BIBLIOGRAPHY

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Adviser: Samuel S. Arcellana, MSc.

ABSTRACT

The survey was conducted to determine the socio-economic profile of the respondents; management practices in terms of housing, feeding, breeding, herd health management, and herd care management; marketing and consumption practices; support systems they avail of; and problems/constraints that the respondents encountered.

The majority of the respondents had no formal education; female; married; belonged to age bracket 41-50 years old; and are farmers/animals raisers to supplement their meager income and as major source of income for the non-salaried farmers.

The native animals raised is the most commonly produced due to their endurance to adverse weather condition, thus, inbreeding through natural mating is practiced.

Ruminants free to range feed on napier grass while 'palay' is offered to chicken, and kitchen left-over cooked rice for ducks. Middlemen buy livestock and sell them at liveweight or dressed weight basis while poultry species are sold directly to buyer-consumers.

The problems encountered in animal raising are absence of market outlet, lack of cash capital, limited technical knowledge, and limited grazing area for ruminants.

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INTRODUCTION

Livestock and poultry raising is common among farming-household communities in Nueva Vizcaya. This small-scale business is a gainful self-employment endeavor and most people depend on it to sustain family income. Besides, livestock and poultry raising is an important aspect in the socio-economic life of the people in the Cagayan Valley. Just like other households in other regions like the Cordillera, livestock and poultry raising is a part of their culture and a hobby. Some even treat their animals as pets. They raise livestock and poultry not only for the purpose of selling them to the market but sometimes use them for personal needs if they celebrate special occasions like: baptisms, weddings, birthdays/anniversaries and other rituals called by their cultural traditions.

Currently, livestock and poultry production under small holder farming system with no deliberate breeding program is still based on native and indigenous stocks which are often non-descript mongrels with low performance potential. While imported temperate breeds are generally shown to adapt poorly to our tropical environment, improvement of the native stocks through crossbreeding and imported purebred offers a quick and convenient way of intensifying their competitiveness in production and marketing (Bondoc *et al.*, 1997). However, success in livestock and poultry production is greatly influenced by several factors and among them are: stocks, feeds and feeding, housing, disease control and management. Each of these factors must be fully considered in order to meet profitability.

The study was aimed to answer the following questions:

1. What is the socio-economic profile of the livestock and poultry raisers of Kasibu, Nueva Vizcaya?

2. What are their management practices in terms of housing, feeding, breeding, herd health management and herd care management?

3. What are their marketing and consumption practices?

4. What are the support systems that they avail of?

5. What are the problems/constraints the raisers usually encountered?

Objectives of the Study

The study aims to determine the:

1. Socio-economic profile of the respondents;

2. Management practices in terms of: a. housing; b. feeding; c. breeding; d. herd health management; e. herd care management;

3. Marketing and consumption practices;

4. Support systems they avail of; and

5. Problems/constraints that the respondents encountered.

The result of the study would benefit researchers as well as backyard farm animal raisers. Further, the information generated from the respondents increased their knowledge and improve their skills in livestock and poultry production thereby increasing their income and additional food sources.

Furthermore, the results of the study served as reference material to students, and a guide to concerned agencies in addressing the problems encountered by the backyard farm raisers.

The scope of the study was limited to the top 11 barangays of Kasibu, Nueva Vizcaya having the highest number of animal raisers.

REVIEW OF LITERATURE

Swine

Swine production can be a means of providing employment. Unemployed persons can engage in swine raising either backyard or for commercial purposes; it can also serve as an additional source of income to those who are employed. Pork like other kinds of meat is a very good source of protein which is needed in human nutrition (Supnet and Gatmaitan, 1980).

According to PCARRD (1981), there are many problems encountered by swine raisers such as inadequate supply and high cost of feeds, high losses due to occurrence of major diseases and parasites, slow transfer of technology and its adoption by end-users, poor feeding, improper management practices, difficulty in obtaining loans for medium to large terms, and for medium to large swine projects. According to the Bureau of Agricultural Statistics (1993), the low productivity of swine industry is due to disease outbreaks and improper management practices. Statistical data shows that in 1993, the swine production in the Philippines increased from 3.43% as compared to the previous years due to the increased in number of consumers.

Cattle

The Philippine native cattle are predominantly descendants of those cattle brought into the country by the Chinese and Spaniards. The most prominent type of Philippine cattle, the Batangas, is believed to have originated from the yellow cattle of Southern China which is presumed to have evolved from the wild cattle (India Zebu) in Java and Brahmin archipelago (Payne, 1970).

Cattle of Chinese origin are still found in Mindoro, Central and Southern Luzon while cattle introduced by the Spaniards are found in Northern Luzon (Parker, 1987). Other identifiable Philippine cattle strains are: the Large Ilocos found in Northwest Luzon, and Iloilo cattle found in Panay Island. A local analysis of blood transferrin genes suggested that cattle form Southern Tagalog, Western Visayas and Northern and Eastern Mindanao have genetic affinities with most Asiatic and African cattle; while those in Ilocos, Cagayan Valley, Eastern Visayas and Central Luzon are related to most cattle of temperate breeds (Parker *et al.*, 1971).

The Philippine native cattle are small in size, about 280 to 380 kg adult bodyweight, with color patterns and shade mainly of red to yellow, black or sometimes a combination of these colors. It is not a dairy type stock and produces only enough milk for its young. The total milk yield is about 190 liters only (4.56% butterfat) in 144 days of lactation (Villegas, 1958). The birth weight averaged 19.1 kg only, with mean yearling and 2-year old weights of 139 kg and 258 kg, respectively (Arboleda *et al.*, 1985). Philippine cattle can easily obtain a daily gain of 0.3 to 0.7 kg feed efficiency of 8 to 16 % on rations with varying levels of low-quality roughage, ipil-ipil leaves and by-product concentrates (Perez, 1962).

Carabao

Carabaos weigh an average of 31.2 kg, 112.1 kg, 174.9 kg, and 361.0 kg at birth, 6 months, 1 year, 2 years, and 3 of age, respectively (Shrestha and Parker, 1994). The average lactation yield of carabaos is 535.0 only, with an average lactation length of 208.2 days (*i.ei* 2.57 kg per day). The first calving of a carabao is 5.36 years (Shrestha, 1992).

Most carabaos used for draft are males (about 63.0%; De Guzman and Perez, 1982). Small carabulls are castrated at a mean age of 3.3 years, with a range of 1.8 to 4.8 years. Small carabulls which are selected for draft are left to mate the female carabaos, and hence could have resulted into declining size and weight of the carabaos over the years. Farmers are not enthusiastic to have their animals impregnant. They believe that once caracow is mated it is no longer fit for work; otherwise it will abort. The usual practice is thus to wait in six to 10 months after calving before the caracow is allowed to mate again (Shrestha, 1992).

Goat

Goats are indigenous to this country and believed to have originated from the wild goats of Western Asia which were introduced by Arab and Chinese traders in the 7th and 9th century B.C. (Devendra and Burns, 1985).

Several exotic stocks were also introduced into the Philippines even before the Second World War, but their number was insignificant to make any contribution to the improvement of the local herds. Most of the foreign breeds used to improve the milk and meat performance of native goat belong to dairy type goat breeds such as Anglo-Nubian, French Alpine, La Mancha, Saanen, and Toggenburg. Meat type breeds such as Jumna pari from India and Boer goats were also used in local upgrading programs. Analysis of goat performance data showed that imported breeds of goats are generally superior to the natives in terms of the body weight and milk production but poorer in reproductive performance (Arboleda *et al.,* 1985).

Chicken

The native chickens in the Philippines are believed to have descended from the domesticated red jungle fowl (*Gallus bankiva*; Arboleda, 1980).

The adult size is usually small, with the male weighing an average of 1.3 kg and the female 1 kg. they are nervous and fighty, but the females are broody and have strong maternal instincts. They are hardy and can reproduce and survive with care and management. Hens lay an average of 30 to 50 eggs in 3 to 4 clutches a year. The eggs are small and brown in color (Arboleda, 1987).

Native chickens have always been part of rural setting, often turned loose to scavenge. They provide additional source of income for many rural farmers. They also serve as cheap source of animal protein through their meat and eggs. They are commonly sold in the wet market as live chickens or 'dressed' with the head and feet on. Although native chickens grow at a slower rate and produce lesser number of eggs than improved commercial breeds, meat from native chickens are preferred by many Filipinos because the taste, leanness, pigmentation and their suitability for special dishes (Lambio, 1990). Other unique attributes of native chicken include adaptability to harsh environment, ability to utilize farm by-products and resistance to diseases and parasites (Bondoc *et al.*, 1997).

Duck

The feet are orange, and the bill of male is bright green, while that of the female is less brightly colored. The head feathers of the drake are iridescent green color, and glitter in the sun. the drake has raspy low voice similar to that of the wild duck, and is very attentive to the females (Palad, 1994).

The male Pateros has a coarser head than the female. The average weight of an adult drake is 1.75 kg, while the adult female is 1.50 kg. one male Pateros can serve 15 to 20 females, normally registering a high fertility of 80 to 85%. Under the traditional management practices, a duck can lay 200 eggs in 365 days of laying, with eggs relatively large in size. However, these ducks are non-sitters. As experienced by local raisers, their adaptability to local environment conditions and management practices is far better than other stocks. Moreover, their products have unique attributes that consumers generally prefer (PCARRD, 1981).

The plumage color and pattern of the Philippine Mallards are dominantly of the mallard (wild) pattern (54%), followed by the dusky pattern (20%), runner pattern (12%), magpie pattern (9%), and the restricted pattern (5%). The average breast depth, breast width, keel length, and shank length in the Philippine Mallard is 6.8 cm, 7.3 cm, 10.3, and 4.4 cm, respectively. Drakes are generally found to be heavier and have longer anatomical body than the female ducks (Afable, 1997).

METHODOLOGY

The study was conducted in Kasibu, Nueva Vizcaya from January to February 2007 (Figure 1).

Purposive sampling was done to gather information from the respondents. The top barangays raising animals were chosen as source of respondents.

Table 1. Livestock and poultry population in Kasibu, Nueva Vizcaya

BARANGAYS	ANIMALS RAISED						TOTAL
	CARABAO	CATTLE	SWINE	GOAT	CHICKEN	DUCK	
Antutot	55	10	100	30	2850	600	3645
Cordon	10	2	89	2	344	23	470
Macalong	50	1	250	40	4200	980	5521
Kongkong	60	10	200	40	326	600	1236
Watwat	8	10	120	40	1910	336	2424
Poblacion	70	15	900	20	4046	520	5571
Pudi	65	10	200	20	3400	40	3735
Lupa	45	5	80	5	2210	162	2507
Bua	9	7	77	3	449	35	580
Siguem	75	20	8	10	1755	150	2018
Muta	16	30	160	10	3400	8	3624
Paquet	90	45	150	15	3694	100	4094
Dine	9	8	68	3	470	190	748
Pao	19	4	78	7	336	26	470
Biyoy	10	6	66	5	230	30	347
Alloy	70	5	100	40	2385	210	2810
Nantawakan	23	2	77	6	600	33	741
Katawaran	12	7	65	3	400	34	521
Papay	13	6	56	5	367	19	466
Malabing	23	4	88	4	222	16	357
Tadji	20	9	65	3	349	11	457
Binogawan	16	5	89	5	320	15	450
Wangal	21	4	190	6	250	34	505
Capisan	24	9	169	4	219	22	447
Tokod	21	5	55	3	398	66	548
Didipyo	33	6	44	2	249	12	346

Figure 1. Map of Kasibu, Nueva Vizcaya

Table 1. continued…

BARANGAYS	A N I M A L S R A I S E D						TOTAL
	CARABAO	CATTLE	SWINE	GOAT	CHICKEN	DUCK	
Belet	33	3	33	5	450	21	545
Camamasi	20	11	23	5	267	20	346
Alimit	23	16	76	3	342	23	483
TOTAL	946	275	3676	344	36438	4336	46012

Source: Office of the Municipal Agriculture, Kasibu, Nueva Vizcaya (2006)

Table 2. The sample barangays and number of respondents from Kasibu, Nueva Vizcaya

BARANGAY	NUMBER OF HOUSEHOLDS	NUMBER OF RESPONDENTS
Antutot	85	13
Macalong	95	19
Kongkong	127	20
Watwat	71	20
Alloy	79	11
Poblacion	143	23
Pudi	59	24
Lupa	57	14
Siguem	60	20
Muta	138	29
Paquet	66	20
TOTAL	980	213

Source: Office of the Municipal Agriculture, Kasibu, Nueva Vizcaya (2006)

The study considered information from an average of 21.73% of the households from the Municipality of Kasibu, Nueva Vizcaya who were found to be raising animals.

Personal interview with the use of prepared questionnaire on the pre-scheduled time as well as photo documentation were done.

Data Gathered

1. General information. This covered the respondent's personal profile.

2. Number of years in raising animals. The number of years the respondents had been raising animals.

3. Classification and number of animals being raised. This includes the class, age or weight of the animals, breeds or strain, purpose and number.

4. Source of stock. This includes the source of initial and replacement stocks and breeding animals.

5. Source of capital. States how the operation is financed.

6. Kind of housing or rearing management. This is a comprehensive description of the type of housing materials, roof structure and stocking density.

7. Facilities. This includes all the equipment being used in the farm.

8. Types and sources of feeds. Describes the source and the types of conventional and non-conventional feedstuff fed to the different species of animals.

9. Feed preparation method. Describes the method of processing or preparation of feeds (both conventional and non-conventional).

10. Use of additives/supplements. It includes kind, purpose and frequency of feeding.

11. System of feeding. It covers pertinent data on system and frequency of feeding.

12. Breeding system. It includes the breeding and mating system.

13. Terms of payment for breeding services. This shows how the respondents pay for their breeding services.

14. Age at breeding, birth rate, length of lactation and frequency of breeding to conception.

15. Reproductive performance. This includes litter size at birth and at weaning or number of eggs/clutch and number of eggs hatched.

16. Sanitation practices. This reflects the batching/cleaning schedules of the disinfectant used, frequency/amount spent.

17. Vaccination practices. Shows if the respondents vaccinate their animals against common diseases, frequency, source, and amount spent.

18. Care of sick animals. This describes how the respondents care for morbid animals such as veterinarian services, cost, and medication.

19. Management of parasites. This describes the routine prevention, cure or remedies both conventional and non-conventional.

20. Non-conventional remedies. These are the indigenous remedies being adopted by the farmers.

21. Herd management. This reflects the management scheme of the respondents which includes care for all classes of animals.

22. Products and market outlet. This description of products and marketing strategies as well as pricing schemes of the respondents.

23. Support system. This shows if technical services have ever been extended to farmers as those from the LGU, private entities, and non-government organizations.

24. Problems/constraints. The problems the respondents encounter on animal raising.

Data Analyses

The data and information gathered from the respondents were tabulated, consolidated, and interpreted by ranking and percentage.

RESULTS AND DISCUSSION

Profile of Respondents

Based on the survey conducted among the top 11 barangays raising animals in Kasibu, Nueva Vizcaya, the parameters: age, sex civil status, educational attainment as well as occupation of the respondents did not limit them to engage in animal raising.

Age. It was found that most of the respondents belonged to age bracket 31-40 years old with 24.41%. Further, there were 3.76% who were septuagenarians.

Sex. There were more female (131) than male (82) animal raisers. The figure show that animal raising in Kasibu, Nueva Vizcaya is not constrained by sex.

Civil status. Of the 213 respondents, there were 96 who were married, 70 single and 82 widow/er. The reason behind why there were more married respondents engaged in animal raising was because they have to augment their family income.

Educational attainment. Attending formal education was found not to hinder animal raising. There were 87 respondents who were not able to attend school. The other respondents (126) attended formal education from elementary (80), high school (19), and college level (27).

Occupation. Farming as well as animal raising were the major occupation of the respondents (92). Those employed (26), those engaged in vending (33), and housewives (62) raise animals to supplement their income.

Table 3. Personal profile of the respondents

PARTICULARS	NUMBER OF RESPONDENTS	PERCENTAGE
Age Bracket		
21 – 30	49	22.00
31 – 40	52	24.41
41 – 50	43	20.19
51 – 60	39	18.31
61 – 70	22	10.33
70 – 80	8	3.76
TOTAL	213	100.00
Sex		
Female	131	61.50
Male	82	38.50
TOTAL	213	
Civil Status		
Married	96	45.07
Single	70	32.86
Widow/er	47	22.07
TOTAL	213	100.00
Educational Attainment		
No formal education	87	40.85
Elementary	80	40.85
High school	19	8.92
College level	27	12.67
TOTAL	213	100.00
Occupation		
Government employee	26	12.21
Farming/Animal raising	92	43.19
Housekeeping	62	29.11
Vending	33	15.49
TOTAL	213	100.00

Animals Raised

The respondents raise chicken (126), swine (112), duck (97), carabao (81), goat (33), and cattle (21) (Table 4). Chicken and swine topped the list of animals raised because these are easier to manage and produce.

Table 4. Animals raised and number of respondents raising each kind

KIND OF ANIMAL	NUMBER OF RESPONDENTS	PERCENTAGE
Swine	112	52.58
Cattle	21	9.86
Carabao	81	38.03
Goat	33	15.49
Chicken	126	59.15
Duck	97	45.54
TOTAL	470* (n = 213)	

* - multiple responses

Swine

Years in Swine Raising

The length of time (years) the respondents had been raising swine is shown in Table 5. Out of the 213 respondents, there were 12 who raise swine. Most of the respondents (36) claimed to raise swine as short as 1-5 years while 23 raised swine for 21 years or more.

Number of Heads

The number of swine heads the respondents raise in a single time ranged from one to more than 10. Those involved in raising 1-3 and 4-6 heads at a given time were those who find ways to augment their income and have them for special occasions but for those raising 7 and more were having farming alongside with swine raising hence, their main source of income.

Table 5. Number of years in swine raising

NUMBER OF YEARS	NUMBER OF RESPONDENTS	PERCENTAGE
1 – 5	36	31.42
6 – 10	21	18.75
11 – 15	18	16.07
16 – 20	14	12.50
21 – above	23	20.54
TOTAL	112	100.00

Table 6. Number of swine raised by the respondents in a single time

NUMBER OF HEADS	NUMBER OF RESPONDENTS	PERCENTAGE
1 – 3	57	50.89
4 – 6	24	21.43
7 – 9	21	18.75
10 – above	10	8.93
TOTAL	112	100.00

Purpose in Swine Raising

Since the survey was conducted in the farming communities, animal production is done to implement their meager income especially to those who are employed. Few of the respondents found tending 1-3 and 4-6 heads were caring swine for special planned purpose while other than this, the respondents will not raise swine (Table 7).

Stock and Capital

Stock. The neighbors within their respective barangays were the main source of stocks. Others procure their animals from other barangays within the municipality and from nearby municipalities for upgrading purposes (Table 8).

Cash capital. Majority of the respondents (59.82%) use their own money to provide the necessary needs is raising swine. others avail loans from cooperatives.

Table 7. Purpose of raising swine

PURPOSE	NUMBER OF RESPONDENTS	PERCENTAGE
Main source of income	28	25.00
Supplementary source of income	66	58.93
For special occasion	18	16.07
TOTAL	112	100.00

Table 8. Source of stock and cash capital

SOURCE	NUMBER OF RESPONDENTS	PERCENTAGE
Stock		
Neighbor (same barangay)	73	65.18
Near municipality	28	25.00
Other barangays within the municipality	11	9.82
TOTAL	112	100.00
Capital		
Own money	67	59.82
Loan from cooperative	45	40.18
TOTAL	112	100.00

Breeds\Strain

The breeds\strains of swine raised in Kasibu, Nueva Vizcaya is shown in Table 9. The 'native' pig, as claimed by the respondents is the most raised breed followed by 'upgrade' breeds like, landrace, hypor, large white, and duroc in descending order.

Though the 'native' breed is much smaller than the other breeds but still preferred by the respondents due to their endurance to harsh weather condition, more resistant against diseases and parasites, and better meat quality among others.

Figure 2. The native swine being raised in Kasibu, Nueva Vizcaya

Figure 3. Landrace breed of swine raised in Kasibu, Nueva Vizcaya

Table 9. Breed/strain of swine raised by the respondents

BREED/STRAIN	NUMBER OF RESPONDENTS	PERCENTAGE
Native	32	28.57
Grade	22	19.64
Large White	14	12.50
Landrace	17	15.19
Hypor	15	13.39
Duroc	12	10.71
TOTAL	112	100.00

Breeding System

Age at first breeding. Most of the respondents claim they breed their swine at 8-9 months old, recommended to them by hearsays. But for others, they breed their swine at 6-7, 10-11, and 12-13 months old (15.18%, 19.64%, 25.55%, respectively).

Type of breeding. There were 43.75% of the respondents that followed crossbreed to any available boar of good traits. Those who wanted to perpetuate their present stocks, inbreeding (37.50%) is being done while upgrading their stock is done by 18.75% of the respondents.

Nature of breeding. Natural mating is the only way followed by swine raisers to perpetuate the species' character traits found in the areas where the survey was conducted.

Source of boar. Breeding boars in rural communities are neither owned (15.18%), borrowed (84.82%) or rented.

Number of services before conception. Fifty percent of the respondents reiterated their sow is served twice before conception; 45.54% had their sow serviced only once and 4.46% even have them served three times when finally going to conception.

Table 10. System of breeding

PARTICULARS	NUMBER OF RESPONDENTS	PERCENTAGE
Age at First Breeding (months)		
6 – 7	17	15.18
8 – 9	45	40.18
10 -11	22	19.64
12 – 13	28	25.00
Type of Breeding		
Grading	21	18.75
Inbreeding	42	37.50
Crossbreeding	49	43.75
Nature of Breeding		
Natural mating	112	100.00
Source of Boar		
Owned	17	15.18
Borrowed	95	84.82
Number of Service\s Before Conception		
Once	51	45.54
Twice	56	50.00
Thrice	5	4.46
Terms of Payment for Mating Service\s		
Cash	21	18.75
Piglets	83	74.11
None (Owned)	8	7.14

Length of Gestation

The gestation period of swine in the areas of concern ranges from 110 to 114 days but there were those (16.96%) claiming to have observed gestation for about 115 days or more (Table 11).

Litter Size

Litter size at birth. The number of piglets at birth ranges from a low 7 to more than 15 regardless of swine breed. Forty four out of 112 respondents mentioned the average litter size was 11-12. Only four were lucky enough to have produced 15 or more litters per farrowing period (Table 12).

Table 11. Length of gestation in swine

LENGTH OF GESTATION (DAYS)	NUMBER OF RESPONDENTS	PERCENTAGE
110	3	2.68
112	16	14.29
113	40	35.71
114	34	30.36
115 – above	19	16.96
TOTAL	112	100.00

Table 12. Litter size at birth and at weaning

LITTER SIZE	NUMBER OF RESPONDENTS AT BIRTH		AT WEANING	
	F	%	F	%
7 – 8	22	19.64	25	22.32
9 – 10	31	27.68	38	33.93
11 – 12	44	39.29	36	32.14
13 – 14	11	9.82	9	8.04
15 and above	4	3.57	4	3.57
TOTAL	112	100.00	112	100.00

Litter size at weaning. Mortality rate was highest at 11-12 litter size and lowest at 13-14 piglets. All the respondents who had litter size of 15 or more at birth had 100% survival at weaning (Table 12). Considering the production system of swine in the surveyed areas which is more conventional, the mortality in piglet production is quite low.

Farrowing

Shown in Table 13 is the number of farrowing per year as observed by the respondents. The different swine breeds\strains being raised farrow twice a year.

Native breed. Thirteen of 20 respondents observed the native breed to farrow only once a year while 7 commented also to farrow at most two times a year.

Upgrade breed. This breed commonly farrow once a year as claimed by 78.57% of the respondents.

Large white. There were 17 of the 25 respondents who mentioned that this breed farrow twice a year, very rare farrow once a year.

Landrace. Of the 23 respondents raising this breed, majority (56.52%) observed to farrow twice a year.

Hypor. There were 17 out of the 112 respondents who raise this breed of swine, 64.71% observed this to farrow at most twice a year but could also farrow five times in two years.

Duroc. This breed commonly farrow once a year as claimed by 54.55% of the respondents. Three or 27.27% observed farrowing twice a year when given proper nutrition.

Feeds and Feeding

Kinds of feed. Indigenous feeds or non-conventional feeds was the most common feedstuff given to swine (68.75%). Some of the respondents (17.86%) combine commercial feed preparation with indigenous feeds for their produce. Few (15 or 13.39%) give 100% pure commercial feeds (Table 14).

Table 13. Number of farrowing per year

BIRTH RATE	NATIVE		UPGRADE		LARGE WHITE		LANDRACE		HYPOR		DUROC	
	F	%	F	%	F	%	F	%	F	%	F	%
Once a year	13	65.00	2	14.29	1	4.00	4	17.39	1	5.88	2	18.18
1-2 times/year	7	35.00	11	78.57	17	68.00	13	56.52	11	64.71	6	54.55
2 times/year	0	0.00	1	7.14	7	28.00	6	26.09	5	29.41	3	27.27
TOTAL	20	100.00	14	100.00	25	100.00	23	100.00	17	100.00	11	100.00

Table 14. Preparation of indigenous feeds for swine

METHOD OF PREPARATION	KITCHEN REFUSE		SQUASH		GABI	
	F	%	F	%	F	%
Mixed with rice bran	19	28.36	0	0	0	0
Pure kitchen refuse	48	71.64	0	0	0	0
Chopped-cooked	0	0.00	2	16.67	33	100.00
Chopped-raw	0	0.00	10	83.33	33	100.00
TOTAL	67	100.00	12	100.00	66	100.00

Preparation of indigenous feeds. The indigenous feeds given to swine varied and prepared in a number of ways as mentioned by the respondents. However, majority (71.64%) offered pure kitchen refuse as feeds. Gabi and squash are either chopped and cooked or chopped only before given to swine. Rice bran is being mixed with kitchen refuse as feedstuff (Table 15.)

Frequency of feeding. The frequency of feeding swine is done once to three times a day depending on the growth stage of the animal. All respondents provide feeds to their sucklings twice a day. At weanling stage, 102 (91.07%) of the respondents continue to provide feedstuff twice a day while 10 reduced feeding to once a day, only one client give feedstuff thrice a day. During the growing stage, there were 105 of the respondents that give feedstuff twice a day while five or 4.46% feed their growers once a day, and only two of them at three times a day. Towards the finishing stage, once a day feeding was claimed by 32 respondents while 77 still feed their hogs twice a day, and three or 2.68% provide feedstuffs thrice a day.

System of feeding. There were two feeding systems employed by swine raisers of Kasibu, Nueva Vizcaya, namely: the wet-group and the dry-group feeding. Based on the result of the survey, there were more raisers who prefer wet-group feeding in any growing stage over the dry-group feeding (Table 17). The main reason for this kind is the nature of feedstuffs given to their swine.

Table 15. Frequency of feeding for swine

FREQUENCY	SUCKLING		WEANLING		GROWER		FINISHER		SOW/BOAR	
	F	%	F	%	F	%	F	%	F	%
Once a day			10	8.93	5	4.46	32	28.57	24	21.43
Twice a day	112	100.00	101	90.18	105	93.75	77	68.75	88	78.57
Thrice a day			1	0.89	2	1.79	3	2.68		
TOTAL	112	100.00	112	100.00	112	100.00	112	100.00	112	100.00

Table 16. Kinds of feed provided to swine

PARTICULARS	NUMBER OF RESPONDENTS	PERCENTAGE
Commercial feeds	15	13.39
Indigenous feeds (Non-conventional)	77	68.75
Combination	20	17.86
TOTAL	112	100.00

Table 17. System of feeding for swine

FEEDING SYSTEM	NUMBER OF RESPONDENTS			
	WET-GROUP		DRY-GROUP	
	F	%	F	%
Weanling	65	58.04	47	41.96
Grower	59	52.68	53	47.32
Finisher	72	64.29	40	35.71
Boar/Sow	81	72.32	31	27.68

Figure 4. Feeding system of swine in Kasibu, Nueva Vizcaya

Preventing and Controlling Swine
Diseases and Parasites

Isolation. Majority of the respondents in the surveyed area are not isolating diseased or infested swine, thereby, prevention as well as the spread of any infection or infestation to their animals is not being checked.

Culling of sick animals. Of the 112 respondents, 99 practice the disposal of their sick or infested swine from the healthy group. However, culling is done at the late stage of disease infection or parasite infestation.

Deworming. This practice of health care is not being followed by all respondents in their swine production.

Vaccination. Vaccinating and immunization so as to prevent disease infection or parasite infestation is practiced by only 8 respondents while majority of the raisers do not as well follow herd health vaccination.

Cleaning of pens. Pens are cleaned when necessary by 99 of the 112 respondents who were found to confine their animals.

Table 18. Methods of preventing and controlling swine diseases and parasites

PARTICULARS	NUMBER OF RESPONDENTS			
	Yes		No	
	F	%	F	%
Isolation	29	25.89	83	74.11
Culling of sick animals	99	88.39	13	11.61
Deworming	55	49.11	57	50.89
Vaccination	8	7.14	104	92.86
Cleaning of pens	99	88.39	13	11.61

Housing Management

Management practices. Complete confinement of swine is practiced by 58.04% of the respondents, 37.50% tether them and 4.46% make use of the so called semi-confine pigsty (Table 18).

Housing material. Nipa/cogon were the most common roofing material used, but others made use of galvanized iron (GI sheet). Walls of pig pens were usually bamboo, and wood. Only one of the respondents was found to have used old steel walls. Concrete or cemented flooring was also noted on most of the pig pens. There were 39 of the respondents who do not provide floorings on their pig pens.

Table 19. Housing management practices

KIND OF HOUSING	NUMBER OF RESPONDENTS	PERCENTAGE
Complete confinement	65	58.04
Semi-confinement	5	4.46
Tethering	42	37.50
TOTAL	112	100.00

Table 20. Type of housing materials in swine raising

TYPE OF MATERIAL USED	NUMBER OF RESPONDENTS	PERCENTAGE
Nipa\cogon + bamboo walls + cemented floor	20	17.86
Nipa/cogon + wood walls + cemented floor	19	16.96
GI roofing + bamboo walls + concrete floor	17	15.18
GI roofing + wood walls + concrete floor	16	14.29
Nipa/cogon + bamboo walls	20	17.86
Nipa/cogon + wood walls	19	16.96
GI roofing + steel walls + cemented floor	1	0.89
TOTAL	112	100.00

Roof structure. The type of roofing is either the shed-type (72.32%) which is the most common and the A-type (27.68%). The former is much preferred considering the area of study being located in a mid-elevation with predominantly warm climate.

Pens or corrals. The number of pens\corrals ranged from single to four-in-one housing. Most (83) of the respondents had 1 – 2 pens in a single house and 29 had 3 – 4 pens.

Heads per pen. The number of heads in one pen ranged from 1 to 4 hogs. During the weanling and grower\finisher stages, two animals occupy one pen at most (Table 22).

Table 21. Housing

STRUCTURE	NUMBER OF RESPONDENTS	PERCENTAGE
Type of Roof		
A-type	31	27.68
Shed-type	81	72.32
Number of Pen\s in One House		
1 – 2	83	74.11
3 – 4	29	25.89
Number of Heads in One Pen		
Weanling		
1 – 2	94	83.93
3 – 4	8	16.07
Grower\Finisher		
1 – 2	91	
3 – 4	21	18.75

Figure 5. The A-type rural swine housing in Kasibu, Nueva Vizcaya

Figure 6. The shed-type urban swine housing in Kasibu, Nueva Vizcaya

Herd Management

The removal of transplacental membrane upon expulsion of piglets, cutting of the navel cord, weaning of piglets, and the gradual change of feeds are the management practices which are not followed by majority of the respondents.

Providing brooder to piglets, feeding the piglets on the fifth day, and providing rail guards to protect piglets from crushing are the management practices being employed by the swine raisers (Table 23).

These management practices which are measures to improve and enhance swine production by the raisers but they are not yet aware of its importance.

Table 22. Herd management practices

PARTICULARS	NUMBER OF RESPONDENTS			
	Yes		No	
	F	%	F	%
Removal of transplacental membrane upon expulsion	45	40.18	67	59.82
Cutting of the navel cord	37	33.04	75	66.96
Provide brooder	93	83.04	19	16.96
Allow piglets to suck collustrum	107	95.54	5	4.46
Feeding the piglets on their fifth day	106	94.64	6	5.36
Weaning of piglets	32	28.57	80	71.43
Gradual change of feeds	3	2.68	109	97.32
Provide guard rails to protect piglets	87	77.68	25	22.32

Marketing

Disposal. Swine produced by the respondents are either sold directly to consumers (83.93%) and to middlemen or 'partidor' (16.07%) (Table 24). These are disposed on basis of either liveweight or dressweight (retail) (Table 25) basis.

Table 23. System of swine disposal

MARKETING SYSTEM	NUMBER OF RESPONDENTS	PERCENTAGE
Direct to consumers	94	83.93
Producer to middlemen to consumer	18	16.07
TOTAL	112	100.00

Table 24. Method of marketing

MARKETING METHOD	NUMBER OF RESPONDENTS	PERCENTAGE
Per kilogram (liveweight)	23	20.54
Per kilogram (dressed)	89	79.46
TOTAL	112	100.00

Cattle

Years in Cattle Raising

Cattle raising in Kasibu, Nueva Vizcaya is not as old as swine raising. Based on the result of the survey two (2) of the respondents were found to have tended cattle for almost 13 years or more while ten had been raising cattle for 9 – 12 years, six for 5 – 8 years, and 1 – 4 years (Table 26).

Number of Cattle Raised

Shown in Table 27 is the number of heads each of the respondents had been tending. Majority of the respondents (52.38%) had 1 – 2 cattle/s, 8 had 3 – 5 heads, and 2 had 5 and above.

Purpose in Raising Cattle

Cattle are being raised as supplementary source of income by 76.19% of the respondents, 19.05% claimed that raising cattle is their main source of income while a lone farmer raise cattle for special occasion only for his family (Table 28).

Source of Stock

Cattle raisers in the area procured their initial stock from their neighbors and nearby barangays within the municipality. One claimed his stock was purchased from adjacent municipality for the purpose of upgrading his existing livestock. There were eight who acquired their stock from their parents as an heir (Table 29).

Table 25. Number of years in raising cattle

NUMBER OF YEARS	NUMBER OF RESPONDENTS	PERCENTAGE
1 – 4	3	14.29
5 – 8	6	28.57
9 – 12	10	47.62
13 – above	2	9.52
TOTAL	21	100.00

Table 26. Number of cattle raised by the respondents

NUMBER OF CATTLE	NUMBER OF RESPONDENTS	PERCENTAGE
1 – 2	11	52.38
3 – 5	8	38.10
5 – above	2	9.52
TOTAL	21	100.00

Table 27. Purpose of raising cattle

PURPOSE	NUMBER OF RESPONDENTS	PERCENTAGE
Main source of income	4	19.05
Supplementary source of income	16	76.19
For special occasion	1	4.76
TOTAL	21	100.00

Table 28. Source of stock

SOURCE	NUMBER OF RESPONDENTS	PERCENTAGE
Neighbor (within barangay)	10	47.62
Barangay within municipality	2	9.52
As an heir	8	38.10
Adjacent municipality	1	4.76
TOTAL	21	100.00

Breeding

Breeds of cattle raised. The native breed is the major cattle being raised with 71.43% while the upgraded breed are grown by six of the 21 respondents (Table 30). The preference for the native breed over those other animals are given more attention because they are better tolerant to adverse weather condition. Much more to this, docile ones usually grow faster and fatten easily.

Breeding system. To perpetuate selected and raised cattle specie, inbreeding and upgrading are the means of breeding employed (Table 30).

Mating. Due to lack of technical knowledge on the system of breeding cattle, the respondents do not resort to artificial insemination. Thus, natural mating is the only method being practiced.

Source of breeding bull and payment,. The breeding bull used in mating are either hired (85.71%) or owned (14.29%). The hired bulls are paid in cash.

Table 29. Breeding

PARTICULARS	NUMBER OF RESPONDENTS	
	F	%
Breed		
Native	15	71.43
Grade	6	28.57
System of Breeding		
Inbreeding	15	71.43
Grading	6	28.57
Method of Mating		
Natural	21	100.00
Source of Bull		
Hired	18	85.71
Owned	3	14.29
Terms of Payment		
Cash	18	85.71
Free (Owned)	3	14.29

Figure 7. Breeds of cattle (Front – upgrade; background – native) and free range system of feeding in Kasibu, Nueva Vizcaya

Figure 8. Upgrade cattle and tether system of feeding in Kasibu, Nueva Vizcaya

Age at first breeding. The earliest age of breeding cattle observed by the respondents is at 2-3 years old and the latest at 3-4 years of age (Table 31).

Gestation

The gestation period of cattle ranged from 260-296 days. Seven of the 21 respondents observed gestation period to be from 279-287 days, six for 270-278 days, five for 277-280 days, and three observed it to be 288-296 days (Table 32). The difference lies in the different feed intake of their animals.

Birth Rate

Based on the survey, all the respondents observed that cattle calved only once a year.

Table 30. Age at first breeding of cattle

AGE (Years)	NUMBER OF RESPONDENTS	PERCENTAGE
2 – 3	20	95.24
3 – 4	1	4.96
TOTAL	21	100.00

Table 31. Length of gestation period in cattle

LENGTH OF GESTATION (Days)	NUMBER OF RESPONDENTS	PERCENTAGE
260 – 269	5	23.81
270 – 278	6	28.57
279 – 287	7	33.33
288 – 296	3	14.29
TOTAL	21	100.00

Carabao

There were only 81 of the 212 respondents who have carabaos under their care. The reason why only few care carabaos is that Kasibu, Nueva Vizcaya is a mountainous place and few farm fields wide enough to be plowed with the use of said animals.

Years in Raising Carabao

The number of years in raising carabao ranged from one year up to 21 years and above (Table 34). More respondents had been caring carabaos for almost 11-15 years, but only two have cared carabaos for 21 years or more.

Number of Carabao Raised

The number of heads of carabao cared by the respondents ranged from one head to more than 5 animals. Majority (77.78%) of which had 1-2 heads while six claimed to have 5 or more draft animals (Table 34).

Purpose of Raising Carabao

The main reason why respondents raise carabao is for supplementary source of income (83.95%), 12.35% claimed as their main livelihood while three raise carabao intended for special occasions only (Table 35).

Source of Stock

The main source of carabao stock is from neighboring barangays in their municipality (54), within their barangay (15), as an heir (7), and from adjacent municipalities (5) (Table 36).

Table 32. Number of years in raising carabao

NUMBER OF YEARS	NUMBER OF RESPONDENTS	PERCENTAGE
1 – 5	13	16.05
6 – 10	24	29.63
11– 15	33	40.74
16 – 20	9	11.11
21 – above	2	2.47
TOTAL	81	100.00

Table 33. Number of carabao raised by the respondents

NUMBER OF CARABAO	NUMBER OF RESPONDENTS	PERCENTAGE
1 – 2	63	77.78
3 – 4	12	14.81
5 – above	6	7.41
TOTAL	81	100.00

Table 34. Purpose of raising carabao

PURPOSE	NUMBER OF RESPONDENTS	PERCENTAGE
Main source of income	10	12.35
Supplementary source of income	68	83.95
For special occasion	3	3.70
TOTAL	81	100.00

Table 35. Source of stock

SOURCE	NUMBER OF RESPONDENTS	PERCENTAGE
Neighbor (within barangay)	15	18.52
Barangay within municipality	54	66.67
As an heir	7	8.64
Adjacent municipality	5	6.17
TOTAL	81	100.00

Breeds and Breeding

Breeds of carabao. There were two breeds of carabao raised by the respondents, namely; the native and the upgrade. The native breed was preferred more by the respondents because of its endurance to any adverse weather conditions. The upgraded carabao are usually the product of the native breed crossed with an introduced breed usually from the neighboring barangays or municipalities.

Breeding system. Inbreeding and grading were the only breeding system practiced by the respondents in the improvement of their existing breed.

Mating. Natural mating is the means and ways respondents have their carabaos impregnated.

Figure 9. Upgrade tethered carabao raised in Kasibu, Nueva Vizcaya

Source of breeding bull. The breeding bulls used to impregnate their carabaos are either hired (90.12%) while the rest have their own breeding bull.

Terms of payment. Those who hire breeding bulls pay services in terms of cash (Table 36).

Table 36. Breeds and breeding of carabao

PARTICULARS	NUMBER OF RESPONDENTS	PERCENTAGE
Breeds		
Native	75	92.59
Grade	6	7.41
System of breeding		
Inbreeding	70	86.42
Grading	11	13.58
Method of mating		
Natural	81	100.00
Source of bull		
Hired	73	90.12
Owned	8	9.88
Terms of payment		
Cash	73	90.12
Owned	8	9.88

Gestation

The gestation of carabao is shown in Table 38. The number of days from impregnation to delivery of young carabao varies from 295 to 339 days. There were more respondents who observed that gestation period of their carabao fall under range 295 – 303 days which was the shortest period. Only nine of the respondents claimed that their carabao gestate from 331 – 339 days which was the longest period observed.

Age at First Breeding

It was noted from the respondents that two to three years old was the majority age of carabao at first breeding. There were only two who mentioned that the first breeding of their carabo was about 3 to 4 years old.

Birth Rate

The birth rate of carabao is only once a year as claimed by the respondents.

Table 37. Length of gestation in carabao

LENGTH OF GESTATION (Days)	NUMBER OF RESPONDENTS	PERCENTAGE
295 – 303	32	39.51
304 – 312	16	19.75
313 – 321	11	13.58
312 – 330	13	16.05
331– 339	9	11.11
TOTAL	81	100.00

Table 38. Age at first breeding of carabao

AGE (YEARS)	NUMBER OF RESPONDNETS	PERCENTAGE
2 – 3	79	97.53
3 – 4	2	2.47
TOTAL	81	100.00

Goat

There were 33 out of the 212 respondents who were found raising goat.

Years in Goat Raising

The number of years in goat raising ranged one up to more than nine years. Majority of the respondents were new in this venture as proven by the number of years they had tended raising goat. There were three out of the 33 respondents who claimed goat raising for nine years and above.

Number of Heads Raised

The number of goats raised ranged from one to five or more. There were 25 with one to two heads, five with 3 – 4 heads, and three with five and above (Table 41).

Purpose in Goat Raising

The main reason the respondents raise goat was to supplement their income as claimed by 19 raisers, 12 have them in preparation for special occasions, and only two are engaged in goat raising as their major source of income (Table 42).

Goat raising seemed as a pass time to farmer-respondents as evidenced by the number of years they had been raising, the number of heads they maintain, and the purpose for which they raise.

Source of Stock

The major source of their initial stock come from their neighbors (57.58%), 27.27% have their initial stock from neighboring barangays, and five had their initial stock as an heir.

Cash capital. The respondents claimed that their invested cash capital are their personal money.

Table 39. Number of years in raising goat

NUMBER OF YEARS	NUMBER OF RESPONDENTS	PERCENTAGE
1 – 4	23	69.70
5 – 8	7	21.21
9 – above	3	9.09
TOTAL	33	100.00

Table 40. Number of goats raised by the respondents

NUMBER OF GOAT	NUMBER OF RESPONDENTS	PERCENTAGE
1 – 2	25	75.76
3 – 4	5	15.15
5 – above	3	9.09
TOTAL	33	100.00

Table 41. Purpose of raising goat

PURPOSE	NUMBER OF RESPONDENTS	PERCENTAGE
Main source of income	2	6.06
Supplementary source of income	19	57.58
For special occasion	12	36.36
TOTAL	33	100.00

Table 42. Source of initial stock and capital

SOURCE	NUMBER OF RESPONDENTS	PERCENTAGE
Stock		
Neighbor (within barangay)	19	57.58
Barangay within municipality	9	27.27
As an heir	5	15.15
Capital		
Own money	33	100.00
TOTAL	33	100.00

Breeds and Breeding

Breed/s. There were only two (2) breeds of goat being raised, the Native and the Upgraded breed. These upgraded breed came from a cross between their existing goat with that of the other strains they selected. The selection of buck depends on the preference of raisers.

Breeding system. To improve their existing strain of goat, crossbreeding is employed with those available buck, however, inbreeding is also practiced due to unavailability of hybrid goat strain.

Mating. Artificial insemination on goat is never heard in the locality, thus, they are compelled on natural mating as the only means of improving their stock as well as to impregnate their animals.

Source of buck. When goat raisers do not own bucks to mate their does, they have to hire bucks for that purpose.

Payment. The hired buck for breeding purposes are paid in cash basis for an amount of Php200-250.

Gestation

The gestation period of goat ranged from 145 to 149 days. The shortest time for native breed to gestate occur 145 days while the longest period claimed by the respondents go beyond 149 days. The upgraded breed had a day shorter than the native breed.

Figure 10. Upgrade goat and system of feeding in goat of Kasibu, Nueva Vizcaya

Figure 10. Upgrade goat and system of feeding in goat of Kasibu, Nueva Vizcaya

Age at First Breeding

The youngest doe mated about 8-9 months old while others claimed their doe were bred at 12-13 months. However, most of the respondents mentioned the earliest time their doe mated from 10-11 months of age.

Table 43. Source of initial stock and capital

PARTICULARS	NUMBER OF RESPONDENTS	PERCENTAGE
Breed		
Native	28	84.85
Grade	5	15.15
Breeding System		
Inbreeding	25	75.76
Grading	8	24.24
Mating		
Natural	33	100.00
Source of breeding buck		
Hired	22	66.67
Owned	11	33.33
Terms of payment for breeding services		
Cash	22	66.66
Owned	11	33.33

Table 44. Length of gestation in goat

LENGTH OF GESTATION (Days)	NATIVE		UPGRADE	
	F	%	F	%
145	13	92.86		
146	7	36.84	1	7.14
147	6	31.58		
148	4	21.05		
149 – above	2	10.53		
TOTAL	19	100.00		

Table 45. Age at first breeding of goat

AGE (Months)	NUMBER OF RESPONDENTS	PERCENTAGE
8 - 9	12	36.36
10 – 11	19	57.58
12 – 13	2	6.06
TOTAL	19	100.00

Table 46. Number of kids per birth

NUMBER OF KIDS	NATIVE		UPGRADE	
	F	%	F	%
1	17	51.51	14	42.42
2	2	6.06		
TOTAL	19	57.67	14	42.42

Birth Rate

All the respondents mentioned that their does kid once a year.

Number of Kids

Of the 19 respondents who had the native breed, 17 claimed that their does kid to only one per gestation while two noted their does to have delivered two. However, the 14 respondents who had the upgraded breed noted the does to produce only one kid per gestation.

Indigenous Feeds and
Feeding of Ruminants

Grasses. Listed in Table 49 are the indigenous weeds provided to their ruminants. These different grasses are readily available in the locality though at times these are scarce during dry season.

The napier grass is the most common among the grasses fed to cattle, carabao, and goat followed by carabao grass, rice straw, and para grass. Some grasses which were not identified though fed to ruminants account for a very low percentage which are least liked by these animals.

Source. The grasses fed are abundantly found along river banks while rice straw are gathered from rice fields after the harvest season which are usually stored and given during dry season or during typhoons.

Season of abundance. During the wet season, grasses for ruminants can be found abundantly in the locality but during the dry season these grasses can still be found but not as abundant as during the rainy days.

System of Feeding in
Ruminants

There are only two systems of feeding ruminants, the "cut-and-carry" and grazing. The former is locally termed as 'sakate'. Grazing is done as free range or animals are tethered in some areas where abundant grasses are to be found and after sometime animals are moved to another pasture area.

Based on the result of the survey, grazing animals is much preferred over the "cut-and-carry" system (Table 51).

Table 47. Indigenous feeds provided to ruminants

INDIGENOUS FEEDS	CATTLE		CARABAO		GOAT	
	F	%	F	%	F	%
Carabao grass	6	28.57	29	35.80	9	27.27
Napier grass	9	42.86	35	43.21	11	33.33
Para grass	2	9.52	8	9.88	4	12.12
Rice straw	3	14.29	9	11.11	2	6.09
Others	1	4.76	0	0	7	21.21
TOTAL	21	100.00	81	100.00	33	100.00

* multiple response

Table 48. Source of greater abundance of indigenous feeds for ruminants

SOURCE OF ABUNDANCE	CATTLE		CARABAO		GOAT	
	F	%	F	%	F	%
River bank	11	52.38	41	50.62	9	27.27
Rice fields	8	38.10	27	33.33	19	57.58
Others	2	9.52	13	16.05	5	15.15
TOTAL	21	100.00	81	100.00	33	100.00

* multiple response

Table 49. Season of abundance of indigenous weeds for ruminants

SEASON OF ABUNDANCE	CATTLE		CARABAO		GOAT	
	F	%	F	%	F	%
Wet season	15	76.19	70	86.42	28	84.85
Dry season	5	23.81	11	13.58	5	15.15

* multiple response

Table 50. System of feeding in ruminants

ANIMAL	SYSTEM OF FEEDING			
	"Cut and carry"		Grazing	
	F	%	F	%
Cattle	4	19.05	17	80.95
Carabao	32	39.51	49	60.49
Goat	2	6.06	31	93.94

* multiple response

Parasite and Disease Management

The method of parasite and disease management of ruminants is shown in Table 52. Ruminants are rarely vaccinated. The main reason why raisers seldom do this is either they do not notice any disorder or they are not aware of any signs and symptoms caused by parasites and disease causing organisms.

System of Animal Raising

Tethering. This system of raising animals was noted on ruminants. This system is most commonly employed because it eases the burden of cutting grasses and bringing them to where the animals are located.

Range. This system is least being employed on ruminants because of limited pasture areas available thus, very few let loose animals to openly roam and graze.

Semi-confinement. Goat is the only ruminant where this system of raising is being followed. One probable season could be the size of the animals.

Marketing

Marketing system. All the respondents who raise cattle sell directly to buyers acted as middlemen. Majority of the carabao (54.32%) and goat raisers (63.64%) dispose

directly to middlemen while direct selling to consumers is done by 37% and 36.36% of their carabao and goat, respectively.

Marketing method. Cattle and carabao are sold on per head basis ('bultuhan'), per kilogram (liveweight), and per kilogram (dressedweight). Goats are also sold per kilogram either liveweight or butchered.

Table 51. Methods of preventing and controlling disease and parasites

ANIMAL	METHOD							
	VACCINATION				D.A. ASSISTANCE			
	Yes		No		Yes		No	
	F	%	F	%	F	%	F	%
Cattle	1	4.76	20	95.24	10	47.62	11	52.38
Carabao	4	4.94	77	95.06	17	20.99		79.01
Goat	1	3.03	32	96.97	5	15.15		84.85

Table 52. System of animal raising

SYSTEM	NUMBER OF RESPONDENTS	PERCENTAGE
Cattle		
Tethering	17	80.95
Range	4	19.05
TOTAL	21	100.00
Carabao		
Tethering	79	97.53
Range	2	2.47
TOTAL	81	100.00
Goat		
Tethering	26	78.79
Semi-confinement	7	21.21
TOTAL	33	100.00

Table 53. Marketing system

MARKETING METHOD	CATTLE		CARABAO		GOAT	
	F	%	F	%	F	%
Direct to buyers (middlemen)	21	100.00	44	54.32	21	63.64
Direct to consumers	0	0	37	45.68	12	36.36
TOTAL	21	100.00	81	100.00	33	100.00

Table 54. Method of marketing

MARKETING METHOD	CATTLE		CARABAO		GOAT	
	F	%	F	%	F	%
Per head (“bultuhan”)	3	14.29	7	8.64	0	0
Per kilogram (liveweight)	12	57.14	35	43.21	19	57.58
Per kilogram (butchered)	6	28.57	39	48.15	14	42.42
TOTAL	21	100.00	81	100.00	33	100.00

Chicken

Chicken Raising

Number of respondents in chicken raising. Of the 126 respondents, there were 33.33% who claimed chicken raising 4-6 years; 29.37% 1-3 years; 20.63% and 16.67% 10 years and above, and 7-9 years, respectively (Table 59).

Number of heads raised. The number of heads raised is shown in Table 78. There were 59.79% of the respondents who have 1-3 roosters and 40.21% with four or more. One half of the respondents maintain an average of 4-6 hens/pullets while 40.48% with 1-3 only, and 9.52% tend to have 7 or more. Majority of the respondents have 1-5 chicks; 30.16% had 6-10; and only 13.49% had 11 and above chicks.

Purpose. The main reason of the respondents in raising chicken was for home consumption (50.00%); 26.98% claimed they raise chicken as supplementary source of cash income; and 23.02% raise chicken specifically for any special occasions.

Table 55. Number of years in raising chicken

NUMBER OF YEARS	NUMBER OF RESPONDENTS	PERCENTAGE
1 – 3	37	29.37
4 – 6	42	33.33
7 – 9	21	16.67
10 – above	26	20.63
TOTAL	126	100.00

Source of Stock and Capital

Stock. The birds raised by the respondents were mainly acquired from their neighbors (45.24%); 21.43% of the chicken raisers bought their initial stock from neighboring barangays; and there were those who bought outside their municipality.

Cash capital. Nearly all 126 respondents utilized their own money as initial source of cash capital while 22 raisers are funded by contract growers.

Breeds and Breeding

Breed/strain. The only breed or strain of chicken being raised in the area of study is the native breed.

System of breeding. Inbreeding is the only method done in the locality thus, the breed of chicken they raise in terms of productivity does not improve as evidenced by the number of day-old chicks being cared.

Source of breeding rooster. There were 76.98% of the respondents who make use of their own rooster to mate hens; 23.02% borrow them from their neighbors/friends.

Terms of payment. The services rendered by the roosters to their pullets/hens are free which are owned by their neighbors/friends.

Age at first breeding. As observed by the respondents, pullets are usually copulated 5 to 9 months old and the age of pullets copulated most was at seven and eight months old.

Number of eggs laid per clutch. Based from the result of the survey, their chickens were low producers. Majority (52.38%) of the respondents noted that their hens lay 5-7 eggs per clutch; 30.95% had 8-10; and only 16.67% observed their chickens lay 11 or more eggs.

Feeds and Feeding

Types of feeds. The feeds given to their chicken are 'palay' which is the main feed given (36.51%), followed by cooked rice, rice bran, and rice bran mixed with cooked rice, in descending order (32.54%, 17.46%, 13.49%, respectively) (Table 67).

Feeding system. The dry and the wet feeding systems are being employed in chicken raising. These systems are done either individually or group feeding. The most common system was the dry group feeding with 42.06% of the respondents, wet group feeding is being done by 36.51%. Individual feeding wet or dry feeding is not a common practice (15.87% and 5.56%, respectively) by the respondents.

Frequency of feeding. Majority (58.73%) of the respondents feed their chicken twice a day, usually early morning and late afternoon. Feeding the chickens once a day is being observed by 34.92% while there were only 6.35% who feed their chicken three times a day. The chickens fed thrice a day are those that are confined.

Table 56. Number of chickens raised by the respondents

NUMBER	ROOSTER		HEN/PULLETS		CHICKS	
	F	%	F	%	F	%
1 – 3	58	59.79	51	40.48		
4 – above	39	40.21				
4 – 6			63	50.00		
7 – above			12	9.52		
1 – 5					71	56.35
6 – 10					38	30.16
11 – above					17	13.49

Table 57. Purpose of raising chicken

PURPOSE	NUMBER OF RESPONDENTS	PERCENTAGE
Home consumption	63	50.00
Supplementary source of income	34	26.98
For special occasion	29	23.02
TOTAL	126	100.00

Table 58. Source of stock and capital

SOURCE	NUMBER OF RESPONDENTS	PERCENTAGE
Stock		
Neighbor (same barangay)	57	45.24
Raisers within locality	27	21.43
Outside the municipality	42	33.33
Capital		
Own money	104	82.54
Contract grower	22	17.46

Table 59. Source of breeding rooster

SOURCE	NUMBER OF RESPONDENTS	PERCENTAGE
Owned	97	76.98
Borrowed	29	23.02
TOTAL	126	100.00

Table 60. Terms of payment for breeding services

TERMS	NUMBER OF RESPONDENTS	PERCENTAGE
Owned	97	76.98
Free	29	23.02
TOTAL	126	100.00

Figure 12. The native chicken being raised in Kasibu, Nueva Vizcaya

Figure 13. Dry-group feeding employed to chicken and Muscovy duck in Kasibu, Nueva Vizcaya

Table 61. Age of chicken at first breeding

AGE (Month)	NUMBER OF RESPONDENTS	PERCENTAGE
6	28	22.22
7	38	30.16
8	47	37.30
9	13	10.32
TOTAL	126	100.00

Table 62. Number of eggs laid per clutch

NUMBER OF EGGS LAID PER CLUTCH	NUMBER OF RESPONDENTS	PERCENTAGE
5 – 7	66	52.38
8 – 10	39	30.95
11 – above	21	16.67
TOTAL	126	100.00

Table 63. Types of feeds provided to chicken

TYPES OF FEED	NUMBER OF RESPONDENTS	PERCENTAGE
Rice bran	22	17.46
Rice bran mixed with cooked rice	17	13.49
Cooked rice	41	32.54
'Palay'	46	36.51
TOTAL	126	100.00

Table 64. System of feeding chicken

FEEDING SYSTEM	NUMBER OF RESPONDENTS	PERCENTAGE
Dry feeding	53	42.06
Dry individual feeding	20	15.87
Wet group feeding	46	36.51
Wet individual feeding	7	5.56
TOTAL	126	100.00

Table 65. Frequency of feeding

FREQUENCY	NUMBER OF RESPONDENTS	PERCENTAGE
Once a day	44	34.92
Twice a day	74	58.73
Thrice a day	8	6.35
TOTAL	126	100.00

Disease and Parasite Management

Cleaning of pens. Majority (51.35%) of the respondents clean their pens once a week while the rest clean their chicken pens as the need arises.

Deworming. There were only five out of the 126 respondents who were surveyed are deworming their chicken.

Isolation. When the respondents observe any signs and symptoms of morbidity on their chicken, these are being isolated so as not to infect and or infest other birds in the brood.

Medication. Morbid chicken are seldom given medication and it was found that only 23 of the respondents medicate their stricken chickens.

D.A. assistance. The respondents rarely avail of the services of the Department of Agriculture in their area. Out of the 126 respondents, there were only 19 who sought the assistance of the D.A. Technical Group.

Table 66. Preventive and control measures against disease and parasites

PARTICULARS	NUMBER OF RESPONDENTS	PERCENTAGE
Cleaning of pens		
Once a week	19	51.35
As needed	18	48.65
Deworming		
No	121	34.92
Yes	5	3.97
Isolation		
No	44	34.92
Yes	82	65.08
Medication		
No	103	81.75
Yes	23	18.25
D.A. Assistance		
No	107	84.92
Yes	19	15.08

Housing

Kind of housing. The chickens are free to roam in the locality as claimed by 89 of the respondents, 35 claimed their chicken are ranged during good weather but confined them during bad weather condition and at night time. There were only two of the respondents who completely confine their birds.

Housing materials. The roofing materials used are either G.I. sheet or cogon. The flooring materials are either bamboo slats or wood and at times the soil. The wallings/fence are either made of bamboo, wood or wire screen.

Roof structure. The A-type of roofing was the most common (61.11%) and the shed-type was employed by 38.89% of the respondents.

Table 67. Kind of housing in chicken

KIND OF HOUSING	NUMBER OF RESPONDENTS	PERCENTAGE
Free range	89	70.63
Semi-confinement	35	27.78
Complete confinement	2	1.59
TOTAL	126	100.00

Table 68. Housing materials in chicken

TYPE OF MATERIALS USED	NUMBER OF RESPONDENTS	PERCENTAGE
Roofing		
G.I. sheet	15	40.54
Cogon	22	59.46
Flooring		
Soil	17	45.95
Bamboo	11	29.73
Wood	9	24.32
Walling/fencing		
Bamboo	12	32.43
Wood	17	49.95
Screen	8	21.62

Table 69. Roof structure of chicken house

STRUCTURE	NUMBER OF RESPONDENTS	PERCENTAGE
Shed-type	49	38.89
A-type	77	61.11
TOTAL	126	100.00

Figure 14. The A-type of chicken house in Kasibu, Nueva Vizcaya

Figure 15. The shed-type o f housing in Kasibu, Nueva Vizcaya

Marketing

The only method of selling chicken is through direct buyer-consumers. Chickens are priced according to live-weight on a per kilogram basis.

Duck

Years in Duck Raising

Most of the respondents ventured into duck raising from 1-3 years (45.36%), 4-6 years (32.99%), and 7 or more years (21.65%).

Heads Raised

Drake. Based on the survey, there were 44 respondents who had 1-3 drakes and 10 had 3 or more. The reason why very few had drakes was that the service of a male duck during the mating period is rendered free by the drake of their neighbors.

Hen. Of the 97 duck raisers, there were 37 who had 1-3 hens, 41 with 3-6, and 19 with 7 or more hens.

Chicks. The ducks in the locality are likewise poor producers as proven by the number of chicks found, 32 with only 1-3 chicks and 65 with 6-9 chicks.

Purpose of Raising Duck

The major purpose in raising duck was for home consumption. Others raise duck as additional source of income, but few for special occasions.

Breeds/Strains and Breeding

Breeds/strains. There were only two breeds/strains of duck being raised, namely; Muscovy (58.76%), and Mallard or native duck (41.24%).

System of breeding. Crossbreeding of ducks was practiced by 59.79% of the respondents. This was so to improve the present breeds being raised. Inbreeding was also employed by 40.21%. This cannot be avoided because at times ducks are free to roam and even during the mating season

Source of breeding drake. Majority (60.82%) of the respondents had their own drake and 39.18% with no available drake only borrowing, from their neighbors. The services of the breeding drake are for free.

Source of stock and capital. The major source of stocks are from their neighbors within their barangays (47.42%), other duck raisers within the locality (29.90%), and from outside of their municipality (22.68%).

Table 70. Number of years in raising duck

YEARS	NUMBER OF RESPONDENTS	PERCENTAGE
1 – 3	44	45.36
4 – 6	32	32.99
7 – above	21	21.65
TOTAL	97	100.00

Table 71. Number of ducks raised by the respondents

NUMBER	NUMBER OF RESPONDENTS	PERCENTAGE
Drake		
1 – 2	49	83.05
3 – above	10	16.95
Hen		
1 – 3	37	38.14
3 – 6	41	42.27
7 – above	19	19.59
Chicks		
1 – 3	32	32.99
6 – above	65	67.01

Table 72. Purpose of raising ducks

PURPOSE	NUMBER OF RESPONDENTS	PERCENTAGE
Home consumption	40	41.24
Supplementary source of income	21	21.65
For special occasion	36	37.11
TOTAL	97	100.00

Table 73. Breed/strain of duck raised by the respondents

BREED/STRAIN	NUMBER OF RESPONDENTS	PERCENTAGE
Muscovy	57	58.76
Mallard	40	41.24
TOTAL	97	100.00

Table 74. Source of stock and capital

SOURCE	NUMBER OF RESPONDENTS	PERCENTAGE
Neighbors (within barangay)	46	47.42
Raisers (within locality)	29	29.90
Outside the municipality	22	22.68
TOTAL	97	100.00

Figure 15. Muscovy ducks being raised in Kasibu, Nueva Vizcaya

Figure 16. Muscovy ducks and type of housing in Kasibu, Nueva Vizcaya

Table 75. System of breeding in ducks

SYSTEM	NUMBER OF RESPONDENTS	PERCENTAGE
Inbreeding	39	40.21
Crossbreeding	58	59.79
TOTAL	97	100.00

Table 76. Source of breeding drake

SOURCE	NUMBER OF RESPONDENTS	PERCENTAGE
Owned	59	60.82
Borrowed	38	39.18
TOTAL	97	100.00

Table 77. Terms of payment for breeding drake

TERMS	NUMBER OF RESPONDENTS	PERCENTAGE
Owned	59	60.82
Free	38	39.18
TOTAL	97	100.00

Egg laying

Age at first egg laying. The respondents claimed that ducks lay their first eggs as early as 6 months old and as late as 9 months old. However, most of the respondents noted that most ducks lay their first eggs at 8-9 months old (Table 82).

Eggs per clutch. The ducks raised were low egg producers (Table 83). The reason for this could be attributed to many factors such as the breeding system employed, the feeds and feeding system, and the care and management practices.

Feeds and Feeding

Type of feeds. There were variety of feeds given to ducks, individually or mixed. Cooked rice was the most common feed given to ducks and commercial feeds mixed with cooked rice the least feed given them.

Feeding system. There were only two feeding system given to ducks, the dry group and the wet group feeding. The former is being employed by majority over the latter system.

Frequency of feeding. Ducks are fed twice a day though others claimed that they feed their ducks once and even thrice a day.

Disease and Parasite Management

The preventive measures done against diseases and parasites were cleaning of pens as needed, deworming, isolation of sick ducks, medication of morbid animals, and seldom assistance from the Department of Agriculture Technical Group.

Table 78. Age of duck at first egg laying

AGE (Months)	NUMBER OF RESPONDENTS	PERCENTAGE
6	19	19.59
7	39	40.21
8	37	38.14
9	2	2.06
TOTAL	97	100.00

Table 79. Number of eggs laid per clutch

NUMBER OF EGGS LAID PER CLUTCH	NUMBER OF RESPONDENTS	PERCENTAGE
1 – 5	58	59.79
6 – 10	21	21.65
11 – above	18	18.56
TOTAL	97	100.00

Table 80. Types of feeds provided to duck

TYPE OF FEEDS	NUMBER OF RESPONDENTS	PERCENTAGE
Commercial feeds mixed with cooked rice	10	10.31
Rice bran mixed with cooked rice	20	20.62
Cooked rice	41	42.27
'Palay'	26	26.80
TOTAL	97	100.00

Table 81. System of feeding duck

FEEDING SYSTEM	NUMBER OF RESPONDENTS	PERCENTAGE
Dry group feeding	55	56.70
Wet group feeding	42	43.30
TOTAL	97	100.00

Table 82. Frequency of feeding

FEEDING SYSTEM	NUMBER OF RESPONDENTS	PERCENTAGE
Once a day	25	25.77
Twice a day	66	68.04
Thrice a day	6	6.19
TOTAL	97	100.00

Table 83. Preventive and control measures against disease and parasites

PARTICULARS	NUMBER OF RESPONDENTS	PERCENTAGE
Cleaning of pens		
Once a week	7	7.22
As needed	90	92.78
Deworming		
No	53	54.64
Yes	44	45.36
Isolation		
No	36	31.11
Yes	61	62.89
Medication		
No	78	80.41
Yes	19	19.59
D.A. Assistance		
No	39	40.21
Yes	58	59.79

Housing

Kind of housing. Based on the result of the survey, majority of the respondents completely confine their ducks, and semi-confinement as well as free range are also done but on a smaller scale.

Housing materials. The roofing materials commonly used is the cogon grass and flooring are either made of bamboo slats or wood but often times no flooring provided. The walling\fencing are either made of bamboo slats, wood, or screen\net.

Roof structure. The shed-type was much preferred over that of the A-type.

Marketing system

Ducks are sold directly to buyer-consumers on per head basis or per kilogram basis. Though some of these buyers collect from different households and bring it to the local market.

Table 84. Kind of housing in duck raising in Kasibu, Nueva Vizcaya

STRUCTURE	NUMBER OF RESPONDENTS	PERCENTAGE
Shed-type	45	59.21
A-type	31	40.79
TOTAL	76	100.00

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Table 85. Housing materials in duck raising in Kasibu, Nueva Vizcaya

TYPE OF MATERIALS USED	NUMBER OF RESPONDENTS	PERCENTAGE
Roofing		
Cogon	74	97.37
G.I. Sheet	2	2.63
Flooring		
Soil	37	48.68
Bamboo	24	31.58
Wood	15	19.74
Walling\fencing		
Bamboo	39	51.32
Wood	21	27.63
Screen\Net	16	21.05

Table 86. Roof structure of duck house

STRUCTURE	NUMBER OF RESPONDENTS	PERCENTAGE
Shed-type	45	59.21
A-type	31	40.79
TOTAL	76	100.00

Table 87. Methods of marketing

MARKETING	NUMBER OF RESPONDENTS	PERCENTAGE
Per head	19	33.33
Per kilogram (live weight)	38	66.67
TOTAL	57	100.00

Problems/Constraints of Animal Raising

Based on the survey, animal raisers in the 11 identified barangays of Kasibu, Nueva Vizcaya enumerated the problems they encountered is shown in Table 88.

The major problem presented were the absence of market outlet followed by lack of capital, least technical knowledge on animal raising, and limited grazing area for ruminants.

Solutions

The suggested possible solutions from the respondents were: alongside with a market outlet there should be government support in terms of cash capital as well as initial stock of good breeds/strains which are adaptable to the conditions of the locality; also, the responsible government agency/ies on the dissemination of technical know-how on animal raising assessing the area so that assistance could be rendered based on their needs.

Table 88. Problems encountered in animal raising

PROBLEMS	NUMBER OF RESPONDENTS	PERCENTAGE
Swine		
Lack of capital	48	42.86
Lack of market outlet	51	45.54
Lack of technical knowledge	13	11.61
Cattle\Carabao\Goat		
Lack of capital	41	30.37
Lack of technical knowledge	32	23.70
Lack of market outlet	60	44.44
Limited grazing area	2	1.48
Poultry		
Lack of market outlet	159	71.30
Lack of technical knowledge	64	28.70

* multiple responses

SUMMARY, CONCLUSION AND RECOMMENDATION

Summary

The result showed that the respondents were distributed almost evenly to age 21 – 60 years old to 70 – 80 years of age.

Females outnumber male respondents; mostly married; had no formal education, and engaged in farming/animal raising as their major livelihood activity.

Respondents had been raising swine with the purpose of augmenting their meager income. Their neighbors are the sources of their initial stock but majority utilize their own money to finance swine production.

The 'native' pig is the most breed/strain raised in Kasibu, Nueva Vizcaya. Breeding of swine was from 8 to 9 months old but then most respondents borrow boar to impregnate their sows. Piglets are the means of paying the services of boars. Litter size at birth was 11-12 piglets and the litter size at weaning was 9-10 piglets.

Indigenous feeds or non-conventional feeds are the most common feedstuff given and prepared in varied ways. Pure kitchen refuse was the over-all feeds offered to swine.

Complete confinement of swine in a nipa/cogon shed-type with 1-2 pens in a single house is the most practiced by the farmers.

The management practices employed were providing brooder to piglets, feeding piglets on the fifth day, and providing guard rails to protect the piglets while marketing swine are directly disposed to consumers.

Cattle raisers were found to have been raising cattle for 9-12 years. The main purpose of raising cattle is to supplement their income. Procurement came from their

neighbors. The native breed of cattle is the most common in the surveyed area. The bulls used for breeding are mostly hired and paid in cash aged 2-3 years old.

There were more respondents found raising carabao for 11-15 years with 1-2 heads with native carabao for supplementing their income. Inbreeding is the method employed to perpetuate the specie through natural mating; bulls used for mating are hired which are paid in cash.

Goat raising in the surveyed area with respondents venturing 1-4 years with 1-5 heads; increasing their income. The native breed is the most common and crossbreeding to improve their existing strain. Bucks for mating are usually owned while hired bucks are paid PhP200-250.

Napier and carabao grasses are the most common feeds given to ruminants which are abundantly found in riverbanks during the wet season.

The systems of animals raising in the surveyed area are: tethering, range, and semi-confinement.

Disposal of live animals is direct selling to middlemen while ruminants are sold on per head basis or 'bulto'.

At Kasibu, Nueva Vizcaya, respondents were found raising chicken 4-6 years with varied number of hens, roosters, and chicks; for home consumption so that cash investment are their personal money; pullets are bred mostly at 8 months old; majority had 5-7 eggs per clutch. 'Palay' is the major feed given to chicken. Chickens are free to range; the A-type housing made of cogon roofing with walls made of wood and no flooring. Chicken are sold to buyer-consumers on a live-weight per kilogram basis for pricing.

Duck raising ranged 1-3 years with varied number of drakes, hens, and chicks; home consumption is the main purpose of raising ducks; Muscovy is the most common breed; drake for breeding are owned; initial stock came from neighbors; cooked rice is the main feed offered through the dry-group feeding method; preventive and control measures such as cleaning pens, deworming, isolation, and medication are not commonly observed. Ducks are sold directly to buyer-consumers.

Conclusion

Based on the findings of the survey conducted the following were derived:

1. The majority of the respondents had no formal education; female; married; belonged to age bracket 41-50 years old; and were farmers/animal raisers.

2. The respondents raise animals to supplement their meager income for those who are employed and as major source of income for the non-salaried farmers.

3. The problems encountered in animal raising are absence of market outlet; lack of cash capital, limited technical knowledge, and limited grazing area for ruminants.

Recommendations

The solutions suggested which arose from the respondents were: alongside with a market outlet there should be government intervention in terms of providing loans for cash capital, and technical assistance from concerned agencies.

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APPENDIX

SURVEY QUESTIONNAIRE

I. GENERAL INFORMATION

Name: _____ Gender: _____
Address: _____ Age: _____
Civil Status: _____ Occupation: _____
Highest Educational Attainment: _____

Years in raising animals

Farm Animal	Number of years
Swine	
Cattle	
Carabao	
Goat	
Chicken	
Duck	
Others (specify)	

Classification and number of animals being raised

Animal	Class/Age/Weight	Breed/Strain	Purpose	No. of Animals
Swine	Suckling			
	Weanling			
	Grower			
	Finisher			
	Sow			
	Boar			
Cattle	Cow			
	Bull			
	Calf			
Carabao	Calf			
	Buffalo			
	Caraballa			
Goat	Bucks			
	Doe			
	Kid			
Chicken	Chicks			
	Pullets			
	Hen			
	Rooster			
Duck	Ducklings			
	Hen			
	Drake			
Others				

Stock

Animal	Class/Age/Weight	Source of initial stock	Source of replacement
Swine	Suckling		
	Weanling		
	Grower		
	Finisher		
	Sow		
	Boar		
Cattle	Cow		
	Bull		
	Calf		
Carabao	Calf		
	Buffalo		
	Caraballa		
Goat	Bucks		
	Doe		
	Kid		
Chicken	Chicks		
	Pullets		
	Hen		
	Rooster		
Duck	Ducklings		
	Hen		
	Drake		
Others			

Source of capital

How is the project financed?

_____ own money
_____ loan from cooperative
_____ loan from private individuals
_____ contract grower
_____ other sources (specify) _____

II. Housing

A. Kind of housing or rearing

_____ free range
_____ complete confinement
_____ semi-confinement
_____ tethering
_____ ranching
_____ other types of rearing (specify) _____

B. Type of housing materials used

Please describe in detail the materials used

_____ nipa/cogon + bamboo walls
_____ nipa/cogon + walls made of stick
_____ galvanized roof + cemented walls and floor
_____ galvanized roofing + wood walls + cemented floor

_____ other types of housing (describe completely)

Roof structure

_____ Gable type
_____ A-type
_____ Monitor type
_____ Semi-monitor type
_____ Broken type

Classification and number of animals being raised

Animal	Class/Age/Weight	Breed/Strain	Purpose	No. of Animals
Swine	Suckling			
	Weanling			
	Grower			
	Finisher			
	Sow			
	Boar			
Cattle	Cow			
	Bull			
	Calf			
Carabao	Calf			
	Buffalo			
	Caraballa			
Goat	Bucks			
	Doe			
	Kid			
Chicken	Chicks			
	Pullets			
	Hen			
	Rooster			
Duck	Ducklings			
	Hen			
	Drake			
Others				

Number of animals per house/pen

Animal	Number of pens/house	Area of one pen	Number of animals per pen
Swine			
Cattle			
Carabao			
Goat			
Chicken			
Others			

Facilities. Identify all fixtures and equipment (include improvised equipment) being used

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 Conventional Feeds
Swine	Suckling			
	Weanling			
	Grower			
	Finisher			
	Sow			
	Boar			
Cattle	Cow			
	Bull			
	Calf			
Carabao	Calf			
	Buffalo			
	Caraballa			
Goat	Bucks			
	Doe			
	Kid			
Chicken	Chicks			
	Pullets			
	Hen			
	Rooster			
Duck	Ducklings			
	Hen			
	Drake			
Others				

Identification and processing of indigenous/non-conventional feeds

Type of non-conventional feeds	Source 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

Use of supplements/additives

Are they using feed supplements or additives of any kind?

Animal	Class/Age/ Weight	Feed Supplement		Feed Additive		Source of Recommendation
		Amt	Freq	Amt	Freq	
Swine	Suckling					
	Weanling					
	Grower					
	Finisher					
	Sow					
	Boar					
Cattle	Cow					
	Bull					
	Calf					
Carabao	Calf					
	Buffalo					
	Caraballa					
Goat	Bucks					
	Doe					
	Kid					
Chicken	Chicks					
	Pullets					
	Hen					
	Rooster					
Duck	Ducklings					
	Hen					
	Drake					
Others						

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)

Type and source of feeds and frequency of feeding

Animal	Class/Age/Weight	System of Feeding	Frequency of Feeding
Swine	Suckling		
	Weanling		
	Grower		
	Finisher		
	Sow		
	Boar		
Cattle	Cow		
	Bull		
	Calf		
Carabao	Calf		
	Buffalo		
	Caraballa		
Goat	Bucks		
	Doe		
	Kid		
Chicken	Chicks		
	Pullets		
	Hen		
	Rooster		
Duck	Ducklings		
	Hen		
	Drake		
Others			

IV. Breeding

Breeding system

Animal	Breeding System	Mating System	Age at First Breeding
Swine			
Native			
Grade			
Crossbreed			
Cattle			
Carabao			
Goat			
Chicken			
Duck			
Others (Specify)			

Source of male breeding animals

(1) owned (3) hired

(3) borrowed (4) other arrangements (specify) _____

Animal	Source of Breeding Animal	Terms of payment for Breeding Service
Swine		
Native		
Grade		
Crossbreed		
Cattle		
Carabao		
Goat		
Chicken		
Duck		
Others (Specify)		

Farrowing rate, length of lactation and frequency of breeding to conception

Animal	Farrowing rate	Length of lactation or age at weaning	Interval of breeding to conception
Swine			
Native			
Grade			
Crossbreed			
Cattle			
Carabao			
Goat			
Chicken			
Duck			
Others (Specify)			

Other reproductive data

Animal	Litter Size at Birth		Litter Size at Weaning	No. of Eggs/ Clutch	No. of Eggs Hatched		No. of Unhatched Eggs
Swine	Alive	Dead			Alive	Dead	
Native							
Grade							
Crossbreed							
Cattle							
Carabao							
Goat							
Chicken							
Duck							
Others (Specify)							

V. Herd health management

Sanitation practices: Frequency of bathing/cleaning

(1) everyday (4) once a month
(2) twice a day (5) no definite schedule
(3) once a week (6) do not clean or bath animals

Animal	Bathing		Cleaning Pens		Deworming*		Disinfection*		Waste Disposal
	Yes	No	Yes	No	Yes	No	Yes	No	
Swine									
Native									
Grade									
Crossbreed									
Cattle									
Carabao									
Goat									
Chicken									
Duck									
Others (Specify)									

* - if YES, please specify dewormer and disinfectant used

Vaccination practices

Animal	Class/Age/ Weight	Vaccination		Source of Vaccine
		Yes	No	
Swine	Suckling			
	Weanling			
	Grower			
	Finisher			
	Sow			
	Boar			
Cattle	Cow			
	Bull			
	Calf			
Carabao	Calf			
	Buffalo			
	Caraballa			
Goat	Bucks			
	Doe			
	Kid			
Chicken	Chicks			
	Pullets			
	Hen			
	Rooster			
Duck	Ducklings			
	Hen			
	Drake			
Others				

Care of sick animals

Animal	Class/Age/ Weight	Isolation	Medication or Remedies	Culling of Sick Animals	Source of Information
Swine	Suckling				
	Weanling				
	Grower				
	Finisher				
	Sow				
	Boar				
Cattle	Cow				
	Bull				
	Calf				
Carabao	Calf				
	Buffalo				
	Caraballa				
Goat	Bucks				
	Doe				
	Kid				
Chicken	Chicks				
	Pullets				
	Hen				
	Rooster				
Duck	Ducklings				
	Hen				
	Drake				
Others					

VI. Herd management

Care for young pigs

Standard Practice	Yes	No
Removal of transplacental membrane upon expulsion of piglet		
Cutting of the navel cord		
Cutting of the needle teeth		
Ear notching or tail docking		
Provide warm brooder box		
Allow pigs to suckle collostrum as soon as possible		
Fostering for orphaned pigs		
Iron injection*		
Feeding piglets starting on the fifth day		
Castration of young male pigs**		
Weaning***		
Gradual change of feed		
Provide guard rails to protect piglets		

* - when and what they inject
** - what they put in the wound after castration
*** - how many days after

VII. Market outlet and consumption

Products and market outlet

Product	Frequency of Selling	No. of Products Sold	Marketing Age	Manner of Selling	Price	Market Outlet

VIII. Support System

Are there 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?

IX. Problems/constraints

- What are the most common problems encountered in raising animals?
- What possible solutions could they suggest to solve these constraints?