

Characteristics of breeders and efforts to produce kub chicken doc (case study: Masingai II Village)

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Abstract. This project aims to describe the characteristics of breeders, describe the Day Old Chick (DOC) KUB chicken production business planning efforts that have been carried out by breeders, recommend a Business Model Canvas (BMC) and analysis of the KUB chicken DOC production business. The research method used is a mixed method with a concurrent model embedded in mixed methods (unbalanced mixture). In preparing this final project, the qualitative method is a method that has a higher percentage of use than quantitative methods. Data was collected using questionnaires, interviews, Focus Group Discussions (FGD), and secondary data studies. The research results show that the majority of people responsible for livestock activities are husbands who are the main person responsible for KUB chicken cultivation activities. The breeder is of productive age. The level of formal education is in the middle category (Senior High School). The main occupation of breeders is rubber farmers with an income of less than the minimum wage of Tabalong Regency. Efforts to plan the KUB chicken DOC production business in Masingai II Village include training on hatching management and KUB chicken DOC production, training and practice in making automatic hatching machines, and FGDs on developing the KUB chicken DOC production business.

Keywords: Characteristics of livestock farmers, KUB chicken, effort to produce KUB chicken DOC.

1 Introduction

Indonesia's population has been steadily increasing, reaching 272.6 million in 2021 (BPS 2022) and 275.7 million in 2022 (BPS 2023). This population growth has led to a rising demand for food, including meat and eggs. Khairati and Syahni (2016) found that a 1% increase in population results in a 2.95% increase in demand for meat and a 4.37% increase in demand for eggs.

According to data from the Indonesia Statistics (BPS) in 2023, the consumption of chicken meat (broiler or kampung) in Indonesia was 0.14 kilograms (kg) per capita per week in 2021 and increased to 0.15 kg per capita per week in 2022.

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The average consumption of chicken eggs (broiler or kampung) in Indonesia was 2.28 kg per capita per week in 2021 and increased to 2.33 kg per capita per week in 2022. This increase in chicken meat and egg consumption must be matched by adequate production to ensure that people can access these products at affordable prices. Price plays a significant role in consumer consumption. Ilman and Wibosono (2019) conducted a study on the relationship between food prices and consumption levels. The study found that higher food prices have a significant negative relationship with consumption levels, meaning that when food prices increase, consumption decreases.

Kampung Unggul Balitbangtan (KUB) chicken is a product of research conducted by the Indonesia Livestock Research Institute - Agricultural Research and Development Agency since 1997. It has been licensed to PT Ayam Kampung Indonesia (AKI) for development since 2011 to produce superior kampung chicken laying parent stock, final stock broilers and layers (LIPTAN 2013). The advantages of KUB chicken parent stock include low brooding instinct (10%), high egg production (160-180 eggs per year), and a body weight of 800-1000 grams after 10 weeks of rearing. In comparison, ordinary kampung chickens take 16-20 weeks to reach maximum weight (Sartika 2016).

In 2023, the residents of Masingai II Village received assistance in the form of Ayam KUB Day-Old Chicks (DOC) from the Corporate Social Responsibility (CSR) Program of PT Adaro Indonesia. Ayam KUB chickens have good potential to be developed as an additional source of income for the community. Based on preliminary observations, the main problem faced by the community in developing the Ayam KUB commodity is the high price of chicks due to the need to be shipped from Java Island, even though chicks are the most basic component needed in the Ayam KUB chicken farming business. Based on this, the Ayam KUB DOC production business has great potential to be developed in Masingai II Village to meet its own needs as well as demand from other areas in Kalimantan and surrounding areas.

Business planning is very much needed to support the sustainability of the business itself. Business planning is a plan that will be carried out in a business in the future, including resource allocation, attention to key factors, and processing problems and opportunities that exist (Supriyanto 2009). The fierce competition in the business world also indicates the need for companies to have a clear vision of the direction and goals of their business. Business planning is a strategic guide that will detail goals, strategies, and implementation steps to achieve success (Septya et al. 2024). Business plans can also be a motivation for entrepreneurs to continue running their business in accordance with their goals. In line with research conducted by Yonaha, good business planning can ensure that there is focused attention on the goals of various parties in the company. This is because a company will grow more and more complex over time, so business planning will become a very important component for entrepreneurs to stay on the right track (Yohana 2015).

2 Materials and Methods

The research was conducted in Masingai II Village, Upau District, Tabalong Regency, South Kalimantan Province, Indonesia. The research was carried out for four months, starting from February to June 2024, which included the process of field surveys, data collection, data analysis, and presentation of research results. The research approach used was mix methods. Mixed methods research is a type of research that collects, analyzes, and combines quantitative and qualitative research methods in one research series to understand the research problem (Vebrianto et al. 2020). The research model used was a concurrent embedded mixed method. In this study, the qualitative method was the method with higher percentage of use than the quantitative method. The type, nature, source, data collection

techniques, and data analysis methods can be seen in Table 1.

Table 1. Category, type, source, collection techniques, and data analysis methods

No	Data Category	Data Type	Data Source	Data Collection Techniques	Data Analysis Methods
Primery Data					
1	Characteristics of poultry farmers	Quantitative	Respondents	Questionnaire	Descriptive statistics
2	History of Masingai II Village	Qualitative	Informants	Interviews	Descriptive narrative
3	History of the development of the Ayam KUB commodity in Masingai II Village	Qualitative	Informants	Interviews	Descriptive narrative
4	Results of Focus Group Discussion (FGD) on KUB Chicken DOC Production Business Development	Qualitative	Informants	Focus Group Discussion (FGD)	Descriptive narrative
Secondary Data					
5	Monograph of Masingai II Village	Quantitative	Village database	Secondary data study	Descriptive statistics

3 Result and Discussion

3.1 Overview

In 1978, Desa Masingai, Kecamatan Haruai, Kabupaten Tabalong, was designated as a transmigration site for people from Java, including East Java, West Java, and the Special Region of Yogyakarta. Desa Masingai was divided into 5 RWs and 25 RTs, with its first village head, Bapak Rusman, elected in 1979. In 1980, Desa Masingai was split into two villages: Desa Masingai I and Desa Masingai II, to meet the village requirements for the expansion of the kecamatan into Kecamatan Upau. Bapak Abdul Hadi was elected village head through a village head election. Desa Masingai II was officially established as a definitive village on December 13, 1980.

In the early 1990s, the economy of Masingai II began to improve, due to the construction of roads and infrastructure, as well as the increasing trading activities through weekly markets. The presence of palm oil companies in Desa Kasiau also significantly helped the community. Agriculture also received government attention, and in 1995, Masingai residents were introduced to the rubber commodity and began cultivating it. To this day, rubber remains the

main product and occupation for the people of Desa Masingai II.

Administratively, Desa Masingai II is bordered by several areas. To the north, it borders Desa Masingai I, to the east, it borders Desa Bilas, to the south and west, it borders Desa Lokbatu. Desa Masingai II consists of 15 RTs with a total area of 850 hectares, divided into rice fields, dry land, plantations, settlements, and public facilities. The 2023 Village Database states that the population of Desa Masingai II in 2022 was 1,399 people, consisting of 688 male and 711 female residents with a population density of 164 people/km². The languages used daily by the people of Desa Masingai II are Javanese, Banjar, and Indonesian. Desa Masingai II has four educational facilities, consisting of one kindergarten, two elementary schools, and one junior high school. The majority of the people of Desa Masingai II have an education level of SMA/Sederajat and Higher Education. The people of Desa Masingai II are mostly employed as farmers, traders, breeders, and employees. In the agricultural sector, the main commodities of Desa Masingai II are rice and rubber latex. The initial development of the KUB chicken commodity began with the meeting between Bapak Tatak Adi Rahmanto (Village Head of Masingai II 2021-2025) and Bapak Dwi Susilo (one of the KUB chicken breeders in Tabalong Regency) at the 2021 Millennial Farmer Training organized by the Tabalong Regency Agriculture Office. On that occasion, Bapak Tatak and Bapak Dwi had a lot of discussions about KUB chicken.

“...it started with the Millennial Farmer Training by the Tabalong Regency Agriculture Office in 2021. I met Dwi, then Dwi gave me some KUB chickens to raise. According to business analysis, KUB chicken farming can be developed in Masingai II because genetically, the people of Masingai II already have a legacy of chicken breeding knowledge...” (TAR, 35). KUB chicken was introduced to the community in Desa Masingai II in 2022 through the CSR program of PT Adaro Indonesia. At that time, trial cultivation of KUB chicken was carried out in several residents' houses, including Bapak Tatak, Bapak Joko, Bapak Ponirin, Bapak Windrianto, Bapak Andis, and Bapak Sabar. In 2023, PT Adaro Indonesia's CSR collaborated with IPB University, specifically the Directorate of Agromaritime Community Development through the One Village One CEO (OVOC) program, launched a KUB chicken commodity development program in Desa Masingai II. In this program, each KK (Household Head) in Desa Masingai II received assistance of 8 KUB chicken DOC (Day-Old Chicks).” Design can be defined as an activity that was made something and change it into a better form. The design phase is an important stage in making a construction. In the planning of floating treatment wetlands, the suitability and preparation are one of the factors that will affect the success of remediation of metal pollutants in wastewater. The design of floating treatment wetlands consists of land requirements, selection and amount of plants, buoyancy, hydraulic retention time (HRT), hydraulic loading rate (HLR), surface coverage, depth, and design results.

3.2 Characteristics of Respondents

The study was conducted with a total of 32 respondents. Of the 32 randomly selected respondents, 29 individuals (91%) were male and 3 individuals (9%) were female. The majority of respondents in the study were participants in the KUB chicken commodity development training who were also RT heads. RT heads were selected as participants in the training with the hope that they could disseminate the knowledge and experience they gained to their residents. The selection of respondents did not consider gender, as the unit of analysis for the research was households that received DOC KUB chicken assistance from PT Adaro Indonesia's CSR program. The characteristics of the respondents are presented in Table 2.

Table 2 . Characteristics of Respondents

No	Characteristics	Frequency (n)	Percentage (%)
1	Status in Household		
	a. Husband	29	91,0
	b. Wife	3	9,0
	Total	32	100,0
2	Age		
	a. Young (<39 years)	9	28,0
	b. Middle (40-51 years)	13	41,0
	c. Old (>51 years)	10	31,0
	Total	32	100,0
3	Education Level		
	a. Low (Elementary & Junior High School)	12	37,5
	b. Middle (Senior High School)	15	46,8
	c. High (College or University)	5	15,6
	Total	32	100,0
4	Primary Occupation		
	a. Rubber Farmer	21	67,0
	b. Civil Servant (PNS)	3	9,0
	c. Other	3	9,0
	d. Rice Farmer	2	6,0
	e. Trader	2	6,0
	f. Retired	1	3,0
	g. Agricultural Laborer	0	0,0
	h. Breeder	0	0,0
	Total	32	100,0
5	Monthly Income		
	a. <UMK Tabalong	27	84,0
	b. >UMK Tabalong	5	16,0
	Total	32	100,0

Based on the research data, the majority of KUB chicken breeders are male and heads of households. This indicates that breeding activities are primarily carried out by men rather than women. Women often assist in breeding tasks to lighten the workload and expedite the process.

The age of KUB chicken breeders in Desa Masingai II falls into the middle and older age categories. However, they are still considered within the productive age range, between 15 and 64 years old (Goma et al. 2021). Breeders in this age group have the potential to enhance their skills, acquire new knowledge for managing their businesses, and adopt new technologies to advance their poultry enterprises (Maskur et al. 2023).

The majority of KUB chicken breeders in Desa Masingai II (62.4%) have secondary or higher education, indicating that they possess significant opportunities for developing their DOC chicken production businesses. This aligns with Sari (2014) statement in Panju et al. (2022), which emphasizes that education is a crucial factor in enhancing the quality of human resources (HR) for facilitating agricultural development. Education enables breeders to acquire knowledge, skills, and new approaches to managing their farming operations. Their education level influences their thinking patterns, learning abilities, and intellectual levels.

Most KUB chicken breeders in Desa Masingai II have rubber farming as their primary

occupation. Rubber tapping typically occurs in the morning. A study by Nugraha et al. (2018) found that the entire rubber tapping process, from leaving home, cleaning latex collectors, gathering cuplumps, tapping rubber, collecting latex, carrying latex to the collection point, and returning home, takes approximately 7.5 hours per day. This leaves rubber farmers with ample time to care for their KUB chickens.

According to the research data, the majority of respondents (27 individuals) have an income below the Tabalong UMK (minimum wage) for 2023, which is Rp 3,238,555. Aligning with the data on primary occupations, it is evident that the majority of the population in Desa Masingai II are rubber farmers (67%) and that most of their incomes fall below the Tabalong UMK (84%). This indicates that income No Characteristics Frequency (n) Percentage (%) 1 Status in Household a. Husband 29 91,0 b. Wife 3 9,0 Total 32 100,0 2 Age a. Young (51 years) 10 31,0 Total 32 100,0 3 Education Level a. Low (Elementary & Junior High School) 12 37,5 b. Middle (Senior High School) 15 46,8 c. High (College or University) 5 15,6 Total 32 100,0 4 Primary Occupation a. Rubber Farmer 21 67,0 b. Civil Servant (PNS) 3 9,0 c. Other 3 9,0 d. Rice Farmer 2 6,0 e. Trader 2 6,0 f. Retired 1 3,0 g. Agricultural Laborer 0 0,0 h. Breeder 0 0,0 Total 32 100,0 5 Monthly Income a. UMK Tabalong 5 16,0 Total 32 100,0 from rubber farming is insufficient to meet the living needs of the farmers. The low income of farmers is attributed to low productivity and low rubber prices.

3.3 Effort to Produce KUB Chicken DOC

3.3.1 Training on KUB Chicken DOC Hatching and Production Management

A training on KUB chicken DOC hatching and production management was conducted on September 23, 2023, at the Desa Masingai II Art Building. The training was held after a socialization session on the introduction and standardization of KUB chicken rearing. The resource person for the training was Bapak Komarudin, S.Pt., M.M., M.Sc., a practitioner from the Agency for Standardization of Poultry and Various Livestock Instruments, Ministry of Agriculture. The training was attended by 22 participants consisting of community members and the government of Desa Masingai II.

The method used in the training was to increase understanding and education for the community about the prospects of increasing economic income through the KUB chicken DOC production business. This KUB chicken DOC production business is one of the solutions to the limited number of KUB chicken DOC producers in Kalimantan Island and the high price of KUB chicken DOC from Java Island. The training covered the management of hatching KUB chicken eggs to the treatment of KUB chicken eggs after hatching.

3.3.2 KUB Chicken Egg Incubation Management Training

The KUB Chicken Egg Incubation Management Training was delivered by Bapak Arif Rahman Hakim, a KUB chicken breeder in Tabalong Regency. The training was held on October 19, 2023, at the Desa Masingai II Art Building. There were 31 participants in the training, consisting of community members, the Desa Masingai II government, and representatives of PT Adaro Indonesia's CSR program. Through this training, the community gained knowledge about KUB chicken egg incubation management based on his experience with the modified incubation SOP to make it easier to apply for novice KUB chicken breeders (Fitriani et al., 2023). The training material delivered by the resource person focused more on egg production and egg incubation management, but did not discuss the treatment of eggs after hatching.

3.3.3 *Training and Practice of Making Simple Automatic Incubators*

The training and practice of making simple automatic incubators were conducted on November 4, 2023, and delivered by Bapak Dwi Susilo, Irwan Sanjaya, S.P., and Arif Rahman Hakim, A.Md., who are KUB chicken breeders in Tabalong Regency (Fitriani et al., 2023). There were 22 participants in the training, consisting of community members and the Desa Masingai II government.

Through this training, the community learned how to make simple automatic incubators. The challenges faced during the activity were incomplete tools and materials. Additionally, there was limited time due to the training being held at night to accommodate the resource person's availability, resulting in the practice of making simple automatic incubators not being completed.

3.3.4 *Focus Group Discussion (FGD) on KUB Chicken DOC Production Business Development*

The Focus Group Discussion (FGD) on KUB chicken DOC production business development was held for two days, November 28-29, 2023, at the Desa Masingai II Art Building. The facilitator for the FGD was Ibu Widya Hasian Situmeang, SKPm., M.Si., a lecturer at the Vocational School of IPB University. According to the FGD participants, KUB chickens have several advantages, including:

- a. Disease resistance: KUB chickens are known to be resistant to various diseases compared to other chicken breeds.
- b. High feed intake: KUB chickens have a high feed intake, which requires careful feeding management to prevent cannibalistic behavior.

However, KUB chickens also have some characteristics that need to be considered:

- a. Lively and active nature: KUB chickens are known to be lively and active, which may require more space and attention compared to other breeds.
- b. Shorter height: KUB chickens are generally shorter in height than other kampung (native) chickens.

The FGD participants agreed on a household-based rearing system with the goal of group marketing. A communal rearing system was not favored due to the diversity of individual schedules and the potential for social conflicts. The household-based rearing system also presents its own challenges, including:

- a. Variations in feed intake, feed type, and feeding time/frequency: Individual households may have different feeding practices, which can affect the growth and uniformity of the chickens.

To address these challenges, the participants agreed to:

- a. Provide feed according to the KUB chicken rearing SOP: This will ensure that all chickens receive the proper nutrition for optimal growth and health.
- b. Use fermented or conventional feed: The choice of feed will depend on individual preferences and availability.
- c. Provide feed twice daily (morning and evening): Regular feeding will help maintain the chickens' energy levels and prevent them from becoming overly hungry.
- d. Ensure constant access to water: Water is essential for the chickens' overall health and well-being.

The participants also agreed to establish a KUB chicken farming group called "Kelompok Ternak Ayam KUB Maju Bersama" (Progressive KUB Chicken Farming Group). The group will serve as a platform for discussion, knowledge sharing, and collaboration among members.

To ensure consistency and quality in chicken rearing practices, the group agreed to

develop Standard Operating Procedures (SOP) and implement recordkeeping practices. These measures will help track individual chicken health, feed intake, and overall production performance.

As of early May 2024, the KUB Chicken Farming Group has not yet initiated group activities or implemented the agreed-upon recordkeeping procedures. Desa Masingai II received assistance from IPB University and PT Adaro Indonesia in the form of two hatchers, six setters, a feed mixer, a thermohygrometer, and a scale. These equipment are intended to support the KUB chicken DOC production business. However, as of the time of writing, these equipment remain unused and have not been disseminated to the community regarding their operation.

4 Conclusion

The study on KUB chicken DOC production in Desa Masingai II yielded several key conclusions:

1. Characteristics of KUB Chicken Breeders:
 - a. The majority of those responsible for KUB chicken breeding are male heads of households.
 - b. Breeders are within the productive age range.
 - c. The average formal education level is secondary (high school).
 - d. The main occupation of breeders is rubber farming, with incomes below the Tabalong UMK (minimum wage)

These findings indicate that the KUB chicken DOC assistance program for the Desa Masingai II community is well-targeted. Breeders are within the productive age range and have an average secondary education level, enabling them to enhance their skills, acquire new knowledge for managing their businesses, and adopt new technologies to advance their poultry enterprises. Additionally, the breeders' primary occupation as rubber farmers with incomes below the Tabalong UMK suggests that KUB chicken breeding can provide a supplementary income to meet their daily needs, potentially increasing the sustainability of the enterprise.

2. Efforts to Produce KUB Chicken DOC:
 - a. Efforts to produce KUB chicken DOC began with cognitive enhancement through training on egg incubation and DOC production management.
 - b. Affective enhancement was achieved through an FGD on KUB chicken DOC production business development.
 - c. Psychomotor enhancement was addressed through the construction of simple incubators.

However, the agreements reached during the FGD have not been fully implemented.

Based on the research findings, several recommendations are proposed:

1. Develop a detailed KUB chicken DOC production business plan: Consider factors such as capital, business model, goals, and strategies to achieve those goals.
2. Encourage strong commitment from KUB chicken breeders: Ensure they adhere to the agreements reached during the FGD to successfully establish a collaborative KUB chicken DOC production business.

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