

## Pandemic and poultry: A study of poultry farming in Kathua block of union territory of J&K during covid 19 period

### Pandemia y aves de corral: Un estudio de la cría de aves de corral en el bloque Kathua del territorio de unión de J y K durante el período covid 19

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#### ABSTRACT

**Background:** The Poultry sector in India has grown in the recent years and it was anticipated that in the year 2020 the growth rate would be around 10-12 percent, but the Covid 19 Pandemic has adversely affected this sector. There were many socio economic constraints in the poultry farming in Kathua block. Even before the Covid 19, the poultry sector was facing many problems like towering cost of production, low level of knowledge among poultry farmers, fluctuation in prices of poultry products, insufficient and unhygienic slaughter houses etc. Apart from this the religious and cultural restrictions are some of the local economic and social barriers in the poultry farming sector in the study area. Taking into consideration these socio-economic problems in the poultry sector an attempt has been made to examine the socio economic structure of the poultry farmers and the impact of Covid 19 in this allied sector of livelihood of the people in the study area. **Methods:** Various statistical tools such as Cost Benefit ratio, Rate of return on investment, Profitability index etc have been used to study the impact of Covid 19 on poultry sector in Kathua Block. Measures of Central Tendency such as Percentage, mean have been used to obtain the result of various socio economic parameters. Factor analysis has been done to evaluate the domination of factors using SPSS. **Conclusion:** In this study the focus was also on the different variables which are affecting the socio-economic structure of the whole poultry farming community and also to study the impact of Covid 19 Cost Benefit Analysis has been considered for the three different time spans. The result of the CBA revealed that in the month of May-June farmers of the Kathua Block suffered in loss due to heavy restrictions imposed by the government on the movement of the people. In the month of Nov-Dec, 2019 maximum profit was earned by the farmers among all three different time period due to the fact that there was no case of Covid 19 during this time and no lockdown was imposed at this time.

**Key Words:** Covid 19, Socio-economic factor, Cost Benefit Analysis, Factor Analysis

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## RESUMEN

**Fondo:** El sector avícola en India ha crecido en los últimos años y se anticipó que en el año 2020 la tasa de crecimiento sería de alrededor del 10-12 por ciento, pero la pandemia de Covid 19 ha afectado negativamente a este sector. Había muchas limitaciones socioeconómicas en la cría de aves de corral en el bloque de Kathua. Incluso antes del Covid 19, el sector avícola enfrentaba muchos problemas, como costos de producción elevados, bajo nivel de conocimiento entre los avicultores, fluctuación en los precios de los productos avícolas, insuficiente. Teniendo en cuenta estos problemas socioeconómicos en el sector avícola, se ha intentado examinar la estructura socioeconómica de los avicultores y el impacto de Covid 19 en este sector aliado de los medios de vida de las personas en el área de estudio. **Métodos:** Se han utilizado varias herramientas estadísticas, como la relación costo-beneficio, la tasa de retorno de la inversión, el índice de rentabilidad, etc., para estudiar el impacto de Covid 19 en el sector avícola en Kathua Block. Se han utilizado medidas de Tendencia Central como Porcentaje, media para obtener el resultado de diversos parámetros socioeconómicos. Se ha realizado un análisis factorial para evaluar la dominación de los factores utilizando SPSS. **Conclusión:** En este estudio, el enfoque también se centró en las diferentes variables que afectan la estructura socioeconómica de toda la comunidad avícola y también para estudiar el impacto de Covid 19. Se consideró el análisis de costos y beneficios para los tres períodos de tiempo diferentes. El resultado del CBA reveló que en el mes de mayo-junio los agricultores del Bloque Kathua sufrieron pérdidas debido a las fuertes restricciones impuestas por el gobierno a la circulación de personas. En el mes de Nov-Dic, 2019 ganancia máxima.

**Palabras clave:** Covid 19, Factor socioeconómico, Análisis Costo Beneficio, Análisis Factorial

## INTRODUCTION

The share of Agriculture in India's National income has declined from nearly 55% in 1950's to less than 25% now. But still India is regarded as an agrarian country as more than 50% of work force of India is engaged in Agriculture (Bhende, 2006; Kalamkar, 2012; Sridharan and Sarvanan, 2013). Many steps have been taken by the government to increase the income of the farmers. Ashok Dalwai committee has given recommendations like to place agricultural marketing in the concurrent list, greater private sector participation in the agricultural marketing, to increase the number of Farmer producer organizations and village producer organizations etc. The main motive of the committee is to suggest the methods by which farmer's income can be doubled (Department of Agriculture, Cooperation and Farmers' Welfare, 2018). Green revolution has made India self reliant in food grain production. But this crop production cannot solve the problem of insufficiency of Balanced diet which the majority of population of our country faces. The consumption of Poultry products is one of the ways by which we can solve the problem of imbalanced Diet (Fenzo et al., 2013; Singh et al., 2019; Vetrivel and Chandrakumarmanglam, 2013). For sustainable food production and poverty alleviation this sector is regarded as an important solution by the FAO's Special Programme for food security (Food and Agriculture organization of the United Nations, 2011; Mandal et al., 2020). In all agricultural sectors, poultry farming is rapidly growing in India. The production of eggs has been

increasing at the rate of 8.5% per year and growth rate of Broiler is around 7.52 percent. As far as overall growth rate for agricultural crop is concerned it is around 2.9% (Department of economic affairs, 2021; Hellin et al., 2015; Kolluri et al., 2020; Zaheer, 2015)

The growth of Poultry sector in India is mainly dependent upon size, resources, ecosystem, culture, and socio economic structure of the area (Thakur et al., 2014; V.A. Kumtakar and P. Kumtakar, 1999). In India around 1 million farmers are associated with poultry farming and 85% of them have less than 2 hectares of land or are landless. India with 103.3billion eggs production per year ranks 3<sup>rd</sup> in eggs production and with 4.1million tones of broiler meat ranks fourth world wide in broiler meat production (National Account Statistics, 2019; Sharath and Yogish, 2020). The ongoing Covid 19 Pandemic has a very devastating effect on poultry sector of the populous country like India. The way Poultry sector has grown in the recent years, it was anticipated that in the year 2020 the growth rate would be around 10-12%, but impact of Covid 19 had an uncommon affect on this sector (Arumuggam et al., 2020; Conroy et al., 2005). The poultry sector has already been hit by the diseases like Bird flu (Avian Influenza) in 2006 in many parts of the world and in 1997 at Hong Kong which had a strong impact on the poultry industry. But the Panic about these diseases was based on the facts. This is not in case of Covid 19 where fake news is circulating at a very fast rate on different platforms (Kumar et al., 2020; Martins, 2012; Swayne et al., 2009).

Even before the Covid 19, the poultry sector was facing many problems like towering cost of production, low level of knowledge among farmers regarding poultry, religious and cultural restriction, fluctuation in prices of poultry products, Insufficient and unhygienic slaughter houses etc (Biswal et al., 2020; Shukla and Bhattacharya, 2020) Moreover, Lower acreage of Maize production in the preceding year before the outburst of Pandemic resulted in increase in feed prices which added to the difficulties of the farmers (Kumar et al., 2020). During Covid 19 the burden of these difficulties mounted on farmers. The rumor of poultry birds as the carrier of corona virus even before the first recorded case in our country was circulating in the social media. The restriction on opening of the Restaurants, hotels, pubs, etc also had a serious impact on Poultry sector (Ramakumar, 2020; Singh, 2020).

The whole supply chain of the poultry got disturbed because of the pandemic. Around 26.9% of families left eating chicken meat and around 20.8% families left the consumption of eggs due to Covid 19 (Kulkarni et al., 2020; S. Aday and M.S. Aday, 2020). Considering the above mentioned difficulties due to Covid 19 and even before the Covid 19 pandemic, there is an attempt to study the socio economic structure and difficulties faced by the Poultry farmers of Kathua Block and also the impact of Covid 19 on profit or loss from the broiler poultry farming in Block Kathua of union territory of J&K.

#### DATABASE AND METHODOLOGY:

In the present paper both primary and secondary data has been used. The collection of Primary data has been recorded on the basis of well structured questionnaires and relevant secondary data has been collected from the Animal Husbandry Department, Kathua. In Kathua District there are around 580 poultry farms and out of

these, 96 are in Kathua Block (Animal Husbandry Jammu. (n.d.). As there are 96 poultry farmers in the study area and out of these 50 poultry farmers were the target respondents for the collection of Primary Data. The choice of selected poultry farmers has been done on the basis of convenience sampling as well as care has been taken to give the fair representation of entire study area keeping into consideration its complex topography.

The Various statistical methods have been used to obtain the desired results of the study. Following are details of the statistical methods used for the study,

1. For Cost Benefit Analysis: To study the impact of Covid 19 on the poultry farms of Kathua Block Cost Benefit Analysis has been obtained.

Farm wise data was collected from different time period (November- December 2019, May- June 2020 and October –November 2020). For Cost benefit analysis average cost of expenses and average returns after selling the poultry birds for all the periods under study was calculated.

For Cost Benefit Analysis different parameters are considered:

**a.** Net Profit (NP)= TR- TCP

Here, TR is Total Revenue and TCP is Total Cost Production.

Total cost production is the amount spent to buy the chicks, feed, medicine, electricity and water bills etc.

Total Revenue is the money received after selling poultry birds and poultry waste.

**b.** Cost Benefit Ratio (CBR)=(TR /TCP)

**c.** Rate of return on investment (RRI)%=(NP/TCP)\*100

**d.** Gross Ratio (GR)= TCP/TR

**e.** Profitability Index (PI) = NP/TR (Islam et al., 2012).

2. In order to obtain the results of the various socio-economic parameters the means of the central tendency have been applied.
3. Further the factor analysis has been used to evaluate the domination of the factors using SPSS (Dhillon, 2013).
4. For preparing the map of block Kathua Arc10.1 software is used.

Study area: Kathua Block is one of the 19 blocks of the Kathua District which lies towards the southern part of the UT of J&K. There are 512 villages in the whole district and out of these, 39 are in block Kathua (National Informatics Centre, 2020). All the villages fall under Kandi and Plain area. In Kandi area there is scarcity of the water as compared to the plain area. The whole region is easily accessible by the roads. NH 44 divides the block into two parts. In Block Kathua maximum temperature occurs in the month of May-June and minimum in the month of Dec-Jan. The month of July receives maximum rainfall with average of 390 mm and maximum number of rainy days with the average of 11.7 (Chief Agriculture office Kathua, 2020). The whole region is conducive for poultry farming as raw material and other facilities are easily available in the Kathua Block. The district headquarters of Animal Husbandry of Kathua is also in the Kathua Block and high tech hatchery along with one

poultry demonstration centre, one poultry extension centre is also available in the Kathua Block (Directorate of economic and statistics, 2016-2017).

The location map of the villages of Kathua Block in Kathua District is shown in the Figure 1.

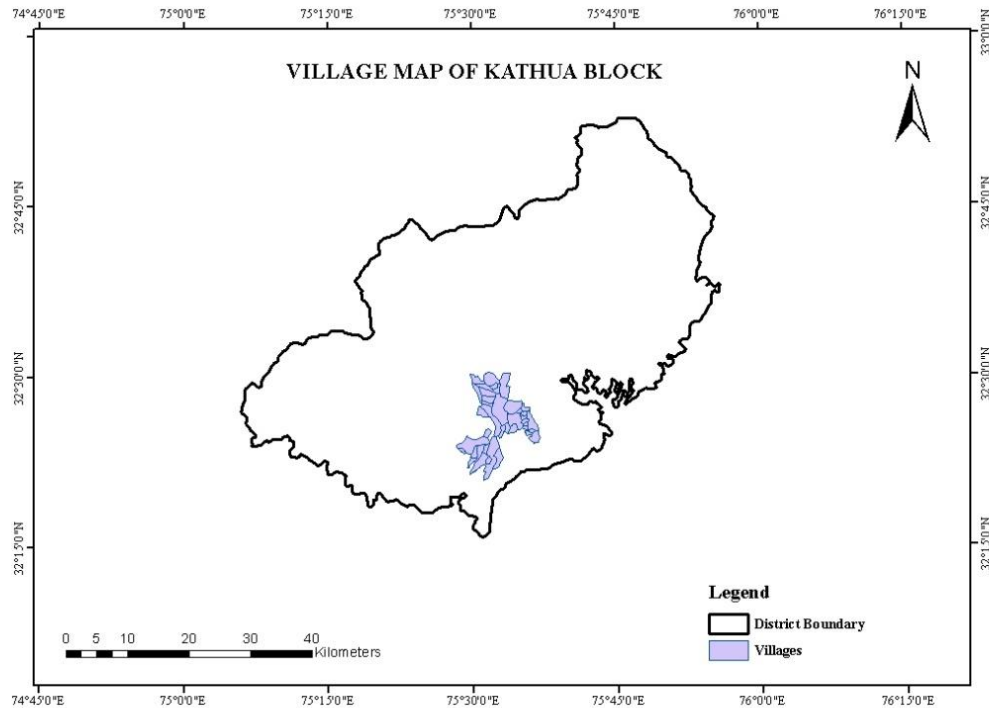


Figure 1: Location Map of the Kathua Block

#### RESULTS AND DISCUSSION:

Poultry farming is one of the prime allied activity of agriculture. This sector is rapidly growing throughout the world as poultry production is the common source of cheap protein. Poultry farming in India consists of both broiler and eggs and in 2018 the poultry market was of worth 1750 Billion Indian rupees and it is expected this market would grow to 4340 billion INR by 2024 (Kumar et al., 2020). In the study area, there is a huge potential for the growth of poultry farming and number of farmers opting for poultry farming has increased in the recent times. That is why it becomes very crucial to study this allied activity of agriculture with reference to our study area.

The finding of the research has been categorized into following ways:

1. The general socio-economic profile of the respondents and the factors responsible for variations in socio economic status of the poultry farmers in the study area.
2. Impact of Covid 19 on the Poultry farming in Block Kathua.

### 1.1. Socio economic status of the Poultry Farmers in Kathua Block

The Socio-Economic status of any area is a basic yardstick to measure the level of development of an area. The farmers who are using modern techniques in their farms are assumed to have sound socio economic status. For the study of socio economic status in Kathua Block 11 parameters were used which are shown in the table 1.

Table 1: Socio-Economic description of the respondents

S.No	Socio economic parameters	Attributes	Frequency	Percentage
1	Age	Less than 35	13	26
		35-55	26	52
		Above 55	11	22
2	Caste/ Religion	General	41	82
		Sikh	4	8
		OBC	3	6
		SC	2	4
3	Education	Never attended school	8	16
		Primary to middle	15	30
		Middle to higher secondary	15	30
		Graduate	10	20
		Above Graduate	2	4
4	Profession	Permanent farmer	41	80
		Part time farmer	9	20
5	Annual Income	Below 300000	36	72
		300000-500000	7	14
		500000-1000000	5	10
		Above 1000000	2	4
6	Undertaken a Training/ Course	Yes	28	56
7	Land holdings	Upto 1 Hectare	38	76
		1-4 hectare	8	16
		More than 4 hectare	4	8
8	Birds Capacity	Less than 1500	9	18
		1500-3000	24	48
		3000-4500	10	20
		More than 4500	7	14
9	Employed Labour	Yes	20	40
10	Place for enquiry	Other farmers	33	66
		Block level official	11	22
		District level official	6	12
		State level official	0	0

In order to understand the socio-economic status of the various farming respondents different socio-economic attributes having impact on the poultry sector are considered. The various socio-economic attributes includes age composition, religious association, level of education, professional backgrounds, annual income, training and understanding of the poultry farming, size of the farms, labour required and consultancy etc have been considered for the study.

It has been revealed from the study that 52 percent of the total farmers from the poultry sector falling in the age category of 35-55 years and 26 percent of the farmers are of 35 years or less. As the poultry sector is getting popularity as one of the main allied agricultural activity among different social sections of the society both at national and regional level. However, the study region has witnessed a different trend. It has been observed that out of the total sampling 82 percent of the poultry farmers are from the general caste. There are 18 percent of the poultry farmers from the backward classes. The least interest of the poultry practices among the backward classes can be attributed to the fact that despite the serious interventions of the government regarding the promotion of allied sector (including poultry) among the weak and vulnerable sections of society. Lack of awareness and improper outreach of the extension services at grass root level are the main cause of the less participation of the backward class in the poultry farming. Education plays a very important role in enhancing the overall knowledge and skills of poultry farmers. Mental ability of the farmers also gets widened by the education. Majority of the farmers have studied up to the middle and higher secondary level. Each incorporates 30 percent of the farmers. There are around 16% of the farmers who never went to school and 40% of the farmers have education qualification above graduation. From the total numbers, 80% of the farmers are permanently engaged with poultry farming, rest have taken this profession as an allied venture.

India is now emerging as a country of small and medium farmers where the size of the agricultural land holdings is shrinking with every passing year. In such a scenario of structural changing in the agricultural sector of India, there is a pressing need of providing all possible support to the farming community of the country to have a diverse option for assured livelihood to have a stable and comfortable life. Poultry farming is one of the upcoming sector of allied livelihood in the agricultural sector where the farmers with small size of land holdings are now going for mix or diverse farming. The similar trend has been witnessed in the Kathua Block of the Union Territory of J&K where out of total sample size under study the 76 percent of the poultry farmers are having their agricultural land holdings upto 1 hectare and have recorded less than 3 lakh of annual income. This clearly reveals that poultry sector provides better income to the farmers and having possibilities for future growth in the study area.

In the field of poultry farming there is a great need for the farmers to be skillful. The trained farmers have the knowledge to take the preventive action and can identify the conditions for proper sanitization, ventilization system, feeding period, vaccination period, deworming period etc. (Ram et al., 2017). There are many initiatives taken by the government to train the unskillful farmers such as Under Poultry development scheme of Department of Animal Husbandry and Animal welfare, various training centers are opened, Poultry vaccination units are also opened under this initiative. In the study region six days short term practical training is provided to the farmers by the department of Animal Husbandry. Various stipends are provided to the backward section of the society under Stipend Scheme for poultry farming training for weaker sections, Stipend Scheme for poultry farming for SCs, Stipend Scheme for poultry farming for STs, and for Divyang people. At the national level these schemes are

providing benefits to the target sections of the societies. But due to lack of awareness among the backward section of the study area, they are lacking behind in taking the advantage of these schemes. Out of the total, 56 percent of the farmers are trained or have some sort of skills. This depicts that 44% of the farmers do not have proper skills as training helps in polishing their existing skills or adds new skills to the kitty of farmers. Forty percent of the farmers have employed labourers for their farms. Maximum of this are those who have opted for this profession as a part time Job and those who have large poultry farms. To consult Poultry related problems 66 percent of the farmers prefer to go to nearby farmers rather than any other government service centers at village or block or district level.

### 1.2. Factor analysis:

The main objective of the Factor analysis is to reduce the number of variables into small groups. It also helps to verify scale constructions, simplify data, to construct indices etc. (Sabouri and Solouki, 2015). In our study there are many variables which are affecting the socio-economic parameters of the poultry farmers. These variables are grouped together into dimensions under the heading of economic factor, social factor and other factor and it is also used for understanding the factors responsible for affecting the socio economic status of the farmers. The result exhibits that three factors namely economic, social and other factors influenced the socio economic status of the farmers. 69.851 percent of the variance has been explained by these factors. Along with Eigen value, percentage of variance and loadings are given in the table number 2 and 3.

Table 2: Outcomes of Factor analysis

S.No	Extraction Sums of Squared Loadings		
	Eigen Value	% of Variance	Cumulative %
1	3.656	30.469	30.469
2	2.737	22.805	53.274
3	1.989	16.577	69.851
	8.382		

Table 3: Factors along with its different components

S.No	Name of the Factor	Components of the Factor	Eigen Value	% of Variance	Loading
1	Economic Factor	Birds Capacity	3.656	30.469	.918
		Annual Income			.649
		Employed Labour			.898
		Importance of loan			.732
		Suitable land			.763
2	Social Factor	Gender	2.737	22.805	.779
		Caste/ Religion			.860
		Marital status			.645
		Level of literacy			.629
3	Other Factors	Occupation (Full time/ Part time)	1.989	16.577	.781
		Seasons			.700
		Modern equipment			.732



Table 2 and 3 emphasize on the outcomes of the Factor analysis. The results of these three factors are explained in the following points:

- i. Economic factors: Financial status of an individual is directly related with the economic factor. Table no. 1.2 this reveals that 30.47 percent of the variance has been explained by the economic factors having Eigen value of 3.656. Components coming under economic factor are Birds capacity, Annual income, Employed labour, Importance of loan, suitable land.
  - ii. Social Factor: This includes influence of people or groups on each other through culture exchange, reference group and family etc. In the present study about 22.805 percent of variance of social factor has been described with Eigen value 2.737. Social factors include the components like Gender, Caste/Religion, Marital status and level of literacy.
  - iii. Other factors: Rest of the variables which do not comes under social or economic factor falls under the category of other factors. Around 16.55 percent of the variance has been explained by the other factors with the Eigen value of 1.989 and components included in this are occupation, seasons affecting poultry, modern equipment.
2. Impact of Covid 19 on the poultry farming in the Kathua Block.

The impact of Covid 19 can be seen on every section of the society. Many people lost their lives and there are millions who got physically or mentally affected by this. Because of Pandemic millions of people are on the verge of falling into extreme poverty. Restrictions on the trade and curtailment of the movement of people resulted into halting the farmers from accessing the market and also restricted them to harvest crops which resulted in unsettling national and international food supply chain. Since last one year, Poultry sector is facing numerous problems from higher feed rate to Pandemic like Covid 19. In the study area around 24 percent of the farmers left the farms closed during the peak time of the pandemic. The entire supply chain got affected by this pandemic but there is very less impact of Covid 19 on the supply of electricity and communication facilities. But around 74% of the farmers faced the problem of unavailability or shortage of labourers as maximum labourers have opted to go to their native places during those difficult days. Around 20% of the total farmers were thinking to shift their occupation from poultry farming to other economic activities.

For calculating and comparing profit or loss of any strategy or system, Cost benefit analysis is the most accepted technique. After comparing two or more values of different parameters of CBA we can easily identify, quantify and expel all the negative aspects. The impact of CBA is stipulated on a particular area such as city, region, state, country, continent and world (Baranchuluun et al., 2016; Malik et al., 2018). In our research it focuses on Block level study. On an average in one year there is a cycle of around 5 to 6 times for the rearing of poultry birds and same is the case in the Kathua Block (Sridharan, 2017). To study the impact of Covid 19 cost benefit analysis was conducted for three different time spans. These different time periods were selected on the basis of intensity of lockdowns. These are selected as follows:

- 2.1. Firstly the primary data required for conducting cost benefit analysis was collected for the month of November-December, 2019. There was no lockdown imposed in our country during this time and normal conditions prevailed, as no case of Covid 19 case was detected in our country.
- 2.2. For the 2<sup>nd</sup> time span, month of May-June of the year 2020 was selected as there was strict lockdown imposed in our country during these months. This was the period during which economic activities of the whole country were halted and Poultry sector was one of those which were adversely affected.
- 2.3. For the final time span, month of October-November of year 2020 was selected. The situation was getting normal and very few restrictions were imposed due to shrinking cases of Covid 19 in our country.

Season wise categorization of different components of cost benefit has been summarized in the Table 4.

Table 4: Season wise distribution of parameters of Cost Benefit Analysis.

Time Span	Range Of Birds	Total cost production (TCP)	Total Revenue (TR)	Net Profit (NP)	Cost Benefit Ratio (CBR)	Rate of return on investment (RRI)	Gross Ratio (GR)	Profitability index (PI)
Nov-Dec (2019)	less than equal to 1500	592800	633555	40755	1.069	6.875	0.936	0.064
	1500-3000	3494400	3734640	240240	1.069	6.875	0.936	0.064
	3000-4500	2184000	2334150	150150	1.066	6.552	0.939	0.061
	More than 4500	3062800	3267810	205010	1.069	6.875	0.936	0.064
	Total	9334000	9970155	636155	1.068	6.777	0.937	0.063
May-June (2020)	less than equal to 1500	917990	453050	-464940	0.494	-50.648	2.026	-1.026
	1500-3000	1567300	773500	-793800	0.494	-50.648	2.026	-1.026
	3000-4500	895600	442000	-453600	0.494	-50.648	2.026	-1.026
	More than 4500	1164280	574600	-589680	0.494	-50.648	2.026	-1.026
	Total	4545170	2243150	-2302020	0.494	-50.648	2.026	-1.026
Oct-Nov (2020)	less than equal to 1500	711620	749521.5	37901.5	1.053	5.326	0.949	0.051
	1500-3000	3910920	4119219	112749	1.053	5.326	0.949	0.051
	3000-4500	1136200	1196715	60515	1.053	5.326	0.949	0.051
	More than 4500	2601300	2739847.5	138547.5	1.053	5.326	0.949	0.051
	Total	8360040	8805303	445263	1.053	5.326	0.949	0.051

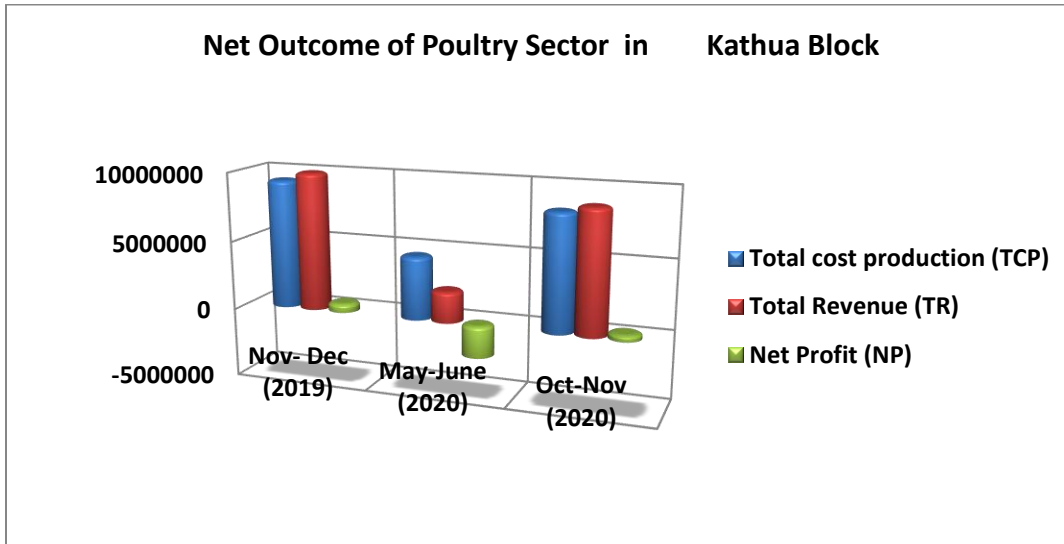


Figure 2: Net Outcome of the Poultry Sector in Kathua Block

Summarized result about the different parameters of CBA is given in the table number 1.4. In each time span grouping of the poultry farms was done on the basis of number of poultry birds. For the Month of Nov-Dec 2019, there was total profit of around 636155 rupees in the whole study region. As the demand for poultry products increased with the onset of the winter season the selling price of the birds also rose. This increased demand resulted in the profit expansion of the farmers. Among the category of less than 1500 birds the profit was the least i.e. 40755 rupees, but above this category each range got more than 1.5 lakh rupees of profit.

For the month of May-June there was a loss of around 2302020 rupees and this was due to the fact that lockdown was at its peak in the whole region at this point of time. Factors like restriction on the movement of people, closed restaurants and rumors etc compiled up to affect the entire supply chain of the poultry farming. The poultry farms with the total bird capacity of 1500-3000 birds got adversely affected with the loss of rupees 793800. The average selling price of each bird came to be around 10 to 20 rupees per kg at this time period which was very low if we compare it with the first and third selected time span. The total cost of production also changed in all the three selected time spans but the cost price of the feed remained almost same in all the three seasons. Prices fluctuated due to the change in the cost price of baby chicks and varying mortality rate of birds in all the different seasons. During the month of Oct-Nov, 2020 there was net profit of around 445263 rupees. If we compare it with the selected 2<sup>nd</sup> season it has improved. This time there is diversification in case of profit making among different category of poultry farms with different bird capacity. The poultry farms with bird capacity of less than 1500 birds and between 3000-4500 birds got less profit as compared to the profit made by other categories

of poultry farms. The poultry farms falling in the range of more than 4500 bird capacity made the largest profit among the different categories of bird capacity.

The values of other parameters of Cost Benefit Analysis do not vary much among different categories of bird capacity in each time span. This means that, result reflects the same value for components of cost benefit analysis like CBR, RRI, GR, and PI among different categories in each time span. There are variations among other components of cost benefit analysis if we compare them by different selected months. The value of cost benefit ratio is almost same at the first and third time span capacity and it is very low that is 0.494 in the month of May-June. Rate of return on investment is also very low in case of 2<sup>nd</sup> time period i.e. (-50.648) but for the time span of Nov-Dec, 2019 and Oct-Nov, 2020 its value is 6.776 and 5.326 respectively. Gross ratio of the first and third time period is also almost same and is different from value of 2<sup>nd</sup> time span. Profitability Index also reflects the same result as shown by other components of CBA. The respective value of first and third time span is 0.0634 and 0.0505 and is very different from the category of month of May-June, 2020. The value of PI of this category is (-1.026). This huge variation among the values of different components of CBA for the month of May-June, 2020 and values of different components of CBA for the month of Nov- Dec, 2019 and Oct-Nov, 2020 reflects the impact of Covid 19 on the poultry farming in Block Kathua. There was huge loss to the poultry sector not only in Kathua Block but throughout India. Although the loss during the month of May-June 2020 is because of Covid 19 but the harsh summer season in this time span also aggravated the loss. People avoided eating poultry products in summer season as compared to the winter season. Even though there was no restriction by the government on the sale of poultry products throughout the year but the non vegetarian population of the country avoided eating poultry products as they did not consider it as essential food item. To counter the problem of the poultry sector "J&K poultry policy, 2020" was launched by the government of UT of J&K. Under this scheme around 50 crore rupees were spent as subsidy annually to establish more poultry farms in the whole UT of J&K.

## CONCLUSIONS

Based on the results of the study, it is concluded that majority of the poultry farmers belonged to the General caste and around 76% of the farmers belong to the category of marginal and small farmers and it is confirmed by the fact that 72% of the farmers have income less than 300000 INR. Out of the total, 80% of the farmers are permanently engaged with poultry farming. This means that they are not doing any other work for their survival. Poultry is the only occupation that they are engaged in. In this study the focus was also on the different variables which are affecting the socio-economic structure of the whole poultry farming community. With the factor analysis methods these variable were subdivided into three major factors namely economic factor, social factor and other factor. Around 70% of the variance has been explained by these three factors. Economic factor is the predominant factor out of all the factors.

To study the impact of Covid 19 Cost Benefit Analysis has been considered for the three different time spans. The result of the CBA revealed that in the month of May-June farmers of the Kathua Block suffered in loss

due to heavy restrictions imposed by the government on the movement of the people. In the month of Nov-Dec, 2019 maximum profit was earned by the farmers among all three different time period due to the fact that there was no case of Covid 19 during this time and no lockdown was imposed at this time.

The UT of J&K spends approximately 900 crore rupees annually for the import of poultry products (News Services Division, AIR, 2020). The government has taken many steps to boost poultry farming in the whole UT of J&K including the Kathua Block. Under National Livestock Mission, which was initiated in the year 2014-15 farmers can get financial aid to adopt new techniques in the poultry farming. During the pandemic time, there are number of ways by which government is assisting farmers to reduce their losses as Poultry sector is one of the most affected economic sector because of Covid 19. "The Indian Bank" has come forward to support farmers and providing loans to the Poultry farmers at very low interest. Under "J&K poultry policy, 2020" 50 crore rupees will be spent annually as subsidy to build more poultry farms in the UT. Farmers of the Kathua Block can take advantage of these opportunities provided by the government and can help themselves and government to bring this sector back on track.

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