ISSUES AND ECONOMICS OF POULTRY PRODUCTION: A CASE STUDY OF FAISALABAD, PAKISTAN

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ABSTRACT

The major contribution of poultry consumption in improving per capita nutrients level is well documented. Further improvement would be possible by lowering the prices at the consumer level and by improving the profitability of producers. First we highlighted the major problems in poultry production and then focused to estimate the percentage share of different stake holders in total profitability from poultry industry because inequitable distribution of profit share was assumed to be one of the major obstacle in the expansion of poultry industry. Our results demonstrated that commission agents were earning 47% of the total profit in poultry industry, followed by retailers (28%) and producers (25%). This indicates that it would be impossible to improve the contribution of poultry in total nutrients uptake of human beings in the country without reversing the trends in profit share.

Key words: Economics, poultry industry, marketing margins, producers, commission agents, retailers.

INTRODUCTION

Provision of adequate food to their inhabitants and assure an atmosphere free from hunger and malnutrition is the responsibility of a civilized government. The food security objective becomes more important when 15-20% of the world population is not getting sufficient food to meet minimum nutritional requirements for a healthy and productive life (Anonymous, 1998). The poor nutritional status is prevalent due to lack of sufficient energy and protein in the food or due to insufficient availability of food.

A balanced diet is essential for good health, vigor and productive capacity of the people. Proteins play an important role in the formation of balanced human diet. There are mainly two sources of proteins i.e. animals and plants. The human diet in Pakistan is deficient in animal proteins, as approximately 66% Pakistanies are deficient in proteins (Maqbool, 2002). The requirement of proteins is 102.7 g per person per day, while only 69.61 g per person per day is being used in the country. The main sources of animal proteins in Pakistan are beef, mutton, milk, poultry meat and eggs (Anonymous, 2003). To overcome the gap between supply and demand of proteins, poultry meat is contributing a dominant share which can be enhanced by improving the profitability of producers and by decreasing prices at the retail level. The existing infrastructure of poultry sector has capability to narrow down the gap between supply and demand of proteins (Maqbool et al., 2005a).

Until 1964, poultry production was a cottage industry in Pakistan. The management and production on modern scientific lines was not known and disease control measures were also not sufficient. In 1964, the foundation of commercial poultry production was laid by PIA Shaver through introducing new and improved breeds of layers and broilers and by Lever Brothers with the production of poultry feed on modern lines. The Government also exempted this industry from income tax and sales tax, and allowed export of table eggs, day old chicks and broilers on subsidized rates. However, the productivity of local birds in terms of eggs or returns has been low and was not considered as a paying enterprise. Principally, they were raised as stray birds on which particularly no cash outlay had been involved (Maqbool et al., 2005b).

The cost of distribution of poultry products from producer to the consumer is very high, mainly due to high share of middlemen involved at various stages. The extraction of abnormal profit by middlemen reduces the profit of poultry farmers and discourages them to expand the production unit. The profit share of middlemen also needs to be reduced in order to lower prices at the retail level. The objective of the present study was to look at the profitability of different stakeholders involved in poultry sector and to propose a policy that can distribute profits among different stakeholders on rationality basis.

MATERIALS AND METHODS

The present study was conducted on commercial poultry industry as it contributes a dominant market share in supply of poultry birds almost in all big cities.

However, present study was focused at the local market of Faisalabad city. The nature of the problem deserved much wider focus like that of province or the country as a whole but due to obvious limitations of research viz. time and financial resources, the study was restricted only to 10 miles radius of the Faisalabad city.

The data were collected in 2004 from all stakeholders involved in the chain of transporting poultry from farm level to ultimate consumers. Thus, a representative sample of commercial poultry producers, commission agents, wholesalers and retailers was included for detailed investigation. Fifteen commercial poultry producers and 20 commission agents were selected form the wholesale market. There were no wholesalers of birds in the market. Commission agents act as wholesalers. Similarly, 20 retailers were selected randomly.

For the purpose of getting information, separate questionnaire was developed for each category of respondents. The questionnaire was filled in by direct interview method with respondents. Finally, the data collected were tested statistically and analyzed for discussion purposes.

Statistical techniques
The distributions of net margins per 40 kg for different stakeholders were estimated as below:
Producer margin = Producer's sale price – all costs of production.
Commission agent's margin = Commission agent's purchase price – commission agent's sale price.
Retailer's margin = Retailer's purchase price – Retailer's sale price.
However, net marketing margins for different stake holders were estimated after deducting the cost of services that each stake holder was providing.

The producer's marketing margin $\prod_1$ was estimated using the formula given below:

$\prod_1$ = Producer's sale price – all costs of production.

The Commission agent's margin $\prod_2$ was estimated as illustrated below:

$\prod_2$ = Commission agent's sale price - commission agent's purchase price – cost of services provided by agent.

The retailer's margin $\prod_3$ was calculated as below:

$\prod_3$ = Retailer's sale price - retailers purchase price – cost of services provided by retailers.

Total profit from the poultry industry = $\prod$ = Consumer's purchase price – producer's sale price.

The percentage contribution in total profit of each stake holders was obtained as represented below:

$$\text{Producer percentage share} = \frac{\prod_1}{\prod} * 100$$

$$\text{Commission agent's percentage share} = \frac{\prod_2}{\prod} * 100$$

$$\text{Retailer's percentage share} = \frac{\prod_3}{\prod} * 100$$

The monthly coefficient of variation (CV) of prices was computed by employing the following formula:

$$CV = \left(\frac{\sigma_p^2}{\bar{P}} \right) * 100 \text{ Where,}$$

$\bar{P}$ is the average monthly prices estimated from the data for the years 1990-2005 and

σ_p^2 is the variance of monthly prices for the same years as mentioned above

The significance level of different variables (revenue, purchase price, costs and net marketing margin) was tested by employing Z-test.

RESULTS AND DISCUSSION

Net margins of market intermediaries
There are different chains through which poultry birds move from producer to consumer. Usually, commission agents purchase birds from producers and then distribute them to retailers. The net distributive margins of different intermediaries are given in Table 1. The net distributive margin was the highest for commission agents compared to producers and retailers, indicating that producers' net margin is the lowest, while they are a key players in the business.

Table 1: Distributive margins of market intermediaries in case of birds

Particulars	Price (Rs/40kg)	Margin (Rs.)
Producer's sale price or commission agents purchase price	1600	120
Commission agent's sale price or retailer's purchase price	1850	250
Retailer's sale price or consumer's purchase price	2000	150

Table 2: Net marketing margins of commission agents and retailers (Rs/ 40 kg)

	Producer	Commission agent	Retailer
Revenue	1600[b]	1850[a]	2000[a]
Purchase price	--	1600[c]	1850[b]
Costs	1480[a]	20[b]	15[b]
Net marketing margin	120[b]	230[a]	135[b]
% share in margin	24.7	47.4	27.8

The values with different superscripts within a row differ significantly (P<0.05).

Net marketing margins

The total marketing margin of commission agent was Rs. 250. Out of this, total marketing cost was Rs. 20 per 40 kg and the net margin was Rs. 230 per 40 kg (Table 2). The profit as a percentage of sale price and purchase price was 14.37 and 12.43%, respectively.

The retailer was the last functionary in the marketing system, selling the product to the ultimate consumers. On an average, marketing cost of the retailer was Rs. 15, whereas the marketing margin was Rs. 135 (Table 2). It was estimated that the profit as a percentage of sale price and purchase price was 6.75 and 7.29%, respectively. The share of intermediaries (commission agents + retailers) was about 75% which is almost 14% higher compared to reported in earlier study (Qazi, 1989). Other workers (Chohan, 1992; Maqbool et al., 2005b) reported higher producer's share than that of intermediaries which is different from our study, where the percentage share of intermediaries was dominant on producer's share.

These results suggested that marketing margins of commission agents and retailers were higher than producers, indicating that commission agent's profit was highest compared to producers and retailers. Commission agents were exploiting producers because producers had cash constraints, and had no direct relation with retailers to sell off their output.

Mean and coefficient of variation of prices

The business of poultry farming is expensive and risky and is operated on purely traditional lines without any modern marketing facilities. Farmers are producing broilers without foreseeing the supply and demand situation in the market. Prices are low where the supply is high and vice versa. Such a situation creates uncertainty in the market and as a result, the farmers are unable to plan their business.

There are three widely used approaches to study risk in farm decision making process namely: coefficient of variation approach, stochastic dominance rule, and safety first rule (Maranan, 1983). The present study employed the coefficient of variation approach to study the price risk in broiler production. The coefficient of variation was estimated for each month of the year to analyze the month-wise variation in prices of broilers.

The mean price varied between Rs. 41.0 in March and Rs. 50.2 in July (Table 3). July is one of the hottest months of the year which affects the supply of live broiler abruptly. Although demand in summer also significantly decreases but our results indicated that shortage of supply was dominant on the decline of demand which lead to push the prices up in July.

Our analysis also showed that price variation was highest in the month of February (Table 3), which might be due to the end of marriage activities in the country. Marriages take place seasonally in Pakistan and October to February are the peak times of marriages.

Table 3: Mean and coefficient of variation of prices/kg of live broilers

Months	Mean price (Rs.)	Coefficient of variation (%)
January	43.4	74.2
February	43.6	97.8
March	41.0	59.4
April	41.3	20.1
May	43.1	55.9
June	47.8	59.0
July	50.2	61.3
August	47.9	24.3
September	43.7	25.0
October	41.4	18.4
November	42.5	56.3
December	47.1	59.5

Main Issues in poultry production

The marketing of broilers is in the hands of few functionaries who force the farmers to sell their product at the maneuvered prices. Farmers can not take the risk of keeping the broilers after the recommended growth period because after that period cost of production increases rapidly than the weight gain of birds. After interviewing different stake holders, it was observed that rapid price fluctuation, under weighing and high charges of commission were the major problems of present marketing system.

Many farmers claimed that intermediaries did not follow business ethics and tried to fetch maximum profit from business transactions. They used many tactics such as juggling with weighing scales, under counting and under weighing to deceive the farmers. In view of this, the farmers suggested a tripartite market arrangement in the form of farmers, middlemen and the government.

Generally, the main broiler business was operated through three intermediaries namely: commission agents, feed dealers, and butchers who charged certain amount as commission fee for their services. Farmers for timely disposal of their output used the intermediaries, but they reported that commission fees of these intermediaries were very high. Sadly, there was no agency to check such unfair commission rates (Anwar, 2005).

Farmers mainly had three outlets for the sale of their products namely: main market, town market and farm. About 70 per cent of producers sold their output in the main markets. At town and farm level, the retailers and feed dealers worked as intermediaries. The procedure of current marketing system was highly criticized by farmers.

Marketing system still remains in traditional and heterogeneous condition. As a result, producers could not develop direct linkages with the consumers and therefore, producers are not getting expected prices, while consumers are paying high prices. It is one of the main hindrances to improve the contribution of poultry in protein uptakes.

Commission agents/wholesalers are the major player in deciding the price at the retailer's level. Reasons of non-remunerative price to producers are: a) Missing direct linkages between producers and consumers, which do not provide chance to producer to understand consumer's behavior, and b) Lack of investment to develop infrastructure. The provision of credit to the bird growers will allow them to reach directly to the retailers and could kick the commission agents out of the process. Government should also take initiatives to develop laws which can allow producers to sell their products directly in market (Islam, 2003).

Conclusions

One of the major findings of the study was that middlemen at various levels of poultry marketing system were exploiting the poultry farmers. The contribution of poultry in total nutrients uptake cannot be increased without lowering the prices of poultry products at the consumer level and by increasing the profit of producers. Hence, profit of middlemen should be decreased.

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