



Analysis of the Level of Satisfaction of Farmers with the Performance of Extension Workers in Beef Cattle Farming in East Sinjai District, Sinjai Regency, Indonesia

Nirwana Lawadi¹, Sitti Nurani Sirajuddin², Agustina Abdullah³

¹Student at the Program Study of Agribusiness, Graduated School of Hasanuddin University, Indonesia. Email: wananir944@gmail.com

ORCID ID: 0000-0003-2671-0679

²Department of Social Economics, Faculty of Animal Science, Hasanuddin University, Indonesia.

Email: sitti.nurani@unhas.ac.id

ORCID ID: 0000-0002-3875-3185

³Department of Social Economics, Faculty of Animal Science, Hasanuddin University, Indonesia.

Email: abdullah_ina@yahoo.com

ORCID ID: 0000-0002-5750-2795

*Corresponding author's E-mail: sitti.nurani@unhas.ac.id

Article History	Abstract
Received: 21 March 2023 Revised: 05 August 2023 Accepted: 08 August 2023	<p><i>The purpose of this study was to determine how satisfied farmers are with extension workers' work in the beef cattle industry in the Sinjai Timur subdistrict, Sinjai Regency, South Sulawesi Province. The study is descriptive and quantitative. The Slovin formula was used to establish the sample size for this study, which included 90 farmers. The Customer Satisfaction Index (CSI), Importance Performance Analysis (IPA), and descriptive statistical analysis are some of the research analysis techniques used. According to the study's findings, IPA results in an average importance level (y) score of 2.78 and an average performance level (x) value of 3.00. TKi had a mean value of 90.28. The CSI calculation shows a satisfaction level of 60%, which means it was in the moderately satisfactory category. However, this value has not reached its maximum level. Accordingly, extension workers need to continue to improve their performance. To increase the CSI value, the performance of the qualities in quadrant II must also be maintained.</i></p>
CC License CC-BY-NC-SA 4.0	Keywords: Beef cattle, Satisfaction level, Extension worker performance

1. Introduction

South Sulawesi has several beef cattle production centers, one of which is in Sinjai Regency. However, there are weak points in the livestock agribusiness system in Sinjai Timur Sub-district, Sinjai Regency, where farmers tend to operate individually and depend on government support and other stakeholders such as traders and capital owners. This tailored strategy is ineffective because it is constrained by low input volumes, increased productivity, product quality, marketing, and access to technology and funding (Raisa *et al.*, 2020). The annual increase in the number of beef cattle in Sinjai

Regency only makes this issue worse. Beef cattle have a dependable potential for growing the population through breeding development and enhancing farmer productivity since the dynamics or increase in the population of beef cattle in Sinjai Regency during the last 5 years (2017–2021) has increased on average (Kulyakwave *et al.*, 2021). As a result, it is crucial to keep educating farmers about the methods for breeding beef cattle (Hilda *et al.*, 2022).

The passage of Law No. 16 of 2006 covering the agricultural, fishery, and forestry extension systems in Indonesia was one of the government's initiatives to realize an advanced agriculture sector (Otara *et al.*, 2023). Extension activities are a form of non-formal education organized by the government through extension workers to improve the welfare of farmers, manage agricultural and livestock businesses independently, and increase the productivity of the agricultural and livestock sectors.

The extension also acts as a platform for consultation, training, and various other activities that can change farmers' behavior, increase their knowledge, and improve their skills in managing their businesses (Kamarulzaman and Mohd Haris, 2021). This ensures the participation of rural communities and all parties involved in the agricultural innovation information system (Iwuchukwu *et al.*, 2022). Therefore, the implementation of extension plays an important role for farmers. For farmers to be satisfied with the performance of extension workers and be able to tackle new obstacles in the field, extension workers must carry out their services in accordance with the circumstances and demands of farmers (Festus *et al.*, 2021).

The level of farmer satisfaction with the services offered by the extension workers can be used to evaluate the success of agricultural extension workers. Farmers' satisfaction levels can also be influenced by their perceptions and expectations of extension elements (Unang *et al.*, 2022). Therefore, the presence of an extension agent in a village does not guarantee the same results, as it depends on the extension agent's ability to fulfill farmers' satisfaction through their performance. It's important to note that the extension can only achieve its objectives if the desired changes are in the interest of farmers and can provide satisfaction to them (Kulyakwave *et al.*, 2021).

In addition, the main problem with extension workers in Sinjai Timur Sub-district was the limited number of extension workers, so the coverage area was so wide conversely, the number of farmer groups was so large, while the role of extension workers was very important and needed in increasing the beef cattle population, especially in this region. The availability of extension officers in the field plays an important role in providing guidance and technical information related to business capital assistance, technology, and innovation. Besides that, extension workers are needed who can work optimally. In Sinjai Timur Subdistrict, the number of farmers is directly supervised by extension officers from the Agricultural Extension Center of Sinjai Timur Subdistrict.

The extension officers in East Sinjai Sub-district consist of 6 livestock extension officers who have the status of Civil Servants and 1 person who has the status of Government Employee with Work Agreements. The total number of extension officers in East Sinjai Sub-district is 7 extension officers. This is a challenge for livestock extension workers to be able to serve farmers optimally. In considering the reality and expectations outlined above, it is crucial to consider how the performance of extension workers might assist farmers in finding solutions to their problems. The level of farmer satisfaction with extension workers' performance in the beef cattle industry in Sinjai Timur Sub-district, Sinjai Regency, is thus a fascinating study topic.

2. Materials And Methods

This study was carried out in Sinjai District, South Sulawesi Province, from February 2023 to April 2023. The population in this study was sampled by as many as 90 farmers. The data collection techniques used were interview and observation techniques. The analysis method used was descriptive statistical analysis. A 5-level Likert scale was used to calculate the measurements. Data analysis using IPA (Importance Performance Analysis) and CSI (Customer Satisfaction Index) methods.

3. Results and Discussion

Table 1: The results of IPA (Importance Performance Analysis) and CSI (Customer Satisfaction Index).

No	Aspects	Extension Worker Performance		
		(x)	(y)	Tki (%)
Extension Worker Planning				
1	Create regional potential data	2,93	1,82	62,12
2	Guiding the supervision and assistance of RDKK preparation	2,80	3,09	110,36
3	Preparation of village and sub-district extension programs	3,03	2,89	95,38
Extension Worker Implementation				
4	Implementation of extension materials and methods	3,09	2,95	95,47
5	Conducting capacity building for farmers on information in developing farming.	3,02	2,99	99,01
6	Growing and developing farmers' economic organizations in terms of quantity and quality	3,23	2,83	87,62
Evaluation and Reporting				
7	Increase farmer productivity	2,98	3,43	115,10
8	Evaluation of the implementation of extension services	2,92	1,84	63,01
9	Evaluation of the impact of extension implementation.	2,96	2,5	84,46
Mean		3,00	2,78	90,26

Source: Primary Data After Processing, 2023

Table 1 showed that the average value for the importance level (y) is 2.78 and the average value for the performance level (x) is 3.00. On the Importance Performance Analysis (IPA) Cartesian diagram, where the importance level is the y-axis and the performance level is the x-axis, both of these scores will be the center line. Figure 1 depicts the Importance of Performance Analysis (IPA) Cartesian.

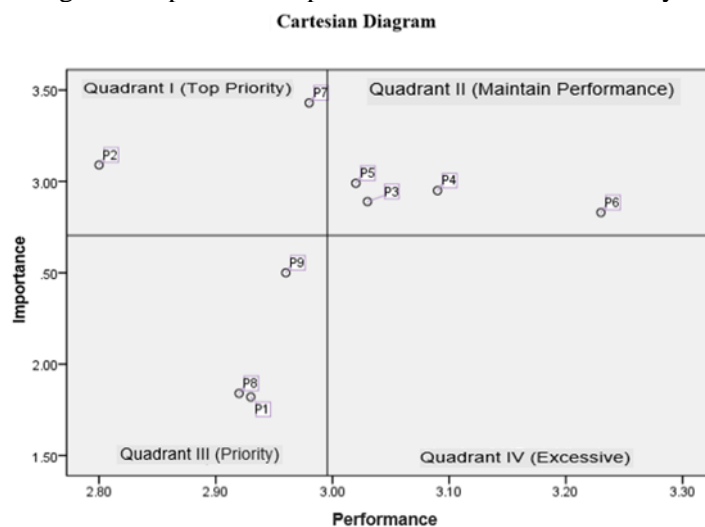


Figure 1. Cartesian Diagram

Quadrant I (Top Priority)

Guiding the Supervision and Assistance of RDKK Preparation

Each year, with the help of livestock extension workers and by keeping monitors on the distribution of livestock breeding, the RDKP (*Rencana Defenitif Kebutuhan Kelompok/Group Needs Defensible Plan*) was developed in collaboration with the group plan's execution. According to Mokoginta *et al.* (2018), the human resources available to each farmer group—specifically, the group's members—had a significant impact on how well they performed in carrying out their respective roles in agricultural growth. The group's ability to respond to and manage government programs with enthusiasm and skill determines how well the program itself is implemented.

Increased Productivity (compared to previous productivity) Applies to all Sub-Sectors.

The skills of farmers or livestock breeders in this attribute, namely increasing their productivity, were still relatively low. Hence, based on what was in the field, many farmers preferred to use livestock

arrangements with natural mating techniques compared to AI (Artificial Insemination) techniques, which were considered risky and less than optimal, as well as the low concern of breeders as the main actors in handling mandatory pregnant breeding cows (*Sapi Induk Wajib Bunting/SIWAB*). According to Mubarika Raisa *et al.* (2020), agriculture based on sustainable economic development is anticipated to offer solutions for resolving the issues farmers face because it serves to meet their needs for food, employment, industrial raw materials, and foreign exchange.

Quadrant II (Maintain Performance)

Preparation of sub-district and village extension programs

It was shown that extension programs were systematically organized to describe the condition of the foster location and the objectives to be achieved, allowing the formulation of problems and procedures for achieving these objectives with the level of knowledge of extension workers. This was based on field data on the performance of extension workers in preparing extension programs.

Implementation of Extension Materials and Methods

During the process of disseminating extension materials to farmer members, it was considered to have been carried out optimally. Each farmer gets 1–4 titles of topics or materials given during the implementation of counseling. The extension material was determined by the extension agent, and farmers also provided input information on the extension material for livestock health. This was considered very useful for farmers, especially considering the outbreak of diseases or viruses that attacked livestock such as FMD (Foot and Mouth Disease) a few months ago. Farmers felt helped and actively participated in the counseling activities. The methods presented were also practiced directly by farmers in dealing with the problems they faced. According to Herawati and Pulungan (2006) in Cristóvo *et al.* (1995), community involvement in action and reflection is a process of empowerment and active involvement in decision-making in all program-making activities. Farmers participate in providing input in the preparation of extension programs, particularly regarding the needs, desires, and problems faced in managing farms, so their participation continues to be important.

Conducting Capacity Building for Farmers on Information in Developing Farming

In this attribute, farmers were in quadrant II because some have adopted new technological innovations. Therefore, the mindset of these farmers can be changed to run their livestock business using technology, such as livestock production facilities. Livestock production facilities help farmers manage their livestock businesses, for example, with the Rice Straw Processing Unit provided by the government. The use of this technology aims to increase farmers' economic income and optimize the resources around them. Several factors, including the innovation itself, communication routes, and extension workers' performance, had an impact on how widely these technologies were adopted. Farmers' views regarding technological advancements can have an impact on their capacity to adopt them. Farmers' attitudes can alter how they view newly introduced technologies. The attitude of farmers is one of the elements influencing their acceptance of technological advancements (Harta *et al.*, 2021; Muhyidin *et al.*, 2019).

Growing and Developing Farmer's Economic Organizations in Terms of Quantity and Quality

In this aspect, economic growth and development for farmers have been relatively good. Farming and livestock activities have adopted semi-intensive methods, although some farmers still use traditional methods such as releasing livestock in the open. In addition, some farmers are also interested in adopting more modern technology when planting forage as animal feed. According to Rauf (2015), who said that there was a lot of animal feed waste produced and that it might be a wonderful source of feed for beef cattle, several farmer groups have started implementing the technology for animal feed. Farmers also have the knowledge and understanding that feed technology can improve the quality of waste feed, thereby increasing livestock productivity. Increased farmer participation in organizations, as well as increased capacity and participation of farmers in institutions, serves to encourage the effectiveness and efficiency of these organizations.

Quadrant III (Priority)

Create Regional Potential Data

Identification of potential agribusiness-oriented areas aims to determine the potential and existing problems, as well as find solutions to these problems that will be provided by agricultural extension

workers. The creation of extension programs at the village and sub-district levels will make use of the information provided. However, because extension workers do not approach farmers first to identify the problems they encounter before setting up field visits or coordinating extension services, farmers feel less supported. As stated by Resya Nurdyawati *et al.* (2020), extension workers are aware that successful extension services depend on thorough planning. The execution of extension services will greatly benefit from careful and thorough planning, which will reflect the demands of customers in the field.

Evaluation of the Implementation of Extension Services

Evaluation of extension implementation showed that farmers usually only conduct one or two evaluations a year. However, extension workers rarely evaluate the results within a month, even on a few occasions.

Evaluation of the Impact of Extension Implementation.

In the evaluation of counseling, it was found that the parameters used to evaluate the impact of the implementation of the extension were in quadrant III. The implementation of the evaluation was carried out three times, in which the Agricultural Extension Center of Sinjai Timur made reports every month, quarterly, and annually. However, the evaluation results showed that there were no supporting programs in accordance with these evaluation indicators.

Quadrant IV (Excessive)

The attributes in quadrant IV indicate characteristics that were viewed as less significant in terms of satisfaction but had excellent performance. However, there were no attributes from quadrant IV in the performance of extension workers.

Table 2. Customer Satisfaction Index (CSI) Analysis Method on Preference Level of Satisfaction with Extension Performance

The CSI analysis' findings revealed the level of farmer satisfaction with extension workers' work performance. According to the CSI calculation in the table, the CSI value was 0.60%, or in the range of 6.00. If this value were to be classified using the consumer satisfaction index, its CSI value of 6.00 would fall between 0.51 and 0.65. This demonstrates that the member satisfaction index for the attributes considered as a whole was classified as "Moderately satisfactory". This indicates that extension workers' performance needs to be enhanced so that farmers' satisfaction with their work approaches 100% or at the "Very satisfied" level with a range of 0.81–1.00.

Table 2: CSI (Customer Satisfaction Index) Calculations

No	Attributes	Mean Importance Score (MIS)	Weight Factors (Wf)	Mean Performance Level	Weight Score
Extension Planning					
1	Identification of potential areas	1,82	7,48	2,93	0,22
2	Preparation of a work plan	3,09	12,70	2,80	0,36
3	Preparation of a work program	2,89	11,87	3,03	0,36
Implementation of the Extension					
4	Implementation of Extension Materials and Methods	2,95	12,12	3,09	0,37
5	Capacity building for farmers	2,99	12,28	3,02	0,37
6	Growing farmer organizations	2,83	11,63	3,23	0,38
Evaluation and Reporting of Extension Workers					
7	Improving productivity	3,43	14,09	2,98	0,42
8	Evaluation of extension implementation	1,84	7,56	2,92	0,22
9	Evaluation of the impact of extension implementation	2,5	10,27	2,96	0,30
	Total	24,34	100	26,96	3,00
	Mean	2,70	3,00	11,1	0,60
CSI					60

Source: Primary Data After Processing, 2023

Through the IPA analysis, the CSI results show that the level of member satisfaction is within 0.60%. However, this value had not reached its maximum level, so the performance of extension workers toward farmers must continue to be improved. Several attributes need to be prioritized in improving performance, which are in quadrant I. These attributes need to be constantly improved because they have not yet achieved their full potential. In the interim, it is necessary to sustain the performance of the attributes in quadrant II in the anticipation that, as it develops, the CSI value will increase to a very high level of satisfaction.

The results of the strategy analysis show that most of the attribute indicators do not yet exist or there is still a gap (gap) between the level of performance and the level of interest in the implementation of counseling. From all the dimensions that make up the quality of extension knowledge, farmers assess their performance well in Sinjai Timur District, Sinjai Regency, but farmers are not satisfied with the performance of the field extension workers. Therefore, it still needs to be improved considering that there is still a gap between reality and expectations.

The policy that is the top priority for improving the performance of extension workers is by increasing farmer satisfaction with the performance of field extension workers in East Sinjai Sub-District, Sinjai Regency, namely by increasing the completeness of agricultural equipment in the field and extension workers doing direct practice in the field during training and visits. This is in line with the opinion that (Effendi *et al.*, 2021) Farmer satisfaction aims to determine the level of farmer satisfaction with the performance of field agricultural extension workers (PPL) in helping to provide solutions to problems and provide services that meet the needs of farmers.

4. Conclusion

The performance of extension workers in extension services was categorized as moderate because there were still many things that needed to be improved in the planning stage of extension services. Similarly, at the implementation stage to grow farmer organizations, the performance of extension workers was also categorized as moderate because there are still many things that need to be improved in the planning, implementation, and evaluation stages. According to IPA analysis, extension workers' performance in the planning, evaluating, and reporting phases revealed that the average attribute was in quadrant I, which was the area that needed improvement the most. Attributes in quadrant III, on the other hand, perform poorly and require improvement. Based on the CSI calculation of 0.63%, or interval 63, the findings of the analysis reveal the level of satisfaction among farmer members. Since this result was still below ideal but was nevertheless considered pretty excellent, extension workers must keep raising the bar on their work. To improve performance in upcoming evaluations and raise the CSI value, attributes in quadrant II must be maintained. It was recommended for extension workers to have a regular and routine schedule for visiting their foster farmers so that they can find out the problems faced in farming or livestock, and evaluate each activity and extension program that has been carried out properly.

Acknowledgments:

Thanks to the supervisors, postgraduate schools, and staff of the Sinjai Regency Government and the breeders in East Sinjai Regency during the research, they really helped researchers in collecting respondent data.

Conflict of interest:

The authors declare no conflict of interest.

References:

- Effendi, M., Juita, F., & Elkana, V. (2021). The Role of Field Agricultural Extension Officers on the Satisfaction Level of Farmers in the Working Area of the Agricultural Extension Center, Barong Tongkok District. *Jurnal Pertanian Terpadu*, 9(1), 66–80. <https://doi.org/10.36084/jpt.v9i1.309>.
- Cristovao, A., Baptista, A.M., Koehnen, T.L., Pereira, F., & Tibério, M.L. (1995). 14 Milk Production Systems and Extension Work: Promoting a Dynamic Local Management of Collective Milking Parlours.
- Festus, G., Temidire, A., & Shehu, I. (2021). ISSN(e): 24086851; ISSN(Print); 1119944X Food and Agricultural Organization (FAO), CABI and Scopus Creative Commons User License: CC BY-NC-

Analysis of the Level of Satisfaction of Farmers with the Performance of Extension Workers in Beef Cattle Farming in East Sinjai District, Sinjai Regency, Indonesia

- ND. *Journal of Agricultural Extension Abstracted by: EBSCOhost, Electronic Journals Service (EJS)*, 25(4), 24086851. <https://doi.org/10.11226/v25i4>
- Harta, L., Putra Utama, S., & Zulkarnain Yuliarso, M. (2021). Factors Influencing Beef Cattle SITT Innovation Adoption in South Bengkulu Regency. *Journal Extension* 17(2): 145–155. <https://doi.org/10.25015/17202134152>
- Herawati, H., & Pulungan, I. (2006). Factors Associated with Farmers' Participation in the Planning of the Agricultural Extension Program (Case of Nyalindung WKUPP, Sukabumi Regency). *Journal Extension*, 2(2). <https://doi.org/10.25015/penyuluhan.v2i2.2188>
- Hilda, C. E., Oyedeji, T. Y., & Ginini, F. E. (2022). Perceived Capacities of Public Extension Personnel for Climate Information Dissemination to Farmers in Cross River State, Nigeria. *Journal of Agricultural Extension*, 26(2), 44–52. <https://doi.org/10.4314/jae.v26i2.5>
- Iwuchukwu, J. C., Eke, O. G., Arigbo, P. O., Chukwudum, E. O., & Igwe, N. J. (2022). Challenges and Training Needs for Integrating Social Media into Agricultural Extension Services in Enugu State, Nigeria. *Journal of Agricultural Extension*, 27(2), 88–96. <https://doi.org/10.4314/jae.v27i2.9>
- Kamarulzaman, H., & Mohd Haris, B. (2021). Women Farmers Perception of Information Dissemination Skills among Agricultural Extension Workers in North Eastern Nigeria. *Journal of Agricultural Extension*, 25(3): 60-66. <https://doi.org/10.11226/v25i3>
- Kulyakwave, D., Xu, S., Yu, W., & Sary, S. (2021). Reliability of the Agricultural Extension and Technological Services among Rice Farmers in the Rural Areas of Tanzania. *Journal of Agricultural Extension*. 25(2): 18-31. <https://doi.org/10.11226/v25i2>
- Mokoginta, S. N., Moniaga, V. R. B., & Memah, M. Y. (2018). Agricultural Extension Performance Study in Torout Village, Tompaso Baru District. *Agri-Socioeconomics*, 14(1), 187. <https://doi.org/10.35791/agrsosek.14.1.2018.19261>
- Mubarika Raisa, D., Nurani Sirajuddin, S., & Abdullah, A. (2020). Differences in Performance Institution of Livestock Classrooms and Family Class in Barru District, Barru District, South Sulawesi Province. *Journal of Critical Reviews*, 7 (12): 2001–2012. <https://doi.org/10.1088/1755-1315/788/1/012214>
- Muhyidin, M., Arman, C., & Zaenuri, L. A. (2019). Analisis Tingkat Pengetahuan, Sikap, dan Motivasi Peternak Sapi dalam Adopsi Teknologi Inseminasi Buatan di Sumbawa Barat. *Jurnal Ilmu dan Teknologi Peternakan Tropis*, 6(3), 304-312. <https://doi.org/10.33772/jitro.v6i3.6529>
- Otara, E. N., Mogaka, H. R., Ndirangu, S. N., & Mugwe, J. N. (2023). Socioeconomic Factors Influencing Uptake of Regenerative Agriculture Technologies in the Dry-lands of Embu County, Kenya. *Journal of Agricultural Extension*, 27 (1): 1–12. <https://doi.org/10.4314/jae.v27i1.1>
- Rauf, J. (2015). *Study of Agricultural Waste Potential as Beef Cattle Feed in Pare-Pare City*. *Journal of Tropical Galung*, 4(3): 173–178. <https://doi.org/10.31850/jgt.v4i3.121>
- Nurdyawati, R. T. Soedarto, & Sumartono. (2020). Evaluation of Performance of Agricultural Extension Services in Balongpanggang District, Gresik Regency. *Cemara*, 17(1): 49-56. <https://doi.org/10.24929/fp.v17i1.1043>
- Unang, Burhan Sidqi, & Tenten Tedjaningsih. (2022). Despite the Insufficiency of Extension Workers, Farmer Satisfaction with Extension Worker Performance Remains High. *Jurnal Multidisiplin Madani*, 2(10), 3688–3696. <https://doi.org/10.55927/mudima.v2i10.1405>