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CONTRACT FARMING MODELS AND THEIR IMPLEMENTATION ON BROILER CHICKEN BUSINESS INCOME IN NANGA-NANGA DISTRICT, KENDARI CITY

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Abstract

Background: The Nanga-Nanga subdistrict in Kendari City is one of the subdistricts whose community has developed a broiler chicken farming business in partnership with a company, but the implementation of the partnership sometimes does not comply with the contract.
Purpose: of this study is to examine the contractual partnership model (contract farming) applied in broiler production in the Nanga-Nanga District of Kendari City, to evaluate the effectiveness of its implementation, and to analyze how the overall execution of the contractual partnership influences the income earned by broiler farmers.
Design/methodology/approach: his research design employs a descriptive and quantitative approach, utilizing correlation analysis to examine relationships between variables. The study sample comprised the entire population of broiler chicken farmers involved in a partnership scheme with the company, totaling 15 respondents. Both primary and secondary data were collected for analysis. Correlation analysis was applied to evaluate the data. In addition, the study assessed several critical components of broiler chicken businesses, including income, mortality rate, average body weight, feed conversion ratio (FCR), performance index, and depreciation cost calculations.
Findings/Result: The contractual partnership arrangement (contract farming) implemented in the Nanga-Nanga District of Kendari City is characterized as a bipartite model. With respect to feed provision, 40% of farmers reported that the company supplied feed in quantities that surpassed the actual requirements of their poultry, while 20% stated that the feed they received was insufficient for their livestock. In terms of operational activities, particularly the timeliness of input delivery, only 46.67% of farmers confirmed that deliveries were made according to the agreed schedule. Furthermore, compliance with the company-determined harvest and sales schedules especially regarding harvest timing reached 60%. On average, farmers recorded a total income of IDR5,786,368.80. Results from Spearman's Rank Correlation analysis show a strong positive association between the implementation of contractual partnerships and broiler farm income, reflected in a correlation coefficient of 0.771.
Conclusion: The contractual arrangement used in broiler production in the Nanga-Nanga District of Kendari City corresponds to a two-party cooperation structure. The implementation of the partnership was evaluated across three dimensions, showing different levels of execution: support related to production inputs demonstrated an exceptionally strong degree of fulfillment, operational activities were carried out at a moderately effective level, and harvest timing and sales management also showed a moderate level of implementation. Overall, the way the contract farming scheme is executed demonstrates a strong positive relationship with the income earned by broiler chicken farmers.
Originality/value (State of the art): The primary contribution of this study lies in its dual focus: not only does it identify the types of contract models, but it also evaluates the degree to which these contracts are implemented. The implementation process was examined across three distinct dimensions: the supply of essential production inputs, the management of day-to-day operational processes, as well as the timing of harvesting and sales.

Keywords: broilers; partnership model; implementation of partnership pattern, chicken farming business, contract farming

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INTRODUCTION

The livestock sub-sector plays a significant role in driving Indonesia's economic development. Its contributions are reflected in the supply of nutrient-rich food products, the creation of employment opportunities, and the generation of government revenue through taxation (Dedu et al. 2024; Subekti, 2008). Among various livestock commodities, broiler chickens represent one of the most promising areas for expansion. Their potential is reinforced by several strengths, including a short production cycle of approximately 4–6 weeks, high production efficiency, relatively low market prices, and consistently rising consumer demand for chicken meat (Zulkarnaen, 2013).

Growing consumer demand for broiler meat is closely linked to rising public awareness of the importance of nutritious food. The increasing need for animal-based protein is also shaped by improvements in knowledge, living conditions, and household income levels. According to Fadilah (2013), broiler chickens serve as an essential source of animal protein for many communities. Even though the population of broilers raised for market continues to expand, the existing supply of chicken meat remains insufficient to keep pace with the rapidly increasing demand. One of the major constraints in advancing broiler production is the substantial start-up capital required from farmers. This capital is primarily used to secure key production inputs, including day-old chicks (DOC), feed, and veterinary supplies. Because broiler farming demands considerable upfront investment, many farmers are encouraged to participate in contractual arrangements or contract farming systems (Nugroho & Astuti, 2021; Setiawan & Eko, 2022).

Contract farming represents a cooperative arrangement between agribusiness companies and farmers, in which the company supplies financial capital and assures the uptake of poultry meat products (Eaton & Shepherd, 2001). Under this arrangement, farmers are responsible for providing the poultry houses and carrying out all production and husbandry activities until the birds reach market age. Farmers participate in these partnership schemes to secure additional funding for their operations and to reduce the likelihood of production failure or financial loss. The Nanga-Nanga Subdistrict is one area where broiler production has become an increasingly common livelihood. A preliminary survey conducted by the author, involving direct interviews with local farmers, identified 15 individuals actively engaged in broiler farming in this location.

The partnership system established between the two parties, namely the company and the farmers, certainly provides mutual benefits. For example, the company benefits from the farmers by obtaining facilities such as the provision of barns, equipment, and labor by the farmers. Similarly, farmers also benefit from the company, which provides them with capital, livestock production facilities, technology, extension services, and assistance with marketing their livestock products. However, the most important thing is the implementation of the contract agreed upon by both parties. If the contract is implemented in accordance with what has been agreed upon, the partnership will run smoothly and both parties will benefit. Conversely, if the implementation does not comply with the agreed contract, it will cause problems, ultimately leading to an unhealthy relationship between the company and the farmers.

Based on interviews with farmers, several recurring concerns emerged regarding how companies manage partnership arrangements in the broiler sector in the Nanga-Nanga District of Kendari City. These concerns include delays in supplying production inputs, irregularities in planned harvest schedules and deferred payments to farmers. These issues prompted the researchers to conduct a more in-depth examination of the structure and execution of contract farming systems in the region. The Nanga-Nanga District, located within Kendari City, is strategically positioned for company operations, and its relatively quiet and remote environment further supports broiler production. Accordingly, this study aims to (1) analyze the contractual partnership model used in broiler production in the Nanga-Nanga District of Kendari City, (2) evaluate how these partnership schemes are implemented, and (3) examine the relationship between the overall execution of the partnership arrangement and the income earned by broiler farmers.

A considerable body of research has examined partnership arrangements between poultry farmers and contracting companies. For example, Dedu et al. (2023) explored how these partnership schemes are implemented in practice, while a subsequent study by Dedu et al. (2024) evaluated farmers' satisfaction with the partnership system. Arsyad et al. (2017) analyzed

the contribution of partnership arrangements to poultry sector development and to improvements in farmers' income. Likewise, Illahi et al. (2019) investigated the earnings of broiler producers engaged in contractual relationships with companies.

The main novelty of this study lies in its advanced analytical perspective, which moves beyond the limits of conventional descriptive research. As emphasized in the abstract, "the primary added value of this study is not only to identify contract models, but also to measure the extent to which these contracts are implemented." To support this contribution, the researchers divided contract implementation into three analytical components: the provision of production inputs, the execution of operational activities, and the timing of harvest and product marketing.

First, most studies on contract farming tend to focus on identifying partnership models (e.g., bi-partite or tri-partite) or analyzing the overall impact of partnerships on farmers' income in general. Meanwhile, this study introduces a diagnostic tool that can measure the extent to which each stage in the partnership process is carried out according to the contract. This is a shift from macro analysis to micro analysis.

Second, by dividing implementation into measurable variables using a Likert scale, researchers can accurately identify specific "weak points" or bottlenecks in the partnership value chain. Instead of simply stating that contract implementation is "problematic," this study can show that the problem does not lie in the provision of initial inputs (which have a very high implementation rate), but rather in subsequent phases such as operational activities and, most importantly, the post-harvest phase. This approach provides a much deeper understanding of the dynamics of partnerships and enables the formulation of more focused and effective improvement solutions. Third, this method creates a replicable framework for future research. This framework allows researchers and policymakers to evaluate the performance of other agribusiness partnerships with the same precision, making it a significant methodological contribution to the field of agribusiness.

The problem-solving approach was carried out by identifying partnership models and institutional roles in which the company had the obligation to provide production facilities, technical guidance, and marketing guarantees, while farmers provided housing, labor, and carried out cultivation activities until harvest. According to Sajar et al. (2025) explain that Specific partnership arrangements show companies providing comprehensive support including seeds, fertilizers, tools, and labor while purchasing harvests at agreed prices, with farmers contributing land and supervision throughout cultivation. Then, analyze the implementation of the contract with its attributes, where each attribute consists of 5 indicators so that we can see in detail the suitability or unsuitability of the contract implementation. Then, use correlation analysis to determine the relationship between contract implementation and farmer income.

This study has three primary objectives: (1) to examine the structure of the contract farming scheme applied to broiler production within the Nanga-Nanga District of Kendari City, (2) to assess how this contractual arrangement is carried out in practice, and (3) to analyze the linkage between the execution of contract farming and the earnings generated by broiler farmers. The results of this investigation are anticipated to contribute to both practical and scholarly domains. Practically, the study offers guidance for improving contract farming practices, enabling companies to overcome earlier operational limitations. Academically, it expands the existing literature on company–farmer partnerships in managing broiler production systems.

METHODS

This study employs a descriptive and quantitative research design supported by correlation analysis. The research was carried out in the Nanga-Nanga District of Kendari City in December 2024. The study population consisted of all broiler farmers engaged in partnership arrangements with the company. A census sampling technique was used, resulting in the inclusion of 15 farmers representing the entire population. Data for this study were obtained from two sources: The study utilized (1) primary data obtained through on-site observations and interviews with all broiler farmers involved, and (2) secondary data sourced from pertinent institutions. The data collection procedures comprised (a) systematic field observation, (b) farmer interviews, and (c) the examination of institutional documents.

The contract farming model and its implementation in broiler production in the Nanga-Nanga District were examined using descriptive analysis. (a) The contract farming model was described according to the contractual system adopted by the company and farmers. (b) The implementation of contract farming was evaluated using a Likert scale approach (Riduwan & Akdon, 2009). The attributes and indicators used to measure the implementation of contract farming are presented in Table 1.

The association between the effectiveness of partnership contract implementation and the income earned by broiler farmers was examined using a correlation approach. This analysis employed the Spearman rank-order correlation method as outlined by Sugiyono (2013). The analysis was performed using SPSS Edition 20 software, applying the following formula:

$$r_{ab} = \sum ab / \sqrt{(\sum a^2 b^2)}$$

Table 1. Summary of the attributes and indicators used to assess contractual partnership implementation in broiler farming enterprises in the Nanga-Nanga District, Kendari City (2024) (Dedu et al. 2024)

Attributes	Contract Implementation Indicators	Score
DOC contract price at companies	The company's DOC price is much more economical, with a difference of IDR100 cheaper	5
	The company sets the DOC price at a level consistent with the current market rate.	4
	The company's DOC price is slightly more expensive, which is IDR1,100 above the market price	3
	The price of DOC at the company is slightly higher, reaching a difference of IDR1,200	2
	The price of DOC from the company is much more expensive, exceeding Rp200 from the market price	1
DOC quality from the company	There were no poultry losses (0% Mortality rate)	5
	The poultry mortality rate ranged from 1 % to 2 %	4
	The poultry mortality rate ranged from 2 % to 3 %	3
	The poultry mortality rate ranged from 3 % to 4 %	2
	The poultry mortality rate exceeded the 4 % limit	1
Feed contract prices at companies	The feed supplied by the company is priced below the prevailing market rate, with the difference amounting to less than IDR1,100	5
	The company's feed purchase price aligns with the current market rate.	4
	The company’s feed price is set at IDR1,100 above the prevailing market price.	3
	The company’s feed price is slightly higher than the market rate, exceeding it by approximately IDR1200	2
	The feed supplied by the company is priced significantly higher, with a difference of more than IDR1200 compared to the prevailing market price.	1
DOC Sufficiency	Sufficiency 110%	5
	Sufficiency 100%	4
	Sufficiency 95%	3
	Sufficiency 90%	2
	Sufficiency < 90%	1
Feed Sufficiency	Sufficiency 110%	5
	Sufficiency 100%	4
	Sufficiency 95%	3
	Sufficiency 90%	2
	Sufficiency < 90%	1
Delivery time of production facilities	Delivery < H-1	5
	Delivery on the day	4
	Delivery H +1	3
	Delivery H+2	2
	Delivery > H+2	1

Table 1. Summary of the attributes and indicators used to assess contractual partnership implementation in broiler farming enterprises in the Nanga-Nanga District, Kendari City (2024) (Dedu et al. 2024) (continue)

Attributes	Contract Implementation Indicators	Score
Frequency of extension activities	More than once in a 3-day period	5
	Performed once every 5 days	4
	Performed once every 7 days	3
	Performed once every 10 days	2
	Less than once in a 10-day period	1
Educational material	The content or substance presented is considered highly relevant and appropriate	5
	The content or substance presented is considered relevant and appropriate	4
	The content or substance presented is considered sufficiently relevant and adequate	3
	The content or substance presented is considered irrelevant	2
	The content or substance presented is considered highly irrelevant	1
Harvest timing	Harvest completed in 1 day	5
	Harvesting takes 2–3 days	4
	Harvesting takes 3–4 days	3
	Harvesting takes 4–5 days	2
	Harvesting takes more than 5 days	1
Conformity of sales price	The selling price is set IDR11,000 above the market rate	5
	The sale price is determined to align with the prevailing market price	4
	The selling price is about IDR11,000 below the market rate	3
	The selling price is set below the prevailing market rate, with a discrepancy of IDR12,000	2
	The selling price is slightly below the market price, with a difference of less than IDR12,000	1
Payment time	Payment is completed ahead of the schedule stated in the agreement or promise given	5
	Payment is made on the specified date (in accordance with the contract provisions)	4
	Payment is made one day after the due date (D+1)	3
	Payment is made two days after the due date (D+2)	2
	Payment is made more than two days after the due date (> D+2)	1
Company handling of farmer complaints	Complaints were handled very well and resolved in a short period of time	5
	Complaints were responded to well and the resolution process was fairly quick	4
	Complaints were handled satisfactorily	3
	Complaints were responded to poorly and resolving the issues took a very long time	2
	Complaints were not handled properly (inappropriate handling)	1
	Total Score	60

After the analysis was calculated using the Spearman rank correlation equation mentioned above, the results were correlation coefficient values that served as indicators of the strength of the relationship between variables. Guidelines for interpreting these correlation coefficient values are presented in Table 2.

The analysis of the broiler chicken business encompasses several critical aspects, including the calculation of income, assessment of mortality rates, determination of average body weight, computation of the feed conversion ratio (FCR), evaluation of the performance index, and estimation of depreciation costs.

The net income received by broiler farmers can be calculated through income analysis (Soekartawi, 2002) using the following formula:

$$Pd = TR - TC$$

Information: Pd (Total income received by broiler chicken farmers); TR (Total revenue received by broiler chicken farmers); TC (Total costs borne by broiler chicken farmers).

Table 2. Outlines the interpretation framework for correlation coefficients, illustrating the strength of the relationship between contractual partnership implementation and broiler farmers' income (Jabnabillah & Margina, 2022)

Interval of Coefficient	Level of Relationship
0.00 – 0.19	Exceedingly low
0.20 – 0.39	Low
0.40 – 0.59	Medium
0.60 – 0.79	Powerful
0.80 – 1.00	Very Powerful

The mortality rate of broiler chickens can be calculated using the following formula (Ulfa et al. 2021):

% mortalitiy = ((Initial chickens number – number of live chickens)/(Initial total chickens number)) x100%

The mean live weight of chickens can be calculated using the formula (Budiarto et al. 2025):

live weight of chicken = Total live weight of chicken/ Total number chickens live

The feed conversion ratio (FCR) can be calculated using the following equation (Penggalih et al. 2025):

feed conversion ratio=Total kilograms of feed used (kg)/Total live chickens(kg)

The performance index (PI) for broiler production is determined using the following formula (Fajaryani et al. 2024):

I = ((100 – % mortality) x average live chicken weight)/ (FCR x chickens average age) x100%

Depreciation costs are calculated using the straight-line approach, which is derived using the following formula (Tamboto et al. 2025):

Depreciation = (Acquisition price – residual price)/ Economic age

Farmers and broiler chicken breeders enter into partnerships with several contract terms that must be mutually agreed upon, namely (1) the provision of production facilities consisting of DOC, feed, and medicines, (2) operational activities consisting of cultivation and extension activities, (3) harvesting, namely the duration of harvesting, and (4) marketing, namely contract prices and chicken bonuses. The provision of production facilities and operational activities generate costs, while harvesting and marketing generate revenue. Revenue minus costs equals income, which can then be analyzed to determine the correlation between contract farming structures and the resulting financial gain of commercial broiler operations. The partnership is expected to increase farmers' income, as explained by Priatama et al. (2023) Farmers who partner with companies earn higher incomes than non-partner farmers. Research framework in Figure 1.

RESULTS

Contract Farming Model in Broiler Chicken Farming

Contract farming operations can be identified by looking at the distribution of companies and farmers, then the obligations of companies and farmers, as well as the contract farming model for broiler chicken businesses operated between companies and farmers. The contract farming system offers several benefits to small-scale farmers, particularly in the poultry industry. This partnership provides farmers with access to capital, inputs, technology, and marketing support (Illahi, Novita, & Masithoh, 2019; Yunizar et al. 2017a).

In the Nanga-Nanga subdistrict, a total of 15 farmers have established partnerships with companies. Table 3 provides information on the companies that have established contractual partnerships with broiler farmers in the study area, specifically in the Nanga-Nanga District of Kendari City. There are three companies involved: the majority of farmers (7 people), or 46,67% of the total, have agreed to a partnership with PT. JASS Mandiri Sejahtera. A total of 6 farmers (40%) have established partnerships with PT. Karya Mitra Kendari. Meanwhile, only 2 farmer (13,33%) has partnered with PT. Jaya Anugerah Satwa Sejahtra.

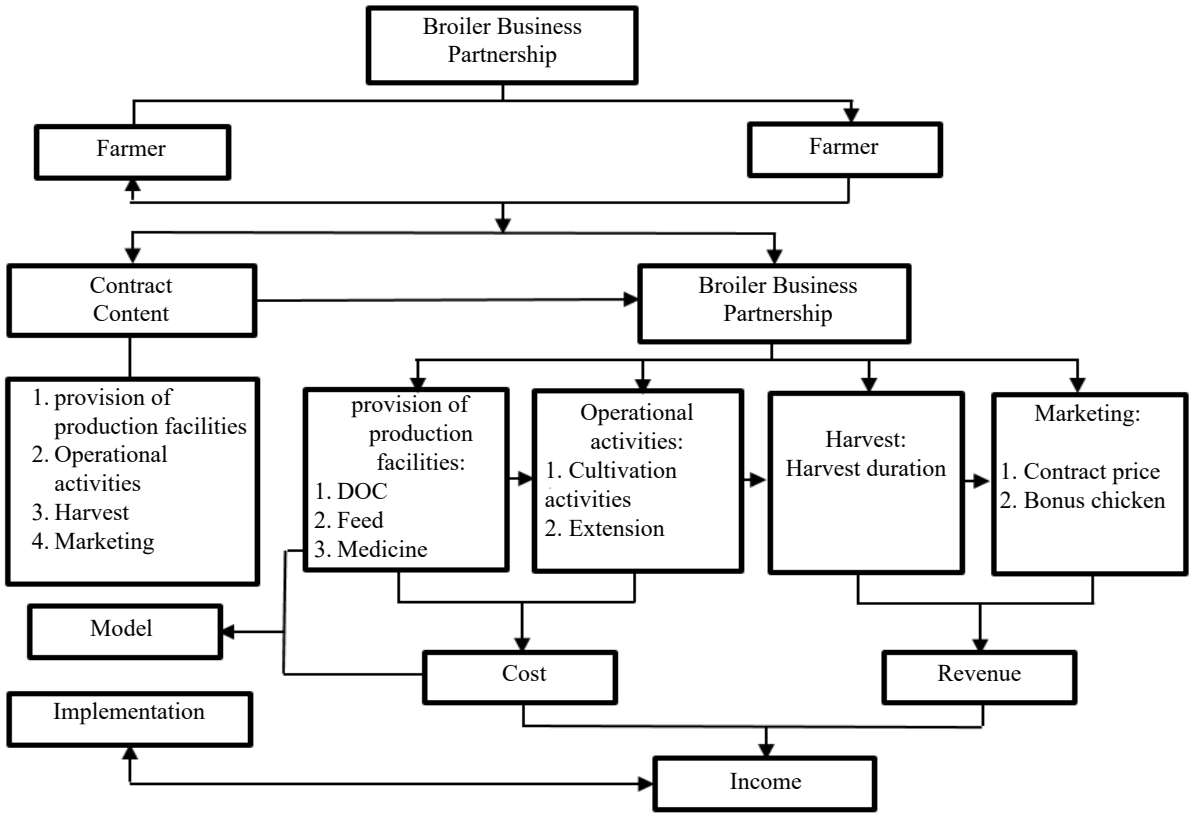

Figure 1. Research framework

Table 3. Distribution of broiler farming respondents by affiliated partner company in the Nanga-Nanga District, Kendari City, 2024

Name of Companies	Farmer	
	Number	Percentage (%)
PT. JASS Mandiri Sejahtera	7	46.67
PT. Karya Mitra Kendari	6	40
PT. Jaya Anugerah Satwa Sejahtra	2	13.33
Total	15	100.00

A contract is a formal agreement set forth in writing, involving at least two parties, with the aim of carrying out or refraining from carrying out certain legal actions. This document serves as an instrument for establishing and managing the roles, rights, and responsibilities of each party involved. To be considered valid, this agreement must be approved by the parties concerned. (Muda, 2003). According to (Chalyi, 2022; Sanusi Sanusi et al. 2024) Contracts are fundamental legal instruments that establish written agreements between parties to create, modify, or terminate civil rights and obligations.

Table 4 presents the contractual partnership between the company and farmers, highlighting the specific obligations of each party. The company holds three primary responsibilities: supplying all essential production inputs, including day-old chicks (DOC), feed, medicines, vaccines, and chemicals (MVC); providing continuous technical guidance to farmers, ensuring that the guidance is relevant and practically applicable in the field; and taking full responsibility for marketing the entire broiler chicken production (Bahari et al. 2016; Sudhiarsana, 2022). Alongside the company's obligations, farmers also have clearly defined responsibilities. These include preparing the necessary infrastructure, such as cage installations and equipment, in accordance with broiler maintenance standards; arranging labor, whether from family members or hired workers; and executing all farming activities until the chickens reach harvest age. This is consistent with the observations of Wadi et al. (2022),

who emphasize that farmers are accountable for providing housing, equipment, and labor throughout the production process.

Based on the information presented in Table 4, the responsibilities of both parties can be clearly identified. Consequently, it can be concluded that the contract farming system in the Nanga-Nanga District of Kendari City follows a bipartite model. Figure 2 shows that the company collaborates with farmers with the aim of producing chickens, reducing seed costs, and increasing income. On the other hand, the government's role is limited to providing consultation or conducting field inspections of farmers' production results. The government's role should not be limited to inspection, but should include active supervision of the implementation of contractual partnerships between companies and farmers. This is important because contractual agreements between the two parties do not necessarily guarantee that their implementation will run smoothly.

Operationalization of Contract Farming in Broiler Chicken Business

The performance of broiler enterprises is strongly shaped by the effectiveness of their contract farming arrangements. The proper implementation of these agreements is essential for achieving efficient production and marketing outcomes across the entire supply chain (Bahari et al. 2012). In the Nanga-Nanga District of Kendari City, the assessment of contract farming practices focused on three core dimensions: the delivery of production inputs, the management of operational processes, and the scheduling of harvest and market activities.

The implementation stage of contractual partnerships concerning the provision of production inputs involves assessing several critical factors, including the contract prices for day-old chicks (DOC), the quality of the DOC supplied, feed costs, the sufficiency of DOC numbers, and the availability of adequate feed. These factors serve as key components in evaluating the execution of partnerships related to input provision in broiler chicken farms in the Nanga-Nanga District of Kendari City, with detailed information presented in Table 5.

An assessment of partnership implementation regarding the provision of production facilities, as presented in Table 5, indicates that the majority of farmers (93.33%) reported that the price of Day Old Chicks (DOC) set by partner companies was lower than the prevailing market rate. Beyond this cost advantage, farmers also regarded the quality of DOC supplied by the companies as meeting acceptable standards.

Table 4. List of responsibilities undertaken by companies and farmers in the implementation of contractual partnerships for broiler chicken businesses in Nanga-Nanga District, Kendari City, in 2024

Obligations of Companies and Farmers	
Company Responsibilities	Farmer Responsibilities
Supplying production inputs in the form of Day-Old Chick, feed, and MVC	Providing cages and cage equipment
Providing technical guidance to farmers	Providing labor
Responsible for marketing broiler chickens	Carrying out cultivation activities until harvest

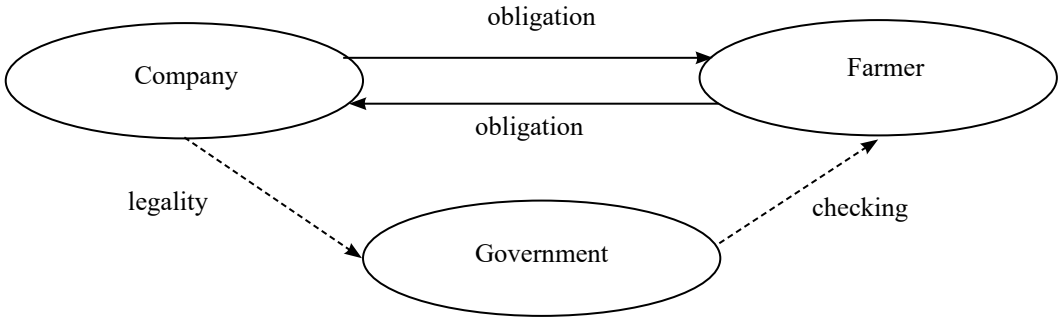

Figure 2. shows a visualization of the Bi-partite Contractual Partnership Model applied at the research site throughout 2024

Table 5. Stage of contract partnership implementation focused on production input provision in broiler enterprises, Nanga-Nanga District, Kendari City, 2024

Attributes	Implementation of Contract					Total People (%)
	(1)	(2)	(3)	(4)	(5)	
	People (%)	People (%)	People (%)	People (%)	People (%)	
Company DOC contract price	14	0	0	1	0	15
	(93.33)	(0.00)	(0.00)	(6.67)	(0.00)	(100.00)
DOC quality from the company	15	0	0	0	0	15
	(100.00)	(0.00)	(0.00)	(0.00)	(0.00)	(100.00)
Company feed contract price	15	0	0	0	0	15
	(100.00)	(0.00)	(0.00)	(0.00)	(0.00)	(100.00)
DOC sufficiency	0	15	0	0	0	15
	(0.00)	(100.00)	(0.00)	(0.00)	(0.00)	(100.00)
Feed sufficiency	6	6	3	0	0	15
	(40.00)	(40.00)	(20.00)	(0.00)	(0.00)	(100.00)

Information: 1 = Value 5, 2 = Value 4, 3 = Value 3, 4 = Value 2, 5 = Value 1

Regarding the distribution of feed supplies, 40% of farmers reported that the company delivered feed amounts exceeding the actual needs of their flocks, whereas 20% stated that the quantities received were insufficient for their production demands. Compliance with feed-related production requirements also obligates farmers to return any surplus or unused feed to the company. As noted by Tandean and Oktiarso (2022), efficient feed inventory management is crucial for controlling production costs and maintaining adequate feed availability.

The operational dimension of contract farming constitutes a central component of broiler enterprise management, yet several practical challenges persist, including delays in the delivery of production inputs and limited frequency or depth of extension services provided to farmers.

Table 6 summarizes the implementation of partnership arrangements related to operational activities, particularly the timeliness of input delivery. About 46.67% of farmers stated that inputs arrived as scheduled, although some still reported delays. For extension services, only 33.33% of farmers indicated that company technicians provided guidance at intervals of no more than five days, while the rest received support less frequently. These findings indicate that extension activities are not conducted with adequate consistency, even though continuous and centralized supervision is critical for monitoring broiler performance from placement to market age.

Company-provided educational materials should be tailored to farmers' specific needs to help them effectively address operational challenges. Field observations revealed that 53.33% of farmers felt the materials were adequately aligned with the practical conditions on the farm. While this indicates that most materials generally meet farmers' needs, 6.67% of farmers reported that the materials were insufficiently aligned. The company has a responsibility to respond to farmer complaints, as the effectiveness of the contract farming system relies on the principle of mutual dependence (Hank & Priyanto, 2018; Putri & Nugraha, 2020). In practice, only 6.67% of farmers stated that their complaints were addressed promptly and satisfactorily, whereas 40.00% reported that their issues were resolved within a reasonable timeframe. The remaining complaints were addressed adequately but required a considerably long time to reach resolution.

Although aspects of input provision (such as DOC and feed prices) have a very high level of implementation, the operational phase shows bottlenecks that hinder the effectiveness of partnerships, such as delays, with nearly half (46.67%) of deliveries being on time, and delays in the delivery of production facilities remain a problem. Such delays may disrupt the timely initiation of operations, highlighting the need for intensive extension services to monitor and manage poultry development from the outset. The fact that most farmers receive extension services more than once every five days indicates that the company is not providing technical guidance optimally. Slow Complaint Response because only a small number of farmers experience a fast response rate. Slow responses

can cause problems in the coop (especially disease or feed problems) to become prolonged and have a negative impact on mortality rates and farmer business performance. According to Kusumastuti & Widiati (2022) explain that While input availability shows high implementation levels, operational bottlenecks persist, particularly in delivery timing and extension services. According to Hadi et al. (2021); Udoh et al. (2024) explain that the inadequate intensity and coverage of extension services significantly hamper the effectiveness of poultry farming in developing countries.

In broiler chicken farming, the implementation of contract farming with respect to harvest timing and the sale of broilers is among the most critical factors. Properly timed harvesting and marketing must be conducted efficiently and without delay, as these stages directly influence the total output of the farm. Any postponement in harvest or sales increases production costs especially feed expenses which ultimately imposes a financial burden on farmers (Rasyaf, 2001).

The Table 7 show implementation of partnerships focused on harvest and sales schedules, especially regarding the timing of harvest collection, shows that the majority of farmers (60.00%) report that the entire chicken harvesting process takes two to three days. Only 13.33% of farmers complete the harvest in one day. This harvest duration exceeding one day directly increases feed consumption, which ultimately raises production costs for farmers. Additionally, serious inconsistencies were found in the agreed purchase price for broiler chickens. In practice, the price set in the contract is far below the market price. This fact was confirmed by all farmers (100.00%), who stated that the prices offered by companies were lower than market prices, with a difference of less than two thousand rupiah.

Table 6. Operational implementation of contract farming partnerships in broiler enterprises, Nanga-Nanga District, Kendari City, 2024

Attributes	Implementation of Contract					Total People (%)
	(1)	(2)	(3)	(4)	(5)	
	People (%)	People (%)	People (%)	People (%)	People (%)	
Delivery time Production facilities	0	7	3	0	5	15
	(0.00)	(46.67)	(20.00)	(0.00)	(33.33)	(100.00)
Frequency of Extension Activities	0	5	4	4	2	15
	(0.00)	(33.33)	(26.67)	(26.67)	(13.33)	(100.00)
Educational Materials	0	6	8	1	0	15
	(0.00)	(40.00)	(53.33)	(6.67)	(0.00)	(100.00)
Response to Complaints	1	6	6	1	1	15
	(6.67)	(40.00)	(40.00)	(6.67)	(6.67)	(100.00)

Information: 1 = Value 5, 2 = Value 4, 3 = Value 3, 4 = Value 2, 5 = Value 1

Table 7. Shows data on the implementation of contractual partnerships focusing on harvest timing and broiler chicken sales in Nanga-Nanga District throughout 2024

Attributes	Implementation of Contract					Total People (%)
	(1)	(2)	(3)	(4)	(5)	
	People (%)	People (%)	People (%)	People (%)	People (%)	
Harvest timing	2	9	3	1	0	15
	(13.33)	(60.00)	(20.00)	(6.67)	(0.00)	(100.00)
Sales price conformity	0	0	0	0	15	15
	(0.00)	(0.00)	(0.00)	(0.00)	(100.00)	(100.00)
Payment time	3	6	0	0	6	15
	(20.00)	(40.00)	(0.00)	(0.00)	(40.00)	(100.00)

Information: 1 = Value 5, 2 = Value 4, 3 = Value 3, 4 = Value 2, 5 = Value 1

Compensation for the production results achieved by farmers can be disbursed after the farmer production recapitulation (RHPP) is submitted to the company. The maximum payment deadline to farmers is set at two weeks after the entire chicken harvesting process is fully completed (Amam, 2022; Yunizar et al. 2017b). In field implementation, the distribution of harvest payment times to farmers showed variation, with 40,00% of farmers reporting that payments from the company were delayed, exceeding the agreed two-day deadline. An equal proportion of 40% of farmers reported that the company made payments on schedule, in line with the agreed terms. The remaining 20% of farmers indicated that they received payments earlier than the scheduled dates.

Level of Contractual Partnership Implementation

The implementation of contractual partnerships in broiler chicken businesses in the Nanga-Nanga District of Kendari City can be examined across several key dimensions. These include the performance of the partnership in supplying production inputs, managing operational processes, and coordinating harvest timing and broiler marketing. Based on the data presented in Table 8, the implementation of contractual partnerships in broiler chicken businesses in Nanga-Nanga, Kendari City, varies across different dimensions. The implementation related to the provision of production facilities falls into the "Very Strong" category, with a total score of 345. This high score reflects that most indicators in this dimension were executed effectively. In contrast, the implementation of partnerships in the operational activities dimension is at a moderate level, scoring 184. Likewise, the implementation regarding the timing of harvesting and sales is also classified as moderate, with a score of 117. The moderate rating in these dimensions is attributed to the fact that only a limited number of partnership attributes were carried out successfully. Overall, the level of implementation is strongly influenced by the total score achieved, where higher scores correspond to higher levels of partnership implementation.

Income Effects of Contract Farming on Broiler Chicken Businesses

The success of broiler chicken farming is often measured by the income generated by farmers. This income is determined by subtracting the costs incurred during production from the revenue obtained from chicken sales (Soekartawi, 2002). In addition to the main revenue, farmers may receive bonuses from the company and supplementary income from selling manure.

The data in Table 9 indicate that farmers earned an average revenue of IDR61,057,999.70 from broiler sales, while their mean total production costs amounted to IDR62,745,398.90. By subtracting total expenses from income generated through livestock sales, it is evident that the average business income for broiler chicken farmers is negative, totaling IDR1,687,399.30. This deficit arises because production costs, particularly feed and chick expenses, which constitute the largest portion of production costs, exceed the revenue obtained from chicken sales (Mi'raj et al. 2021; Suwarta et al. 2012). In addition to income from their primary business activities, farmers also receive supplementary income from bonuses and manure sales. On average, the income from bonuses is IDR7,364,423.50. These bonuses are distributed based on the company's actual profits, meaning that farmers receive a bonus only when the company earns a profit. Some companies calculate bonuses as 30% of the profits, while others determine them according to the farmers' performance index. Income from manure sales averages IDR109,333.50. When these additional sources are combined, the total average income received by farmers amounts to IDR5,786,357.80.

Table 8. Contract farming implementation in broiler operations in Nanga-Nanga District, Kendari City (August–October 2024)

Types of Activities	Implementation (Score)	Level of Implementation
Psrovision of means of production	345	Very powerful
Activities of Operational	184	Moderate
Harvesting and sales period	117	Moderate

Table 9. Fixed costs and variable costs in broiler chicken contract farming business for the period august-october 2024

No	Elucidation	IDR
A	Cost:	
	1) Fixed Costs	
	- Buildings depreciation	1,86,667.70
	- Equipment depreciation	334,051.50
	2) Variable Cost	
	- Day on Chick	13,263,333.40
	- Feed	44,168,300.50
	- Medicines	1,471,425.00
	- Cost of labor	842,950.80
	- Cost of electricity	217,200.50
	- Gas	454,666.70
	- Husk of rice	256,805.00
	Total Costs (1+2)	62,745,398.90
B	Income	
	- Sales of chicken	61,057,999.70
C	Income of operational (B-A)	-1,687,399.30
D	Income and Bonus	7,364,423.50
E	Sales of Fertilizer of Manure	109,333.50
F	Total Income (C+D+E)	5,786,357.80

The broiler performance index (PI) is determined by key metrics such as mortality rate, live weight (LW), feed conversion ratio (FCR), and harvest age (HA). Table 10 summarizes the variation in these parameters and the resulting PI values for broiler operations recorded from August to October 2024.

Based on the data in Table 10, several performance indicators highlight important trends. The average mortality rate among broiler flocks is 5.50%, which is notable because it surpasses the 5% threshold. Farmers achieved an average live weight of 1.56 kg per bird, while feed efficiency as indicated by the feed conversion ratio (FCR) averaged 1.62. The mean harvest age was 30.72 days.

The performance index serves as the primary criterion for determining farmers' eligibility for company-issued bonuses; when the index meets or exceeds the established benchmark, farmers receive financial incentives that encourage more efficient management practices (Amam, 2022; Wahid et al. 2023). The calculated average performance index across farmers is 300.74.

The study examined how the execution of contractual partnerships relates to farmers' income by analyzing key dimensions including the supply of production inputs, operational management, harvest scheduling, and broiler marketing using Spearman's rank correlation. The analysis was performed in SPSS (Version 20), and the results are summarized in Table 11.

The analysis shows that the correlation coefficient between the provision of production inputs and farmers' income is 0.465, indicating a moderate relationship. This level of association is reasonable because production inputs form the core foundation of broiler operations, particularly regarding input quality, reliability of supply, and pricing. These results are in line with the findings of Sunarno et al. (2017), who identified day-old chicks, feed, vitamins, heating equipment, and mortality rates as primary factors affecting broiler production performance.

Table 11 further demonstrates that operational activity variables also maintain a moderate correlation with farmer income, as reflected in a coefficient of 0.543. Rahmah (2015) reported similar evidence, noting that operational elements such as mortality rate, harvest age, and additional costs arising from longer rearing periods significantly influence profitability in broiler farming. The analysis additionally reveals a correlation coefficient of 0.841 for harvesting and sales timing,

pointing to a very strong relationship. This finding supports Idin (2024), who emphasized that well-managed post-harvest practices, including timely harvest and sound price-setting strategies, strongly shape farmers' earnings.

Table 12 presents an integrated view of the correlation between the overall implementation of contractual partnerships and income derived from broiler enterprises. In this table, partnership implementation is represented as a composite measure encompassing the three previously examined components: production input provision, operational processes, and the scheduling of harvesting and marketing activities. The detailed association between the overall implementation of contract farming and broiler farmers' income in the Nanga-Nanga District, Kendari City, is documented in Table 12.

As presented in Table 12, the correlation coefficient linking the overall implementation of contractual partnerships with broiler farm income is 0.770. The analysis shows that the post-harvest phase particularly adherence to the harvest schedule and price-setting decisions exerts the strongest influence on farmers' earnings. In essence, more effective execution of contract farming arrangements corresponds to higher income levels; stronger implementation yields greater financial returns. These results align with Bahari et al. (2016b), who found that farmers engaged in contractual partnerships generally obtain higher incomes and face lower production costs than those operating independently.

Managerial Implications

The managerial implications suggest that timely delivery of production inputs is crucial for maintaining efficient operations, underscoring the need for companies to fulfill input distribution schedules as agreed. Likewise, broiler harvests must be conducted promptly and completed within the shortest feasible time frame. Delays in harvesting increase feed consumption and, consequently, elevate farmers' operational costs.

Table 10. Variations in aspects and Performance Index (PI) in broiler chicken business activities in the Nanga-Nanga District, Kendari City, from August to October 2024

Description	Farmer
Diversity of Aspects	
Percentage of Mortality (%)	5.50
Weight of live chicken (kg)	1.56
Feed Conversion Ratio (FCR)	1.62
Harvest age (day)	30.72
Performance Index (IP)	300.74

Table 11. The relationship between contractual partnership implementation assessed through the dimensions of production facility provision, operational activities, and the timing of broiler chicken harvesting and sales and farmers' income levels

Variable	Coefficient of Correlation	Relationship of Level
Production Facility Provision	0.465	Medium
Activities of Operational	0.543	Medium
Broiler Chicken Harvesting and Sales Time	0.841	Very Powerful

Table 12. Relationship between the implementation of contractual partnerships and broiler chicken business income in Nanga-Nanga District, Kendari City, 2024

Variable	Coefficient of Correlation	Level of Relationship
Implementasi contract farming	0.770	Powerful

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Based on the analysis, the main results are as follows: (1) The contractual partnership model (contract farming) implemented in broiler chicken businesses in Nanga-Nanga District, Kendari City, follows a Bi-Partite partnership pattern; (2) Partnership performance across the three assessed dimensions varied in intensity: the supply of production inputs reached a very high level with a score of 345, operational processes reflected a moderate level with a score of 184, and the management of harvesting and marketing likewise showed a moderate level with a score of 117. (3) Overall, the implementation of contract farming demonstrates a strong positive association with the income generated by broiler farmers.

The theoretical implications provide novelty to partnership studies by showing that analysis should not only identify contract models but also measure the level of implementation of each stage of the process separately. The post-harvest aspects (harvest and sales timing) have a very strong correlation with farmer income (coefficient of 0.841). This confirms that in partnership models, farmers' final income is most sensitive to contract enforcement in the downstream phase (marketing and off-take), not just in the provision of initial inputs. Implementation implications: there are moderate implementation findings in the operational and harvest phases, with managerial implications that must be addressed, namely that the core company must prioritize improvements and strict supervision at the time of harvest and sale. Harvesting must be carried out on time and as quickly as possible (ideally: 1 day) to prevent an increase in feed usage and operational costs borne by farmers.

Recommendations

To avoid disputes, farmers should document every aspect of contract implementation, such as the date and amount of feed received, the weight and number of chickens harvested, and any information or promises made by the company's field team.

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