

BIBLIOGRAPHY

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ABSTRACT

The study on the Status of Livestock and Poultry Production in Alaminos City, Pangasinan was conducted to find out the profile of the respondents, the species and breeds/strains of livestock and poultry raised by the respondents in the area, the number of years in raising, number of animals raised, the purpose of raising those animals, source of initial and replacement stocks; and also to determine and document the breeds and breeding, feeds and feeding, herd health and herd management practices employed in the locality; determine the source of capital used by the respondents, determine their marketing system; to find out the support system offered by the government to livestock and poultry raisers and to know the common problems encountered by the respondents including the remedies that they are doing.

Informations were gathered through actual informal interviews of the researcher to the respondents during the scheduled time of interview.

A total of 318 respondents from 15 selected barangays represented the whole municipality. Among those 318 respondents, 189 of them are males and most of them are married (67.29%). The range of the age of the respondents who have the highest number is from 41 to 50 years old (29.56%) and most of the respondents have finished high school level and among the 318 respondents, 185 stated that their main source of their livelihood is farming.

There are 5 species of animals that the respondents are commonly raising which include swine, goats, cattle, carabaos and chickens. The most common breed of swine raised in the area are crossbred and upgrades, only few are raising hybrids and no one among the respondents is raising native pigs. For the goats, cattle, carabaos, and chickens, the common breed raised is native. Most of the respondents have been raising cattle, carabao, and chicken for more than 20 years while most swine raisers have been raising for less than 20 years.

The most common number of cattle and carabaos maintained by the respondents is 1 to 4 heads; 1-3 heads for swine. But for the chicken, more than 11 heads of pullets/hens are maintained and 1 to 5 heads for the rooster. For goat, the usual number of goat kept is 4 to 6 heads.

The main reason of the respondents of raising swine, cattle, and goat is mainly as supplementary source of income, as draft animals (carabaos) and for family consumption for the chicken respondents.

The usual source of initial and replacement stock of the respondents are from their neighbors particularly for swine (34.88%) and chicken (33.33%), most goat respondents acquired their animals from government dispersals (46.86%) and for the cattle and carabao respondents, they claimed that they inherited their stocks from their elders.

The system of breeding employed in multiplying the number of the animals are crossbreeding, upgrading, and inbreeding. Crossbreeding is common for swine, upgrading for goats and the other systems for the unmentioned species raised. As for mating system, natural mating dominates the area in breeding/mating system regardless of the specie of the animal. Usually, swine respondents hire their breeding boars used in breeding gilts and sows and the breeding services are commonly paid in terms of cash or piglet. For the goat, cattle and carabao

as well as chicken respondents, they claimed that they have their own breeding males that is why they do not have problems in relation to breeding services.

As for feeding system, majority of the swine respondents provide combination of conventional and indigenous feed stuffs and feeding is usually done twice a day, during morning and afternoon as the same with the chicken. For the goats, cattle, and carabaos, the respondents are providing indigenous feedstuff to their animals.

Some practices on the methods of preventing and controlling swine diseases and parasites are employed by the respondents like bathing, cleaning of pens, isolation, culling of sick animals as well as vaccination and deworming and this is true to all the animal species covered in the study.

All the swine respondents claimed that they completely confined their animals regardless of breeds. The pens of the swine are usually made of G.I. sheets roofings, concrete floorings and bamboo wallings. The common practices for chicken are free ranging and only few practice semi-confinements. For the cattle, carabaos, and goats, these species are commonly tethered, if not, they are let loosed on pastureland. Almost all the respondents are using their own money financing their project (98.43%).

As for marketing, different systems are practiced by the respondents such as producer to consumer, producer to retailer to consumer and producer to wholesaler to consumer. Producer to consumer dominates in swine marketing while for the goat, cattle and carabaos, the prevailing marketing system is producer to consumer system as well as for the chickens.

Free seminars, trainings and demonstrations related to animal raising and government dispersals of animals like goats and swine are the support services being extended by the city

veterinarian office to the animal raisers as well as free consultation services and free medication for the respondents who acquired their animals from the government dispersals.

Problems commonly encountered by the respondents in animal raising are high cost of commercial feeds, lack of capital, low selling price of animal products, slow growth rate, animal diseases and parasites, lack of technical knowledge and limited grazing area for the ruminants.

Based on the results of the study, it is therefore concluded that the livestock and poultry production in the City is controlled by the backyard animal raisers. The respondents have improved their management practices and are no longer observing most of the traditional practices but still they need to upgrade their knowledge and skills on animal raising most especially so that the efficiency or success of the animal raising industry is dependent on the management practices conducted by the animal raisers to their animals.

Creation of animal raisers association, creation of lending /financing institutions or cooperatives, continuous conduction of seminars, trainings and demonstrations about animal raising technologies, conductions of regular follow-ups and assessment to the animal raisers, regular conduction of sanitation practices and safety measures to the area, upgrading of native stocks, dispersals of hybrid animals as well as strict inspection of animal brought to the locality to ensure legal transactions are then suggested help solve the problems being encountered by the respondents in animal raising industry of the City.

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INTRODUCTION

Agricultural production is one of the main concerns of the city officials of Alaminos City. Livestock and poultry production as one aspect of agricultural production has been given primary attention since this is one of the major sources of income of the people living in the city and it also serves as food source for them and for their visitors. The city has high population that demands high volume of animal products in order to meet the requirement for a proper diet or for them to have a healthy lifestyle.

Backyard raising of livestock and poultry is the most common operation in the area. Some raisers are engaged in semi-commercial raising but still the production is low that cannot meet the demand of the population and the raisers lack proper management practices and knowledge that must be applied to attain high production.

For this reason, the office of the city veterinarians, assigned in animal production, is looking for remedies or better ways which could aid in developing the animal industry in the City. The office is trying to introduce and develop new techniques that would improve the existing management practices employed by the raisers in the area for them to maximize the potential of animal raising. It is also providing extension services even dispersal animals to help the farmers but despite of these services, the demands of the consumer in the city is still not met. Thus, there is a need to evaluate and asses the animal industry status and the management practices employed by the animal raisers since it is a great determinant of the success of animal production.



It aimed to answer the following questions:

1. What are the species of farm animals commonly raised per household in Alaminos City, Pangasinan?

2. How many heads per specie do they raise?

3. What are the reasons of raising farm animals?

4. How many animals per pen do they raised?

5. Where do the raisers buy or get their initial and replacement stocks?

6. How do the raisers finance their projects?

7. What are the breeds or strains of these farm animals commonly raised in Alaminos City?

8. What kind of feeds do they give and how do they feed the different species?

9. What kind of housing management do they provide?

10. How do they breed their animals?

11. What are the herd health management do they provide?

12. How do they manage their new born, young and breeding animals?

13. What technical support or services do the raisers receive from the government?

14. What are the problems do the raisers encounter and how do they solve it?

The general objectives of the study were to document and assess the animal industry status in Alaminos City.



Specifically, it aimed to:

1. Determine the profile of the raisers;
2. Determine the species, breed and status of livestock and poultry raised in Alaminos City, Pangasinan;
3. Determine the number of animals per specie, class, breed or strain raised by the animal raisers;
4. Determine the purpose of the raisers in raising those animals;
5. Determine the sources of breeding animals, initial and replacement stocks of the different specie and determine the source of capital of the raisers;
6. Determine and document the different housing, feeds and feeding, breeds and breeding, and herd health management employed in the area;
7. Determine the marketing system, market outlets and consumption of their animal and animal products;
8. Determine the support system available to livestock and poultry raisers; and to
9. Determine the common constraints/problems faced by the raisers and the remedies that they are employing.

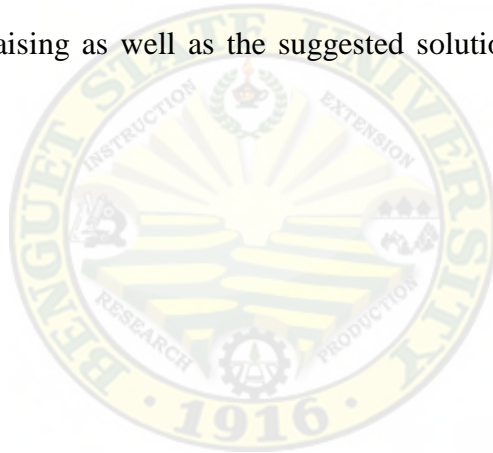
The result of this study would be of great help to researchers and especially to the farmers who are engaged in animal production. It will give further information for them to be able to improve their skills and knowledge in livestock and poultry production and also for them to appreciate the importance of farm animal raising as one major source of income and food.



Furthermore, results will serve as reference material to students, and as guide to concerned local agencies/officials in making plans leading to the improvement of the livestock and poultry production in the locality.

This study was conducted at Alaminos City, Pangasinan from April to May, 2007. The respondents were 318 randomly selected actual animal raisers from 15 chosen barangays of the said city.

The study focused on the profile of the raisers, the practices that the raisers are employing in terms of breeds and breeding, feeds and feeding, housing, herd, health, management, marketing of their animals, and the problems or constraints being encountered in animal raising as well as the suggested solutions to minimize/solve the problems.



REVIEW OF LITERATURE

Poultry raising is carried on all over the Philippines as a home industry. From the southernmost island of the Sulu archipelago to the Batanes Islands in the north, it has its place in agriculture especially in thickly populated places. There are several agencies both in public and private that help promote the poultry industry such as: DA, publications on poultry raising, poultry clubs, poultry shows with display of improved stocks, DILG etc. (Dagoon, 1993).

De los Reyes (1986) mentioned that pig constitutes the household livestock in most of the villages of Cordillera. Since time immemorial, animals were primarily raised for social and religious purposes. A family position in the community is measured and recognized through the animals which tribesman own.

According to Galasgas (1996), rural swine raisers have a big problem on feeds as one of the inputs for its high cost. For this reason, pigs are not fed with pure commercial feeds but are just added to their rations. They depend more on crops by products and other feedstuff for substitute feed.

According to Gillispie (2002), ruminants are important because they have the ability to convert large quantities of materials that cannot be used directly for human food into human food. Almost half of the chemical energy in the major cereal crops such as corn, wheat, and rice is found on the part of the plant such as stems, which are not used by human for food. This crop residue can be converted into human food by ruminants. About 80% of the human population of the world gets most of its protein, fats (lipids), niacin, and some vitamins (including vitamin B₁₃) from the meat produced by ruminant animals.



Some of the functions of livestock benefit all of the society, other functions are important mainly to individual farms. Taken together, the functions of livestock are a vital part of agriculture of the nation. It is useful to understand the functions of livestock when selecting enterprise or farm. Selecting enterprise involves the choice of what kind of livestock to be raised. Some functions of livestock such as the conversion of roughage into food are factors in this management decision (Gillespie 2002).

Animals especially ruminants are efficient farm by-products. The Philippine is a country that produces plenty of farm waste products like rice straws, corn stovers, peanut hays and the like. The common forages/roughages available and commonly given as feeds for ruminants in the Philippines are African star grass, carabao grass, para grass, ipi-ipil leaves , napier grass, and rice straw (Luis, 2006).

Intensive methods for producing animal products include the confinement of poultry in small cages, pigs in small pens, and sheep and cattle in small lots. Confinement leads to saving in labor, feed and other production cost. Confinement in individual may also afford savings from improved disease control and better protection from predators. Such practice has been condemned as being cruel to the animals and protective legislators has been advocated. Livestock and poultry farmers, on the other hand, argue that animals are probably both under much stress because disturbed animals usually show sharp decrease in productive capacity (Microsoft International, 2005).

Ranjhan (1973) stated that buffaloes are multipurpose animals. They are used for draft power in southeast Asian countries, as a source of livelihood, milk in India subcontinent like in Middle East, Egypt, etc and meat in Pakistan, Malaysia, Philippines and other countries.



In addition to this, he mentioned that buffalo production system is closely integrated with farming activities in Asia. This system is common in highly populated areas with considerable land used intensively. Animals are the main source of draft power for cultivation. Buffaloes are fed with crops residues and weeds. They have herd on marginal or fallow land and occupied by agricultural crop.

PCCARD (2004) stated that goat farming forms an important and integral part of the small holder agriculture in the Philippines. This is shown by the fact that 99% of the goats in the country are in the hands of the small farmers in rural and rural fringe areas to supplement household income. The pattern of ownership and the number of goats raised are generally secondary and in small scale. Goats have several advantages over other ruminants such as, they mature early, have high fertility, capable of multiple births and undergo shorter gestation period. They can be bred as early as 8 months old. Goats in the foundation herd could yield milk five months after conception. The first carcass or kid crop can be sold on less than a year. Furthermore, due to their small size (hence commonly known as “poor man’s cow” both women and children can conveniently look after them.

The swine industry is 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 of local animal industries. In addition, the local swine industry also provide income to entrepreneurs who are actively involved in large scale commercial swine



production and employment to farm laborers, dealers and retailers of swine production inputs and products. It also provides employment to workers in slaughterhouses and storage processing plants. Similarly, small farmers in rural, urban and semi-urban areas benefit from swine raising through the additional income to corn, rice, root crops, and coconut farmers, as it is one of the major markets of their products (PCARRD 2005).

Walsiyen (2005) stated that domestic animals vary in their average gestation lengths, 282 days (9 months and 47 days) for cows, 335 days for mares, 114 days (3 months, 3 weeks and 3 days) for sows. She also added that the maximum farrowing index of sow is 2.5 x a year.

Conceptual Framework

Animal production has a high contribution in the development of the City of Alaminos. The city veterinarian office is giving much consideration to this aspect of production. Since the population in this city is high, animal products must also be high in order to meet the needs of the consumers in this place.

For this reason, this study was conducted primarily to document and evaluate the animal status and the management practices being employed by the raisers in this city since these practices are the greatest determinants of efficiency of animal raising. This study aimed also to determine the common problems being encountered in the farm level which is one of the hindrances for any possible development and finally to determine possible remedies towards these problems. It aimed to increase knowledge on managing their farm in order for them to have high and good production and produce high quality animal products.



METHODOLOGY

Locale and Time of the Study

The study was conducted in the 15 selected barangays of Alaminos City, Pangasinan which includes Amandiego, Amangbangan, Balangobong, Bisocol, Cabatuan, Dulacac, Inerangan, Limansangan, Magsaysay, Mona, Palamis, Pandan, Polo, San Vicente, and Telbang from April to May 2007.

Alaminos City, Home of the World Famous Hundred Islands, is one of the known major cities in the Philippines. It has an approximate land area of about 166.23 km² as indicated in the socio economic profile.

Alaminos City is located in the western part of Pangasinan. It is bounded by the other municipalities of the province of Pangasinan. On the northwest by Bani, on the east by Sual, on the southeast by Mabini and on the North by Lingayen Gulf, Taytay Bay, Tanbay Bay, Lucap Bay and Baques Gulf (Fig.1). The approximate distance and travel time via land from Alaminos City to the neighbor major cities in the Philippines are 257 km or 5 hours to Manila, 136 km or 2 hours to Baguio City, 200 km or 4 hours to Olongapo City, 63 km or 1 hour to Dagupan City, 123 km or 2 hours to San Fernando City, La Union and 45 km or 0.75 hours to Lingayen, Pangasinan.



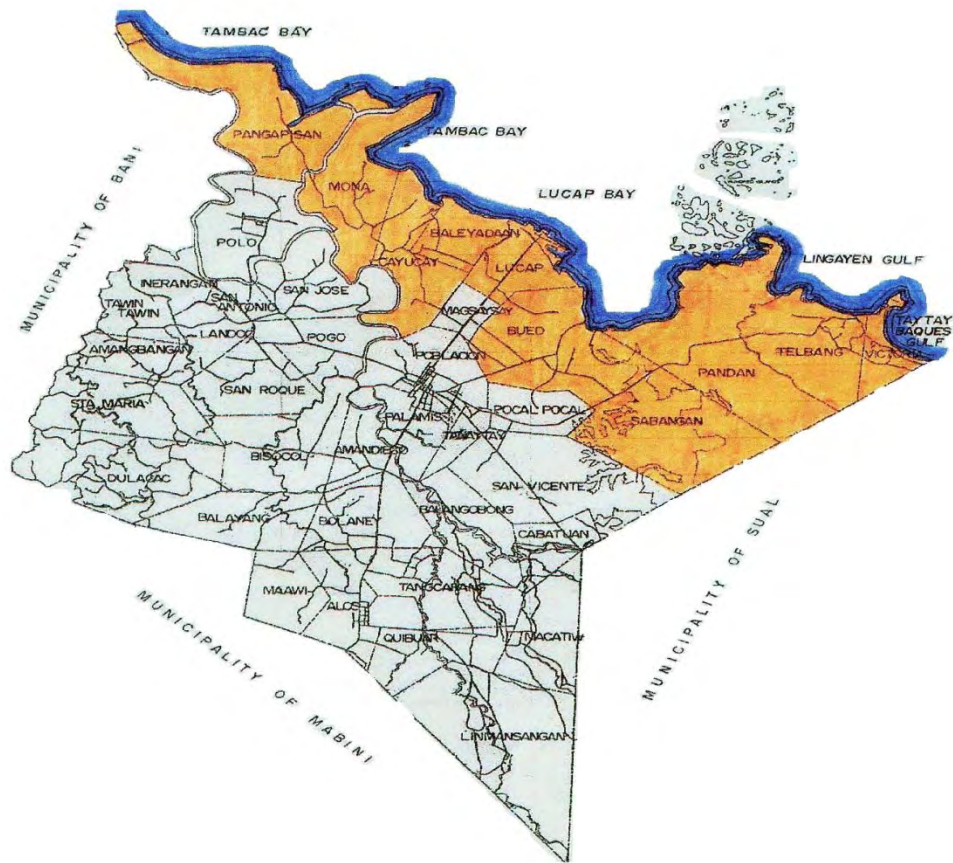


Figure 1. Map showing the City of Alaminos



Respondents of the Study

The respondents of the study were people engaged in animal raising in the selected barangays of Alaminos City. Selection of these barangays was based on their respective animal population. The first 15 barangays with the most number of animals being raised were chosen. Table 1 shows the livestock and poultry population of each barangay.

Number of respondents in each barangay was determined by getting the 10% of the total number of the households in that particular barangay. Random sampling was used in choosing the said respondents. Table 2 shows the distribution of the respondents in each barangay.

Table 1. Livestock and poultry population of the selected barangays in the City

BARANGAY	CATTLE	CARABAO	SWINE	GOAT	POULTRY	TOTAL
1. Amandiego	297	294	407	297	697	1,992
2. Amangbangan	50	310	200	50	1,000	1,610
3. Balangobong	300	310	500	250	200	1,560
4. Bisocol	153	450	325	209	1,930	3,067
5. Cabatuan	27	104	1,091	152	1,602	2,976
6. Dulacac	300	450	850	500	200	2,300
8. Limansangan	25	140	200	50	1,700	2,115
7. Inerangan	75	201	100	85	10,000	10,461
9. Magsaysay	35	62	1,500	100	1,000	2,697
11. Palamis	100	40	800	100	500	1,540
10. Mona	250	304	705	254	3,002	4,515
12. Pandan	36	94	690	73	850	1,743
13. Polo	100	200	1,152	250	1,500	3,202
14. San Vicente	314	300	365	38	273	1,290
15. Telbang	148	72	657	92	1,020	2,007
TOTAL	2,210	3,331	4,560	2,500	25,474	43, 075

Source: Office of the City Veterinarian, Alaminos, Pangasinan (2006)



Table 2. Respondents of the study

BARANGAY	NO. OF HOUSEHOLD	NO. OF RESPONDENTS
1. Amandiego	203	20
2. Amangbangan	103	10
3. Balangobong	137	13
4. Bisocol	144	14
5. Cabatuan	231	23
6. Dulacac	207	20
7. Inerangan	208	20
8. Limansangan	109	10
9. Magsaysay	260	26
10. Mona	141	14
11. Palamis	411	41
12. Pandan	110	110
13. Polo	310	31
14. San Vicente	515	51
15. Telbang	149	14
TOTAL		318

Source: Office of the City Veterinarian, Alaminos, Pangasinan (2006)

Data Collection

The study used an interview schedule prepared before hand and a camera for documentation. Actual informal interviews were carried out based on the prepared schedule to gather information from the respondents. Home visits were conducted in order to get better pictures on the data that the respondents had given. A sample picture of the researcher with some of the respondents during the interview is shown in Figure 2.





Figure 2. The researcher with some of the respondents during the actual interview at the office of the city veterinarian



Data Gathered

Data gathered were the following:

1. Socio-economic profile. This included information on the respondents' name, sex, occupation, address, civil status and the highest educational 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. It included the class, age, breed or strain, purpose which the animal are raised in numbers.
4. Source of animals. Included the source of initial and replacement stocks.
5. Source of capital. It stated how the project is financed.
6. Housing management practices. This included the kind of housing and rearing provided to the animals, housing materials used, number of animals per house /pen and facilities used in the farm.
7. Feeding management practices. This includes the type and the source of feeds and frequency of feeding, identification and processing of indigenous feeds, preparation of indigenous feeds, and the systems of feeding the animals.
8. Breeding management practices. This include s the breeding system, source of male breeding animals, terms of payment for breeding services, birth rate, length of gestation and lactation, number of services before conception and other reproductive data such as litter size at birth, litter size at weaning, number of eggs incubated, number of eggs hatched and number of unhatched eggs.



9. Herd health management practices. It included sanitation practices, vaccination practices, management of sick animals, control of internal and external parasites, and non-conventional remedies.

10. Other herd management practices. This included the care of young pigs, breeding animals, young calves and young chicken as well.

11. Marketing management. This shows the animal products and the marketing strategies and pricing schemes of respondents.

12. Support system. This includes only technical services or financial support extended to the raisers such as those from LGU, and other non-government units/organizations.

13. Problems/constraints. This covered all of the problems encountered in raising the animals and the solutions employed by the raisers to solve it.

Data Analysis

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



RESULTS AND DISCUSSION

Profile of the Respondents

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

Age. It was found out that most (29.56%) or 94 of the respondents had ages ranging from 41 to 50 years old, followed by 61-70 years old with percentage of 22.01 (70 out of 318 respondents). Fifty two or 16.35% of the respondents had ages ranging from 31-40 years old; 42 had ages ranging from 21-30 years old and 10 had ages ranging from 71-80 years old. The results showed that not only the young people are raising animals but also the older generations particularly chicken, goat and swine because these are easier to care compared to cattle and carabaos.

Sex. Based on the findings, there are more male respondents 59.43% (189 of 318 respondents) compared to females with a percentage of 40.57 (129 of the 318 respondents) involved in animal raising most especially in raising ruminants and also swine. However for poultry, most of the respondents are females since poultry are easily handled. Most respondents are males because it is the belief in the lowlands that males are the ones who should search for income for the family.

Civil status. The result showed that majority (67.29%) or 214 of the respondents are married; 60 (18.87 %) of the respondents are widower and only 44 (13.84%) of the respondents are single. The married individuals possess the greatest number of the respondents because they have their own families depending on them so they need to look for additional source of income to meet the needs of their dependents and be able to achieve their goals.



Table 3. Personal profile of the respondents

PROFILE	NO. OF RESPONDENTS	PERCENTAGE
Age		
21-30	42	13.21
31-40	52	16.35
41-50	94	29.56
51-60	50	15.72
61-70	70	22.01
71-80	10	3.15
TOTAL	318	100.00
Gender		
Female	129	40.57
Male	189	59.43
TOTAL	318	100.00
Civil Status		
Married	214	67.29
Single	44	13.84
Widower	60	18.87
TOTAL	318	100.00
Highest educational attainment		
Elementary	58	18.24
High school	155	48.74
College	35	11.01
Vocational	70	22.01
TOTAL	318	100.00
Occupation		
Government employee	55	17.30
Farming/animal raiser	185	58.30
Housekeeper/housewife	48	15.09
Vendor	30	9.43
TOTAL	318	100.00



Highest educational attainment. Based on the results, majority or 155 of the respondents reached high school, seventy (70) reached college level, fifty eight (58) reached elementary and there are 35 out of the 318 respondents who finished vocational courses. The findings show that majority of the respondents did not finish formal course on animal raising. Though lesser in number, the respondents who have reached higher level of education, at least there are people like them who are engaged in animal raising so it is not true that only those people who did not finish their studies are the only farmers in the area or farming is not limited to people with low educational attainment only because even degree holder people are still engaged to such occupation.

Occupation. As shown in Table 3, majority (58.30%) or 185 of the respondents are farmers, fifty five (55) are government employees, forty eight (48) are housekeepers or housewives and thirty (30) are vendors. The results showed that even the government employees who receive fixed salaries are still involved in animal raising. Because of economic crisis, they still need to find other sources of additional income in order for them to meet their demands for survival.

Species of Farm Animals Raised and Number of Respondents Per Specie

Table 4 and Fig.3 show the different species of livestock and poultry raised by the respondents from the 15 chosen barangays of Alaminos City, Pangasinan. It is shown in the table that from the 318 total respondents, most or 258 (81.04%) of the respondents are raising swine. 143 (44.97%) are raising goats, 93 (29.24%) are raising chicken, 86 (27.04%) are raising cattle, and there are only 22 (6.92 %) raising carabaos.



Table 4. Species of farm animals raised and number of respondents per specie

SPECIES	NO. OF RESPONDENTS*	PERCENTAGE
Swine	258	81.13
Goat	143	44.97
Cattle	86	27.04
Carabao	22	6.92
Chicken	93	29.24

*Multiple responses
n = 318

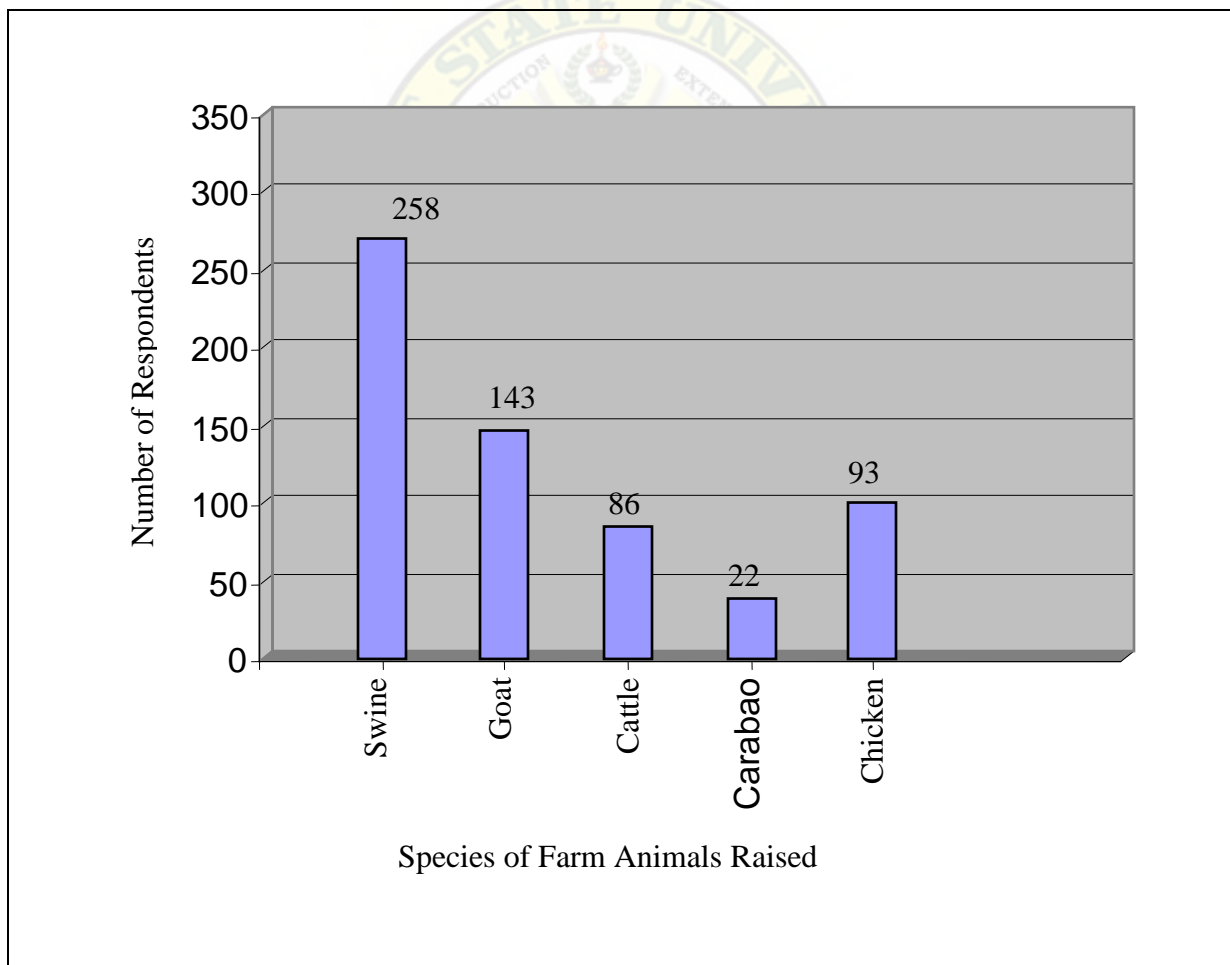


Figure 3. Species of farm animals raised and the number of respondents per specie



Swine

Years in Swine Raising

It is shown in Table 5 that most or 112 (43.40%) out of 258 respondents have been raising swine for 1 to 5 years; 60(23.25%) have been raising swine for 6 to 10 years; 43 (16.66%) have been raising swine for 21 years or more; 26 (10.10%) have been raising swine for 15 years and 17 (6.59%) have been raising for 1 to 20 years. The result shows that most of the respondents have just started in raising swine.

Number of Swine Raised

Table 6 shows the number of pigs raised by the respondents. It is shown in the table that of the 258 respondents, 153 (59.30%) are raising 1 to 3 pigs; 50 (19.38%) are raising 4 to 6 pigs; 33 (12.79%) are raising 7 to 9 pigs and there are only 22 (8.53%) raising 10 or more number of pigs. These findings show that all of the swine respondents in Alaminos City are on backyard scale production.

Table 5. Number of years in swine raising

NO. OF YEARS	NO. OF RESPONDENTS	PERCENTAGE
1-5	112	43.40
6-10	60	23.25
11-15	26	10.10
16-20	17	6.59
21-above	43	16.66
TOTAL	258	100.00



Table 6. Number of swine raised by the respondents

NO. OF SWINE RAISED	NO. OF RESPONDENTS	PERCENTAGE
1-3	153	59.30
4-6	50	19.38
7-9	33	12.79
10-above	22	8.53
TOTAL	258	100.00

Purpose of Swine Raising

Table 7 presents the main reasons why the respondents are raising swine. Majority (78.88%) or 203 of the respondents are raising swine mainly as supplementary source of income regardless of the breed that they are raising; forty four (44) said that they are raising swine for family consumption and there are only eleven (11) respondents who said that they are raising swine to have available animals to offer as gift to special people in their lives.

Source of Initial and Replacement Stock

The source of initial/replacement stocks of the respondents is shown in Table 8. As presented, of the 258 respondents, 90 claimed that they acquired their stocks from their neighbors; 72 (27.91%) bought their stocks from other barangays within the municipality, 51 (19.77%) said that their swine were purchased from external sources or outside the municipality, and the 45 respondents claimed that they acquired their animals from government dispersals.



Table 7. Reasons for swine raising

PURPOSE	NO. OF RESPONDENTS	PERCENTAGE
For family use/ consumption	44	17.06
For gift	11	4.26
As supplementary source of income	203	78.68
TOTAL	258	100.00

Table 8. Source of stocks (initial and replacement)

SOURCE OF STOCKS	NO. OF RESPONDENTS	PERCENTAGE
Neighbors(same barangay)	90	34.88
Government dispersal	45	17.44
Outside the municipality	72	27.91
Other barangays within the municipality	51	19.77
TOTAL	258	100.00

Breeds and Breeding Management Practices

These include the classification and breeds/strains raised, system of breeding, methods of mating, source of male breeding animals, terms of payment for breeding services, age at first breeding, frequency of breeding to conception, length of gestation and other reproductive data in swine.

Breeds/Strains of swine raised. The breeds/strains of swine raised by the respondents are shown in Table 9. The table shows that 131 of the 258 respondents are raising crossbreed, 120 are raising upgrades and there are 7 raising hybrids. Most of the respondents are raising crossbreeds for the reason that crossbreeds have faster growth rate,



have good mothering ability, litter size and more prolific compared to upgrades. The common breeds used to produce the crossbreds are large white, landrace and durocs. The common hybrid raised by some of the respondents is hypor. Sample pictures of crossbred and hybrid pigs raised in Alaminos are shown in Figures 4 and 5.

Breeding system. Table 10 presents the system of breeding observed by the respondents. It is shown in the table that 118 respondents are practicing crossbreeding. They are actually those raising crossbreed swine; 98 are practicing upgrading and 42 respondents are employing inbreeding. Most respondents are practicing crossbreeding because they want to combine the desirable traits that each breed possesses.

Table 9. Breeds/strains of swine raised by the respondents

BREED	NO. OF RESPONDENTS	PERCENTAGE
Upgrade	120	46.51
Crossbreed	131	50.78
Hybrid	7	2.71
TOTAL	258	100.00

Table 10. System of breeding in swine

BREEDING SYSTEM	NO. OF RESPONDENTS	PERCENTAGE
Inbreeding	42	16.28
Upgrading	98	37.98
Crossbreeding	118	45.74
TOTAL	258	100.00





Figure 4. Crossbred sow with her twelve (12) newly born piglets



Figure 5. Hybrid sow (hypor) with her fifteen (15) suckling piglets



Methods of mating. Table 11 shows that almost all the respondents are practicing natural mating. There are only 8 employing artificial insemination (A.I.). The respondents said that they prefer to practice natural mating because artificial insemination (A.I) is not common in their area. Besides their boars are not trained for semen collection.

Source of boars. Table 12 presents the sources of boars used by the respondents in breeding their gilts and sows. It is shown in the table that 202 of the respondents are hiring boars to breed their gilts and sows which is practical because they are raising few heads of sows and keeping a boar for breeding would be an additional cost. Forty eight (48) of the respondents have their own boars for breeding their gilts and sows and their boars are also hired by other raisers so it would not be too expensive for the owners in keeping these boars. Eight (8) respondents claimed that they do not have problem about boars because they are observing A.I.

Terms of payment. As shown in Table 13, 128 of the 258 respondents are paying the breeding services of boars they used in terms of cash because this is cheaper compared to the one piglet or weanling given to the owner of the boar at weaning. One hundred two (102) respondents are paying their breeding services the traditional way which is in terms of piglets; these are the raisers who have arrangement with the owner of the boar that paying would be in terms of piglets or weanlings. There are 28 respondents who claimed that payment of breeding services is not their problem because they have their own boars to use.



Table 11. Methods of mating swine

METHODS OF MATING	NO. OF RESPONDENTS	PERCENTAGE
Artificial insemination	8	3.10
Natural mating	250	96.90
TOTAL	258	100.00

Table 12. Source of boars

SOURCE OF BOAR	NO. OF RESPONDENTS	PERCENTAGE
Owned	48	18.60
Hired	202	78.29
Others (A.I.)	8	3.11
TOTAL	258	100.00

Table 13. Terms of payment for breeding services

TERMS OF PAYMENT	NO. OF RESPONDENTS	PERCENTAGE
Cash	128	49.66
In terms of piglet	102	39.54
Owned	28	10.85
TOTAL	258	100.00

Age at first breeding. Table 14 shows the age of gilts at first breeding as observed by the respondents. Majority or 212 of the respondents claimed that they breed their gilts at the age of 8 to 9 months. Twenty one (21) respondents claimed that they breed their



gilts at the age of 10 to 11 months, and there are 7 respondents who claimed that they breed their gilts at the age of 12 to 13 months.

Number of services before conception. Table 15 shows the number of services before conception as observed by the respondents. It is shown in the table that majority or 246 of the respondents claimed that they are breeding their sows once. Nine claimed that they are breeding their sows twice and there are three (3) respondents who claimed that they are breeding their sows thrice before conception. The respondents are breeding their animals during the morning when it is not yet hot and late in the afternoon.

Table 14. Age at first breeding

AGE (MONTH)	NO. OF RESPONDENTS	PERCENTAGE
6-7	21	8.14
8-9	213	82.56
10-11	17	6.59
12-13	7	2.71
TOTAL	258	100.00

Table 15. Number of services before conception in swine

NUMBER OF SERVICES BEFORE CONCEPTION	NO. OF RESPONDENTS	PERCENTAGE
Once	246	93.35
Twice	9	3.49
Thrice	3	1.16
TOTAL	258	100.00



Length of gestation. Table 16 presents the lengths of gestation observed by the respondents in their gilts and sows. It is shown in the table that majority (204 or 79.07%) of the respondents said that their sows and gilts had gestation lengths of 113 to 114 days, the later of which is the average gestation length as stated by Walsiyen (2005). It was found out that those respondents raising crossbreds and hybrids are the ones claiming that their gilts/sows gave birth after a gestation length of as early as 110 days. No one among the respondents raising upgrades observed this in their sows. The shortest gestation length observed by some of the respondents raising upgrade was 112 days and most of those who claimed that their gilts/sows gave birth after a gestation length of 115 days or over are those raising upgrades.

Litter size at birth and at weaning. Table 17 presents the litter size at birth and at weaning as observed by the respondents from their sows and gilts. As shown in the table, most (121 or 46.90%) of the respondents said that their sows gave birth to a litter size of 11 to 12 particularly the respondents raising crossbreds. Sixty five (65) said that their sows gave birth to a litter size of 9 to 10 particularly those raising upgrades. Fifty four (54) said that their sows gave birth to a litter size of 7 to 8; sixteen (16) said 13 to 14 particularly the respondents raising hybrids and there are only 2 respondents who said that their sows gave birth to more than 15 and these 2 are raising hybrid swine As for the litter size at weaning, most or 98 of the respondents are observing 9 to 10 litter size at weaning particularly the respondents raising upgrades; ninety five (95) said that they are observing 11 to 12 litter size particularly the respondents raising crossbreds; fifty (50) said that they are observing 7 to 8 litter size at weaning; fourteen (14) said that they are observing 13 to 14 litter size at weaning particularly the crossbred and hybrid swine



Table 16. Length of gestation in swine

GESTATION LENGTH	NO. OF RESPONDENTS	PERCENTAGE
110 days	8	3.10
112	20	7.75
113	112	43.41
114	92	35.66
115 and above	26	10.08
TOTAL	258	100.00

respondents and there was only 1 respondent raising hybrid who said that he is observing more than 15 litter size at weaning.

Number of farrowing per year. Table 18 shows the number of farrowings per year. As shown in the table, majority of the crossbreed swine respondents (73.28%) claimed that their sows reached the maximum farrowing index of swine which is 2.5/year and fourteen (14) respondents said that their sows are giving birth once a year. For those raising upgrades, most (57 or 47.50%) of the 120 respondents claimed that their sows reached also the maximum farrowing index of swine. Forty nine respondents claimed that their sows are giving birth twice a year while the fourteen (14) respondents claimed that their sows give birth only once a year. As for the hybrids, still most of the respondents claimed that their sows reached the maximum farrowing index of swine also.



Table 17. Litter size at birth and weaning

PARTICULAR	NO. OF RESPONDENTS		PERCENTAGE
Litter size at Birth			
7-8	54		20.93
9-10	65		25.19
11-12	121		46.90
13-14	16		6.20
15 - above	2		0.78
TOTAL	258		100.00
Litter Size at Weaning			
7-8	50		19.38
9-10	98		37.98
11-12	95		36.82
13-14	14		5.43
15-above	1		0.39
TOTAL	258		100.00

Table 18. Number of farrowings per year

BIRTH RATE	UPGRADE		CROSSBREED		HYBRID	
	F	%	F	%	F	%
Once a year	14	11.67	21	16.03		
2.5 x 1 year	57	47.50	96	73.28	6	85.71
Twice a year	49	40.83	14	10.69	1	14.29
TOTAL	120	100.00	131	100.00	7	100.00



Feeds and Feeding Management Practices

The feeding management practices include the type of feeds, conventional feeds, identification of indigenous feedstuffs, preparation of indigenous feedstuffs and systems of feeding the animals as well as the frequency of feeding the animals.

Types of feeds provided to swine. Table 19 presents the types of feed provided to pigs by the respondents. It is shown in the table that majority (178 of the 258 respondents) are giving combinations of indigenous and commercial feeds to their pigs. Seventy three of the respondents are feeding their pigs with pure commercial feeds and only 7 of the respondents claimed that they are feeding their pigs with indigenous feeds only.

Indigenous feedstuff. The common indigenous feedstuffs fed by the respondents to their swine are kitchen refuse and papaya fruits. These are the only common indigenous feedstuff that the respondents are giving to their animals particularly to the upgrade swine.

Kitchen refuse. Kitchen refuse are the food leftovers in the kitchen such as rice, viands, fruits and others. These are the products that cannot be eaten by human. Kitchen refuse are given free and always available at any time of the year. The respondents collect these kitchen refuses from their neighbors and add to their own kitchen refuse, cook it before giving to their pigs.

Papaya (*Carica papaya*). This plant is abundant in Alaminos City Pangasinan. It can thrive throughout the year and is always found abundant. It continuously bears fruit the whole year round so that the availability of this feedstuff is not problem for the respondents who are providing it as feeds for their animals.



Table 19. Types of feeds provided to the swine

TYPES OF FEEDS	NO. OF RESPONDENTS	PERCENTAGE
Commercial feeds	73	28.29
Indigenous feeds (Non-conventional)	7	2.72
Combination (commercial and Indigenous)	178	68.99
TOTAL	258	100.00

Methods of preparation. Table 20 presents the methods of preparing the indigenous feedstuff as practiced by the respondents. Majority of the respondents (73 of 77 respondents) chopped and cooked papaya fruits most especially young or unripe once before they feed to their animals. There are only 64 respondents who are chopping and giving the papaya fruit raw to their animals. For the kitchen refuse, majority or 82.41 % of the respondents are cooking the kitchen refuse before feeding to their animals while 17.59% respondents are giving it raw to their swine.

Frequency of feeding. The frequency of feeding swine as practiced by the respondents is presented in Table 21. With the exception of weanlings and growers, all the 258 respondents said that they are feeding their adult pigs namely the finishers, boars and sows twice a day i.e. in the morning and in the afternoon. For weanlings and growers, majority (more or less 95%) of the respondents are feeding these pigs twice a day also, however, few respondents (14 for weanlings and 9 for growers) are feeding their weanlings and growers thrice a day i.e. in the morning, noon and in the afternoon. All the 258 respondents are feeding their sucklings twice a day but feeding is done to supplement the main food of the sucklings which is the milk.



Table 20. Preparation of indigenous feeds for swine

METHODS OF PREPARATION	KITCHEN REFUSE		<u>PAPAYA</u>	
	F	%	F	%
Cooked	89	82.41		
Raw	19	17.59		
Chopped-cooked			73	94.81
Chopped-raw			4	5.19
TOTAL	108	100.00	77	100.00

Table 21. Frequency of feeding swine

FREQUENCY	<u>SUCKLING</u>		<u>WEANLING</u>		<u>GROWER</u>		<u>FINISHER</u>		<u>SOW/BOAR</u>	
	F	%	F	%	F	%	F	%	F	%
Twice a day	258	100.00	244	94.57	249	96.51	258	100.00	258	100.00
Thrice a day			14	5.43	9	3.49				
TOTAL	258	100.00	258	100.00	258	100.00	258	100.00	258	100.00

Systems of feeding. Table 22 presents the systems of feeding swine by class practiced by the respondents. For the sucklings, all the respondents are practicing dry feeding. For the weanlings, majority (97.29%) of the 258 respondents are practicing dry feeding and 43 respondents are practicing wet feeding. For the growing pigs, 251 of the 258 respondents are practicing wet feeding and 7 respondents for dry feeding. For the finishers, 253 of the 258 respondents are practicing wet feeding and only 5 respondents are practicing dry feeding. All the respondents are feeding their sucklings, weanlings and the growing/finishing pigs in groups (Fig. 6). For the breeding swine, the respondents are practicing individual feeding and majority (256 or 99.22%) are practicing wet feeding. Only 2 are practicing dry feeding.



Table 22. System of feeding swine

FEEDING SYSTEM	NO. OF RESPONDENTS	PERCENTAGE
Weanling		
Wet group feeding	43	16.67
Dry group feeding	215	83.33
TOTAL	258	100.00
Grower		
Wet group feeding	251	97.29
Dry group feeding	7	2.71
TOTAL	258	100.00
Finisher		
Dry group feeding	253	98.06
Wet group feeding	5	1.94
TOTAL	258	100.00
Breeding swine		
Wet individual feeding	256	99.22
Dry individual feeding	2	0.78
TOTAL	258	100.00





Figure 6. Dry group feeding of grower crossbred swine

Herd Health Management Practices

The common practices and methods that the respondents employ to prevent and control diseases and parasites of their swine include isolation, culling of sick animals, prevention of external/internal parasites, deworming, vaccination, seeking veterinary assistance, bathing of animals and cleaning of the pens.

As shown in Table 23, majority of the respondents who are raising upgrades practice isolation of sick animals. There are only few of the respondents who do not isolate their sick pigs. For those raising crossbreds and hybrids, almost all the respondents claimed that they are practicing isolation to their sick pigs. Regardless of the breeds of the swine raised, almost all of the interviewed raisers cull their sick animals,



only few are not culling their sick animals especially when it is not contagious disease like hernia (Fig. 7). Their are some respondents who claimed that they seek for veterinary assistance especially when their animals are seriously ill, some of the assistance provided by the veterinarians were free consultation and medication of sick animals. But some also claimed that they do not need veterinary assistance like in cases that their animals only suffer minor diseases. Deworming and vaccination are also employed by some of the respondents especially when they hear or learn from news that there is an outbreak of any contagious diseases and others do not. All they have to do is just to keep their animals safe and clean. Some of the brands of dewormers used by the respondents to their pigs are alvondazole, levamisole, latigo and agmectin. Vaccine brands used are hemosypt and anti hog cholera vaccines. Vaccination of piglets and sows is shown in Figures 8 and 9. All the respondents claimed that they are bathing their animals. For the upgrades, majority of the respondents claimed that they are bathing their pigs twice a day ; some of the respondents have no regular schedule in bathing their animals and there are respondents claimed that they bath their animals once a day. For the crossbred and hybrid, almost all the respondents claimed that they bath their animals twice a day or thrice a day because the weather is very hot especially during summer in Alaminos City so there is a need to bath the animals as long as water supply is available. In terms of cleaning pens, almost all the respondents raising upgrade, crossbreds and hybrid animals clean the pens twice a day since their animals are completely confined.



Table 23. Methods of preventing and controlling swine diseases

PARTICULAR	NO. OF RESPONDENTS	PERCENTAGE
Isolation		
Yes	249	96.51
No	9	3.49
TOTAL	258	100.00
Culling of sick animals		
Yes	244	94.57
No	14	5.43
TOTAL	258	100.00
Veterinary assistance		
Yes	90	34.88
No	168	65.12
TOTAL	258	100.00
Deworming		
Yes	158	61.24
No	100	38.76
TOTAL	258	100.00
Vaccination		
Yes	243	94.19
No	15	5.81
TOTAL	258	100.00



Figure 7. A grower with umbilical hernia (not contagious disease)





Figure 8. Vaccination of piglet against hog cholera



Figure 9. Vaccination of newly farrowed sow with anti agalactia



Other Herd Management Practices

Table 24 presents the other herd management practices observed by the respondents in raising swine. Majority of the respondents practice providing of brooder (97.67%), feeding of piglets on fifth day (99.61%) and castration (98.84%) while only few respondents do not employ the said practices. Regardless of the breed of pigs that the respondents are raising, all the respondents claimed that they are observing removal of fetal membrane, cutting of navel cord, iron injection, cutting of needle teeth, and weaning. Iron administration (iron D, jectran, and iron vite) is done on the third/ fourth day of the piglets after birth to prevent anemia according to the respondents and weaning is done at 40 to 45 days old. For the males which are not intended for breeding, the respondents are castrating them on their third/fourth week of age.

Table 24. Other herd management practices

MANAGEMENT PRACTICES	NO. OF RESPONDENTS	PERCENTAGE
Provide brooder		
Yes	252	97.67
No	6	2.33
TOTAL	258	100.00
Feeding piglets on the fifth day		
Yes	257	99.61
No	1	0.39
TOTAL	258	100.00
Castration		
Yes	255	98.84
No	3	1.16
TOTAL	258	100.00



Housing Management Practices

This includes the kinds of housing provided to swine, the housing materials used, number of pen in one house and the number of animals per pen/house.

Kind of housing. All the respondents claimed that they confine their pigs in pen. The pigs are totally confined, however, there are portion of their swine houses that are not shaded where the pigs can stay to receive the sunlight. The sides also are not totally enclosed to allow fresh air to enter inside the house to help remove odor and excess moisture. Figure 10 shows the sow in a complete confinement house with 8 pens in one house.



Figure 10. Crossbred sows confined individually in a house with 8 pens



Housing materials used. Table 25 presents the types of materials used for roofing, flooring and walling/fencing the confinement pens.

Roofings. All the respondents have made use of G.I. sheets as roofings of their swine houses. According to the respondents, they prefer to use G.I. sheets for roofing because of their durability and are much stronger to protect the animals from strong winds and rains compared to cogon and other types of roofings.

Floorings. All the respondents said that they provided concrete floorings to their swine. They claimed that concrete flooring is good because it is easy to clean and it would not cause any harm to their pigs.

Wallings/Pen division. Majority or 134 of the 258 respondents claimed that they are utilizing concrete wallings or pen divisions because these are permanent. There are 107 respondents who claimed that they are utilizing bamboo wallings since these are free and abundant in their municipality while only 17 respondents claimed that they are utilizing wood wallings/pen divisions. Figure 11 shows a housing of swine with bamboo fencing/walling.

Table 25. Housing material used for walling

TYPES OF MATERIALS	NO. OF RESPONDENTS	PERCENTAGE
Walling/Pen division		
Wood	17	6.59
Bamboo walls	107	41.47
Concrete	134	51.94
TOTAL	258	100.00





Figure 11. Swine housing with bamboo walls and a brooder beside the house

Number of pen in one house. As shown in Table 26, majority (52.72% or 136) of the respondents have swine houses with 1-2 pens. Fifty three (20.54%) said their swine houses have 7-8 pens; 49 (18.99%) said 5-6 pens and 20 said their swine houses have 3-4 pens. Generally, their swine houses have few pens and this is expected because majority of them are backyard raisers.

Number of animals per pen. Table 27 presents that majority (88.76% or 229) of the respondents are confining 1-2 weaners in a pen and this is because their pens are wide enough for 1-2 pigs also. Similarly for growing-finishing pigs, majority (93.41% or 241) of the respondents also are confining 1-2 pigs and only 17 are confining 3-4 pigs in a pen..

However, for breeding swine like boars, gilts and sows, all of the respondents said that their pigs are confined individually by them (Fig. 12)



Table 26. Number of pens/corrals in one house

NO. OF PEN	NO.OF RESPONDENTS	PERCENTAGE
1-2	136	52.72
3-4	20	7.75
5-6	49	18.99
7-8	53	20.54
TOTAL	258	100.00

Table 27. Number of swine per pen

NO. OF ANIMALS (HEAD/PEN)	NO.OF RESPONDENTS	PERCENTAGE
Weanling		
1-2	229	88.76
3-4	23	8.91
5-above	6	2.33
TOTAL	258	100.00
Finisher/Grower		
1-2	241	93.41
3-4	17	6.59
5-above		
TOTAL	258	100.00





Figure 12. Sow confined in an individual pen

Marketing

This includes the marketing system and method of marketing swine that the respondents are practicing in their municipality.

Marketing system. As shown in Table 28, the systems of marketing that the respondents are practicing are producer to consumer, producer to retailer to consumer and producer to wholesaler to retailer to consumer. One hundred twenty one (121) out of 258 respondents raising swine are practicing producer to retailer to consumer system. The respondents practicing this system are the ones who are selling their swine to the known meat vendors and the later will sell the dressed carcasses to the consumers in the market. One hundred six (106) respondents claimed that the system that they are practicing is producer to consumer. Some of the respondents have meat stalls in the market where they



sell their meat products directly to the consumers so that they will be free from abusive middle men. Some of the respondents are also selling their piglets/weanlings directly to the consumers. Only 31 respondents claimed that they are practicing producer to wholesaler to retailer to consumer system. In this system of marketing, the respondents are selling their pigs to the wholesalers then the wholesalers will sell it to the retailers then the retailers will sell it to the consumers.

Method of marketing. Table 29 shows the method of marketing that the respondents are practicing in selling swine which include per head “bultohan” system, per kilogram live weight, and per kilogram of butchered meat. Most or 43.41% of the respondents raising swine claimed that they are selling their pigs per kilogram live weight; one hundred four (40.31%) of the respondents are selling their pigs per head “bultohan” system and the price depends on the age of the pig, the price at the time of the study as for weanling was (1,500.00 Php) per head while only forty two (16.28%) of the respondents are selling per kilogram of butchered meat (135.00 Php).

Table 28. System of marketing

MARKETING SYSTEM	NO. OF RESPONDENTS	PERCENTAGE
Producer to consumer	106	41.09
Producer to retailer to consumer	121	46.90
Producer to wholesaler to retailer to consumer	31	12.01
TOTAL	258	100.00



Table 29. Method of marketing

MARKETING METHOD	NO. OF RESPONDENTS	PERCENTAGE
Per head “bultohan”	104	40.31
Per kilogram (live weight)	112	43.41
Per kilogram (butchered)	42	16.28
TOTAL	258	100.00

Ruminants

The ruminant term includes goats, cattle and carabaos. For the discussions of these species, topics such as the number of years in raising each specie, number of each specie raised, purpose of raising, breeds and breeding management are discussed separately by species. However for the feeds and feeding management, herd health management, system of raising and marketing of these species, these are discussed as a whole.

Goat

Years in Goat Raising

Out of the 318 respondents, 143 are engaged in goat raising. The high number of goat raisers is due to the fact that the goat is easy to raise. The raisers do not have problem on capital in maintaining such species as long as they have pasture areas with abundant grasses. As shown in Table 30, majority or 107 of the respondents have been raising goats for 1-5 years, 28 have been raising for 6-10 years and 8 have been raising for 11 years and above. The results reveals that majority of the respondents have just



started to raise goats. This maybe because the government of Alaminos has just implemented goat dispersal in which many of the respondents are beneficiaries.

Number of Goats Raised

Table 31 presents the number of goats raised by the respondents. Most of the raisers or 58 out of the 143 respondents are raising 4-6 heads of goats, 43 are raising 10 or more, 28 are raising 1-3 heads and 14 are raising 7-9 heads of goats. This result reveals that goat raising in Alaminos is dominated by backyard raisers. This corroborates the report of PCCARD (2004) that goats in our country are in the hands of the small farmers in rural and rural fringe areas.

Table 30. Number of years in goat raising

YEARS IN GOAT RAISING	NO. OF RESPONDENTS	PERCENTAGE
1-5	107	74.83
6-10	28	19.58
11-above	8	5.59
TOTAL	143	100.00

Table 31. Number of goat raised by the respondents

NO. OF GOAT (HEAD)	NO. OF RESPONDENTS	PERCENTAGE
1-3	28	19.58
4-6	58	40.56
7-9	14	9.79
10-above	43	30.07
TOTAL	143	100.00



Purpose of Goat Raising

The main reason of the respondents in raising goat is presented in Table 32. Out of the 143 respondents, majority (123) or 86.02% are raising goats mainly as supplementary source of income that supports again the report of PCCARD (2004) that goat farmer in the Philippines uses goat farming to supplement household income. Eleven (11) of them said that they are raising goats for family consumption, there are 9, however who said that they are raising goats to have available goats to serve as gift to their friends, relatives, visitors and special people in their lives, that proves the hospitality of Filipino people.

Source of Initial and Replacement Stock

As shown in Table 33, most (67 of the 143 respondents) acquired their goats from the government dispersals; 37 said that they bought their stocks from their neighbors within the barangay; 29 of them said that they bought from goat raisers within the municipality while the other 10 respondents said that they procured their goats from external sources i.e. outside the municipality.

Table 32. Purpose of raising goat

PURPOSE	NO. OF RESPONDENTS	PERCENTAGE
For family use/consumption	11	7.69
As supplementary source of income	123	86.02
For gift	9	6.29
TOTAL	143	100.00



Table 33. Source of initial and replacement stock

SOURCE OF STOCK	NO. OF RESPONDENTS	PERCENTAGE
Neighbors (same barangay)	37	25.87
Government	67	46.86
Farms within the locality	29	20.28
External sources	10	6.99
TOTAL	143	100.00

Breeds and Breeding Management Practices

Breeds of goat raised. Table 32 shows the breeds of goats raised by the respondents. It is shown in the table that 99 (69.23%) of the respondents are raising native goats and 44 respondents are raising upgrades (Fig.13).

System of breeding. Table 33 presents the system of breeding goat practiced by the respondents. Majority (65.73%) or 94 of the respondents are practicing inbreeding while 49 (34.27%) of them are practicing upgrading. Inbreeding is commonly practiced because most of the respondents make use of their own bucks which have relations to their does. Also most of the respondents have acquired their stocks from the same source, so even if they make use of their neighbors' bucks, these have relations to their does.

Methods of mating. As to the method of mating, all the respondents claimed to be employing natural mating. No one among the respondents is practicing artificial insemination.



Table 34. Breeds of goat raised

BREED	NO. OF RESPONDENTS	PERCENTAGE
Native	99	69.23
Upgrade	44	30.77
TOTAL	143	100.00

Table 35. Breeding System

SYSTEM OF BREEDING	NO. OF RESPONDENTS	PERCENTAGE
Inbreeding	94	65.73
Upgrading	49	34.27
TOTAL	143	100.00



Figure 13. Some breeds of goat raised in Dulacac, Alaminos City



Source of buck. As shown in Table 36, majority or 119 out of the 143 respondents said that they have their own buck for breeding while only 24 said that they are hiring the bucks they are using in breeding their does.

Term of payment. Term of payment for breeding services as practiced by the respondents is presented in Table 37. It is shown in the table that 119 of the 143 respondents do not have problem in breeding services because they have their own bucks. Fifteen respondents claimed that they are paying the breeding services in terms of cash because this is cheaper and practical than the traditional way of paying which is in terms of kids. Only 9 respondents said that they are paying the breeding services in terms of kids and it is because they do not have money/cash to pay the breeding services so, instead, they make use of arrangement with the buck owner that they will pay in terms of kids when the does give birth. This arrangement, however, is only case to case basis like when the doe gives birth to twins.

Age at first breeding. Table 38 presents that 62 out of the 143 respondents said that they start to breed their does at the age of 10 to 11 months; 43 said at 8 to 9 months; 31 at 12 to 13 months and 7 respondents said at the age of 1 year and 2 months.

Table 36. Source of buck

SOURCE OF BUCK	NO. OF RESPONDENTS	PERCENTAGE
Owned	119	83.22
Hired	24	16.78
TOTAL	143	100.00



Table 37. Terms of payment for breeding services

TERMS OF PAYMENT	NO. OF RESPONDENTS	PERCENTAGE
Cash	15	10.49
In terms of kid	9	6.29
Owned (free)	119	83.22
TOTAL	143	100.00

Table 38. Age at first breeding

AGE (MONTH)	NO. OF RESPONDENTS	PERCENTAGE
8-9	43	30.07
10-11	62	43.36
12-13	31	21.68
14-above	7	4.89
TOTAL	143	100.00

Number of services before conception. As shown in Table 39, majority or 117 of the respondents said that they just breed their animals once; 21 respondents breed their animals twice and only 5 respondents claimed that they breed their animal thrice.

Length of gestation. Table 40 shows the gestation lengths observed by the respondents in their does. It is shown that native goats have a gestation length that ranged from 147 days to 150 days while the upgrades have a gestation length that ranged 145 to 148 days. The result reveals that the native goats have longer gestation periods than the upgrades. A sample picture of pregnant upgrade doe is shown in Figure 14.



Table 39. Number of services before conception in goat

NO. OF SERVICES BEFORE CONCEPTION	NO. OF RESPONDENTS	PERCENTAGE
Once	117	81.82
Twice	21	14.68
Thrice	5	3.50
TOTAL	143	100.00

Table 40. Length of gestation in goat

LENGTH OF GESTATION	<u>NATIVE</u>		<u>UPGRADE</u>	
	F	%	F	%
145 days			21	47.73
146			15	34.09
147	17	17.17	5	11.36
148	29	29.29	3	6.82
149	34	34.34		
150-above	19	19.19		
TOTAL	99	100.00	44	100.00

Number of kids per birth. Table 41 presents the litter size at birth of native and upgrade goats raised by the respondents. Goats are known to be giving single births so that majority (63 or 63.64%) of the respondents particularly those raising native goats said that their does gave birth to only one per kindling and 36 said to have encountered twins from their does that kindled. However, for those raising upgrades, majority (42 out of 44 respondents) said that their does had given birth to twins. Only 2 of the respondents



said that their does gave birth to 1 kid per kidding. Figure 15 shows an example of upgrade goat with her two kids in one kindling period raised by one of the respondents.



Figure 14. Pregnant (2 months) upgrade doe while grazing

Birth rate. Table 42 presents the birth rate of goats. Majority or 116 of the respondents claimed that their does gave birth only once a year while there are 27 respondents who claimed that their does gave birth twice a year.



Table 41. Number of kids per birth

NUMBER OF KIDS	<u>NATIVE</u>		<u>UPGRADE</u>	
	F	%	F	%
1	63	63.64	2	4.55
2	36	36.36	42	95.55
TOTAL	99	100.00	44	100.00

Table 42. Birth rate

BIRTH RATE	NO. OF RESPONDENTS	PERCENTAGE
Once a year	116	81.12
Twice a year	27	18.88
TOTAL	143	100.00



Figure 15. Upgraded doe with her twin (2 days old) raised by one of the respondents in Polo, Alaminos City, Pangasinan



Cattle

Years in Cattle Raising

Out of the 318 respondents, 86 are raising cattle. As shown in Table 43, 32 claimed that they have been raising cattle for more than 20 years. Twenty nine (29) said that they have been raising cattle for 6 to 10 years; 12 said 12 to 15 years; 9 said 1 to 5 years and only 4 respondents said that they have been raising cattle for 16 to 20 years already.

Number of Cattle Raised

As shown in Table 44, out of 58 native cattle respondents, 37 are raising 1-2 cattle; 35 are raising 3-4 cattle and 14 are raising 5 heads or more number of cattle and they are the respondents who have wide pasture land.

Purpose of Cattle Raising

Table 45 presents that majority (78 out of 86) of the respondents are raising cattle as supplementary source of income; 6 respondents claimed that they are raising cattle as draft animal while only 2 respondents claimed that they are raising cattle for family consumption i.e. to have cattle to slaughter during weddings and other special occasions. There is no problem in marketing of cattle in Alaminos City because it has its own auction market for livestock that is why the respondents prefer raising cattle as supplementary source of income.



Table 43. Number of years in raising cattle

NO. OF YEARS	NO. OF RESPONDENTS	PERCENTAGE
1-5	9	10.47
6-10	29	33.72
11-15	12	13.95
16-20	4	4.65
21-above	32	37.21
TOTAL	86	100.00

Table 44. Number of cattle raised by the respondents

NO. OF CATTLE (HEAD)	NO. OF RESPONDENTS	PERCENTAGE
Native		
1-2	37	43.02
3-4	35	40.70
5-above	14	16.30
TOTAL	86	100.00

Table 45. Purpose of cattle raising

PURPOSE	NO. OF RESPONDENTS	PERCENTAGE
For family consumption	2	2.32
As supplementary source of income	78	90.70
As draft animal	6	6.98
TOTAL	86	100.00



Source of Stock

As shown in Table 46, most or 37 of the 86 respondents inherited their cattle from their ancestors; 22 claimed that they have acquired their cattle from other raisers within their locality; 20 said that they bought from external sources or outside their municipality and only 7 respondents claimed that they have acquired their cattle from their neighbors within the barangay.

Breeds and Breeding Management Practices

Breed of cattle raised. Out of 86 respondents, majority or 58 are raising native cattle, while 28 are raising upgrades. The respondents said that they prefer the native cattle because they are already adapted to the locality like its warm weather. This data is presented in Table 47.

Breeding system. For the breeding system, most of the respondents claimed that they are practicing inbreeding and some are practicing upgrading.

Table 46. Source of stock (initial and replacement)

SOURCE OF STOCK	NO. OF RESPONDENTS	PERCENTAGE
Neighbors (same barangay)	7	8.14
Farms within the locality	22	25.58
External source	20	23.26
Inherited	37	43.02
TOTAL	86	100.00



Methods of mating. Table 48 presents that almost all of the respondents are observing natural mating. Only 1 respondent claimed to have employed artificial insemination and this was done by the City veterinarian.

Source of bull. For the source of bulls, 63 of the 86 respondents claimed that they have their own bulls for breeding while 23 of the respondents are hiring the bulls they used in breeding their cows and mostly these are the improved breeds (Figure 16). This data is presented in Table 49.

Terms of payment for breeding purposes. Table 50 shows that majority (63 or 73.26%) of the respondents have no problem in breeding their cows because they have their own bulls. Only 23 of them do not own a bull and they are the ones hiring the bulls of others and pay the breeding services in cash.

Table 47. Breeds of cattle raised

BREED	NO. OF RESPONDENTS	PERCENTAGE
Native	58	67.44
Upgrade	28	32.56
TOTAL	86	100.00

Table 48. Methods of mating

MATING SYSTEM	NO. OF RESPONDENTS	PERCENTAGE
Artificial insemination	1	1.16
Natural system	85	98.84
TOTAL	86	100.00





Figure 16. Breeding bull (Brahman) tethered on vacant lot at San Vicente, Alaminos City

Table 49. Source of bull

SOURCE OF BULL	NO. OF RESPONDENTS	PERCENTAGE
Hired	23	26.74
Owned	63	73.26
TOTAL	86	100.00

Table 50. Terms of payment for breeding services

TERMS OF PAYMENT	NO. OF RESPONDENTS	PERCENTAGE
Cash	23	26.74
Owned	63	73.26
TOTAL	86	100.00



Age at first breeding. As shown in Table 51, almost all or 79 of the 86 respondents said that their heifers are usually bred at 2 to 2 ½ years old while the remaining 7 respondents claimed that their cattle are bred at the age of 2 ½ to 3 years old.

Length of gestation Majority of the respondents said that they do not know the exact date when their cows are bred that is why they also do not know the length of gestation. What they do is just rely on the symptoms/signs to determine if their cows are about to give birth.

Birth rate. According to the respondents, 81 said that their cows give birth once a year; 3 claimed that their cows gave birth every other year while 2 said that their animals gave birth every after 2 years (Table 52). The birth rates maybe depend on the management that the respondents employ especially on the type of feeds they offer to their cows and detection of heat period.

Table 51. Age at first breeding

AGE	NO. OF RESPONDENTS	PERCENTAGE
2-2.5 Years	79	91.86
2.6-3.0	7	8.14
TOTAL	86	100.00

Table 52. Birth rate

BIRTH RATE	NO. OF RESPONDENTS	PERCENTAGE
Once a year	81	94.19
Every other year	3	3.49
Every after 2 years	2	2.32
TOTAL	86	100.00



Carabao

Years in Carabao Raising

The number of years that the respondents have been raising carabao is presented in table 53. As shown in the table, out of the 318 respondents, only 22 are raising carabaos. Majority or 12 out of the 22 respondents have been raising carabaos for 6 to 10 years; 4 said that they had been raising for 16 to 20 years, 3 claimed that they have been raising for 6 to 10 years; and 2 said that they had been raising for only 1 to 5 years. The results revealed that carabao raising in Alaminos City had started for a long time and this maybe due to the fact that carabao is a great help to farmers in cultivating their farms most especially when tractors are not available.

Table 54 shows that majority or 19 of the 22 carabao respondents are raising 1 to 2 heads of carabao and only 3 respondents said that they are raising 3 to 4 heads of carabao. This reveals that even though carabao raising have started a long time in the locality, still there is no one who have gone into commercial carabao raising.

Purpose of Carabao Raising

As shown in Table 55, the purpose of raising carabao is mainly used for draft purposes according to the respondents. There are 7 respondents who said that they are raising carabao as a supplementary source of income while 3 respondents claimed that they are raising carabao for family consumption like during weddings. The result corroborates to the statement of Ranjhan (1973) that buffaloes are multipurpose animals as draft animal and source of livelihood.



Table 53. Number of years in carabao raising

NO. OF YEARS	NO. OF RESPONDENTS	PERCENTAGE
1-5	1	4.54
6-10	3	13.64
11-15	12	9.09
16-20	4	18.18
21-above	12	54.55
TOTAL	22	100.00

Table 54. Number of carabao raised by the respondents

NO. OF CARABAO	NO. OF RESPONDENTS	PERCENTAGE
1-2	19	86.36
3-4	3	13.64
TOTAL	22	100.00

Source of Stocks (initial and replacement)

The source of initial and replacement stock of carabao is shown in Table 56. Majority (16 out of the 22 respondents) said that they inherited their carabaos from their elders; three bought their carabaos from other raisers within the locality; two said that they bought from other raisers within the barangay, and only 1 said that he bought his carabao from neighboring towns.



Table 55. Purpose of raising carabao

PURPOSE	NO. OF RESPONDENTS	PERCENTAGE
For family consumption	3	13.64
As supplementary source of income	7	31.82
As draft animal	12	54.54
TOTAL	22	100.00

Table 56. Source of stocks (initial and replacement)

SOURCE OF STOCK	NO. OF RESPONDENTS	PERCENTAGE
Neighbor (same barangay)	2	9.09
Farms within the locality	3	13.74
External sources	1	4.54
Inherited	16	72.73
TOTAL	22	100.00

Breeds and Breeding Management Practices

This includes the breeds of carabaos raised by the respondents, breeding system, and methods of mating, source of bull, age at first breeding, terms of payment for breeding services, birth rate and length of gestation, and the litter size at birth.

Breeds of carabao raised. All of the respondents are raising native carabao (Fig.17 and 18).

Breeding system and method of mating. All the respondents said that they are practicing inbreeding and natural mating.





Figure 17. Native caraballa with two calves raised at San Vicente



Figure 18. Tethered native carraballa taking rest under the mango tree



Source of bull. The source of bull is presented in Table 57. Among the 22 respondents, there are 19 who claimed that they have their own bull while only 3 respondents said that they are paying the breeding services in terms of cash.

Table 57. Source of bull

SOURCE OF BULL	NO. OF RESPONDENTS	PERCENTAGE
Owned	19	86.36
Others	3	13.64
TOTAL	22	100.00

Terms of payment for breeding purposes. As shown in Table 58, 19 of the 22 respondents have their own bull for breeding so they do not have problem in terms of payment while the rest pay the breeding services in terms of cash.

Age at first breeding. Out of the 22 carabao respondents, majority (18) claimed that their heifers are bred at the age of 2 and ½ years to 3 years of age while 4 said that their heifers are bred at the age of 3 years and above. This data is presented in Table 59.

Length of gestation. Like in cattle, the raisers do not know or do not count the exact length or number of days of gestation because they always failed to know the particular dates that their carabao cows have been bred.

Birth rate. As shown in Table 60, 18 of the 22 respondents said that their carabaos are giving birth once a year. There are 3 respondents who said that their caraballa gave birth every other year while only 1 said that his caraballa gave birth every after 2 years. The birth rate of the caraballa may dependent on the management practices employed by the respondents such as in the heat detection or also the dry period of the caraballa.



Table 58. Terms of payment for breeding services

TERM OF PAYMENT	NO. OF RESPONDENTS	PERCENTAGE
Cash	3	13.64
Owned (free)	19	86.36
TOTAL	22	100.00

Table 59. Age at first breeding

AGE AT FIRST BREEDING	NO. OF RESPONDENTS	PERCENTAGE
2.5-3 years	18	81.82
Above 3 years	4	18.18
TOTAL	22	100.00

Table 60. Birth rate

BIRTH RATE	NO. OF RESPONDENTS	PERCENTAGE
Once a year	18	81.82
Every other year	3	13.64
Every after 2 years	1	4.54
TOTAL	22	100.00

Feeds and Feeding Management Practices

These include the type of feeds that the respondents are providing and the system of feeding that the respondents are employing to their cattles, carabaos and goats.

Type of feeds provided to ruminants. All the respondents raising livestock are providing indigenous forages/roughages alone to their animals. Most of their animals are tethered in pasture lands where there are abundant grasses/ forages for them to eat. Some



are kept loose in pasturelands/areas and fed themselves with grasses/ forages available in that area where they are pastured. However, in cases where there is limited supply of grasses, some of the respondents are providing their ruminant animals with rice straw (Fig. 19 and 20).

Indigenous feed. As shown in Table 61, the common forages/roughages that the respondents are providing to their ruminant animals especially the tethered ones are African star grass, carabao grass, para grass, ipil-ipil leaves, napier grass and rice straw, this findings supports Dr. Luis (2006) for saying that the above mentioned forages/roughages are commonly given as feeds for ruminants in the Philippines.

System of feeding. Table 62 presents the system of feeding the ruminants as observed by the respondents. True to all the cattle, carabaos and goats, majority of the respondents tether their animals on pasturelands/areas with abundant grasses/forages and let them graze on the available grasses/forages growing in the pasturelands/area then transferred to another area when the grasses growing in the area where they are tethered are depleted. Though the animals are tethered, they are still free to graze on the grasses. Some of the respondents keep their animals loose on pasturelands so that their animals are free to graze on the different grasses growing on such pasturelands (Fig. 21). There are respondents however, who are employing the “cut and carry” systems of feeding i.e. they cut the grasses after which, they feed to their animals. The “cut and carry” system is especially true to the respondents who do not have pasturelands and also to those who have animals that had just given birth (Fig. 22 and 23)





Figure 19. Rice straw dried on pastureland at Inerangan, Alaminos City, Pangasinan



Figure 20. Reserved rice straw placed on a (impokan) under bamboo tree

Table 61. Indigenous feeds provided to ruminants.

INDIGENOUS FEEDS	CATTLE		CARABAO		GOAT	
	F	%	F	%	F	%
African star grass	12	13.95	7	31.82	23	16.08
Carabao grass	25	29.07	17	72.27	28	19.58
Napier grass	21	24.42	9	40.91	35	24.47
Para grass	29	33.72	6	27.27	10	6.99
Rice straw	27	31.39	15	68.18	15	10.49
Ipil-ipil leaves	18	20.93	10	45.45	97	67.83
Others	10	11.63	8	36.636	15	10.49

*Multiple responses

Table 62. System of feeding ruminants

SYSTEM OF FEEDING	NO. OF RESPONDENTS	PERCENTAGE
Cattle		
“Cut and carry”	7	91.86
Grazing	79	8.14
TOTAL	86	100.00
Carabao		
“Cut and carry”	1	4.54
Grazing	21	95.45
TOTAL	22	100.00
Goat		
“Cut and carry”	12	91.61
Grazing	131	8.39
TOTAL	143	100.00





Figure 21. Upgrade doe with her 2 kids pastured on vacant lot



Figure 22. Tethered cow in the vacant lot while grazing on the grasses



Figure 23. Tethered 3 legged doe with her 1 kid on the pastureland

Herd Health Management Practices

The health management practices include the management practices employed by the respondents to their cattle, carabaos and goats and the measures that they are observing to prevent diseases and parasites as shown in Table 63.

As shown in the table, majority of the respondents raising cattle and carabaos are employing vaccination while the respondents raising goats claimed that they do not employ vaccination. As for deworming, majority also (54.65%) of the respondents raising cattle claimed that they are employing deworming while 45.35% of the respondents claimed that they are not employing deworming. For the respondents raising carabaos, majority (54.55%) claimed that they are not also employing deworming. No one among the respondents raising goats claimed to be practicing deworming. With regards to



veterinary assistance, 33 of the cattle respondents are seeking veterinary assistance, for carabao, 12 respondents for the goats; only 32 out of 143 respondents said that they are seeking for veterinary assistance. As for isolation and culling of sick animals, all the respondents raising ruminants claimed that they are employing isolation and culling of sick animals.

System of Animal Raising

The system of raising cattles, carabaos, and goats is shown in Table 64. As shown in the table, majority or 77 (89.53%) of the cattle raisers tether their animals on vacant lots where there are abundant grasses while only 9 (10.47%) let their animals loose in a range and these are the raisers who have wide pasturelands. For the carabao respondents, majority or 19 (86.3%) tether their animals on vacant lots/ backyards and only 3 of the respondents practice range system. As for the goat respondents, majority or 87 of the 143 respondents kept their animals loosed in the pasturelands, particularly the kids, where the animals are free to graze on the abundant grasses/forage growing on the said pastureland. Thirty eight (38) or 26.57% of the respondents tether their goats near their houses or on vacant lots especially planting season when the fields are already planted with crops. In this case, the animals need to be tethered so that they will not become enemy of crop farmers. Eighteen of the 143 respondents said that they practice semi-ranging wherein they pasture their goats early in the morning and late in the afternoon and when it is hot and at night time, they bring their animals in their houses (Fig. 24 and 25).



Table 63. Methods of preventing and controlling diseases and parasites.

METHODS	CATTLE		CARABAO		GOAT	
	F	%	F	%	F	%
Vaccination						
Yes	49	56.98	13	59.09		
No	37	43.02	9	40.91		
TOTAL	86	100.00	22	100.00		
Deworming						
Yes	47	54.65	10	45.45		
No	39	45.35	12	54.55		
TOTAL	86	100.00	22	100.00		
Veterinary assistance						
Yes	33	38.37	12	54.54	32	22.38
No	52	61.63	10	45.46	111	77.62
TOTAL	86	100.00	22	100.00	143	100.00

Table 64. System of animal raising

SYSTEMS	NO. OF RESPONDENTS	PERCENTAGE
Cattle		
Tethering	77	89.53
Range	9	10.47
TOTAL	86	100.00
Carabao		
Tethering	19	96.36
Range	3	13.36
TOTAL	22	100.00
Goat		
Tethering	38	26.57
Range	87	60.84
Semi- confinement	18	12.54
TOTAL	143	100.00





Figure 24. Elevated housing of goats made of bamboo flooring and G.I. sheets roofing



Figure 25. Bungalow type goat housing made of bamboo fencing, concrete flooring and G.I.sheets roofing



Marketing

This includes the marketing system and the methods of marketing goats, cattle and carabaos that the respondents are practicing.

Marketing system. As shown in Table 65, the systems of marketing that the respondents are practicing are producer to consumer, producer to retailer to consumer, and producer to wholesaler to retailer to consumer. For the goats, cattle and carabaos, majority of the respondents are practicing producer to consumer system of marketing; the respondents practicing this system are selling their animals directly to the consumers during the scheduled livestock auction market. They have no problem in selling because they have their own auction market in the municipality. Some of the respondents raising ruminants are practicing producer to retailer to consumer system of marketing their animals while only few respondents are practicing producer to wholesaler to retailer to consumer system of marketing.

Method of marketing. Table 66 shows the method of marketing ruminant species that the respondents are practicing which include per head “bultohan” system, per kilogram live weight, and per kilogram for butchered meat. For the goats, majority or 69.23% of the respondents are selling their goats per head “bultohan” system, there are 29 respondents raising goats who said that they are practicing per kilogram live weight (110.00 Php) at the time of the study while 15 respondents are selling their goats per kilogram for butchered meat. As for the cattle and carabaos, 89.81% of the respondents are practicing per head “bultohan” system in selling their cattle and carabaos i.e. bull/cow (20,000.00 Php) per head and 11.19% respondents claimed that they are selling their cattle and carabaos per kilogram liveweight (150.00 Php) at the time of the study.



Table 65. Marketing systems

MARKETING SYSTEM	CATTLE/CARABAO		GOAT	
	F	%	F	%
Producer to consumer	63	58.83	91	63.64
Producer to retailer to consumer	31	28.71	39	27.37
Producer to wholesaler to retailer to consumer	14	12.46	13	9.09
TOTAL	108	100.00	143	100.00

Table 66. Methods of marketing

MARKETING METHOD	CATTLE/CARABAO		GOAT	
	F	%	F	%
Per head "bultohan"	97	89.81	99	69.23
Per kilogram (live weight)	11	11.19	29	20.28
Per kilogram (butchered)	0	0	15	10.49
TOTAL	143	100.00	93	100.00

Chicken

Years in Chicken Raising

Out of the 318 total respondents, 93 of them are raising chickens. From the 93 respondents, 29 or 31.18% said that they have been raising chicken for more than 21 years, 21 or 22.58% of the respondents said that they have been raising for 11 to 15 years, 16 or 17.21% of the respondents said that they have been raising chickens for 6 to 10 years, 15 or 16.23% of the respondents said that they have been raising chickens for 16 to



20 years and 12 or 12.90% said that they have been raising chicken for less than 6 years (Table 67).

Number of Chickens Raised

The number of chickens raised by the respondents is shown in Table 68. As shown in the table, majority of the respondents said that they are raising 11 or more chicks and pullets/hens and 1 to 5 roosters. The result reveals that majority of the respondents are raising the more number of chicks, pullets and hens than rooster.

Purpose of Raising Chicken

Table 69 shows the purpose/reasons of the respondents in raising chicken. It is shown in the table that majority (72 or 77.42%) of the respondents are raising chickens mainly for family consumption; 11 or 11.83% said that they are raising chickens to supplement their income; 7 or 7.53% said that they are raising chickens to serve as gift to their relatives and other special people in their lives, and 3.22% are raising chicken for pleasure where they participate in competitions such as search for the most colorful or biggest chicken of the year (Figure 26).

Table 67. Years in raising chicken

NO. OF YEARS	NO. OF RESPONDENTS	PERCENTAGE
1-5	12	12.90
6-10	16	17.21
11-15	21	22.58
16-20	15	16.23
21-above	29	31.18
TOTAL	93	100.00



Table 68. Number of chickens raised by the respondents

NO. OF CHICKEN RAISED	NO. OF RESPONDENTS	PERCENTAGE
Chicks		
1-5	19	20.43
6-10	29	31.18
11-above	45	48.39
TOTAL	93	100.00
Pullet/hens		
1-5	14	15.05
6-10	28	30.11
11- above	51	54.84
TOTAL	93	100.00
Rooster		
1-5	27	55.10
5-10	14	28.57
11-above	8	16.33
TOTAL	49	100.00

Table 69. Purpose of raising chicken

PURPOSE	NO. OF RESPONDENTS	PERCENTAGE
For family consumption	72	77.42
As supplementary source of income	11	11.83
For gift	7	7.53
For pleasure	3	3.22
TOTAL	93	100.00





Figure 26. Sasso rooster (7 kgs) awarded as the most colorful and biggest chicken during the annual Agricultural trade in Alaminos City, used for pleasure and breeding purposes

Breeds or Strains of Chicken Raised

The breeds/ strains of chicken raised by the respondents are presented in Table 70. As presented in the table, majority (72) or 77.42% of the respondents are raising native/ upgrade chickens while only 21 or 22.88% of the respondents are raising sasso. According to the respondents, during the past years, most of them are raising sasso but there are only few consumers of sasso that is why most of them stop raising sasso and reverted to raise the native ones.



Source of stock (Initial and replacement)

Table 71 shows that most (31 or 33.33%) of the respondent acquired their initial/replacement stocks from their neighbors (same barangay), 27 (29.03%) said that they inherited their stocks from their elders; 18 (19.36%) said that they bought from external sources or other municipalities; and 17 (18.28) acquired their stocks from other raisers within the municipality.

Breeding Management Practices for Chickens

Breeding system. The breeding system practiced by the respondents to their chicken is shown in Table 72. Almost all the respondents claimed that the common system of breeding practiced is inbreeding and only 8 of the 93 respondents are employing upgrading, usually native mated to sasso.

Method of mating. All the respondents said that they are practicing natural mating.

Table 70. Breed/ strain of chicken raised

BREED/STRAIN	NO. OF RESPONDENTS	PERCENTAGE
Native/upgrade	72	77.42
Sasso	21	22.58
TOTAL	93	100.00



Table 71. Source of stock (initial and replacement)

SOURCE	NO. OF RESPONDENTS	PERCENTAGE
Neighbor (same barangay)	31	33.33
Raisers within the locality	17	18.28
External sources (other municipalities)	18	9.36
Inherited	27	29.03
TOTAL	93	100.00

Table 72. Systems of breeding in chicken

BREEDING SYSTEM	NO. OF RESPONDENTS	PERCENTAGE
Inbreeding	85	91.40
Upgrading	8	8.60
TOTAL	93	100.00

Source of rooster. Table 73 presents the source of rooster used by the raiser to breed their hens and pullets. Almost all or 96.77% of the respondents claimed that the roosters they use in breeding their hens are free because most of the roosters are on free range and these just mate hens or pullets that are free range also. Others have their own roosters. Only 3.23% said that they borrow the rooster of their neighbors particularly those respondents raising natives who want to breed their hens/pullets with sasso rooster (Figure 27).



Table 73. Source of male breeding animals

SOURCE OF ROOSTER	NO. OF RESPONDENTS	PERCENTAGE
Owned/free	90	96.97
Borrowed	3	3.23
TOTAL	93	100.00



Figure 27. Breeding rooster (free range)



Age at first laying of egg. Most or 29 out of 93 respondents claimed that their pullets most especially the native started to lay eggs at the age of 7 months; 27 said that their pullets started to lay eggs at 8 months; 20 said their pullets most especially the sasso started to lay eggs at 6 months old and 17 said their pullets started to lay eggs at 9 months old (Table 74).

Number of eggs laid per clutch, number of eggs incubated and number of eggs hatched. Table 75 presents that most of the respondents (38 out of 93 respondents) claimed that their hens are laying 8 to 10 eggs per clutch. Twenty five (27.96%) said that their hens are laying 5 to 7 eggs per clutch, sixteen said 11 to 13 eggs per clutch and thirteen respondents said that their hens are laying 14 or more eggs per clutch. As for hatchability, almost all of the respondents said that, generally, their hens are hatching all their eggs although there are some instances wherein the hens leave 1 to 3 eggs unhatched particularly the hens that have laid higher number of eggs per clutch. Sample picture of native chicken laying eggs on her nest beside the cooking area is shown in Figure 28.

Table 74. Age at first laying of eggs

AGE (MONTH)	NO. OF RESPONDENTS	PERCENTAGE
6	20	21.51
7	29	31.18
8	27	29.03
9	17	18.28
TOTAL	93	100.00



Table 75. Number of eggs laid per clutch

NO. OF EGGS LAID PER CLUTCH	NO. OF RESPONDENTS	PERCENTAGE
5-7	25	27.96
8-10	38	40.86
11-13	16	17.20
14-above	13	13.98
TOTAL	93	100.00



Figure 28. Native chicken while laying eggs at her nest (hay) beside the cooking area of one of the respondents in Balangobong, Alaminos City, Pangasinan



Feeds and Feeding Management Practices

Type of feeds provided to chicken. Table 76 presents the type of feeds provided by the respondents to their chickens. Majority (65) or 69.89% of the respondents are giving combination of conventional and indigenous feedstuff to their chicken; 21 or 22.58% claimed that they give indigenous feedstuffs to chickens and only 7 (7.53%) said that they gave pure conventional feedstuff to their animals particularly to the chicks and to the rooster and sometimes to the hens laying eggs. The conventional feedstuffs given to chicken include chick booster, which are given to chicks, rice bran, and yellow corn and the indigenous feeds include cooked rice leftovers, vegetable trimmings and rice grains.

System of feeding. The system of feeding is presented in Table 77, almost all or 93.55% of the chicken respondents employ dry group feeding (Figure 29), only few or 6.55% of the respondents practice individual feeding to their chickens.

Table 76. Types of feeds provided to chicken

TYPES OF FEEDS	NO. OF RESPONDENTS	PERCENTAGE
Conventional feeds	7	7.53
Indigenous feeds	21	22.58
Combination	65	69.89
TOTAL	93	100.00



Table 77. Systems of feeding chicken

FEEDING SYSTEM	NO. OF RESPONDENTS	PERCENTAGE
Dry group feeding	87	93.55
Dry individual feeding	6	6.45
TOTAL	93	100.00



Figure 29. Dry group feeding of mixed native and sasso chicken



Frequency of Feeding. As shown in Table 78, 89 (95.70%) out of 93 respondents raising chicken fed their animals twice a day and feeding is done in the morning and afternoon. Only 4 (4.30%) said that they feed their chicken thrice a day. However, for the unconfined chicken, they have all the rest of the day to search or find whatever feed that are available in the area of their destiny.

Flock Health Management

This includes the sanitation practices and the ways employed by the raisers on how to manage their sick animals.

Sanitation practices. The preventive and control measures employed by the raiser against diseases and parasites is shown in Table 79. Majority or 9 of the 12 respondents clean their pens of their confined chickens once a day while the rest have no regular schedule in cleaning the pens.

Care of sick animals. As shown in the table, majority of the respondents isolate their sick birds while the rest do not isolate their sick animals. For veterinary assistance, only 28 (30.11%) of the respondents claimed that they seek veterinary assistance when they observed that their chickens do not perform well. The remaining 65 (69.89%) respondents do not consult veterinarians when their chickens get sick. Instead, they are going to butcher them. No one among the respondents claimed that he is employing vaccination and deworming.



Table 78. Frequency of feeding chicken

FREQUENCY	NO. OF RESPONDENTS	PERCENTAGE
Twice a day	89	95.70
Thrice a day	4	4.30
TOTAL	93	100.00

Table 79. Preventive and control measures against diseases and parasites

PARTICULAR	NO. OF PENS	PERCENTAGE
Cleaning of pen		
Once a day	67	72.04
No regular schedule	26	27.96
TOTAL	93	100.00
Isolation		
No	31	33.33
Yes	62	66.67
TOTAL	93	100.00
Veterinary assistance		
Yes	28	30.11
No	65	69.89
TOTAL	93	100.00

Housing Management Practices

Kind of housing. Table 80 shows the kind of housing provided to chicken. As shown in the table, 81 out of the 93 respondents practice free ranging to their chickens in which their chickens are kept loose on their backyard and other areas to search for food and at night time they on branches, stay under trees (Fig.30) or places where they feel safe. The remaining 12 respondents claimed that they practice “semi-confinement” type where their chickens are kept loose on their backyards and other areas at they time but are



confined in pens at night time until dawn to protect them from harm/predators. No one among the raisers claimed to be practicing complete confinement.



Figure 30. Sasso chicken enjoying the ambiance in the mango tree

Table 80. Kind of housing in chicken

KIND OF HOUSING	NO. OF RESPONDENTS	PERCENTAGE
Free range	81	87.10
Complete confinement	0	0
Semi-confinement	12	12.90
TOTAL	93	100.00



Housing materials used. The housing materials used as roofings, floorings and wallings of the chicken house by the 12 respondents who are confining their chickens are presented in Table 81.

Roofings. Table 81 shows that majority or 7 out of the 12 respondents used G.I. sheets as roofings; three only made use of cogon and 2 made use of woods as roofing materials.

Floorings. As shown in the table, 5 of the 12 respondents used bamboo as flooring since it is easy to clean, 4 made use of wood and 3 utilized the soil as flooring materials.

Wallings/fencing. The materials that the raisers used as walling are bamboo stick, wood and screen. Among the respondents, 6 utilized bamboo stick; 4 utilized wood and the remaining 2 utilized screen as wallings.

Table 81. Housing materials used

TYPE OF MATERIALS	NO. OF RESPONDENTS	PERCENTAGE
Roofing		
G.I. sheets	7	58.33
Cogon	3	25.00
Wood	2	16.67
TOTAL	12	100.00
Flooring		
Soil	3	25.00
Bamboo	5	41.67
Wood	4	33.33
TOTAL	12	100.00
Walling/fencing		
Bamboo stick	6	50.00
Wood	4	33.33
Screen	2	16.67
TOTAL	12	100.00



Marketing

This includes the marketing system and the method of marketing chickens that the respondents are practicing.

Marketing system. All the respondents claimed that the marketing system that they are practicing in marketing their chicken is producer to consumer system.

Method of marketing. All the respondents said that they are practicing per head “bultohan” system in selling their chickens.

Source of Capital by the Raisers

Table 82 presents the sources of capital of the respondents in raising livestock and poultry in Alaminos City, Pangasinan. Out of the 318 respondents, 313 (98.43%) are using their own money in financing their expenses in raising their animals. Only 5 or (1.57%) claimed that they do not own the money that they used as capital, they claimed that they just loaned it from their relatives, friends and other private individuals who have and willing to lend money for them to be able to start raising such animals as additional source of livelihood.

Table 82. Source of capital by the respondents

SOURCE OF CAPITAL	NO. OF RESPONDENTS	PERCENTAGE
Own/ personal money	313	98.43
Loan from private individuals	5	1.57
TOTAL	318	100.00



Support Systems

Some of the respondents said that they have availed of the government dispersals on swine and goats and free consultation and medication. Some also said that they have attended free seminars, trainings with demo in relation to livestock and poultry production. Although some of the respondents said that they have availed of the government dispersals of animals like goats and swine and had the advantage of having free consultation and medication in raising such animals, still most of the respondents said that they have not yet availed any technical or financial support from the local government or any private sector.

Problems Encountered in Animal Raising

The problems encountered by the respondents in animal raising is shown in Table 83. The problems are as follows:

Swine. According to majority (96.51%) of the swine respondents they commented that the high cost of commercial feed is their main problem in raising swine. This corroborates with the finding of Galasgas (1996) that rural swine raisers have big problem on feeds for their high cost. They said that they do not have sufficient money to purchase such feed so they look for remedies to minimize their feed expenses like mixing the commercial feeds into indigenous feeds. 117 or 45.35% of the swine respondents claimed that lack of capital is another problem, followed by lack of technological knowledge (40.31%). Some of them also said that animal diseases and parasites is another problem particularly the piglets (39.92%) and the slow growth rate of the animals are also included as a problem particularly those raising upgrades. The bad smell of wastes of swine is also included because it creates misunderstanding with their neighbors.



Cattle/Carabao and goat. As shown in the table, the common problems of the ruminant respondents were limited grazing area (63.64%), lack of technical knowledge (60.84%), low selling price of the animal's products (57.75%), and slow growth rate of the animals (32.87%) as stated by the respondents.

Chicken. The respondents raising chicken claimed that their common problem in raising chickens were the avian diseases (23.65%), parasites (35.48%) and predators i.e. dogs, cats and human included (86.02%).

Table 83. Problems encountered in animal raising

PROBLEMS	NO. OF RESPONDENTS	PERCENTAGE
Swine		
High cost of feed	249	96.51
Lack of capital	117	45.35
Slow growth rate	52	20.15
Low selling price of animal product	78	30.23
Animal diseases and parasites	103	39.92
Lack of technical knowledge	104	40.31
Cattle/carabao and goat		
Low selling price of animal products	82	57.75
Slow growth rate	53	37.06
Animal diseases and parasites	47	32.87
Limited grazing area	91	63.64
Lack of technical knowledge	87	60.84
Poultry		
Avian diseases	22	23.65
Parasites	33	35.48
Predators	80	88.02

*Multiple responses



Suggested Remedies to Help Solve the Problems

Being Encountered in Animal Raising

Table 84 shows the suggested remedies to help solve the problems encountered by the respondents in animal raising. This include creation of animal raisers association so that they will have cooperation in everything that they do for the success of their projects, creation of financing/lending institutions or cooperatives that could help them in their financial problems, conduct continuous seminars/ trainings and demonstrations about animal raising because in this manner, the technical knowledge of the farmers will be widened and enhanced in order for them to understand and learn to adopt the new technologies being introduced to them so that they will not just depend on their traditional management practices, conduction of free medication services from the local government unit (city veterinarians office) so that the farmers who are not capable or who do not have enough money for the medication of their sick animals will have hope for success, conduction of regular follow-ups and assessment to the animal raisers so that it will be properly checked if the raisers are doing safe management practice to their animals. Regular conduction of sanitation and safety measures to ensure the good health of the raisers and their neighbors particularly to the swine raisers who stated that the bad smell of the manures/feces of their animals is one of their problems, upgrading of native stocks. Then the animals can perform better than the natives, dispersal of hybrid animals could help also for the improvement of the animal raising industry because when hybrid animals will increase, then the performance would be much more better, and additional suggested section to the problems encountered by the animal raisers is the strict inspection of animals entering to their locality from other neighboring municipalities to



ensure safe and legal transactions done by some of the middlemen buyer or wholesaler just to have a high profit or income in selling and buying animals and animal products. Generally, the solutions to the problems being encountered in animal raising is dependent on the cooperation, performance of the animal raiser and their interactions between the local government unit engaged in animal raising such as to the city veterinarians office and other agencies/ unit that has a great help or contribution for successful animal production industry.

Table 84. Suggested remedies to help solve the problems encountered in animal raising

SOLUTIONS	NO. OF RESPONDENTS*	PERCENTAGE
Create animal raisers association	303	95.28
Create financing/lending institutions/ cooperative	296	93.08
Continuous conduct of seminars, training, demonstrations about animal raising	291	91.51
Regular conduct of sanitation services and safety programs	241	75.79
Conduct regular follow-ups and assessment to the animal raisers	300	94.34
Free medication services from concerned local government unit	293	92.14
Dispersals of hybrid animals	203	63.84
Upgrading of native stocks	179	56.29
Strict inspection of incoming and outgoing animals for legal and safe transactions	313	98.43

* Multiple responses



SUMMARY, CONCLUSION AND RECOMMENDATIONS

Summary

The study was conducted at Alaminos City, Pangasinan primarily to evaluate the status of livestock and poultry production in the city and to provide information on the existing management practices that the respondents are employing to their animals as well as the socio-economic profile of the respondents of the study.

The whole municipality was represented by a total of 318 respondents from 15 selected barangays. Majority or 189 out of the 318 respondents are males and most of the respondents are married (67.29%). The range of age that has the highest number of respondents is from 41 to 50 years old (29.56%) and most of the respondents are from 41 to 50 years old (29.56%) and most of the respondents have finished high school level and among the 318 respondents, 185 stated that their main source of survival is farming.

The species of animals mostly raised by the respondents include swine, goats, cattle, carabaos and chickens. Swine and goats have the highest number of respondents among the stated species. Two hundred fifty eight (258) out of the 318 respondents are raising swine; 143 are raising goats; 93 are raising chicken; 86 are raising cattle and carabao posses the least number of respondents which is only 22 respondents may be because of the presence of tractors used in farming in placed of the carabaos.

The informations about the different farm animals raised by the respondents are as follows:



Swine

Out of the 258 respondents, 60 said that they have been raising swine for about 6 to 10 years ago and most of the respondents said that they usually keep a maximum of 1 to 3 heads of swine, particularly the breeding swine. Majority of the respondents stated that they are raising swine mainly as supplementary source of income either upgrades/crossbreeds or hybrids. Other reasons are for family consumption and for gift.

As for the source of initial and replacement stocks, most of the respondents acquired their swine from their neighbors within the barangay. Others bought their stocks from farms within the locality, external source and some procured them from government dispersals. 131 out of the 258 respondents are raising crossbreeds; 120 are raising upgrades and only 7 are raising hybrids. The breeding systems that the respondents are employing are crossbreeding (45.74%), upgrading (37.98%) and only 16.28% for inbreeding. Almost all the respondents said that they are employing natural mating regardless of the breed and only few are practicing artificial insemination and these are the respondents who are raising hybrids and some crossbreeds. The breeding boars that the respondents used are usually hired but there are some who said that they have their own boars. For the respondents who are hiring boars, most of them said that they are paying the breeding services in terms of cash (400 to 500 Php). Almost all the respondents claimed that they breed their gilts at the age of 8 to 9 months and most of the sows are bred once before conceiving. The length of gestation that the respondents observed ranged from 110 to 115 days and based on the result, it was revealed that the crossbred/hybrid sows and gilts have shorter gestation lengths compared to the upgrades. As for the litter size at birth, the most common is 9 to 12 piglets per farrowing



particularly the crossbreds and upgrades but for the hybrids, there are 13 to 14 piglets per farrowing, and in terms of litter size at weaning, the most common observed number of piglet is 10 to 12 piglets. Regardless of the breed of the swine, the usual number of farrowing per year is twice a year.

Types of feeds provided to swine include commercial feeds, indigenous feeds and combination of the said feedstuffs. Majority of the respondents are combining the commercial feeds and indigenous feeds that they provide to their animals. Only few are feeding their animals with pure commercial feeds or pure indigenous feeds. The indigenous feeds provided are kitchen slops either cooked or raw, and papaya fruits given chopped raw or chopped and cooked. Swine are usually fed twice a day. The most commonly practiced system of feeding for sucklings and weaners is dry feeding while for the grower/finisher and breeding swine is wet feeding.

For the health management, all the respondents are bathing their animals at least twice a day. Cleaning of pens is done at least once a day. Most of the respondents are isolating and culling their sick animals. Some of the respondents seek veterinary when their pigs show symptoms of illness. The respondents are also employing vaccination and deworming.

As for the care of baby pigs, practices such as, removal of fetal membrane, cutting of navel cord, cutting of needle teeth, providing brooder, fostering of orphaned pigs, iron injection, feeding piglets on the fifth day, castration, weaning and gradual shifting of feed are all conducted by the respondents, only few are not doing some of the above mentioned practices.



All the respondents are confining their pigs completely, regardless of the breed. Their swine houses are usually made up of GI sheets roofings, concrete floorings and bamboo wallings. The usual number of pens/corals in one house is 1 for the upgrade, 5 to 6 for the crossbreds and 1 to 4 for the hybrids. Generally, the respondents are confining 1 to 3 heads of pigs/per pen regardless of class and breed of animal.

Goat, Cattle and Carabao

Among the 143 goat respondents, 107 claimed that they have been raising goats for less than 6 years. According to them, they just started raising when the government have dispersals of this specie. The usual number of goats that the respondents are keeping ranged from 4 to 6 heads and the goats raised are used mainly as supplementary source of income, but there are some who used it for family consumption and for gift.

The initial and replacement stocks are acquired by the respondents from government dispersals, neighbors, raisers within the locality and other external sources.

Native and upgrade goats are breeds commonly raised by the respondents and the usual breeding system are inbreeding and upgrading. All the respondents are observing natural mating as the method of mating for the goats.

Majority of the goat raisers have their own bucks that is the reason why they do not have problem in breeding services. Only few are hiring their breeding bucks. The most common observed age of goats at first breeding is 10 to 11 months and goats are bred only once before conception. The observed length of gestation of goat ranges from 145 to 150 days.

As for the number of kids, most of the native goat respondents said that their goats gave birth to only 1 kid per kidding while the upgrade goat raisers said that most of



their goats gave birth to twin per kidding. With regards to birth rate, most of the respondents claimed that their goats gave birth only once a year, regardless of the breed.

Most of the cattle and carabao respondents claimed that they have been raising for more than 21 years and they usually maintain a number of 1 to 4 heads particularly the cattle. For the cattle respondents, the main reason for raising is as supplementary source of income while the carabao, they are raised mainly as draft animals. Most of the respondents of cattle and carabao inherited their initial stock from their ancestors.

The breeds usually raised are native and upgrades and the methods of mating practiced is natural mating. Majority of the respondents have their own bull for breeding, only a few are borrowing or hiring the bulls they used in breeding their cows and heifers. In terms of age at first breeding of cattle and carabao, the usual observation of the respondents is at 2 to 3 years of age. The exact length of gestation of cow and carabao are not observed by the respondents.

Indigenous forages or roughages like African star grass, carabao grass, nappier grass, para grass, rice straw and ipil-ipil leaves are the common indigenous feedstuffs that the respondents are providing to their animals. As for the goats, cattle and carabaos, free range/choice feeding is observed by the respondents, the animals tethered on the pasture land have their own choice of the forages/roughages available in the area and this is also for the animals that they kept loose in pasture lands, there are times, however, like during summer, rice straws are given as substitute when forages/roughages are not sufficient enough for the animals.



For herd health management, practices like isolation, culling of sick animals, vaccination and deworming are conducted and seeking of veterinary assistance are observed by the respondents.

Goats, cattle and carabaos are either tethered or left loosed on the areas where abundant/sufficient forages/roughages are found.

Chicken

Out of the 93 respondents raising chicken, most or 31.18% have been raising for more than 21 years like in cattle and carabaos. The raisers maintain more than 11 chicks, pullets and hens combined and 1 to 5 heads for rooster. Majority of the respondents claimed that they are raising chicken purposely for family consumption, some as supplementary source of income, for gift and pleasure.

Native/upgrades and sasso are the breeds/strains of chicken that the respondents are raising. Most of the respondents said that they inherited their chicken from their ancestors and some said that they acquired from their neighbors and other external sources. The systems of breeding employed are inbreeding/outbreeding and upgrading. As for the method of mating practiced, only natural mating is the claimed practiced for chicken and almost all the raisers have their own rooster. The pullets are observed to have started laying eggs at the age ranging from 6 to 9 months.

The maximum number of eggs laid per clutch is 12 to 13 eggs. Almost all the hens are incubating their eggs and hatched their eggs except for some instances that some eggs are left unhatched.



The types of feeds provided to chickens are conventional feeds, indigenous feeds and combination of conventional and indigenous feeds, among the three types, the combination of conventional and indigenous feedstuff is the usual feed provided of the respondents in feeding their chicken. The conventional feeds include chick booster, rice bran and yellow corn while the indigenous feedstuff include cooked rice leftovers, vegetable trimmings and rice grains provided either raw or cooked. Dry feeding is the feeding practiced by the respondents to their chicken and feeding is done twice a day or more.

Preventive and control measures against diseases and parasites include cleaning of pens, isolation, culling of sick animals. Vaccination and deworming are not practiced by the respondents

Almost all the respondents practice free ranging or their chickens kept loose but some are practicing semi-confinement wherein chicken are confined during the night until dawn then left loose during the daytime. The materials used in building the chicken pens include G.I. sheets as roofing, bamboo stick/wood as walling/fencing and bamboo sticks, screen, and soil for flooring.

As for marketing, different systems are practiced by the respondents such as producer to consumer, producer to retailer to consumer and producer to wholesaler to retailer to consumer. For the swine, producer to retailer to consumer is the common system of marketing practiced, while for the goat, cattle and carabao respondents, the most common system of marketing that the respondents practice is producer to consumer and also for the chicken respondents. Pricing is determined by the producer but it is based on the general market price.



The office of the veterinarian have started conducting seminars, trainings and demonstrations that are relevant to animal raising. The government also have animal dispersals such as goats and swine. These are the services/supports provided by the government to the respondents in the locality.

The problems that are commonly encountered in animal raising as stated by the respondents are high cost of commercial feeds, lock of capital, low selling price of animal products, slow growth rate of animal, animal diseases and parasites, lack of technical knowledge and limited grazing area for the ruminants.

The suggested remedies to help solve the problems being encountered in animal raising include creation of animal raisers association, creation of financing/lending institutions or cooperatives, conduct continuous seminars, trainings and demonstrations related to animal production, conduction of free medication by the city veterinarian's office, conduction of regular follow-ups and assessment to the animal raisers, regular conduction of sanitation and safety measures to the area, upgrading of native stocks, dispersal of hybrid animals and also strict inspection of animals brought to the locality. Generally, the solutions to the problems encountered in animal raising is dependent on the cooperation, performance of the animal raisers and their interaction between them and the local government unit of the municipality who are engaged in animal raising such as the city veterinarians office.



Conclusion

Based on the findings, it is therefore concluded that the livestock and poultry production in the city is controlled by the backyard animal raisers. The respondents have improved their management practices and are no longer observing most of the traditional practices but still they need to upgrade/enhance their knowledge and skills on animal raising most especially so that the efficiency or success of animal raising industry is dependent on the management practices conducted by the raisers to their animals.

Recommendations

Some recommendations are formulated that could be of great help in the continuous improvement and success of animal raising industry in the area which are based on the finding of the study are as follows.

1. The animal raisers in the locality should organize or form their own association to have cooperation, unity and to have a better bargaining power when united.
2. The animal raisers should form also cooperatives or other forms of institutions that help them to have sufficient or enough financial assistance in times of need.
3. The animal raisers should consult veterinarians or animal technicians in case of animal diseases to prevent and control the outbreaks of the diseases.
4. The local government unit assigned in the animal industry should conduct regular sanitation and other safety measures to ensure clean and safe environment and it is on part of the animal raisers to always practice proper hygiene.
5. Regular and continuous conduction of seminars, trainings and demonstration related to animal production is of great help to the raisers in adopting the new



technologies introduced to them by learning the advantages and it improves their technical knowledge on the management practices that they employ.

6. The assigned authorities should always ensure legal transactions and conduct strict inspection for fair and legal operations in animal raising industry.

Further study or research to the barangays of the city that are not taken in the study with the same concept is recommended to show the whole status of livestock and poultry production in the area.



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Appendix

The Research Instrument

I. GENERAL INFORMATION

Name: _____ Gender: _____
 Address: _____ Age: _____
 Civil Status: _____ Occupation: _____
 Educational Attainment: _____
 Years in Raising Animals: _____

Farm Animal/species/breed/strain	native	hybrid	upgrade	Number of years
Swine	_____	_____	_____	_____
Cattle	_____	_____	_____	_____
Chicken	_____	_____	_____	_____
Carabao	_____	_____	_____	_____
Goat	_____	_____	_____	_____

Classification and Number of Animals Being Raised

Animal	Class/Age/Weight	Breed/Strain	Purpose	Number of Animals
Swine	Suckling	_____	_____	_____
	Weanling	_____	_____	_____
	Grower	_____	_____	_____
	Finisher	_____	_____	_____
	Sow	_____	_____	_____
Cattle	Boar	_____	_____	_____
	Cow	_____	_____	_____
	Bull	_____	_____	_____
Chicken	Calf	_____	_____	_____
	Chicks	_____	_____	_____
	Pullets	_____	_____	_____
Goat	Hen/rooster	_____	_____	_____
	Doe	_____	_____	_____
	Buck	_____	_____	_____
Carabao	Kids	_____	_____	_____
	Caraballa	_____	_____	_____
	Bull	_____	_____	_____
	Calf	_____	_____	_____



Number of Animals per House/Pen

Animal	Number of Pens/corral in One House	Number of Animals per Pen/corral
Swine	_____	_____
Suckling	_____	_____
Weanling	_____	_____
Grower	_____	_____
Finisher	_____	_____
Sow	_____	_____
Boar	_____	_____

III. FEEDING

Type and Source of Feeds and Frequency of Feeding

Animal	Class/Age/Weight	Type of Conventional Feeds	Source of Conventional Feeds	Type of Non-Conventional Feeds	Combination of feedstuffs (conventional and or non-conventional)
Swine	Suckling	_____	_____	_____	_____
	Weanling	_____	_____	_____	_____
	Grower	_____	_____	_____	_____
	Finisher	_____	_____	_____	_____
	Sow	_____	_____	_____	_____
	Boar	_____	_____	_____	_____
Goat	Buck	_____	_____	_____	_____
	Doe	_____	_____	_____	_____
	Kids	_____	_____	_____	_____
Cattle	Cow	_____	_____	_____	_____
	Bull	_____	_____	_____	_____
	Calf	_____	_____	_____	_____
Carabao	Caraballa	_____	_____	_____	_____
	Bull	_____	_____	_____	_____
	Calf	_____	_____	_____	_____
Chicken	Rooster	_____	_____	_____	_____
	Chicks	_____	_____	_____	_____
	Pullets	_____	_____	_____	_____
	Hen	_____	_____	_____	_____



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 in Ration	Frequency of feeding
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

System of Feeding

- (1) wet group feeding
- (2) wet individual feeding
- (3) dry group feeding
- (4) dry individual feeding
- (5) free range / choice feeding
- (6) others (specify)

Animal	Class/Age/Weight	System of Feeding	Frequency of Feeding
Swine	Suckling	_____	_____
	Weanling	_____	_____
	Grower-Finisher	_____	_____
	Breeding swine	_____	_____



Goat	Buck	_____	_____
	Doe	_____	_____
	Kids	_____	_____
Cattle	Cow	_____	_____
	Bull	_____	_____
	Calf	_____	_____
Chicken	Chicks	_____	_____
	Pullets	_____	_____
	Hen	_____	_____
	Rooster	_____	_____

IV. BREEDING

Breeding Systems:

a. Out breeding

Pure breeding

Out crossing

Crossbreeding

b. Inbreeding

close breeding

line breeding

c. Up grading/grading up

Animal	Breeding System	Mating A.I	System Natural	Age of Animals at First Breeding
Swine	_____	_____	_____	_____
Cattle	_____	_____	_____	_____
Chicken	_____	_____	_____	_____
Carabao	_____	_____	_____	_____
Goat	_____	_____	_____	_____

Source of Male Breeding Animals

(1) owned

(2) borrowed

(3) hired

(4) other arrangements (specify)

Animal	Source of Breeding Animal	Terms of Payment for Breeding Service
Swine	_____	_____
Native	_____	_____
Upgrade	_____	_____
Crossbred	_____	_____
Cattle	_____	_____
Carabao	_____	_____
Goat	_____	_____
Chicken	_____	_____
Native/Sasso	_____	_____



Terms of Payment for Breeding Service

- (1) Cash (how much?)
- (2) In terms of piglets
- (3) In terms of calves
- (4) other terms (specify)

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	
	Alive	Dead				Alive	Dead	infertile	Embryonic Death
Swine									
Native	_____	_____	_____	_____	_____	_____	_____	_____	_____
Upgrade	_____	_____	_____	_____	_____	_____	_____	_____	_____
Crossbred	_____	_____	_____	_____	_____	_____	_____	_____	_____
Cattle	_____	_____	_____	_____	_____	_____	_____	_____	_____
Chicken	_____	_____	_____	_____	_____	_____	_____	_____	_____
Native/Sasso	_____	_____	_____	_____	_____	_____	_____	_____	_____

V. HERD HEALTH MANAGEMENT

Sanitation practices

Animal	Bathing Animals		Cleaning Pens		Do they deworm?		Do they disinfect?	
	Yes	No	Yes	No	Yes	No	Yes	No
Swine								
Upgrade	_____	_____	_____	_____	_____	_____	_____	_____
Crossbred	_____	_____	_____	_____	_____	_____	_____	_____
Hybrid	_____	_____	_____	_____	_____	_____	_____	_____
Goat	_____	_____	_____	_____	_____	_____	_____	_____
Cattle	_____	_____	_____	_____	_____	_____	_____	_____
Carabao	_____	_____	_____	_____	_____	_____	_____	_____
Chicken	_____	_____	_____	_____	_____	_____	_____	_____
Native/Sasso	_____	_____	_____	_____	_____	_____	_____	_____



Vaccination practices

Animal	Class/Age/ Weight	Do they vaccinate		Source of Vaccine	Type of vaccine (brand)	Frequency
		Yes	No			
Swine	Suckling	_____	_____	_____	_____	_____
	Weanling	_____	_____	_____	_____	_____
	Grower	_____	_____	_____	_____	_____
	Finisher	_____	_____	_____	_____	_____
	Sow	_____	_____	_____	_____	_____
Goat	Boar	_____	_____	_____	_____	_____
	Buck	_____	_____	_____	_____	_____
	Doe	_____	_____	_____	_____	_____
Cattle	Kids	_____	_____	_____	_____	_____
	Cow	_____	_____	_____	_____	_____
	Bull	_____	_____	_____	_____	_____
Carabao	Calf	_____	_____	_____	_____	_____
	Caraballa	_____	_____	_____	_____	_____
	Bull	_____	_____	_____	_____	_____
Chicken	Calf	_____	_____	_____	_____	_____
	Chicks	_____	_____	_____	_____	_____
	Pullets	_____	_____	_____	_____	_____
	Hen	_____	_____	_____	_____	_____
	Rooster	_____	_____	_____	_____	_____

Care of sick animals

Animal	Class/Age/ Weight	Isolation	Medication or Remedies	Culling of Sick Animals	Source of Information on Remedies	Veterinary assistance (yes? how)
Swine	Suckling	_____	_____	_____	_____	_____
	Weanling	_____	_____	_____	_____	_____
	Grower	_____	_____	_____	_____	_____
	Finisher	_____	_____	_____	_____	_____
	Sow	_____	_____	_____	_____	_____
Cattle	Boar	_____	_____	_____	_____	_____
	Cow	_____	_____	_____	_____	_____
	Bull	_____	_____	_____	_____	_____
Goat	Calf	_____	_____	_____	_____	_____
	Doe	_____	_____	_____	_____	_____
	Buck	_____	_____	_____	_____	_____
Carabao	Kid	_____	_____	_____	_____	_____
	Caraballa	_____	_____	_____	_____	_____



Animal	Class/Age/ Weight	Isolation	Medication or Remedies	Disposal of Sick /dead Animals	Source of Information on Remedies	Veterinary assistance (yes? how)
	Calf	_____	_____	_____	_____	_____
	Bull	_____	_____	_____	_____	_____
Chicken	Chick	_____	_____	_____	_____	_____
	Rooster	_____	_____	_____	_____	_____
	Hen/Pullet	_____	_____	_____	_____	_____

VI. HERD MANAGEMENT

Care for Young Pigs

Standard Practice	Yes	No
1. Removal of transplacental membrane upon expulsion of piglet	_____	_____
2. Cutting of the navel cord	_____	_____
3. Cutting of the needle teeth	_____	_____
5. Provide brooder box	_____	_____
6. Allow pigs to suckle colostrums as soon as possible	_____	_____
7. Fostering for orphaned pigs	_____	_____
8. Iron injection	_____	_____
9. Feeding the piglets starting on the fifth day	_____	_____
10. Castration of young male pigs	_____	_____
11. Weaning	_____	_____
12. Gradual change of feed	_____	_____
13. Provide guard rails to protect the piglets	_____	_____

Care for Young Calves (enumerate)

Care for Young Chicks (enumerate)



VI. MARKETING SYSTEM

How do they sell their product?

- a. Per kilogram LW? c. per kilogram for butchered meat
- b. Per head?

Who determines the price?

- a. Producer
- b. Consumer
- c. retailer
- d. wholesaler
- e. meat packer
- f. others (specify)

Marketing system

- a. producer to consumer
- b. producer to retailer to consumer
- c. producer to wholesaler to retailer to consumer
- d. other schemes (specify)

VII. SUPPORT SYSTEM

Are their technical services or financial support being extended to the farmers from any agency be it private or government?

How often do they avail of these services?

VII. PROBLEMS/CONSTRAINTS

What are the most common problems encountered in raising animals?

What possible solutions could they suggest to solve these constraints?

