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Design a Strategic Program to Strengthen Beef Cattle Corporate Institutions

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ABSTRACT

The development of beef cattle operations is conducted cohesively and sustainably within the livestock industry, considering socio-cultural, technical, economic, and ecological factors. It also fosters investment, business expansion, and job creation, and improves farmers' welfare. This research aims to design a strategic program to strengthen corporate institutions for beef cattle at the D'Reppa Cow House, Gowa Regency. This research used a survey method with interviews. Primary data was obtained through interviews with informants/experts using questionnaires and analyzed using Interpretative Structural Modeling (ISM) to formulate complexity, hierarchy (levels), and classification between elements. The results of this research show that the ten sub-elements of the strategic program for strengthening beef cattle livestock corporations at the D'Reppa Cow House, Gowa Regency, are divided into four quadrants. The strategic program design for the institutional strengthening of beef cattle livestock corporations is establishing a research and development base camp for beef cattle farming businesses based on livestock corporations. The research has limitations in terms of data collection constrained to informants difficult to find so data collection is not optimal, in addition, farmers still do not know about massive livestock corporations. Future research is expected to pay attention to the shortcomings of this study in the aspect of data collection and determining responses.

Keywords: *Strategic Program, Corporate, Institutional, Beef Cattle, ISM*

INTRODUCTION

In Indonesia, beef cattle farms are typically run by small-scale breeders, each owning an average of 1-3 cattle. These operations use traditional management practices and have limited resources, leading to low efficiency and productivity. Key factors affecting production include the number of cattle, feed, vaccines, medicines, and labor. Major challenges include difficulties in providing feed during the dry season and inadequate housing standards. These farms primarily serve as family savings rather than evolving into more professional livestock businesses. To address these issues, there is a need for the development of environmentally friendly and sustainable beef cattle farming areas (Amam and Harsita, 2021; Alhafis and Purwanti, 2021; Perwitasari, 2024; Suyitman et al., 2019).

Expanding beef cattle operations at the farmer level can enhance income and contribute to fulfilling national meat demands. As living conditions have risen and people have become more conscious of their nutritional demands, there has been a rise in the demand for beef (Astaman et al., 2023). Development in rural areas is crucial for improving the welfare of livestock farmers and boosting local economic growth. Farmers' earnings are influenced by the size of their cattle herds and the effectiveness of their management practices, with

larger herds offering greater profit potential. Maximizing existing resources, creating value-added products, and partnering with local governments to broaden market access are essential strategies for increasing livestock business productivity (Suyitman et al., 2019; Rusdiana, 2019; Rusdiana et al., 2016).

Beef cattle farming encounters difficulties in satisfying domestic demand and reaching self-sufficiency. Enhancing institutions is vital for boosting production and expanding the cattle population. Indonesia's agricultural institutions are now not operating at their best, which has prevented rural agriculture from growing significantly in recent years. Sustainable development strategies should emphasize community-based models that are economically viable, while the government should support this by facilitating market mechanisms and developing infrastructure (Firmansyah and Sunyigono, 2020).

Institutions are essential for advancing beef cattle farming in Indonesia. Farmer groups serve as platforms for coordination, technology transfer, and access to capital. Structural factors, such as membership and leadership, significantly impact the effectiveness of these institutions in the beef cattle sector. These institutions help address agricultural challenges and promote sustainable development. Beef cattle farming development needs a comprehensive approach that includes optimizing local feed resources and managing agricultural waste. Despite various efforts, domestic meat production still falls short of meeting national demand. Therefore, a cost-effective, community-driven development model and a strategic plan for national livestock development are necessary to address these issues (Firmansyah and Sunyigono, 2020; Hanafi, 2016; Oktaviani and Lidyana, 2024; Mayulu et al., 2016).

The livestock sector requires supportive policies to ensure sustainability, such as enhancing the use of local feed resources and developing agro-industries to generate employment. Given that the full potential of a free, competitive market has not yet been achieved, the government's involvement is extremely important in safeguarding the community's interests. To boost productivity and competitiveness, it is essential to strengthen farmer groups, implement suitable livestock technologies, and improve agricultural waste management (Rusdiana et al., 2016; Firmansyah and Sunyigono, 2020; Hanafi, 2016). By 2023, there will be 155 large and small livestock companies in Indonesia (Central Bureau of Statistics, 2024). Studies on livestock corporations are still rarely researched, so this research focuses on strengthening livestock corporation institutions through proposed strategic programs. The study of corporations is still new, livestock corporations are one of the strategic programs of the Minister of Agriculture 2019-2024.

The government continues to encourage the production and development of the livestock subsector to improve national animal food security. Developing beef cattle farming in Indonesia demands a comprehensive and sustainable approach. Strengthening institutions and empowering group members are crucial for enhancing operational effectiveness. An affordable, community-driven institutional model is also essential for ensuring the sector's sustainability. Adopting a holistic agribusiness approach that encompasses the entire supply chain and maximizes local resource utilization will help unlock the full potential of beef cattle farming (Syadsali et al., 2021; Faksi and Marina, 2020; Firmansyah and Sunyigono, 2020).

Institutions play a crucial role in advancing the livestock sector, particularly beef cattle farming, by boosting production and achieving meat self-sufficiency in Indonesia. Strengthening these institutions encompasses not just organizational structures but also the values and norms that guide individual and group behavior in agriculture. By empowering farmers through dedicated efforts, there is potential to enhance their standard of living and dignity. Furthermore, transforming the agricultural sector and promoting rural development can significantly contribute to national economic growth by generating more job opportunities and raising incomes in rural areas (Mangowal, 2013; Fikriman, 2017). Therefore, the research aims to design a strategic program for institutional strengthening of beef cattle corporations.

RESEARCH METHODS

Research Design

This study was conducted at the D'Reppa Cow House in Gowa Regency, South Sulawesi, Indonesia. The informants included: (1) the D'Reppa Cow House Manager, (2) beef cattle breeders, and (3) selected university representatives. Data was gathered through interviews and analyzed using Interpretative Structural Modeling (ISM) techniques (Arsyad et al., 2020; Widayanto, 2013; Darmawan, 2017).

Data Analysis

The analysis involved several steps: (1) Creating a Structural Self-Interaction Matrix (SSIM) based on feedback from respondents regarding the relationships between elements, using symbols V, A, X, and O. Symbol V indicates that the first sub-element is more significant than the second, A means the second is more important,

X denotes both are equally important, and O means they are of equal significance; (2) Establishing contextual relationships and organizing them in a structural interaction matrix (SSIM) with symbols V, A, X, and O and numerical values 1 and 0; (3) Developing models for each element; and (4) Creating the Power-Dependent Driver (DP-P) matrix (Arsyad et al., 2021; Ravi, 2015).

Table 1. Research Elements and Sub-Elements

Element	Sub-Element
Strategic Program Design for Strengthening Corporate Institutions for Beef Cattle Livestock D'Reppa Cattle House, Gowa Regency	1. Establishment of a research and development base camp for beef cattle farming businesses based on livestock corporations. 2. Assistance and technical guidance for livestock corporation member breeders. 3. Institutional development for livestock corporation member breeders. 4. Increasing the capacity of management and members of livestock corporations. 5. Comparative study of management and members to advanced livestock corporations. 6. Establishment and development of cooperation networks between livestock corporations. 7. Formation of partnerships with large companies or advanced livestock corporations. 8. Providing livestock technology packages for livestock corporation member breeders. 9. Effectiveness of land for beef cattle feed crops for livestock corporation member breeders. 10. Increased market access for beef cattle commodities for livestock corporation member breeders.

RESULT AND DISCUSSION

Interpretation of ISM Output: Design of a Strategic Program for Strengthening Institutions of the Beef Cattle Livestock Corporation, D'Reppa Cattle House, Gowa Regency

The design of the strategic program is aimed at reinforcing corporate beef cattle farming institutions at the D'Reppa Cow House in Gowa Regency. For effective implementation, the program's activities must align with the specific needs of the beef cattle corporation at this location. Interpretative Structural Modeling (ISM) assists in identifying the most critical programs among various options. Therefore, conducting assessments with informants is crucial to pinpoint these strategic programs. The initial result from ISM is the Structural Self-Interaction Matrix (SSIM), which reflects the aggregate evaluations of informants regarding the strategic program for enhancing the corporate institution at the D'Reppa Cow House, as illustrated in Figure 1.

	10	9	8	7	6	5	4	3	2	1
1	O	V	O	O	X	A	X	V	V	
2	X	O	X	O	V	V	O	V		
3	O	O	V	V	X	A	V			
4	V	A	V	V	O	V				
5	V	A	O	A	X					
6	X	V	O	V						
7	O	A	A							
8	O	V								
9	A									
10										

Figure 1. SSIM Strategic Program Design for Strengthening Beef Cattle Corporate Institutions at the D'Reppa Cow House

Subsequently, the contextual relationships between sub-elements in the SSIM, represented by letters (VAXO), are transformed into an initial reachability matrix using numerical values, following the ISM method's guidelines, as depicted in Figure 2.

	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10
A1	1	1	1	1	0	1	0	0	1	0
A2	0	1	1	0	1	1	0	1	0	1
A3	0	0	1	1	0	1	1	1	0	0
A4	1	0	0	1	1	0	1	1	0	1
A5	1	0	1	0	1	1	0	0	0	1
A6	1	0	1	0	1	1	1	0	1	1
A7	0	0	0	0	1	0	1	0	0	0
A8	0	1	0	0	0	0	1	1	1	0
A9	0	0	0	1	1	0	1	0	1	0
A10	0	1	0	0	0	1	0	0	1	1

Figure 2. Initial Reachability Matrix Strategic Program Design Strengthening Corporate Institutions for Beef Cattle at the D'Reppa Cattle House

Information:

A1 = Establishment of a research and development base camp for beef cattle farming businesses based on livestock corporations.
A2 = Assistance and technical guidance for livestock corporation member breeders.
A3 = Institutional development for livestock corporation member breeders.
A4 = Increasing the capacity of management and members of livestock corporations.
A5 = Comparative study of management and members to advanced livestock corporations.
A6 = Establishment and development of cooperation networks between livestock corporations.
A7 = Formation of partnerships with large companies or advanced livestock corporations.
A8 = Providing livestock technology packages for livestock corporation member breeders.
A9 = Effectiveness of land for beef cattle feed crops for livestock corporation member breeders.
A10 = Increased market access for beef cattle commodities for livestock corporation member breeders.

	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10
A1	1	1	1	1	1	1	1	1	1	1
A2	0	1	1	1	1	1	1	1	1	1
A3	0	0	1	1	1	1	1	1	1	1
A4	1	0	0	1	1	1	1	1	1	1
A5	1	0	1	0	1	1	1	0	1	1
A6	1	0	1	0	1	1	1	0	1	1
A7	0	0	0	0	1	0	1	0	0	0
A8	0	1	0	0	0	0	1	1	1	0
A9	0	0	0	1	1	0	1	0	1	0
A10	0	1	0	0	0	1	0	0	1	1

Figure 3. Final Reachability Matrix Strategic Program Design for Strengthening Corporate Institutions for Beef Cattle at the D'Reppa Cow House

After verifying and adjusting the transitivity rules to produce the Final Reachability Matrix (Figure 3), calculations for driver power and dependence are performed. The sub-element scoring 10 points is identified as a key program for strengthening the corporate beef cattle institution at the D'Reppa Cow House in Gowa Regency, as illustrated in Figure 4.

	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	DP	R
A1	1	1	1	1	1	1	1	1	1	1	10	1*
A2	0	1	1	1	1	1	1	1	1	1	9	2
A3	0	0	1	1	1	1	1	1	1	1	8	3
A4	1	0	0	1	1	1	1	1	1	1	8	3
A5	1	0	1	0	1	1	1	0	1	1	7	4
A6	1	0	1	0	1	1	1	0	1	1	7	4
A7	0	0	0	0	1	0	1	0	0	0	2	6
A8	0	1	0	0	0	0	1	1	1	0	4	5
A9	0	0	0	1	1	0	1	0	1	0	4	5
A10	0	1	0	0	0	1	0	0	1	1	4	5
D	4	4	5	5	8	7	9	5	9	7		
R	5	5	4	4	7	3	1	4	1	3		

Information:
DP: Driver Power
D: Dependence
R: Ranking (*is a key element)

Figure 4. Canonical Matrix Design of Strategic Program for Strengthening Corporate Beef Cattle Institutions at D'Reppa Cow House

The directional graph, an output of the ISM process, categorizes the ten sub-elements of the strategic program for strengthening beef cattle livestock corporations at the D'Reppa Cow House, Gowa Regency, into four quadrants. These sub-elements are distributed across three quadrants: independent, linkage, and dependent. Specifically, four sub-elements fall into the independent quadrant: A1 (establishing a research and development base camp for beef cattle businesses within livestock corporations), A2 (providing technical assistance and guidance to livestock corporation member breeders), A3 (developing institutional structures for corporate member breeders), and A4 (enhancing the capacity of management and members of livestock corporations/capacity building). These four strategic programs are pivotal for reinforcing the corporate beef cattle institution at the D'Reppa Cow House, Gowa Regency. Meanwhile, sub-elements in the other quadrants play supporting roles to these independent programs. Additionally, the four sub-elements in the independent quadrant highlight the priority programs necessary for strengthening the corporate institution at the D'Reppa Cow House, Gowa Regency.

Driver Power	10										
	9			**A1**							
	8		*Independent*			**A2**	**A6**	*Linkage*			
	7			**A4**	**A3**				**A5**		
	6										
	5										
	4							**A8**	**A10**		
	3		*Autonomous*					*Dependent*			**A9**
	2									**A7**	
	1										
		1	2	3	4	5	6	7	8	9	10
		Dependence									

Independent : These factors have strong drive power but weak dependence is weak.
Linkage : These factors have strong drive power and strong dependence also strong.
Dependent : These factors have weak drive power but strong dependence strong.
Autonomous : These factors have weak drive power and weak dependence power.

Figure 5. Directional Graph (DP-D) Strategic Program Design for Strengthening Beef Cattle Corporate Institutions at the D'Reppa Cow House

In the linkage quadrant, there are two sub-elements: A5 (a comparative study of management and members with advanced livestock corporations) and A6 (the creation and development of cooperative networks between livestock corporations). Programs in this linkage quadrant have variable relationships, indicating that actions taken by these sub-elements can impact both other elements within their quadrant and those in different quadrants. In the dependent quadrant, there are four sub-elements: A7 (establishing partnerships with large companies or advanced livestock corporations), A8 (providing livestock technology packages for members of livestock corporations), A9 (optimizing land use for beef cattle feed crops for corporate members), and A10 (improving market access for beef cattle commodities for livestock corporation members). While these programs are not as prioritized as those in the independent quadrant, they are still essential and can serve as supplementary

programs once the higher-priority initiatives have been addressed. The partnership formation program with large companies or advanced livestock corporations is positioned lowest in this quadrant due to its minimal driver power, meaning it has less influence compared to the higher-ranked programs. Nonetheless, it is hoped that this program will encourage management and members of livestock corporations to seek collaboration with other corporations.

Structural Model Design of Strategic Program Strengthening Beef Cattle Corporate Institutions at the D'Reppa Cow House, Gowa Regency

The findings of this research reveal six tiers of strategic programs for enhancing the corporate beef cattle institution at the D'Reppa Cow House, Gowa Regency, with the program at level one being the most critical. The level structuring model illustrated in Figure 6 was analyzed to provide a detailed explanation of the strategic program.

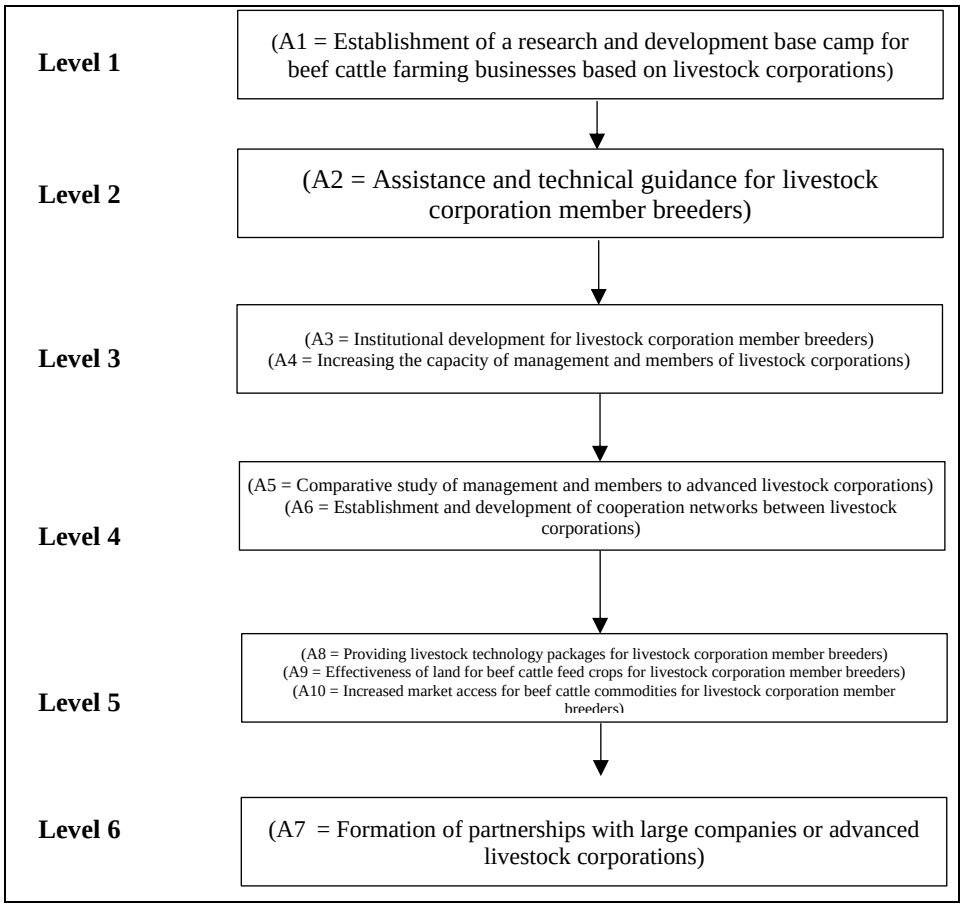

Figure 6. Design Level Structuring Model of Strategic Program Strengthening Corporate Beef Cattle Institutions at the D'Reppa Cattle House

At level 1, the primary strategic program is the establishment of a research and development basecamp for beef cattle farming businesses within livestock corporations. This program is central to strengthening the corporate beef cattle institution at the D'Reppa Cow House in Gowa Regency. Moving to level 2, the strategic program involves providing assistance and technical guidance to livestock corporation member breeders. At level 3, there are two strategic programs: one focuses on institutional development for breeders who are members of livestock corporations, and the other on enhancing the capacity of management and members within these corporations. Level 4 also features two strategic programs: conducting comparative studies of management and members with advanced livestock corporations, and forming and developing cooperation networks between livestock corporations. At level 5, three strategic programs are identified: offering livestock technology packages to member breeders, improving land use for beef cattle feed crops for these breeders, and expanding market access for beef cattle commodities. Finally, at level 6, the sole strategic program is the formation of partnerships with large companies or advanced livestock corporations.

A farmer corporation is a unified business entity created by and for farmers to reinvigorate the spirit of mutual cooperation among them. These corporations support farming activities and are essential for enhancing farmer welfare. They are collectively owned by their farmer members, with the goal of achieving farmer sovereignty in managing the entire agricultural production chain. This sovereignty extends beyond on-farm management to include off-farm processing and marketing of agricultural products. Positioning farmer corporations as key drivers of regional economic growth is crucial for advancing Indonesian agriculture to be more modern, independent, and progressive. Transitioning from conventional to modern economic practices is vital for designing effective farmer corporations. This transformation can be achieved through three simultaneous approaches: (1) developing business potential to create optimal income sources for farmers; (2) enhancing farmers' economic institutions to distribute business opportunities, synergize economic and social capital, and ensure fair distribution of benefits; and (3) adopting modern technological innovations (Ministry of Agriculture of the Republic of Indonesia, 2019).

Beef cattle farming plays a crucial strategic role in development by: 1) supplying food, particularly for meeting the demand for animal protein, 2) serving as a source of income and job opportunities, 3) contributing to sustainable agricultural practices and environmental enhancement, and 4) helping to reduce poverty in communities (Hafid et al., 2022). To enhance the effectiveness of regional development, strategies must focus on improving synchronization and coordination among stakeholders involved in livestock area development. This includes the livestock community at both the central level (through the Ministry of Agriculture and the Directorate General of Animal Husbandry and Animal Health, or PPKH), the Ministry's Research and Development Agency for Agriculture, and regional governments at the district and city levels. With the advent of regional autonomy, the authority for development resides in the district and city governments, while the central government should support and encourage these regional authorities in advancing livestock corporate area development. Consequently, district and city governments bear significant responsibility for planning and developing agribusiness-based corporate areas. The role of the government should shift from merely planning and implementing to becoming a facilitator, stimulator, and regulator of beef cattle corporate area development (Bakar and Gunawan, 2022).

CONCLUSION

Based on the results and discussion, it can be concluded that the strategic program design for strengthening the corporate beef cattle institution at the D'Reppa Cattle House, Gowa Regency, includes ten sub-elements divided into four quadrants. These sub-elements are categorized into three quadrants: independent, linkage, and dependent. In the independent quadrant, four sub-elements are identified: A1 (establishing a research and development base camp for beef cattle farming businesses within livestock corporations), A2 (providing technical assistance and guidance for livestock corporation member breeders), A3 (developing institutions for corporate member breeders), and A4 (enhancing the capacity of management and members of livestock corporations). The linkage quadrant contains two sub-elements: A5 (conducting comparative studies of management and members with advanced livestock corporations) and A6 (forming and developing cooperation networks between livestock corporations). The dependent quadrant includes four sub-elements: A7 (establishing partnerships with large companies or advanced livestock corporations), A8 (providing livestock technology packages to member breeders), A9 (improving the effectiveness of beef cattle feed plantations for member breeders), and A10 (expanding market access for beef cattle commodities for member breeders). The primary focus of the strategic program design is the establishment of a research and development base camp for beef cattle farming businesses within livestock corporations.

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