Jurnal Sain Peternakan Indonesia
Available at https://ejournal.unib.ac.id/index.php/jspi/index
DOI: https://doi.org/10.31186/jspi.id.17.3.182-188

P-ISSN 1978-3000
E-ISSN 2528-7109
Volume 17 Issue 3 July-September 2022

Farmer Share and Efficiency of Breeding Cow Marketing Channels in Bali

N. M. A. G. R. Astiti, I G. A. D. S. Rejeki, and M. Ngongo

Animal Husbandry Study Program, Faculty of Agriculture, Warmadewa University, Denpasar
Corresponding author: ayugemuh@gmail.com

ABSTRACT

Experts have widely carried out research on cattle since 1960. However, regarding the efficiency of the cattle marketing channel in Bali, especially in the livestock group in the village of Ayunan, it is necessary to study its efficiency for that researcher conducted research to know the efficiency of marketing cattle in Bali. Using the census method, 40 farmers consisted of two livestock groups, namely the Karang Ayu livestock group and the Karya livestock group, each consisting of 20 people. Instruments or measuring tools used in the interview guide to help obtain answers from respondents are structured and closed questionnaires for open-ended questions. The results showed four channels formed from the marketing system of cattle breeds in Bali, namely marketing channel i. Breeders sell livestock to other farmers in one village (12.5%), Marketing Channel ii. Breeders sell directly to animal markets (7.5%). %), Channel iii Farmers sell livestock to blank in the cattle barn (74.5%), and IV Farmers sell livestock to blank in the animal market (5.5%). With marketing efficiency for male seeds for each channel of 0; 2.57; 1.18, and 1.61, while the marketing efficiency in each channel for female cattle is: 0; 3.53; 1.50, and 1.92. It is said that the most effective marketing channel for cattle breeds in Bali is through my marketing, namely the breeders selling the cow breeds in the stables and those who buy them around the farm because they do not incur marketing costs.

Keywords: Efficiency; Marketing Channels; Bali Cattle

INTRODUCTION

Breeders sell their cows when they are in immediate need of significant funds. However, the selling price is relatively cheap because the price determinant lies with intermediary traders. This phenomenon happens because breeders have insufficient knowledge about marketing their livestock products, especially the price of Bali cattle. Community farmers maintain cattle, and most of them are small-scale, with ownership of one to three heads (Astiti, 2018). This business is usually integrated with other farms, used as savings, or considered a hobby and determinant of community social status (Astiti, 2000).

The livestock sector is a series of continuous activities that aim to develop the capacity of the farmers' community to independently carry out the business of raising Balinese cattle. For example, the Bali cattle farming sector in Abiansemal District has the potential for increasing the production of Bali cattle, increasing income and welfare, meeting the nutritional needs of the community, creating job and business opportunities and motivating breeders to participate in Bali cattle breeding activities (BPS, 2020). Marketing is one of the activities of entrepreneurs or producers in terms of selling products to generate profits.

An increase in income encourages farmers to raise more cattle. In addition, it will encourage breeders to carry out maintenance more efficiently. As a result, the cattle population in Bali indirectly increases as desired by the government. However, the income obtained by farmers is still far from their expectations. The price received by farmers is still relatively low, so their share is also low. Sukanata et al. (2010) showed that breeders only receive about 63%–69% of the final price given to consumers. As for benefits, cattle farming does not provide a decent profit if farmers' sacrifices are considered economically. Such business conditions lead to a weak bargaining position for farmers in the Bali cattle marketing system and are often used by cattle traders/dealers/middlemen. Effective ways should be developed to improve the marketing system and increase farmer–livestock incomes. One of the efforts to improve the Balinese cattle marketing system is to change the farmer–livestock mindset. Raising Bali cattle is not only a savings account but also a business with a steady income every month. The selling price of Bali cattle should be increased by cutting the route of Bali cattle trading so that marketing cost-efficiency can be achieved.

The success of a cattle breeding business cannot be separated from the marketing system,

so, the first step of a variety of problems faced in cattle marketing in Bali, amongst others: inappropriate marketing policies, market structures that tend to lead to monopsony markets, long market chains, game weighing, smuggling, buying, and selling of cattle expenditure quotas, inadequate supervision, in addition to the low entrepreneurial spirit of breeders. Therefore, this condition must be improved to enhance the welfare of breeders.

Motivation and internal and external factors, such as age, education level, farming experience, number of family dependents, courage to take risks, livestock ownership, and land area, influence the progress and decline of beef cattle farming (Luanmase et al., 2011). For these reasons, the motivation to raise Bali cattle, it is marketing. Its effect on the income of farmers from their cattle business should be studied fundamentally to determine (i) the reasons for raising Bali cattle, (ii) the farmers' motivation to market Bali cows and (iii) the farmers' share on Bali cattle sales.

RESEARCH METHODS

The material is in the form of seed Bali cattle, namely one-year-old Bali cattle which are sold to be reared as seeds to produce children or as fattening cows.

Primary data was obtained from direct observation and interviews with marketing individuals using instruments in the form of questionnaires or a list of questions that were prepared previously. Secondary data is obtained through documents or data covering activities running the Bali cattle breeding system. Instruments or measuring tools are very important in research activities because only with good measuring instruments or tools will data or information relevant to the research objectives be obtained. Therefore, research measuring instruments must have high validity and reliability.

The data used are qualitative data and quantitative data. Qualitative data includes the characteristics of respondents, marketing channels, and functions performed by each individual or marketing agency and is analyzed descriptively. Quantitative data includes the selling price of male and female cattle, the method of sale, marketing margins, and costs, as well as farmer's shares which are analyzed to measure marketing efficiency.

To determine the efficiency of marketing channels, the formula is used:

$$Ep = \frac{BP}{NP} X\ 100\%$$ (Downey and Erickson, 1992)

Where:
Ep = Marketing Efficiency (%)
BP = Total Marketing Cost (Rp/head)
NP = Total Value of Products marketed (Rp/head)
If:
Ep with the smallest value = the most efficient

RESULTS AND DISCUSSION

Marketing is distributing or distributing cow breeds from the hands of farmers or producers to the hands of final consumers. Marketing of livestock through a marketing distribution channel or chain. The length of the chain or marketing distribution channel determines the price at the merchant level and the high and low efficiency of the marketing carried out (Munadi et al., 2021). Analysis of the marketing efficiency of a commodity is very important, including the marketing of cattle breeds. To get the most efficient marketing distribution channel, it must be seen which channel has the minor marketing costs. The results of the study indicate that marketing channel I is the most efficient because it does not incur marketing costs because it does not go through intermediary traders. The high price of a product or commodity in the market can be caused by a marketing distribution chain that is too long.

The efficiency of the marketing channel for breeding cattle is done by looking at the percentage between the marketing costs incurred and the selling price of the breeding cattle. The smaller the percentage value, the more efficient the distribution channel is compared to other distribution channels. To determine the efficiency of each marketing channel, it is necessary to look at the costs incurred by the marketing agency for each model of the cattle breeding channel. The marketing costs incurred by marketing agencies on the marketing channels of male and female breeders and the efficiency of marketing institutions can be seen in table 1.

Table 1. The efficiency of Seed Cattle Marketing Channels

Channel	Marketing Fee		Selling price		Efficiency	
	Male	Female	Male	Famale	Male	Famale
	(Rp/head)	(Rp/head)	Rp/head (In thousands)		(%)	(%)
i	0	0	7,500	4,900	0	0
ii	182,500	182,500	7,100	5,200	2.57	3.51
iii	82,500	82,500	7,000	5,500	1.18	1.50
iv	115,000	115,000	7,125	6,000	1.61	1.92

Information:
i. Farmers sell livestock to other farmers in the same village.
ii. Breeders sell livestock directly to the animal market
iii. Farmers sell livestock to middlemen cattle pens
iv. Farmers sell cattle to a middleman at the animal market

In Table 1. the marketing channel for cattle that has the lowest efficiency value is marketing channel i. Based on this, it can be said that the most effective marketing channel is marketing channel i. This is due to the marketing cost of cattle in the lowest marketing channel, which is Rp. 0, -; breeders sell cows to other breeders at the farm location. so that it does not reduce marketing costs and marketing risks that occur when transporting cattle to the buyer's location because the buyers are in the same village as the marketing chain. The short marketing chain causes the marketing costs to be incurred on these channels to be low. The length of the marketing chain determines the price at the merchant level (Putri et al. 2014)

The efficiency of marketing institutions in each marketing channel for breeding cattle can be seen in Figure 1. for the efficiency of marketing channels for breeding cattle.

$$\text{Channel efficiency} = \frac{\text{Channel Marketing Cost}}{\text{Product Selling Value}} \times 100\%$$

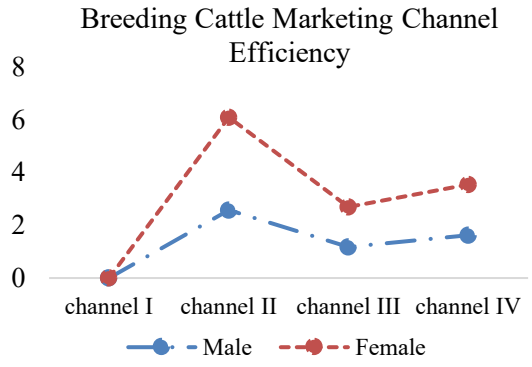

Figure 1. Efficiency of marketing channels for breeding cattle

In Figure 1. the marketing channel for breeding cows with the most minor efficiency in my channel, is marketing channel iii, which is 1.18% for cattle breeds, while for female breeders, it is 1.50%. Based on these data, it can be said that marketing channel iii is quite efficient. This is because the marketing costs incurred by marketing channel iii are smaller than those of marketing channels ii and iv. Therefore, farmers in marketing cattle should consider marketing channel iii, but that does not mean that the farmers and marketing agencies involved do not use marketing channels model i. This is because farmers do not dare to take risks when transporting their livestock to the animal market. In addition to the lack of entrepreneurial spirit from the breeders, breeders focus on production. They do not want to be involved in marketing so farmers feel more comfortable selling them in their cages. Where we know our breeders are casual farmers to fill their spare time in between farming (Muatip et al., 2018). This is because most of the demand for cattle in Bali are farmers, and farmers directly buy seeds from the animal market so that farmers are satisfied with their choices. The breeder who will raise the cow chooses his cow according to his taste.

Cattle marketing costs are costs incurred during the marketing process, starting from cattle off the hands of farmers until final consumers accept them. The marketing costs are borne by the marketing agencies involved in the form of transportation costs, labor, user fees and transfer fees (Lasaharu and Boekoesoe, 2020; Lole, 2012). Costs incurred for marketing purposes include transportation costs, levy fees, and others depending on the marketed commodity and the length of the marketing channel (Endoh, et al.

2021). the amount of marketing costs can be seen in Table 1.

Table 1 shows that the marketing channel I of farmers in marketing their cattle does not incur costs, such as transportation, user fees and transfer fees. This is because farmers carry out the marketing of cattle to other breeders who are in the same village and marketing is carried out in the stables of farmers.

Marketing channel ii, the marketing agencies involved are farmers through animal markets, Middleman, and end consumers. Breeders incur marketing costs in marketing their breeding cows, because farmers bring their cows to the animal market, so the marketing costs are in the form of transportation of Rp. 150,000, -/head as well as retribution fees for entering the animal market of Rp. 25,000. -/head and vehicle parking fees of Rp. 7,500.-. The total marketing costs incurred by farmers are Rp. 182,500, -. Middleman conducts transactions with farmers in the animal market, incurring a transfer fee of IDR 17,500/cow, which the buyer bears.

Marketing channel iii, breeder cows are sold to Middleman in the farmer's cage. Farmers in marketing channel iii do not incur costs because the Middleman visits farmers who sell their cows in the stable. Furthermore, the costs incurred by Middleman are in the form of transportation costs of IDR 50,000 per head, transportation costs are cheap because transportation capacity is met according to capacity, and animal market entry fees of IDR 15,000/head and transfer fees of IDR 17,500, -/head. The total marketing costs incurred in marketing channel iii are Rp. 82,500. - In marketing channel iv, farmers sell their livestock outside the animal market, many middlemen are on guard in front of the animal market before entering the market so that transactions occur outside the animal market, so that farmers only spend Rp. 115,000 for transportation, which consists of transportation costs and paperwork. permission from the village so that the cattle can be transported outside the village.

A full explanation of the marketing costs of breeding cattle will be explained as follows:

Transportation costs

Transportation is the transportation of cattle from one marketing agency to another. Farmers do not incur transportation costs in marketing channel I because consumers come to farmers. Likewise for farmers in marketing channel iii because in marketing channel iii, Middleman who comes to farmers and transactions occur in the cages owned by farmers. In marketing channel ii, farmers incur transportation costs from the farm's location to the animal market an average of Rp. 50,000.-/head this price depends on the distance and the capacity filled from the means of transportation.

Labour costs

The labour force in marketing the breeder cattle is not counted because the breeders and Middleman in marketing their cows do not use labour.

Charges for Retribution and Transfer of Names. A levy fee is imposed for livestock that are marketed through the animal market. The amount of the retribution is IDR 25,000 per head and the transfer fee is IDR 17,500 / head. The buyer usually bears the transfer fee, but sometimes the transfer fee is borne by the middleman, this happens depending on the agreement between the seller and the buyer in the animal market.

Marketing profit is the difference between the price paid by the final consumer and the price received by the producer after deducting marketing costs. The profit obtained by the breeder is in accordance with the selling price, regardless of the price sold by the breeder, whether it is sold to other breeders, middleman or a group of that size, the profit of the breeder because our farm is a traditional/traditional farm that never calculates the cost of its business, whether it be in the form of feed costs, cost of cages and seedlings (Takele, 2014). This is supported by (Tinsley, 2019), that livestock in Indonesia are mostly people's farms, so they cannot be analyzed economically. The high profits obtained by farmers are usually due to the short marketing channels, the shorter the marketing channels the higher the profits (Andhika & Ginting, 2015). Every marketing channel traversed by marketing institutions such as Middleman, retailers, traditional markets, and modern markets always increases prices by looking for profits so that prices at the producer level will be low. In contrast, prices at the consumer level will be high, (Singh et al., 2019). Profit is the difference between the selling price and the purchase price minus the costs incurred during the marketing process, (Singh et al., 2005).

Table 2. Farmer's Share and Income

Channel	Farmer,s Share		Income		(Amount of Marketing)
	Male	Female	Male	Female	(%) channel marketing
	(%)	(%)	Rp/head (In thousands)		
i	100.00	100.00	7,500	4,900	12.5
ii	97.43	96.50	6,917.5	5,017.5	7.50
iii	98.82	98.50	6,917.5	5,417.5	74.50
iv	98.39	98.80	7,010	5,885	5.50

Farmer's share is the ratio between the price received by the farmer and the cost paid by the final consumer and is often expressed in percent. Farmer's share has a negative relationship with marketing margins, so the higher the marketing margin, the lower the share obtained by farmers. Farmer's share in a marketing activity can be used as a basis or benchmark for marketing efficiency, (Brihandhono et al, 2022). The higher the percentage of farmer's share, the more efficient marketing activities are said to be. with the assumption that producers are the most meritorious parties, the greater the proportion of prices received by farmers, the fairer the existing marketing system.

Table 2 shows that the farmer's share in channel i is 100% for both male and female cattle. channel ii 97.43% and 96.50%, channel iii 98.82 and 98.50%, and channel iv 98.39% and 98.80% for bulls and females, respectively. In managing to farm, farmers always try to keep the costs incurred to a minimum to obtain maximum production so that the business is economically profitable. Increased profits will automatically increase the income and welfare of farmers. Farm income is the profit obtained by farmers from the difference between the selling price of cattle and the costs incurred in the marketing process (Musemwa, 2007). The farmer's income from the sale of cattle depends on the sex of the cow and the number of cattle sold, and the channel through which marketing is carried out. This is supported by (Arif et al., 2020) what happened in the Buleleng district, finding that breeding Bali cattle can still provide benefits if the breeder gets the birth of a bull, but the farmer will experience a loss if his cow gives birth to a female calf.

In farming, regardless of how much the farmer receives the proceeds from the sale of cattle, it is the farmer's income because the farmer never calculates the costs incurred during the production process, whether in the form of feed or shrinkage of the cage or the labor used. This is supported by (Habaora, 2019) that regardless of the amount of income received by farmers who are part-time jobs and belong to the type of smallholder livestock farming, it is income. The difference in the price of male and female breeder cattle is quite high, i.e., an average of IDR 7,181,250-/head, while the average female breeder is IDR 5,400,000 / head, almost twice the price of male breeder cattle, so that breeders are very hopeful of birth. the mother gets a male cow, but the chance of getting a male cow is only 50%. The high price of bull's results from breeders' tendency to keep bulls because the growth of bulls is faster. Breeding bulls kept for one year can be sold at a high price, so that the capital of the breeder can turn quickly. This is supported by (Astiti et al., 2016).

The difference in the selling price of male and female cattle, which is almost doubled, has an impact on farmers' income. To increase farmer's income from the marketing system, the government should not limit the license to sell breeder cattle outside the island of Bali, so that the price of female breeder cattle can increase. With the increase in the price of beef cattle, it will automatically increase the income of farmers. Statistical data shows the number of productive females in 2020 is 220,911. It means that every year the probability of giving birth to female cows from smallholder farms is 110,455. The interest of breeders in maintaining low female breeder cattle will have an impact on the low selling price of female breeding cows. So that the income of farmers from marketing female breeders will be low as shown in Figure 1.

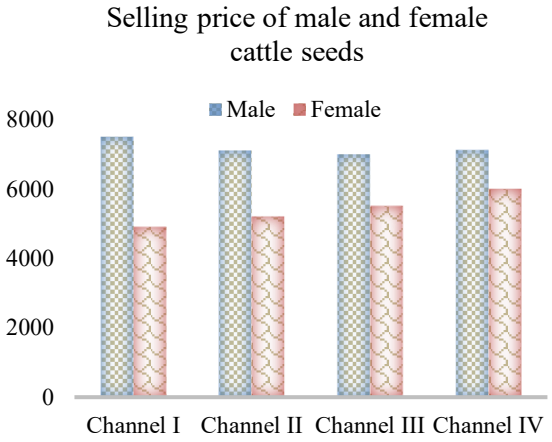

Figure 2. Selling Price of Male and Female Breeding Cattle

This is because the cattle rearing period is only 12 months and the average number of cows sold each year is one. For the income of farmers to be higher, farmers should maintain more than one cow and fatten cows so that more than one cow is produced because raising one to three cows requires almost the same maintenance costs (labour used, tools, and cage costs). This is supported by research (Astiti, 2019): raising 3-4 head of cattle takes 2 hours per day. Cattle rearing is only a side-line, so it is reasonable that the income contribution from a side-line business is below 30%.

CONCLUSIONS

From the results of the above discussion, it can be concluded that the efficiency of most efficient marketing channel is in the channel i, i.e. farmers sell their livestock in the cattle shed and those who buy their livestock are farmers in one village, but farmers can market their livestock through marketing channel iii, namely farmers sell their livestock through a middleman in the cattle shed to avoid risks in the marketing process such as stress in transportation so that it affects the physical condition of the breeder cattle, besides that the efficiency of the marketing channel on channel three shows that it is smaller than channel ii and iv.

REFERENCE

Andhika, R., and Ginting, N. 2015. Pengaruh Rantai Tataniaga Terhadap Efisiensi Pemasaran Daging Sapi di Kabupaten Karo (The Influence of Chain Efficiency Marketing Beef Cattle in The Karo Regency. *Jurnal Peternakan Integratif*, *3*(2), 224-234.

Arif, A., Marina, S., & Diky, R. (2020). The effect of breeders' competence on reproduction management towards the reproduction efficiency of beef cows: a case study of breeders participanting of Upsus Siwab program in Sembawa subdistrict of Banyuasin Regency, Indonesia. Russian Journal of Agricultural and Socio-Economic Sciences, 97(1).

Astiti, N. M. A. G. R. 2021. Bali Cattle Marketing Channels and Margins in The Covid-19 Era.

Astiti, N. M. A. G. R., Rukmini, N. K. S., Rejeki, I. G. A. D. S., and Balia, R. L. 2019. The Farmer Socio-Economic Profile and Marketing Channel of Bali-Calf at Bali Province. Series "Management, Economic Engineering in Agriculture and Rural Development," 19(1), 47-51.

Brihandhono, A., Susanto, W. E., & Prahmono, T. 2022. Marketing Analysis of Cattle at Pagak Market. In *International Conference on Improving Tropical Animal Production for Food Security (ITAPS 2021)* (pp. 430-433). Atlantis Press.

Endoh, E. K., Pandey, J., and Sajow, A. A. 2021. Analysis of the Supply Chain of Local Beef Cattle Commodity and Beef in North Sulawesi. International Journal of Applied Business and International Management (IJABIM), 6(3), 78-85.

Gumus, S. G., Olgun, A., & Adanacioglu, H. (2010). Are the Marketing Margins of Poor Livestock Farms in Rural Areas Adequate for the Sustainability of Livestock Farming? An Example from Rural Turkey. Journal of Animal and Veterinary Advances, 9(3), 643-650.

Habaora, F., Fuah, A. M., Abdullah, L., Priyanto, R., Yani, A., & Purwanto, B. P. (2019). Economic analysis of Bali cattle farm in Timor Island Indonesia. International Journal of Scientific and Technology Research, 8(10), 1576-1582.

Lasaharu, N., and Boekoesoe, Y. 2020. Analisis Pemasaran Sapi Potong. *Jambura Journal of Animal Science*, *2*(2), 62-75.

Lole, U. R. 2012. Market Structure and Marketing Efficiency of Beef Cattle in NTT (Case in Kupang Regency). In International Seminar on Animal Industry.

Mafimisebi, T. E., Bobola, O. M., and Mafimisebi, O. E. 2013. *Fundamentals of*

cattle marketing in Southwest, Nigeria: analyzing market intermediaries, price formation and yield performance (No. 309-2016-5133).

Marescotti, A. (2000). Marketing channels, quality hallmarks and the theory of conventions. The socio-economics of origin labeled products in agri-food supply chains: spatial, institutional and coordination aspects, 103-122.

Mburu, L., Wakhungu, J. W., and Gitu, K. W. 2007. Determinants of smallholder dairy farmers' adoption of various milk marketing channels in Kenya highlands. Livestock research for rural development, 19, 9.

Meshack, S. N. (2015). Marketing efficiency of beef cattle value chain in Longido and Monduli Districts in Tanzania (Doctoral dissertation, Sokoine University of Agriculture).

Muatip, K., Widiyastuti, T., Hidayat, N. N., Purwaningsih, H., Purwanto, E., and Setya, G. G. 2018. Forage Business at Breed Source Area of Ruminansia in Central Java Province. *Animal Production*, *19*(2), 135-142.

Munadi, L., Aka, R., Ali, R., and Pagala, M. A. 2021. Marketing Analysis of Beef Cattle in Landono and Mowila Subdistricts of South Konawe Regency. *International Journal of Science, Technology & Management*, *2*(3), 747-754.

Musemwa, L., Chagwiza, C., Sikuka, W., Fraser, G., Chimonyo, M., and Mzileni, N. 2007. Analysis of cattle marketing channels used by small scale farmers in the Eastern Cape Province, South Africa. *Livestock Research for Rural Development*, *19*(9), 131.

Nugroho, E. 2010. Analisa usaha peternakan sapi Rambon pada skala usaha peternakan rakyat di Kecamatan Glagah Kabupaten Banyuwangi. *Jurnal Ilmu-Ilmu Peternakan*, *20*(1), 77-85.

Onono, J. O., Amimo, J. O., & Rushton, J. (2015). Constraints and efficiency of cattle marketing in semiarid pastoral system in Kenya. Tropical animal health and production, 47(4), 691-697.

Puarada, S. H., and Gurning, R. N. S. 2022. An Analysis of Marketing Efficiency of Beef Cattle Breeders Percut Sei Tuan District, Deli Serdang Regency, North Sumatera. Morfai Journal, 1(2), 145-154.

Putri, B. R. T., Suparta, I. N., Sudana, I. B., and Oka, I. G. L. 2014. Strategy of business management and agribusiness system of Bali Cattle breeding to improve farmers income. *Journal of Animal Science*, *3*(2), 1-7.

Singh, G., Sharma, A., and Singh, R. 2019. Marketing Efficiency of Camel Milk under Different Supply Chains in Rajasthan State of India. Int. J. Curr. Microbiol. App. Sci, 8(12), 1036-1046.

Singh, M., Faircloth, S., and Nejadmalayeri, A. 2005. Capital market impact of product marketing strategy: Evidence from the relationship between advertising expenses and cost of capital. Journal of the Academy of Marketing Science, 33(4), 432-444.

Takele, D. 2014. *Gross Margin Analysis of Cattle Marketing in West Shoa Zone: A Case Study of Ginchi Livestock Market* (Doctoral Dissertation, St. Mary's University).

Tinsley, T. L., Chumbley, S., Mathis, C., Machen, R., and Turner, B. L. 2019. Managing cow herd dynamics in environments of limited forage productivity and livestock marketing channels: An application to semi-arid Pacific Island beef production using system dynamics. *Agricultural Systems*, *173*, 78-93.