

## ECONOMICS OF MARKETING OF SELECTED POULTRY BROILER BIRDS IN KOLHAPUR DISTRICT

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### Introduction:-

India ranks 1<sup>st</sup> in cattle, buffalo, goat and 5<sup>th</sup> rank in sheep and poultry. were 219.6 million cattle, 94.1 million buffalo's, 123.5 million goats, 58.2 million sheep, 17.5 million pigs and 661.5 million poultry birds and it accounts for 56.5, 16.5, 5.5, 1.9 and 1.4 of cattle, buffalo, goat, sheep, pig and poultry the world livestock in 2000. The contribution of animal husbandry and dairying of the GDP was 5.9 percent in 2000-01. Livestock and fisheries accounts for 30.3 percent from the total output of Rs.561717 cores from agriculture and allied sector. The percentage share of agriculture to the total GDP is declining while the livestock in agriculture sector is increasing. The eggs production of poultry has increased ten-fold during the last three decades. The Broiler industry has also increased at the annual growth rate of 17 to 18 percent. The contribution of poultry sector to GDP is 1 percent with an output of Rs.10 billion from poultry sector with extremely low investment of the government. The total livestock sector provides employment to 18 million people (1993-94). Nearly 70 percent of the women employed in this sector and small, marginal and landless farmers own 70 percent of the livestock. The sustainable development of livestock sector is largely depending on the returns from livestock. The WTO agreements of non-tariff barriers have affected the livestock sector because of imports from developed countries. Hence protection to livestock sector because of imports from developed countries. Hence protection to livestock sector is essential to sustain it. The 10<sup>th</sup> plan 2002-07 also emphasized conservation of livestock and relief during disaster and calamities.

The contribution of livestock sector in GDP has increased. The demand for livestock and its production is playing an important role and it has also increased due to increase in population and their income. National institute of dietary recommended that the consumption should be 180 eggs and meat 10.8 Kg per year, but the present per capita consumption is 29 eggs and 566 gm of meat. In India 80 percent of the people are non-vegetarian. Still, men and egg's are inadequate in India. because the population of poultry birds have increased slowly from 73.5 million heads to 352 million heads during 1951 to 1997 registering the AGR of 8.10 percent. The India's share of livestock production is only 1.4 percent to the total world production. The per capita availability has increased marginally from 29 eggs to 34 eggs during 1994-95 to 2001-2002.

Livestock in Kolhapur district shows the better performance in the Maharashtra state. According to 1997. Livestock censuses there were 14.38 lakh livestock population out of which were 19 percent cows and oxen, 33 percent buffalo and he-buffalo's, 26 percent sheep, 15 percent goat and other 7 percent. The total poultry is approximately 24.33 lakh birds (1997). The hybrid variety with foreign breed has also increased. The contribution of poultry of Kolhapur district in the state has increased from 5.84 percent to 6.96 percent during 1982 to 1997.

### Requirement of meat, milk and eggs:-

National Nutritional Policy aimed to increase the livestock production as rich foods. Export committee of ICMR has recommended 60 gm protein per day. The minimum requirement of animal protein per day should be targeted as 20 gm per capita per day. The present availability is only 10 gm. This 20 gm was envisaged in the vision document of department of animal husbandry and dairying ministry of agriculture, which could be

provided through milk (50 percent of 10 gm). Meat (20 percent 4 gm) fish (20percent 4gm) and eggs (10 percent 2gm )

#### Marketing of poultry products:-

The commercial aspect of poultry has changed the land utilization and socio-economic condition of the people and at the same time poultry has become sensitive industry. Despite volatility and turmoil in poultry business it has played an important role in the economy vis-a-vis in the regions. In the regions. In the present marketing system the middleman share is a major part of the consumer rupee. The producers and consumers are the losers in the business Hence . the effective marketing system is very much essential for the sustenance of poultry business.

The study will examine the cost of production.net income. BC ratio BEP income and price , channels . price spread and efficiency of marketing system.

#### Methodology:-

Kolhapur district was selected purposely because of high concentration of poultry including layer and broiler in the district. The well-developed infrastructure development as well as favorable environmental conditions has also helped for the growth of poultry farming In order to study the economic viability only two broiler farms were selected at random and it was classified in to Group-1-500 broiler birds and Group-11-1000 broiler birds . only 2 groups were selected for the collection of data from various sizes of farms. The small. Marginal and landless farmer starts the poultry business with small size because of risk and resource constraint.

#### Statistical Techniques:-

Few concepts have been used to test viability of the broiler farms. BEP:-BEP is the point where the value of output would be equal to the cost incurred  $BEP = FE/PV$  ratio. Producers price wholesale prise-marketing cost. Price spread =price paid by the consumer- price received by the producer . Marketing efficiency =  $MC/MV-1$ .

#### Marketing of poultry channels:-

Channel I = producer  $\longrightarrow$  consumer and channel II = producer  $\longrightarrow$  wholesaler agent  $\longrightarrow$  consumer. The wholesaler / agent has legal tie-up with farmers . The agent will supply the chicks, inedicines ,vaccines, technical guidance etc,and the farmer has to incur only management and labour charges. Here channel II was used as marketing channel. In the channel II entries risk is borne by the agent.

#### Result and Discussion:-

**Table No1 :- Total Poultry in Kolhapur District.**

Year	Maharashtra State	Kolhapur District	% of Kolhapur District
2003	34596079	1258815	3.63 %
2012	77794571	3199328	4.11 %
2019	74297765	3338110	4.49 %

**Source :- District Social and Economic Review District Kolhapur**

Table No. 1 shows the total number of poultry birds in Maharashtra state compared to Kolhapur district. From 2003 to 2019, the number of birds registered has increased from 34596079 to 74297765. The poultry industry has made remarkable progress and contributed to food security.

Table No 2:- Cost of Production of Broiler live weight per kg (Rs.)

SR. No.	Items of Expenditure	Group I (2500)	Group II (5000)	Total	Average
	<b>Capital Investment</b>				
1.	Cost of Shed	550000	900000	1450000	725000
2.	Cost of office cum feed store	85000	140,000	225000	112500
3.	Cost of equipment	98500	170000	268500	134250
4.	Total Capital investment	735500	1210000	1943500	971750
5.	Interest @13% annul	95355	157300	222655	126327
6.	Interest @13% for 45 days	11756	19393	31149	15574
7.	FC for per broiler bird (1.7 kg net)	4.70	3.87	8.57	4.28
8.	FC per Kg of live broiler bird	2.76	2.28	5.04	2.52
	<b>Variable cost</b>				
1.	Cost of day old per chick Rs. 49 and other component costs	122500	245000	367500	183750
2.	Expense on feed for each bird for 6 weeks at 2.5 kg of feed and Rs.39 per kg and per bird Rs.113.10	282750	565500	848250	424125
3.	Electricity, medicine, water, rice bran and other charges Rs.6 per bird for 6 weeks	27500	55000	82500	41250
4.	Attendance charges at Rs.250 per day for 45 days	11250	11250	22500	11250
5.	Remuneration to the owner for management charges Rs.400 per day for 45 days	18000	18000	36000	18000
6.	Transport charges, damages and commission Rs.14.34 per kg	60945	121890	182835	91417
7.	Total variable cost	522945	1016640	1539585	769792
8.	Interest 13% for 45 days on VC	8381	16294	24675	12337
9.	TVC	531326	1032934	1564260	782129
10.	Tc (FC+VC)	543082	1052327	1595409	797703
11.	VC Per bird of 6 weeks	212.53	206.58	419.11	209.55
12.	TC per bird FC +VC	217.23	210.46	427.69	213.84
13.	TC of product per kg boiler.	127.78	123.80	251.58	125.79

Source:- Field Survey ( Figures with in parentheses indicate percentage)

Table No. 2 shows the cost of production of broiler live weight per kg. Only 2 farm size group has taken into account Group - I - 2500 birds and Group - II - 5000 birds. The initial capital required to setup broiler farm according to group was Rs. 733500/- and Rs. 1210000/- The variable capital in Group I and II were Rs.531326/- and Rs.1032934/- respectively . The average FC of capital investment was Rs. 209.55 for six weeks of 3750 birds. The consumer price and the total cost of product of per kg broiler were Rs.170 and Rs.125.79 .

**Table No 3:- price spread in channel – II per kg Broiler**

Sr. No.	Items	Group I ( 2500 )	Group II ( 5000 )	Average
1.	Price received by producer	156.41 (92.00 )	166 (97.64)	168.45 (99.08)
2.	Transport cost	5.14 (2.86)	5.14 (2.86)	5.14 (2.86)
3.	Loss due to mortality approximately	5.29	5.90	5.59
4.	Margin taken by wholesaler /agent	3.16	4.06	3.61
5.	Consumer Price	170	170	170

(Figures within parentheses indicate Percentage)

Table No. 3 shows the price spread of Group 1 and Group II. A consumer price was divided into different items. In Group –I - 2500 and Group – II- 5000, the transport cost was Rs. 5.14. the loss due to mortality was not considered since it was allowed by the agent up to 4 percent Average margin taken by the agent was Rs. 3.61 . The average income per bird was Rs. 76 and per kg was Rs. 44.70 (76/1.7). The share of producer in consumers rupee was marginally low. Marketing efficiency was same i.e.34 for Group I & Group II because both the group were supplying their birds to the agents ( channel II ) (table no.4 )

**Table No 4 :-Estimate of Marketing Efficiency of difference size farms and channels ( Rs )**

Farm Size	Marketing Cost Channel II	Total Marketing Cost	Marketing Values	Marketing Efficiency E=V/C-1
2500 ( P-W-C )	5.14	5.14	170	33.07
5000 ( P-W-C )	5.14	5.14	170	33.07

P=Producer, W=Wholesaler , C= Consumer. E= Efficiency .

**Table No 5 :-****Return from broiler farm per cycle from sample size Group-2500 and Group – 5000 ( Rs )**

Farm size	Gross Income	V.C.	F.C.	T.C.	G.I. Over V.C.	G.I. Over T.C.	B.C. Over V.C.	B.C. Ratio on T.C.
	1	2	3	4 =2+3	5 =1-2	6 =1-4	7 =1/2	8 =1/4
Group-I - 2500	722500 (289)	531326 (212.53)	11756 (4.70)	543082	191174	179418	1.35	1.33
Group-II-5000	1445000	1032934	19393	1052327	412066	392673	1.39	1.37
Total-7500	2167500	1564260	31149	1595409	603240	572091	1.38	1.35
Average3750	1083750 (289)	782130 (208.56)	15574 (4.15)	797704 (212.72)	301620 (80.43)	286045 (76.27)	1.38	1.35

( Figures with in parentheses indicate income per bird )

Table No.5 Shows the returns from different size of broiler poultry farms .The gross income from group I and group II was Rs. 7,22,500 and Rs. 14,45,000. The gross income over VC and TC in group I and II was 5,31,326, 5,43,082 and 10,32,934, 10,52,327. Benefit cost ratio on VC and TC in Group I – 2500 birds and Group II – 5000 birds was 1.35 ,1.39 and 1.33 , 1.37. The average birds of Benefit Cost ratio on VC and TC for 3750 birds were Rs. 1.38 and 1.35.

**Table No 6:-Estimates of Break Even Price and Break Even Production across Different Size of sample Broiler Farms (Rs)**

Farm Size	GI	FC	VC	BEP	BEP Production
Group-I- (2500 birds)	722500	11756	531326	543082	$11756 / 722500 - 531326 = 0.06 \times 2500 = 150 / 1.7 = 88.23$
Group-II- (5000 birds)	1445000	19393	1032934	1052327	$19393 / 1445000 - 1032934 = 0.04 \times 5000 = 200 / 1.7 = 117.64$
Total-(3750 birds)	1083750	15574	782130	797704	$15574 / 1083750 - 782130 = 0.05 \times 3750 - 187.5 / 1.7 = 110.29$

**Figures indicate Kg per cycle and Figures indicate birds per cycle.**

Table No.6 shows the Break Even Point (BEP) of income and production .The BEP was Rs. 543082 for 2500 birds and Rs. 1052327 for 5000 birds .The BEP was increased as size of bird increased BEP per cycle Kg and production of birds were 200 Kg.

#### **Conclusion:-**

India is a country of small marginal and landless farmers. There are engaged in livestock sector for their livelihood. The WTO agreements of non-tariff barriers have affected the livestock sector from developed countries. Hence protection to the poor farmers is essential . Therefore, the 12<sup>th</sup> plan emphasized the conservation of livestock ; immunization , natural health and production system . livestock care relief during natural disaster and calamities etc. The demand for poultry and poultry product has been increasing . The sustainable poultry and poultry products largely depend on the feed supplies and costs . production efficiency and utilization of produce. In order to provide the protein National Nutritional Policy aimed to increase production of livestock . The minimum requirement of animal protein should be 20gm per capita per day .The present availability is only 10gm . Nearly 80 percent of the population of poultry birds have increased from 73.5 million heads during 1951 to 1997 .

The contribution of the Kolhapur in Maharashtra state has from 5.84 percent to 6.96 percent during 1982 to 1997 Marketing of poultry products is a sensitive industry. Despite turmoil and volatility like bird flu and seasonal variations in poultry business. It has played an important role in the economy vis-a-vis in the regions. Kolhapur district was selected because of high concentration of poultry farms. In the present marketing system. The middleman share is a major part of the consumer rupee. In order to study the economics of poultry broiler marketing . only 2 farms were selected at random and it was classified in to Group I and Group II. For marketing of broiler birds, only channel II producer-wholesaler / agent-consumer is selected. In the channel II, agent has legal tie-up with farmers and entire risk is borne by the agent. The initial capital required to start a broiler farm Group I and Group II birds was Rs. 5,50,000 and Rs.9,00,000 and the variable capital was Rs. 531326 and Rs. 1032934. consumer price and TC of production per Kg was Rs.127.78 and Rs. 123.80. The marketing efficiency was 33.07 for both sizes of farms because of the same channel of the marketing. The BC ratio , GI over VC and TC for Group I and Group II was 1.35. 1.33 and 1.39. 1.37. The average BEP of GI and production from WTO agreement and sound environment condition is essential . For economically viable farm at least 1000 birds are essential and marketing of channel should be producer – consumer. The handsome profit depends on the infrastructure, efficient management, market, network, quality chicks . feed and government support etc .

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