to him. This is because his chickens are let-loosed and as such, his hens and pullets are exposed to the roosters of his neighbors. His pullets or hens then are mated by his neighbors' roosters without him being aware of it.



Figure 10. A flock of upgraded chickens raised by one of the respondents in barangay Anggacan



Figure 11. Native chickens roaming around for food owned by one of the respondents in barangay Mabacca



Figure 12. Upgrade roosters used by the respondents for breeding in barangay Upper Taloctoc

Age at first lay of egg. As shown in Table 19, majority [80.56%] or 83 of the respondents said that their pullets started to lay eggs at the age of 6-7 months which is a month later compared to the commercial layer strains. Commercial layer strains, according to the Department of Animal Science [1999] generally start to lay eggs at 20-22 weeks old or 5-5 ½ months old. Twenty [20] or 19.42% of the respondents, however, said that they have no idea on the specific age when their pullets started to lay eggs.

Number of eggs laid per clutch. Table 20 shows that majority [74.76%] or 77 of the respondents said that their hens are laying 8-9 eggs per clutch. Twenty three said that their hens are laying 6-7 eggs per clutch and only three said 10 or more number of eggs.

Number of eggs hatched per clutch. Normally the respondents remove 1-3 eggs per clutch and cooked them for viand so that the number eggs left for hatching is reduced. Because of this, all of the respondents said that their hens usually hatched all their eggs and this is because the number is small. However, in cases where the number of eggs being incubated is 10 or more, they unanimously agreed on the observation of some that 1-3 eggs are usually left unhatched.

Table 19. Age of pullets at first lay of eggs

AGE [MONTH]	NO. OF RESPONDENTS	PERCENTAGE
6 – 7	83	80.58
No idea	20	19.42
TOTAL	103	100.00



Table 20. Number of eggs per clutch

NUMBER	NO. OF RESPONDENTS	PERCENTAGE
6 – 7	23	22.33
8 – 9	77	74.76
10 or more	3	2.91
TOTAL	103	100.00

Feeds and Feeding Management Practices

Types of feeds. All of the respondents are giving either conventional feeds or kitchen cooked rice left over, whichever is available, to their chickens. The conventional feeds include milled/unmilled rice [palay] and whole or ground corn.

Systems and frequency of feeding. All of the respondents are practicing dry group individual feeding particularly when feeding conventional feeds. Generally, the feeds are broadcasted into the yard or to the area where the chickens are. However, 11 of the respondents said that they have employed wet group feeding particularly when

Table 21. Systems of feeding chickens as observed by the respondents

SYSTEM	NO. OF RESPONDENTS*	PERCENTAGE
Dry group feeding	103	100.00
Wet group feeding	11	10.68
Dry individual raising	3	2.91

*Multiple response
n=103



feeding kitchen cooked rice left over. Also, dry individual feeding is practiced by three of the respondents who have fighting cocks [Table 21]. For the frequency of feeding, all of the respondents said that they are feeding their chickens twice a day, in the morning before they are let-loosed and in the afternoon before it gets dark.

Housing Management Practices

Types of housing. As shown in Table 22, majority [94.17%] or 97 of the respondents are practicing semi-confinement type of rearing. In this type, chickens are kept loose during day time but are confined during night time. Such practice will enable them to determine if their chickens are sick or one of their chickens is missing. Only six of the respondents are practicing the free range type particularly those who are residing at the mountains. Their chickens roam around the backyard at day time and at night time, they perch on the branches of trees or under the trees or areas around the respondent's house. There are three, however, among the respondents who are also practicing complete confinement and this is true to their roosters for cock fighting.

Housing materials. Generally, houses for chickens are portable and are called 'bukrot'. Although there are some respondents who have permanent chicken houses [Fig. 13]. Some even had attached a chicken house to their houses [Fig. 14]. The most common material used by the respondents in constructing the chicken houses is bamboo. In fact 86 of the respondents have chicken houses all made with bamboo. There are 33 of the respondents who have chicken houses all made of wood. Twenty three have chicken houses with G.I. sheets as roofing and wood walls and floors, 12 have made use of G.I sheets as roofing also but with bamboo walls and floors and there 7 who made use of empty cans of lard [Table 23]



However, in the making of nests, all of the respondents had made use of bamboo.

Samples of these are shown in Fig. 15.

Table 22. Types of housing/rearing chickens

TYPES	NO. OF RESPONDENTS*	PERCENTAGE
Complete confinement	4	3.88
Semi-confinement	97	94.17
Free-range/loose	6	5.83

* Multiple response
n=103

Table 23. Housing materials used in constructing chicken houses

MATERIALS USED	NO. OF RESPONDENTS*	PERCENTAGE
All bamboo	86	83.50
All wood	33	32.04
G.I. sheets as roofing with wood slats as walls and floors	23	22.33
G.I. sheets as roofing with Bamboo walls and floors	12	11.65
Empty cans of lard	7	6.80

* Multiple response
n=103





Figure 13. Chickens house owned by one of the respondents in barangay Layasan



Figure 14. A makeshift chicken house incorporated with the farmers house in barangay Lower Lubo



Figure 15. A bamboo makeshift used as nest used by one of the respondents in barangay Lower Lubo

Flock Health Management Practices

All of the respondents said that they are not giving vaccines nor dewormers to their chickens. They also said that they are not giving medication to their chickens if affected with a disease.

Marketing of Chickens

All of the respondents said that they are selling their chickens on a per head basis directly to consumers or buyers. The market price is dictated by the raiser depending on the age and body size of the chicken.



Problems/Constraints

Table 24 shows the problems or constraints encountered by the respondents in raising chickens. As shown in the table, lack of market outlet ranks first with a total number of respondents of 64. Diseases and parasites rank second with 23 respondents. Problem on theft comes next with 12 respondents and 4 respondents said that their problem is the dogs attacking and eating their live chickens that are kept loose.

Ducks

Years in Raising Ducks

As shown in Table 25, majority [58.33%] or 21 of the respondents said that they have been raising ducks for 1-5 years. Ten [10] said that they have been raising ducks for 6-10 years and only 5 of the respondents said that they have been raising ducks for 11 or more number of years.

Table 24. Problems/Constraints met by the respondents while raising chickens

NUMBER	NO. OF RESPONDENTS	PERCENTAGE
Lack of market outlets	64	62.14
Diseases and Parasites	23	22.33
Problem on theft	12	11.65
.Problem on astray dogs	4	3.88
TOTAL	103	100.00



Table 25. Number of years in raising ducks

NUMBER	NO. OF RESPONDENTS	PERCENTAGE
1 – 5	21	58.33
6 – 10	10	27.78
11 and above	5	13.89
TOTAL	36	100.00

Number of Ducks Raised

Table 26 presents the number of ducks being raised by the respondents at the time of the study. It is shown in the table that out of the 36 respondents, 33 of them had ducklings, 18 had duck hens and only 6 of them had drakes.

For the ducklings, most [50% or 18] of the respondents were raising 4-6 ducklings. Thirteen [13] were raising 1-3 ducklings and only 2 were raising 7 or more ducklings.

For the duck hens, 12 of the respondents were raising 1-3 duck hens and 6 were raising 4-6 duck hens. Finally, for the drakes, 4 of the respondents were raising 1-3 drakes and only two were raising 4-6 drakes.

Purpose in Raising Ducks

Like in chicken all of the respondents said that they are raising ducks for family use and as source of additional income to the family. Ducks are usually butchered for viand for the family and also for visitors. They are also butchered during occasions like birthdays, celebration of graduation, and other forms of thanksgiving.



Table 26. Number of ducks raised

NUMBER	NO. OF RESPONDENTS*	PERCENTAGE
Ducklings		
1-3	13	36.11
4-6	18	50.00
7 or more	2	5.56
Duck Hens		
1-3	12	33.33
4-6	6	16.67
Drakes		
1-3	22	61.11
4-6	14	38.89

* Multiple response
n=36

Source of Stock and Capital

Table 27 presents the source of stocks of ducks of the respondents. It is presented that majority [61.11% or 22] of the respondents had obtained their stocks from their neighbors and relatives within their barangays. Only 14 of the respondents said that they obtained their stocks from other barangays within the municipality. To buy their stocks, all of the respondents who bought their stocks said that they made use of their personal money.

Breeds and Breeding Management Practices

Breeds of ducks. All of the respondents are raising native ducks although some of them are raising upgraded ducks.

Methods and systems of breeding. All of the respondents are observing natural mating. Likewise, all of them said that they are observing inbreeding.



Table 27. Source of stock of ducks of the respondents

SOURCE	NO. OF RESPONDENTS	PERCENTAGE
Relatives/Neighbors within the barangay	22	61.11
Other barangay within the municipality	14	38.89
TOTAL	36	100.00

Source of drakes. All of the respondents said that they are using their own drakes in breeding their duck hens.

Feeds and Feeding Management Practices

Types of feeds. All of the respondents are giving indigenous feeds to their ducks. This includes kitchen left-over cooked rice, sweet potato leaves and tubers and ricebran. These are given either solely or in combination.

Systems and frequency of feeding. All of the respondents are employing wet group feeding. Likewise, all of the respondents are feeding their ducks twice a day, one in the morning and another in the afternoon.

Housing Management Practices

Table 28 shows the type of housing that the respondents provided to their ducks. It is shown in the table that majority [86.11% or 31] of the respondents are practicing free-range type [Fig. 16] i.e. their ducks are let-loosed and are free to roam around although in their own backyard only. At night time, their ducks seek shelter under their houses or trees if there is one in the backyard or in some areas within the backyard. Only





Figure 16. Upgraded ducks raised by one of the respondents in a free ranged type of confinement in barangay Mabacca

5 or 13.89% of the respondents are completely confining their ducks. In here the ducks are allowed to roam around but in an enclosed area [Fig. 17]. To enclose the area, the five respondents made use of bamboos.

Table 28. Type of housing for ducks

TYPES	NO. OF RESPONDENTS	PERCENTAGE
Complete confinement	5	13.89
Free-range	31	86.11
TOTAL	36	100.00





Figure 17. Completely confined ducks owed by one of the respondents in barangay Pangol

Herd Health Management Practices

Like the chickens, all of the respondents said that they are not vaccinating nor deworming their ducks. They also said that their ducks have not been affected with any of the duck diseases.

Marketing of Ducks

All of the respondents said that they are directly selling their ducks to the consumers on a per head basis like in chickens. The market price is dictated by the raiser based on the body size.



Problems/Constraints Encountered

All of the duck respondents said that their main problems in raising ducks are lack of market outlet and high cost of feeds. Due to the high cost of feeds, no one among the respondents is feeding his ducks with commercially formulated duck feeds.

Ruminant

The common ruminant animals raised by the respondents in the locality includes carabao, cattle, and goats. Out of the 103 respondents, 66 of them are raising carabaos, 49 are raising cattle and 23 are raising goats.

Carabao

Years in Raising Carabaos

Table 29 presents the number of years the respondents have been raising carabaos. It is shown in the table that majority [62.12% or 41] of the respondents said that they have been raising carabaos for 21 and above number of years, 18 [27.27%] said that they have been raising carabaos for 11-20 years and only 7 or 10.61% of the respondents said that they have been raising carabaos for 1- 10 years.

Number of Carabaos Raised

Table 30 shows the number of carabaos being raised by the respondents at the time of the study. It is shown that majority [72.73%] or 48 of the respondents are raising only 1 carabao; 13 or 19.69% are raising two heads and only five or 7.58% of the respondents are raising 3 or more heads of carabaos. The respondents are raising very



Table 29. Number of years in raising carabaos

YEARS	NO. OF RESPONDENTS	PERCENTAGE
1 – 10	7	10.61
11-20	18	27.27
21 and above	41	62.12
TOTAL	66	100.00

Table 30. Number of carabaos raised by the respondent

NUMBER	NO. OF RESPONDENTS	PERCENTAGE
1	48	72.73
2	13	19.69
3 and above	5	7.58
TOTAL	66	100.00

few heads of carabaos and this is because their main reason in raising such species is just to have an animal to help them in their field works.

Purpose in Raising Carabaos

All of the respondents said that they are raising carabaos purposely as draft animals. However, in addition to it, they are also raising carabaos as supplementary source of income most especially in emergency cases where money is badly needed. In this case, the carabao is usually the one sold because it will demand a higher price



because of its big body size. Also they are raising carabaos for special occasions such as during weddings.

Source of Capital and Stock

Table 31 presents the source of stock of carabaos of the respondents. Most [60.61%] or 40 of the respondents said that they have inherited their stocks from their ancestors. Seventeen [17] or 25.75% said that they have acquired their stocks from their relatives within the locality in the traditional way. In this manner, the carabao owner, usually a relative or a friend makes an agreement with the raiser. The carabao owner gives the raiser a female calf. The raiser, on the other hand, raises the calf, until it matures. When mature, the calf which is now a heifer, is allowed to reproduce after which the raiser gets the first or second calf as his share depending on the agreement between the two parties. Eight of the raisers obtained their stocks from other raisers within the locality and only one of the respondents obtained his stock from another municipality. To buy their stock, all of the nine respondents who bought their stocks said that they made use of their own money.

Table 31. Source of stock of carabaos of the respondents

SOURCE	NO. OF RESPONDENTS	PERCENTAGE
Inherited	40	60.61
Relatives/Friends	17	25.75
Raisers within the locality	8	12.12
Raisers outside the municipality	1	1.52
TOTAL	66	100.00



Breeds and Breeding Management Practices

Breeds of carabaos raised. All of the respondents said that they are raising native or Philippine carabaos [Fig. 18].

Methods and systems of breeding. All of the respondents said that they are employing natural mating in reproducing their carabaos. In fact they even said that they do not know of anyone within their locality who had employed artificial insemination.

Likewise, all of the respondents said that they have observed both inbreeding and purebreeding. Purebreeding in the sense that they are raising native carabaos only. On the other hand, inbreeding because due to limited carabulls, caraballas are allowed to be mated by carabulls even if these animals are related to each other.



Figure 18. A native carabao owned by one of the respondents in barangay Mabacca

Source of bull. Table 32 shows the source of carabulls used by the respondents in breeding their caraballas. It is shown in the table that majority [62.12%] or 41 of the respondents are borrowing the carabulls from their neighbors or other carabao raisers and these are free of charge. Only 25 [37.88%] of the respondents said that they are making use of their own carabulls.

Breeding age. Majority [87.88% or 58] of the respondents said that they have bred their heifers at two years old. Five said that they have bred their heifers at the age of 1 year and 10 months and only three said that they have bred their heifers at the age of 1 year and 8 months old [Table 33].

Table 32. Source of carabulls used by the respondents in breeding their caraballas

SOURCE	NO. OF RESPONDENTS	PERCENTAGE
Owned	25	37.88
Borrowed from neighbors	41	62.12
TOTAL	66	100.00

Table 33. Age of heifers at breeding

AGE [MONTHS]	NO. OF RESPONDENTS	PERCENTAGE
20	3	4.55
22	5	7.57
24	58	87.88
TOTAL	66	100.00



Length of gestation. All of the respondents said that the gestation period of their caraballas is almost 11 months or a little bit more.

Birth rate. Majority [95.45%] or 63 of the respondents said that their caraballas are giving birth once in two years. Only three or 4.55% of the respondents said that their caraballas are giving birth every other year [Table 34].

Feeds and Feeding Management Practices

Type of feeds. All of the respondents said that they are feeding their carabaos with indigenous feedstuffs alone. The common indigenous feedstuffs include grasses like napier grass [Fig. 19], stick leaves [Fig. 20], cogon grass and others; roughages like rice straws particularly after harvest of palay; and banana leaves and trunks [Fig. 21]. Once in a while the respondents give salt to their carabaos most especially if these have lost their appetite to eat.

System and frequency of feeding carabao. Table 35 presents the systems of feeding carabaos as practiced by the respondents. It is presented that majority [78.79%] or 52 of the respondents are practicing 100% grazing where the carabaos are allowed to

Table 34. Birth rate

AGE	NO. OF RESPONDENTS	PERCENTAGE
Once in two years	63	95.45
Every other year	3	4.55
TOTAL	66	100.00



graze on pasture lands, ricefields after harvest of palay or on idle lands where there are grasses growing. Only 14 of the respondents are practicing the so called “cut and carry” system or zero grazing.

All of the above 14 respondents who are practicing zero grazing said that they are feeding their carabaos twice a day i.e. once in the morning and another in the afternoon.



Figure 19. Napier grass used as feeds to carabaos and other ruminants in the locality

Table 35. Systems of feeding carabaos

SYSTEM	NO. OF RESPONDENTS	PERCENTAGE
Zero grazing	14	21.21
100% grazing	52	78.79
TOTAL	66	100.00



Figure 20. Stick leaves used as feeds to carabaos and other ruminant animals in the locality



Figure 21. Sample of banana plants given to carabaos and cattle by the respondents in barangay Lower Taloctoc

Types of Rearing or Housing Carabaos

All of the respondents are tethering their carabaos on pasture lands [Fig. 22] or on areas where the respondents can look into them. No one among them has constructed a housing unit for his carabaos.

Herd Health Management

All of the respondents said that they are not giving medical treatment to their carabaos when sick. They also said that they are not vaccinating nor deworming their carabaos. However, when it comes to external parasites like ticks, deticking is observed although it is done manually by hand picking.



Figure 22. A draft carabao tethered on a pasture land owned by one of the respondents in barangay Layasan

Marketing Carabaos

All of the respondents said that they are selling their carabaos directly to the buyer. They all said also that they are selling their carabaos on a per head basis or “bulto” system. The market price is dictated by the raiser based on the age of the animal and body sizes. However, in cases where the carabao to be sold is dead or dying due to accidents like when it had fallen down and can no longer walk, the carabao is usually butchered and sliced into big chunks. These chunks are put in sticks and are sold per stick either in cash or credit. No one among the respondents had sold his carabao on a liveweight basis nor on a per kilogram of carabeef.

Problems/Constraints in Raising Carabaos

Table 36 shows the problems or constraints encountered by the respondents in raising carabaos. It is shown in the table that the number one problem or constraints of the respondents is inadequate supply of indigenous feedstuffs as claimed by all of the respondents. This is true most especially during the dry season. The other problems or constraints are lack of technical support from the local government unit with 34 respondents; lack of market outlets with 19 respondents and lack of medical services with 14 respondents.

Cattle

Years in Raising Cattle

Table 37 presents the number of years the respondents have been raising cattle. It is shown in the table that out of 49 respondents, majority [51.02% or 25] of them said



that they have been raising cattle for 6-10 years. Sixteen [16] or 32.65% of the respondents said that they have been raising cattle for only 1-5 years; 6 [12.25%] said, 11-15 years and only 2 [4.08%] of the respondents said that they have been raising cattle for 16 or above number of years.

Table 36. Problems/Constraints encountered by the respondents in raising carabaos

NUMBER	NO. OF RESPONDENTS*	PERCENTAGE
Inadequate supply of indigenous feeds	66	100.00
Lack of technical support from local government unit	34	51.51
Lack of market outlets	19	28.78
Lack of medical services	14	21.21

* Multiple response
n=66

Table 37. Years in raising cattle

YEARS	NO. OF RESPONDENTS	PERCENTAGE
1 – 5	16	32.65
6 –10	25	51.02
11-15	6	12.25
16 and above	2	4.08
TOTAL	49	100.00



Number of Cattle Raised

Majority [57.14% or 31] of the respondents are raising only 1-2 heads of cattle. Fourteen [14] of the respondents are raising 3-4 heads and only seven of the respondents are raising 5 or more number of cattle [Table 38]. This results reveal that like the other farm animals, cattle industry in the municipality is in the hands of backyard raisers.

Purpose in Raising Cattle

Table 39 shows the reasons of the respondents in raising cattle. It is shown in the table that majority [57.14% or 28] of the respondents said that they are raising cattle as supplementary source of income. Cattle, just like carabaos, demands a higher price because of its bigger size. So usually, it is the one being sold when the raiser needs a bigger amount during emergency cases. Thirteen [13] of the respondents said that they are raising cattle to have available animals to slaughter during special occasions like weddings and only eight of the respondents said that they are raising cattle as draft animals.

Table 38. Number of cattle raised by the respondents

NUMBER	NO. OF RESPONDENTS	PERCENTAGE
1 – 2	28	57.14
3 – 4	14	28.57
5 and above	7	14.29
TOTAL	49	100.00



Table 39. Purpose of the respondents in raising cattle

PURPOSE	NO. OF RESPONDENTS	PERCENTAGE
As supplementary source of income	28	57.14
For special occasion	13	26.53
As draft animal	8	16.33
TOTAL	49	100.00

Source of Stocks and Capital

Majority [63.27%] or 31 of the respondents said that they have bought their stocks from other cattle raisers within the locality [Table 40]. Sixteen [16] of the respondents said that they have inherited their stocks from their parents or it was given to them by their relatives as gifts. Only two of the respondents said that they obtained their stocks from cattle raisers outside the municipality. With the exception of those who inherited their cattle and those who acquired their stocks as gifts, all of the respondents said that they made use of their own money to buy their stocks.

Table 40. Source of stock of cattle of the respondents

PURPOSE	NO. OF RESPONDENTS	PERCENTAGE
Raisers within the municipality	31	63.27
Inherited/given as gifts from relatives	16	32.65
Raisers outside the municipality	2	4.08
TOTAL	49	100.00



Breeds and Breeding Management Practices

Breeds of cattle raised. All of the respondents said that they are raising native cattle [Fig. 23]. This is because native cattle are already adapted to the locality.

Methods and systems of breeding. All of the respondents said that they are observing natural mating to reproduce their cattle. Artificial breeding has never been practiced in the locality. All of the respondents said also that they are observing inbreeding and purebreeding depending on the availability of bulls.

Source of bull. Majority [53.06%] or 26 of the respondent said that they have their own bulls to use in breeding their cows. The other 23 of the respondents said that they are borrowing the bulls they are using in breeding their cows from their neighbors, relatives or friends and the breeding services are rendered free of charge [Table 41].

Breeding age of heifers. All of the respondents said that they are breeding their heifers at the age between 2-3 years old.

Length of gestation and birth rate. All of the respondents said that their cows are calving every other year. Likewise, all of the respondents said that the gestation period of their cows is between 9-10 months.

Table 41. Source of bulls

SOURCE	NO. OF RESPONDENTS	PERCENTAGE
Owned	26	53.06
Borrowed from neighbors, relatives and friends	23	46.94
TOTAL	49	100.00





Figure 23. A native cattle owned by one of the respondents in barangay Pangol

Feeds and Feeding Management Practices

Types of feeds. Just like the carabaos, all of the respondents said that they are feeding their cattle with pure indigenous feedstuffs, forages and roughages. The common indigenous feedstuffs used include stick leaves, napier grass, cogon grass, rice straws, corn stovers, and banana leaves and trunks.

Systems of feeding. Except for the four who are practicing the “cut and carry” system or zero grazing, all of the respondents are practicing 100% grazing. The cattle are allowed to graze on pasture lands or idle lands where there are grasses growing [Table 42].



Table 42. Systems of feeding cattle

SYSTEM	NO. OF RESPONDENTS	PERCENTAGE
Grazing	45	91.84
Zero grazing/ "Cut and carry system	4	8.16
TOTAL	49	100.00

Types of Rearing Cattle

The types of rearing cattle as practiced by the respondents are presented in Table 43. It is presented that majority [55.10% or 27] of the respondents are tethering their cattle [Fig. 24]. The remaining 22 respondents are practicing the free range system where their cattle are let loosed in the mountains and all they have to do is to visit their cattle once a week. This is to check on their health or if one is missing. Sometimes they bring with them salt and give it to their cattle.

Table 43 Types of rearing

TYPES	NO. OF RESPONDENTS	PERCENTAGE
Tethering	27	55.10
Free-range	22	44.90
TOTAL	49	100.00





Figure 24. A cattle tethered on a pasture land owned by one of the respondents in barangay Dacalan

Herd Health Management

All of the respondents said that they are not giving medical treatment to their cattle just like the carabaos when sick. They also said that they are not vaccinating nor deworming their carabaos. However, when it comes to external parasites like ticks, deticking is observed although it is done manually by picking.

Marketing of Cattle

Marketing of cattle is similar to the marketing of carabaos. All of the respondents said that they are marketing directly their cattle to the buyer or consumer and it is on a per head basis or “bulto” system. The market price is dictated by the raiser to be negotiated by the buyer. No one among the respondents is selling his cattle on a liveweight basis nor on a per kilogram of butchered beef basis. Cattle that died or is



dying due to accident is also being sold but usually these is butchered and sliced in to big chunks afterwhich the meat chunks are placed in sticks. The beef then is sold per stick and not on a per kilogram basis.

Problems/Constraints Encountered by the Respondents in Raising Cattle

Table 44 presents the problems/constraints encountered by the respondents in raising cattle. Just like in carabaos, inadequate supply of indigenous feedstuffs ranks first and this is true to all of the respondents. Lack of technical support from the government ranks second with 24 respondents; lack of medical services comes next with 24 respondents and finally lack of market outlet with 12 respondents.

Table 44. Problems/Constraints encountered by the respondents in raising cattle.

NUMBER	NO. OF RESPONDENTS*	PERCENTAGE
Inadequate supply of indigenous feedstuffs	49	100.00
Lack of technical support from local government unit	24	48.78
Lack of medical services	15	30.61
Lack of market outlets	12	24.49

* Multiple response
n=49



Goats

Number of Years in Raising Goats

The number of years that the respondents have been raising goats is presented in Table 45. It is shown in the table that majority [78.26%] or 18 of the respondents have been raising goats for 3-4 years. Only three of the respondents said that they have been raising goats for 1- 2 years and two said that they have been raising goats for 5 or more number of years. This shows that the respondents have just started to raise goats.

Number of Goats Raised

All of the respondents are raising less than five goats. Majority [73.91%] or 17 of them are raising 1-2 goats and only six are raising 3-4 goats [Table 46]. The results show that goat raising in the locality is in a backyard scale.

Table 45. Number of years in raising goats

NUMBER [YEARS]	NO. OF RESPONDENTS	PERCENTAGE
1 - 2	3	13.04
3 - 4	18	78.26
5 and above	2	8.70
TOTAL	23	100.00



Table 46. Number of goats raised

NUMBER	NO. OF RESPONDENTS	PERCENTAGE
1 – 2	17	73.91
3 – 4	6	26.09
TOTAL	23	100.00

Purpose of Raising Goats

Because of the very limited number of goats they are raising, all of the respondents said that they are raising such animals mainly for family use. Usually goats are butchered by the respondents as source of food during special occasions like birthdays, graduation, baptisms and others. However if they have available goats for sale and there are available buyers, then they also sell the said goats as additional source of income.

Source of Capital and Stocks

With the exception of the three respondents who obtained their stocks from their relatives as gifts, all of the remaining 20 respondents bought their stocks using their own money. Sixteen [16] bought their stocks from other raisers within the locality and Only four bought their stocks from raisers outside the municipality.



Breeds and Breeding Management Practices

Breeds. All of the respondents said that they are raising native/upgraded goats [Fig. 25]. This is because native goats are already adapted to the locality and besides, these are the only ones available from the sources where they obtained their stocks.

Methods and systems of breeding. All of the respondents said that they are employing natural mating in breeding their does. No one among the respondents, or even in the entire locality, is employing artificial insemination [A.I]. Likewise, all of the respondents said that they are employing either inbreeding or purebreeding depending on the availability of the buck.



Figure 25. Upgraded goats tethered on a pasture land by one of the respondents in barangay Dupligan

Source of buck. Majority [78.26%] or 18 of the respondents said that the source of buck is not a problem because they have their own bucks to use [Table 47]. Only five among the respondents said that they are borrowing the bucks they are using in breeding their does from their friends or relatives because they do not have bucks of their own.

Age at first breeding. Table 48 presents that out of the 23 respondents, 19 [82.60%] of them said that they bred their does at the age of 7-8 months. Two of them said that they bred their does at 9-10 months old and another two said at 11 months old or older.

Table 47. Source of bucks used by the respondents in breeding their does

SOURCE	NO. OF RESPONDENTS	PERCENTAGE
Owned	18	78.26
Borrowed	5	21.74
TOTAL	23	100.00

Table 48. Age of goats at first breeding

AGE [MONTHS]	NO. OF RESPONDENTS	PERCENTAGE
7 - 8	19	82.60
9 – 10	2	8.70
11 and above	2	8.70
TOTAL	23	100.00



Feeds and Feeding Management Practices

Types of feeds. Just like the carabaos and cattle, all of the respondents are feeding their goats with indigenous feeds. No one among the respondents is giving conventional feeds nor concentrates to his goats. The common indigenous feeds are similar to those given to carabaos and cattle.

Systems of feeding. Majority [78.26%] or 18 of the respondents are subjecting their goats to grazing [Table 49]. It is only during stormy weathers when they subject their goats to shelter and observe the so called “cut and carry” system or zero grazing. Only five among the respondents are practicing zero grazing all throughout the year.

Housing Management Practices

All of the respondents are tethering their goats on their backyards and are brought to pasture areas during day time to graze. At night time, they are brought back to areas near their residential houses or even to a shelter most especially during rainy seasons.

Table 49. Systems of feeding

SYSTEMS	NO. OF RESPONDENTS	PERCENTAGE
Range grazing	18	78.26
“Cut and carry” system or Zero grazing	5	21.74
TOTAL	23	100.00



Herd Health Management

All of the respondents said that they are not vaccinating nor deworming their goats. To a few who encountered sickness among their goats, they said that they did not administer medicines to them. All they had done is to tether them on their backyards or near their residential houses where they can easily monitor them.

Marketing of Goats

Only few among the respondents experienced marketing of goats and they all said that they sold their goats directly to the buyer. The goats were sold on a per head basis and the market price depended on the body size and age of the goat.

Problems/Constraints Encountered by Respondents on Goat Raising

The common problems encountered by the respondents are similar to the problems encountered in carabao and cattle raising. These are inadequate supply of feedstuffs, limited grazing areas and lack of market outlets.

Support Services

Except for a few who availed of a loan from a cooperative, all the respondents said that there were no technical services nor financial support extended to them from both government and non-government organizations.



SUMMARY, CONCLUSION AND RECOMMENDATION

Summary

The study was conducted to determine the status of livestock and poultry industry in Tanudan, Kalinga from December, 2008 to January, 2009. Specifically, it aimed to determine the socio-economic profile of the respondents; the different farm animals they are raising and their number; the reasons of the respondents in raising such animals; the sources of their stock and capital; the support services availed either from government or non government organizations; problems encountered in raising animals and different production management practices in terms of housing, breeds and breeding, feeds and feeding, herd health management and marketing.

Ten barangays of Tanudan were considered to represent the municipality namely Anggacan, Dacalan, Dupligan, Gaang, Layasan, Lower Lubo, Lower Taloctoc, Mabacca, Pangol and Upper Taloctoc. These barangays were chosen based on animal population. A total of 103 respondents who are actual animal raisers were selected from the above barangays to serve as respondents.

Out of the 103 respondents, majority of them are females, married and belong to the age bracket of 41-50 years old. Their major source of livelihood is farming and most of them have graduated high school.

The common farm animal species raised by the respondents include swine, chicken, carabaos, cattle, ducks and goats and these are all raised in the backyards. Each household is raising 1-5 swine, 1-5 hens, 1-3 duck hens, 1 carabao, 1-2 cattle and 1-2 goats. Generally, the respondents are raising these animals mainly for family use i.e. as source of viand for the family most especially chickens and ducks or as source of food



during weddings, baptisms, anniversaries, graduations, and other special occasions, and as source of additional income. In addition, carabaos are raised mainly as draft animals.

With the exception of goats where most of the respondents said that they have been raising the species for 4 years or less only and the cattle for 10 years or less only, all of the other species have been raised by the respondents for more than 10 years most especially carabaos and chickens. Also with the exception of goats where majority of the respondents have bought their stocks, majority of the respondents have obtained their stocks for the other species through inheritance or it was given to them as gifts from their relatives.

Results of the study revealed that the respondents are still observing traditional practices in raising their animals, hence, the low reproductive and productive performance of their animals. In terms of breeds, all of the respondents are raising native animals. It is only in swine and goats where some of the respondents are raising upgrades. To reproduce their animals, all of the respondents are employing natural mating using their own sires or borrowing the sires of their neighbors, relatives or friends. They are observing inbreeding despite of its limitations and purebreeding. Only a few said to have observed upgrading. It seems to appear that the respondents' reason in breeding their animals is more on reproduction to increase their number and not on the improvement of performance.

In terms of feeds and feeding, majority of the respondents are feeding their swine with combinations of conventional feeds most especially ricebran and indigenous feedstuffs. The others are feeding their pigs with pure indigenous feedstuffs. Very few of the respondents are feeding their pigs with pure conventional feeds, either ricebran or



commercial hog feeds or combination of both. Generally, wet feeding is practiced when feeding indigenous feedstuffs and dry feeding is observed when feeding pure conventional feeds. Chickens are fed with cooked rice left-overs, unmilled/milled rice or corn whichever is available. Normally, the feeds are broadcasted into the yard when given to the chickens. Ducks are commonly fed with cooked rice left-overs also, sweet potato leaves and tubers and ricebran and the feeds are normally offered in a wet form. Ruminants are fed with pure grasses and roughages and they obtain their feeds mostly by grazing. Only a few of the respondents are observing the so called “cut and carry system” or zero grazing in feeding their animals. True to all the respondents, feeding the animals is done mainly to satisfy the animals’ craving for food and oftentimes, without considering whether the ration is nutritionally balanced or not.

In housing management, majority [59.27%] or 61 of the 103 respondents in swine are observing semi-confinement where pigs are confined at night time but are let loosed at day time to search for additional food. The other 42 of the respondents are completely confining their pigs. Also, to save expenses on roofing materials, majority of the respondents are having their swine houses under their own residential houses.

Likewise in chickens, almost all of the respondents, except for 4, are practicing semi-confinement also. Majority [83.50%] of the respondents have chicken houses made of all bamboo materials most especially the portable ones. For the ducks, majority [86.11%] or 31 of the respondents are subjecting their animals to free range i.e. the ducks are allowed to roam day and night on the backyards. The ducks of the other 5 respondents are completely confined but in an enclosed area. Their ducks are also free to roam around but the area where they are allowed to roam around is limited.



For the ruminants, all of the respondents said that they do not have housing for their animals. Instead these are tethered on pasture lands and are brought to a more comfortable area during adverse weather conditions particularly during typhoons.

In terms of herd health management, practically all of the respondents are not observing the common methods of preventing and controlling diseases among their animals like vaccination, deworming, disinfection and subjecting their animals to medical treatment when they get sick. Majority, however, among the respondents are bathing their pigs. Deticking is also practiced by the respondents but this is done manually by hand picking

In terms of marketing, all of the respondents said that they are selling their animals on a per head basis [bulto]. The market price is dictated by the raiser based on the age and body size of the animal and it is up to the buyer to negotiate for a lower price. However, if there are cattle and carabaos that have died or are dying due to accidents, these are usually slaughtered and sliced into chunks which are then put into a stick and are sold per stick. Marketing of animals is done directly from raiser to the buyer. No middle men involved.

Except for a few among the swine raisers who claimed to have availed of a loan from a cooperative, all of the respondents said that they did not avail of any technical nor financial support from any government or non-government organizations.

Finally for problems encountered, lack of market outlet is common to the respondents and this is true to all the farm animals being raised. The other problems encountered are lack of capital, high cost of feeds, low market price of products and animal diseases for swine; diseases and parasites, problem on theft and astray dogs for



chicken; high cost of feeds for ducks; and inadequate supply of feeds or limited grazing lands and lack of technical assistance from the local government for the ruminants.

Conclusion

Based on the results of the study, it is therefore concluded that livestock and poultry raising in the locality is in the control of backyard raisers. The animal raisers are still observing the traditional management practices hence, the low reproductive and productive performance of their animals.

Recommendation

Based on the results of the study, the following are then recommended to help improve the animal industry in the locality:

1. The concerned local government agencies should strengthened their extension services, one way of which is by conducting seminars or trainings on animal production to the animal raisers. Another way also is for them to have animal dispersal programs to introduce better breeding animals to the raisers but follow-up supervisions or monitoring from their office should be done to ensure success of the program.
2. The animal raisers should join together and form an organization or cooperative among themselves to have a stronger representation in availing of support services either from government or non-government organizations.
3. The local government should perhaps create lending institutions with lower interest rates to help solve the problem on capital of the animal raisers or those who are interested to venture in animal raising.
4. The local government should help create market outlets for animal products



thereby encouraging raisers to increase their production.



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APPENDIX A
Communication Letter

Benguet State University
COLLEGE OF AGRICULTURE
La Trinidad, Benguet

Sir/Madam:

Greetings!

The undersigned is a fourth year student taking up Bachelor of Science in Agriculture major in Animal Science at Benguet State University, La Trinidad Benguet. One requirement of the degree is to conduct thesis.

In compliance with the requirement, I came up with the study entitled “Status of Livestock and Poultry Production in Tanudan, Kalinga”. Your barangay was chosen as one of the venue due to the livestock and poultry population. This study will be conducted to evaluate the current practices of our animal raisers and hopefully give insights on proper management of the livestock in order to maximize their production potentials.

In this regard, may I then request your permission to please allow me to interview respondents in your area to comply with the objectives set forth in my study.

Thank you very much and I hope for your favorable action.

Respectfully Yours,

NESTOR C. BULLINGAN JR.
Researcher

Endorse by: MYRNA B. WALSIYEN
Thesis Adviser

Recommending Approval: SAMUEL CRESCENCIO S. ARCELLANA
Department Chairman



APPENDIX B
Survey Questionnaire

I. GENERAL INFORMATION

Name: _____
 Address: _____
 Civil Status: _____
 Highest Educational Attainment: _____

Gender: _____
 Age: _____
 Occupation: _____

Years in Raising Animals:

Farm Animals/species/breed/ strain	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			



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	Type of Non-conventional Feeds	Combination of Feeds Stuff	Frequency of feeding	System of feeding
Swine	Suckling					
	Weaning					
	Finisher					
	Sow					
	Boar					
Cattle	Cow					
	Bull					
	Calf					
Native Chicken	Chicks					
	Pullets					
	Hens					
	Rooster					
Duck	Ducklings					
	Hens					
	Drake					
Other Species						

Identification and Processing of Indigenous / Non-conventional Feeds

Non-conventional Feed, Specie, Scientific name, local name	Source/ Place of Greater abundance	Season of Abundance	Source of Information on the Use of Non-conventional Feeds



Preparation of Non-Conventional Feeds

Type of Non-Conventional Feed	Method of Preparation/Processing	Amount of Ration	Frequency of Feeding

System of Feeding

- | | |
|----------------------------|--------------------------------|
| (1) Wet group feeding | (4) Dry individual Feeding |
| (2) Wet individual Feeding | (5) free range/ choice Feeding |
| (3) Dry group feeding | (6) others (specify) |

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

(3) Hired

(2) Borrowed

(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)

(3) In terms of calves

(2) In terms of Piglets

(4) Other terms (specify)



Birth Rate, and Length of Gestation

Animal	Farrowing rate/Birth Rate	Length of Gestation
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						

