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Gokulakrishnan S

Veterinary Assistant Surgeon,
Vemandampalayam, Erode
District, Tamil Nadu, India

Dr. S Gokulakrishnan

Veterinary Assistant Surgeon,
Vemandampalayam, Erode
District, Tamil Nadu, India

S Sanjay Kumar

BSc (Ag) MSc (Dairy
Economics), Ph.D. (Agricultural
Economics), Principal Scientist,
ARIS Cell, Maharashtra, India

Dr. S Sanjay Kumar

BSc (Ag) MSc (Dairy
Economics), Ph.D. (Agricultural
Economics), Principal Scientist,
ARIS Cell, Maharashtra, India

SC Edwin

Professor and Head,
Instructional Livestock Farm
complex, Veterinary College and
Research Institute,
Ramayanpatti, Tirunelveli,
India

Dr. SC Edwin

Professor and Head,
Instructional Livestock Farm
complex, Veterinary College and
Research Institute,
Ramayanpatti, Tirunelveli,
India

Correspondence**Gokulakrishnan S**

Veterinary Assistant Surgeon,
Vemandampalayam, Erode
District, Tamil Nadu, India

Comparative study between independent and contract poultry farming

Gokulakrishnan S, Dr. S Gokulakrishnan, S Sanjay Kumar, Dr. S Sanjay Kumar, SC Edwin and Dr. SC Edwin

Abstract

Independent poultry farming was more profitable than contract poultry farming. Feed cost constitutes major portion of variable cost. Feed and labour was utilized more than optimal level. Various constraints included problem in relieving summer/winter stress, selling dressed bird, outbreak of disease, rejection on quality grounds of their outputs, complaint from neighbour about the odour from poultry farm, extension services, outbreak of diseases, regular vaccination, feed, marketing facilities and getting remunerative price for their product. Independent farmers were nearly twice as experienced as that of contract farmers. Independent farmers also contain a substantially higher proportion who were specialized in poultry farming. Contract farmers were having high proportion of subsidiary occupation of poultry farming.

Keywords: feed, labour, poultry farming

Introduction

Agriculture is mainstay of the Indian economy. Agriculture and allied sectors contributed nearly 18 percent of the GDP at factor cost. A need for comparative study of contract poultry farming versus independent poultry farming, profitability of contract poultry farming, various merits of contract poultry farming, problems in integration. The findings of the study will reveal the profitability of poultry farming and the constraints associated with contract poultry farming. It may be of immense use to the researchers, policy makers and animal husbandry personnel's to mitigate the problems, if any, for improving the efficiency of the contract poultry farming and to replicate the model in various livestock sectors such as goat, sheep and dairy animal rearing

Material and Methods

Selection of district (Erode, Tamil Nadu, India), Data collection, Socio-economic profile of the farm household, Poultry Inventory, Broiler production, Broiler disposal, Labor, Manure sale (amount) were carried out. Econometric Analysis of the data was carried out.

Socio Economic Parameters of Respondents

Table 1

S. no	Variable	Categories	Independent	contract	overall
1	Age	Adult(less than 47 Yrs)	18(45%)	16 (40%)	34 (42.5%)
		Middle(47-64Yrs)	10 (25%)	16 (40%)	26 (32.5%)
		Old (More than 64yrs)	12(30%)	8 (20%)	20 (25%)
2.	Family type	Joint	10(25%)	6 (40%)	26(33.3%)
		Nuclear	30 (75%)	24 (60%)	54 (66.6%)
3.	Caste	SC	8 (20 %)	6 (15%)	14(17.1%)
		OBC	18 (45 %)	22 (55%)	40(50%)
		General	14 (35%)	12(30 %)	26 (32.8%)
4.	Education	Illiterate	9 (22.5 %)	11(27.5%)	20 (25%)
		Primary level	4 (10 %)	2 (5%)	6 (7.5%)
		Secondary	18 (45 %)	12 (30%)	30 (37.5%)
		Higher Secondary	8 (20 %)	12 (30%)	20 (25%)
		Graduate	1(2.5 %)	3 (7.5%)	4 (5%)

Results and Discussion

Socioeconomic status of the farmer may have impact on farm management efficiency. Therefore, age, family type, caste, educational status were analysed and presented in this part.

Age

Age of the owner, which is important in decision making, knowledge acquiring and utilizing in farming has direct influence on productivity and profitability. According to the table 1, 45% of the independent farmers and 40% of the contract farmers belonged to Adult age group. Overall 42.5% of the farmers were falling under Adult age group. 25% of the independent farmers and 40% of the contract farmers belonged to middle age group. Overall 32.5% of the farmers were falling under middle age group. 30% of the independent farmers, 20% of the contract farmers and overall 25% belonged to old age group.

Family Type

Family size is an important determinant in poultry farming in rural areas. It affects the scale of poultry enterprise which is more labor intensive than other enterprise. The findings of the table 1 reveals that 75% of the independent farmers, 60% of the contract farmers and overall 66.66% of the respondents belonged to nuclear family where as 25% of the independent

farmers, 40% of the contract farmers and overall 33.33% belonged to joint family. so more number of the farmers belonged to nuclear family.

Caste

The findings of the table 1 reveals that 20% of the independent farmers, 15% of the contract farmers and overall 17.1% of the respondents belonged to Schedule Caste, 45% of the independent farmers, 55% of the contract farmers and overall 50% of the respondents belonged to Other Backward Classes, 35% of the independent farmers, 30% of the contract farmers and overall 32.8% of the respondents belonged to general.

Education

Educational status of the farmer is an important factor on new technology adaptation to diversify the farm business for profitability. Better educational status enhances the managerial ability of the farmer. Findings of the table 5.1 indicate that 25% of respondents in the study area were illiterate followed by 37.5% having secondary education, 25% Higher secondary, 5% Graduate and 7.5% were having primary level education.

Other characteristics of poultry producers

Table 2

Item	Independent farms	Contract farms
Experience in poultry (Years)	18	10.5
Proportion of farmers whose main occupation is poultry	60	40
Proportion of farmers whose subsidiary occupation is poultry	40	60

Table 2 summarizes the differences between contract and independent farmers in terms of individual characteristics. It was observed that independent farmers were nearly twice as experienced as that of contract farmers. The sample of independent farmers also contained a substantially higher proportion who were specialized in poultry farming. Contract

farmers were having high proportion of subsidiary occupation of poultry farming.

Farm Characteristics

Type of Ownership

Table 3

Type of ownership	Proprietary				Partnership			
	Contract		Independent		Contract		Independent	
	N	%	N	%	N	%	N	%
Respondents	30	75	20	50	10	25	20	50

The risk gets distributed if the business is owned by more than one person. There were two types of ownership in the poultry business in the study area. Under the proprietary ownership, single owner operates the business whereas in the partnership ownership more than one owner controls the business. It is clear from table 3, 75 % contract farmers and 50 % independent farmers were having proprietary ownership of their poultry business. Under partnership, 25 % of contract farmers and 50 % of independent farmers were operating their business.

that is deep litter and cage system. Each system of poultry rearing has its own advantages and disadvantages. 90 % of the independent farmers and 80 % of the contract farmers were maintaining their birds under deep litter system. 10 % of the independent farmers and 20 % of the contract farmers were maintaining their birds under cage system.

Location of poultry

Location of poultry farm

Type of unit

Table 4

	Deep litter		Cage	
	N	%	N	%
Independent farms	36	90 %	4	10 %
Contract farms	32	80 %	8	20 %

Poultry birds are generally reared under two different systems

Table 5

	Rural		Urban	
	N	%	N	%
Independent farms	28	70 %	12	30 %
Contract farms	30	75 %	10	25 %

Location of poultry farm is important in determining success of farming. It is important in terms of easy access for marketing facilities, input supply, extension services and market information. 70% of the independent farms and 75% of

the contract farms were in rural location. So majority of the farms were located in rural location. 30% of the independent farms and 25% of the contract farms were in urban location.

Water Supply

Table 6

Water Supply	Independent farms		Contract farms	
	N	%	N	%
Municipal	7	17.5	5	12.5
Well	9	22.5	11	27.5
Tubewell	12	30	14	35
Canal/rivers	12	30	10	25

Assured and cheap water supply is essential for profitable poultry farming. In case of municipal water supply the farmer can save on electricity bill. But in case of water supply from well/tube well the farmer has to spend on electricity. According to the results, 17.5% independent and 12.5% contract farmers were using municipal water supply. 22.5% independent and 27.5% contract farmers were using well as a source of water. 30% independent and 35% contract farmers were using tube well as the source of water. 30% independent and 25% contract farmers were using canal and rivers as the source of water.

Sample unit's accessibility to urban areas and highways

Table 7

category	Nearest town(km)	Main road (national or state highway(km))
Independent farms	7.47	42.15
Contract farms	5.99	55.36

Sample unit's accessibility to urban areas and highways determine the accessibility to potential market. Main road is important for transport facilities. Poultry farm nearer to town and main road recorded highest growth rate. According to the table 7, the average distance to the nearest town for the independent farms were 7.47 km. and the average distance to main road were 42.15 km. The average distance for the contract farms to the nearest town and the main road were 5.99 km. and 55.36 km respectively.

empty bags. The value of home consumption if any is also imputed to revenues. Input consists of chicks, feed, medicines, vaccines, litter, veterinary charges, labor, electricity, disinfectants. For contract growers however the integrator advances most of the inputs. Profitability defined as profits (excluding family labour wages) per unit of output. The main factors that determine profitability are the price of chicks (day old chicks), cost of labour (wage rate), price of feed and price of broilers. Profitability is inversely related to the price of chicks, wage rate and price of feed and is positively related to the price of broilers.

Profitability of contract poultry farming vis-à-vis independent poultry farming.

Profit is the difference between revenue and input costs. Revenue is from the sale of grown chicks, poultry manure and

Investment cost for contract and independent growers

Table 8: Investment cost for contract and independent growers

Investment cost	Independent growers	Contract growers
Land(Rs.)	405050 (49)	542100 (61)
Building(Rs.)	339380 (41.3)	252000 (29)
Equipments(Rs.)	80273 (9.7)	92600 (10)
Total (Rs.)	824703	886700

(Figure in parentheses indicates the percentage.)

Investment cost or the capital investment comprised of all the cost that is incurred in establishing the business. Total investment cost for contract growers was more than independent growers. Total investment cost for contract growers was Rs.886700/per farm whereas, the same for the independent growers was Rs.824703/per farm. Total investment cost for contract growers was more than independent growers because land cost was more for contract growers as they were maintaining more number of birds requiring more space than the independent growers. Land cost was around 61% for contract growers where as, it was only 49% for independent growers.

Multiple regression analysis was carried out to study the influence of different input factors on broiler production.

Independent variables included in the model were chick value, feed, medicine, litter, disinfectants, electricity and labor and broiler production was taken as the dependent variable.

The models were fitted for two different groups separately using monetary value for broiler revenue as dependent variable and chick value, feed cost, medicine cost, litter cost, cost of disinfectants, electricity charges and labor cost as independent variables. Two forms of production functions were tried namely linear production function and Cobb-Douglas production function. The Cobb- Douglas production function was found to be the best fit according to the goodness of fit (R²) values and higher number of significant regression coefficients. Therefore, it was selected for further economic analysis.

Table 9: Cobb Douglas production function for independent and contract farms

Farms	Constant	N	R ²	Chick X ₁	Feed X ₂	Medicine X ₃	Litters X ₄	Electricity X ₅	Disinfectant X ₆	Labour X ₇
Independent farms	5.045	40	0.86	-0.272	-1.546	1.507**	0.194*	-0.399	1.173**	-0.006
Contract farms	8.83	40	0.99	-0.410	-1.460	0.056*	0.066*	0.093**	0.048**	-0.095

** Significant at 5 percent level * Significant at 1 percent level

Profitability of contract poultry farming vis-à-vis independent poultry farming

Profit is the difference between revenue and input costs. Revenue is from the sale of grown chicks, poultry manure and empty bags. The value of home consumption if any is also imputed to revenues. Input consists of chicks, feed, medicines, vaccines, litter, veterinary charges, labour, electricity, disinfectants. For contract growers however the integrator advances most of the inputs. Profitability defined as profits (excluding family labour wages) per unit of output. The main factors that determine profitability are the price of chicks (day old chicks), cost of labour (wage rate), price of feed and price of broilers. Profitability is inversely related to the price of chicks, wage rate and price of feed and is positively related to the price of broilers.

References

1. Bardhan D, Shashank Nath, Dabas YPS, Avadhesh Kumar. Food security in India: the growing importance of the livestock sector. *Livestock International*. 2006; 10(1):15-23.
2. Isabella A, Priya S, Bhuvaneshwari S. Contract farming ventures in cotton: a case study in Tamilnadu. *Indian Journal of Agricultural Marketing*. 2005; 19(2):153-161.
3. Khan S, Farooq M, Durrani FR, Naveed R, Hamayun Khan. Economic analysis of broiler farms in the arid zone. *Sarhad Journal of Agriculture*. 2004; 20(3):337-341.
4. Kumar BG, Rai RB. Cost and return structure in commercial broiler farming in Andaman and Nicobar islands. *Indian Journal of Animal Sciences*. 2007; 76(12):1064-1067.
5. Rajendran R. Sugarcane cultivation under contract farming system: Benefits and problems. *Indian journal of agricultural marketing*. 2005; 19(2):177 -178.
6. Smitha Anand and Sandeep Kumar. Contract farming in India: prospects and challenges. *A Journal on Rural Development*, 2007, 28-30.
7. Ziebert RA, Shikida PFA. Integrated Poultry farming in Santa Helena, Parana State: an applied analysis using the new institutional economics arguments. *Agricultura em Sao Paulo*. 2004; 51(1):71-86.