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Assessment of Backyard Goat Raising in Claveria, Misamis Oriental, Philippines

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Abstract

The purpose of this study was to assess the status and limitations of the current management practices of backyard goat production in the municipality of Claveria, Misamis Oriental, Philippines. Forty-three backyard goat raisers were visited and interviewed using structured questionnaire as the main research instrument.

The assessment showed that 58% of the goat raisers owned a breeder buck but 30% of these farmers maintained breeders of unknown breeds. Most of them (62%) constructed a goat shed for their animals but about 28% tethered their goats under the raisers' house. Benefits of the farmers engaging in goat production are as a source of food and an additional income for the family. The biggest problems they met were coughs and colds, lack of capital, limited forage, and incidence of theft. The immediate goal of the farmers was to uplift their family's standard of living and to send their children to school. With goat farming, their quality of life was quite improving because of the additional income they derived from the operation and the maximum utilization of resources it has done to their farms. On farm management, only 51% of the farmers kept records of the activities in the farm. On breeding management, most of the farmers prefer upgrades and improved breeds of goat because accordingly these animals have good performance. They looked for traits such as faster growth and larger body conformation. Breeding sires were selected on the basis of individual performance but 60% of the farmers did not practice the culling of animals. Based on the survey, farmers would like to be enhanced through trainings in the production management of the goat enterprise.

Keywords: backyard goat raising; goat production

1. Introduction

Raising goats either for backyard farming or for commercial scale is cheaper and easier to manage than other livestock animals. By nature, goats are browsers and like to eat many varieties of plants. Goat raising is good in the uplands where leguminous forage and fodder crops including grasses abound. Goats are popular with small holders because of their efficient conversion of feed into edible and high-quality meat, milk and hide. They are not only a source of protein, but they also provide the much needed income. In fact, goats provide livelihood to about 15 million of Filipinos (Faylon, 2009). They are also used as holistic tools for land vegetation management since they can trim grasses through browsing thus minimizing the work for clearing the field. With proper grazing management, goats can eliminate noxious weeds and restore native grasses.

In a study conducted by a government agency, it was found out that goats are multi-purpose ruminants producing 58.4% milk, 35.6% meat and 4.3% hide, and 1.7% fiber. These small ruminants can provide the answer to the improvement of nutritional requirements of the predominantly rural farm families scattered all over the archipelago (Agriculture Business Week, 2009).

Goat population for Region X in 2006 was 169,569 heads and in 2007 it decreased to 166,668 (BAS X, 2008). However, based on BAS statistics, the production of goats in metric tons liveweight increased from 1,076 in January to March, 2006 to 1,130 metric tons in 2007 of the same months. This could be attributed to the production of improved breeds adopted by some goat raisers.

The purpose of this study was to assess the current management practices of goat production in the municipality of Claveria, Misamis Oriental. Specifically, to assess the socio-economic status of backyard goat raisers in Claveria; to identify the limitations to improving goat productivity and profitability of backyard goat farming; and to get feedback on farmer's perceptions and attitudes towards goat raising, and for its improvement.

The study could shed light on the characteristics, management and production limitations of goat in Claveria, Misamis Oriental. Information from farmers could indicate points of intervention for technological innovations and help in designing appropriate goat development strategies.

Also, goat raisers could be advised on the proper goat production practices and in the application of appropriate technologies. In this way, the existing limitations to improving productivity will be overcome, thereby improving the income and well-being of farming communities in the area.

2. Methodology

From 2007 to 2009, backyard goat raisers who owned less than 25 heads of goats were targeted for this study. Of the 24 barangays comprising the municipality of Claveria, only 12 were identified because of 2 issues, 1) these barangays were producing more heads of goats based on the reports provided by the Municipal Agriculture Office, and 2) consideration of the the peace and order condition of the area. More respondents were identified in Barangay Sta. Cruz because of farmer adoptors on goat production due to the existing Science & Technology Based Farm (STBF) on Slaughter Goat Production in the area which is managed by MOSCAT. More respondents were also identified from Barangay Poblacion because it produces the most number of goats in the municipality of Claveria. A total of forty-three farmers were visited and interviewed using prepared questionnaire as the main research instrument. MOSCAT students who majored in animal science were utilized to conduct the interview.

All the respondents were backyard goat raisers. Backyard goat raising is the raising of few heads of goats in a small area (25 doe level and below) usually situated in a rural or suburban area. The animals are provided with small shelter to protect them from adverse environmental condition. The feeds of the goats can be found and grown anywhere and that they are maintained with low operating expenses.

The discussion covers generally on the relevant demographic parameters and more specific management and production-related issues. Data gathered were analyzed using Statistical Package for the Social Sciences (SPSS) program.

3. Results and Discussion

This study focused on current goat management practices and socio-economic aspects of the backyard goat raisers in Claveria, Misamis Oriental.

Results of the survey are shown in Tables 1 to 3 and Figures 1 and 2. A total of 43 backyard goat farmers who raised goats less than 25 heads were considered in the study.

3.1 Demographic information

Figure 1 shows the distribution of backyard goat raisers in Claveria. Twelve (12) out of the 24 barangays in Claveria were included in the survey. There were 43 respondents and Sta. Cruz comprised 41 % of them (see Table 1 and Figure 2).

Table 1. Number of respondents by barangay

Barangay	Respondents	
	Number	Percent
Sta. Cruz	17	41
Poblacion	7	16
Madaguing	5	12
Ane-i	4	9
Rizal	2	5
Malagana	2	5
Hinaplanan	1	2
Migbanday	1	2
Lanise	1	2
Mat-i	1	2
Plaridel	1	2
Patrocenio	1	2
Total	43	100

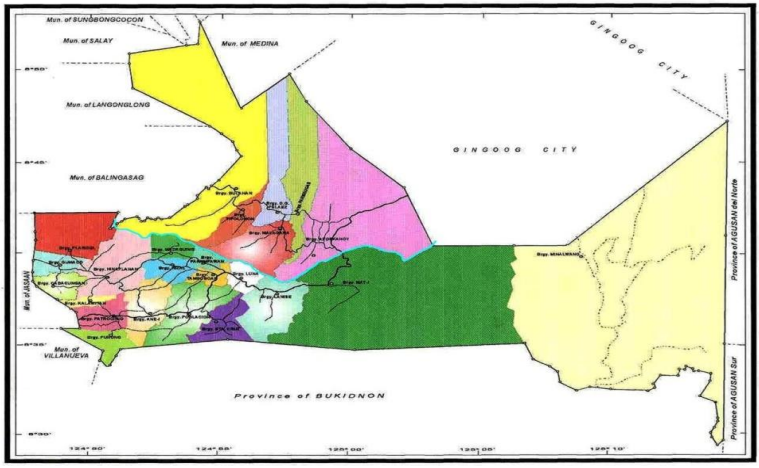

Figure 1. The distribution of respondents in the municipality of Claveria

Survey results showed that 93% of the total respondents were male and only 7% were female. Majority of them were farmers and were married (82%). As to their educational attainment, 53% had finished secondary education; of these about 12% were college graduate. Of the total respondents, 42% were above 45 years of age, only about 7% were below 25 years old at the time of the survey, and the rest were between 25 to 45 years old.

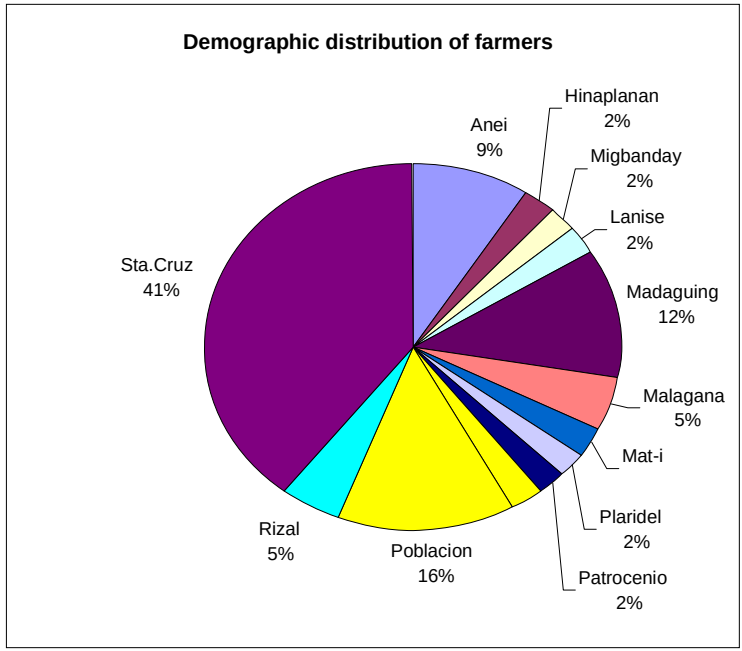

Figure 2. Demographic distribution of goat raisers

3.2 Economic and Social Indicators

As to the economic and social indicators of the respondents, 95% of the backyard goat raisers owned their houses and that their main income was mostly through farming (83.7%). About 42% depended solely on farming while the rest have other sources of income such as being entrepreneurs and masons which comprised almost 33%. Most of the farmers were farm owners while only 14% were tenant. Almost 47% of the respondents owned a one to two hectares of farm.

Of the total farm area, 58% of the respondents had a pasture area of only less than 1 hectare. The most abundant grasses grown were *Napier*, *Carabao*, *Setaria*, *Paragrass*, *Cogon* and *Guinea* grasses, while among the leguminous

forages are Flemengia, Ipil-ipil, and *Madre de Cacao* were popularly grown. Based on the survey, the farmers practiced continuous grazing in which the animals were allowed to graze on the area as long as pasture grasses and legumes could sustain the animals.

Inventory of the animals shown in Table 2 indicated that 42% of the goat raisers had no buck for use as breeder, 46.5% had 1 to 2 dry does, 60.5% did not have pregnant does in the herd, 65% had neither lactating does, and about 40% of the goat raisers had not even produced kids. Thirty percent (30%) of the respondents did not know what breed of goats they have raised, while 21% raised native goats. Some of the farmers (7%) had upgrades, while others (16%) raised crossbreds, and still others (26%) had 75% blood-purebred Anglo/Toggenburg .

Thirty-five (35) percent of the goat raisers had shed type goat houses with elevated floorings. About 28% of them tethered their goats and another 28% constructed only the shed type housing system just enough to protect the animals from extreme weather conditions. Aside from raising goats, 53 to 63% of the farmers ran goats in conjunction with chickens, cattle and pigs.

Interviews by the goat raisers revealed the strengths and problems of their goat enterprises. The top five strengths were: goats are source of food, they provide additional income for the family, waste from goats are source of fertilizer, there is high demand of goats during summer and on special occasions (birthdays, graduation), and they have the love and interest in goat raising. These strengths inspired them to pursue goat farming.

On the other hand, the following were the most problematic issues in goat raising: cough and colds during the rainy season, the need for bigger capital in expanding the enterprise, limited forage/herbage as affected by limited pasture area, theft, unstable price of goats in the market, parasite infestations (internal and external), and prone to accidents and dog bites.

3.3 Sustainability of the Farm

All of the respondents, except one, admitted that they engaged in goat farming because they have a goal in life. The most popular of these goals were 1) to uplift the family standard of living, 2) to send the children to school through goat farming as their source of income, and 3) to increase the production of the goats in terms of number of heads and heavier weights. They planned to expand their goat projects (98%).

Table 2. Goat inventory

Goat category/No. of Heads	Number of respondents	Percentage (%)
Buck		
1-2 heads	18	41.9
3-4 heads	5	11.6
5-6 heads	2	4.7
Dry Does		
1-2 heads	20	46.5
3-4 heads	8	18.6
5-6 heads	2	4.7
7-8 heads	3	7.0
Pregnant Does		
1-2 heads	12	27.9
3-4 heads	4	9.3
9-10 heads	1	2.3
Lactating Does		
1-2 heads	9	20.9
3-4 heads	4	9.3
5-6 heads	2	4.7
Kids		
1-2 heads	11	25.6
3-4 heads	10	23.3
5-6 heads	4	9.3
more than 10 heads	1	2.3
Breed of goats raised		
unknown	13	30
toggenburg	2	5
bombay/nubian	9	21
native	9	21
crossbred	7	16
upgrade	3	7
Housing facilities		
shed	12	27.9
tethered under the raisers	12	27.9
house	15	34.9
shed with elevated floor	1	2.3
Housing with partition	3	7.0
combination		

As to the idea whether farming as an occupation supports their quality of life, about 91% of the farmers affirmed it. Of the 43 respondents, 67% said that their lives are quite improving and 7% said that their quality of lives greatly improved when they engaged in goat farming. Although there were 14% who answered that their social and economic status were not affected

since they did not experience any improvement in life, 88% of the goat raisers expressed that the raising of goats positively contributed to some changes in their lives, as majority (58%) justified that goat farming became their source of income. Due to this advantage of raising goats, 95% expressed their desire to continue on farming goats.

3.4 Farm Management

The survey showed that only 51% of the farmers kept records of their farm activities while 49% did not keep any records at all. For those who had kept records, only few had some recordings on the different farm activities, out of the many different records to keep in the farm. Only 7 out of 22 farmers (31%) recorded the animal inventory, feeding activities and income/expenses of the farm. There were few also who kept records on mortality, health and production (18-27%).

As to the primary feed expenses, 46% of the goat farmers indicated that they spent some amount on buying concentrate feeds (corn bran, etc.), 23% of the farmers had to buy molasses, and 19% spent an amount in buying minerals (salt). When asked if they could reduce these expenses, 67% responded positively, 14% gave a negative response, and about 19% gave no answer. When further asked as to how could they reduce their feed expenses, the following were suggested: by using alternative feeds like farm by-products (23%), by improving the fertility of the pasture area so more herbage/forages could grow for animal feeds (19%), by planting more diverse forage species (16%), and by following a better grazing management for the animals (12%). Forages are the most inexpensive feed sources for goats.

With regard to farm facilities, 49% of the farmers were not satisfied with their housing facilities. 16% had no available water supply in their farms. As for storage facilities, 35% had no separate storage for chemicals, and much more, about 54% of the farmers had no storage area for their feeds.

Deworming is one activity in goat farming which should be included in the health and sanitary program of the enterprise. In this survey, 77% practiced deworming while 21% did not. For those who dewormed their goats, 33% of the farmers performed it every 3 months, while 28% dewormed the animals as the need arises. Majority of the farmers (56%) used the commercial dewormer, whereas only 5% utilized the herbal preparation in deworming.

3.5 Breeding and Selection

The respondents were also interviewed on the breeding management they practiced in the farm as shown in Table 3. Based on the interview, the breeder goats they had in the farm were mostly of Anglo-nubian blood. Only 23% had unknown breed of breeder animals. They chose the breed because the animal was known for its good performance (38%). Others used it as breeder animal because they were a product of a dispersal program (23%), and others use them as breeder animals because they were able to purchase them at a cheaper price. When asked if they were satisfied with the traits of the goats they raised, about 40% answered that they were not satisfied. 24% wanted their goats to be fast growing, 16% wanted to have bigger body conformation, and still 11% wanted a trait that would yield higher production of milk.

When asked if they practice early breeding of the goats, 65% exposed their animals to early breeding. One of the basis in selecting the sire to breed their goats was based on the performance of the individual sire (28%), followed by selection based on progeny (offspring) and through recommendations from knowledgeable person (both at 16%). There were about 12% respondents who did not follow any basis at all, as long as the animal is available and capable, they selected them for breeding purposes.

As to the kidding performance of the animals, 35% revealed that their goats were capable only of a 50 percent twinning rate, 26% said that their goats could produce 75 percent twinning rate, while only 14% experienced a 100 percent twinning rate performance of their breeding animals. As far as breeding performance is concerned, 72% said that they had high percentage of goats getting pregnant during the mating process.

Only very few farmers (33%) practiced the culling of animals. Sixty-one (61%) did not bother to cull their animals and instead continue to raise them in the farm. Culling is the removal of unproductive animals from the group to sustain farm production efficiency. Those who culled their animals, when asked for the basis of culling, the popular responses were: sick animals, defective or abnormal animals, and animals showing very low performance.

Table 3. Breeding management of the farm

Parameter	Number of Respondents	Percentage(%)
Breeder		
pure breed ,(anglo)	10	23
upgrade anglo	11	26
crossbreed (anglo-boer)	12	28
unknown	10	23
Reason for choosing the breed		
dispersal animal	10	23
good performance	16	38
recommended by somebody	3	8
cheaper/affordable	8	19
hybrid	2	6
Traits to be improved		
fast growth	10	24
larger body conformation	7	16
high milk yield	5	11
Basis in selecting the sire		
based on progeny	2	4.7
based on individual	12	27.9
performance	4	9.3
based on relatives	7	16.3
based on pedigree	7	16.3
recommendation from somebody		
Twinning percentage		
100%	6	14
75%	11	26
50%	15	35
Practice culling of goats		
yes	14	32.6
no	26	60.5

3.6 Nutrition and Feeding

Based on the survey, 84% of the farmers practiced the rotational system of grazing their animals. Eighty-eight percent (88%) of these farmers assured that they had enough pasture for their goats. Sixty-one percent (61%) of the respondents pastured their animals twice a day, while 19% pastured them once a day only. There were 14% who managed to pasture their animals at variable times depending on the abundance and rarity of the forage present in the area. Pasture quality is a problem to 42% of the farmers. They have the pasture but the species growing there were the native species of grasses. That

is why when asked what their priority in developing their pasture is, 49% mentioned the establishment of improved grasses and legumes.

Due to limited size of pasture area, 79% practiced the cut and carry system of feeding their animals. The reasons why they performed this system are that this is their way of controlling the excessive growth of grasses in the pasture as well as this could maintain the appearance of the farm. In the cut and carry method, 49% of the farmers gave the feeds to the animals twice a day while 21% gave it once a day.

Most of the goats were tethered (40%), while the rest were raised in complete confinement (19%), on range (19%), and semi-confinement (19%). Most of the forage given to the animals were grown on the farm owned by the farmer (65%), about 12% of the farmers harvested the feeds freely anywhere else, and another 12% buy them from other farms. The feeds harvested were given to the animals as part of the total mixed ration (19%), or were directly fed to the animals in bunks (16%), or directly given to the animals elsewhere in the farm (14%), while 12% of the farmers gave a significant portion of the forage together with concentrates.

3.7 Marketing

As to the marketing aspects, 47% of the farmers had problems in marketing goats. These problems were ranked in the order of most to the least problematic: 1) cannot meet the standard of the buyer, 2) low price, 3) far from the market, 4) no buyers, 5) road accessibility, and 6) no demand.

To improve goat production, the respondents suggested for enhancement training in production and management, pasture improvement by planting grasses and legumes, exposure to good goat growers or cross visits to successful goat farms, availability of financing institutions or credit facilities, provision of proper goat housing facilities and use of improved breeds of goats.

4. Conclusion and Recommendation

Forty-three farmers were interviewed to generate some information concerning some management practices of the farmers towards goat farming using the prepared questionnaire. The discussion covers generally on the

relevant demographic parameters and more specific management and production-related issues of the farmers.

The respondents represented the 12 barangays of Claveria and were comprised of 40 males and 3 females. They were mostly farmers by occupation and working in an average of 2 hectare farm wherein only less than a hectare was devoted to pasture.

Results revealed that only 52% of the goat raisers owned breeder bucks. Thirty percent (30%) of the farmers raised goats of unknown breeds. Most of the farmers raised upgrades and improved breeds of goat because accordingly these animals have good performance. They looked for traits such as faster growth and larger body conformation. While few raised goats through tethering, more farmers constructed shed type housing for goats. A goat shed is necessary to minimize disease and parasite problems.

The strong advantage of the farmers engaged in goat production was the source of food and additional income for the family. The immediate goals of the farmers were to uplift the family standard of living and to send the children to school through the goat enterprise. With goat farming, their quality of life was quite improving or has greatly improved because of the additional income they derived from the operation.

Half of the goat farmers were keeping records of the activities in the farm. Farmers select their breeding sire on the basis of individual performance but 60% of these farmers did not practice culling methods in their enterprise.

In conclusion, goat production was a great opportunity for small farm producers in Claveria, Misamis Oriental. Goats survive in almost any environment provided that feed resources are available. Most backyard goat raisers often overlook the importance of nutrition as one of the leading factors in production. Good nutrition gives good production and consequently higher income. With proper intervention of technology, there is a great opportunity for goat raisers to succeed in this enterprise. However, farmer-producer education is needed and marketing structure must be strengthened.

In the future, goat raisers should be trained in goat production systems and in the application of appropriate technologies such as improved housing, pasture management for improved feed supply and quality, proper selection and culling method, good record keeping. Producers should be educated on

the best management techniques to raise uniform goats for meat utilizing some superior breeds with fast growth rates and of proven genetic merit. Educators and stakeholders should plan and identify agriculture related issues for future R&D activities such as nutrition, pasture management, alternative feeds, genetics and breeding issues, and market access improvement, and strengthen the S&T Based Farm (STBF) on Slaughter Goat Production of the college as a show window for goat raisers. Through this STBF, farmers will have the chance to see for themselves the practicability of the project.

5. Acknowledgement

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6. References

Faylon, P.S., (2009). Why Invest in Goat Farming. PCARRD, Los Baños

Goat Industry Performance Report 2007 and 2008 (2008). Department of Agriculture. Bureau of Agricultural Statistics X.

Invest in Goat Farming. Agriculture Business Week (2009).