



AN ANALYSIS OF PRICING STRATEGIES AND VALUE ADDITION PRACTICES AMONG DUCK FARMERS IN KERALA WITH SPECIAL REFERENCE TO ALAPPUZHA DISTRICT

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Abstract: Duck farming plays a significant role in the rural economy of Kerala. However, the marketing aspects of the sector remain inefficient. This study aims to analyze the pricing strategies and assess the extent of value addition practices among duck farmers. The present study was undertaken in Alappuzha district with a sample of 100 duck farmers, selected through random sampling. The primary data were collected using a structured interview schedule and secondary data were collected from government reports and relevant academic studies. The findings of the study reveal that dependence on prevailing local market prices and the absence of advanced value addition practices affect the profit of the farmers. The lack of processing, packaging, and branding limits farmers income and restricts them from accessing more remunerative markets. To increase the efficiency of the sector, the study suggests policies aimed at improving farmers' decision-making in price determination, promoting value addition practices, strengthening cooperative marketing and providing processing infrastructure and financial support for duck farmers.

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Introduction

Agriculture has been a fundamental activity for human civilization, providing the necessary sustenance for individuals and communities (Rafael, 2023). Agriculture can be defined as the production, processing, promotion, and distribution of agricultural products (Rehman, 2022). History says, our ancestors were nomads. But as their population grew, food production and providing them became difficult. So, they started to settle and societies arose. Agriculture was developed by early humans as a means of self-sufficiency after shifting from a nomadic lifestyle (Nayak, 2021). Agriculture is a main revenue stream for many people. Apart from facilitating economic growth, the agriculture sector plays a vital role in ensuring food security, promoting employment creation, and improving the living standards of people. If the agriculture sector is very stable, a country is generally thought to be socially, politically, and economically stable (Nayak, 2021). So, the development of agriculture is very important for a nation.

Recent data shows, world population is expected to reach nine and half billion by the year 2030. But people's migration from rural areas to urban areas creates pressure on the use of resources. This leads to economical risks in developing nations and exacerbates the challenges associated with sustainable agriculture production. Modern agriculture faces numerous challenges such as climate change, soil management, crop maintenance, and biodiversity concerns (Suchithkumar et al., 2024). There are many disturbances and challenges that have to be addressed in order to maintain the sustainability of the agricultural sector.

Even though economic and social development is in its peak, food insecurity and undernutrition remains a serious problem in many countries. In developing countries, population growth is coupled with environmental events such as floods, droughts or floods. So, in these regions, achieving food security is top priority. Furthermore, due to greater food demand and reduced crop productivity, higher food prices along with income inequalities may negatively affect food access and availability for poor households (Pawlak & Kołodziejczak, 2020). It should be noted

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here that poverty, war and conflict, natural disasters and climate change, as well as population growth are considered to be the main causes of hunger and malnutrition (Pawlak & Kołodziejczak, 2020).

The agricultural sector plays an important role in securing food security. But there exists an uncertainty in global agriculture's capacity to produce enough food to the increasing world population. But food security can be achieved through increasing the productivity of the agricultural sector. The concept of food security is multidimensional which includes food access, availability, food use and stability. The number of food emergencies has increased from about 15 annually in the 1980s to more than 30 per year since 2000 (FAO, 2006). The data says global demand for livestock products is expected to double by 2050 due to population growth and urbanization. Providing food for this large population will be a big challenge. Livestock production can meet this rising demand. Food security for a large population can be supported through the promotion and development of livestock farming systems (Akash et al., 2022). Livestock production systems differ widely in their sustainability. These systems can be classified into extensive grassland systems, intensive landless systems, and mixed farming systems. Each of these systems plays an important role in supporting human nutrition and income creation.

Livestock farming plays an integral part of agriculture. The cattle population in the world is 4 billion. Additionally meat, milk, egg products necessary for the needs of the global population. Livestock and poultry manure play a significant role in increasing soil fertility as organic fertilizers in agriculture (Jumayeva, 2023). In order to satisfy the needs of the population for quality food products, special attention should be paid to the development of all branches of livestock farming. Because the livestock sector is a strategically important production activity that provides essential food resources for addressing food security problems (Karpova et al., 2022). The sector affects the food and economic security of the country, preserves the quality of the environment and employs the population.

Within the livestock sector, the poultry sector is growing very fast as its global demand is expanding. In a sense, livestock is fundamental to the livelihoods of many poor people in the world, especially in developing countries. Rural poultry, in particular, is essential for the livelihood of many resource-poor farmers, often being the only asset they possess (FAO, 2013). Poultry stocks in low-income countries contribute to: (i) improving human nutrition, providing eggs and meat with high quality nutrients and micronutrients; (ii) generating a small income and savings, (iii) providing manure for crop production. Additionally poultry is considered as an important factor in socio-cultural and religious functions in some of the villages in India. Moreover, poultry meat, like other meats, milk, and eggs, has a protein component usually defined as 'high quality' (Marangoni et al., 2015). The amounts of B-group vitamins (e.g. niacin, vitamin B6, and pantothenic acid) in poultry are very similar to those of other meats and do not significantly diminish during cooking (Marangoni et al., 2015).

Chicken meat is one of the most widely consumed protein sources globally, renowned for its nutritional profile and versatility in culinary applications (Debbarma et al., 2024). It is one of the most nutritious foods because of its availability, affordability, and

acceptability. Rich in easily digestible protein (low collagen content), essential amino acids, vitamins, minerals, and unsaturated fatty acids chicken offers numerous health benefits that contribute to overall well-being (Debbarma et al., 2024). Chicken meat does not contain the trans fats that contribute to coronary heart disease, and can be found in high amounts in beef and lamb (Farrell, 2013).

Within the poultry industry, duck farming is very popular in rural areas. Recent studies show that duck farming contributes a lot to India's poultry sector. According to the 20th Livestock Census (2019), ducks make up 4% of India's overall poultry population. In India, the population of ducks in rural areas (95.98%) are more than the urban areas (4.02%) (Naik et al., 2022). Further, both in rural and urban areas, ducks are mostly kept in backyard (97% and 96.89%, respectively) than in farm (3% and 3.11%, respectively) conditions (Naik et al., 2022). In India, the exotic breeds of ducks are Khaki Campbell, White Pekin, Indian Runner etc. and locally available indigenous breeds are Pati, Maithili, Nageswari, Chara, Chemballi, etc. Duck farming is considered as a tool for alleviating poverty among rural communities and tribes in India. Ducks are reared for egg, meat and the size of egg is about 4.5% of ducks body weight whereas that of poultry is 3.3 % of its body weight (Kunnath & Kumar, 2018). They require less care, attention and lay eggs which are heavier than poultry eggs by about 15-20 grams (Kunnath & Kumar, 2018). Duck meat is consumed because of its high nutrient content with an optimum essential amino acid, proper composition of fatty acid with high polyunsaturated fatty acid and a balanced ratio of omega-6 and omega-3 (Ismoyowati & Sumarmono, 2019). Ducks are very economic and are resistant to diseases compared to poultry. They can grow in marshy and wet lands and feed on insects, bugs and snails. They do not require an extensive housing system and can be trained to go to ponds or water bodies and come back to sheds on their own.

In a competitive business world, companies need to develop effective marketing strategies to achieve market share and profits. In the agricultural marketing context, the pricing strategy adopted by a farm is very important in its growth. Pricing strategies are the methods and processes companies use to determine what they will charge for their products and services (Gao, 2023). A pricing strategy is an approach that included in marketing strategy which used by businesses to determine the optimal price of a product or service (Gao, 2023). Livestock markets differ from grain markets. Animals considered as assets that produce a stream of goods. In particular, changing agro-ecological conditions affect current and future livestock productivity, so even when the underlying price of meat or milk remain stable, the price of an animal can vary sharply (Barrett, 2001). This is one of the big risks faced by the livestock sector. So, good agricultural commodity pricing is vital for efficient livestock trading.

Value-added meat products are processed meat products that increase consumer convenience by reducing preparation time, minimizing preparation steps, allowing the use of certain parts, and enhancing the product's value (Tripathi et al., 2024). Value-added products are produced through various processes such as portioning, boning, size reduction, flavouring, crushing, dropping, replicating, emulsifying, beating, and various cooking methods. Appropriate quality raw materials, correct composition, optimal processing, correct packaging, shelf life, taste and color changes, nutritional value, labeling requirements, product specifications, and

regulations are all critical factors in the success of value-added products (Tripathi et al., 2024). Meat is marketed in various forms and nowadays consumers prefer more nutrients and convenient ready to eat meat products. These convenient items must be economical and cost-effective and interesting changes of menu besides better in shelf-life quality and acceptability than traditional products (Deogade et al., 2008). Indian consumers mostly prefer live and fresh chicken butchered before their eyes which results in 95% of chicken being slaughtered by retailers (Kumar et al., 2021). It is evident that poultry products have a growing market and value addition can be a crucial factor in increasing profits of farmers. Currently, the poultry sector is growing at amazingly fast pace and value addition to million tons of poultry skins could annually provide an economically significant opportunity (Kumar et al., 2021).

Statement of the problem

Duck farming is an important component of the rural economy in Kerala. It is a vital source of income for many small and marginal farmers. However, despite its potential, the marketing aspects of the sector remain underdeveloped. Pricing behaviour plays a crucial role in determining the profitability of any enterprise and value addition practices can enhance the income of the farmers. Therefore, it becomes essential to examine the pricing behaviour and value addition practices adopted by duck farmers, to identify the associated challenges and to suggest policy measures for improving their economic performance.

Objectives

The objectives of the study are the following:

1. To analyse the pricing strategies among duck farmers in Alappuzha district, Kerala.
2. To assess the extent of value addition practices among duck farmers in Alappuzha district of Kerala.
3. To identify the challenges associated with pricing and value addition practices among duck farmers and suggest suitable policy measures to improve the marketing efficiency of duck farming.

Methodology

The study was carried out in Alappuzha district of Kerala. Primary data were gathered from a sample of 100 duck farmers actively involved in duck farming. The farmers were selected through random sampling and primary data were collected using a well-structured interview schedule. The secondary data were collected from publications, research articles, and existing academic literature relevant to duck farming.

Results and discussion

Pricing strategies among duck farmers

Price is a direct reflection of the company's image, its market position and the perceived brand value of the products/services it offers (Ademi & Avdullahi, 2021). So, pricing strategy plays a crucial role in determining the long-term viability of any business enterprise. Lack of control over duck products is the main problem faced by the duck farmers in the study area. The results of the survey highlight this issue.

Table 1: pricing strategies among duck farmers

Pricing Strategy	Percentage of Respondents
Based on Local Market Prices	76
Based on Cost of Production	16
Based on Consumer Demand	8

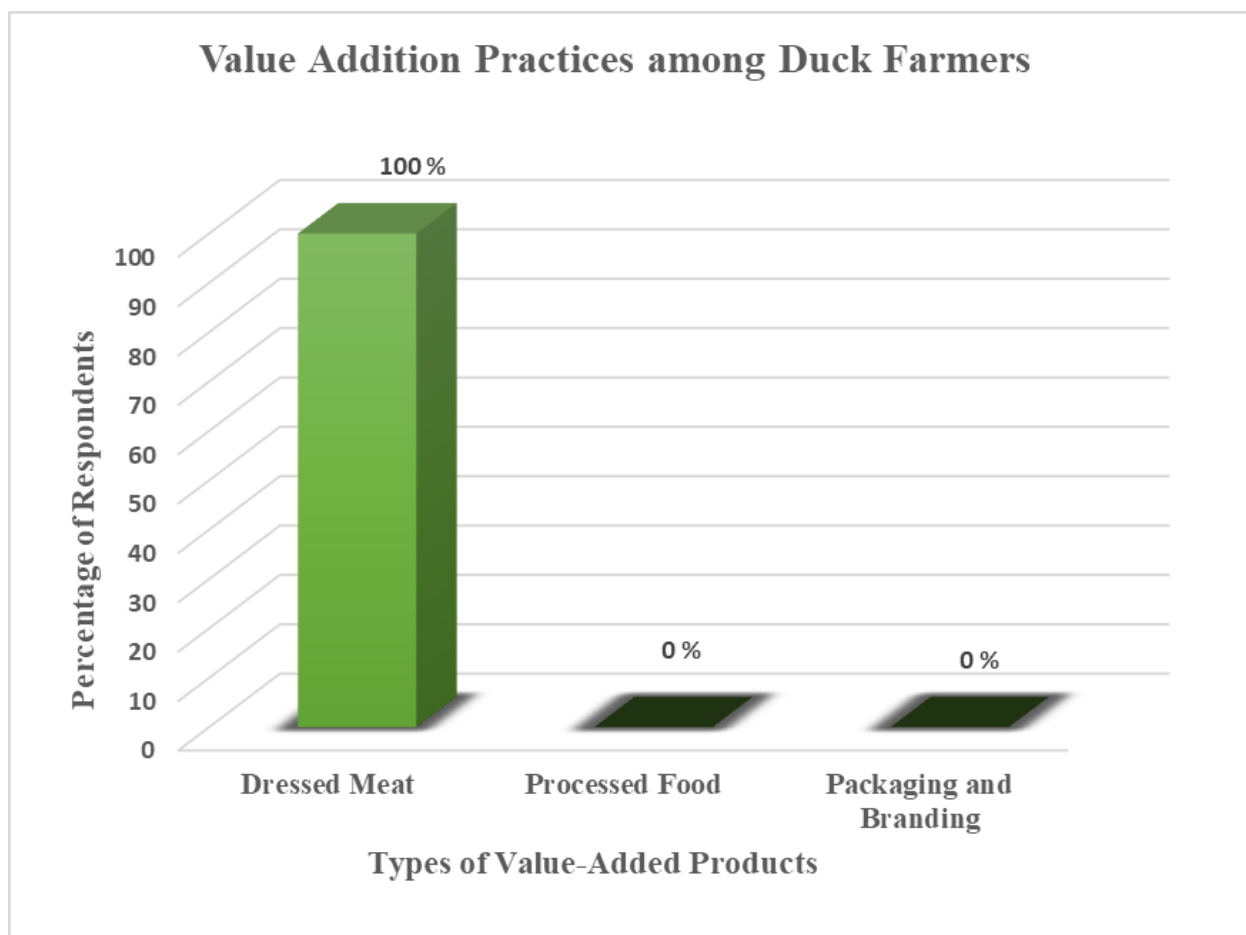
Source: Primary Data

The majority of farmers (76%) stated that they determine prices for their duck products based on the local market's going rates. Just 16% of respondents claimed to base their pricing on the cost of production. We can interpret that cost-based pricing is not a common practice among duck farmers in the study area. Only 8% of respondents reported that their pricing decisions are based on customer demand. This indicates that very few farmers are actively using strategic pricing techniques.

Value addition practices among duck farmers

Agricultural products are generally easily damaged and do not last long, so agro-industrial activities on agricultural products can improve product quality and provide added value to farm products (Hadijah et al., 2023). The competitiveness and strength of a livestock enterprise is influenced by its value addition practices. Poultry meat and eggs are among the most consumed livestock-based food products around the world across cultures, traditions, and religions (Ismoyowati & Sumarmono, 2019). So, the adoption of value addition practices can improve the earning of the farmers to a great extent.

Figure 1: value addition practices among duck farmers



Source: Primary Data

The data shows that value addition in duck farming in the study area is still limited to simple processing. According to the results, all respondents (100%) sell dressed meat, which involves primary washing and slaughter before being sold. Even though this is the lowest stage of value addition, it increases marketability and consumer convenience locally. Developing processed food products such as pickled duck eggs, sausages, or ready-to-eat meals or packaging and branding will expand market reach of farmers and will double their income.

Challenges associated with pricing and value addition practices among duck farmers

The findings of the study show several challenges faced by duck farmers in relation to pricing and value addition practices. They are the following:

1. Most farmers determine the price of the duck products based on prevailing local market prices. This indicates limited control over price determination.
2. The adoption of cost-based pricing strategies is minimal. There is a lack of awareness regarding systematic pricing approaches.
3. Value addition practices are very limited in the study area. The farmers sell only dressed meat and none engage in advanced processing, packaging, or branding.

4. The absence of processing facilities and inadequate marketing infrastructure limit farmers' income.
5. Many farmers are unable to expand their market due to limited financial resources.

Policy measures to improve the marketing efficiency of duck farming

- Government agencies such as the Department of Animal Husbandry, Krishi Bhavan, and agricultural extension services should organize regular training programmes to educate farmers about market-oriented production, value addition techniques and business management in duck farming.
- Government authorities and cooperatives should promote the establishment of small-scale duck meat processing units in major duck farming regions. These units can support the production of processed duck meat products, pickled duck eggs and other processed products.
- The Government agencies should promote the development of regional brands for duck products.
- Establish farmer cooperatives or producer organizations to strengthen the collective marketing power of duck farmers.

- Provide cold storage and transportation facilities to duck farmers.
- Establish hygienic slaughter and processing centres.
- Provide credit to farmers and encourage them to invest in processing equipment, packaging materials, and small-scale marketing enterprises.
- The government should provide subsidized loans for duck farming enterprises.

Conclusion

Duck farming plays a vital role in the creation of employment and income in the rural areas of Kerala. However, the marketing aspects of the sector remain underdeveloped. These challenges limit the growth potential of duck farming. Therefore, the government should consider duck farming as a business enterprise rather than just a farming activity. Only then can the sector continue to contribute to the development of rural farmers and livelihoods.

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