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The Economic Analysis of Poultry Farming in District Lasbela, Balochistan

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Contents:

- Introduction
- Abstract
- Whereas
- Materials and Methods
- Variables of the Study
- Table 1
- Table 2
- Table 3
- Conclusion
- References

Abstract: *Considering the significance of the poultry industry, the study tried to evaluate the economic viability of poultry farmers in the Lasbela district of Balochistan. Furthermore, the study also estimated the profitability of the numerous players engaged in the poultry industry. A sum of seventy-five poultry farmers, intermediaries, and retailers was interviewed using a convenience sampling technique. The study results showed that the main obstacle to the expansion of the poultry industry in the region is the unequal and insufficient distribution of profits between producers, intermediaries, and retailers. The study results determined that the commission agent earns 41 per cent while retailers make 24 per cent of the supernormal profit; at the same time, none of the profits is reinvested in the business because the producers still struggle to meet the financial requirements. In the future, policymakers ought to improve the mechanism of profit allocation to improve consumer access to nutrition and to ensure the just profit of all stakeholders in the industry. It will also stimulate investment in the poultry industry which will further promote economic activities and employment in the region.*

Key Words: Poultry Production, Farmers, Intermediaries, and Retailers Lasbela, Balochistan

Introduction

Poultry is one of the highly significant livestock sectors; currently, the poultry industry employs more than 1.5 million people in Pakistan with an investment of more than Rs 750 billion. This industry has grown at an excellent rate of about 7.5 per cent annually over the past ten years, allowing Pakistan to rank 11th among the major poultry producers in the world (PES 2021-22).

Nevertheless, there is still plenty of room for growth in this sector. Moreover, the government has promoted rural and commercial poultry production through farmer-friendly policies and actions.

In Pakistan, commercial poultry was founded in 1962. Pakistan's poultry industry is playing a significant role in closing the gap between the supply and demand for meat protein. Since chicken is the most affordable animal protein source for most

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people and the supply of red meat is continually running out, it effectively checks the skyrocketing costs for animal proteins. Because of this, we already consume less protein than is necessary (Memon, M. H., et al., 2021; Memon, M. H., et al., 2015).

Furthermore, poultry meat contains many low-calorie proteins suitable for heart patients, making it one of the most cost-effective and efficient protein sources. Suppose the government tackles the poultry sector's fundamental technical and economic issues. In that case, the nation's current infrastructure for raising chicken has the potential to ease the disparity between protein supply and demand (Hadi, N. A., et al. (2018).

Poultry provides adequate animal protein to the malnourished population at a low price. Since a healthy population is more productive, earns more money, and lives longer, good health is essential to human welfare and happiness, significantly contributing to the prosperity and economic growth. The fundamental conditions for a healthy life cycle include balanced food, adequate hygiene, residing in an appropriate shelter, and receiving enough sleep. In contrast to hunger and poor health, which are seen as impediments to socioeconomic development, good health and nutrition play a crucial role in the socioeconomic growth of a nation. Health directly affects human welfare and is a key factor in determining income levels. With a focus on modernizing and bolstering primary and secondary healthcare institutions around the nation, the current administration is completely dedicated to delivering better health services to its inhabitants (Mohsin, A. Q., et al., 2008; Khan. et al., 2022).

According to (Abedullah & Bakhsh, 2007), in Pakistan, chicken is a primary source of food and nutrition. Moreover, it, directly and indirectly, offers cheap, nutritious meat to a significant portion of the nation's poor population, for whom chicken is the primary supplier of vitamins and proteins. Chicken, eggs, and poultry meat are affordable for the poor. The poultry industry in Pakistan is an important and thriving agriculture sector; in addition, poultry accounts for around 3.1% of Pakistan's Gross Domestic Product (GDP). In

Pakistan, there are 13.6 grams of protein available daily per person, coming from sources including beef, mutton, chicken, and seafood (PES, 2021).

According to (World Health Organization 2022) regulations, the recommended daily dietary protein limit from animal sources is 27 grams, although we typically consume far less than this. While industrialized nations consume 41 kg of meat and more than 300 eggs per person yearly, our country's per capita intake of meat and eggs is only 5 kg and 40-45, respectively. The nation's primary sources of animal proteins are typically beef, milk, and chicken. But compared to the other two industries, chicken production has a much greater potential to close the protein supply-demand imbalance given its quick payback time (Zhou D. et al., 2019).

According to global consumption patterns, chicken meat is the main factor in global production and consumption. Poultry is considered the most cost-effective protein in the world compared to other red meats. Because of its comparatively lower production costs compared to other meats, which are imitated in comparatively lower consumer pricing, poultry meat is more inexpensive. Therefore, for producers and consumers, poultry and chicken meat rank top on the menu for meat (FAO 2019).

In Baluchistan, most poultry production for commercial purposes occurs in Lasbela, as the Lasbela environment is very conducive for poultry production. The district not only provides poultry to the distant areas of the province but also provides the output to Karachi. Henceforward, the fundamental objective of the study is to measure the economic analysis of the poultry industry in Lasbela, Balochistan. Moreover, this analysis helps us to evaluate the poultry business's economic viability in Lasbela, Balochistan (Khan et al., 2022).

The Lasbela District is located in the southeast of Balochistan, bordering the districts of Gwadar, Awaran, and Khuzdar in Balochistan, including Karachi in Sindh. It is primarily a coastal region, with hills and mountains to the east, north, and west, an alluvial plain in the middle, and a confined coastal strip with Sonmiani to the south. Lasbela's

climate favours agriculture, poultry, and livestock (Khan et al., 2015).

As far as we know, no research has been done on the commercial analysis and viability of the pouty sector in the Lasbela region. Additionally, the province's demand for broiler meat is growing due to the growing population and changes in lifestyle. Therefore, broiler meat output must be raised to meet the projected demand.

Consequently, the study's goal is to assess the viability of poultry for the numerous players in the poultry industry. Additionally, the research advises decision-makers that they may take the required steps to increase the industry's viability and economic profitability for farmers, intermediaries, and retailers in the district.

Materials and Methods

To determine the purpose of the study, a primary survey was carried out in the Lasbela district, Balochistan. The district's farmers, commission agents, and retailers were surveyed individually to get the data. Nevertheless, just those commission brokers with solid connections to the farms were contacted for interviews. As 95 per cent of the poultry production of Lasbela is marketed in Karachi, most of the commission brokers are based in Karachi. A convenience sampling approach was used to interview 75 farmers, commission brokers, and retailers due to a shortage of time and budget restrictions.

The study employed several factors, including price, total cost, profit, producer profit, commission agent profit, retailer profit, and input cost, to determine the profit margin of each stakeholder. The study evaluated the coefficient of variation (CV) to assess the threat, a crucial factor for a typical businessman in making a decision. Several variables are used to determine the profit margin; their brief definitions and descriptions are given below.

Variables of the Study

The study used several variables to assess the profitability of the poultry industry in Lasbela. These variables are prices, total cost, aggregate profit, producer's profit, commission agent profit,

retailer's profit, and input cost. The price is appraised per 25 kilograms, while the total cost is evaluated as the money required to produce the same quantity.

Further, to calculate the profit margins for the producer, commission agent, and retailer. The study employed the following equations to estimate total and marginal revenue: Total Revenue (TR) equals prices (P) multiplied by (Q), while Marginal Revenue (MR) equals the first derivative of the total revenue equation.

$$TR = q.p$$
$$MR = \frac{dTR}{dq} = p$$

However, to evaluate the profit of producer, retailer, and commission agent profits, we can simply subtract total cost (TC) from total revenue. Which can be represented as follow:

$$\pi = TR - TC$$

Whereas: π Denotes Profit, TR and TC Represent Total Revenue and Total Cost, Respectively

Total profit is the combination of producer, commission agent, and retailer profits. The study further calculated the producer, commission agent, and retailer profits based on the given settings. The profit can be defined as $\pi_p = TR_P - TC_P$, where π_p shows the share of the producer's profit while TR_P and TC_P signify the total revenue and cost of the producer, respectively. Similarly, $\pi_c = PP - SP - CS$ where π_c reveals the commission earned by the commission agent, whereas PP, SS, and CS signify purchase price, the wholesale selling price, and the commission agent charges a fee for their services, respectively. At the same time, the agent also determines the cost of the services they provide. Likewise, the retailer's profit $\pi_r = TR_r - TC_r$.

On the same line, we summed up producer profit, retailer profit, and commission agent profit to get the total profit. Thus, overall profit is equal to ($\pi = \pi_p + \pi_c + \pi_r$). Hence, Producer Profit Share (PPS) is $PPS = \frac{\pi_p}{\pi} \times 100$, while Commission Agent Profit Share (CAPS) and Retailer Profit Share (RPS) are $CAPS = \frac{\pi_c}{\pi} \times 100$ and $RPS = \frac{\pi_r}{\pi} \times 100$, respectively.

Risk is another important factor that is often considered by every businessman throughout the decision-making process, in addition to profit-seeking. As a result, the study also calculated the profit's coefficient of variation (CV), which represents the risk to all shareholders (Memon et al., 2021). Various risk management techniques exist, but the first safety rule, stochastic dominance, and CV are the most used techniques for assessing risks (Maranan, 1983). However, the study used a CV approach to examine the price risk associated with broiler production. Because CV is determined and produces more reliable findings in the circumstance; as a result, the study uses the predefined CV calculation below to determine its effects. $CV = \left[\frac{\delta_p^2}{\bar{P}}\right] \times 100$, in which $\bar{P}$ represents the average monthly price, and δ_p^2 represents the variation of the monthly price (Abedullah & Bakhsh, 2007).

Risk is any other important factor that is regularly viewed and considered by every entrepreneur in the decision-making process. As a result, they found out about additionally calculated the profit's coefficient of variation (CV), which represents the risk to all stakeholders (Abedullah & Bakhsh, 2007). There are various techniques through which we can approximate the risk.

Nevertheless, this study considered the CV for the appraisal of risk as it is the most used technique for assessing risks (Maranan, 1983). As a result, the study uses the predefined CV estimate as mentioned below to determine its effects. $CV = \left[\frac{\delta_p^2}{\bar{P}}\right] \times 100$, in which $\bar{P}$ represents the typical month-to-month price, and δ_p^2 represents the variation of the month-to-month price.

The poultry industry has various supply chains that deliver birds to consumers. Typically, a commission agent purchases the birds from produce and then allocates them to retailers. Table 1 offers the net supply of several intermediaries. The results show that the earnings of the middleman were better than that of producers and distributors. This means that commission agents obtain the highest net income, but their job is less critical to the industry. Alternatively, the producer is the mainstay of the industry, he performs a vital role in the industry, but he only gets a small part of the profits. Table 1 offers the profit segment of the stakeholders. The outcomes show up the margin of profit in absolute terms for the commission agent, producer, and retailer at 250, 625, and 500 per 25 kg, respectively.

Table 1. Producer, Commission Agent, and Retailer Margin in Profit

Selling Price	Price per 25Kg	Marginal Revenue
Producer	6250	250
Commission agent	6875	625
Retailer	7250	500

Note: Authors' own calculations are based on primary data. In 2022, on average, the selling price of the producer. Commission agent and retailer are 250, 275 and 295 rupees respectively. In the case of the producer, marginal revenue is equal to price and average revenue, i.e., 250 rupees.

The outcomes of table 01 revealed that the marginal revenue of commission agents and retailers is far superior to the producer. Because of the lack of information and training, producers are easily manipulated and exploited by intermediaries. In addition, the producers faced a lack of liquidity and constantly stood in a hurry to pay off the credit from the input provider. As a result, producers' high demand for cash undermines their negotiating status.

Table 2 offers the results of the profit rate of the farmers, intermediaries, and retailers. The share of the profit of the producers, commission agents, and retailers are 35 per cent, 41 per cent, and 24 per cent, respectively. The results of our study are compatible with the study (Qazi, 1989). Furthermore (Maqbool et al., 2005), it was found that the producers receive a higher share of the profits than the intermediaries, which differs from this study. The broiler supply chain is meticulously regulated by commission agents, forcing producers

to market their products at subsidized prices. Broiler farmers cannot keep their birds after the advised breeding cycle because there is a very high risk after a specific time in the process. Also, bird weight does not increase significantly after the recommended breeding period, and production costs increase.

Furthermore, the main problems with the current trading system were swift price fluctuations, underweight and elevated commission costs. Additionally, some farmers felt that middlemen were unethically expanding profit. Besides, they also manipulated the farmers in various ways, such as price, weight, and low weight of the birds.

Table 2. Producers, Commission Agent, and Retailor Share in Profit

Description	Producer	Commission Agent	Retailer
Price Per KG	250	275	295
Revenue	6250	6875	7250
Marginal Revenue	250	625	500
Total Cost	5750	6275	6900
Profit	500	600	350
Share in Profit	35%	41%	24%

Revenue is equal to price multiplied by the quantity (25 KG per Unit), Marginal Revenue (MR) equals the first derivative of the total revenue equation, while in the case of producer, its marginal revenue is equal to per unit price, i.e., 250.

The results of table 3 depicted that the average price is between Rs. 230 and Rs 389. In July, due to hot weather, the supply of live broilers has affected. Therefore, in summer, as supply deteriorates notably, this affects prices. Hence, our results indicate that supply deficiencies played a major role in July price surges. The results also show that price volatility was greater in May and June. Similar price fluctuations occur in February, possibly because of the ending of the wedding season. In Pakistan, weddings are celebrated seasonally, with the main preparations for the wedding being between October and February, with chicken being one of the essentials on the wedding menu (Abedullah & Bakhsh, 2007; Meman et al., 2021).

The marketing of broilers is a significant problem for farmers. They are compelled to offer their products at lower-than-average prices and find it challenging to keep broilers beyond the recommended rearing period. As a result, producers cannot establish direct relationships with consumers. Therefore, producers do not receive fair prices, and arbitrators receive maximum willingness to pay from customers. This is one of the major barriers to enhancing the bird's role in protein supply. Instead of supply and demand, commission agents/wholesalers are the most critical players in determining the market price.

Table 3. Average Prices and CV

Month	AP	CV
January 2022	230	24.213
February 2022	380	20.912
March 2022	311	21.011
April 2022	301	15.213
May 2022	316	26.012
June 2022	350	30.130
July 2022	389	30.110
August 2022	290	16.210
September 2022	360	19.012
October 2022	300	25.123

Month	AP	CV
November 2022	318	23.177
December 2022	288	18.122

Note: Average Price (AP), Coefficient of Variation (CV)

Instead of supply and demand, wholesalers/ commission agents are the focal players in determining the market price. Therefore, this situation caused the problem of market distortions, which led to the manipulation of producers and consumers. Furthermore, changes in supply affect the welfare of both consumers and producers. However, wholesalers perform an important role in adjusting retail prices. There are various explanations for why prices are producers inconsiderate. First, there is no immediate link between producers and customers, which prevents producers from understanding consumer actions. Second, poultry farmers have inadequate training, investment, information, and infrastructure. Third, on average, 90% of farmers face credit restrictions.

Conclusion

A cost-benefit study was carried out for poultry farming in Lasbela, Balochistan. The results show that commission agents exploit farmers to varying degrees due to dysfunctional market processes. Along with this, the retailers also exploited the consumers and charged them the maximum price. Consequently, in this situation, poultry farming cannot contribute to the absorption of nutrients by the population since it receives birds at high prices. Therefore, this situation encourages the government and major actors to improve a system that reduces the role of middlemen and provides producers with a more level playing field. In addition, to improve the poultry industry, the government should establish close links and cooperation between academia and the poultry sector so that the research work of the academia can be applied in agriculture and commerce. Such connections, training courses, and collaborations will deliver the capability to take Pakistan's poultry production to the next level. The authority should also take the lead in making policies that allow farmers to sell their products completely on the market with no involvement of intermediaries. The excessive profits of middlemen also limit the enlargement of the poultry industry and reduce the demand for birds, influencing consumers' real purchasing power. Furthermore, innovation may increase productivity and guarantee that other stakeholders receive a fair portion of the profits. Government and policymakers must protect the interests of all stakeholders if the sector is to survive. Otherwise, producers won't have any motivation to take risks and stick around.

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