

FARMERS EMPOWERMENT MODEL FOR IMPROVING BEEF FARMING BUSINESS IN NORTH SULAWESI

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ABSTRACT

The need for beef consumption in North Sulawesi is increasing disproportionately to the amount of production produced due to limited human resources for human resources of farmers. Empowerment of farmers is an alternative strategy, because it is a process to improve the business and welfare of farmers. The purpose of this research is to develop the concept of empowering beef cattle farmers in North Sulawesi as a strategic model towards the process of changing the rearing system from an extensive traditional orientation to an intensive commercial one. Data obtained from interviews with 50 respondents provided, with interview techniques, FGD, Library Studies and BPS support, then analyzed using a qualitative descriptive approach, strategy formulation and Spearman Rank correlation to determine the significance relationship. The results of the analysis state that North Sulawesi has the potential for resources of the number of farmers it has as well as available land and animal feed production resources. So it is possible to make changes to the maintenance system. There is a significant relationship between the Counseling, Literacy, Institutional, Partnership, Entrepreneurship, Competitiveness, Production Facilities variables on Farmer Empowerment, interpreted as "Very Strong" correlation coefficient with the value of each correlation; 0.899**, 0.890**, 0.650**, 0.803**, 0.750**, 0.658**, 0.891**, where this indicates a priority factor in empowerment of beef cattle farmers in North Sulawesi. Furthermore, the strategy model is; participation, leadership, independence, sustainability based on modern extension, information literacy, cooperative farming, utilization of local production factors, entrepreneurship and market driving force development.

Keywords: *Empowerment of farmers, cattle, correlation*

INTRODUCTION

The need for beef in North Sulawesi is increasing along with the increasing population growth in addition to changes in lifestyle and people's consumption tastes. On the other hand, the demand for beef is getting higher and its availability is very limited due to the slowing development of the livestock population. The need for beef from year to year has increased in accordance with the development of the population.

Consumption of animal food in Indonesia is not fully provided from domestic products, but some of it is provided through imports such as beef and milk (Directorate General of Livestock and Animal Health, 2016 in Hajirin, et al (2020). Based on data obtained from the Central Statistics Agency in 2022, the number of beef cattle population has decreased, where in 2019 it was 139 246 head, then decreased in 2020 to 128 654 head and in 2021 it increased slightly to 131 367 head. As for the cattle population in each district area and cities in North Sulawesi are;

Table 1. Population of Beef Cattle in North Sulawesi..

District and city	2019 (tail)	2020 (tail)	2021 (tail)
Bolaang Mongondow	25.139	22.265	22.272
Minahasa	25.908	26.167	26.289
Kepulauan Sangihe	2.037	505	466
Kepulauan Talaud	1.706	1.538	1.796
Minahasa Selatan	18.450	16.189	16.661
Minahasa Utara	18.351	18.627	19.493
Bolaang Mongondow Utara	18.585	16.558	16.882
Kepulauan Sitaro	26	44	44
Minahasa Tenggara	5.089	4.597	4.670
Bolaang Mongondow Selatan	5.936	5.243	5.270
Bolaang Mongondow Timur	5.390	4.817	5.007
Manado City	3.325	3.331	3.340
Bitung City	3.061	3.183	3.278
Tomohon City	4.163	3.800	3.825
Kotamobagu City	2.080	1.790	2.074

Source: BPS North Sulawesi (2022)

Based on Government Regulation No. 6 of 2013 (PP No. 6/2013), concerning Empowerment, it is stated that farmer empowerment is all efforts made by the government, provincial governments, district/city governments, and stakeholders in the field of animal husbandry and animal health to improve independence, providing convenience and business progress, as well as increasing the competitiveness and welfare of breeders. Bahua (2015), farmer empowerment is a process to make farmers independent according to their abilities in order to improve their business and their welfare. Damsar (2016) in Khusna, et al (2019), farmers are distinguished between peasants and farmers.

Bhinadi, (2017) in Khusna, et al (2019) states that the core of community empowerment includes 3 things, namely enabling, empowering and creating independence. Empowerment is able to increase farmer knowledge (Emawati, et al., 2020; Lähdesmäki, et al., 2019 in Amam and Soetriono (2022), encourage the application and implications of innovation, so that the opportunity for innovation adoption is greater (Ariyanto and Firmansyah, 2016; Dolinska and d'Aquino, 2016; Richardson-Ngwenya, et al., 2019 in Amam and Soetriono (2022), so that the hope is to increase people's income. The priority of empowerment in accordance with PP No. 6/2013 is small-scale beef cattle breeders with simple maintenance management so that it is hoped that the role of empowerment can support sustainable livestock development (Setyawan and Amam, 2021; Amam and Saputra, 2021 in Amam and Soetriono, 2022).

The long-term goal of this research is to develop a model for empowering beef cattle farmers in North Sulawesi towards the process of changing the rearing system from an extensive traditional oriented to an intensive commercial oriented so that beef consumption needs can be met as well as an increase in farmers' income and welfare. While the specific objectives are; (1) describe the state of beef cattle business, (2) analyze the relationship between Counseling, Literacy, Institutional, Partnership, Entrepreneurship, Competitiveness, Production Facilities (Saprona) variables on Farmer Empowerment.

RESEARCH METHODS

The research method uses a qualitative and quantitative approach with primary data types obtained through interviews with prepared respondents, Focus Group Discussions (FGD) and in-depth interviews with key informants. Qualitative approach using 4-stage qualitative method model of Miles and Huberman (1992).

The quantitative method is using the IFE and EFE Matrix analysis approach, which is used for (1) internal assessment by measuring the strengths and weaknesses of the company and the IFE and EFE Matrix by measuring opportunities and threats by determining the weight of each variable on a scale of 1, 2 and 3. Furthermore, the Quantitative Strategic Planning Matrix (QSPM) is used. Furthermore, a quantitative approach to the Spearman Rank correlation is used to find relationships or test significance (Sugiyono, 2017).

RESULTS AND DISCUSSION

3.1. General Condition of Beef Cattle.

The land area of North Sulawesi is 1.5 million hectares. Of this area, 72% is agricultural land instead of rice fields, where this land is widely used as plantation land, horticultural agricultural cultivation and animal husbandry. Beef cattle farmers observed in this study were farmers who were raising beef cattle as an additional business besides their main business, which was agriculture. The condition of the breeder is related to age, education, and experience in raising beef cattle.

Based on interviews with 50 farmers, 58 percent are between the ages of 41-50 years. Furthermore, for education, 42 percent of farmers have an education at the junior high school level, 38 percent have an education at the SLA level, and 4 percent have had education at a university but did not succeed in completing it. As for the experience of raising livestock, 58 percent experienced over 11 years.

Of the 50 farmers interviewed, only 6 farmers said that they had received knowledge of raising beef cattle from extension activities, and even then it was rarely done, on average they had only received counseling twice by BP3K or universities in this case the Faculty of Animal Husbandry. Sam Ratulangi University.

3.2. Spearman Rank Correlation Analysis Results.

Spearman Rank correlation is used to find a relationship or to test the significance of the associative hypothesis, because each of the variables connected is in the form of an ordinal.

The interpretation of the Spearman Rank correlation test output is divided into 3 stages, namely;

1. Seeing the level of strength (closeness) of the relationship between variables
2. Seeing the direction (type of relationship) between variables
3. See whether the relationship is significant or not.

Correlation of Production Facilities with Farmer Empowerment, obtained a coefficient of 0.891**, this means that the level of strength of the relationship (correlation) between the variables of Production Facilities and Farmer Empowerment of Beef Cattle is 0.891, according to D.A. de Vaus (2002), included in the category of Very Strong Relationship (0.70-0.89).

Furthermore, the asterisk 2 (**) means that the correlation is significant at a significant number of 0.000. The correlation number in the results above is positive, namely 0.891, so the relationship between the two variables is unidirectional (type of unidirectional relationship), thus it can be interpreted that the more the Production Facilities are improved, the Farmer Empowerment carried out by beef cattle farmers in North Sulawesi is getting better. and increase.

Moreover, it is known that the significant value or Sig. (2-tailed) is 0.000. Where is less than 0.05 or 0.01. So this means that there is a significant (meaningful) relationship between the Production Facilities variable and Farmer Empowerment in increasing beef cattle farming in North Sulawesi. Competitiveness correlation with Farmer Empowerment, obtained a coefficient of 0.658**, this means that the level of strength of the relationship (correlation) between Competitiveness and Beef Cattle Farmer Empowerment is 0.763, according to D.A. de Vaus (2002), included in the category of Strong Relationship (0.50-0.69).

Furthermore, the asterisk 2 (**) means that the correlation is significant at a significant number of 0.000. The correlation number in the results above is positive, namely 0.658, so that the relationship between the two variables is unidirectional (type of unidirectional relationship), thus it can be interpreted that the more Competitiveness is increased, the Farmer Empowerment carried out by beef cattle breeders in North Sulawesi is getting better and better. increase. Furthermore, it is known that the significant value or Sig. (2-tailed) is 0.000. Where is less than 0.05 or 0.01. So this means that there is a significant (meaningful) relationship between the Competitiveness variable carried out with Farmer Empowerment in increasing beef cattle farming in North Sulawesi.

Entrepreneurship Correlation with Farmer Empowerment, obtained a coefficient value of 0.750**, this means that the level of strength of the relationship (correlation) between the Entrepreneurship variable and Beef Cattle Farmer Empowerment is 0.763, according to D.A. de Vaus (2002), included in the category of Very Strong Relationship (0.70-0.89). Furthermore, the asterisk 2 (**) means that the correlation is significant at a significant number of 0.000. The correlation number in the results above is positive, namely 0.750, so the relationship between the two variables is unidirectional (type of unidirectional relationship), thus it can be interpreted that the more Entrepreneurship is improved, the empowerment of farmers carried out by beef cattle breeders in North Sulawesi is getting better and better. Increase.

Furthermore, it is known that the significant value or Sig. (2-tailed) is 0.000. Where is less than 0.05 or 0.01. So this means that there is a significant (meaningful) relationship between the Entrepreneurship variable and the empowerment of farmers in increasing beef cattle farming in North Sulawesi. Partnership correlation with Farmer Empowerment, obtained a coefficient of 0.803**, this means that the level of strength of the relationship (correlation) between the Partnership variable and Beef Cattle Farmer Empowerment is 0.763, according to D.A. de Vaus (2002), included in the category of Very Strong Relationship (0.70-0.89).

Furthermore, the asterisk 2 (**) means that the correlation is significant at a significant number of 0.000. The correlation number in the above results is positive, i.e. 0.803, so the relationship between the two variables is unidirectional (type of unidirectional relationship), thus it can be interpreted that the more partnership is improved, the empowerment of farmers carried out by beef cattle breeders in North Sulawesi is getting better and better. increase. Furthermore, it is known that the significant value or Sig. (2-tailed) is 0.000. Where is less than 0.05 or 0.01. So this means that there is a significant (meaningful) relationship between the Partnership variable and the empowerment of farmers in increasing beef cattle farming in North Sulawesi.

Institutional Correlation with Farmer Empowerment, obtained a coefficient value of 0.650**, this means that the level of strength of the relationship (correlation) between Institutional variables and Beef Cattle Farmer Empowerment is 0.650, according to D.A. de Vaus (2002), included in the category of Strong Relationship (0.50-0.69).

Furthermore, the asterisk 2 (**) means that the correlation is significant at a significant number of 0.000. The correlation number in the results above is positive, namely 0.650, so that the relationship between the two variables is unidirectional (type of unidirectional relationship),

thus it can be interpreted that the more institutionally improved, the empowerment of farmers carried out by beef cattle breeders in North Sulawesi is getting better and better. Furthermore, it is known that the significant value or Sig. (2-tailed) is 0.000. Where is less than 0.05 or 0.01. So this means that there is a significant (meaningful) relationship between Institutional variables carried out with farmer empowerment in increasing beef cattle farming in North Sulawesi.

Literacy correlation with Farmer Empowerment, obtained a coefficient of 0.890**, this means that the level of strength of the relationship (correlation) between the Literacy variable and Beef Cattle Farmer Empowerment is 0.890, according to D.A. de Vaus (2002), included in the category of Very Strong Relationship (0.70-0.89). Furthermore, the asterisk 2 (**) means that the correlation is significant at a significant number of 0.000. The correlation number in the above results is positive, namely 0.890, so the relationship between the two variables is unidirectional (type of unidirectional relationship), thus it can be interpreted that the more literacy is increased, the empowerment of farmers carried out by beef cattle breeders in North Sulawesi is getting better and better. Increase.

Furthermore, it is known that the significant value or Sig. (2-tailed) is 0.000. Where is less than 0.05 or 0.01. So this means that there is a significant (meaningful) relationship between the Literacy variable and the empowerment of farmers in increasing beef cattle farming in North Sulawesi. Correlation Counseling with Farmer Empowerment, obtained a coefficient of 0.899**, this means that the level of strength of the relationship (correlation) between the variable Extension and Empowerment of Beef Cattle Farmers is 0.899, according to D.A. de Vaus (2002), included in the category of Very Strong Relationship (0.70-0.89).

Furthermore, the asterisk 2 (**) means that the correlation is significant at a significant number of 0.000. The correlation number in the above results is positive, namely 0.899, so that the relationship between the two variables is unidirectional (type of unidirectional relationship), thus it can be interpreted that the more counseling is increased, the empowerment of farmers carried out by beef cattle breeders in North Sulawesi is getting better and better. increase. Furthermore, it is known that the significant value or Sig. (2-tailed) is 0.000. Where is less than 0.05 or 0.01. So this means that there is a significant (meaningful) relationship between the extension variables carried out with the empowerment of farmers in increasing beef cattle farming in North Sulawesi.

3.3. EFE-IFE matriks analysis.

The results of the identification of the external environment (opportunities and threats) and the internal environment (strengths and weaknesses), were obtained from the descriptions of the results of discussions and interviews with respondents that had been provided, plus information from various sources in the bibliography. Next, the reduction process is carried out into parts of key external factors and key internal factors, based on the needs of the analysis of the three stages of Strategy formulation in order to obtain alternative strategy formulations which are then followed by the formulation of strategy choices.

Tabel 2. EFE (External Factor Evaluation) Matrix

Opportunity Factor	Weight (%)	Rating	Score	Priority / Ranking
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Food Independence Program	0.091	1.000	0.091	VII
Potential of Human Resources for Farmers in Rural Areas	0.082	3.000	0.246	II
Beef Cattle Product Request	0.103	3.000	0.309	I
Infrastructure Development and Technical Services..	0.098	2.000	0.196	IV
Information Technology Development	0.098	2.000	0.196	IV
<i>TOTAL</i>			<i>1.777</i>	
Threat Factor	Weight (%)	Rating	Score	Priority / Ranking
Low Competitive Products	0.084	2.000	0.168	II
Competition and liberalization	0.091	2.000	0.182	III
Decrease in the Labor Force in the Livestock Sub-Sector	0.097	2.000	0.194	IV
Land Function Transfer	0.110	2.000	0.220	VIII
Climate Change Affecting Feed Procurement and Animal Health	0.102	2.000	0.204	V
<i>TOTAL</i>				

Source: Processed Primary Data (2022)

Furthermore, the analysis process is carried out using the IFE . Matrix (*Internal Factor Evaluation*) Then the analysis process is carried out using the IFE (*Internal Factor Evaluation*) Matrix and the EFE (*External Factor Evaluation*) Matrix and then obtaining the weight value (%), rating, score and priority / ranking conclusions.

Table 3. IFE (Internal Factor Evaluation) Matrix

Strenght Factor	Weight (%)	Rating	Score	Priority / Ranking
Institutional System	0.083	3.000	0.249	IX
Agricultural Extension	0.093	3.000	0.279	VII
Local wisdom	0.084	3.000	0.252	VIII
Farmer Independence	0.101	3.000	0.303	III
Land and Forage Potential	0.098	3.000	0.294	V
Sub Total			2.943	
Weakness Factor	Weight (%)	Rating	Score	Priority / Ranking
Extensive Business Pattern	0.090	1.000	0.090	IX
Farmers are less involved in extension planning	0.094	1.000	0.094	VI
Limited Land	0.092	1.000	0.092	VII
Farming knowledge is still lacking	0.091	1.000	0.091	VIII
Farmers' institutions are not functioning optimally	0.107	1.000	0.107	III
Sub Total			0.994	

Source: Processed Primary Data (2022)

3.5. Farmer Empowerment Concept.

The concept of empowering farmers to improve beef cattle farming businesses in North Sulawesi, the main target is how to involve the participation and leadership of farmer groups to be more independent through the realization of their potential capabilities. Farmer empowerment is more effectively carried out through farmer group activities. In empowering agriculture, the basic principles that must be considered are as follows:

1. Learn from the community. Community empowerment must be a process that comes from, by and for the community.
2. The farming community must be played as the main actor, while the extension worker as a facilitator, not as a teacher.
3. Learn together by sharing experiences. The experience and traditional knowledge of the community must be recognized, while external knowledge or innovation must be chosen wisely and is expected to cover or complement knowledge weaknesses.
4. Putting the interests of the local community first, where the facilitators or facilitators must have a dialogue with the local community who sometimes do not understand in depth what the basic priority needs are in their lives and raise their hopes so that they will gain confidence in carrying out their activities.
5. Build self-confidence. The facilitators/facilitators must be able to help identify the positive values of the skills and knowledge possessed by traditional communities. So that they have confidence in getting involved or playing a role in a development program.
6. Process oriented. The facilitators/facilitators are no longer target-oriented, but on the process even though it takes a long time. Communities are expected to participate in program planning, implementation and monitoring and evaluation.

The strategies used in the farmer empowerment process include; facilitation strategy, persuasion strategy, re-education strategy, power strategy. The empowerment program aims to improve business skills, both from the aspects of motivation, technology, management, capital and marketing so that they are able to be independent and have a strong bargaining position. Several strategic steps taken through empowerment, according to (Mardikanto and Poerwoko, 2017), are related to increasing access to production assets, strengthening transaction positions and people's economic business partnerships.

Farmer groups are also defined as an institution at the farmer level formed to organize farmers in farming (Mutmainah and Sumardjo, 2014). According to Mackay et al. in Nuraini, et al 2021, there are four dimensions to studying an institution, namely: the environment, institutional motivation, institutional capacity and institutional performance..

3.6. Beef Cattle Farmer Empowerment Based on Modern Agricultural Extension.

The modern agricultural extension model is directed at information and communication technology-based extension. This method can be carried out remotely, under any conditions because it does not have to meet face-to-face with farmers. The latest information and communication technology plays an important role in counseling efforts to increase population, productivity and business competitiveness of cattle breeders, because it is related to the management of business management systems ranging from the provision of production facilities, production technology to market development strategies and market penetration.

Technical and managerial agricultural extension is carried out by an extension worker whose function is to provide educational and information services needed by farmers, so that farmers can do better farming (Rahmawati et al., 2019). According to Khairunnisa, et al (2021),

the performance assessment of the role of agricultural instructors is carried out based on seven roles of agricultural instructors, namely: motivator, educator, catalyst, communicator, consultant, facilitator and organizer. Syahyuti (2014), The main function of agricultural extension workers is as a linkage (change agent linkage) between the government as a change agency with farming communities as the client system. Rahim, (2021) stated that there is a strong relationship between the role of extension and the improvement of beef cattle farming.

Modern extension paradigm; democracy and participation, where the implementation of extension should be based on democracy, benefits, equality, integration, balance, openness, cooperation, participation, partnership, sustainability, justice, equity, and accountability. Counseling is not only about increasing the production of agricultural businesses, but is directed at how to empower farmers, because the objectives of extension include developing human resources and increasing social capital, which involves farmer organizations and various social networks formed in the community. Implementing integrated management, making farmers the subject of extension. Extension is no longer monopolized by the government, but the involvement of independent and private extension workers, as well as extension commissions in the regions as independent organizations.

The characteristics of modern extension are; the person in charge of extension is no longer the government, but other parties outside the government. Extension implementing organizations are no longer strictly structured. The extension function is not only limited to technology transfer, but also includes mobilizing, organizing, and at the same time educating farmers.

3.7. Literacy-Based Beef Cattle Breeders Empowerment.

Literacy or a person's ability and skills in reading, writing, speaking, calculating, to solving problems, has now become an important reference in carrying out various activities to find information. The reason is, information is considered a vital need that is needed to facilitate the community in carrying out all activities. Without literacy, a person will not be able to achieve something he hopes satisfactorily with more practical and efficient principles, especially for farmers in terms of technology needs for the development of beef cattle business in order to increase population, production, productivity and competitiveness.

One of the effective forums to be developed related to strategic steps to accommodate farmers' information is the development of Farmer Reading Cottage (PBP), a type of Community Reading Garden (TBM) which is already popular, but this PBP is more specific in its location close to farmer activities, for example in agricultural cultivation areas, built like huts. PBP can act as an educational function, an informative function, a research function, a recreational function, and a cultural function.

In today's information age, information is something that is very easy to find. Various kinds of information spread in the social environment, media, and also everywhere. While the last stage in information literacy is to apply the information that has been obtained and evaluate its truth and benefits.

Hertanto et al (2016), stated that a communication network consists of several important elements including quoting from several articles, namely: (1) actors (nodes) are not always individuals, they can also be organizations, countries, institutions and so on. (2) link (edge) relations between actors which are symbolized in a line that connects between actors, (3) component is a grouping of actors who have at least one link in the network, (4) click is a grouping of actors which is characterized by the existence of relationships between actors simultaneously. complete and maximal, (5) bridges are bridges that connect two separate groups in a network, (6) hubs are referring to actors who have the most connections in the network, (7)

cutpoints are actors that become the glue of the network, if there are none the actor, the network will be split, (8) isolates are actors who do not have a single link with other actors in the network.

3.8. Empowerment of Beef Cattle Breeders Based on Cooperative Farming.

“Cooperative farming” is defined in Sri Nuryanti's writings as a model of group empowerment of farmers by implementing social, economic, technical and value-added engineering. Social engineering can be done through strengthening farmers' organizations, counseling and human resource development. Economic engineering is performed by developing access to capital to finance production inputs and market access. Technological engineering can be implemented by agreeing on farmer practices and recommended techniques. Finally, value-added technology is executed through the development of vertically and horizontally aligned off-farm businesses.

The long-term goal of applying the concept of cooperative farming to farmer empowerment is to create an independent, community-based, competitive, sustainable, effective and efficient agricultural business through economic, collective and participatory farming management, where the principle of its development is to build integration and independence in decision making. together. The main tools or facilities that become strengths in the cooperative farming model are institutions.

This is important because of the considerations; institutions as a tool to facilitate joint activities in achieving socio-economic progress, institutions form patterns of interaction between humans and the results that can be achieved by individuals in the interaction process, institutions can increase the benefits that can be obtained from a number of inputs or vice versa can reduce efficiency until someone has to work harder to achieve the same results, and institutions shape individual behavior through the impact of incentives they generate.

CONCLUSION AND RECOMMENDATION

Farmer empowerment model to increase beef cattle business in North Sulawesi;

1. There is a significant relationship between production facilities, competitiveness, entrepreneurship, partnership, institutional, literacy, counseling and farmer empowerment.
2. The concept of farmer empowerment to improve beef cattle farming in North Sulawesi involves participation, leadership, independence, sustainability based on modern extension, information literacy, cooperative farming, production factors, entrepreneurship and market driving force

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