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Contract Broiler Farming : A diversified Farming Toward Doubling Farmer Income

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ABSTRACT

Diversified farming with the integration of livestock plays a great role in increasing farmers income. It is an important alternative to attain the objectives of output and employment generation in the developing country like India. Contract Poultry farming perform an effective role in improving the economic status of the rural people by increasing their income besides providing them access to production services, credit as well as pricing arrangements. The study was done for three consecutive years (2015-16, 2016-17 and 2018-19) to assess the diversification from traditional rice-wheat cropping system to contract broiler farming and scientific crop production. In the year2015-16, only paddy-wheat cultivation was adopted and the benefit cost ratio (B: C) ratio was 1.33. Second year he was motivated for diversification to broiler farming. He reared seven batches of birds @ 3000 broiler birds per batch in contract with Suguna group in the year 2016-17 besides the paddy-wheat cultivation. This result was significantly higher return in case of second year than first year and B: C ratio was 1.63. In the year 2017-18 he increased the number of broiler birds per batch and @ 3500 broiler birds per batch in contract with Suguna group. The return obtained in year 2017-18 was significantly higher and B: C ratio was 1.73. The B: C ratio increased from 1.33 to 1.73 during three consecutive years from 2015-16 to 2017-18. It indicates significant improvement of farmer's income in three consecutive years.

KEYWORD

Contract broiler farming, diversified farming, integrator

INTRODUCTION

In India about 65-70 percent population directly or indirectly depend on agriculture. Animal husbandry and livestock management are the integral parts of agriculture. Livestock sector contributes 4.11% GDP and 25.6% of total Agriculture GDP.In 2017-18, total food grain production in India was estimated at 275 million tonnes (MT). While the production has achieved grain self-sufficiency but it is, resource intensive and cereal centric. The resource intensive ways of Indian agriculture have raised serious sustainability issues due to climate resilience. Remuneration obtained from cultivation of cereal crops is not enough. The stagnant and insufficient income of farmers moves the rural youth farmers toward cities. Diversification in agriculture is a wheel to achieve the higher farm income, increase rural employment and improved human nutrition. Diversified farming includes cultivation of variety of crops and integration of livestocks (Kremen et al., 2012). The estimates showed that mixed cropping and livestock together meet the 50% of world's cereal demand, 60% of world's meat demand and 75% of world's dairy production (Herrero et al., 2010). Poultry is one of the important components of animal husbandry. At present, India is second largest poultry market in the world - production of 63 billion eggs and 649-million-ton poultry meat. In comparison to other livestock, poultry farming requires less investment to start the farming on commercial scale (Kiran and Rao, 2013). It provides gainful employment to small and marginal farmers. Poultry sector has an enormous potential to improve the socio-economic status of rural population. Currently poultry contributes 12-15% share based on quality in total meat production.

Contact poultry farming mean production of/raising of poultry birds under an agreement between farmers and sponsor/integrator at a predetermined price. In India contract farming has considerable potential where small marginal farmers consisting about 90 percent of the farmer population of the country and cannot make major investments. Contract farming fills this gap by providing the farmers with quality inputs, technical guidance, management skill, credit as well as pricing arrangement that reduce the risk and uncertainty of market price. Begum (2005) also revealed that contract farming gets several incentives from the vertically integrated firm, which include credit, production and price risk reduction, marketing assistance, technical knowledge and concluded that contract farmers were better off in term of net income by getting a higher return from the poultry farm. Though contract farming is not a new concept in Indian Agriculture, but contracting in case of livestock and that too poultry is a current beginning. Hence the present study was done to assess the benefit of small marginal farmer by diversification to contract broiler farming.

MATERIALS AND METHODS

The main theme of this assessment is to change the traditional system of cereal cropping towards diversified farming to contract broiler farming. Mr. Dharmendra Kumar, a rural youth was selected for case study. He had total 7 bigha land for cultivation. Each year he took the practice of paddy-wheat cultivation. He was sowing rice and wheat in kharif and rabi respectively in 7 bigha of land. The reference period was the three consecutive year 2015-16, 2016-17 and 2017-18. In year 2015-16 paddy and wheat cultivated in 7 bigha of land was sold. Cost of

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cultivation and gross return was calculated and cost benefit (B:C) ratio was derived. In the year, 2016-17, we encouraged him for diversification to broiler farming. He inclined to contract broiler farming with formation of double storey poultry shed in 0.1 bigha land and start rearing of 3000 broiler birds in contract with Suguna group. The integrator (Suguna group) provides him day old chicks, feed, medicine & vaccine and veterinary services. He contributes the capital of land and poultry shed with recurrent expenditure in litter material, labour, cleaning washing, fumigation, electricity and water. All-in-all-out method of farming was adopted. 7 batches of birds had grown in a year. The integrator lifted the bird in 40 days of approximately more than two kg weight. He received the standard growing charge Rs.6 per kg of bird as per the pre-agreed rate. Total cost per batch, total return per batch, net return per year and B:C ratio was calculated. The gross cost, gross return, net return and B: C ratio of paddy-wheat cultivation and contract broiler farming was calculated in year 2016-17.

In the year 2017-18 he decided to rear 3500 chicks per batch in contract broiler farming with the same principle of all-in-all out method. The integrator provides him day old chicks, feed, medicine & vaccine and veterinary services. He worn the expenditure occurred in litter material, labour, cleaning, washing, fumigation, electricity and water. 7 batches of birds had grown in a year. The integrator lifts the bird in 40 days of approximately more than two kg weight. He receives the standard growing charge Rs.6 per kg of bird as per the pre-agreed rate Total cost per batch, total return per batch, net return per year and B:C ratio was calculated. He used the aged poultry manure in some of the cultivable land. The gross cost, gross return, net return and B:C ratio of paddy-wheat cultivation and contract broiler farming in 7 bigha land was calculated in year 2017-18.

RESULTS AND DISCUSSION

At present diversification is the need of era. Poultry production is the major growing component of global meat production with developing country (Assa, 2012). Contract in broiler farming lower the risk of market uncertainty and sustain the profitability. The farmer has 7 bigha of land and adopted the diversified farming, contract broiler farming. Three years' data (year 201-16, 2016-17 and 2017-18) are collected from farmer's field and its statistics is presented in Table-1and Table-2.

First year the farmer grows traditional paddy-wheat crop in his total land holding. Paddy variety BPT-5204 and wheat variety HD-2967 were sown in 7 bigha land and their input cost were Rs59500.00 and Rs.27580.00 respectively. The yield of paddy was 8.8q/bigha and total yield was 61. 60q.While the yield of wheat was 4.0q/bigha and total yield was 28.00q. By selling paddy and wheat the return obtained was Rs 77000.00 and Rs 39200.00 respectively having total gross return of Rs. 116200.00. Gross cost and gross return of the year 2015-16 were Rs 87080.00 and Rs 116200.00 respectively. Net return of the year 2015-16 was Rs 29120.00. B: C ratio was calculated and it was 1.33.

In the year 2016-17 diversified farming adopted. He had started contract broiler farming of 3000 chicks/batch with the integrator Suguna group. The integrator provided him day old chicks, feed, medicine &vaccine and veterinary services for each batch. He took 7 batches of 3000 chicks/batch in the year 2016-17. The farmer invest capital of land and poultry shed and recurrent expenditure in litter material, labour, cleaning washing, fumigation, electricity and water. All-in-all-out method of farming was adopted. The input cost for 3000 birds was Rs.20850.00. Mortality rate was 5.8 percent. The numbers of birds lifted were 2826 and average live weight obtained was 5934.60kg. A fixed growing charge @ Rs.6 per kg live weight was given to the farmer at time of lifting. The growing charge obtained was Rs.35607.60/batch. By selling some of raw manure and gunny bags from each batch obtained Rs. 1560 and Rs.120 respectively. The total return per batch obtained was Rs.37287.60. Net return per batch obtained was Rs.16437.60.

Seven batches of birds had grown in the year and net return obtained was Rs.115063.20. Total Cost per kg lifting weight and Total Return per kg lifting weight were Rs. 3.51 and Rs. 6.28 respectively. Benefit: Cost ratio was calculated and it was 1.79. In rest of the 6.9 bigha land paddy variety BPT-5204 and wheat variety HD-2967 were sown and their input cost ware Rs.58000.00 and Rs. 26900.00 respectively. The yield of paddy was 8.90q/bigha and total yield was 61.41q. While the yield of wheat was 4.06q/bigha and total yield was 28.01q. By selling paddy and wheat the return obtained was Rs 76762.5 and Rs 39214.00 respectively. The input cost and the return of the contract broiler farming in the year was Rs.145950.00 and Rs. 261013.20 respectively. Gross cost and gross return of the year 2016-17 were Rs 230850.00 and Rs 376989.70 respectively.Net return of the year 2016-17 was Rs 146139.00. BC ratio was calculated and it was 1.63.

In the year 2017-18, he had reared 3500 chicks/batch with the integrator Suguna group. The integrator provided him day old chicks, feed, medicine &vaccine and veterinary services for each batch. He took 7 batches of 3500 chicks/batch in this year. He worn the expenditure occurs in litter material, labour, cleaning washing, fumigation, electricity and water. All-in-all-out method of farming was adopted. The input cost for 3500 birds was Rs.22800.00. Mortality rate was 5.5 percent. The numbers of birds lifted were 3307 and average live weight obtained was 6944.70kg. A fixed growing charge @ Rs.6 per kg live weight was given to the farmer at time of lifting.

The growing charge obtained was Rs.41668.20/batch. By selling some of raw manure and gunny bags from each batch obtained Rs. 1600 and Rs.125 respectively. The total return per batch obtained was Rs. 43393.20. Net return per batch obtained was Rs. 20593.20.Seven batches of birds had grown in the year and net return obtained was Rs. 144152.40. Total Cost per kg lifting weight and Total Return per kg lifting weight were Rs. 3.28 and Rs. 6.25 respectively. Benefit: Cost ratio was calculated and it was 1.90. In rest of the 6.9 bigha land paddy variety BPT-5204 and wheat variety HD-2967 were sown and their input cost were Rs.57500.00 and Rs.

2650.00 respectively. Application of aged poultry manure increased the yield of paddy and wheat, resulted in improvement of average yield from total cultivable land. The yield of paddy was 9.65q/bigha and total yield was 66.58(q). While the yield of wheat was 4.34q/bigha and total yield was 29.95(q). By selling paddy and wheat the return obtained was Rs 83231.25and Rs 41924.40respectively. The input cost and the return of the contract broiler farming in this year was Rs. 159600.00 and Rs. 303752.40 respectively. Gross cost and gross return of the year 2017-18 were Rs 243250.00 and Rs 428908.05 respectively.Net return of the year 2017-18 was Rs 185658.05. BC ratio was calculated and it was 1.76.

Table 1: Economics of Production of contract broiler poultry farming

Sr.No.	Items	Values	
Average Cost per batch		Year 2016 -17	Year 17 - 18
1.	Chick number per batch	3000	3500
2.	Chick cost (Rs.) per batch	By Integrator	By Integrator
3.	Feed cost (Rs.) per batch	By Integrator	By Integrator
4.	Hired labour (Rs.)	4500	5000
5.	House hold labour(Rs.)	4500	4500
6.	Litter (Rs.)	4000	4800
7.	Cleaning, whitewash and fumigation charges (Rs.)	3250	3450
8.	Medicines, Vaccines & Veterinary Services per batch	By Integrator	By Integrator
9.	Brooding charges (Rs.)	1500	1750
10.	Electricity & water (Rs.)	1000	1100
11.	Depreciation charges (Rs.)	2100	2200
12.	Total cost (Rs.) per batch	20850.00	22800.00
Average Return per batch			
1.	Birds lifted per batch	2826	3307
2.	Average weight (kg)	5934.60	6944.70
3.	Mortality (%)	5.8	5.5
4.	Growing charges at sale of birds (Rs.6 per kg live eight)	35607.60	41668.20
5.	Raw manure (Rs.)	1560	1600
6.	Gunny bag (Rs.)	120	125
7.	Total return (Rs.)per batch	37287.60	43393.20
8.	Net return (Rs.)per batch	16437.60	20593.20
9.	Net return per year (7 batches per year)	115063.20	144152.40
10.	Total Return per kg (Rs.)	6.28	6.25
11.	Total Cost per kg (Rs.)	3.51	3.28
12	Benefit: Cost ratio (average)	1.79	1.90

Shinde (2017) reported that diversification to livestock sector is more inclusive and can result in a sustainable agriculture system. Singh et. al. (2010) found that the broiler farming is a profitable venture and has a bright future in the Punjab agriculture for improving economic status of the farming community. Murthy and Madhuri(2013) reported that the contract poultry production is more beneficial as compared to the independent poultry growers. The findings also supported by Begum (2005), Birthal (2008) and Kalpande (2013).

CONCLUSION

Poultry farming in contracting is useful for farmers in arrangement of credits and market certainty in a fixed price rate. Farmer in contract broiler farming with lesser investment and cost of production achieve higher productivity. Broiler farming provides more revenue among the agriculture and its allied activities due to completion of each cycle in about 40 days only. Small and marginal farmers may be got profitable employment at their existing land by the contract broiler farming.

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Table 2: Farmers annual income from diversified farming of contract broiler poultry farming

Year	Crop	Variety	Area (bigha)	Input cost (Rs.)	Yield rate	Yield	Return (Rs.)	Gross cost	Gross return	Net return	B:C ratio
2015-16	Paddy	BPT-5204	7	59500	8.8q/bigha	61.60(q)	77000	87080	116200	29120	1.33
	Wheat	HD 2967	7	27580	4.0q/bigha	28.00(q)	39200				
2016-17	Paddy	BPT-5204	6.9	58000	8.90q/bigha	61.41(q)	76762.5	230850	376989.7	146139	1.63
	Wheat	HD-2967	6.9	26900	4.06q/bigha	28.01(q)	39214.				
	Broiler poultry farming	Contract broiler farming	0.1 (double storey poultry shed, 3000 birds in 7 batches per year)	145950	6037.5kg/ batch	41542.2(kg)	261013.20				
2017-18	Paddy	BPT-5204	6.9	57500.00	9.65q/bigha	66.58(q)	83231.25	243250.00	428908.05	185658.05	1.76
	Wheat	HD-2967	6.9	26150.00	4.34q/bigha	29.95(q)	41924.40				
	Broiler poultry farming	Contract broiler farming	0.1 (double storey poultry shed, 3500 birds in 7 batches per year)	159600.00	7272.3kg/ batch	48612.90 (kg)	303752.40				

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