

# IMPORTANCE OF DAIRY SECTOR IN INDIA

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## ABSTRACT

The Dairy sector has grown significantly over the years in India. The dairy sector plays a prominent role in agricultural and food policy India is not only the largest milk producer and consumer, but also is one of the fastest growing and lowest cost milk producers in the world. The most of world largest milking herd in India. Data show that milk production has been expanding at about 4.2 percent annually since 2000. India ranks first among the world's milk producing nations because of prudent policy and achieving an annual output of 155.49 million tonnes during the year 2015-16 as compared to 146.31 million tonnes during 2014-15 registering a growth rate of 6.27 %. According to FAO reported 1.8% increase in world milk production from 789 million tonnes in 2014 to 803 million tonnes in 2015. This represents a continued growth in the availability of milk and milk products for growing population.

**Keywords:** Milk production, GDP, livestock, million tonne, CAGR

## 1. INTRODUCTION

Dairy products are a conventional and nutritionally important component of average diets. Trade in dairy products has been little relative to production and consumption, with India shifting from a net importer of milk powder and butter oil up until the early 1990s to a net exporter, primarily of milk powder and casein products, since the early 2000s. India's dairy sector has the potential for a more significant role as a dairy product exporter and importer. Dairying has become a significant secondary source of income for millions of rural families. It has presumed the most important role in providing employment and also income generating opportunities especially for women and marginal farmers. In 2015-16, The per capita availability of milk has reached a level of 337 grams per day, which is more than the world average of 299 grams per day in 2015. In the Country most of the milk is produced by small, marginal farmers and landless labourers. 15.83 million Farmers have covered by 198 dairy cooperative milk unions up to March 2016. In the year of 2015-16, The Cooperative Milk Unions have procured an average of 42.55 million kg per day of milk as compared to 38 million kg per day in the previous year registering a growth of 12%. In the year of 2015-16, the sale of liquid milk by the Cooperative Dairies has reached 32 million liters per day as compared to 31.24 million liters per day recording a growth of 2. The Department efforts in the dairy sector to promotion of dairy activities including non-operation flood areas with emphasis on building up cooperative infrastructure,

revitalization of sick dairy cooperative milk unions and creation of infrastructure in the States for production of quality milk and milk products. The National Dairy Development Board (NDDB) carries on its activities for overall development of Dairy Sector in Operation Flood areas.

Future visions for India's role in world dairy markets likely pivot on its ability to improve the low productivity of its milking herd, and on the growth and competitiveness of its promising dairy product sectors. For productivity gains will be the continued expansion of India's relatively high-yielding crossbred dairy herd, along with continued growth in buffalo milk production. In both cases, output gains are more and more dependent on improving now-deficient supplies of feeds and enhancing genetics. Both may provide opportunities for trade. Cooperative and private-sector dairy processors have been successful in meeting growing domestic demand for dairy products in India. But there is some degree of information with which to assess the future growth and competitiveness of India's dairy processors, and particularly the relatively promising private dairy sector.

## 2. REVIEW OF LITERATURE

Khem Chand et al. (2004) in their attempt to analyse the livestock composition, population pattern and factors affecting it in the arid zone of Rajasthan. For the purpose of study, secondary data of livestock population pertaining the animal census year 1961, 1966, 1972, 1977, 1983, 1988, 1992 and 1997 were collected. For the estimation of fodder availability, data on crop production, hallow land, cultural waste and policy area etc. were collected for the year. 1996-1997. The requirement of fodder and nutrient intake was also estimated for the region. The study revealed an increase in buffalo population in the region while a sharp decline was observed in per cent share of cattle in the total livestock population. The major deficiency of fodder was felt in the case of bovine in the arid region. The factors responsible for increase in buffalo's population are increasing cropping intensity and rural population density in the arid region while the same factors resulted in a decrease in cattle population. The arid region farmers also adopted buffalo as drought resistance strategy since unproductive buffalo can be sold during drought, which does not affect the religious sentiments as in the case of cattle. The study recommends storage of foliage produced in good monsoon year for use in the deficit period. The government of India is also implementing a scheme for this region for developing and rejuvenate the pasture land to be available on the large scale to improve the livestock situation in this region.

Karmakar K.G. et al. (2006) pointed out that growth in milk production is likely to continue at the present rate of 4.4% in the near future. Who is going to handle this incremental milk? We must bear in mind is both income and price. We must bear in mind both income & price elasticity account for approximately 15% of the total expenditure of food. Demand for milk, at current rate of income growth is estimated to grow at 7% per annum. Interestingly, demand for milk is expected to grow

steadily over the next two decades as the low income rural and urban families who have higher expenditure elasticity would also increase their income due to new economic environment.

Waghmare P.R. et al.(2007)examined that Milk productions in India during 1950-51 was 17 million tonnes which has reached 78 million tonnes in 1997-98. at the moment India ranks first in the world in milk production. The Operation Flood Programme was involved in dairy development activities. These programmes are useful in raising the standard of living of farmers.

Radha Krishnan et al.( 2008) according to author growing human population, rising per capita income and increasing urbanization are fuelling rapid growth in the demand for food and animal origin in developing countries. India holds the largest livestock population in the world. Opposing to the large population of livestock in India productivity of Indian livestock is low compared to many developing countries.

Rajendran. K. and Dr. Prabakaran. R., (1998)<sup>46</sup> pointed out the present Scenario of milk Production in India. India's agriculture has been dominated by the belief that its base is in crop production. Also, the focus should be shifted from quantity to quality in the daily diet by enhancing the intake of animal proteins, the major source of which are milk, eggs and meat. In recent years, one unfortunate trend has seen the decreasing per capita availability of pulses, the only major source of protein for the large majority of the population. The nutritional demand has to be bridged rapidly and the milk, egg and meat provide affordable alternative sources of protein. Recently, the annual rate of the growth in milk production has been encouraging which has gone up from 4.5 percent in the seventies to 5.7 percent in the eighties. Today, India ranks as the World's second largest milk producer after USA. By then, India's milk output is expected to range between 84 million tonnes at the minimum and 88 million tonnes at the maximum. India's per capita consumption of milk does not commensurate with its ranking as world second largest milk producer. However, the present per capita availability of 214 grms / day (78 kgs / year) is much higher than the average of 26.27 kg / year for the developing countries in Asia / Pacific region. Today milk is India's second most important agricultural commodity in terms of value of its output, ranking after paddy, but much above wheat.

Ramakrishnappa. V. et al.(2006) opined that the dairy enterprise is an established sector in rural India and is playing a vital role in generating additional income and employment. In Karnataka, dairy development is a positive and significant as state contributes towards milk production, marketing, and processing of various dairy products in India. The microfinance programmes extended in dairy sector are helpful to take up dairy as main occupation among economically backward communities in the state. In this paper, an attempt was made to analyze the different aspects of microfinance scheme (New Swarnima) implemented by KBCDC. The implementation of

New Swarnima Scheme, one of the most popular microfinance schemes in the state to promote dairy among backward communities, was assessed at micro level by selecting 18 beneficiaries belonging to landless labourers, marginal and small farmers in Kolar district in Karnataka state. The study found that the microfinance scheme has positive impact on income and employment generation, and has improved the natural resource management options.

The paper has looked into the process of structural transformation of India's dairy sector. During the past two decades, the sector grew at the rate of 4 per cent per year, making milk as the single largest agricultural commodity in the country. The growth in dairying has primarily been driven by yield improvement. A conspicuous shift has been observed in the composition of dairy herd from traditional to crossbred cows and buffaloes, and this led to improvements in milk-yield. Genetic enhancement, better management of stock and farmers' improved access to milk markets have driven the process of transformation. Nevertheless, the status of dairy infrastructure and the delivery of veterinary services in the country are still poor and concerted efforts are required to bring about further transformation

The purpose of the paper was to analyze the main trends in the milk and dairy products market in Romania in the period 2007-2012 and to set up the forecast for the 2013-2015 horizon, based on the empirical data provided by the National Institute of Statistics and Euro stat and using the fixed basis index, average change method, and comparison method. Milk production for consumption reached 210 thou tons in 2012 registering a descending trend. Despite that milk production decreased in the period 2007-2012, the production diversification applied by dairies supported the growth of dairy products output as follows: by 13.54 % for milk, by 3.45 % for sour cream, and by 13 % for butter. The forecast for the year 2015 provides that the production of dairy products will account for: 223,936.6 tons milk for consumption, 48,709.4 tonnes sour cream, 166,674.2 tons acidulated milk, 9,937.6 tons butter and 66,584.4 tons cheese. The development of milk processing imposes the improvement of production technologies, products quality, efficiency and competitiveness. Due to the unbalanced demand/offer ratio, after the elimination of milk quota, the Romanian milk and dairy products market will be invaded by foreign products.

The current study discuss about the status of dairy industry in selected districts of Punjab, Pakistan. The data was collected by visiting farms individually and processed to calculate percentages for suitable demonstration. The study showed that farmers with high level of education and training have more productivity. 62% farmers had higher secondary and most of the farmers had more than five years of experience in the field. 47% farm animals were belonging to buffalo breed Nili Ravi followed by a cow breed Sahiwal (29 %) and crossbreeds cows (20 %), while Australian cow breed was only 3 % of the total animals on the farms in paper. Basically study mainly explains about the



farm production and management on the selected farm. The results of the study will help for further planning to improvement in the dairy sector.

Gangasagare, P.T. and Karanjkar, L.M. ( August 2009) The research paper to review the condition of dairying in Marathwada with the purpose to study various developments of milk production and socio-economic status of the dairy farmers. The survey taken eight districts of Marathwada region. According to this study about 59 per cent of the dairy farmers belong to general (unreserved) category, 25 per cent were backward class and only 8 per cent each of SC and S.T. The landless dairymen equally contributed with sdairymen having (large) land; 13 landless dairymen. The major differences among the means point out that as the number of milch animals increased, the herd lactation performance decreased. The animals kept by joint family were not properly cared for while they were cared well by single family.

Ohlan ,Ramphul (2013)The author assesses the total factor productivity (TFP) growth and efficiency levels in the Indian dairy processing industry using the Tornqvist index and data envelopment analysis (DEA) models over the period 1980-2008.They use a different empirical approach and extend the data sets. DEA frontier is used to examine the nature of scale inefficiency, non-increasing returns. The results suggested that total factor productivity in the Indian dairy processing industry has grown significantly. The study observed that an average technical efficiency level was 72% and 38% inefficiency level. It noted the devaluation in terms of real effective exchange rate, profitability, and export and import penetration. In this study, it was noticed that a high volume of milk does not reach to milk processing plants in India. It suggested to efficient utilization of existing processing capacity in dairy plants, a organized investment is needed in logistics of raw milk collection and infrastructure development. The European model may be used as a benchmark in strengthening milk farmers for increasing farm size and building own processing capacity

### 3. OBJECTIVES

The objectives of the present study are given below:

- To analysis the milk trends in India and states of India.
- To study the Share of Agriculture and Livestock Sector in GDP

### 4. RESEARCH METHODOLOGY

The data has been collected from secondary sources. The data has been collected from annual reports of Dairy Development department in India and National Accounts Statistics-2012; Central Statistical Organisation; Ministry of Statistics & Programme Implementation.

### 5. RESULTS AND DISCUSSION

Table1. Estimates of Milk Production - State wise (000 tonnes)

Estimates of Milk Production - State wise (000 tonnes)														
State	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
All India	80607	84406	86159	88082	92484	97066	102580	107934	112183	116425	121848	127904	132431	137685
Andhra Pradesh	5521	5814	6584	6959	7257	7624	7938	8925	9570	10429	11203	12088	12773	13007
Arunachal Pradesh	42	42	46	46	48	48	49	32	24	26	28	22	23	43
Assam	683	682	705	727	739	747	750	752	753	756	790	796	800	815
Bihar **	2489	2664	2869	3180	4743	5060	5451	5783	5934	6124	6517	6643	6844	7197
Goa	45	45	46	48	57	56	57	58	59	59	60	60	61	68
Gujarat	5312	5862	6089	6421	6745	6960	7533	7911	8386	8844	9321	9817	10315	11112
Haryana	4850	4978	5124	5221	5222	5299	5366	5442	5745	6006	6267	6661	7040	7442
Himachal Pradesh	761	756	773	786	870	869	933	1007	1026	971	1102	1120	1139	1151
J & K	1321	1360	1389	1414	1422	1400	1400	1519	1565	1592	1609	1614	1631	1615
Karnataka	4599	4797	4539	3857	3917	4022	4124	4244	4538	4822	5114	5447	5718	5997
Kerala	2605	2718	2419	2111	2025	2063	2119	2253	2441	2509	2645	2716	2791	2655
Madhya Pradesh	4761	5283	5343	5388	5506	6283	6374	6572	6855	7167	7514	8149	8838	9599
Maharashtra	5849	6094	6238	6379	6567	6769	6978	7210	7455	7679	8044	8469	8734	9089
Manipur	66	68	69	71	75	77	77	78	78	78	78	79	80	82
Meghalaya	64	66	68	69	71	73	74	77	77	78	79	80	81	82
Mizoram	14	14	15	15	16	15	16	17	17	11	11	14	14	15
Nagaland	51	57	58	63	69	74	67	45	53	78	76	78	79	81
Orissa	876	929	941	997	1283	1342	1431	1625	1598	1651	1671	1721	1724	1861
Punjab	7777	7932	8173	8391	8554	8909	9168	9282	9387	9389	9423	9551	9714	10011
Rajasthan	7455	7758	7789	8054	8310	8713	10309	11377	11931	12330	13234	13512	13946	14573
Sikkim	35	37	45	48	46	48	49	42	42	44	43	45	42	46
Tamil Nadu	4910	4988	4622	4752	4784	5474	6277	6540	6651	6787	6831	6968	7005	7049
Tripura	77	90	79	84	86	87	89	91	96	100	104	111	118	130
Uttar Pradesh	13857	14648	15288	15943	16512	17356	18094	18861	19537	20203	21031	22556	23330	24194
West Bengal	3471	3515	3600	3686	3790	3891	3983	4087	4176	4300	4471	4672	4859	4906
A&N Islands	22	23	26	25	24	20	23	24	26	24	25	26	21	14
Chandigarh	43	43	43	44	43	46	46	47	47	46	45	45	44	44
D&N Haveli	8	8	8	8	4	5	5	10	10	10	11	11	11	11
Daman & Diu	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Delhi	291	294	296	299	303	310	288	445	450	466	480	502	287	284
Lakshadweep	2	2	2	1	1	2	2	2	2	2	2	2	2	6
Puducherry	37	37	37	40	41	43	45	46	46	46	47	45	47	47
Chhattisgarh	777	795	804	812	831	839	849	866	908	956	1029	1119	1164	1209
Uttarakhand	1025	1066	1079	1188	1195	1206	1213	1221	1230	1377	1383	1417	1478	1550
Jharkhand	910	940	952	954	1330	1335	1401	1442	1466	1463	1555	1745	1679	1700

Source: National Accounts Statistics-2012; Central Statistical Organisation; Ministry of Statistics & Programme Implementation, GoI.

The table 1 shows the Trends of Total Milk production in India and its states during the study period. Total Milk production trend goes upward direction in India and its states except Arunachal Pradesh, Lakshadweep, A&N Islands . During analysing the annual growth rate in milk production it is not only declining but shows slow growth. The higher value of production of milk was **137685 (000 tonne)** in 2013-

14. Table shows that the total production increased from **80607 MT** in 2005-06 to **137685(000 tonne)** in 2013-14 and registering a negative compound annual growth rate of -4.40 per cent and mean value was 117.33 over the study period in India. The higher value of production of milk was **137685 (000 tonne)** in 2013-14.

Table2. Share of Agriculture in GDP - At current prices

Years	Total GDP	GDP Agriculture	% Share
2004-05	2971464	476634	16
2005-06	3390503	536822	15.8
2006-07	3953276	604672	15.3
2007-08	4582086	7,16,276	15.6
2008-09	5303567	806646	15.2
2009-10	6091485	924581	15.2
2010-11	7157412	1093806	15.3
2011-12	8353495	1268081	15.18
2012-13	9388876	1417468	15.1

Source: National Accounts Statistics-2012; Central Statistical Organisation; Ministry of Statistics & Programme Implementation, GoI.

Figure2. Share of Agriculture in GDP - At current prices

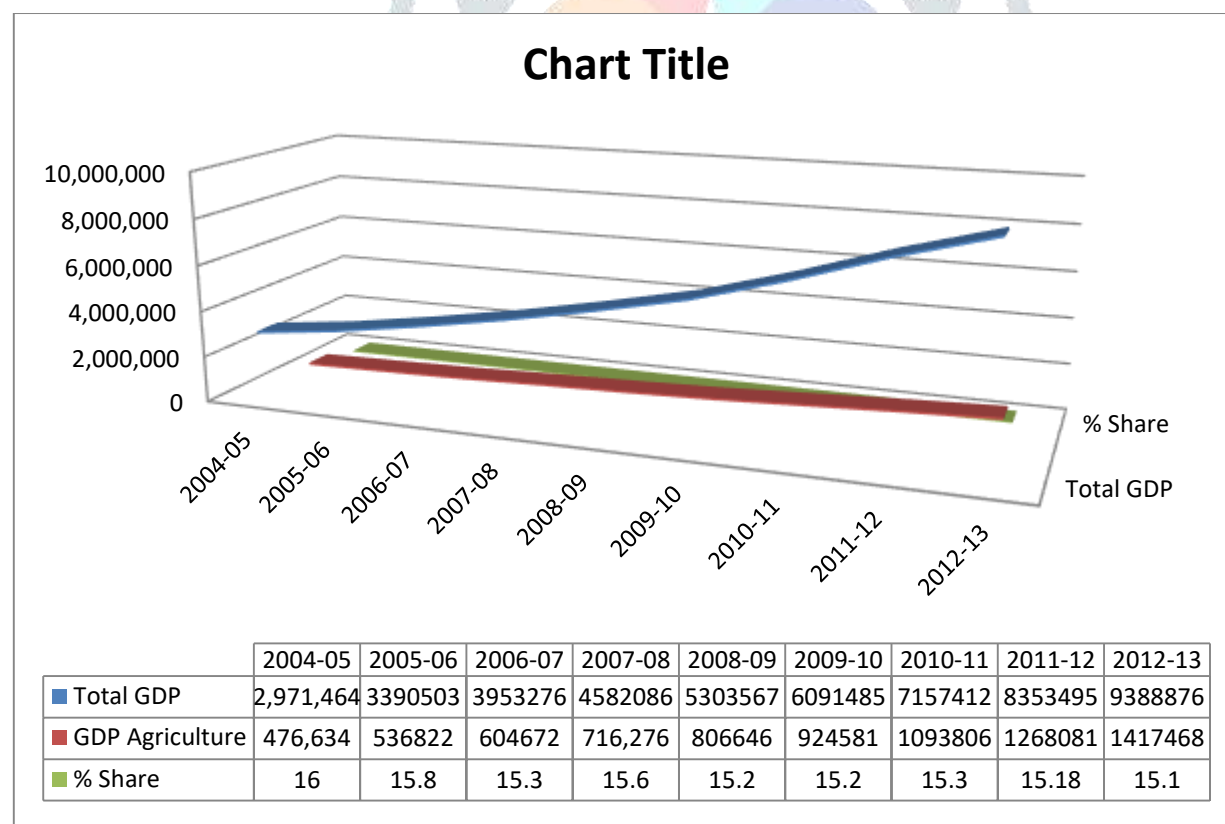


Table 2 shows the Share of Agriculture in GDP at current prices during the study period. Agriculture share goes downward direction in India. During analyzing the annual the Share of Agriculture in GDP is not only declining but shows slow growth. The higher value of production of milk was **16%** in 2004-05. Table

shows that the total share decreased from 16% in 15.1% over the study period in India. The lowest share of agriculture was **15.1%** in 2012-13.

## CONCLUSION

India's dairy sector has the likely for a more momentous role as a dairy product exporter and importer. Dairying has become a major secondary source of income for millions of rural families. It has recognized the most important role in providing employment and also income generating opportunities mostly for women and marginal farmers. Total Milk production trend goes upward direction in India and its states except Arunachal Pradesh, Lakshadweep, A&N Islands. The total production increased from **80607 MT** in 2005-06 to **137685(000 tonne)** in 2013-14. Agriculture share goes downward direction in India. During analyzing the annual the Share of Agriculture in GDP is not only declining but shows slow growth. The higher value of production of milk was **16%** in 2004-05.

## REFERENCES

1. Singh ,Mandeep and Joshi, A.S.(2008) Economic Analysis of Crop Production and Dairy Farming on Marginal and Small Farms in Punjab, Agricultural Economics Research Review, 2008, vol. 21, issue 2 p.30
2. Ohlan ,Ramphul (2013) Efficiency and Total Factor Productivity Growth in Indian Dairy Sector Quarterly Journal of International Agriculture 52 (2013), No. 1;p- 51-77
3. S. Kunte, Bhagyashree , Prof. Patankar ,Sanjay (june2015) Volume 5/Issue 6/Article No-2 A LITERATURE REVIEW OF INDIAN DAIRY INDUSTRY International Journal of Management Research & p- 341-350
4. Narayana (2001), "Dairying in Malabar: A Venture of the Landowning based on Women's work?", Indian journal of Agricultural Economics, Vol. 57, No. 4, P.712.
5. Subburaj, M, Ramesh Babu ,T, Subramonian ,B. Suresh (May 2015) A Study on Strengthening the Operational Efficiency of Dairy Supply Chain in Tamilnadu, India Procedia - Social and Behavioral Sciences Volume 189, 15 May 2015, Pages 285–291
6. Sembada ,Pria, Duteurtre ,Guillaume, Purwanto Bagus Priyo & Suryahadi june(2016) Improved milk production performance of smallholder farms in West Java (Indonesia) Tropical Animal Health and Production
7. Rajeshwaran S, Gopal Naik(2014) Milk production in India rises by a historic 6.25% in 2014 -15: A boon or a bane? working paper no: 518



8. Ahmad, M., and E. B. Bravo-Ureta, 1995, An Econometric Decomposition of Dairy Output Growth: American Journal of Agricultural Economics, v. 77, p. 914-21.
9. Annual Administrative Report of Dairy Development Department 2010-11
10. Annual Administrative Report of Dairy Development Department 2011-12
11. Annual Administrative Report of Dairy Development Department 2012-13
12. Annual Administrative Report of Dairy Development Department 2013-14
13. Annual Administrative Report of Dairy Development Department 2015-16
14. <http://pddb.in/Content.aspx?guid=qpbhdKadhac=>
15. <http://punjab.gov.in/animal-husbandry>
16. <http://dahd.nic.in/about-us/divisions/cattle-and-dairy-development>
17. Rajendran. K. and Dr. Prabakaran. R., (1998), "Present Scenario of milk Production in India", Agricultural Situation in India, Vol. LV, November, No. 8, P-489.
18. Radha Krishnan, Nigam. S. and Shantanu Kumar (2008), "Contribution of livestock in Indian Scenario", Agricultural Situation in India, Vol. 66, Issue 1, April, Pp. 25-28.
19. Waghmare P.R. and Hedgire D.N. (2007), "Econometric analysis of integrated dairy development Programme in Parbhani District", Agricultural Situation in India, Vol. 64, Issue 3, Pp. 97-101.
20. Khem Chand and Gajja B.L. (2004), "Livestock Population: Composition and Trends in Arid Rajasthan" Indian journal of Agricultural Economics, Vol. 59, No. 3, July-Sep., Pp.609.
21. Karmakar K.G. and Banerjee G.D. (2006), "Opportunities and Challenges in The Indian Dairy Industry", Technological Change, Issue 9, Pp.24-26.
22. Ramakrishnappa. V. and Jagannatha Rao. R. (2006), "Emerging microfinance issues in dairy development: a case study from Karnataka, India", International Journal of Agricultural Resources, Governance and Ecology, Vol. 5, Issue 4, Pp. 399-412.
23. Kumara ,Anjani , Parappurathua Shinoj and Joshi P.K. (2013) "Structural Transformation in Dairy Sector of India" Agricultural Economics Research Review Vol. 26 (No.2) pp 209-219