



Research Paper

Critical analysis on sale and production : A case of milk and milk products

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ABSTRACT : India is world's largest milk producer, accounting for more than 16 per cent of world's total milk production and is the world's largest consumer of dairy products. The annual milk production of Jammu and Kashmir was estimated 16.51 lakh tonnes and annual compound growth rate was 2.23 per cent in 2014-15. The per capita availability of milk is 302 g/day and its annual compound growth rate was -4.43 per cent in 2013-14. In every market there exists organised and unorganised sectors for the marketing of the milk and dairy products. In the organised and unorganised sector, there are two main agencies- the milk vendors and the halwais, who collect milk from cattle breeders and supply it to the consumers at their doorstep. The organised sector dairies like JKMPCL, They collect milk from their collection depots or points and transport it to the milk plants for processing and manufacturing. The present study was carried out on the basis secondary data and assisted by primary input from the JKMPCL. The results revealed that the growth rate of production of milk during the year 2013-14 to 2014-15 showed increased trend from 0.98 per cent to 2.23 per cent. The per capita availability of milk during the year 2009-10 was 379 g/day but in 2012-13 the annual growth rate of per capita availability was 10.23 per cent showed negative trend in growth rate. The compound growth rate was found negligible in every month like, as in the month of September, 2014, the total sales were 178084 and calculated CGR was 0.03 per cent negative and comprised value of Rs.48.23 lakhs but in the month of October 2014, the result showed increase in the sales to 252258 with CGR 0.03 per cent and had value of Rs. 77.91 lakhs which revealed huge growth of sales of pouch milk in Kashmir division. For total value the compound growth rate was found to be highest 0.17 per cent in the month of December, 2014 where as lowest -0.13 per cent in March 2015.

KEY WORDS : JKMPCL, Marketing, Processing, Compound growth rate

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INTRODUCTION :

India is world's largest milk producer, accounting for more than 16 per cent of world's total milk production and is the world's largest consumer of dairy products. The total amount of milk produced has tripled from 23

million tonnes back in 1973 to 95 million tonnes in 2008 and expected a production level of 135 million tonnes by 2015 but the projected demand for milk by 2021-22 estimated at 180 million tonnes which implies that milk production would have to be doubled. Milk production is growing at growth rate 3.3 per cent while consumption

is growing at 5 per cent leaving a gap between demand and supply. In order to meet the rapid growing demand and to increase the milk production, Union Govt. has started a central scheme as National Dairy Plan-Phase-1, for a period of 2011-12 to 2016-17. This scheme is implemented with the total investment of about 2242 crore. The main objective of this scheme is to help provide rural milk producers with greater access to the organized milk – processing sector and thus to bridge the gap between demand and supply of milk in the country. The present study focused on knowing the present status and importance of milk sector and the increasing or decreasing trend in the production and sales business in the Jammu and Kashmir with special emphasis on Jammu and Kashmir Milk producer's private limited (JKMPCL).

A co-operative is an autonomous association of persons united voluntarily to meet their common economic, social and cultural needs and aspirations through a jointly owned and democratically controlled enterprise. A co-operative is based on certain values and principles of its own, which distinguish it from other forms of organizations. Co-operation has three dimensions, that is, economic, social and moral, which are equally crucial for its success. The very motto of co-operation, 'each for all and all for each', signifies loyalty, trust, faith and fellowship. A co-operative is a perfect democratic institution of the members, for the members and by the members and is based on the 'one member, one vote' system of decision making.

Dairy co-operatives played an important role and one of the largest among the food industries. In the maintenance and promotion of the health of the people the very important role is playing by the modern dairy industry. The main purpose of dairy industry is to provide milk and milk products at reasonable cost that satisfy the consumer's needs and fulfils consumer's nutritional requirements.

Objective of study:

–To study the status of milk and milk products in J &K.

Anonymous (1989) studied that the present production level of milk in the J&K state provides per capita availability of 360g per day, which is higher than the recommended minimum quantity of 250g per day by the Nutritional Advisory Committee of Indian Council of Medical Research.

Sharma *et al.* (2003) have made a similar point and

also identify some of the consequences of surging demand, the demand for milk and milk products in India is expected to rise exponentially due to population growth, urbanization, increase in income levels and changes in food habits and is likely to reach at 181 million tonnes in 2011-12 and per capita consumption is expected to rise to about 152 kg per year. This increase in demand for dairy products will put increasing pressure on dairy production systems.

Banerjee (2007) pointed out that India is the largest producer of milk, producing more than 100 million tons of milk per annum India's milk production increased from 21.2 million tonnes in 1968-69 to 97.1 million tonnes in 2005-06 and to 100 million tonnes in 2006-07. Per capita availability of milk was 245 g per day in 2006-07, increased from 241g per day in 2005-06, up from 112 g per day in 1968-69.

MATERIALS AND METHODS :

The study was based on secondary data supported by primary data. The secondary was collected from the websites, offices, journals and JKMPCL units in Jammu and Kashmir. For analysing the data the study used compound growth rate and statistical techniques to provide the relevant conclusions. The estimated results were highlighted in different tables so as to make a clear interpretation regarding the objective.

Compound growth rate :

The compound growth rate was calculated to show the growth rate of production.

Compound growth rate = $[\text{Ending value} / \text{Beginning value}]^{(1/n)} - 1$
where, n = Number of years.

RESULTS AND DATA ANALYSIS :

Table 1 depicts production of milk and it's CGR in Jammu and Kashmir from 1997-2015. The table revealed that the production of milk during the year 1997-98 was 1167 (000't) which has been grown to 1651 (000't) in the year 2014-15. The data also shows that during 2006-07 there was no growth in the production of milk it remained the same as 2005-06. The growth rate of the data revealed that during the year 2007-08 the growth of milk production was highest with 8.50 per cent. During the year 2013-14 to 2014-15, the growth rate is increased

from -0.98 per cent to 2.23 per cent. The per capita availability of milk during the year 2009-10 was 379 g/day but in 2012-13 the annual growth rate of per capita availability was -10.23 per cent unfortunately it was negative growth. The highest growth rate of per capita availability was high during the year 2007-08 which was 6.90 per cent.

Table 2 shows total sales, total value and their CGR

of pouch milk of Snow Cap in Jammu division of J&K state during 2014-15. The table revealed that there was negligible growth in sales of pouch milk in 2014-15. It is clear from table that total sales of pouch milk in April was 128924 which has value of Rs. 38.87 lakhs and in the month of August the total sales were 123448 which had a value of Rs. 38.93 lakhs. The growth rate of total sales is not showing much growth but monthly growth of

Table 1: Production of milk and its CGR in Jammu and Kashmir from 1997-2015

Year	Production (000't)	CGR (%)	Per capita availability g/day	Annual compound growth rate (%)
1997-98	1167	-	-	-
1998-99	1232	5.57	353	-
99-2000	1286	4.38	362	2.55
2001-02	1360	5.75	367	1.38
2002-03	1389	2.13	365	-0.54
2003-04	1414	1.80	363	-0.55
2004-05	1422	0.57	364	0.28
2005-06	1400	-1.55	353	-3.02
2006-07	1400	0.00	348	-1.42
2007-08	1519	8.50	372	6.90
2008-09	1565	3.03	378	1.61
2009-10	1592	1.73	379	0.26
2010-11	1609	1.07	378	-0.26
2011-12	1614	0.31	352	-6.88
2012-13	1631	1.05	316	-10.23
2013-14	1615	-0.98	302	-4.43
2014-15	1651	2.23	-	-

Source: Department of Animal Husbandry, Dairying and Fisheries, Ministry of Agriculture, GOI. 2014-15
National Dairy Development Board of India 2013-14

Table 2: Total sales, total value and their CGR of pouch milk of snow cap in Jammu division of J & K state during 2014-15

Months	Total sales	CGR	Total value (Lakhs)	CGR
April	128924	-	38.87	-
May	116983	-0.01	36.87	0.00^
June	108724	-0.01	34.23	-0.01
July	110370	0.00^	34.72	0.00
August	123448	0.01	38.93	0.01
Sept.	119304	0.00^	37.69	0.00^
Oct.	106498	-0.01	33.61	-0.01
Nov.	103424	0.00^	32.64	0.00^
Dec.	110496	0.01	34.86	0.01
Jan.	111675	0.01	35.17	0.00^
Feb	110223	0.00^	34.9	0.00^
March	118701	0.01	37.8	0.01

Source: Jammu and Kashmir Milk Producers Cooperative Limited, Details of Sales 2014-15

Note: ^ figures have values of less than 0.001

this much increase is sufficient. Even in festivals the sales remained the same. In the month of July, September, November and February the compound growth rate has values less than 0.001 per cent.

It is clear from the Table 3 total sales, total value and their CGR of pouch milk of Snow Cap in Kashmir division of J and K state during 2014-15 was in the month of April, 2014 as 288061 pouches and have valued at Rs. 84.87 lakhs which has increased in the month of May, 2014 to 317423 pouches and had value of Rs. 94.80 lakhs. Compound growth rate showed very clearly from the table that there was a negligible growth every month like, in the month of September, 2014 the total sales were 178084 and CGR were -0.03 per cent negative and had value of Rs.48.23 lakhs but in the month of October, 2014 the total sales increased to 252258 with CGR 0.03 per

cent and had value of Rs. 77.91 lakhs which means that was huge growth of sales of pouch milk in Kashmir division. From December to February, the total sales have decreased from 269437 to 239096 pouches with decreased value of Rs. 84.29 lakhs to 74.85 lakhs.

Form the Table 4, production of flavoured milk of Snow Cap and its CGR in Jammu division of J & K state during 2014-15 was presented. The data of the table revealed that in April the total flavoured milk production in Snow Cap was 244 liters which had decreased to 208 litres in the month of February. Total value was Rs. 14560 in April, 2014 which had decreased to Rs. 14260 in February, 2015. Compound growth rate showed the positive growth rate of 0.05 per cent in total sales as well as total value for the month of February. In November the total milk production of Snow Cap were 116 litres of

Table 3 : Total sales, total value and their CGR of pouch milk of snow cap in Kashmir division of J & K state during 2014-15

Months	Total sales	CGR	Total value (Lakhs)	CGR
April	288061	-	84.87	-
May	317423	0.01	94.8	0.01
June	304962	0.00	95.59	0.00^
July	313577	0.00^	98.24	0.00^
August	270111	-0.01	84.6	-0.01
Sept.	178084	-0.03	48.23	-0.05
Oct.	252258	0.03	77.91	0.04
Nov.	252968	0.00^	79.16	0.00^
Dec.	269437	0.01	84.29	0.01
Jan.	257563	0.00^	80.65	0.00^
Feb	239096	0.01	74.85	-0.01

Source: Jammu and Kashmir Milk Producers Cooperative Limited, Details of Sales 2014-15

Note: ^ figures have values of less than 0.001

Table 4: Production of flavoured milk of snow cap and its CGR in Jammu division of J & K state during 2014-15

Months	Total milk (Ltr.)	CGR (%)	Total value (Rs.)	CGR (%)
April	244	-	14560	-
May	264	-0.01	17160	-0.02
June	220	0.02	14300	0.02
July	108	0.06	7020	0.06
August	112	0.00^	7280	0.00^
Sept.	36	0.10	2400	0.10
Oct.	132	-0.13	8720	-0.12
Nov.	116	0.01	761	0.20
Dec.	312	-0.09	20340	-0.35
Jan.	348	-0.01	25240	-0.02
Feb.	208	0.05	14260	0.05

Source: Jammu and Kashmir Milk Producers Cooperative Limited, Details of Sales 2014-15

Note: ^ figures have values of less than 0.001

Rs. 761 which had increased in January, 2015 upto 348 liters with value of Rs. 25240. In some months the growth was negligible less than values of 0.001 but sometimes it increased and sometimes it decreased.

Table 5 production of curd of Snow Cap and its CGR in Jammu division of J&K state during 2014-15 revealed that in April, 2014 the total sale of curd of Snow Cap was 16157 litres which had decreased to 15482.4 litres in the month of March, 2015 with highest sale of 19030.8 litres in the month of June, 2014. It is clear from the table that total value has been increased from 78.87 lakhs in April, 2014 to 88.29 lakhs in March, 2015. Compound growth rate showed the highest growth rate

0.03 per cent during the month January, 2015 and was observed to be lowest -0.03, -0.02 and -0.01 (July, November and September, 2014). For total value the compound growth rate was found to be highest 0.03 per cent in the month of January, 2015 whereas lowest -0.01 per cent in July, August September and October, 2014.

From the Table 6 production of curd of Snow Cap and its CGR in Kashmir division of J&K state during 2014-15 revealed that in April, 2014 the total sale of curd of Snow Cap was 20934.5 liters which had increased to 22730.1 litres in the month of March, 2015 with highest sale of 54388.8 litres in the month of June, 2014. It is clear from the table that total value had increased from

Table 5 : Production of curd of snow cap and its CGR in Jammu division of J&K state during 2014-15

Months	Total sales	CGR	Total value (lakh)	CGR
April	16157.00	-	78.87	-
May	18043.00	0.01	88.35	0.01
June	19030.80	0.00 [^]	95.18	0.01
July	14944.60	-0.02	82.65	-0.01
August	12770.20	-0.01	70.73	-0.01
Sept.	11416.80	-0.01	63.1	-0.01
Oct.	9746.50	-0.01	53.57	-0.01
Nov.	6816.00	-0.03	37.78	-0.03
Dec.	7450.00	0.01	42.13	0.01
Jan.	10366.60	0.03	59.75	0.03
Feb	12340.00	0.01	71.15	0.01
March	15482.40	0.02	88.29	0.02

Source: Jammu and Kashmir Milk Producers Cooperative Limited, Details of Sales 2014-15

Note: [^] Figures have values of less than 0.001

Table 6 : Production of curd of snow cap in Kashmir division of J&K state during 2014-15

Months	Total sales	CGR	Total value (lakh)	CGR
April	20934.5	-	10.69	-
May	47125.4	0.07	24.51	0.07
June	54388.8	-0.01	30.01	0.02
July	34150.7	-0.04	20.71	-0.03
August	44898.6	0.02	28.26	0.03
Sept.	10618.6	-0.11	66.23	0.07
Oct.	28922.9	0.09	17.9	-0.10
Nov.	18615	-0.04	11.04	-0.04
Dec.	12887	-0.03	76.15	0.17
Jan.	14176	0.01	83.57	0.01
Feb	13188	-0.01	77.73	-0.01
March	22730.1	0.05	13.8	-0.13

Note: [^] figures have values of less than 0.001

Source: Jammu and Kashmir Milk Producers Co-operative Limited, Details of Sales 2014-15

10.69 lakhs in April, 2014 to 13.8 lakhs in March, 2015. Compound growth rate showed the highest growth rate 0.09 per cent during the month October, 2014 and was observed to be lowest -0.11 September 2014. For total value the compound growth rate was found to be highest 0.17 per cent in the month of December, 2014 whereas lowest -0.13 per cent in March 2015.

Conclusion:

It is concluded that the production of milk during the year 2013-14 to 2014-15, the growth rate is increased from -0.98 per cent to 2.23 per cent. The per capita availability of milk during the year 2009-10 was 379 g/day but in 2012-13 the annual growth rate of per capita availability was 10.23 per cent unfortunately it was negative growth. The highest growth rate of per capita availability was high during the year 2007-08 which was 6.90 per cent. The study also concluded that there was negligible growth in sales of pouch milk in 2014-15. The compound growth rate showed very clearly from the table that there was a negligible growth every month like, in the month of September, 2014 the total sales were 178084 and CGR were 0.03 per cent negative and had value of Rs. 48.23 lakhs but in the month of October, 2014 the total sales increased to 252258 with CGR 0.03 per cent and had value of Rs. 77.91 lakhs which means that was huge growth of sales of pouch milk in Kashmir division. From December to February, the total sales have decreased from 269437 to 239096 pouches with decreased value of Rs. 84.29 lakhs to 74.85 lakhs. In terms of the total flavored milk production in Snow Cap was 244 litres which had decreased to 208 litres in the month of February. Total value was Rs. 14560 in April, 2014 which had decreased to Rs. 14260 in February, 2015. Compound growth rate showed the positive growth rate of 0.05 per cent in total sales as well as total value for the month of February. In November the total milk production of Snow Cap were 116 liters of Rs. 761 which had increased in January, 2015 upto

348 liters with value of Rs. 25240. In some months the growth was negligible less than values of 0.001 but sometimes it increased and sometimes it decreased. In terms of production of curd of Snow Cap and its CGR in Kashmir division of J&K state during 2014-15 revealed that total value had increased from 10.69 lakhs in April, 2014 to 13.8 lakhs in March, 2015. The compound growth rate showed the highest growth rate 0.09 per cent during the month October, 2014 and was observed to be lowest -0.11 September 2014. For total value the compound growth rate was found to be highest 0.17 per cent in the month of December, 2014 where as lowest -0.13 per cent in March 2015.

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