

# Changing Dynamics of Entrepreneurial Activities in Poultry Sector: A Micro-Empirical Study of Contract Broiler Farming in a Selected Village of Raina 2 Block, West Bengal

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## Abstract

In India, there is a visible process of transformation from unorganized family business to organized entrepreneurial activities in agricultural-allied sector over the span of last three decades. The present study sheds some lights on the changing dynamics of alternative mode of organized entrepreneurial activities in poultry sector. Specifically, attempts has been made to present a case study on the modus operandi of the contract farming in boiler poultry sector in Raina 2 block of the district of Burdwan, West Bengal. Empirical results suggests that the integrator company bears farm input cost, transportation cost for supplying chicks, feed to the contract farmer, and an element of business risk, specifically investment risk and market risk. The contract farmer provides only labour, shed, electricity, water, litter materials and equipments. Evidences on cost of calculation and its related profitability reveal that the contract farming ensures economic profitability to the farmers in the first four lots out of six lots of contract negotiation. Prevalence of air borne disease results in adverse seasonal performance in the last two lots.

**Keywords:** Entrepreneurial activity, Poultry sector, Contract farming, Standard Cost, Net return, Profitability

the inexpensive source of nutrients to a vast section of population. The business of poultry farming is generally owned by small scale farmers as their family business. The entrepreneurial activities in this unorganised agricultural-allied sector remain by and large unexplored. However, in India, the poultry industry<sup>1</sup> represents a major success story in the process of transformation to organized entrepreneurial activities over the span of last three decades. It is one of the fastest growing sub-sectors of agriculture-allied sector with an annual growth rate of 11.44 percent, 3.725 million tons of production, and employing 4.29 million people in 2015 (Sasidhar & Suvedi, 2015). As per the records of Agriculture and Processed Foods Products Export Development Authority, India has exported 659,304 MT of poultry products for the worth of INR 7,680 million during 2015-16 (RVO, 2017). The development is not only in volume of production, but also in productivity, sophistication and quality. This is reflected by the fact that India secures the fourth largest producer of poultry meat in the world after China, Brazil and the USA (Prabakaran, 2014; Rajendran et al., 2014) and third-largest egg producer in the world after China and the USA (RVO, 2017). In India, poultry meat production is fast growing in India in response to a number of factors, one of the most important of which is the rise of vertical integration in the poultry industry (Basford, 2011).

## Introduction

In the context of developing economies, poultry products (specially eggs and poultry meat) are considered as

<sup>1</sup> The poultry sector has two different segments, such as: broiler (i.e. meat production) and layer (i.e. egg production).

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Indian economy has experienced a transformation from subsistence farming to market driven contract broiler farming<sup>2</sup> (CBF) since 1990. CBF is one of the classic examples of vertical integration, whereby an integrator company made an agreement with contract agreement with boiler farmers in the supply chain management of the produce. In this alternative mode of contract farming, the company bears the investment risk and market risk, whereas the non-contract entrepreneur has to bear all such risk elements along with production risk.

Contract-broiler farming was introduced in Tamil Nadu in 1990s for the first time in India. Later on, it spread mainly to Karnataka, Andhra Pradesh, Maharashtra and other states in India (Sasidhar & Suvedi, 2015). In the existing literature, several studies were conducted to examine the mode of contract-boiler farming in Uttar Pradesh (NABARD, 2005<sup>3</sup>), Tamil Nadu (Thangamani, 2006<sup>4</sup>; Balamurugan & Manoharan, 2013), Karnataka (Chidananda, 2007), Gujarat (Gasura et al., 2013; Mathur and Gupta, 1979), Punjab (Singh et al., 2010), Kerala (Joseph, 1995), Maharashtra (Mathur and Gupta, 1979). Overall, the findings of the studies & that promotion of contract farming in the state has a significant contribution in generating employment (Thangamani, 2006), income earning opportunity (Karthikeyan & Nedunchezian, 2013), and quality of life (Thangamani, 2006). Poultry contract farming was found largely profitable in nature, and also addresses problems like season wise egg price variation, mortality percentage variation, non-availability of veterinary aids (Gasura et al., 2013). Some of the problems associated with CBF are favourable terms and conditions of the contracts towards the integrators than

the farmers, stringent provision of penalty cost, glaring practice of collecting two blank cheques (Chidananda, 2007). In the context of rural West Bengal, studies on contract farming in boiler sector has been carried out in Midnapore (Dana, 1998) and North 24 Parganas (Saha, 2003). Systematic academic research on the viability of contract boiler farming in the district of Burdwan, West Bengal is relatively scanty in the existing literature. This paper tries to address the research gap in the existing literature. In this backdrop, this paper seeks to provide an empirical assessment on the economic performance of the contract farming by using primary survey evidences in the district of Burdwan, West Bengal. Specifically, this paper seeks to estimate cost, return and profitability of contract farming with the integrator company, Hitech Hatch Fresh Private Ltd<sup>5</sup>, in a selected village of Raina 2 in the district of Burdwan, West Bengal.

### Comparison between Contracts Farming vis-a-vis Non-Contract Farming

There are mainly two modes of production available in broiler poultry farming, i.e. Non- Contract Broiler Farming (NCBF) and Contract Broiler Farming (CBF). Under NCBF, the farmer has to bear all expenses, such as procurements of chicks, feed cost, medicines and vaccines cost, overhead farm expenses (like- labour, electricity, water, litter materials, farm disinfection etc.) and transportation cost etc. The entrepreneur is only liable to bear all such risk elements in business: investment risk, production risk and market risk. On the other hand, some of the major private integrators operating in the southern and western region of the country under CBF are Suguna, Venkateswara, Pioneer, Diamond Riverdale, Star Chick,

<sup>2</sup> FAO (2001) defines contract farming as “being essentially an agreement between unequal parties: companies, government bodies on the one hand and economically weaker farmers on the other.”

<sup>3</sup> It has been found that the growth of the poultry sector in eastern part of Uttar Pradesh is more prevalent than in western part of the state.

<sup>4</sup> The study has been conducted in the Namakkal District of Tamil Nadu. This district is recognized as a centre place in exporting eggs and meat to all over the nation and various countries also.

<sup>5</sup> Hitech Hatch Fresh Private Ltd. is one of the successful CBF integrator in West Bengal, incorporated on 19<sup>th</sup> September, 1997. The major activities performed by this company are broiler integrating, breeding, feed producing, hatching etc. The total paid up capital is Rs. 3.20 cr. The company has also secured loan in the amount of Rs. 73.01 cr. (as per the last reported AGM of the Co. was held on 26<sup>th</sup> September, 2017).

Gold Chick, Godrej Real Gold, Godrej Agrovet, Santhi, Peninsula, Skylark and Komarla. However, under this mechanism, just at the primary stage the poultry farmers do have to bears huge amount of expenditure in the course of setting land and housing and equipment, but after that they provide a small portion of total working capital. The major portion of total working capital is borne by the “integrator or contractor” (who supplies intermediate inputs and procures the outputs from the contract farmer). The integrator or contractor bears farm input cost (like- chicks, feed, medicines and vaccines etc) and transportation cost for supplying chicks, feed to the contract farmer. An element of business risk is also covered by the integrator. The contractor farmer provides only labour, shed, electricity, water, litter materials and equipments. The major differences between CBF and NCBF are stated below in a summarised form in table 1.

**Table 1: Differences between Contracts vis-a-vis Non Contract Boiler Farming**

Criteria	CBF	NCBF
Land provision	Farmer	Farmer
Broiler shed and equipment	Farmer	Farmer
Cost of labor, electricity/fuel, disinfecting shed, litter materials	Farmer	Farmer
Manure of liquidation (sale/own consumption), empty feed bags	Farmer	Farmer
Working capital (chicks, feed, medicine, vaccine)	Supplied by integrator	Farmer purchase from market
EAS, routine, emergency veterinary	Provided by integrator freely	Farmer pays poultry consultants
Investment risk	Integrator	Farmer
Production risk	Integrator	Farmer
Marketing risk	Integrator	Farmer
Returns to farmer	Almost fixed	Depends on the market sale rate
Incentives, rate bonus, penalty	Applicable	Not applicable

Some of the advantages and disadvantages of contract farming are enumerated in table 2.

**Table 2: Advantages and Disadvantages of Contract Farming**

Advantages	Disadvantages
i) Reduces farmer’s risk for production and for loss of income. Without bearing a high risk the farmer easily can achieve medium range of earning.	i) Possibility of limited opportunity for growth.
ii) The farmer provides only a small amount of working capital or operating capital.	ii) There is a limit on achieving high income for the farmers as their payment system is almost fixed.
iii) Reduces management responsibilities of the farmer.	iii) Possible lack of bargaining power.
iv) Maximising of production to take advantage of economies of scale.	iv) Under CBF Scheme, there is marked improvement in the use of technology, especially in the in medicine division for increasing the average body weight of the bird within a lower period as compared to traditional System of broiler farming. Due to this reason, use of so many antibiotics medicine is growing graver day by day which is proven harmful for health.

However, the modus operandi of contract farming scheme is consists of the following sequential steps:

**Step 1: Application by farmer to Integrator Company:** At the first stage the interested farmer applies for doing business with the integrator company under CBF. For this purpose, he/she has to submit the documents such as farmer’s details (i.e. farmer’s name, address, age; bank’s name, account no, branch name, IFSC code; PAN card etc.) and farm details (such as farm address, ownership document whether under own or leased (in case of lease No Objection Certificate from the landlord), if the farm is mortgaged then details of mortgage and No Objection Certificate from financier, total farm capacity, shed details, approximate distance of farm from contract company, distance from nearest farm, farm history of any poultry diseases, equipment details, type of labor etc.).

**Step 2: Verification of the submitted documents:** After the receipt of application of the farmer with certain documents, the integrator company screen the applications for viability of the project.

**Step 3: Supply of inputs:** After the agreement done, the integrator company supplies chicks, feeds, medicine, vaccine etc. to the contract farmer.

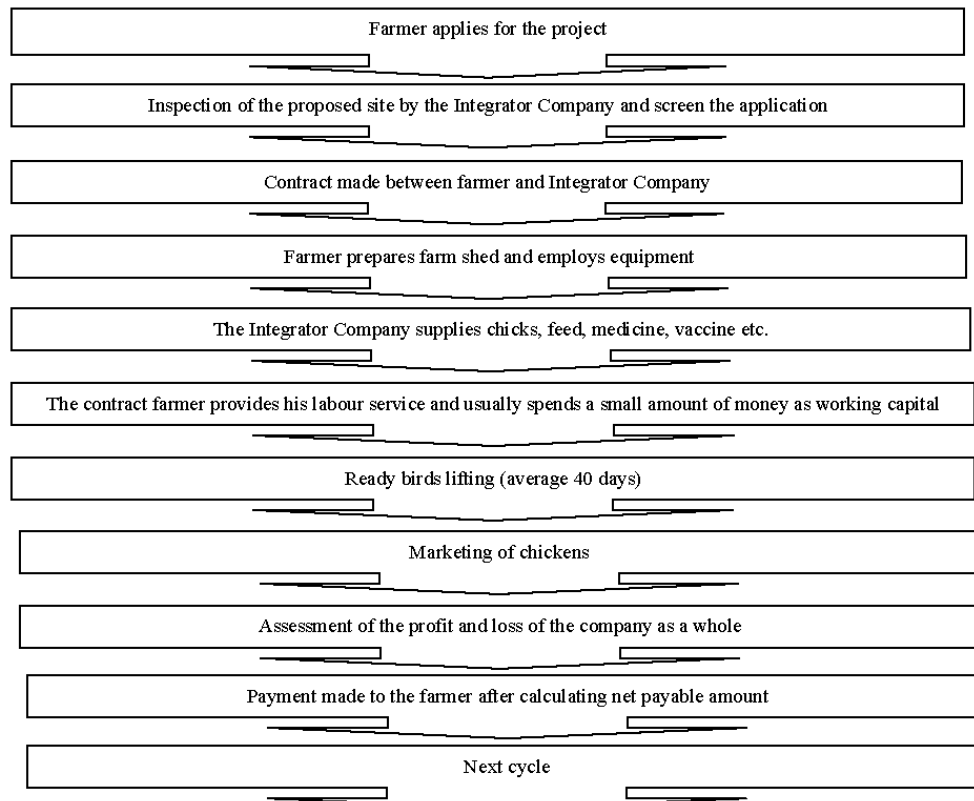
Step 4: Conversion from chicks into ready birds: At this stage, the contract farmer provides his service and spends a small amount of money as working capital for converting the chicks into the ready birds.

Step 5: Lifting of ready birds: At this stage, when the birds are ready for selling in the market, the integrator

company makes necessary arrangements in marketing of the produce.

Step 6: Assessment of profit: The company assesses the profit or loss at this stage.

Step 7: Payment to the farmer: At the final stage, the integrator company calculates the net payment amount which has to be paid to the farmer.



**Fig. 1: Flow Diagram on the Procedure of Contract Broiler Farming Scheme**

## Data Source and Methodology

The present study is exclusively based on primary source of data. In this micro-empirical survey, we have purposively selected a farmer involved in the contract boiler farming with the integrator company, Hitech Hatch Fresh Private Ltd, in the village Lohai (Raina 2 in the district of Burdwan, West Bengal). Empirical data on production, cost and related profitability of six lots of contract in the financial year 2016-17 is considered for the analysis. Field survey was carried out on June-December, 2017.

The description of the variables is as follows:

- 1) Total cost of production for producing ready bird has been calculated by aggregating the chicks cost, feed cost, medicine cost, vaccine cost, management and administrative cost. Cost of producing one kg ready bird has been computed by the total of cost of production with the total body weight of the lifted bird.
- 2) The investment has been made by calculating Integrator's total contribution and calculating CBF Farmer's total contribution.
- 3) Basic growing charges were paid as per the agreement, normally on a fixed rate. Production incentives were paid based on cost of production per kg and market incentives were paid based on selling

price of the bird and aggregate amount of production cost and obtainable growing charges per kg bird.

The net payments made to the contract farmer by the integrator company depends on some parameters such as contract agreement, feed conversion ratio, standard cost of production per kg, standard costing per kg, recent growing charges, production incentive, market incentive, any kind of deductible amount (relating to advanced payment, birds used for own purpose, equipment purchased on credit from the company), any kind of penalty amount etc. All these terms and conditions are discussed below:

- 1) **Contract agreement:** In CBF scheme there must be a contract agreement between the farmer and Contract Company relating to payment system.
- 2) **Total body weight:** Total body weight represents how much ready birds are produced by the farmer and lifted for the marketing. This is calculated by multiplying the average body weight with the no. of total lifted birds.
- 3) **Feed Conversion Ratio:** Feed Conversion Ratio (FCR) is the ratio which indicates that quantity of feed which is consumed to gain in every kg body weight, i.e.,
 
$$FCR = \frac{\text{Total Qty. of feed in kg}}{\text{Total lifted body weight in kg}}$$
- 4) **Cost of production:** It is calculated by adding all the expenses incurred from day one i.e. chicks delivery to birds lifting or sold. It includes chicks cost, feed cost, medicine cost, vaccine cost, management cost and other administrative overheads by the integrator company.
- 5) **Standard costing per kg:** It is a budgeted costing rate set by the integrator company for producing one kg of ready bird. It is calculated by dividing total cost of production by total body weight of the lifted birds, i.e., Standard costing per kg =
 
$$\frac{\text{Total cost of production}}{\text{Total body weight}}$$
- 6) **Growing charges:** Wages rate paid by the integrator company to farmer and normally it is predetermined in the contract agreement.
- 7) **Production incentive:** Production incentive paid to the farmer based on standard costing per kg.

If the actual costing per kg is less (or more) than standard costing per kg then incentive would be added (or deducted) to the growing charges. In other words, incentives (or penalty) shall be paid (or recovered) in-addition to (or from) basic growing charges.

- 8) **Market incentive:** Market incentive should be added with the growing charges if the selling price (per kg) of the lifted birds is more than the price of the contract agreement.
- 9) **Consolation growing charges:** The consolation growing charges is payable if any accident occurs or if the net payment to the farmer is zero or negative. In other words, the company may pay something as wages from the company's own fund if the farmer has not received anything from CBF.
- 10) **TDS:** All payments to farmers is made after a tax deduction at source as per the Govt. norms.
- 11) **Deductable amount:** In some cases, deduction from the gross payable amount arises if the company provides advances to the farmer, or the farmer may purchase farm equipments from the company, or the farmer uses chicks for own consumption. In some cases, money also will be deducted from the gross payable amount as penalty for bad performance or any kind of fraud. Based on the above certain terms and conditions, return paid to the farmer by multiplying a certain amount of stipulated rate with the total body weight of lifting birds' i.e. Farmer's net receivable wages = [ {Total body weight × (Growing charges rate ± Production incentive rate ± market incentive rate) + Consolation growing charges} – TDS] – Deductable amount.

## Empirical Results and Discussion

In this section, we have presented a case study on annual performance of the contract broiler farmer in the financial year 2016-17. The performance of a farmer predominantly depends on the actual cost of production per kg (incurred by the farmer) vis-à-vis the standard cost of production per kg (determined by the integrator company). Performance of a farmer is objectively assessed by making comparison of actual and standard cost of production. There also some others performance criteria such as – mortality percentage, Feed Conversion Ratio (FCR), average body weight, etc.

**Table 3: Summary of Lot wise Performance**

Particulars	Lot 1	Lot 2	Lot 3	Lot 4	Lot 5	Lot 6
Date of chicks placed	22-04-16	16-06-16	23-08-16	24-10-16	27-12-16	21-02-17
Date of lifting	31-05-16	23-07-16	29-09-16	03-11-16	03-01-17	26-03-17
Total chicks placed	600	600	590	596	594	600
Total mortality (pcs.)	31	0	40	67	73	111
Mortality experiences (in percentage)	5.16%	0.00%	6.77%	11.24%	12.29%	18.50%
Live ability experiences (in percentage)	94.84%	100.00%	93.23%	88.76%	87.71%	81.50%
Average body weight (in kg.)	2.23	2.12	2.03	2.5	2.28	1.75
Mean lifting age (In days)	40	38	37	41	40	34
Total Feed consumed (in kg.)	1954	1984.32	1739.7	2126	2042	1498
Total body weight (in kg.)	1268.87	1272	1116.5	1322	1186.4	856.85
FCR	1.54	1.56	1.56	1.61	1.72	1.75
Actual Cost of Production/Kg.	57.6	58	59.79	58.57	65.85	72.73
Standard Cost of Production/Kg.	62	62	62	62	64	64
Performance Remarks	Satisfactory	Satisfactory	Satisfactory	Satisfactory	Not satisfactory	Not satisfactory

Source: Survey data, 2016-17

In this case study, performance of the farmer is satisfactory in case of lot 1, lot 2, lot 3, and lot 4. But the performance of the farmer is not so satisfactory in case of lot 5 and lot 6 even though the standard cost of production per kg has been fixed at Rs. 64 due to increment in chick's price

(Table 3). The main reason behind this poor performance can be explained by the adverse seasonal condition, i.e. frequent occurrence of air borne diseases (like bird-flu, chicken pox etc.).

**Table 4: Calculation of Cost of Production**

Particulars	Lot 1		Lot 2		Lot 3		Lot 4		Lot 5		Lot 6	
	Rate	Amount	Rate	Amount	Rate	Amount	Rate	Amount	Rate	Amount	Rate	Amount
Chicks cost per bird	22	13200	22	13200	22	12980	22	13112	26.5	15741	26.5	15900
Feed cost per kg.	29	56666	29	57545.28	29	50451.3	29	61654	29	59218	29	43442
Medicine, vaccine, sanitation		1420.92		1237.02		1554.17		877.06		1386.27		1177.5
Administration and supervision cost per bird	3	1800	3	1800	3	1770	3	1788	3	1782	3	1800
Total cost [A]		73086.92		73782.3		66755.47		77431.06		78127.27		62319.5
Total body weight (in kg.) [B]		1268.87		1272		1116.5		1322		1186.4		856.85
Actual cost of production per kg. [C=A÷B]		57.60		58.00		59.79		58.57		65.85		72.73
Standard cost of production per kg.		62		62		62		62		64		64

Source: Survey data, 2016-17

Based on the above cost calculation, the investment profile of the integrator company and the farmer is presented in table 5. It can be seen that the most of the investment

funds are contributed by the Integrator/ Contract Co. They contributed 87% of the cost, whereas the CBF farmer contributes only 13%.

**Table 5: Investment Profile Under the Contract Broiler Farming**

Particulars	Amount (Rs.)
Investment made by the Integrator company (A)	4, 38,502 (86.85%)
Investment made by the Contract Farmer:	
Depreciation on Land and shed @ 10% (600000× 10%)	60,000
Depreciation on equipments @ 10% (9000×10%)	900
Litter cost (500×6)	3000
Electricity	2000
Fuel	500
Total investment made by the farmer (B)	66400 (13.15%)
Total investment made by the company and the farmer (C=A+B)	504902

Source: Survey data, 2016-17

Note: Figure in parenthesis represents the percentage share of investment

**Table 6: Lot wise Gross Income of the Farmer**

Particulars	Lot 1		Lot 2		Lot 3		Lot 4		Lot 5		Lot 6	
	Rate per kg. (Rs.)	Total amount (Rs.)	Rate per kg. (Rs.)	Total amount (Rs.)	Rate per kg. (Rs.)	Total amount (Rs.)	Rate per kg. (Rs.)	Total amount (Rs.)	Rate per kg. (Rs.)	Total amount (Rs.)	Rate per kg. (Rs.)	Total amount (Rs.)
Basic Growing Charges	5.75	7296	5.75	7314	5.75	6419.87	5.75	7601.5	5.75	6821.8	5.75	4926.89
Add/ less, Production Incentive (±)	2.20	2791.51	2.00	2544	1.10	1228.15	1.72	2273.84	(-) 0.93	(-) 1103.35	(-) 4.37	(-) 3744.43
Obtainable Growing Charges		10087.51		9858		7648.02		9875.34		5718.45		1182.46
Add, Market Incentive (+)		1522.64		1030.3		826.21		--		516.44		--
Add, Con-solation Growing Charges (if it is applicable)		--		--		--		--		--		--
Total Amount		11610.15		10888.3		8474.23		9875.34		6234.89		1182.46
Less, TDS (1% on Total Amount)		116		109		85		99		62		12
Gross Receivable Amount		11494.15		10779.3		8390.23		9776.34		6172.89		1170.46
Deducted Amount (if any):												
Advance for equipment		--		930		--		--		860		--
Used for own consumption		--		73.70		--		--				--
Net Receivable Amount (R/O)		11494		9776		8390		9776		5313		1170

Source: Survey data, 2016-17

It is to be noted that a growing charges are @ Rs. 5.75 per kg and this rate is applicable for all the farmers. Production incentive also has been paid here subject to cost of production per kg. As per contract agreement, if there is any deviation between actual cost of production per kg and standard cost of production per kg, then this discriminative value should be multiplied by Rs.0.50 to calculate production incentive. Then this production incentive amount is to be added (or subtracted) with the growing charges for estimating obtainable growing charges if the actual cost of production is lower (or higher) than the standard cost of production. As the actual cost of production in the first lot (Rs. 57.60) is lower than the standard cost of production (Rs. 62) of amounting Rs. 4.4 (i.e. Rs. 62 - 57.60), so this amount has been added here after multiplying by Rs. 0.50 i.e. Rs 2.2 has been added here as production incentive. So, obtainable growing charges ultimately estimated as Rs. 7.95 per kg<sup>6</sup>. In case of 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> lots, the calculated production incentive also has been added here as the actual cost of production is lower than the standard cost of production. But in case of 5<sup>th</sup> lot and 6<sup>th</sup> lot the calculated production incentive has been deducted from the growing charges as the actual cost of production is higher than the standard cost of production.

There after market incentive (if it is applicable) can be added with the obtainable growing charges. Under the provision of market incentive by the CBF Company, the company takes into account the prevailing market prices on the lifting day<sup>7</sup>. In the terms and conditions, it has been stipulated that market incentive is applicable if market price on the lifting day(s) is more than Rs. 74. If the first condition is satisfied, then total production cost<sup>8</sup> is taken into account in the calculation of market incentive. Therefore, market incentive is conditioned upon the following two conditions: first of all, the selling price of the lifted bird on that day should be greater than or equals to Rs. 74 per kg (its nature in fixed as per contract agreement) and secondly, based on total production cost per kg. In case the total production cost per kg is lower (or higher) than Rs. 70 then the farmer will get @ Rs. 0.08

<sup>6</sup> The figure has been estimated by adding Rs. 5.75 and Rs. 2.2.

<sup>7</sup> If two or more days required to lifting the bird, then average selling prices for the respective days are considered.

<sup>8</sup> Total Production Cost = Production Cost + Basic Growing Charges +/- Production Incentive

paise (or @ Rs. 0.06 paise) per rupee earned. Estimated value of market incentive is shown in table 6. It is to be noted that out of six lots, market incentive was granted for four lots with a variation of Rs 516-Rs .1522. Two lots (4<sup>th</sup> and 6<sup>th</sup> lot) are not eligible for market incentives as selling price of lifted bird on that day was lower than the stipulated amount of Rs. 74.

The consolation growing charges has not been received in this particular case of the farmer, because consolation growing charges is payable only if any accident happens and the Integrator Company share risk with the farmer.

In the next step i.e. after computing total amount (by adding market incentive and consolation growing charges with obtainable growing charges), TDS has been charged here @ 1% on total amount. This resulting amount is defined by the term gross receivable amount.

Finally, net receivable amount by the farmer (or net payable amount by the Integrator Company) has been calculated by subtracting any deductible amount from the gross receivable amount. As per this company contract agreement deduction from gross receivable amount happens in the following situations:

- If there is excessive mortality of chicks or unexplained shortage or mortality due to negligence of the farmer, then penalty to be imposed to recover the cost of the chicks/bird, which will be calculated as per rules and guidelines provided by the Head Office from time to time.
- If there is unexplained feed shortage at any farm, then the cost of such feed will be recovered from the farmer @ Rs. 29.00 per Kg.
- If there is unexplained medicine/vaccine shortage in any farm, then the cost of such medicine/vaccine shall be recovered from such farmer at an applicable rate.
- If there is unexplained shortage in the number of birds at the end of flock, then the amount to be recovered from the farmer as per following principle:
- Amount recovered= No. of Birds x (Avg. Body Weight of the Flock x Market Rate), where the market rate will be average sales realization of that farm.
- If any bird is retained by the farmer for own use, then the recovery amount is calculated by following

the earlier principle.

- The Company has the right to recover advances paid to farmers from Growing Charges;
- If the Farm Supervisor and the Branch Head feel that any farmer is doing any act, which is against rules and regulation of the Company, they have the absolute discretion to impose penalty (any or more of the above) to recover the loss of the Company;
- If the farmer purchased equipments from the integrator company on credit, then the amount to be recovered from the gross receivable amount.

Under this observation, only in case of 2<sup>nd</sup> and 5<sup>th</sup> lots, equipment amount and net consumption costs were deducted from gross receivable amount. For the remaining four lots, there were no committed expenses.

Ultimately, the net earnings of this farmer can be calculated in table 7. The net earning has been calculated by considering total receivable amount from the company, total expenses and additional income. It shows total net earnings of Rs. 44169 after making all such arrangements. In other words, the farmer retains Rs. 7361 per lot of contract.

**Table 7: Net Annual Earning of the Contract Farmer**

<i>Particulars</i>	<i>Amount (Rs.)</i>
<b>Net receivable amount from the Contract Co. (Computed in table 5):</b>	
Lot 1	11494
Lot 2	9776
Lot 3	8990
Lot 4	9776
Lot 5	5313
Lot 6	1170
<b>Total receivable amount (A)</b>	46519
<b>Less, Expenses:</b>	
Depreciation on equipments @ 10% (9000×10%)	900
Litter cost (500×6)	3000
Electricity	2000
Fuel	500
<b>Total loss (B)</b>	6400
<b>Gross earning (C= A-B)</b>	40119
<b>Add, Additional Income:</b>	

Sale of feed bags	3150
<i>Particulars</i>	<i>Amount (Rs.)</i>
Sale of litter	900
<b>Total (D)</b>	4050
<b>Net earnings (E=C+D)</b>	44169

Source: Survey data, 2016-17

## Conclusion

The poultry farming in India represents a major success story. It emerges as the fastest growing segments of the agricultural allied sector in recent times. One of the notable features in Indian broiler industry is the transformation of the mode of production in favour of contract broiler farming system. In this mode of production, farmers have to contribute a small portion of total investment, whereas major portion of total investment amount is invested by the integrator. An element of the business risk (particularly investment and market risk) is also covered by the integrator company. This paper presents a case study of a farmer involved in the contract boiler farming with the integrator company, Hitech Hatch Fresh Private Ltd, in the village Lohai (Raina 2 in the district of Burdwan, West Bengal). In the financial year 2016-17, the farmer involves in six lots of contract successively with the integrator company. Empirical evidences on performance indicators suggest that the farmer perform satisfactorily in the first four lots of the contract, whereas the last two contracts do not meet the expected outcomes. The poor performance can be explained by the adverse seasonal condition in the context of frequent occurrence of air borne diseases of poultry birds. As per the terms and conditions, calculated production incentive has been deducted from the growing charges as the actual cost of production is higher than the standard cost of production in fifth and sixth lots. However, considering all such six lots of contract, overall analysis indicated net earnings of Rs. 7361 per lot of the farmer. Thus this paper suggests promotion of contract farming in boiler sector as involvement of boiler growers in this alternative mode of production is seen profitable vis-à-vis conventional farming practices. However, this particular case study is based on this micro-empirical setting in a regional block of Burdwan district, West Bengal. It is not possible for making any sweeping generalization of the empirical

evidences applicable for other geographical setting in an economy. Further studies needs to be supplemented by macro empirical evidences to comment on the future direction of the contract boiler farming.

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