

## EMERGING PROBLEMS IN INTEGRATED BROILER FARMINGS AND ITS IMPACT ON GROWTH – A STUDY

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### ABSTRACT

*Broiler farming is highly lucrative to the integrators and the individual entrepreneurs in integrated system; the industry is not devoid of inherent problems. These problems pose challenges to the broiler farmers in various ways. The analysis of the overall index of the constraints in the integrated broiler farm in Theni District clusters shows that the majority of the small, medium and large size categories of farmers constituting 62.2, 68.3 and 79.5 per cent respectively fall in the index range of 50 – 75 per cent. Large size farms faced majority of constraints while the others are quite moderate in this regard. The overall perception on the suggestions to solve the problems faced by the broiler farmers are institutional credit, disease control, chick quality, feed management, government subsidies, enactment of law and reasonable growing charge.*

**KEYWORDS:** *Broiler Farming, Problems, Integration, Index, Multiple Regression.*

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### INTRODUCTION

Poultry farming which was a traditional backyard activity in Indian society in the past has transformed into a large scale commercial farming. Today it has grown into a technology driven broiler industry helping in economic growth, employment generation and supplementing nutrition to the malnourished teeming millions of the people in India. India, today, has large and rapidly expanding poultry sector providing employment to both skilled and unskilled workers with great scope for other industries like feed industry, pharmaceutical industry, logistics, wholesalers and retailers to flourish. It contributes about 2.5 percent to GDP.

With the introduction of the concept of integration in the poultry sector, broiler industry has grown by leaps and bounds in a few decades in India. This concept is both beneficial and profitable to both the integrator and the broiler farmers. Under integration scheme, the farmer

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has to invest very less and can expect an assured income at the end of each batch. He spends only on shed, labour, water and electricity whereas the integrator provides all the essential requirements like chicks, feed, medicine and the like. This sector has developed into a well structured net work of production and marketing of broiler throughout the country.

### **Review of the Study**

**Bridges et al. (2002)** reported that the poultry farmers in china are prone to poultry associated diseases but no extensive infections by the avian flu were seen. They also studied various potential problems of poultry farmers' with regard to occupational hazards.

**Yeshodha Devi and Kanchan (2006)** studied the chicken consumption pattern and consumer preference for processed chicken in Coimbatore. The study also discussed the problems of live bird market as compared to that of the frozen products in poultry. It was opined that the live bird market should be supplemented by the processed poultry products to reduce the costs and other seasonal vows of the poultry farmers in that region.

**Minot (1986)** studied the effect of contract farming exclusively on small farmers in less developed countries. He reported that majority of the small farmers' face the problems of infrastructure and reported the financial ways of improvement and policies undertaken by Michigan State.

### **Need of the Study**

With farmers today losing their hope in agriculture, they consider broiler farming as a suitable alternative for self employment and economy. Though broiler farming is highly lucrative to the integrators and the individual entrepreneurs, the industry is not devoid of inherent problems that pose challenges to the broiler farmers in various ways. Problems are disease and mortality, fluctuations in price, demand and supply and the like which sometime seem to dampen the spirit of entrepreneurship among the farmers in broiler farming. Identification and elimination of constraints in the integrated broiler farming which cause losses and poses serious problems to the farmers will help in strengthening the integrated broiler production. An attempt was made to study the impact of problems encountered by the farmers in profit of integrated broiler farming for the improvement in the study area.

### **Objectives**

- To study the problems faced by the broiler farmers.
- To analyse the impact of problems on profit in broiler farming
- To offer suggestions to overcome the problems faced by the farmers.

### **Methodology**

There were 301 broiler farms functioning in Theni District at the time of conducting survey. The sample farms were selected using simple random sampling with lottery method. The selected sample constitutes 45 from small size farms, 60 from medium size farms and 45 from large size farms. Thus the total sample size worked out to be 150.

### Tools for Analysis

In order to find out the extent and magnitude of problems faced by the respondents, the researcher has measured the attitude of the broiler farmers towards the various constraints with the help of mean score. The researcher has framed five statements to find the perception of the respondents towards various constraints faced by them which reflect on the various aspects of inputs. The respondents are asked to rate the aforesaid statements on the basis of the quantum of problems they face on a five point scale namely, Strongly Agree (SA), Agree (A), No Opinion (NO), Disagree (DA), Strongly Disagree (SDA). These scales are assigned scores in the order of 5,4,3,2 and 1 respectively. The farmers with high perception of the statements are assigned high scores and lesser ones with scores in the descending order from 5 points. While the high scores indicate a greater measure of problems due to such constraints, the lesser scores indicate the lesser degree of problems. In order to find out the significant difference among the three categories of farmers with regard to their perception on the aforesaid statements about the different types of constraints, the one way analysis of variance has been administered.

In order to know about the quantum of these constraints faced by the broiler farmers, the Index is computed by the formula:

$$I = \frac{\sum_{i=1}^n SV_i}{\sum_{i=1}^n MSV_i} \times 100$$

Where,

- I - Index
- SV - Score on Variables
- MSV - Maximum Score on Variables
- i = 1, ... n - Number of Variables.

The multiple regression analysis has also been executed to analyse impact of problems on profit in broiler farms in small, medium and large size separately.

### Results and Discussions

The following problems pose challenges to the broiler farmers in various ways such as Absence of Quality Input, Lack of Capital, Disease and Mortality, Lack of Healthcare Support and Problems related to Growing Charge.

#### ABSENCE OF QUALITY INPUT

The success of a broiler farm largely depends on the inputs supplied by the integrators to the broiler farmers. The essential inputs are chicks, feed and medicines and quality of these

provisions must be of cent per cent high quality. The chicks must be healthy and uniform in age and size. The feed must contain all the essential nutrients in sufficient quantity and must be pathogen free. The required medicines like vaccines must be of high quality and must be supplied in time. If there is any lacuna in any of these, it will have adverse and serious effects on the broiler birds. Therefore, this constitutes a major constraint for the broiler farmers. The resulted mean score and the respective 'F' statistics are shown in table 1.

**TABLE 1 ATTITUDE TOWARDS ABSENCE OF QUALITY INPUT**

S.No.	Variable	Mean Score of Broiler Farmers				F-Statistics
		Small	Medium	Large	Overall	
1.	Supply of Uneven Chicks	3.6444	3.9000	3.9333	3.8333	1.250 <sup>NS</sup>
2.	Supply of Low Quality Chicks	4.0222	4.3333	4.2889	4.2267	2.812 <sup>*</sup>
3.	Medicine and Vaccine are not provided in Time and Properly	3.6444	3.8167	3.7778	3.7533	0.430 <sup>NS</sup>
4.	Supply of low quality feed	4.0222	4.3333	4.2727	4.2215	2.905 <sup>*</sup>
5.	Feed is not supplied in time	3.6444	3.8167	3.8444	3.7733	0.583 <sup>NS</sup>

**Source:** Primary data

Of the five variables pertained to the constraints faced by the broiler farmers, the large size farmers have significant perception on the factor "Supply of low quality chicks" and "Supply of low quality feed" since the mean scores are 4.2889 and 4.2215 respectively which implies that the integrator does not give guarantee for quality inputs though it is clearly stated in the agreement between the integrator and the broiler farmers. Quality of input is the important constraints for them. The small and medium categories of broiler farmers have high perception on "Supply of low quality chicks" and "Supply of low quality feed" since the mean scores are 4.0222 for small size farm and 4.3333 for medium size farms. Small and medium farmers also have low perceptions on factors 1, 3 and 5. This indicates that integrated broiler farms run with moderate quality inputs.

The significant difference among the three categories of farmers is identified regarding the perception on the two statements related to the absence of Quality, since the respective F-statistics is significant at one per cent level.

#### **Absence of Quality Input Index (AQII) among the Broiler Farmers**

The input is essential part in any business. In broiler farming inputs like chicks, feed and medicine should be worthy to have productivity. In order to know about the quantum of these constraints faced by the broiler farmers towards absence of quality input on broiler production, attitude towards Absence of Quality Input Index (AQII) among the broiler farmers was worked out summarized in Table 2.

**TABLE 2 ABSENCE OF QUALITY INPUT INDEX**

S.No.	Index Range (Percentage)	Size of Broiler Farmers			
		<i>Small</i>	<i>Medium</i>	<i>Large</i>	<i>Total</i>
1.	<b>Less Than 25</b>	1(2.2)	1(1.7)	-	2(1.3)
2.	<b>25 – 50</b>	7(15.6)	3(5.0)	1(2.2)	11(7.3)
3.	<b>50 – 75</b>	11(24.4)	16(26.7)	15(33.3)	42(28.0)
4.	<b>75 – 100</b>	26(57.8)	40(66.7)	29(64.4)	95(63.3)
	<b>Total</b>	45(100.0)	60(100.0)	45(100.0)	150(100.0)

**Source:** Primary data

It is inferred from Table 2 that the majority 66.7 per cent of medium size farms are in the index range of 75 to 100 per cent followed by 64.4 per cent in large size farms signifying that Absence of Quality Input is a major constraint in their production. It implies that the impact of the constraint Attitude towards Absence of Quality Input is high in all size farms.

### LACK OF CAPITAL

Finance is as important in poultry farming as in the case of any other business activity. The integrators provide chicks, feed and medicines but the broiler farmers have to invest capital on raising sheds, fittings and spending on electricity, labour, water, cleaning and maintenance. The sheds can be used for a long period of time for the existing capacity. But when a farmer plans to expand, he requires funds to accommodate the additional bird strength. Such improvement is inevitable for successful poultry farming. Finance is considered to be the life blood of any business activity. Lack of capital will hamper the successful functioning of an organization. Therefore an attempt was made to analyse the factor 'lack of capital' in broiler industry with the help of five variables. The broiler farmers are asked to rate these variables at five point scale according to the order of existence from very high to low. The resulted mean score and the respective 'F' statistics are shown in Table 3.

**TABLE 3 ATTITUDE OF THE BROILER FARMERS TOWARDS LACK OF CAPITAL**

S. No.	Variable	Mean Score of Broiler Farmers				F-Statistics
		<i>Small</i>	<i>Medium</i>	<i>Large</i>	<i>Overall</i>	
1.	Farmers are facing problems in arranging initial capital	4.0000	3.4833	3.6889	3.7000	5.020**
2.	The loan is not available easily and quickly	3.4222	3.8833	3.8444	3.7333	3.087*
3.	Rate of interest on loan from money lender is comparatively higher	3.6444	3.7833	3.7778	3.7400	0.295 <sup>NS</sup>
4.	For bank loan, farmers are not able to provide collateral securities	4.0222	4.3333	4.3111	4.2333	3.024*
5.	Finance is not available for re-construction of broiler shed	3.7778	4.3000	4.2889	4.1400	7.078**

**Source:** Primary data

Of the five variables pertained to the level and importance of constraints, the medium farmers perceived highly of all the statements defining the constraint except ‘Farmers are facing problems in arranging initial capital’ with mean scores of 3.883, 3.7833, 4.3333 and 4.3000 respectively in the order of the statements presented in Table 6.16. The medium and small size farmers also perceive highly of the two constraints “the loan is not available easily and quickly” and “For bank loan, farmers are not able to provide collateral securities”. With regard to the constraint on “Rate of interest on loan from money lender is comparatively higher” the small and medium categories have low perception with mean scores of 3.6444 and 3.4833 respectively whereas the large size farmers perceived highly of the statement. Perhaps the large size farmers are the main sufferers due to the constraints mentioned in the above two statements. Thus variability in the attitudes could be observed among the three categories of farmers.

The significant difference among the three categories of farmers is identified regarding the perception on the four statements related to the Lack of Capital, since the respective F-statistics is significant at 5 per cent level.

### Lack of Capital Index (LCI) among the Broiler Farmers

In order to know about the quantum of these constraints stated in Table 6.3 on the broiler production, attitude towards Lack of Capital Index (LCI) among the farmers was worked out and summarized in Table 4.

**TABLE 4 LACK OF CAPITAL INDEX**

S.No.	Index Range (Percentage)	Size of Broiler Farmers			
		Small	Medium	Large	Total
1.	<b>25 – 50</b>	1(2.2)	4(6.7)	1(2.2)	6(4.0)
2.	<b>50 – 75</b>	21(46.7)	21(35.0)	20(44.4)	62(41.3)
3.	<b>75 – 100</b>	23(51.1)	35(58.3)	24(53.3)	82(54.7)
	<b>Total</b>	45(100.0)	60(100.0)	45(100.0)	150(100.0)

**Source:** Primary data

It is inferred from Table 4 that the majority of all the three categories of farmers fall in the index range of 75 to 100 per cent signifying that ‘Lack of Capital’ is a major constraint, thereby confirming the fact that almost all the statements of constraints do cause adverse impacts in their broiler production.

### DISEASES AND MORTALITY

In broiler farms, live-birds are reared in large number according to the size of the farm. Though health care measures are undertaken very carefully in the farms, the broiler birds are very much prone to be infected by epidemics like Avian-flu, RD, IBD and the like which play havoc on the broiler farms. This will result in a huge loss because, the entire lot of broiler birds will have to be destroyed and the successive batches also cannot be undertaken in the same locale. The casualty at the off spring stage may not be great. But if the growing birds after being fed with feed and administered with growth promoters and vaccines happen to die, such mortality will result in a huge loss in the farm. Therefore an attempt was made to analyse the factor ‘disease and mortality’ in broiler industry with the help of five variables. The broiler farmers are asked to rate these variables at five point scale according to the order of existence from very high to low. The resulted mean score and the respective ‘F’ statistics are shown in Table 5.



**TABLE 5 ATTITUDE TOWARDS DISEASE AND MORTALITY**

S.No.	Description	Mean Score of Broiler Farmers				F-Statistics
		Small	Medium	Large	Overall	
1.	Diseases	3.4667	3.9000	3.8444	3.7533	2.990*
2.	Weak chicks	3.6444	3.8667	3.9333	3.8200	1.116 <sup>NS</sup>
3.	Due to predators like Dogs, Goose, etc.,	3.5333	3.9000	3.9333	3.8000	2.425 <sup>NS</sup>
4.	Poor Management	3.4000	3.8833	3.8667	3.7333	3.546*
5.	Accidents and Natural Calamities	3.6444	3.8833	3.8889	3.8133	1.041 <sup>NS</sup>

**Source:** Primary data

Of the five variables pertained to the level and importance of the constraint Disease and Mortality, the large size farmers' perceived highly on all the statements defining the constraint with the mean scores of 3.8444, 3.933, 3.933, 3.8667 and 3.8889 respectively in the order of the statements presented in Table 6.17. The medium and small farmers also perceive significantly of the constraints "Diseases" and "Poor Management". Variability also existed among the statements concerning this constraint.

The significant difference among the three categories of farmers is identified regarding the perception on the two statements related to Disease and Mortality, since the respective F-statistics is significant at 5 per cent level.

#### **Disease and Mortality Index (DMI) among Broiler Farmers**

In order to know about the quantum of these constraints stated in Table 6.17 on the broiler production, attitude towards Disease and Mortality Index (DMI) among broiler farmers was worked out and summarized in Table 6.

**TABLE 6 DISEASE AND MORTALITY INDEX**

S.No.	Index Range (Percentage)	Size of Broiler Farmers			
		Small	Medium	Large	Total
1.	<b>Less Than 25</b>	-	1(1.7)	-	1(0.7)
2.	<b>25 – 50</b>	10(22.2)	3(5.0)	1(2.2)	14(9.3)
3.	<b>50 – 75</b>	12(26.7)	15(25.0)	13(28.9)	40(26.7)
4.	<b>75 – 100</b>	23(51.1)	41(68.3)	31(68.9)	95(63.3)
	<b>Total</b>	45(100.0)	60(100.0)	45(100.0)	150(100.0)

**Source:** Primary data

It is inferred from Table 6 that the majority of all the three categories of sample farmers fall in the index range of 75 to 100 per cent signifying that 'Disease and Mortality' is a major constraint, thereby confirming the fact that almost all the statements of constraint do cause adverse impacts in their broiler production. The large farmers with 28.9 percent and small farmers with 26.7 percent fall in the index range of 50 – 75 percent also share the same opinion.

#### **LACK OF HEALTHCARE SUPPORT**

The broiler birds are susceptible to environmental and seasonal infections and therefore, the farmers need to take care accordingly. The very purpose of vaccination is to protect flocks against infective diseases. Vaccines should be scientifically inoculated into the flock to

strengthen its immune system. If adequate healthcare measures are not taken by proper medical attention, sanitation and hygiene, nutritious feed, both the integrator and the farmer will have to incur loss. Therefore, an attempt was made to analyse factor 'lack of healthcare support' in broiler industry with the help of five variables. The broiler farmers were asked to rate these variables at five point scale according to the order of existence from very high to low. The resulted mean score and the respective 'F' statistics are shown in Table 7.

**TABLE 7 ATTITUDE TOWARDS LACK OF HEALTHCARE SUPPORT**

S.No.	Variable	Mean Score of Broiler Farmers				F-Statistics
		Small	Medium	Large	Overall	
1.	Inadequate Supply of Vaccine and Medicine	3.5111	3.9167	3.9111	3.7933	2.552 <sup>NS</sup>
2.	Bio-security is not maintained in the farm	3.6444	3.8667	3.9111	3.8133	1.027 <sup>NS</sup>
3.	No permanent remedy for Heat stroke, IBD, RD, etc	3.5333	3.8167	3.8444	3.7400	1.411 <sup>NS</sup>
4.	Avian Influenza	3.8444	4.2500	4.2000	4.1133	3.833 <sup>*</sup>
5.	Quality of Vaccine and Medicine	3.8000	4.3167	4.2889	4.1533	7.262 <sup>**</sup>

**Source:** Primary data

Of the five statements pertained to the level and importance of the constraint 'Lack of Healthcare support', the large size farmers perceived significantly of all the statements defining the constraint with mean score of 3.9111, 3.9111, 3.8444, 4.2000 and 4.2889 respectively in the order of the statements presented in Table 6.19 whereas the small and medium size farmers had low perception on three statements namely "Bio-security is not maintained in the farm level" and "Inadequate Supply of Vaccine and Medicine" as observed from Table 7.

The significant difference among the three categories of farmers is identified regarding the perception on the two statements related to Lack of Healthcare Support, since the respective F-statistics is significant at 5 per cent level.

#### **Lack of Healthcare Support Index (LHSI) among the Broiler Farmers**

In order to know about the quantum of these constraints stated in Table 6.7 on the broiler production, attitude towards Lack of Healthcare Support Index (LHS) among broiler farmers was worked out and summarized in Table 8.

**TABLE 8 ATTITUDE TOWARDS LACK OF HEALTHCARE SUPPORT INDEX**

S.No.	Index Range (Percentage)	Size of Broiler Farmers			
		Small	Medium	Large	Total
1.	25 – 50	5(11.1)	2(3.3)	1(2.2)	8(5.3)
2.	50 – 75	17(37.8)	20(33.3)	16(35.6)	53(35.3)
3.	75 – 100	23(51.1)	38(63.3)	28(62.2)	89(59.3)
<b>Total</b>		45(100.0)	60(100.0)	45(100.0)	150(100.0)

**Source:** Primary data



It is inferred from Table 8 that the majority of all the three categories of farmers fall in the index range of 75 to 100 per cent signifying that 'Lack of Healthcare Support' is a major constraint, thereby confirming the fact that almost all the statements of constraint do cause adverse impacts in their broiler production. The small farmers with 37.8 percent and the large famers with 35.6 percent being in the index range of 50-75 percent share the same opinion.

### PROBLEMS RELATED TO GROWING CHARGE

Growing charge is a return for the farmers in integrated broiler farming system. The farmers work round the clock only to earn from the broiler farming. But sometimes they face problems in receiving the charge for growing the broiler birds. The rate of Growing charge is different from the Integrator to Integrator though almost all the farmers are working hard to increase the productivity. Most of the integrators are reluctant to provide any advance for meeting the operating expenses of the broiler farm out of the growing charge payment. If the final payment is delayed, the farmers cannot prepare the farm for the next batch.

In addition to farm expenses the farmers may be in need of funds for meeting their domestic and personal expenses. In such situations the farmers cannot carry on the broiler farm works enthusiastically and effectively. With such constraints, the farmers may resort to borrowing from outside. Therefore an attempt was made to analyse the factor 'Problems related to Growing Charge' in broiler industry with the help of five variables. The broiler farmers were asked to rate these variables at five point scale according to the order of existence from very high to low. The resulted mean score and the respective 'F' statistics are shown in Table 9.

**TABLE 9 ATTITUDE TOWARDS PROBLEMS RELATED TO GROWING CHARGE**

S.No.	Variable	Mean Score of Broiler Farmers				F-Statistics
		Small	Medium	Large	Overall	
1.	Low rate of Growing Charge	4.0222	4.3833	4.5111	4.3133	6.495 <sup>**</sup>
2.	Payment is not made in time	3.3111	2.5500	3.6667	3.1133	10.311 <sup>**</sup>
3.	Difference in Growing Charge among integrators	4.4444	4.5000	4.5556	4.5000	0.258 <sup>NS</sup>
4.	No advance is paid from the Growing Charge	3.6444	3.8667	3.8667	3.8000	0.814 <sup>NS</sup>
5.	Power cut and high rate of Electricity Tariff	3.6444	3.7667	3.6444	3.6933	0.261 <sup>NS</sup>

**Source:** Primary data

Of the five variables pertained to the level and importance of the constraint, problem related to growing charge, the broiler farmers of all the categories, namely small, medium and large size farmers perceive highly of the variables 'difference in growing charge among integrators' and 'Low rate of growing charge' with high mean scores, thereby agreeing to the fact that there are problems in the practice of payment of growing charge to the farmers.

The significant difference among the three categories of farmers is identified regarding the perception on the Problems related to Growing Charge, especially in Low rate of growing charge and payment is not made in time, since the respective F-statistics is significant at 5 per cent level.

**Problems related to Growing Charge Index (PGCI) among the Broiler Farmers**

In order to know about the quantum of these constraints stated in Table 6.9 on the broiler production, attitude towards Problems related to Growing Charge Index (PGCI) among broiler farmers was worked out and summarized in Table 10.

**TABLE 10 PROBLEMS RELATED TO GROWING CHARGE INDEX**

<i>S. No.</i>	<i>Index Range (Percentage)</i>	<b>Size of Broiler Farmers</b>			
		<i>Small</i>	<i>Medium</i>	<i>Large</i>	<i>Total</i>
1.	<b>25 – 50</b>	2(4.4)	1(1.7)	-	3(2.0)
2.	<b>50 – 75</b>	18(40.0)	18(30.0)	9(20.0)	45(30.0)
3.	<b>75 – 100</b>	25(55.6)	41(68.3)	36(80.0)	102(68.0)
	<b>Total</b>	45(100.0)	60(100.0)	45(100.0)	150(100.0)

**Source:** Primary data

It is inferred from Table 10 that the majority of the large size farmers contributing 80 percent fall in the index range of 75 to 100 per cent thereby confirming that payment of growing charge is delayed. The medium and small size farmers with 55.6 per cent and 68.3 per cent also share the same opinion but severity in their case is less as compared to the large size farmers.

**OVERALL CONSTRAINTS INDEX**

The overall Constraints Index (OCI) is computed and presented in Table 11.

**TABLE 11 OVERALL CONSTRAINTS INDEX**

<i>S. No.</i>	<i>Index Range (Percentage)</i>	<b>Size of Broiler Farmers</b>			
		<i>Small</i>	<i>Medium</i>	<i>Large</i>	<i>Total</i>
1.	<b>25 – 50</b>	8(17.8)	6(10.0)	3(6.8)	17(11.4)
2.	<b>50 – 75</b>	28(62.2)	41(68.3)	35(79.5)	104(69.8)
3.	<b>75 – 100</b>	9(20.0)	13(21.7)	6(13.6)	28(18.8)
	<b>Total</b>	45(100.0)	60(100.0)	45(100.0)	150(100.0)

**Source:** Primary data

The analysis of the overall index of the constraints in the integrated broiler farming in Theni District clusters shows that the majority of the small, medium and large size categories of farmers constituting 62.2, 68.3 and 79.5 per cent respectively fall in the index range of 50 – 75 per cent. The numbers of broiler farmers who are in the index range of above 50 percent constitute 88.6 percent of the total. It implies that almost all the broiler farmers are facing problems. Large size farms faced majority of constraints while the others are quite moderate in this regard.

**IMPACT OF PROBLEMS ON PROFIT IN BROILER FARMING**

The impact of important Production Problem in the integrated broiler farming may have its own influence on the profit of the farms. It is highly imperative to analyse the impact of IPPs on the profit of the farms to exhibit the relative importance of each IPPs on the profit of the farms. The multiple regression analysis has been executed to analyse such impact in broiler farm in small, medium and large sizes separately. The annual average gross return of the broiler farmer is treated as dependent variable whereas production problems such as absence of quality input, lack

of capital, disease and mortality, medicine support and Problems related to growing charge are taken as independent variables. The fitted regression model is

$$Y = a + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_5 + eu$$

Where,

- Y - Gross Return of the Broiler Farmer (in rupees)
- x<sub>1</sub> - Score on Absence of Quality Input
- x<sub>2</sub> - Score on Lack of Capital
- x<sub>3</sub> - Score on Disease and Mortality
- x<sub>4</sub> - Score on Lack of Healthcare Support
- x<sub>5</sub> - Score on Problems related to Growing Charge
- b<sub>1</sub>, b<sub>2</sub>, ..., b<sub>5</sub> - Regression coefficient of independent variables
- a - Intercept and
- eu - Error term

The result of regression analysis is presented in Table 12.

**TABLE 12 IMPACT OF PROBLEMS ON PROFIT IN BROILER FARMING**

S.No.	Independent Variable	Regression Co-efficient in			
		Small	Medium	Large	Overall
1.	Absence of Quality Input	0.0845 <sup>NS</sup>	-0.2138*	-0.2758*	-0.2043*
2.	Lack of Capital	-0.2511*	-0.1759*	-0.1964*	-0.1983*
3.	Disease and Mortality	-0.180*	-0.1342*	-0.0947*	-0.1172*
4.	Lack of HealthCare Support	-0.1660	-0.2791*	-0.2150*	-0.2072*
5.	Problems related to Growing Charge	-0.2530*	-0.2160 <sup>NS</sup>	-0.1883 <sup>NS</sup>	-0.2078 <sup>NS</sup>
	Constant	-1.2738	-1.758	-3.1294	-1.9816
	R <sup>2</sup>	0.7251	0.6947	0.7652	0.7150
	F-statistics	65.380*	45.916*	72.916*	63.542

**Source:** Primary data

\*Significantly at five per cent level.

In case of broiler farming in the study area as a whole, the significantly influencing independent variables are absence of quality input, lack of capital, disease and mortality and lack of health care support. The regression co-efficient of the said variables are negative and statistically significant. It implies that one percent increase in the said problems would decrease the gross returns of the broiler farms by 0.2043, 0.1983, 0.1172 and 0.2072 percent respectively from its mean level. The change in perception on IPPs explains the changes in the profit of the overall farms to the extent of 71.50 percent since its co-efficient of determination is 0.7150.

### Association between the Profile of the Farmers and their Perception on Problems in Broiler Farming

The profile of the owners may be associated with their perception on Important Production Problems (IPP)s. In order to analyse this aspect, the included profile variables are gender, age, level of education, marital status, nature of family, family size and income score. The one way analysis of variance has been executed to analyse such association. The results are presented in Table 13.

**TABLE 13 ASSOCIATION BETWEEN THE PROFILE OF THE FARMERS AND THEIR PERCEPTION ON PROBLEMS IN BROILER FARMING**

S.No.	Profile Variable	Regression Co-efficient in				
		Absence of Quality Input	Lack of Capital	Disease and Mortality	Lack of Healthcare Support	Problems related to Growing Charge
1.	Gender	2.498*	2.165 <sup>NS</sup>	1.932 <sup>NS</sup>	1.753 <sup>NS</sup>	1.3395 <sup>NS</sup>
2.	Age	2.1325*	3.059*	2.878*	2.653*	2.638*
3.	Level of Education	2.985*	3.231*	2.475*	1.934 <sup>NS</sup>	2.8072*
4.	Marital Status	1.392 <sup>NS</sup>	1.7092 <sup>NS</sup>	1.0052 <sup>NS</sup>	2.067 <sup>NS</sup>	1.856 <sup>NS</sup>
5.	Community	0.592 <sup>NS</sup>	1.355 <sup>NS</sup>	3.7329*	0.826 <sup>NS</sup>	3.519*
6.	Family Size	3.128*	2.993*	2.781*	2.599*	2.902*
7.	Income	2.886*	2.409*	3.181*	2.493*	2.708*

**Source:** Computed data

Regarding the perception on 'Absence of Quality Input' problem, the significantly associating profile variables are gender, age, level of education, family size and income since their 'F' statistics are significant at five per cent level. In the case of perception on 'Lack of Capital' problem, the significantly associating profile variables are age, level of education, family size and income. In the case of perception on 'Disease and Mortality' the significantly associating profile variables are age, level of education, community, family size and income. In the case of perception on 'Lack of Healthcare Support', the significantly associating profile variables are age, family size and income. In the case of perception on 'Problems related to Growing Charge', the significantly associating profile variables are age, level of education, community and income since their respective 'F' statistics are significant at five per cent level.

### Suggestions

- Provision of healthy chicks is the major factor which ensures success in broiler farming. If weak and unhealthy chicks are provided, there will occur a higher rate of mortality which will result in huge loss to the farmers. Therefore the integrator must provide healthy and properly immunised chicks to the farmers whose prospects' largely depend on the chicks only. Feed Management in broiler farming is an important component which has to be done with care and efficiency. Fixed quantity of feed to each bird is provided. In proportionate to it, the birds will gain weight. This is measured by feed conversion rate. The birds have to be fed judiciously as prescribed in broiler farming. Otherwise there will be large scale wastage of feed which will result in loss to the farmers.

- Institutional credit is an important component in broiler farming which involves so many expenses to the farmers from the preparation of the shed up to the lifting of the birds. Most of the farmers depend on institutional credit to meet out these expenses. If such credits are made available to the farmers on hassle free and less cumbersome procedures, they can continue their broiler farming activities without interruption. But many of these institutions like banks are not always farmer friendly. This is the reason why the farmers have to depend on the local money lenders to get credit on higher rates of interest.
- Diseases in broiler farms pose serious problems in broiler farming which result in huge loss on profit and discourage the farmers. Avian Flu and other diseases have become common in broiler farms. The services of the veterinary physicians must be effectively carried on to prevent and eradicate the diseases. Timely vaccination will help in preventing the onset of infections on the birds. Even healthy chicks are susceptible for many air-brone and water-brone diseases which need to be attended immediately.
- Payment of growing charge in broiler farming is a mandatory provision agreed upon both by the integrator and the farmer. In these days of increasing cost of inputs and labourer, the farmers feel the growing charges could be increased to some extent in order to help the farmers. Prompt payment on lifting of the birds is essential to enable the farmers to continue their batches and also advance-payments to farmers will help them to carry on the broiler farm operations effectively and enthusiastically.

## CONCLUSION

The analysis of the overall index of the constraints in the integrated broiler farming in Theni District clusters shows that the majority of the small, medium and large size categories of farmers constituting 62.2, 68.3 and 79.5 per cent respectively fall in the index range of 50 – 75 per cent. Large size farms faced majority of constraints while the others are quite moderate in this regard. The overall perception on the suggestions to solve the problems faced by the broiler farmers are institutional credit, disease control, chick quality, feed management, government subsidies, enactment of law and reasonable growing charge.

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