Cattle Production and Efficiency in Pinogaluman of North Bolaang Mongondow Province of North Sulawesi, Indonesia

by Lydia Kalangi 4

Submission date: 21-Sep-2022 04:38AM (UTC+0700)
Submission ID: 1904837693
File name: orth_Bolaang_Mongondow_Province_of_North_Sulawesi,_Indonesia.pdf (1.52M)
Word count: 4543
Character count: 24817

ISBN 978-602-96530-6-9

FACULTY OF ANIMAL SCIENCE
BOGOR AGRICULTURAL UNIVERSITY

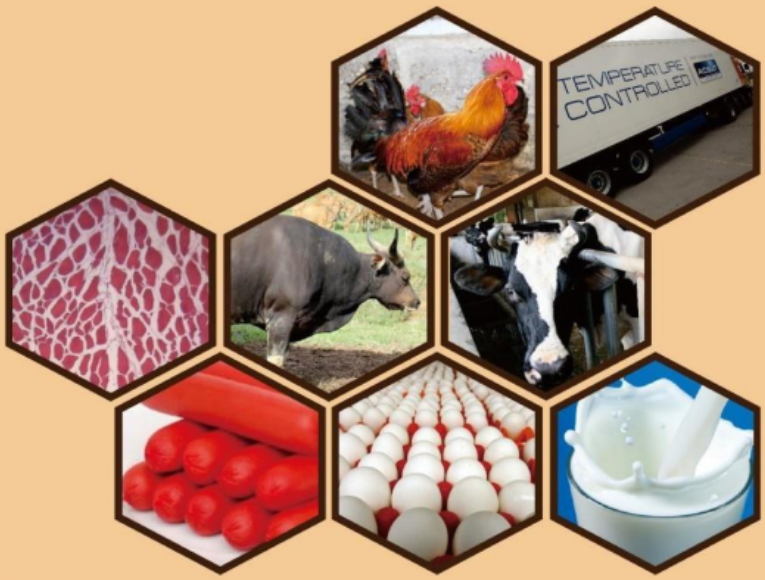
isai 4th
International Seminar on Animal Industry 2018

THE FOURTH INTERNATIONAL SEMINAR ON ANIMAL INDUSTRY

"Harmonizing Livestock Industry Development, Animal Welfare, Environmental and Human Health"

August, 28-30 2018
IPB International Convention Center, Bogor-Indonesia

PROCEEDING



Organized by: **Supported by:**

ISBN 978-602-96530-6-9

FACULTY OF ANIMAL SCIENCE
BOGOR AGRICULTURAL UNIVERSITY

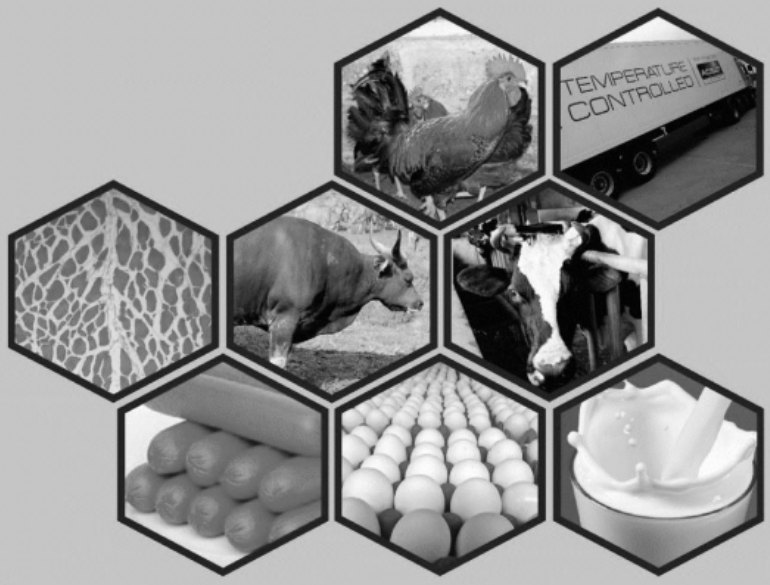
isai 4th
International Seminar on Animal Industry 2018

THE FOURTH INTERNATIONAL SEMINAR ON ANIMAL INDUSTRY

"Harmonizing Livestock Industry Development, Animal Welfare, Environmental and Human Health"

August, 28-30 2018
IPB International Convention Center, Bogor-Indonesia

PROCEEDING



Organized by:

Supported by:

EDITORS

SCIENTIFIC EDITORS

Chief :

Dr. Ir. Asep Sudarman, M.Rur.Sc. (Indonesia)

Member :

1. Prof. Junichi Takahashi (Japan)
2. Prof. Wayne Pitchford (Australia)
3. Ir. M.W. (Marcel) Ludema, PhD (The Netherlands)
4. Dr. Andrzej Łozicki (Poland)
5. Dr. Despal, S.Pt., M.Sc.Agr. (Indonesia)

TECHNICAL EDITORS

1. Dr. Nur Rohmah Kumalasari, S.Pt.,M.Sc.
2. Rika Zahera, S.Pt., M.Si.
3. Reikha Rahmasari, S.Pt, M.si.
4. Tera Fit Rayani, S.Pt, M.Si.

REVIEWERS

1. Dr. Ir. Asep Sudarman, M.Rur.Sc.
2. Dr. Ir. Rudy Priyanto
3. Prof.Dr.Ir. Ronny Rachman Noor, M.Rur.Sc
4. Dr. Irma Isnafia Arief, S.Pt, M.Si
5. Dr. Tuti Suryati, S.Pt, M.Si
6. Prof. Dr.Ir. Wasmen Manalu, MSc
7. Dr. Ir. Rita Mutia, M.Si.
8. Prof Panca Dewi Manuhara Karti
9. Dr. Sri Suharti, S.Pt, M.Si
10. Dr.Ir. Muhammad Ridla, M.Agr
11. Prof.Dr.Ir. Dewi Apri Astuti, MS.
12. Ir. Anita Sardiana, M.Rur.Sc
13. Prof. Dr. Ir. Sumiati, M.Sc
14. Dr. Epi Taufik, S.Pt., MVPH, MSi.
15. Prof. Drh. Arief Boediono, PhD
16. Dr. Anuraga Jayanegara, S.Pt, M.Sc
17. Dr. Ir. Heri Ahmad Sukria, M.Sc
18. Dr. Rudi Afnan, S.Pt., MSc.Agr
19. Prof. Dr. Ir. Komang G.W.
20. Prof. Dr. Ir. Cece Sumantri, M.Agr.Sc
21. Dr. Desril, S.Pt. M.Sc.Agr
22. Ir.agr. Asep Gunawan, S.Pt., M.Sc
23. Dr. Ir. Lucia Cyrilla Eko Nugrohowati SD, M.Si
24. Prof. Dr. Ir. Asnath M Fuah, MS
25. Dr. Ir. Moh. Yamin, M.Agr.Sc.
26. Dr. Nur Rohmah Kumalasari, S.Pt.,M.Sc.

Harmonizing Livestock Industry Development, Animal Welfare, Environmental and Human Health. Proceeding Full Papers of the 4th ISAI (International Seminar on Animal Industry) held at IPB International Convention Centre, Bogor, 28 – 30 August 2018

Created by
Faculty of Animal Science, Bogor Agricultural University (FAS-IPB)
Jl. Agatis Kampus IPB Darmaga
16680 Bogor, Indonesia

LIST OF CONTENTS

FULL PAPERS
PARALLEL SESSIONS
SUBTHEME: ANIMAL AGRIBUSINESS, SOCIAL ECONOMICS AND POLICY IN ANIMAL PRODUCTION

Cattle Production and Efficiency Pinogaluman of North Bolaang Mongondow Province of North Sulawesi, Indonesia

Lidya Siulce Kalangi, Stanly O. B. Lombogia, Femi Hadidjah Elly, and Tilly F.D. Lumy

Faculty of Animal Husbandry University of Sam Ratulangi, Manado, North Sulawesi, Indonesia, E-mail: lidyaskalangi1512@gmail.com

Abstarct

Cattle is one of the mainstay livestock and serves as a source of income for the community in the Pinogaluman District. Some farmers develop cattle integrated with rice crops. Integrated cattle farming development show the development carried out under the principles of environmental friendly. Development with the system integration is done by utilizing rice waste as cattle feed and cattle waste as compost. The problem of rice waste has low nutritional quality as the need for feed for cattle. Based on the problem then has been done research, in Pinogaluman District with the aim to know the benefits of cattle farming. This research has been conducted in Pinogaluman District of North Bolaang Mongondow Regency using survey method. Village as the location of research is determined by purposive that is village which have the most of cattle population. The number of respondents as many as 30 farmers has been determined by simple random sampling. Data analysis used is descriptive analysis. The results showed that research area is agricultural development area with rice as the dominant crop. The development of cattle farming depends on the characteristics of farmers. Age of respondent is categorized as productive age and education level is considered low. The number of cattle ranges from 2-6 heads which is grazed on farmland. The food consumed is wasted rice and wild grasses. Based on the result of this research, it can be concluded that cow farming is feasible to be developed which seen from RC value of greater ratio one.

Keywords: development, cattle, benefits

Introduction

Demand for livestock products tends to increase due to increasing population, community income, and community knowledge about the importance of animal protein consumption of livestock. On the other hand, the increasing needs of livestock products can not be offset by its availability (Rahmawaty and Budianto, 2011; Buharman, 2011; Utomo and Widjaja, 2012) especially for beef. According to Sibagariang et al. (2010) that the contribution of beef 24% of total national meat consumption.

Cattle is one of the mainstay livestock and serves as a source of income in the community Pinogaluman District. Some farmers raising cattle integrated with rice crops. The Walia and Kaur (2013) studies showed that integrated farms were less risk, efficient, gave benefits to farmers and impacts on environmental health. Integrated farming is the right choice because of the limited ability of agricultural

resources (Wulandari, 2014). Unified farming according to Wahyuni (2015) is an alternative effort in order to improve the efficiency of cattle business on farmland. Integrated cattle breeding development demonstrates environmentally friendly development. According to Munandar et al. (2015) that a Farming System Integration is an alternative to climate change mitigation. Development with the system integration is done by utilizing rice straw as cattle feed and cattle waste as compost. The problem of rice straw has a low nutritional quality in meeting the needs of feed for cattle. Based on these problems then conducted research in Pinogaluman District with the aim to know the benefits of cattle farming.

Materials and Methods

The material this research is cattle, feed, labour. Cattle are based on cattle ownership by each respondent. Feed is based on forage consumed in the form of rice straw, corn straw and natural grass. This research was conducted in Pinogaluman District of North Bolaang Mongondow Regency using survey method. Village samples as the location of research was determined purposively with cattle population 2902 heads. The number of respondents as many as 30 farmers was determined by simple random sampling. Data analysis used was descriptive analysis and RC ratio analysis.

Results and Discussion

The results showed that the research area was agricultural area with rice plant was the dominant plant. The development of cattle farming depents on the characteristics of farmers. Respondent's age ranged from 25 to 65 years old, and 90% (27 respondents) were under 65 years old so most of the respondents were categorized as productive age. According to Suprianto (2016) that the productive age indicates that farmers are expected to be able to perform their activities without the constraints of decreasing physical ability as the ages continue. The education level of respondent for elementary school was 53.33% (16 respondents), junior high school 40.00% (12 respondents) and high school 6.67% (2 respondents). This condition shows that education level in research area was still low. The number of family members 2-5 people, this condition affect the ratio of consumption and workers. The more family members the higher the respondent's income to be allocated as consumption expenditure.

The number of cattle reared per farmer ranges from 2-6 with the total of 76 cows reared on agricultural lands. The feed consumed was rice straw, corn straw and natural grass that grows wild (field grass). Total forage feed consumed by 1 cattle daily is 20.7 kg, consisting of 10.5 kg of rice straw, 5.4 kg corn straw and 4.8 kg of field grass. Rice straw was the feed that the respondents rely on. Food crop wastes strongly support feeding needs the North Bolaang Mongondow Regency (Pomolango et al., 2016). However, rice straw has a high fiber content and low energy levels so that the digestibility is low. Feed consumption according to the results of research was considered low so it needs to be pursued the development of quality forage. According to Utomo and Rasminati (2010), the availability of forage is one of the critical factors in the success of cattle farming. Sustainable forage production was an important factor in cattle production systems (Dianita et al., 2014).

However, the improvement of forage feed by Jasmani and Haryanto (2015) needs to be followed up with efforts to increase community interest and expansion of plantation area.

The success of livestock business depends on the revenue of the sale of cattle by farmer. Farmers sold cattle if they need money for purchasing inputs for paddy farming, building houses, paying for school children and other urgent needs. Research by Kalangi et al. (2014) showed that most farmers sold their cattle for cash to fulfill the family needs for food, education, health, and also festivity cost. Revenue in this study was calculated based on the value of cattle during the study. Average farmer revenue was Rp 22,800,000. Production costs consist of fixed cost and variable costs. Fixed costs in the form of rope and machete costs, while variable costs consist of feed costs and labor costs. Fixed cost of Rp 107,500, feed cost Rp 11,541,300 and labor cost Rp 1,837,674 with total cost Rp 13,486,474. Feed purchases are assumed to purchase forage of Rp 600 / kg and labor cost is assumed Rp 12,500 per hour. The average labor allocation per day is 0.4 hours. Profits obtained by farmers of respondents is Rp 9,313,526 with RC ratio 1.69. Based on the RC ratio, it shows that the business managed by the respondent is feasible to be cultivated, such as Satiti et al statement (2017) that the feasibility of cattle business can be seen from its RC value. Cattle are a source of farmers income for Pinogaluman District, so the population and productivity still needs to be improved. Government intervention is needed to encourage the development of cattle farms. Jamilah (2017) argued that the development of cattle proclaimed by the government as a reference in increasing the income of farmers as well as a major driver of regional economic development.

The results showed that cattle waste had not been utilized as organic fertilizer which will certainly have an impact on environmental pollution. Issues developed both nationally and internationally that farms are considered as one of the causes of CO_2 emissions that lead to increased global warming. According Syarifuddin (2012), need to find an effective way to reduce the risk of environmental pollution. The development of cattle using integrated farming system approach is suggested showing an interrelated approach. Organic fertilizer sourced from cow waste can substitute organic fertilizer. But according to Wibowo and Sumanto (2012), the development of integrated cattle farming needs government support.

Conclusions

Based on the result of this research, it can be concluded that cattle business is feasible to be developed which seen from RC value of ratio is bigger one. Government assistance in the development of integrated cattle farms is needed.

Acknowledgment

Thanks to Rector Unsrat who has given opportunity to the author to get fund research RTUU scheme year 2018.

References

Buharman, B. 2011. Utilization of Local Raw Food Technology Supports the Development of Beef Cattle in West Sumatera Province. Wartazoa Vol. 21 (23) : 133-144.

Dianita, R., A. Rahman Sy., H. Syarifuddin., Syafwan and Zubaidah. 2014. Improvement of Forage Feed through Introduction of Legum Indigofera and Making Silage Legum-Corn Straw at Livestock Farm Group in Palayangan District. Journal of Community Service Vol. 29 (3) : 76-79.

Jamilah. 2017. Analysis of Income of Cattle Farmers of Aceh. Journal of Agrifo Vol. 2 (2) : 50-55.

Jasmani, S.N. and B. Haryanto. 2015. Improve the Productivity of Forage Feed to Support the Pasture Capacity of Buffalo in Kampar Regency, Riau (a suggestion for thinking). Pastura Vol. 4 (2): 95-99.

Kalangi, L. S., Y. Syaukat, S. U. Kuntjoro, and Atien Priyanti. 2014. The Characteristics of Cattle Farmer Households and the Income of Cattle Farming Businesses in East Java. IOSR Journal of Agriculture and Veterinary Science (IOSR-JAVS). Volume 7 (12) : 29-34.

Munandar., F. Gustiar. Yakup., R. Hayati and A.I. Munawar. 2015. Crop-Cattle Integrated Farming System : an Alternative of Climatic Change Mitigation. Media Peternakan, Vol. 38 (2) : 95-103.

Pomolango, R., Ch. L. Kaunang and F.H. Elly. 2016. Analysis of Waste Production of Food Crops as Cattle Feed in Regency of North Bolaang Mongondow. Zootek Journal Vol. 36 (2) : 302-311.

Rahmawaty, S and D.A. Budianto. 2011. Business Opportunity of Cow Fattening in Group Cage in Tobu Village, South Centre Timor Regency, East Nusa Tenggara. J Livestock Tropika Vol.12 (2) : 52-59.

Utomo, B.N and E. Widjaja. 2012. Development of Industry Based Cattle Oil Palm Plantation. J. Agricultural Research Vol. 31 (4) : 153-161.

Satiti, R., D.A.H. Lestari & A. Suryani. 2017. Agribusiness System and Business Partnership of Beef Fattening in Cooperatives, Gunung Madu. JIIA Vol. 5 (4) : 344-351.

Sibagariang, M., Z. Lubis and Hasnudi. 2010. Analysis of IB Implementation on Cattle and Development Strategy in North Sumatera Province. Agrica Journal Vol (2) : 25-33.

Suprianto. 2016. Study of Artificial Insemination Technology Application in Efforts to Increase Productivity and Income of Cattle Livestock in Tasikmalaya Regency. Agribusiness Tribunal 1 (3) : 211-225.

Syarifuddin. 2012. Benefits of Cattle Waste Utilization (Case Study of CV Agro Niaga Mandiri and Farmers Group of Mototavia Turi District of Bintauna Regency of North Bolaang Mongondow). Thesis. Graduate Program University of Sam Ratulangi, Manado.

Wahyuni, R. 2015. Structure of Mastery of Land Resources and Contribution of Beef Cattle to Farmers Household Income. Widyariset Vol 18 (1) : 79-90.

Walia, S.S and N. Kaur. 2013. Integrated Farming System-An Ecofriendly Approach for Sustainable Agricultural Environment-A Review. Greener Journal of Agronomy Forestry and Horticulture. Vol. 1 (1) : 001-011.

Wibowo, B and Sumanto. 2012. Role of Cage Waste Treatment in Intensive Breeding of Beef Cattle in Subang. Proceedings of National Seminar on Sustainable Livestock 4, Innovation of Agribusiness Breeders for Food Security. Faculty of Animal Husbandry of Padjadjaran University. Bandung.

Wulandari, W.A. 2014. Integration of Cattle with Maize in the land Sub Optimal in Bengkulu Province. Report. Assessment Institute for AgriculturalTechnology, Bengkulu.

Sponsored by:

Supported by:

Cattle Production and Efficiency in Pinogaluman of North Bolaang Mongondow Province of North Sulawesi, Indonesia

ORIGINALITY REPORT

20%	15%	11%	%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	Diaa E. Abou-Kassem, Khalid M. Mahrose, Rania A. El-Samahy, Manal E. Shafi et al. "Influences of dietary herbal blend and feed restriction on growth, carcass characteristics and gut microbiota of growing rabbits", Italian Journal of Animal Science, 2021 Publication	3%
2	"Preface", IOP Conference Series: Earth and Environmental Science, 2022 Publication	2%
3	repo.unsrat.ac.id Internet Source	2%
4	ijeab.com Internet Source	1%
5	journal.ipb.ac.id Internet Source	1%
6	zombiedoc.com Internet Source	1%
7	www.journalcra.com Internet Source	1%

8	www.iosrjournals.org Internet Source	1 %
9	ojs.uho.ac.id Internet Source	1 %
10	www.proceedings.com Internet Source	1 %
11	repository.unair.ac.id Internet Source	<1 %
12	repo.unand.ac.id Internet Source	<1 %
13	www.ijeab.com Internet Source	<1 %
14	Lidya S. Kalangi, Stanly O. B. Lombogia, Jeane Pandey. "Determining Factors of the Broiler Farmer's Profitability under the Partnership Program in Tomohon, North Sulawesi-Indonesia", E3S Web of Conferences, 2021 Publication	<1 %
15	intipdaqu.inovasi.lipi.go.id Internet Source	<1 %
16	anyflip.com Internet Source	<1 %
17	La Ode Muhammad Munadi, Deki Zulkarnain, Muhammad Amrullah Pagala. "Green Support Capacity for Livestock Feed and Yield of Oil Palm Plantation in	<1 %

Watubangga Sub District Kolaka District", Buletin Penelitian Sosial Ekonomi Pertanian Fakultas Pertanian Universitas Haluoleo, 2021
Publication

18	www.neliti.com Internet Source	<1 %
19	sintadev.ristekdikti.go.id Internet Source	<1 %
20	www.scilit.net Internet Source	<1 %
21	"Book of Abstracts International Conference on Agriculture, Environment, and Food Security 2017 (AEFS) 2017", IOP Conference Series: Earth and Environmental Science, 2018 Publication	<1 %
22	aunilo.uum.edu.my Internet Source	<1 %
23	repository.ub.ac.id Internet Source	<1 %
24	Sri Utami, Denny Rusmana, Rachmat Wiradimadj, Ana Rochana. "The Effect of Diets Containing Jack Bean (Canavalia ensiformis L.) Fermented by Rhizopus oligosporus on the Production Performance and the Egg Quality of Quail", International Journal of Poultry Science, 2019 Publication	<1 %

25	lppm.ipb.ac.id Internet Source	<1 %
26	onlinelibrary.wiley.com Internet Source	<1 %
27	1library.net Internet Source	<1 %
28	repository.untad.ac.id Internet Source	<1 %
29	visit.ipb.ac.id Internet Source	<1 %
30	ouci.dntb.gov.ua Internet Source	<1 %
31	I Gusti Agus Maha Putra Sanjaya, Nyoman Suparta. "Farmers Motivation to Raising Cow on Bali Cattle Breeding Business (Case Study at Pelaga Village, Petang District, Badung Regency)", IOP Conference Series: Earth and Environmental Science, 2019 Publication	<1 %
32	I W. Wijana, K.Warsa P, Candra Wedana, G.A.M.Kristina Dewi, I M.Fera S, N.P.M. Suartiningsih. "The Impact of Adding Dragon Fruit (Hylocereus sp.) Peel Extract to Drinking Water on the Percentage of Carcasses and Offal Organs of Free-Range Village Chickens", KnE Life Sciences, 2022 Publication	<1 %
	text-id.123dok.com	

33	Internet Source	<1%
34	sinta.ristekbrin.go.id Internet Source	<1%
35	G Warangkiran, M A.V Manese, N M Santa, B Rorimpandey. "Faktor-faktor yang mempengaruhi pendapatan usaha ternak sapi di desa Kanonang Raya kabupaten Minahasa", ZOOTEC, 2021 Publication	<1%
36	docplayer.net Internet Source	<1%

Exclude quotes	Off	Exclude matches	Off
Exclude bibliography	Off		