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KNOWLEDGE, SKILLS AND PRACTICES OF CATTLE RAISERS OF SOUTHERN PART OF ZAMBALES, PHILIPPINES: INPUT FOR CATTLE INDUSTRY IMPROVEMENT

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Abstract: **This study aimed to describe and document the knowledge skills and practices of cattle raisers, which will be an input to the improvement of cattle industry in the Southern part of Zambales during the year 2017-2018. There were 84 cattle raiser respondents who participated in the study.**

It employed the descriptive research design and used a survey-questionnaire to gather data on the observed knowledge, skills and practices of cattle raisers in the Southern part of Zambales.

The level of knowledge and skills on sanitation and cleanliness, mating and breeding systems, feeding system, management record keeping and farming system were described as moderately knowledgeable. While the level of practices on these aspects were sometimes practiced.

It was observed that there was significant differences on the level of knowledge and skills and level of practices on sanitation and cleanliness, mating and breeding systems, management, record keeping and farming system. However, there was no significant difference on the level of knowledge and skills and level of practices as to control of diseases and feeding system.

Keywords: **Knowledge, Skills, Attitude, Cattle raisers.**

1. INTRODUCTION

Rationale

Cattle raising is an important enterprise in the agricultural sector in the Philippines particularly in the livestock industry. It gives the farmer years round work and provide s him extra income to sustain the basic family needs and education of children cattle are kept for two main purposes: beef production for meat and dairy production for milk. “The people who have achieved, who have become large strong and vigorous people who have the best trades for art, literature and music, who are progressive in science and in every activity of the human intellect are the people how have used liberal amount of milk and its products. “ (MC Colum, 2003). Another type of cattle is draft cattle, which are still present in some places in the Philippines.

There are a number of constraints confronting the livestock industry and impedes its growth and development most especially in the tropics. The provision of feed that is adequate both in quality and quantity and accessible to animals all year round is the most outstanding problem of livestock production in the tropics. The material range resources that form the primary source of nutrients have been observed to rapidly increase in nutritive value at the onset of rains and decline shortly thereafter. The state of poor nutritive feed quality often last longer during the year than the period of forage

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abundance and high nutritive quality. Supplementation with crop residues from cropped farmlands scarcely meets the requirements for animal growth. The unavailability of grazing feedstuffs in the year round is aggravated by the widespread bushfire and imbalance between the stocking rate and carrying capacity of the range. In event of acute shortage of range resources during the dry season considerable losses in live weight and number of stock usually result. The cyclical occurrence of feed deficit year in and year out impairs animal growth rate and reproductive performance including high susceptibility of animals to diseases and pest attack and often fatal clash between herders and farmers (www.Sciencedaily.com, 2007). Livestock projects are scarcely attractive unlike services and trades that have tendency to return borrowed funds and interest more quickly due to longer period of growth required. Collaterals and guarantee of substantial value are not easily available for livestock producers to secure sufficient loans to improve production. (www. Sciencdaily.com, 2007). This study will look into the level of knowledge and skills of the cattle raiser in ambales.

2. RESEARCH METHODOLOGY

Research Design

The research made use of the descriptive methods of research with the survey questionnaires as the main instrument used in the gathering of data of respondents regarding the level of knowledge, systems, and practices and the profile of livestock farmers.

Research Locale

This study was conducted in different barangays of Subic, Castillejos, San Marcelino, San Antonio, San Narciso, and San Felipe, Zambales where cattle farmers are residing. Figure 2 shows the Map of Zambales where the study is conducted.

The Respondents

The respondents of this research were the eighty four (84) cattle raisers of selected communities in the Southern part of Zambales from Subic to San Felipe. The study made use of purposive sampling technique.

Research Instrument

The survey questionnaire were the main tool in gathering the needed data in order to determine the level of knowledge, skills and practices of livestock farmers of southern part of Zambales. The instrument consist of two parts as follows: Part 1. This part dealt with the profile of the respondents on such areas as sex, age, years of caring livestock, kinds animal raised, status of possession, breeds of animals, number of heads raised, sources of stocks, income derived from raising livestock. Part 2 was composed of 40 items comprising the knowledge, skills and practices of the cattle farmers. The items were rated from 1 to 5 with the corresponding description.

3. RESULTS AND DISCUSSIO

The level of knowledge on cattle-raising is shown in Table 1. The cattle-raisers were moderately knowledgeable on “B. Control of diseases and parasites” and on “C. Mating and breeding systems,” both with a rating of 3.25 (rank 1.5). They were also moderately knowledgeable on “E. Management” (3.10, rank 3), “D. Feeding system” (3.02, rank 4), “A. Sanitation and cleanliness” (2.98, rank 5), “G. Farming system” (2.97, rank 6), and “F. Record-keeping (2.66, rank 7). Overall, the cattle-raisers are rated moderately knowledgeable on cattle-raising.

Table 1: Level of Knowledge on Cattle-Raising

Level of Knowledge of Cattle Raisers		Overall Weighted Mean	Descriptive Rating	Rank
A.	Sanitation and Cleanliness	2.98	Moderately Knowledgeable	5
B.	Control of Diseases and Parasites	3.25	Moderately Knowledgeable	1.5
C.	Mating and Breeding System	3.25	Moderately Knowledgeable	1.5
D.	Feeding System	3.02	Moderately Knowledgeable	4
E.	Management	3.10	Moderately Knowledgeable	3
F.	Record-keeping	2.66	Moderately Knowledgeable	7
G.	Farming System	2.97	Moderately Knowledgeable	6
Grand Mean		**3.03**	**Moderately Knowledgeable**	

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Level of Practices of Cattle Raisers

The level of practices in cattle raising is shown in Table 2. Most of the practices involved in cattle raising were sometimes practiced. With ratings ranging from 2.67 to 3.23. The farmers indicate that control of disease, mating and breeding, feeding system farming system and other management practices are sometimes practiced

Table 2: Level of Practices in Cattle Raising

Practices		Overall Weighted Mean	Descriptive Rating	Rank
A.	Sanitation and Cleanliness	2.48	Seldom Practiced	6
B.	Control of Diseases and Parasites	3.23	Sometimes Practiced	1
C.	Mating and Breeding Systems	2.91	Sometimes Practiced	2
D.	Feeding System	2.90	Sometimes Practiced	3
E.	Management	2.79	Sometimes Practiced	4
F.	Record-keeping	2.24	Seldom Practiced	7
G.	Farming System	2.67	Sometimes Practiced	5
Grand Mean		**2.75**	**Sometimes Practiced**	

Sometimes practiced were "B. Control of Diseases and Parasites" (3.23, rank 1); "C. Mating and Breeding Systems" (2.91, rank 2); "D. Feeding System" (2.90, rank 3); "E. Management" (2.79, rank 4); and "G. Farming System" (2.67, rank 5). Seldom practiced were "A. Sanitation and Cleanliness" (2.48, rank 6); and "F. Record-keeping" (2.24, rank 7). Overall, the aspects of cattle-raising were sometimes practiced by the cattle-raisers.

4. T-TEST OF DIFFERENCE BETWEEN THE LEVEL OF KNOWLEDGE AND SKILLS AND LEVEL OF PRACTICES OF CATTLE RAISERS

4.1 Sanitation and Cleanliness

Table 3 shows the t-test of difference between the level of knowledge and skills and level of practices on sanitation and cleanliness.

Table 3: Difference between the Level of Knowledge and Skills and Level of Practices on Sanitation and Cleanliness

	Level of Knowledge	Practices
Mean	2.96	2.49
Df	163	
t Stat	2.59	
P(T<=t) two-tail	0.01	
Interpretation	Significant	
	Ho is rejected	

The computed p value (0.01) is less than the 0.05 alpha level of significance. There was a significant difference between the level of knowledge and skills and level of practices of cattle-raisers on sanitation and cleanliness. The null hypothesis that there is no significant difference between the level of knowledge and skills and level of practices on sanitation and cleanliness is rejected.

4.2 Control of Diseases and Parasites

The t-test of difference between the level of knowledge and skills and the level of practices on control of diseases and parasites is shown in Table 4.

Table 4: Difference between the Level of Knowledge and Skills and Level of Practices on Control of Diseases and Parasites

	Level of Knowledge	Practices
Mean	3.26	3.27
Df	164	

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t Stat	-0.13
P(T<=t) two-tail	0.89
Interpretation	Not Significant
	Ho is accepted

There was no significant difference between the level of knowledge and skill and the level of practices on control of diseases and parasites. The computed p-value (0.89) is greater than the 0.05 alpha level of significance. The null hypothesis that there is no significant difference between the level of knowledge and skill and the level of practices on control of diseases and parasites is accepted.

4.3 Mating and Breeding Systems

Table 5 shows the t-test of difference between the level of knowledge and skills and the level of practices on mating and breeding systems.

Table 5: Difference between the Level of Knowledge and Skills and Level of Practices on Mating and Breeding Systems

	Level of Knowledge	Practices
Mean	3.28	2.95
Df	163	
t Stat	2.88	
P(T<=t) two-tail	0.00	
Interpretation	Significant	
	Ho is rejected	

The computed p-value (0.00) is less than the 0.05 alpha level of significance. There was a significance difference between the level of knowledge and skills and the level of practices on mating and breeding systems. The null hypothesis that there is no significance difference between the level of knowledge and skills and the level of practices on mating and breeding systems is rejected.

4.4 Feeding System

The t-test of difference between the level of knowledge and skills and the level of practices on feeding system is shown in Table 6.

Table 6: Difference between the Level of Knowledge and Skills and Level of Practices on Feeding System

	Level of Knowledge	Practices
Mean	3.08	2.97
Df	164	
t Stat	1.01	
P(T<=t) two-tail	0.32	
Interpretation	Not Significant	
	Ho is accepted	

There was no significant difference between the level of knowledge and skills and the level of practices on feeding system. The computed p-value (0.32) is greater than the 0.05 alpha level of significance. The null hypothesis that there is no significant difference between the level of knowledge and skills and the level of practices on feeding system is accepted.

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4.5 Management

Table 7 shows the t-test of difference between the level of knowledge and skills and the level of practices on management.

Table 7: Difference between the Level of Knowledge and Skills and Level of Practices on Management

	Level of Knowledge	Practices
Mean	3.09	2.86
Df	163	
t Stat	2.04	
P(T<=t) two-tail	0.04	
Interpretation	Significant	
	Ho is rejected	

The computed p-value (0.02) is less than the 0.05 alpha level of significance. There was a significant difference between the level of knowledge and skills and the level of practices on management. The null hypothesis that there is no significant difference between the level of knowledge and skills and the level of practices on management is rejected.

4.6 Record-Keeping

The t-test of difference between the level of knowledge and skills and the level of practices on record-keeping is shown in Table 8.

Table 8: Difference between the Level of Knowledge and Skills and Level of Practices on Record-Keeping

	Level of Knowledge	Practices
Mean	2.69	2.29
Df	162	
t Stat	2.29	
P(T<=t) two-tail	0.02	
Interpretation	Significant	
	Ho is rejected	

There was a significant difference between the level of knowledge and skills and the level of practices on record-keeping. The computed p-value (0.02) is less than the 0.05 alpha level of significance. The null hypothesis that there is no significant difference between the level of knowledge and skills and the level of practices on record-keeping is rejected.

4.7 Farming System

Table 9 shows the t-test of difference between **the** level of knowledge and skills and the level of practices on farming system.

Table 9: Difference between the Level of Knowledge and Skills and Level of Practices on Farming System

	Level of Knowledge	Practices
Mean	3.02	2.75
Df	163	
t Stat	1.96	
P(T<=t) two-tail	0.05	
Interpretation	Significant	
	Ho is rejected	

There was a significant difference between the level of knowledge and skills and the level of practices on farming system. The computed p-value (0.05) is equal to the 0.05 alpha level of significance. The null hypothesis that there is no significant difference between the level of knowledge and skills and the level of practices on farming system is rejected.

5. CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Following are conclusions drawn based on the findings of the study:

1. The level of knowledge and skills of cattle raisers on the various aspects such as Sanitation and Cleanliness, Mating and Breeding Systems, Feeding Systems, Management, Record Keeping and Farming Systems got a total rating of 3.03 interpreted as **Moderately Knowledgeable**.

2. The level of practices of cattle raisers on the on the various aspects such as Sanitation and Cleanliness, Mating and Breeding Systems, Feeding Systems, Management, Record Keeping and Farming Systems derived a total rating of 2.63 described as **Sometimes Practiced.**

3. There was no significant difference on the level of knowledge and skills on sanitation and cleanliness when cattle-raisers are grouped according to age, sex, kinds of animals raised, status of possession, breeds of cattle, number of cattle raised, source of stock, and income derived from raising livestock but significant difference is observed years of caring for animals.

4. There was no significant difference on the level of knowledge and skills on control of diseases and parasites when cattle-raisers are grouped according to age, sex, years of caring, kinds of animals raised, status of possession, breeds of cattle, number of cattle raised, source of stock, and income derived from raising livestock.

5. There was no significant difference on the level of knowledge and skills on mating and breeding systems s when cattle-raisers are grouped according to age, sex, years of caring, kinds of animals raised, status of possession, breeds of cattle, number of cattle raised, and source of stock while there was significant difference on income derived from raising cattle.

6. There was no significant difference on the level of knowledge and skills on feeding system when cattle-raisers are grouped according to age, sex, years of caring, kinds of animals raised, status of possession, breeds of cattle, number of cattle raised, source of stock, and income derived from raising cattle.

7. There was no significant difference on the level of knowledge and skills on management when cattle-raisers are grouped according to age, sex, years of caring, kinds of animals raised, status of possession, breeds of cattle, number of cattle raised, and source of stock while there was significant difference on income derived from raising cattle.

8. There was no significant difference on the level of knowledge and skills on record keeping when cattle-raisers are grouped according to age, sex, years of caring, kinds of animals raised, breeds of cattle, number of cattle raised and source of stock while there was significant difference on status of possession and income derived from raising cattle.

9. There was no significant difference on the level of knowledge and skills on farming systems when cattle-raisers are grouped according to age, sex, years of caring, kinds of animals raised, status of possession, breeds of cattle, number of cattle raised, and source of stock while there was significant difference on income derived from raising cattle.

10. There was no significant difference on the level of practices on sanitation and cleanliness when cattle-raisers are grouped according to age, sex, status of possession, breeds of cattle, number of cattle raised and source of stock but significant difference was observed on years of caring animals, kinds of animal raised and income derived from cattle raising.

11. There was no significant difference on the level of practices on control of diseases and parasites when cattle-raisers are grouped according to age, sex, years of caring, status of possession, breeds of cattle, number of cattle raised and source of stock but there was significant difference on the kinds of animals raised and income derived from raising cattle.

12. There was no significant difference on the level of practices on mating and breeding systems s when cattle-raisers are grouped according to age, sex, years of caring, kinds of animals raised, status of possession, breeds of cattle, number of cattle raised, source of stock and income derived from cattle raising.

13. There was no significant difference on the level of practices on feeding system when cattle-raisers are grouped according to age, sex, years of caring, status of possession, number of cattle raised, source of stock, and income derived from raising cattle but significant difference was observed on kinds and animals and breeds of cattle raised.

14. There was no significant difference on the level of practices s on management when cattle-raisers are grouped according to age, sex, years of caring, kinds of animals raised, status of possession, breeds of cattle, number of cattle raised, and income derived from cattle raising but there was significant difference on source of stock.

15. There was no significant difference on the level of practices on record keeping when cattle-raisers are grouped according to age, sex, , breeds of cattle, status of possession, number of cattle raised and source of stock but there was significant difference on years of caring, kinds of animals raised, breeds of cattle and income derived from cattle raising.

16. There was no significant difference on the level of practices on farming systems when cattle-raisers are grouped according to age, sex, years of caring, kinds of animals raised, status of possession, breeds of cattle, number of cattle raised, source of stocks and income derived from cattle raising.

17. There was significant difference between the level of knowledge and level of practices of cattle raisers on sanitation and cleanliness, control of pests and diseases, mating and breeding systems, record keeping and farming systems but significant difference was observed on feeding systems.

Recommendations

In view of the findings and conclusions, the researcher offers the following recommendations:

1. Training and seminars may be conducted to enhance knowledge and skills of cattle raisers on aspects like quarantine, artificial insemination, vaccination and dehorning of animals, etc..

2. Proper monitoring and evaluation of cattle raising and production maybe done through regular farm visits on farmers management practices such as good sanitation and health practices, control of diseases and parasites and farming systems.

3. Cattle raisers should also be taught on how to prepare silage as means of preserving feedstuffs during lean months through conduct of training and seminars.

4. Cattle raisers should also know how to properly keep records of their farm activities to be able to identify specific dates of mating and breeding and other relevant practices.

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