



ECONOMICS OF POULTRY FARMING: A CRITICAL REVIEW

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ABSTRACT

The paper critically analyses the existing reviews in the area of poultry farming from an economics perspective. Both in India and abroad a number of empirical studies on income, employment, profitability and rural development have been made. But they are not sufficiently connected the fundamental concepts and frameworks of economic theory to the empirical study of finding the optimum size of poultry farm. The present study reviews in the area of rural development and poultry farming, poultry infrastructure, cost of production, production and profit, marketing and its problems. The studies are an evident that poultry farming contributes for rural development. At the same time, the studies insist infrastructure requirements and marketing problems in the poultry farming. The government has to consider the poultry farming and has to solve the problems to encourage huge emerging business that earn national income and provide employment to the rural masses.

KEYWORDS: Poultry, marketing, cost, profit, infrastructure, rural development.

INTRODUCTION

The paper critically analyses the existing reviews in the area of poultry farming from an economics perspective. Both in India and abroad a number of empirical studies on income, employment, profitability and rural development have been made. But they are not sufficiently connected the fundamental concepts and frameworks of economic theory to the empirical study of finding the optimum size of poultry farm. The present venture focuses on studies not only dealing with poultry but also on such investigations which had employed an analytical approach that could be applied in future research. The studies include concepts such as rural development, cost of production, net income, optimum size and nutritional value.

RURAL DEVELOPMENT AND POULTRY FARMING

Rural Development is a development process by which purchasing power of the rural poor can be increased through generation of greater opportunities for gainful employment. The development of such people socially, economically and primarily depends on a livestock based agro-farming. Bhattacharya (1983) mentioned that "Rural Development is a process of change from the traditional way of living of rural communities to progressive ways of life as a method by which people can be assisted to develop themselves on their own capacity and resources." Economic potentialities of dairy animals in increasing farm incomes by rationalizing the resources use on some selected suburban farms in Punjab (Dhawan and Johl, 1967). Sidhu and Rangi (1980) concluded that poultry farming should



become part and parcel of all the programmes for integrated rural development and economic development of the rural people.

Vasant Desai (1988) denoted Rural Development is a conscious effort at raising the standard of living of the people living in 5, 75,000 villages in India." Broiler industry is one of the profitable agro-industries which can effectively tackle the problems of unemployment and underemployment in the rural areas, particularly of small and marginal farmers (Varinder Pal Singh, V.K. Sharma, M.S. Sindhu and H.S. Kingra, 2010).

Chandrakumaramangalam and Vetrivel S.C, (2011) mentioned that rural development improves the quality life of the weaker sections and gives way for participation and involvement of the masses in the process of decision making in economic and social life of the society. They provide livelihood to millions of rural households in the sub marginal level both land less and small landholders. They prove to be the best way to alleviate rural poverty and reduce income disparities. Industrial sector depends on agriculture for their raw material and allied products. Poultry and egg are popular food articles of high nutritional value and so and major breakthrough have been achieved in egg production and broiler stock. This is due to integrated development of breeding feeding, marketing, healthcare and nutrition etc. Poultry farming by providing additional income to the agricultures helps them to earn more and helps the nation to develop without any wide disparities in the income.

Saidur Rahman and Habiba Pervin Haleyan (2012) made an attempt to identify the socio-economic conditions of the poultry farm family and to identify major problems that are faced by the household poultry growers. This study will be helpful to estimate the change in financial assets, physical assets, social assets, food intake etc. The socio-economic characteristics of the household poultry farmers were discussed in this study. It was observed that 87 percent of the total poultry farmers were aged between 25-45 years. Average age of the broiler farmer was 32 years. Most of the respondents are below secondary education level. In case of occupation, all farmers practice household poultry farming as a subsidiary occupation.

POULTRY INFRASTRUCTURE

A properly planned, constructed and managed poultry housing system is a must to keep it healthy and vigorous. This will result in higher egg production in layers, high gain in body weight in case of broilers and labour saving. All these factors help to increase the net profit of the owner. Lopez (1985) denoted that the widespread inefficiencies in the Galician dairy farming are due to

variety of reasons such as small size of farms, poor management, deficient sanitation, lack of modern equipment, lack of access to credit and faulty marketing channels. He, therefore, concluded that core of the policy markers strategy should be to remove the constraints through the supply of credit and technical assistance.

Harbans Singh and Earl, N. Moone (1990) mentioned that as a thumb rule, the total water requirements of a farm can be calculated at 50 ml per bird per day. This would include water for drinking and washing the wastage. Additional drinking space is needed during the hot weather. They also found that adequate insulation and ventilation make it possible for poultry men to control the temperature in the laying house during all seasons of the year. Ventilation is needed to provide fresh air for the hens and to remove the moisture exhaled in breathing and through the droppings. About 13.5 to 18 liters of moisture will be exhaled by 100 hens in one day. Under Indian conditions, thatched roofing is continuously used because it has a good insulation value and it allows cheap construction. Additional lights stimulate egg production during the winter months from October to March. A hen should have a day of at least 16 to 18 hours. Where there is 10 hours of day light, artificial light is needed four to six hours. Some strain-cross imported leg horns lay hen with 18 hours of light. Generally 14 hours of light per day is used.

Wood J.F, Wieser, C. Fisher, R. Worthington (1998) mentioned that prior to the construction of a poultry farm; initial approvals from the appropriate planning department must be obtained. These approvals usually take into consideration the environmental aspects of poultry farming including avoiding or minimizing visual views, noise, odor and wastes. When constructing a poultry farm future plans should be taken into consideration. For example after the operation starts, waste material will be generated. Construction planning should include plans for an isolated area to dispose the waste material without causing any health or environmental risk, including risks to water resources, until some specialized company for compost production collects the wastes.

COST OF PRODUCTION

Alfred Marshall (1970) denoted that the sums of money that have to be paid for the efforts and sacrifices for producing a commodity are expenses of production and this is called cost of production. Singh and Patel (1974) pointed out that fixed costs include the cost of chicks, depreciation and interest on fixed capital and rent. Fixed capital expenditure includes land, building equipment, cost of chicks and the cost of feeding them up to 22

weeks. Ports Mouth (1975) mentioned that egg production cost consisted of the cost of pullets up to the laying point, feed, labour, electricity charges, depreciation, interest on capital etc.

Kumat (1975) attempted to analyse the cost of structure of egg production and concluded that land requirement for poultry farming is low, the amount of capital investment need not be high, the gestation period for capital is short and poultry can utilize by-products of food grains which are unfit for human consumption. He also includes cost establishment charges, supervisory charges, labour charges, expenditure on feeds, medicine, miscellaneous expenses, depreciation on poultry bird building, poultry house, implement, and furniture, and interest on working and fixed capital.

Talukder Talukder, J.K, C.V. Reddy and Tej Abrader (1983) defined that fixed costs include the cost of day old chicks, interest and depreciation of fixed capital, capital like land, building and equipment and variable costs include expenses on feed, human labour, medicine, miscellaneous expenses and interests on working capital. Gupta S.N, M.P. Azad and R.I. Singh (1985) attempted to analyse various cost components and their relative contribution to the total cost of production, return from egg production per bird and investment practices followed by poultry farmers in adjoining areas of Kanpur city.

Adeymu (1986) studied the economics of egg production of forty co-operative farms in South-Western Nigeria, cost function are analysed by the use of ordinary least squares and weighted least squares. In this study the relationship between cost per bird and number of birds was estimated by fitting polynomial curves.

Pandy R.K., Bhardwaj, S.P., Mahajan, V.K. and Nirman K.P.S. (1996) studied the status of poultry production in India and also analysed the behaviour of production cost of poultry products in the selected areas. This study shows that Poultry had become a vital component of the farm economy as it generates additional income and employment in the rural area. The cost estimates revealed that feed alone accounts for about two-thirds of the total cost. The study concluded that availability of feed at reasonable prices would provide an incentive to the producers for more poultry production.

Chandy (2005) denoted that chicken start laying eggs when they are about 6 to 8 months of age and broilers get ready to be marketed for poultry meat at the age between 6 to 10 weeks. As the interval between the poultry generations is very short, it is possible to bring about a phenomenal increase in poultry production in short interval. For example starting with a set of pullet and a

cockerel, it is possible to produce 2,500 commercial pullets within 40 months which in turn can lay half a million eggs within 18 months. Further he adds that poultry is not a seasonal industry but gives a good income throughout the year with minimum labour and expenditure. Moreover, the farmer also starts getting returns very early, as layers start laying at their, age of 6-8 months, the farmers can take good care of poultry and earn a substantial income from eggs, meat, feathers and manure.

Saidur Rahman and Habiba Pervin Halcyan (2012) in their study, at first cost and return were estimated for 60 farms and then average values were calculated. Fixed cost included housing cost and variable cost included all variable factors like feed cost, cost of tools and equipment's, bird purchasing cost, veterinary expenses, human labour cost etc. The total costs being obtained by adding up all costs and average total costs per family. Economic point of view, most of the time return is influenced by cost, correlation and simple regression analysis is used to identify that relationship. Measures of Association between cost and return represents whether household poultry farming is profitable or not and how much change being occurred.

PRODUCTION AND PROFIT

Tandon and Dhondyal (1965) defined net farm income as the difference between receipts and total expenses. Net farm income is derived by subtracting cost from the gross income. He also stated that the selection of right breed is a pre-requisite of successful poultry keeping. Naturally the question what breeds should be kept confronts every prospective poultry keeper. The selection of suitable breeds is not merely a matter of individual preferences and requirements but a choice hedged in by such factors as the environment, husbandry conditions, marketing facilities and local prejudices.

Pandey and Tewari (1985) attempted to determine the minimum economic size of a commercial layer and broiler unit and their financial feasibility and to identify the constraints in poultry development. Ames and Ngemba (1986) concluded that egg production costs declined to their lower level when the size of the laying stocks exceeded 5000 birds and there were economics of size over the different ranges of output. If the aim is purely egg production, only such breeds should be maintained as processing all the qualities of good egg layers i.e. quick maturity and capacity to produce a large number of standard size eggs.

Beutler (2007) noted that in egg producing farms, day-old chicks are purchased from specialized hatcheries that produce egg-producing pullets. These pullets are

either raised by the egg producer or a pullet grower until they are ready to start laying eggs, which is usually at 19 weeks of eggs. Laying hens in egg producing farms are usually of small body frame and body weight compared to broilers. They can be classified into two groups; dual purpose chickens or egg producing chickens. Egg producing chicken breeds have been bred and raised for maximum egg production rather than high meat yield.

Harma (2010) found in his study that the initial start-up costs for this operation included the cost of purchasing the chicks, and the cost of preparing the poultry house for the flock. The cost of one chick was \$0.55. The capacity of the rented poultry house was 3060 birds, so the total cost was \$1,683. The preparation cost was \$270, which covered the cost of wood chips that furnished the floor and gas for heaters during cold nights. Each poultry house needs one labourer to manage the flock. In his study the agreement with the labourer was for \$500 per lock. One labourer can look after more than one poultry house and needs a maximum of two hours a day to finish their work in each poultry house. Therefore, a labourer can earn triple the money if they agree to handle three flocks at a time.

Varinder Pal Singh, V.K. Sharma, M.S. Sindu and H.S. Kingra (2010) concluded that the total fixed investments per bird have been found the highest on small farms, followed by medium and large farms. The total variable costs as well as total costs per bird have been found highest on small farms, followed by medium and large farms. The total cost of meat production per bird has been observed highest on small broiler farms, followed by medium and large farms. The net returns per bird over the variable cost costs have been recorded the highest on large farms, followed by medium and small farms. This increasing trend of net income with the farm size could be attributed mainly to the economies of scale on the large farms. The production efficiency of broiler farms has increased with farms size due to better utilization of inputs. On the basis of net present value, benefit-cost ratio and internal rate of return, investment in broiler farming has been found most profitable on large farms, followed by medium and small farms. These results are incorporated with the studies of Atibudhi H.N. (2004), Kumar B.G and Rai, R.B. (2006), Shroff and Kalamkar S.S. (2006), Singh, S. Kaur, M. and Kingra, H.S. (2008), Singh V.P. (2010).

MARKETING AND ITS PROBLEMS

Cole H.H (1965) mentioned that marketing services is usually required in the successful marketing of agricultural products and assembling, grading and

standardizing, packaging, processing, storing, financing, transporting, selling and risk bearing. Saxsena (1981) denoted that marketing does not mean just selling. According to it brings with anticipation of demand for egg or poultry meat in the proposed market area. It includes all the branches of distribution as well as production. Marketing of eggs involves buying, selling, physical distribution between the point of production and point of consumption.

Sekar, C and R. Srinivasan (1991) denoted that marketing costs are actual costs incurred by each agency involved in the marketing channel for performing the functions such as transportation, loading, unloading, market fee, commission, sale tax etc. Price spread, arising due to marketing of costs, represents the difference between the price received by the producer and price paid for it by the ultimate consumer. They also noted that study on marketing of eggs will help the poultry farmer to take appropriate investment decisions and reliable demand forecasting for their egg production. The study reveals the prices should have a link with the cost of production and production of eggs. The Govt. should provide all necessary help to NECC. Cold storage facilities should be provided so that eggs can be stored in the lean period when the prices are low.

Panda and S.C. Mohapatra (1998) found that about 1,382 small and large poultry co-operative societies have been set up in the country for marketing of eggs. But due to their limited operational areas and lack of support either in inter-state or in export trade, and lack of resources to undertake a total programme of procurement, package, storage, transportation and retailing of eggs, these co-operative societies have achieved limited success. The total turnover of these societies was Rs.45.3 million only in 1976-77 as compared to an estimated national egg production of Rs.4,000 million. In the present study the cost of feed, medicine, labour lighting, water and miscellaneous expenses are included in variable costs. The total cost of production varies from farm to farm and also it is influenced by climatic and soil conditions.

CONCLUSION

The above studies reviewed in the area of rural development and poultry farming, poultry infrastructure, cost of production, production and profit, marketing and its problems. The studies are an evident that poultry farming contributes for rural development. At the same time, the studies insist infrastructure requirements and marketing problems in the poultry farming. The government has to consider the poultry farming and has

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