



GOVERNMENT OF KERALA DAIRY DEVELOPMENT DEPARTMENT



STATE PLAN SCHEME 2024-25

DETAILED PROJECT REPORT

**KERALA STATE DAIRY MANAGEMENT
INFORMATION CENTRE (KSDMIC)**

HEAD OF ACCOUNT:

**2404-00-102-69-34-OC-03-OTHER
ITEMS Plan**

PLAN OUTLAY: Rs. 50.00 Lakh

**DPR : KERALA STATE DAIRY MANAGEMENT INFORMATION CENTRE
: 2024-25**





EXECUTIVE SUMMARY

KERALA STATE DAIRY MANAGEMENT INFORMATION CENTRE

HEAD OF ACCOUNT: 2404-00-102-69 -34-OC-03-Other Items

PLAN OUTLAY: ₹ 50.00 Lakh

The Kerala State Dairy Management Information Centre was established on 2021 as per the Government Order G O (RT) No. 75/2021/DD dated 29.09.2021. The KSDMIC is proposed to be an epicentre for data collection, data migration, data processing, data analysis and data management aiding planning activities of the Dairy Development Department. The KSDMIC also intends to integrate the departmental activities pertaining to Fodder Development, Nutrition-Feeds and Fodder, Utilization of Non-conventional feed stuffs for dairy animal feeding as well as indigenous dairy products. The proposed centre will be managed by an advisory committee consisting of The Government Secretary, AH & Dairy as the Chairman of the committee and The Chief (Agriculture) - State Planning Board, The Director-Dairy Dev. Dept., The Joint Director, Planning of Dairy Development Department, Nominated Joint Secretary-Finance Department, Dean, Faculty of Dairy Science, KVASU and The Managing Director-KCMMF as the members in the committee. The Deputy Director (Planning) will be the Head of the KSDMIC as per the GO (Rt) No.97/2021/DD dated 19.11.2021.

Proper integration, management and professionalism in the activities of the Department are the need of the hour. The KERALA STATE DAIRY MANAGEMENT INFORMATION CENTRE (KSDMIC) will be engaged in data collection, processing of data pertaining to various dairy development activities of the state. The proposed KSDMIC will be instrumental in better project planning of the Department. Better integration of the dairy development activities with different department/agencies/stakeholders like AH, Dairy Development, KVASU, KCMMF, KLDB, Kerala Feeds, MPI, Brahamagiri Development Society, Charitable institutions in dairy sector etc. will be a main agenda in establishing KSDMIC. Thus the proposed KSDMIC shall be instrumental in the holistic dairy development of the state.

**DPR : KERALA STATE DAIRY MANAGEMENT INFORMATION CENTRE
: 2024-25**



The KSDMIC will be established and made functional with the technical support of College of Dairy Science and Technology, Thiruvananthapuram coming under KVASU

Thus the proposed KSDMIC shall be an epicentre for data collection, data migration, data processing and data management for aiding the future planning activities of Dairy Development Department.

The Financial Outlay of the Centre is shown below.

KERALA STATE DAIRY MANAGEMENT INFORMATION CENTRE					
Sl No.	Particulars	Unit	Target	Amount/Unit (Rs. In Lakh)	Subsidy (Rs. In Lakh)
1.a	Research Associate/Subject Expert	No.	1	36000	3.60
1.b.	Research Associate	No.	2	36000	7.20
1.c.	System Administrator	No.	1	36000	3.60
1.d.	Data Entry operator	No.	1	21175	2.12
1	Total Wages of the Staffs for 10 Months	No.	5		16.52
2	Data Bank Creation - State Fodder Plan + Comprehensive Survey to study the Milk Procurement Pattern through DCS and other means.			Lumpsum	25.00
3	Furniture			Lumpsum	1.00
4	Library			Lumpsum	1.00
5	Travelling Expenses			Lumpsum	1.25
6	Workshop/seminar/Meeting Expenses			Lumpsum	3.00
7	Miscellaneous Expenses			Lumpsum	0.21
8	Provision for meeting expenditure pertaining to Plan Scheme 2023-24- Queue Bills of 2023-24, Bills moved to WAMS/BDS and financially not met due to restriction in release of permitted balance			Lumpsum	2.02
GRAND TOTAL					50.00

DIRECTOR



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**DPR : KERALA STATE DAIRY MANAGEMENT INFORMATION CENTRE
: 2024-25**





01. INTRODUCTION

Dairy Development in India has played a key role in upliftment of Indian Economy especially the rural economy of the country. Dairying has been a significant part of rural Indian household since ages, generating a steady source of income and providing nourishment to the family. The Dairy Co-operative movement of India, spearheading our country to become global leader in milk production, is a role model worldwide. The growth and development of dairy industry in the country can be further escalated with up scaling of dairy education and innovative research approaches.

Dairying holds significant importance in India for various reasons

As a tool for Livelihood:- It serves as a primary source of livelihood for millions of rural households, especially small and marginal farmers. Dairy farming provides them with a steady source of income, employment, and sustenance.

Adding to the nation's Nutritional security:- Dairy products are essential source of nutrition, especially fat, protein, lactose, vitamins and minerals. Milk is a staple food for a large segment of the Indian population, particularly for children and pregnant women, contributing to their overall health and well-being.

As a source of Income generation: - Dairy farming offers opportunities for income generation throughout the year. Apart from milk production, there are avenues for value addition such as processing milk into various dairy products like ghee, butter, cheese, and yogurt, which can fetch higher prices in the market.

Dairying for Rural development: - The dairy sector plays a crucial role in rural development by providing employment opportunities, infrastructure development, and stimulating economic activities in rural areas. It helps in reducing rural-urban migration by creating sustainable livelihood options in rural regions.

Significant contribution to GDP:- The dairy industry contributes significantly to the country's Gross Domestic Product (GDP) and agricultural GDP. India is one of the largest milk-producing countries globally, and the dairy sector's growth directly impacts the nation's economy.



Dairying for Empowerment of women:- Dairy farming often empowers women in rural areas as they actively participate in activities like milking, animal care, and sometimes even in managing the dairy business. This contributes to their economic independence and social status within their communities.

Utilization of resources:- Dairy farming efficiently utilizes agricultural by-products and marginal lands, thus improving the overall productivity of the agricultural sector. It also helps in the recycling of crop residues and agricultural waste as cattle feed, thereby promoting sustainable agriculture practices.

A potential source for foreign exchange earnings:- India exports dairy products like milk powder, butter, and ghee to various countries, earning foreign exchange. The dairy industry's export potential continues to grow, contributing to the country's foreign trade balance.

Thus in a holistic way, dairying plays a multifaceted role in India's socio-economic fabric, contributing to food security, poverty alleviation, rural development, and economic growth. The Dairy Co-operative movement of India, spearheading our country to become global leader in milk production, is a role model worldwide. The growth and development of dairy industry in the country can be further escalated with up scaling of dairy education and innovative research approaches.

01.01. Dairy Sector – National Scenario

Unlike the developed countries, small and marginal farmers have been the driving force of the dairy sector in India. In an era of declining farm income and drop in employment opportunities, dairying and animal husbandry has emerged as an important subsector of India's Agriculture. Further the complementarity of co-operatives and private organizations in the industry has aided in bringing sophistication and efficiency in the entire value chain. Owing to the increasing demand for dairy products driven by the growing population, higher purchasing power of the customers, increased focus on nutrition and growing aversion for unbranded and loose products, milk production in India is set to reach approximately 628 MMT in the next 25 years (ie. Till 2047). The dairy sector plays a vital role in achieving Sustainable Development Goals – especially SDG-1, SDG-3, SDG-5, SDG-8 and SDG-10 thereby plays a significant role in transforming lives of agrarian sector.



India has been the leading producer and consumer of dairy products worldwide since 1998 with a sustained growth in the availability of milk and milk products. Dairy activities form an essential part of the rural Indian economy, serving as an important source of employment and income. India also has the largest bovine population in the world. However, the milk production per animal is significantly low as compared to the other major dairy producers. Moreover, nearly all of the dairy produce in India is consumed domestically, with the majority of it being sold as fluid milk. On account of this, the Indian dairy industry holds tremendous potential for value-addition and overall development.

The share of agriculture and allied sectors in the country's total GVA has been declining in the last decade. Sector's share in the Gross Value Added (GVA) of the country at constant prices has declined from 17.8 per cent in 2013-14 to 15.1 per cent (P) in 2022-23. The sectors share in total GSVA (at constant 2011-12 prices) of the State declined to 8.52 per cent in 2022-23 (QE), compared to 8.97 (P) per cent in 2021-22

As per the 20th Livestock Census (2019), the total livestock population in the country is 536.76 million, showing an increase of 4.8 per cent over the Livestock Census of 2012. The 20th Livestock Census (2019) reports the State's livestock population as 29.09 lakh (5.42 per cent). As per the estimates of National Accounts Statistics (NAS) 2023, the contribution of livestock in total agriculture and allied sector GVA (at constant prices) increased from 29.8 per cent in 2020-21 to 30.5 per cent (2021-22). (Economic Review 2023)

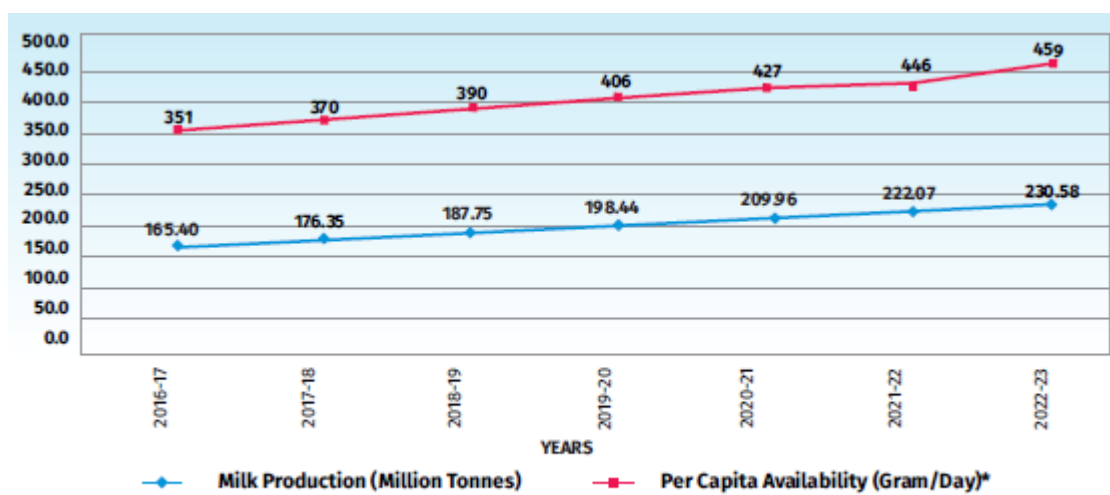
Total milk production in the country is 230.58 million tonnes during 2022-23. The milk production has increased from 222.07 million tonnes in 2021-22 to 230.58 million tonnes in 2022-23 registering a growth of 3.83%. There has been steady increase in per capita availability of milk since 2016-17. The per capita availability has increased from 351 gm/ day in 2016-17 to 459 gm /day in 2022-23 (Basic Animal Husbandry Statistics-2023)

India ranked 1st in milk production, contributing 24 per cent of global milk production. At the national-level, milk production has increased from 22.21 crore tonnes in 2021-22 to 23.06 crore tonnes in 2022-23, registering a growth of 3.83 per cent, sustaining the trend over the past three decades. The highest five milk producing states in India in 2022-23 were Uttar Pradesh (15.72 percent) Rajasthan (14.44 Percent) Madhya Pradesh (8.73 per cent), Gujarat (7.49 per cent), and Andhra Pradesh (6.70 per cent), which together contributed 53.08 per cent of total milk production in the country. (The average yield per animal per day for exotic crossbred is 8.55



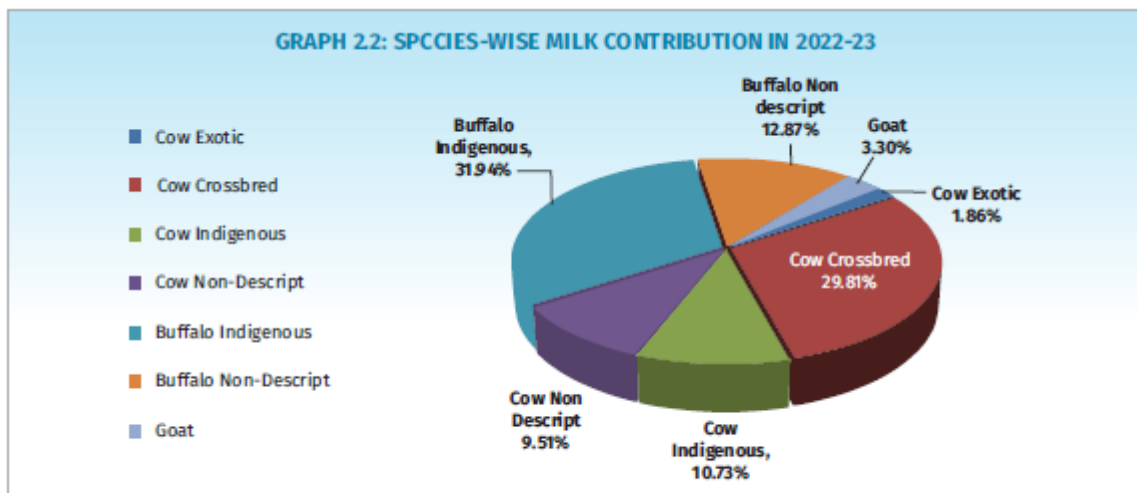
Kg per day and for indigenous/non-descript is 3.44 Kg per day (Basic Animal Husbandry Statistics, 2023.). The per capita availability of milk has been increasing in India over the years and is estimated at 459 grams/day in 2022-23 (Basic AH Statistics 2023 by DAHD, GOI). The highest per capita availability is in Punjab (1283 grams per day) followed by Rajasthan (1138 grams per day). The species-wise milk production in the country shows that nearly 31.94 per cent of total milk production is contributed by indigenous buffaloes, followed by cross-bred cattle 29.81 per cent. The indigenous cattle contribute 10.73 per cent of the total milk production in the country. Goat milk contributes 3.30 per cent of the total milk production (Basic Basic Animal Husbandry Statistics, 2023). Kerala ranks 15th among the milk-producing states. Kerala’s per capita availability is 198 grams per day (Basic Animal Husbandry Statistics, 2023).

India - Milk Production (Million Tonne) & Per capita availability (gms/day)

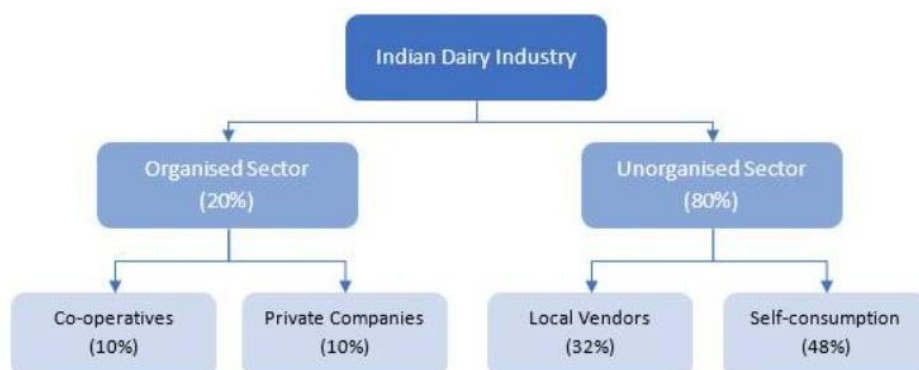


Based on Projected Human Population according to Population Census-2011

India : Species wise milk production



The Indian dairy industry is divided into the organized and unorganized segments. The unorganized segment consists of milk handled by traditional milkmen/vendors, self-consumption at home, the organized segment consists of cooperatives and private dairies. As per the Annual Report for FY19 of Dept. of Animal Husbandry, Dairying & Fisheries, Ministry of Agriculture & Farmers Welfare, GOI, co-operatives & private dairies still procure only about 20% of the milk produced in the country, while 32% is sold in the unorganized market and about 48% is consumed locally. About 40% of the milk sold is handled by the organised sector and the remaining 60% by the unorganised sector. However, in most of the developed nations, 90% of the surplus milk is processed through organized sector. With the increase in population, rise in per capita income, changing lifestyle, affordable aspirational food habits, export opportunities etc., the demand for milk is expected to rise.



During the last five to ten years, India has seen dramatic shift towards consumption of value-added products such as cheese, yoghurt, UHT (ultra-heat treatment) milk, flavored milk, and whey. To tap the advantages of the



changing consumer food preferences, most organized players are expanding product portfolios in the value-added segment. This segment offers high growth potential and better margins versus the liquid milk and Skimmed Milk Powder (SMP) segment. The value-added products overall contribute to ~35-40% of the total dairy market in India and commodity products together contribute to almost ~65% of market share. Furthermore, within the value-added segment, largest product category is ghee, having a market share of about 15-18% in the overall dairy market. While loose packets of curd is available locally, a key characteristic of emerging value-added products like UHT milk, flavoured milk, low-fat curd/yogurt, cheese and whey is that 100% of these products are sold through organized market. The value-added products market is under-penetrated, thus having tremendous scope for the growth and is expected to grow at much faster rate as compared with the commodity market.

The dairy industry in India is the largest globally, accounting for 24% of global milk production. The industry contributes 5% to the national economy and directly supports more than 8 crore farmers. India's dairy industry has grown significantly over the past 10 years, supported by various initiatives taken by the government. The nation's milk production increased at a CAGR of 6.2% from 146.31 million tonnes (MT) in 2014-15 to 209.96 MT in 2020-21.

The major production area of dairy products in India is Uttar Pradesh, Maharashtra, Himachal Pradesh, Madhya Pradesh, Punjab, Rajasthan and Tamil Nadu. Competition in the Indian dairy industry has always been robust. Amul, Mother Dairy, Orissa State Cooperative Milk Producers Federation, Dudhsagar Dairy, Aavin, and Kwality Limited are some of the major players in the dairy industry in India.

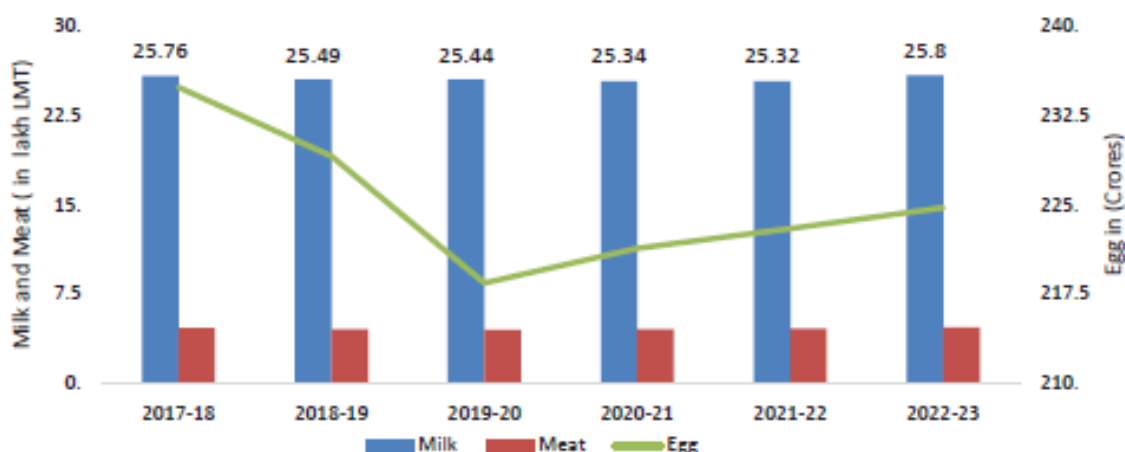
Rural women play a significant role in animal rearing and are involved in operations such as, feeding, breeding, management, and health care. The livestock sector has emerged as one which generates employment and income security to women through micro enterprises. Women constitute 71 per cent of the labour force in livestock farming. In dairying, 75 million women are engaged as against 15 million men, while in the case of small ruminants, the sharing of work with men is almost equal. The need for technology up gradation and skill enhancement through capacity building programmes are felt across the sector.



01.02. Dairy Development in Kerala

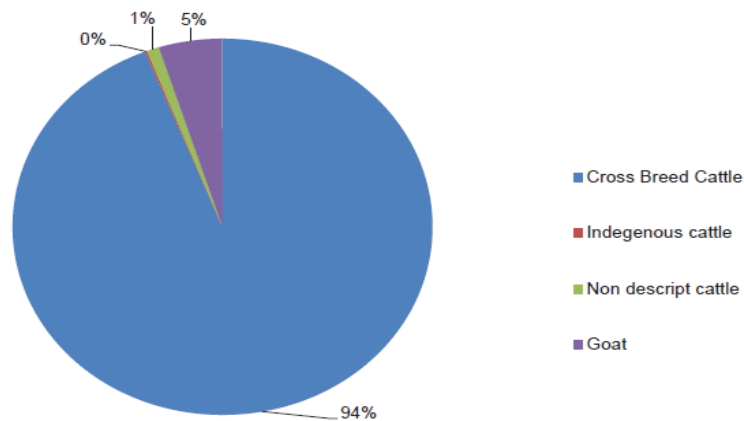
As per the estimates of National Accounts Statistics (NAS) 2022, the contribution of livestock in total agriculture and allied sector GVA (at constant prices) increased from 29.33 per cent in 2019-20 to 30.13 per cent (2020-21). The contribution of the livestock sector was 4.90 per cent of total GVA in 2020-21. In Kerala, the livestock sector is one of the fastest growing sectors of the rural economy. The contribution of livestock sector in total agriculture and allied sector GSVA (constant prices 2011-12), was 26.44 per cent (Quick estimates) (DES, 2021- 22). The share in the total GSVA of the State was 2.35 per cent in 2021-22. In real terms, GSVA in the Livestock sector at constant prices (2011-12), marginally increased from ₹11,701.86 crore in 2020-21 to ₹11,714.01 crore in 2021-22.

Kerala:- Production of Milk, Meat and Egg during the period from 2017-18 to 2022-23



The total milk requirement in Kerala in 2021- 22 was 33.51 lakh metric tonnes. But the annual production was only 25.79 lakh metric tonnes, which resulted in an average outside purchase of over 2.5 lakh litres of milk per day. Out of 25.79 lakh MT of milk produced in the State, a major share was produced by cross bred cattle (93.56 per cent). Indigenous cattle produced only 0.0661 LMT of milk . The contribution of non-descript cattle was 0.3117 LMT. The milk production from goats was 1.34 LMT. Indigenous and non-descript buffaloes contributed the rest (Department of Animal Husbandry).

Details of species-wise milk production in Kerala in 2021-22 is provided as below



Source : *Economic Review 2023*

Cross breed cattle (93.56 %) Indigenous Cattle (0.16%) Non-descript cattle (0.95%) Indigenous Buffalo (0.36%) Non-descript buffalo (0.12%) Goat (4.86%). Even though the herd sizes are low compared to major milk-producing states, cattle productivity in Kerala is higher than the national average. The average milk yield per animal in India in 2022-23 for exotic and crossbred cattle is 11.42 kg per day and 8.41 kg per day, respectively. For indigenous cattle and non-descript cattle, it is 4.17 kg per day and 2.87 kg per day, respectively (indiastat.com). The average yield from crossbred cattle in Kerala is 10.77 kg per day, the third highest among the Indian states after Chandigarh (12.22 kg per day) and Punjab (13.49 kg per day). This advantage for Kerala was due to high per cent of exotic and crossbred animals in the population compared to other states.

5.94 Lakh Metric Tonnes of Milk (16.27 Lakh Litre per Day) was procured through Dairy Co-operatives during the year 2016-17, whereas 6.79 lakh Metric Tonnes of Milk (18.6 lakh litres per day) is the corresponding figure for the year 2022-23. This hike is a positive indicator as far as the Animal Husbandry and Dairy Development activities of the state is concerned and is a narration of the various development activities undertaken by the Government to nurture the Sector.

Some important data published by DAHD, GOI pertaining to the year 2023 is as below



MILK PRODUCTION - LAKH METRIC TONNE

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
KERALA	26.49	25.2	25.75	25.48	25.44	25.33	25.32	25.79
ALL INDIA	1554.9	1654.04	1763.47	1877.49	1984.39	2099.59	2210.63	2305.77

MILK PRODUCTION - EXOTIC / CROSS BRED COWS - LAKH METRIC TONNE

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
KERALA	24.83	23.58	24.16	23.9	23.7	23.7	23.66	23.93
ALL INDIA	419.31	437.78	471.51	512.59	568.75	662.89	703.74	730.18

MILK PRODUCTION - INDIGENEOUS / NON DESCRIPT COWS - LAKH METRIC TONNE

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
KERALA	0.241	0.235	0.265	0.239	0.325	0.319	0.293	0.378
ALL INDIA	317.14	343.2	364.82	385.74	397.71	420.17	445.94	466.59

MILK PRODUCTION - BUFFALOES - LAKH METRIC TONNE

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
KERALA	0.1296	0.122	0.126	0.121	0.119	0.124	0.132	0.1443
ALL INDIA	764.59	812.66	862.61	918.17	959.43	953.91	996.26	1032.99

MILK PRODUCTION - COWS - LAKH METRIC TONNE

	EXOTIC 2021-22	EXOTIC 2022-23	CB 2021-22	CB 2022-23	INDIG 2021-22	INDIG. 2022-23	NON DESCRIPT 2021-22	NON DESCRIPT 2022-23
KERALA	0	0	23.667	23.9328	0.0432	0.0661	0.2496	0.3117
ALL INDIA	42.5	42.818	661.25	687.36	237.5	247.39	217.13	219.2

MILK PRODUCTION - BUFFALOES - LAKH METRIC TONNE

	IND BUFF 2021-22	IND BUFF 2022-23	NON DESCRIPT BUFFALOE 2021-22	NON DESCRIPT BUFFALOE 2022-23	GOAT 2021-22	GOAT 2022-23
KERALA	0.0939	0.0565	0.0383	0.0877	1.2327	1.3427
ALL INDIA	698.12	736.35	298.13	296.64	66.02	75.99



MILK PRODUCTION FROM 2015-16 TO 2022-23
NATIONAL & STATE WIDE - READY RECKNOR

NO. OF ANIMALS IN MILK OF EXOTIC /CROSS BRED COWS - IN LAKHS

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
KERALA	6.686	6.305	6.494	6.443	6.337	6.339	6.242	6.0878
ALL INDIA	154.11	159.62	167.61	176.75	190.03	216.34	226.27	234.07

NO. OF INDIGENEOUS / NON DESCRIPT COWS - IN LAKHS

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
KERALA		0.2126	0.2425	0.2205	0.2767	0.2662	0.2435	0.3223
ALL INDIA		331.65	341.43	351.66	353.91	359.51	363.36	371.54

NO. OF BUFFALOES - IN LAKHS

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
KERALA	0.071	0.066	0.069	0.063	0.062	0.065	0.07	0.0748
ALL INDIA	411.9	425.69	431.88	447.67	457.18	442.63	458.1	466.86

MILK PRODUCTION FROM BUFFALOES - IN LAKH METRIC TONNE

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
KERALA		0.1221	0.1267	0.1213	0.1195	0.1242	0.1321	0.1443
ALL INDIA		812.66	862.62	918.17	959.43	953.91	996.27	1032.99

PRODUCTIVITY OF EXOTIC / CROSS BRED COWS - KG PER DAY

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
KERALA	10.18	10.25	10.19	10.17	10.25	10.24	10.39	10.77
ALL INDIA	7.45	7.51	7.71	7.95	8.2	8.39	8.52	8.55

PRODUCTIVITY OF BUFFALOES - KG PER DAY

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
KERALA	5.04	5.11	4.98	5.04	5.27	5.2	5.16	5.28
ALL INDIA	5.09	5.23	5.47	5.62	5.75	5.9	5.96	6.06

PRODUCTIVITY OF INDIGENEOUS / NON DESCRIPT COWS - KG PER DAY

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
KERALA	2.76	3.02	2.99	2.97	3.21	3.29	3.29	3.21
ALL INDIA	2.74	2.84	2.93	3.01	3.08	3.2	3.36	3.44

AVERAGE YIELD PER COW IN MILK ANIMAL - KG / DAY

	EXOTIC 2021-22	EXOTIC 2022-23	CB 2021-22	CB 2022-23	INDIG 2021-22	INDIG. 2022-23	NON DESCRIPT 2021-22	NON DESCRIPT 2022-23
ALL KERALA	0	0	10.37	10.77	2.36	2.19	3.54	3.57
ALL INDIA	11.36	11.42	8.38	8.41	4.07	4.17	2.83	2.87



NATIONAL & STATE WIDE - READY RECKNOR

AVERAGE YIELD PER BUFFALOE IN MILK ANIMAL - KG / DAY							
	IND BUFF 2021-22	IND BUFF 2022-23	NON DESCRIPT BUFFALOE 2021-22	NON DESCRIPT BUFFALOE 2022-23	GOAT 2021-22	GOAT 2022-23	
ALL KERALA	5.38	5.26	4.7	5.3	0.71	0.74	
ALL INDIA	6.62	6.76	4.82	4.82	0.46	0.5	

NO. OF IN MILK ANIMALS - IN LAKHS										
	EXOTIC 2021-22	EXOTIC 2022-23	CB 2021-22	CB 2022-23	INDIG 2021-22	INDIG 2022-23	NON- DESCRIPT 2021-22	NON DESCRIPT 2022-23	2021-22	2022-23
ALL KERALA	0	0	6.24	6.09	0.0501	0.0829	0.1934	0.2394	6.4835	6.4123
ALL INDIA	10.255	10.26	216.02	223.8	153.43	162.36	210.01	209.19	589.715	605.61

NO. OF IN MILK BUFFALOES - IN LAKHS										
	IND BUFFALOE 2020-21	IND. BUFFALOE 2021-22	NON DESCRIPT BUFFALOE 2020-21	NON DESCRIPT BUFFALOE 20210-22	GOAT 2020-21	GOAT 2021-22				
ALL KERALA	0.0433	0.0478	0.0222	0.0223	4.533	4.743				
ALL INDIA	277.73	288.79	164.91	169.3	363.21	374.17				

PER CAPITA AVAILABILITY OF MILK - GRAM PER DAY										
	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23		
ALL KERALA	211	200	203	200	198	197	196	198		
ALL INDIA	333	351	370	390	406	427	444	459		

01.03. IMPACT OF 2018 & 2019 FLOODS IN ANIMAL HUSBANDRY AND DAIRY SECTOR

The worst flooding in living memory inundated large parts of the state, in addition to causing landslides across the fragile Western Ghats mountain range. This was one of the worst floods the state has ever witnessed. The animal husbandry sector also witnessed heavy brunt encompassing loss of cattle, buffalo, goat, pig, chicken, duck etc. and loss to fodder plots, cattle sheds, farms and much more. The loss in this sector alone accounts to nearly Rs 172 Crore. This includes loss incurred due to death of livestock, destruction of animal sheds, damage to feed, fodder and hay, infrastructure loss etc. It is estimated that 5163 adult cattle, 5193 calves, 541 buffalo, 1228 heifers, 6380 goats, 1053 pigs, 11.43 lakh chicken and 4.64 lakh ducks, 20000 quails, 50 rabbits were reported dead or missing. Loss due to



animals is estimated as Rs 84 Crore. The loss due to damage of animal sheds, feed, fodder plots, infrastructure and other resources of farmers accounts to about Rs 60 crore. Infra-structure loss to 214 Dairy Co-operative Societies, milk production loss due to flooding and loss incurred to Veterinary Institutions merged together to about 27 Crore. Milk value loss accounted to around Rs 384.26 lakh. When compared to 2018 floods, the casualty of 2019 flooding was less. The loss to the Dairy sector was around 37 crores.

01.04. COVID 19 PANDEMIC – EFFECT ON DAIRY SECTOR

Due the Covid 19 Pandemic, almost all the sectors have received a setback, industry and agriculture in no way an exception to this. Financial instability and unemployment is an outcome of this pandemic virus. Dairy Industry is also in a negative slide due to the Covid 19 impacts. The Business today on June 2020 reported that, in India, the milk sales has dropped by around 30%. The rural marketing of fluid milk has dropped by 18%. Due to transportation and marketing difficulties, the revenue through sale of milk products has also reduced considerably. Both Co-operative and Private sector in the country is showing negative growths during the last 2 months. When compared to March 2019 & April 2019, the milk procurement through Co-operatives has declined by around 1.5 lakh litre per day.

Some of the immediate impacts the Kerala Dairy Sector faced due to Covid 19 pandemic are:

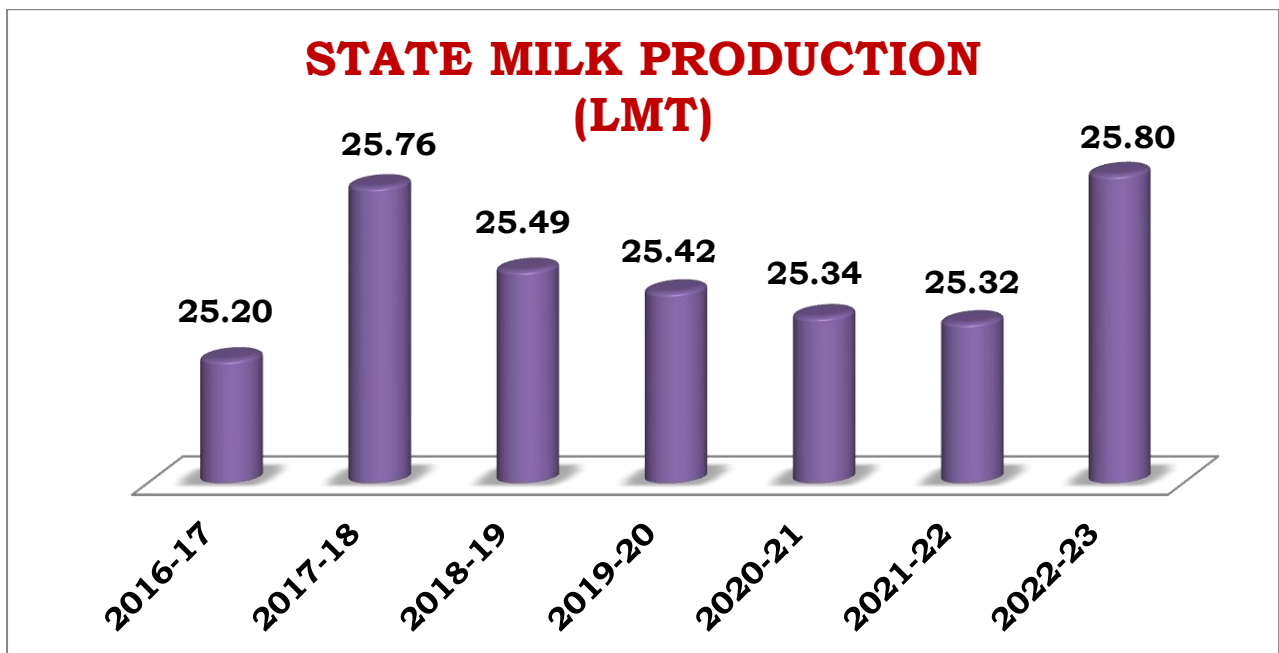
- Transportation problems during lockdown period have caused difficulty for farmers to pour milk to nearby procurement centres of Dairy Co-operatives. When compared to the last year, same season, there is a reduction of 1.5 lakh litre per day in milk procurement
- In case of rural farmer who depended largely on household sales of milk for their revenue, rural marketing was significantly affected due to the lockdown criteria and transportation issues.
- Milk sales outlet had to be shut down for few days during lockdown. This has significantly affected the daily sales volume of milk in the state. Consumers found difficulty in reaching the shops for buying milk on a day to day basis.
- The sale of milk products also reduced considerably during the Covid 19 lock down period



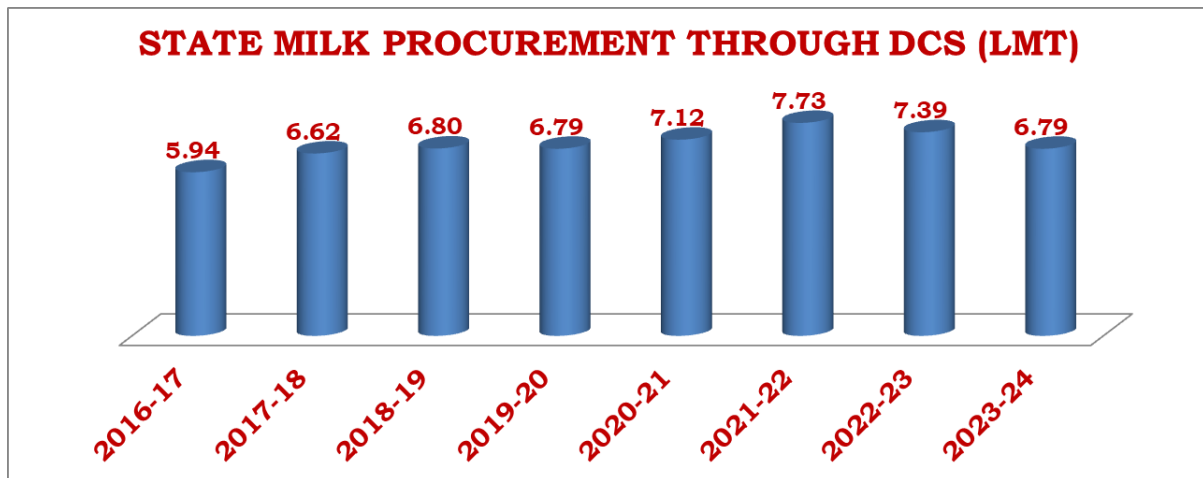
- The Dairy Plants were almost flooded with fluid raw/processed milk.
- The non-availability of milk powder conversion plants in Kerala Co-operative sector and reluctance of neighbouring states like Tamil Nadu and Karnataka to receive milk from Kerala for milk powder conversion made the situation worse.
- The private sector found it almost impossible to market milk during the Covid 19 lockdown period. Hence the Dairy Co-operative sector had the opportunity to cater 100% market demand in the state.

01.05. INSUFFICIENT DATA MANAGEMENT IN DAIRY SECTOR

As per the Economic Review Statistics, the milk production in Kerala from 2015 to 2023 is as follows:



Milk procurement through DCS as per the Department during the above said years is as follows:



From the above charts, the milk procurement through the Dairy Cooperative Societies shows an increasing trend, but in the meantime the overall state production shows a declining trend in the last few years, which seems to be doubtful for many experts.

In addition, the milk coming from outside the state has reduced from 5.5 Lakh in 2015-16 to around 1.5 Lakh to 3.0 Lakh in 2023-24, which also shows that we are on a positive trend. Now in co-operative sector of the state, all the three regions are self-sufficient and one of the Regional Unions viz. MRCMPU has reached all-time record collection of milk. They are facing difficulty to collect the entire quantity of milk produced by the farmers, as there is no facility for milk powder conversion in Kerala State.

So in order to avoid this type of data uncertainty, we have to get the accurate data. For avoiding such type of uncertainty/doubtfulness, the Kerala State Dairy Management Information Centre (KSDMIC) will be helpful to a greater extent.

As of now, there is no relevant data on the consumption of milk and milk products in the state. Also, there is a huge inflow of milk from neighbouring states, for which also accurate data is not available. These data have to be collected, compiled and updated on regular basis. A specialized comprehensive survey to an amount ₹.25.00 Lakh has been earmarked along with this Scheme under Dairy Department for the year 2024-25. The initial process of the survey has already started. The format for the survey has already prepared with the support of the Department of Statistics. A detailed discussion with Animal Husbandry Department was conducted for the finalization of the survey proforma. A detailed discussion regarding the survey has been conducted with the Department of Economic and Statistics for finalizing the survey and for developing the mobile



application and web portal. Also they agreed to deliver their expertise for conducting the survey. Through the KSDMIC we can expect to compile and update the data on timely manner.

Sustainable dairy development is possible through effective planning process, which also requires accurate data as its foundation. In order to assess the demand and availability of all the resources in dairy sector, a perfect data compilation is essential. GIS based data collection is the most modern technique which can be used for the effective and low cost planning process. GEO mapping is one of the on-going schemes of Dairy Development Department. In that project asset mapping as well as facilities mapping were envisaged. Unified software another project for the Dairy Co-operative accounting as well as for the management of dairy farmers. The software development is in progress with NIC. This will include the enormous data from farm level to the consumer level and can be used for planning as well as stakeholders.

The significance of data collection, compilation and management is justified from the above mentioned facts.

02. OBJECTIVES OF THE KSDMIC

- To act as a repository for accessing information and data by all stakeholders
- To integrate the data pertaining to departmental activities related to fodder development, nutrition feeds and fodder, utilization of non-conventional feedstuffs for dairy animal and indigenous dairy products.
- To carry out data collection, processing activities and R & D pertaining to the areas like milk production and procurement, indigenous dairy products, Subhiksha Keralam and adaptability of milch animals to various types of housing systems.
- To act as an epi centre for data collection, evaluation and report generation between Dairy Department, Animal Husbandry, Agriculture, Economic and statistics department, Research Institutions like KVASU and PSUs like KCMMF, KLD Board, Kerala Feeds Limited, Meat Products of India and NGOs like Bhramagiri Development Society and other stakeholders.
- To study the convergence with financial institution and other development departments like MNREGA, NORKA, etc.
- To undertake a comprehensive survey for studying the milk procurement pattern in Dairy Co-operative Sector and in other relevant sectors.



- To collect, store, compile, analyse and utilize of data related to dairy sector.
- To impart technical support and services to Entrepreneurs
- To support the activities of Dairy Development Department like preparing a master Dairy plan, master fodder plan, annual evaluation of plan schemes etc.

03. NEED AND JUSTIFICATION

Sustainable dairy development is possible through effective planning process, which also requires accurate data as its foundation. In order to assess the demand and availability of all the resources in dairy sector, a perfect data compilation is essential. Proper integration, management and professionalism in the activities of the department are the need of the hour. The proposed KERALA STATE DAIRY MANAGEMENT INFORMATION CENTRE (KSDMIC) will be engaged in data collection, processing of data pertaining to various dairy development activities of the state, engaged in R & D activities pertaining to the areas like milk production and procurement, indigenous dairy products, Subhiksha Keralam and adaptability of milch animals to various types of housing systems etc. Better integration of the dairy development activities with different department/agencies/Stakeholders like AH, Dairy Development, KVASU, KCMMF, KLDB, Kerala Feeds, MPI, Brahamagiri Development Society, Charitable institutions in dairy sector etc. will be a main agenda in establishing KSDMIC. Thus the proposed KSDMIC shall be instrumental in the holistic dairy development of the state.

04. ACTIVITIES OF KSDMIC

- ▶ Collection, processing and analysis of data regarding milk production and procurement in the state
- ▶ Dairy Planning and Management through data analytics
- ▶ Dairy Data Bank Storage and Knowledge Centre
- ▶ Study on demand availability and consumption pattern of milk and milk products
- ▶ Projection of available data to ascertain the Month wise milk production of the state
- ▶ Collection and evaluation of data received from districts with regard to fodder cultivation



- ▶ Integration with LSG Institutions for ascertaining availability of barren land/ unutilized land for fodder development activities
- ▶ Developing a MIS for ascertaining the dairy farming pattern in Kerala regarding the data base of farmers rearing
 - a) Only one milch animal
 - b) 2 milch animals
 - c) 3-5 milch animals
 - d) 6-10 milch animals
 - e) 11-20 milch animals
 - f) 21-50 milch animals
 - g) 51-100 milch animals
 - h) Above 100 milch animals
- ▶ Study on the availability and utilization of feeds and fodder
- ▶ Compilation of data related to dairy co-operative sector
- ▶ Act as a centre for research on indigenous dairy products, feeds and fodder and conduct studies on the adaptability of milch animals to various housing patterns
- ▶ Processing the data collected by Project Cell of Dairy Development Department from various sub offices like Dairy Extension Services Units, QC units, Dairy Training Centres, etc.
- ▶ Integration with KILA and Line Departments like Agriculture/Animal Husbandry/KLD Board/KVASU, etc.- their data collection and further data processing
- ▶ Integration with KCMMF and Regional unions of Kerala and Other NGOs for data collection, data processing with regard to Dairy Sector of the State.
- ▶ Integration with data management system of Kerala Dairy Farmers' Welfare Fund Board
- ▶ The proposed KSDMIC shall work hand in hand with the Project Cell under the planning wing of Dairy Development Department so as to ensure an effective and efficient data collection , data processing and data management system for Dairy Sector in the state
- ▶ Other data collection, data processing and data management activities that directly or indirectly aids a better planning and better management of dairying activities of the sector like supplyco, Marketfed, Consumer fed, etc.



05. MANAGEMENT OF KSDMIC

The proposed Kerala State Dairy Management Information Centre will be advised and reviewed by a committee consisting of following 8 members as per the GO (Rt) No.97/2021/DD dated 19.11.2021.

- The Government Secretary, AH and Dairy as the Chairman/Chairperson of the Committee
- The Chief (Agriculture) - State Planning Board
- The Director-Dairy Development Department
- The Joint Director(Planning) of Dairy Development Department
- Nominated Joint Secretary, Finance Department
- Faculty Dean (Dairy Science) - KVASU
- The Managing Director-KCMMF
- The Deputy Director (Planning) will be Head and Convenor of the KSDMIC, who will be an ex-officio member of the committee.

The management committee will be responsible for the policy decisions for the smooth running of the organization. Regarding the management of KSDMIC at Directorate, Joint Director (Planning) will be doing the overall supervision and monitoring, and Deputy Director (Planning) will be coordinating the activities of KSDMIC. The Assistant Director (IT Cell) will be in charge of the activities of KSDMIC. The IT Cell of directorate will do the supervision of works related to data analysis and compilation.

05.01. HUMAN RESOURCES

The Human resource available with the KSDMIC is mentioned below

Sl No.	Designation	Responsibility
01.	Deputy Director (Planning)	Co-ordination of the activities
02.	Assistant Director (IT Cell) – Additional Charge	In charge of day-to-day activities of the centre
03.	DEO (PROJECT CELL)	Supporting Assistant Director(IT) in all activities
04.	Clerk (IT Cell)	Office Works
05.	Contract Staff (Research Associate – Subject Expert, Research Associate – Data Analyst, ,System Administrator / DB Manager, Data Entry Operator	For data collection, analysis, compilation and for doing day to day activities, system related works and all other activities of KSDMIC
06.	Janitor/Casual Sweeper	Caretaker cum cleaning



Qualification Norms

01. RESEARCH ASSOCIATE - SUBJECT EXPERT (No. of Post - 01)

Basic Qualification :- B.Tech in Dairy Technology from a recognised university with minimum of 5 years of Post-qualification experience in dairy industry

Desirable :- M.Tech in any stream of Dairying with 2 year experience in Dairy Industry

Or

MBA in Agri Business Management with 2 year experience

Experience in usage of Data Analytical Tools will be an added advantage

02. RESEARCH ASSOCIATE – DATA ANALYST (No. of Post – 02)

Basic Qualification: - Post Graduate in Data Science / Statistics / Agri Statistics with minimum of 2 year experience in data analysis in a reputed firm / project / institution

Experience in usage of Data Analytical Tools will be an added advantage

03. SYSTEM ADMINISTRATOR / DB MANAGER

Basic Qualification:- B.E / B.TECH in Information Technology / CS or its Equivalent from recognised / reputed institution

or

MCA

Experience:

Minimum 3 years of post-qualification experience essential

The applicant

- Shall be familiar with concepts of MIS projects, Networking protocols, LAN Management, IP addresses and class, Subnetting, ILL links, Trouble shooting, in other web and network administration aspects
- Shall possess knowledge and skill in Data Base Management Systems like PSQL / MySql, backup management .
- Shall have knowledge of all Postgresql Database replication/backup & recovery/mirroring and failover.



04. DATA ENTRY OPERATOR

Basic Qualification: Diploma in Computer Application/
Post Graduate Diploma in Computer Application.

Experience : min 2 year experience in data entry operation

As per the decision and approval from advisory committee, the contract staff can be selected through interview and posted by following mandatory norms

As far as appointment of System Administrator /DB Manager and Data Entry Operator, appointment can either been done through NICSI or by way of selection through direct interview by an expert panel

Along with the duties and responsibilities mentioned for the Research Associates in KSDMIC, he/she should support the PRO of the Dairy Development Department for the collection of news / videos/photographs regarding the various activities of the Districts.

06. DATA BANK CREATION – FORMULATION OF KERALA STATE FODDER POLICY AND/OR COMPREHENSIVE SURVEY TO STUDY THE MILK PROCUREMENT/ PRODUCTION PATTERN THROUGH DCS AND OTHER MEANS

a. Formulation of Kerala State Fodder Policy

The Kerala State Planning Board has already entrusted the Dairy Development Department to formulate and submit the Kerala State Fodder Policy.

As per the reports based on a study taken up by milma to analyse the production cost of milk in the state, the average gross Cost of production of milk in the state was observed to be Rs.47.65. The corresponding net Cost of production was Rs.46.33. The actual Cost of production is far more than the procurement price (Rs.37.76) fixed for raw milk (Fat 4.2% and SNF 8.3%) in the state now. The Milma chart price (DCS to farmers) for milk having 4.2% Fat and 8.3% SNF is Rs 37.76, whereas the average net Cost of production is Rs 46.33. This means that the farmers in the sample households are sustaining a loss of Rs 8.57 per litre for the milk supplied in the village dairy



cooperatives. It is recommended that a 5% profit margin over and above the net Cost may be ensured to attract more farmers to the APCOS network in Kerala. As per the study, the net Cost of production per litre among the subsistence farms (less than 4 cows) comes to Rs. 49.05/-, the medium-sized farms with 4 – 10 cows could produce milk at Rs. 49.33/-, and large-sized farms with more than 10 cows produce milk at the Cost of Rs. 46.68/-.

The high cost of milk production is adversely affecting the dairy sector of the state. This elevated cost factor in production is mainly attributed to the high dependence on compounded cattle feed. At present the compounded cattle feed is costing around Rs 1450 per bag of 50 kg. As per the present study by KVASU, the cost of milk is approximately around Rs per litre of milk produced by a subsistence farmer. The high cost of production and thereby reduced profitability is adversely affecting the dairying activity of the state. More and more farmers are moving away from the sector and young entrepreneurs are getting reluctant to enter to the dairying sector.

Fodder development activities of the state need to be scientifically backed by a State Fodder Plan drafted based on the present scenario, availability of fodder, fodder requirements, gaps, cultivation pattern, distribution pattern etc.

As a part of formulation of State Fodder Plan, the present fodder availability of the state needs to be assessed (block wise / district wise/AEU level and Dairy Zone level) by way of a survey. The type of fodder presently cultivated and the area covered for fodder cultivation related to specific fodder varieties need to be analysed.

The formulation of state fodder plan by the Dairy Development Department will be technically supported by College of Dairy Science and Technology, Tvm coming under KVASU, KLD Board, KAU, College of Veterinary and Animal Sciences, Mannuthy of KVASU and Kerala Feeds Limited.

The Survey part coming under the study will be carried out with the support and help of Dairy Business Management and Extension wing experts of College of Dairy Science and Technology, Thiruvananthapuram coming under KVASU.

The services of Departmental officials, Dairy Promoters, Women Cattle Care Workers shall be utilized for completing the survey part in regard to formulation of Kerala State Fodder Policy



b. Comprehensive Survey to Study the milk procurement / production pattern through DCS and Other Means

It is expected that out of the total milk production of the state, 29-30 % of the milk is being procured through Dairy Co-operatives. There are 3364 functional DCS in the state. The average collection of milk is around 18.60 lakh litre per day.

The success of any project implemented depends on the reliability of the source of data being applied in the project and Dairy Sector is no way an exception to this.

In order to scientifically plan the Dairy Development Projects the actual quantum / share of milk handled by the Dairy Co-operatives in comparison to the total milk production of the state has to be ascertained. Hence it is proposed to conduct a sample survey for ascertaining the following realities

- ④ The actual number of dairy farmers in the state
- ④ The ratio between the substantive farmers and Entrepreneurs in dairy sector of Kerala.
- ④ The share of milk procured by the Dairy Co-operative Sector in Kerala
- ④ The Prospective dairy farmers of the state.
- ④ The share of milk rurally sold in the state.
- ④ A study of urban market and rural dairy market
- ④ The scope for value addition of milk in Kerala Market.
- ④ Area under fodder cultivation
- ④ Period of Intercalving
- ④ Any other relevant subject pertaining to the Dairy Development sector of the state.

The survey is proposed to be carried out with the support of either Kerala State Economics and Statistics Department, IITMK or other Govt. accredited agencies, Dairy Co-operative Societies and/or College of Dairy Science and Technology, Tvm coming under KVASU. The manpower for this survey will utilized from the staffs of Dairy Co-operative societies, Dairy Promoters, Women cattle care workers, A Help staffs and Pashusakhi Staffs of AHD, etc. This will be done either through mobile application or through web portal. The Performa for the survey has already been finalized with the support of Animal Husbandry Department and Kerala State Economics and Statistics Department.



07. FINANCIAL OUTLAY

As per the Budget Outlay 2024-25 of Kerala State Government, Rs.50.00 lakh has been earmarked for implementation of scheme components under KERALA STATE DAIRY MANAGEMENT INFORMATION CENTRE with H.O.A – 2404-00-102-69-34-OC-03-Other items.

The financial outlay for the centre as follows

KERALA STATE DAIRY MANAGEMENT INFORMATION CENTRE					
Sl No.	Particulars	Unit	Target	Amount/Unit (Rs. In Lakh)	Subsidy (Rs. In Lakh)
1.a	Research Associate/Subject Expert	No.	1	36000	3.60
1.b	Research Associate	No.	2	36000	7.20
1.c	System Administrator	No.	1	36000	3.60
1.d	Data Entry operator	No.	1	21175	2.12
1	Total Wages of the Staffs for 10 Months	No.	5		16.52
2	Data Bank Creation - State Fodder Plan + Comprehensive Survey to study the Milk Procurement Pattern through DCS and other means.	Lumpsum			25.00
3	Furniture	Lumpsum			1.00
4	Library	Lumpsum			1.00
5	Travelling Expenses	Lumpsum			1.25
6	Workshop/seminar/Meeting Expenses	Lumpsum			3.00
7	Miscellaneous Expenses	Lumpsum			0.21
8	Provision for meeting expenditure pertaining to Plan Scheme 2023-24- Queue Bills of 2023-24, Bills moved to WAMS/BDS and financially not met due to restriction in release of permitted balance	Lumpsum			2.02
GRAND TOTAL					50.00

Saving in any one scheme component can be utilized for meeting the expenditure pertaining to any other scheme component listed above.

The wages marked for System Administrator / DB administrator and Data Entry Operator is indicative. The rates furnished by NICSI can be expended for availing the services of System Administrator / DB administrator. Additional



expenditure shall be met from the general savings of various other scheme components

Administrative sanction orders vide proceedings No. DDDKER/1372/2024-D3 dated 11.04.2024 of The Director, DDD, a provision for Rs 2.02 lakh is made for meeting the expenditure pertaining to those scheme components physically achieved during 2023-24 and financially not met due bills moved to queue of treasury, need to be funded during 2024-25 from the budgeted state plan provisions of FY : 2024-25

08. EXPECTED OUTCOME

The proposed KSDMIC is expected to provide reliable and accurate data pertaining to dairy sector as the base of envisaging various projects. This will enable effective and result oriented project planning in the department which will lead to accomplishment of its goals and objectives. The centre shall integrate the diversified activities of Dairy Development Department and shall integrate the dairy development activities with line departments/agencies like AH, KVASU, KCMMF, Regional Unions, KDFWFB, KLD Board, Kerala Feeds Limited, Meat Products of India, Brahamagiri Development Society and other institutions in the sector to ensure holistic dairy development in the state.


DIRECTOR