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Study Of Production And Strategy For Strengthening The Institution Of Livestock Commodities In Riung District

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ABSTRACT

Riung District has abundant natural resource potential in the agriculture, livestock, and fisheries sectors, while also being an important ecosystem area that is vulnerable to damage. To date, the utilization of these commodities is often suboptimal and tends to ignore the principles of environmental sustainability due to weak local group governance. Therefore, institutional strengthening is a key factor in bridging the gap between improving community economic welfare and ecosystem sustainability. This study aims to analyze the existing condition of local institutions in the livestock sector in Riung District, as well as formulate adaptive institutional strengthening strategies to support efforts to conserve natural resources and the surrounding ecosystem. This study uses a qualitative-descriptive approach. Data were collected through field observations, in-depth interviews with farmers and the local government, and Focus Group Discussions (FGDs). Data analysis was carried out using a SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis to map the internal and external factors of the institution. The results show that the existing institution (Livestock Group) still faces constraints in management capacity, limited market access, and low collective awareness of environmental conservation. The main strategies formulated include: (1) Increasing the human resource capacity of institutional administrators through training based on eco-farming and environmentally friendly fishing; (2) Integrating customary/local rules (local wisdom) into group regulations to limit the exploitation of natural resources; and (3) Creating a partnership network between local institutions with the private sector and government for value-added post-harvest management. Institutional strengthening that focuses on increasing internal capacity and implementing environmentally based regulations has proven crucial. Through strong institutions, the utilization of agricultural, livestock, and fishery products in Riung District can go hand in hand with maintaining ecosystem stability and long-term natural resource sustainability.

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1. Introduction

Indonesians still view livestock farming as a lucrative business opportunity. This is because Indonesia's climate is considered conducive to developing livestock businesses. Consequently, livestock farming has become a popular livelihood. Consequently, there are numerous types of livestock farming in Indonesia, including large livestock (cattle, horses, and buffalo), small livestock (pigs, goats, rabbits), and poultry (chickens, and ducks). Most smallholder livestock farming businesses in this country are still subsistence (self-sufficient farming) characterized by small-scale, uneconomical operations, and traditional methods with simple technology. Generally, livestock are

considered a living asset, not a business commodity, but rather serve as a source of social status or labor in the livelihoods of livestock farmers (Livestock Potential in Soa District, Ngiso Bhae 2023).

Successful rural development generally faces many very different challenges. These challenges consist of external and internal factors. External factors include international developments related to the liberalization of investment flows and global trade. Internal factors relate to changes in macro and micro conditions in the country, spatial and sectoral migration issues, food security, agricultural land availability, investment and capital, science and technology, human resources, the environment, and so on. Support from local governments, the tourism sector, and the growing and developing aspirations of the community are necessary to create regional development that improves community welfare. (Livestock Potential in Jerebuu District, Ngiso Bhae et al., 2022)

Development of the livestock subsector aims not only to increase the livestock population and production in an effort to improve community nutrition but also to increase the income of livestock farmers. As we know, consumption of animal-derived food continues to increase annually. Along with achieving agricultural development goals, particularly increasing farmer incomes, including livestock farmers, it is crucial to consider basic requirements and facilitating conditions. According to Mosler (in Krisnandi and Samad, ed., 1973), there are five basic requirements: agricultural markets, constantly changing technology, locally available production facilities, and production incentives for farmers. Meanwhile, the five facilitating conditions are: education for development, production credit, farmer cooperation, improving and expanding agricultural land, and national planning for agricultural development. (Livestock potential in Soa District, Ngiso Bhae 2023)

Ngada Regency has a comparative advantage in the agricultural sector, particularly in Riung District, which boasts unique and strategic geographic characteristics. The coastal areas of Riung District are rich in potential for capture fisheries and aquaculture, while the inland areas strongly support the development of dryland and wetland agriculture, as well as livestock farming for local commodities. However, development challenges in Riung District are particularly complex because community economic activities directly border and overlap with important conservation areas, namely the coastal ecosystem of the 17 Riung Islands Marine Nature Tourism Park (TWAL) and the terrestrial habitat of protected wildlife (Mbou/Komodo Riung) (Noywuli 2023).

According to North D.C. (1990), inefficient distribution channels due to the dominance of intermediaries (middlemen) trigger exploitative pressure on natural resources. When profit margins at the producer level (farmer's/fisherman's share) are low, farmers and fishermen tend to increase the volume of natural extraction to meet subsistence needs, ultimately threatening conservation zones. Through the collaboration of the INFLORES (Integrated Flores Landscape Management) program with the East Nusa Tenggara KSDA Center, this paper aims to analyze production capacity, map the trade supply chain, and formulate alternative strategies for strengthening marketing institutions that are oriented towards ecological sustainability in Riung District (Noywuli et al 2026).

2. State of the Art

Biophysical Characteristics and General Conditions of the Region

Riung District covers a total area of 103.19 km² (10,319 hectares), topographically dominated by mountainous areas (50%) and steep hills (40%), while lowlands account for only 10%. The soil structure is dominated by the Grumusol (50%) and Latosol (30%) orders, with soil acidity (pH) ranging from 5–6 (slightly acidic to near neutral). Based on its dry tropical climate characteristics, Riung District has a long dry season of 8–10 months per year, with an average annual rainfall of 2,002.5 mm (Bhae et al. 2021).

Based on the agro-ecosystem, dryland potential is very dominant, reaching 30,250 hectares, while wetlands (rice fields) only cover 925.1 hectares (most of which are rain-fed rice fields, amounting to 781.95 hectares). The region's demographics show a total population of 17,319 people (3,884 households), with a livelihood structure heavily reliant on the primary sector, consisting of 11,973

farmers and 940 fishermen. This demonstrates the community's absolute dependence on the use of local natural resources (Hamakonda et al. 2022).

Sector Commodity Production Capacity

According to Ostrom E (1990), agricultural production capacity in Riung District is dominated by dryland food crops and smallholder plantation commodities. Lowland rice production is centered in wetland areas such as Taenterong, Wangka Barat, and Taenterong 2 Villages. Corn, cassava, and mung beans are the mainstay dryland commodities. In the plantation sector, candlenuts, cashew nuts, and coconuts are foreign exchange earners for rural farmers.

The livestock sector is dominated by large livestock, including Bali cattle and horses, raised extensively using thousands of hectares of natural pasture (such as in Benteng Tengah and Tadho Barat Villages). The small livestock population is dominated by goats, sheep, and pigs, while poultry consists of free-range chickens. The fisheries sector is concentrated in coastal areas such as Ite Jaya, Nangamese, and West Lengkosambi villages, with the main catch commodities being mackerel, tuna, tuna, and cendro, as well as rapidly growing seaweed cultivation (Hardjosoewiro et al. 2018).

3. Method

This research was conducted from April to June 2026, covering 27 villages and 2 sub-districts in Riung District, Ngada Regency, East Nusa Tenggara Province. The research design employed a descriptive analytical survey approach based on primary field data and secondary data collection from the Central Statistics Agency (BPS) and the Riung District Agricultural Extension Center (BPP). According to Soekartawi (2002), the sampling method used purposive sampling to identify landowners, livestock breeders, and fishermen as the primary respondents, and snowball sampling to explore the network of collectors, middlemen, wholesalers, and retailers in local markets. Primary data collection was conducted through structured, questionnaire-based interviews, participatory field observation, and visual documentation. Quantitative data analysis used a trade margin formula, farmer's share percentage analysis, and determination of marketing efficiency feasibility. The formulation of institutional strengthening strategies is carried out through a SWOT (Strengths, Weaknesses, Opportunities, Threats) matrix analysis by considering the economic-ecological trade-offs of conservation areas (Taus et al 2022).

4. Results and Discussion

Production and Potential of Livestock Commodities

No	Village / Urban Village	Types of Livestock													
		Horse		Cattle		Buffalo		Goat		Pig		Free-range Chicken		Duck	
	Gender	J	B	J	B	J	B	J	B	J	B	J	B	J	B
1	Wangka Selatan	27	100	29	76	36	133	43	101	34	90	166	780	23	37
2	Waka Manga	42	79	29	84	78	277	18	68	24	98	179	350	43	50
3	Wangka	32	56	20	80	34	120	23	40	30	89	230	679	32	79
4	Wangka Barat	15	36	35	90	25	97	20	35	28	78	129	450	45	98
5	Rawangkalo	9	21	27	98	23	98	27	40	30	70	235	456	49	99
6	Rawangkalo I	17	48	27	78	16	27	26	32	27	92	95	180	29	34
7	Rawangkalo II	7	19	18	56	9	11	22	27	31	87	572	482	14	91
8	Taenterong	9	12	25	67	21	67	21	30	35	90	221	458	27	98
9	Taenterong 1	5	10	24	89	9	23	18	60	27	94	321	679	32	74
10	Taenterong 2	7	17	20	67	34	79	12	40	4	12	235	769	42	81
11	Benteng Tengah	1	6	36	71	2	12	50	125	2	5	749	986	65	137
12	Kota Raja	40	60	75	100	7	11	75	100	7	11	450	600	460	580
13	Nangamese	17	25	55	68	-	-	140	160	-	-	140	160	40	58
14	Ite Jaya	-	-	15	25	2	3	38	51	-	-	70	70	25	38
15	Tadho Timur	5	7	9	16	1	3	27	41	4	10	54	63	21	28
16	Tadho Tengah	15	12	12	11	4	6	45	50	9	9	30	50	21	16
17	Tadho	9	13	142	258	12	25	238	393	19	24	157	87	16	27
18	Tadho barat			42	24			88	77			79	55	69	54
19	Lengkosambi Barat Daya			23	78			34	99	20	40	120	450	57	120
20	Lengkosambi Barat	5	14	85	210	6	23	58	184	84	143	336	822	166	240
21	Lengkosambi			34	98	30	120	30	76			221	453	35	134
22	Lengkosambi Tengah			45	96			21	98	22	45	267	530	45	124
23	Lengkosambi Timur			32	89			35	98	25	96	230	459	34	178

24	Lengkosambi Utara	1	3	54	146	2	4	113	258	12	14	89	264	42	78
25	Latung			19	23			19	41			39	86	79	80
26	Latung Barat			38	41	1	1	99	114			150	270	66	78
27	Sambinasi			50	59			95	185			150	225	40	66
28	Sambinasi Tengah			23	57			50	60			120	560	32	98
29	Sambinasi Barat			32	76			76	91			237	654	45	124
Amount															

Source: Survey data, 2025

The data presented in the table above shows that all villages in Riung District have cattle. Several villages, such as Tadho Timur, Tadho Tengah, Tadho, Tadho Barat, Lengkosambi Barat Daya, Lengkosambi Barat, Lengkosambi, Lengkosambi Tengah, Lengkosambi Timur, and Lengkosambi Utara, also have sheep. This is because Tadho and Lengkosambi Villages still have extensive savannah pastures located right on the coast, making them suitable for sheep farming.

In the Latung area and throughout Sambinasi Village, pigs and horses are not farmed. This is because the surrounding population is predominantly Muslim and buffalo farming is time-consuming and lacks adequate human resources. Horses are also rare due to the intensive husbandry process, and the majority of Riung residents are fishermen and farmers; horse farming is usually more of a hobby.

A. Strategies for Strengthening and Developing Livestock Production in Riung District

1. Domestication of Goat Farming

The "domestication" and goat population purification/improvement program must be directed towards a sustainable, modern farming system (from upstream to downstream).

a) Breeding and Seedling Production

Strategic Commodity Selection: Match livestock breeds to local topography and climate. Goats: Prioritize superior local breeds such as the Kacang goat (highly adaptable), Peranakan Etawa/PE (dual-purpose: milk and meat), or the Boer goat (superior meat breed). Sheep: Focus on Fat-Tailed Sheep (DEG), Thin-Tailed Sheep (DET), or commercial crosses like Garut and Dorper sheep to accelerate meat production. Establishment of Regional Breeding Centers: Local governments need to establish certified breeding centers—or partner with the private sector to do so—to ensure the availability of superior breeding stock for farmers, thereby preventing inbreeding that degrades genetic quality.

b) Feed Management and Land Integration

Communal Feed Bank: Requiring livestock groups to cultivate superior forage crops (such as Odot grass, Pakchong, and Indigofera) on idle land. Utilization of Agricultural Waste (Integration): Promoting the integration of livestock with plantations (e.g., oil palm, coconut) or crop farming (utilizing corn or rice residues) to reduce feed costs by up to 40%.

c) Institutional Development and Livestock Farmer Empowerment

Corporatization of Small-Scale Livestock Farmers: Shifting farmers' mindsets from viewing livestock rearing as a "side activity" to treating it as a "business" through the

formation of livestock cooperatives. Cooperatives enable centralized management—or collective marketing—of feed procurement, veterinary supplies, and product sales (meat, milk, hides), thereby strengthening the farmers' bargaining position. Livestock Farming Digitalization (Smart Farming): Implementing applications to track livestock data (pedigree, weight, vaccination history), thereby facilitating the monitoring and evaluation of government assistance.

2. Livestock Shipment Out of the Island

The inter-island shipment of livestock is a significant economic sector; however, it carries a high risk of spreading contagious animal diseases (such as FMD, LSD, or PPR) and depleting local livestock populations.

a) Quota Control and Protection of Local Populations

Principle of Sustainability (Quota System): The local regulation must stipulate that shipments to other islands are permitted only after local (regional/provincial) requirements for consumption and breeding stock have been met. Ban on the Outward Shipment of Productive Livestock: Strictly prohibit the shipment of productive female goats or sheep to other islands to safeguard the local population, except for specific breeding purposes approved by the relevant agency. The smuggling of productive females must be subject to criminal sanctions or severe administrative fines.

b) Animal Quarantine and Health Standardization (Biosecurity)

Mandatory Veterinary Certificate (SV): Any livestock being transported off the island must possess an SV issued by an authorized veterinarian from the Livestock Agency of the region of origin. Quarantine at Point of Origin: Prior to loading onto the vessel, livestock must undergo a minimum 14-day period in an accredited Animal Quarantine Facility (IKH) to ensure they are free from symptoms of infectious diseases and have received full vaccinations (particularly against FMD).

c) Regulations on Animal Welfare During Transport

Suitability of Transport Vehicles: Local regulations must mandate standards for transport trucks and ferry vessels (e.g., adequate ventilation, non-slip flooring, and load capacities that prevent overcrowding). Journey Logistics: Mandate the availability of sufficient feed and drinking water on board during the estimated inter-island crossing time to prevent extreme weight loss or livestock mortality at sea.

d) Trade, User Charges, and Regional Revenue

Unified Licensing: Integrate livestock shipment permits into the regional OSS (Online Single Submission) system to cut red tape and prevent illicit levies. Regional Oversight Fees: Establish rational fees for animal health inspections, with the proceeds reinvested to fund free animal health services for small-scale livestock farmers in the region.

e) Sanctions and Law Enforcement

Tiered Sanctions: Ranging from the revocation of business licenses for exporters or traders and the confiscation of livestock, to criminal penalties involving imprisonment for those involved in illegal shipments (i.e., those lacking official documentation or utilizing unauthorized "rat ports").

Implementation Strategy (Synergy of Two Policies)

To ensure the "Dombanisasi" (Sheep/Goat Program) does not go to waste—with livestock being sold off-island without oversight—these two policies must be integrated using the following strategies: Barcode/Ear Tag System (Electronic Identification): Every sheep or goat under the program is fitted with a QR-coded ear tag. At the port, quarantine officers simply scan the tag; if the animal is registered as regional breeding or capital-assistance stock that is not yet eligible for sale, the system will automatically reject the shipment. Product Downstreaming: Local governments

should encourage off-island shipments in the form of frozen meat or carcasses (processed at local slaughterhouses) rather than live animals. This approach will create local employment opportunities (slaughterhouse services, hide and bone waste processing) and boost Locally-Generated Revenue.

B. Livestock Production Output in Riung District, Ngada Regency

Flow and structure of the livestock product trade from Riung District to end consumers (markets outside the island), based on data for large, medium, and small livestock commodities.

a) Marketing Channel Flow (Supply Chain)

Supply Chain Flow Based on the cost structure and the institutions involved, all livestock commodities in the villages of the Riung District follow the same integrated supply chain pattern, namely: "Farmers (Riung District)" → "Collector Traders (CV)" → "Inter-Island Traders (End Consumers/External Market)". In the Marketing Institutions: Farmers (Producers): Located in farms in the Riung District, they are the parties that breed/raise livestock and sell them for the first time. Collector Traders (CV): They buy livestock directly from farmers, handle animal quarantine/health documents (SKKH), and bear logistics costs (transportation and loading/unloading). Inter-Island Traders: They act as buyers at the destination port/outside the region, distributing livestock directly to the end consumer market.

b) Analysis of Trade Structure by Commodity

1) Supply Chain Process

Based on cost structures and the institutions involved, all livestock commodities across the villages in Riung District follow the same integrated channel pattern, namely:

"Livestock Farmer (Riung District)" → "Collector Trader (CV)" → "Inter-island Trader (End Consumer/External Market)"

Within the marketing system:

Livestock Farmers (Producers): Located in Riung District, they are responsible for breeding or rearing the livestock and making the initial sale. Collecting Traders (CV): They purchase livestock directly from farmers, handle quarantine and animal health documentation (SKKH), and cover logistics costs (transportation and loading/unloading). Inter-island Traders: They act as buyers at the destination port or in regions outside the area of origin, distributing the livestock directly to end-consumer markets.

2) Analysis of Marketing Channel Structures by Commodity

a. Large Livestock Group (Horses, Cattle, Buffaloes)

Large livestock have a high value per head, with significant variation in the "Farmer's Share" (the portion of the price received by the farmer).

Komoditi	Harga Jual Peternak	Total Biaya CV	Keuntungan CV	Harga Jual Akhir	Farm er's Share	Efisien si Pemasaran
Kuda	Rp10.000.000	Rp790.000	Rp4.210.000	Rp15.000.000	66,67 %	5,27 %
Sapi	Rp9.000.000	Rp1.295.000	Rp4.705.000	Rp15.000.000	60,00 %	8,63 %
Kerbau	Rp15.000.000	Rp1.290.000	Rp1.710.000	Rp18.000.000	83,33 %	7,17 %

It is worth noting that among large livestock, the buffalo commodity yields the fairest return for farmers (with the highest "Farmer's Share" at 83.33%) because trader margins tend to be compressed. In contrast, for cattle, collecting traders capture the largest profit (IDR 4.7 million per head), even though transportation costs are the highest (IDR 1 million).

b. Medium-Sized Livestock Group (Goats & Pigs)

In this group, the marketing margins taken by intermediaries heavily outweigh the prices at the farm level.

Komoditi	Harga Jual Peternak	Total Biaya CV	Keuntungan CV	Harga Jual Akhir	Farmer's Share	Efisiensi Pemasaran
Kambing	Rp1.500.000	Rp530.000	Rp1.970.000	Rp4.000.000	37,50 %	13,25%
Babi	Rp3.500.000	Rp180.000	Rp3.320.000	Rp7.000.000	50,00 %	2,57%

Key points regarding medium-sized livestock: Goats—they have the lowest "Farmer's Share" (37.5%), indicating that the marketing system does not favor the farmers; traders capture a profit of nearly IDR 2 million from a final selling price of IDR 4 million. Pigs—marketing is highly efficient (Efficiency Value of 2.57%; the lower the value, the higher the efficiency) due to very low operational costs (only IDR 180,000), yet trader profit margins are extremely high, reaching IDR 3,320,000 per head.

c. Small-Scale Livestock Group (Free-Range Chickens & Ducks)

The cost structure for this poultry group is uniform in terms of efficiency percentages, yet there are differences in nominal prices.

Komoditi	Harga Jual Peternak	Total Biaya CV	Keuntungan CV	Harga Jual Akhir	Farmer's Share	Efisiensi Pemasaran
Ayam Buras	Rp100.000	Rp40.000	Rp60.000	Rp200.000	50,00 %	20,00 %
Bebek	Rp80.000	Rp30.000	Rp40.000	Rp150.000	53,33 %	20,00 %

Key points regarding small-scale livestock: Poultry supply chain dynamics show that the price paid by the end consumer can be double the price received by the farmer. This is driven by the high cumulative cost of the Veterinary Health Certificate (SKKH) per bird, combined

with substantial profit margins for traders (30% for free-range/native chickens).

3) Marketing Operational Cost Components

Based on the data, there are three main cost components incurred by the collecting traders (CV) prior to selling to inter-island traders:

- a. Transportation Costs: Logistics and transport costs from farmers in Riung District to the port or assembly point.
- b. Loading and Unloading Costs: Labor costs for loading and unloading animals onto and off transport vehicles.
- c. Animal Health Certificate Costs: Mandatory fees charged by the relevant agency to certify that the animals are legally compliant and disease-free for inter-island shipment.

4) Conclusion of the Trade System Analysis

- a. Price Control: Marketing entities (CVs/collecting traders) control substantial profit margins across all commodities, particularly for goats and cattle.
- b. Most Profitable Commodity for Farmers: Buffalo, as farmers benefit from high selling prices and a profit share (Farmer's Share) reaching 83.33%.
- c. Most Efficient Commodity: Pigs (2.57%); due to minimal logistics costs, the transfer of goods to inter-island traders occurs very rapidly and yields high economic value.

C. Institutional Strengthening Strategy to Increase Livestock Sector Production.

The institutional strategy for livestock marketing in the Riung and West Riung Districts of Ngada Regency, East Nusa Tenggara (NTT), focuses on modernizing the marketing chains for livestock commodities (beef cattle, pigs, goats, and commercial laying hens), strengthening the bargaining position of smallholder farmers vis-à-vis middlemen (*blantik*), and standardizing animal health. The Riung region possesses vast potential for natural grazing lands (such as in Southwest Lengkosambi); however, its marketing system is often hampered by lengthy inter-island logistics distribution routes, price fluctuations, and a lack of market guarantee institutions. The following outlines the factors influencing the institutional capacity of the marketing system in the Riung district area:

1) External and Internal Factor Identification Table

Internal Factors	External Factors
Strengths - Livestock farmer groups have been established at the village level. - Ownership of extensive communal grazing land (savanna). - Riung livestock (particularly cattle) are renowned for their high resilience and good meat quality.	Opportunities - High demand for beef and goat meat within the Flores tourism market (specifically Labuan Bajo and Riung). - Artificial Insemination (AI) assistance programs and the provision of superior breeding stock from the Ngada Regency Livestock Agency. - Access to inter-island markets (such as Kalimantan or Sulawesi) via sea routes.
Weaknesses	Threats

• Group management remains traditional (serving merely as a gathering point rather than being business-oriented). • Weaknesses in administrative systems, livestock pedigree record-keeping, and animal health management.. • Limited institutional capital for the procurement of concentrate feed and medicines.	• Extreme water and green fodder shortages during prolonged dry seasons in NTT. • Threats from contagious livestock diseases (such as Septicemia Epizootica (SE), Foot-and-Mouth Disease (FMD), or African Swine Fever (ASF) in pigs). • Practices of livestock theft (involving on-site slaughter) and social conflict arising from grazing land zoning.
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2) SWOT Analysis Matrix Table

MATRIX SWOT	
S-O Quality Standardization for the Tourism Market: Leveraging livestock groups to implement standardization for fattening practices and meat hygiene, enabling access to hotel and restaurant supply chains in Labuan Bajo. Centralization of Breeding Programs: Utilizing these groups as hubs for the scheduled, large-scale implementation of Artificial Insemination (AI) to accelerate genetic quality improvement in local livestock.	W-O Transforming Groups into Livestock Corporations: Shifting the orientation of livestock groups from mere social groups to business entities (such as cooperatives or Village-Owned Enterprises/BUMDes) to facilitate easier access to KUR (People's Business Credit) livestock financing. Digitizing Livestock Record-Keeping: Training organizational administrators to use digital recording applications to monitor reproductive cycles, vaccinations, and the health history of members' livestock.
S-T Fodder Bank Management Institution: Utilizing extensive communal land to collectively cultivate drought-resistant forage crops (such as sorghum or *Leucaena leucocephala* cv. Tarramba) as a reserve for the dry season. Communal Patrol and Land Zoning System: Activating customary laws or group agreements to regulate fattening operations, outer perimeter	W-T Collective Independent Procurement of Medicines and Vaccines: The organization pools mandatory member contributions to purchase medicines, vitamins, and disinfectants in bulk, anticipating potential delays in the delivery of government aid during an outbreak.

zoning, and shared security systems in order to prevent theft and land-related conflicts.	• Cattle-Crop Integration Training (Crop-Livestock System): Mentoring young farmers within the organization to process agricultural waste (corn stalks) into silage (fermented feed) to address feed shortages during the dry season.
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Based on the identification of factors influencing the livestock trade institutional system in Riung District and the formulation of a SWOT matrix aligned with the analysis of internal and external factors, several strategies have been formulated to strengthen the livestock trade institutional system in the district:

- 1) Consolidating Livestock Farmer Groups into Collective Marketing Entities
 - a. Scaling Up Operations (Aggregation): Transforming the function of livestock groups from mere channels for government aid into economic entities. Livestock from small-scale farmers is aggregated to meet shipment quotas for regional markets (such as Kupang, Sumba, or areas outside NTT).
 - b. Standardization of Weight and Suitability: The groups implement sales standards based on digital scale readings and animal age, moving away from the visual estimation method (*jogrog*) that often disadvantaged smallholders under the traditional middleman (*blantik*) system.
- 2) Revitalization of Village-Owned Enterprises (BUMDes) as Livestock Off-takers and Logistics Managers
 - a. Village-Level Price Support: Encouraging Village-Owned Enterprises (BUMDes)—particularly in livestock hubs like Lengkosambi or Tadho—to act as initial buyers at fair reference prices when farmers need immediate cash (e.g., for school or customary expenses). This prevents farmers from selling at a loss to speculators.
 - b. Provision of Feed and Traditional/Modern Medicine Depots: BUMDes managing the supply of concentrate feed or integrated livestock supplements (such as feed management for laying hens) to reduce local production costs.
- 3) Strategic Partnership Based on Downstreaming and the Premium Tourism Market
 - a. Meat Supply for the Tourism Industry: Integrating smallholder livestock marketing institutions with the Riung marine tourism ecosystem. Livestock cooperatives can establish partnership contracts with local restaurants and hotels to supply high-quality (hotel-standard) chicken, pork, or fresh eggs.
 - b. Integrated Business Partnership (Nucleus-Plasma): Creating opportunities for institutional collaboration with private livestock companies or state-owned enterprises (SOEs) to implement livestock profit-sharing systems (such as the *teseng* system for beef cattle or integrated poultry partnership programs).
- 4) Strengthening Market Inspection and Animal Health Quarantine Institutions
 - a. Disease-Free Certification: Strengthening synergy between livestock farmer groups and the Animal Health Center (Puskesmas Riung/Riung Barat) to ensure that marketed livestock meet criteria for being free from infectious diseases (such as ASF in pigs or SE in cattle). Healthy animals command significantly higher market value at shipping ports.
 - b. Inter-Island Market Information Transparency: Livestock extension agencies regularly release information on meat prices, live animal prices, and shipping quotas provided by the Ngada Regency Livestock Agency, enabling farmers to determine the optimal time to sell their livestock.
- 5) Livestock Product Processing Institutions (Product Downstreaming)

Standardized Mini-Abattoirs: Establishing or optimizing local abattoir management institutions to shift the trade model from shipping live cattle—which carries a high risk of weight loss during sea transport—to shipping high-value-added frozen meat or carcasses.

D. Conclusion

Riung District possesses significant agricultural and livestock production potential, yet this is threatened by systemic inefficiencies in the trade and distribution system. Key commodities—such as coconuts, bananas, goats, and mackerel tuna—are trapped in lengthy supply chains that yield a low share of the final price for farmers and fishermen. Marketing inefficiencies are most acute for mung beans, pigs, and tuna, driven by damaged transport infrastructure and a lack of post-harvest technology. These economic inefficiencies are directly linked to growing ecological threats to the Riung 17 Islands Marine Recreation Park and Komodo dragon habitats, resulting from the pressures of subsistence-based livelihoods among the local population.

E. Thank-you note

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