

DAIRY DEVELOPMENT DEPARTMENT
ANNUAL PLAN 2024-25

DETAILED PROJECT REPORT



**PRODUCTION AND CONSERVATION OF
FODDER IN FARMER FIELDS' AND
DAIRY CO-OPERATIVES**

PART A: ONGOING SCHEME COMPONENTS

(Head of Account: 2404-00-102-77)

PLAN OUTLAY: Rs. 369.500 LAKH

DAIRY DEVELOPMENT DEPARTMENT: 2024-25
DPR- FODDER- ONGOING SCHEMES

DAIRY DEVELOPMENT DEPARTMENT: 2024-25
DPR- FODDER- ONGOING SCHEMES

SCHEME COMPONENTS – ONGOING

DAIRY DEVELOPMENT DEPARTMENT PRODUCTION AND CONSERVATION OF FODDER IN FARMERS FIELDS AND DAIRY CO-OPERATIVES : 2024-25							
SI.NO	SCHEME COMPONENTS	UNITS	2024-25				
			NO OF UNITS	UNIT COST	UNIT SUBSIDY	TOTAL COST	TOTAL SUBSIDY
				(Rs)	(Rs)	(Lakhs)	(Lakhs)
1	Assistance for automation and mechanisation of fodder cultivation activities						
	Irrigation assistance	No.	55	20000	10000	11.00	5.50
	Irrigation assistance - above one acre	No.	28	50000	25000	14.00	7.00
	Mechanisation assistance	No.	100	20000	10000	20.00	10.00
	Assistance for automation and mechanisation of fodder cultivation activities		183			45.00	22.50
2	Assistance for transportation of fodder planting material	No.				4.00	4.00
3	Assistance for comprehensive and massive fodder cultivation in barren and unutilised lands	Ha.	55	157820	94272	86.80	51.85
4	Fodder Hubs / Fodder Marketing Units through Dairy Co-operatives by JLGs / SHGs / Other registered groups	No.	10	100000	75000	10.00	7.50
5	Assistance for Maize Cultivation	Ha	50	47160	15785	23.58	7.89
6	Kolar Model -Cultivation of Hybrid Napier with Muringa as Intercropping / Biofencing	Ha.	40	35000	17500	14.00	7.00
7	Cultivation of Fodder trees including live fencing	No.	65150	10	10	6.52	6.52
8	Commercial Silage Making Unit for Individuals / JLGs / SHGs - Pilot Scheme	No.	1	1710000	1000000	17.10	10.00
9	Fodder Seminar / Fodder day celebration at district level and state level	No.	16	Lumpsum		5.00	5.00
10	Dairy Promoter Incentive (@Rs 8000 per month for 10 months) including festival allowance @ Rs 1000 per Dairy Promoter	No.	162	81000	81000	131.22	131.22
11	Assistance to State Fodder Farm, Valiyathura	No.	1	500000	500000	5.00	5.00
12	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	No.	Lumpsum			74.69	74.69
13	Implementation, Documentation and Monitoring	No.	Lumpsum			2.78	2.78
GRAND TOTAL FODDER OC - 2404-00-102-77-34-OC-03 OTHER ITEMS						425.69	335.95
14	2404-00-102-77-04 TE (1) TOUR TA	NO.	Lumpsum			16.770	16.77
15	2404-00-102-77-04 TE (1) TOUR TA - Queue	NO.	Lumpsum			0.010	0.01
16	2404-00-102-77-05 OE-4 OTHER ITEMS	NO.	Lumpsum			5.590	4.89
17	2404-00-102-77-05 OE-4 OTHER ITEMS - Queue	NO.	Lumpsum			0.700	0.70
18	2404-00-102-77-45-POL	NO.	Lumpsum			11.050	11.05
19	2404-00-102-77-45-POL - Queue	NO.	Lumpsum			0.130	0.13
GRAND TOTAL - FODDER - 2404-00-102-77						459.94	369.50

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Savings in any scheme component shall be utilized for meeting the expenditure pertaining to any other scheme component with the same Head of Account

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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 upscaling 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 upscaling of dairy education and innovative research approaches.

1.1 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.

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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

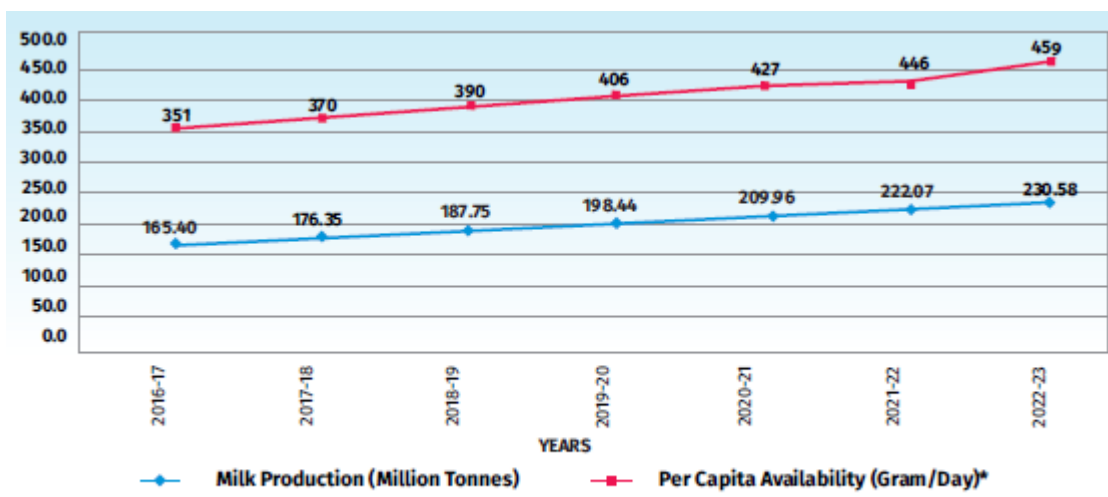
As per the 20th Livestock Census (2019), the total livestock population in the country is 536.76 million, showing an increase of 4.8 per cent over the Livestock Census of 2012. The 20th Livestock Census (2019) reports the State's livestock population as 29.09 lakh (5.42 per cent). As per the estimates 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).

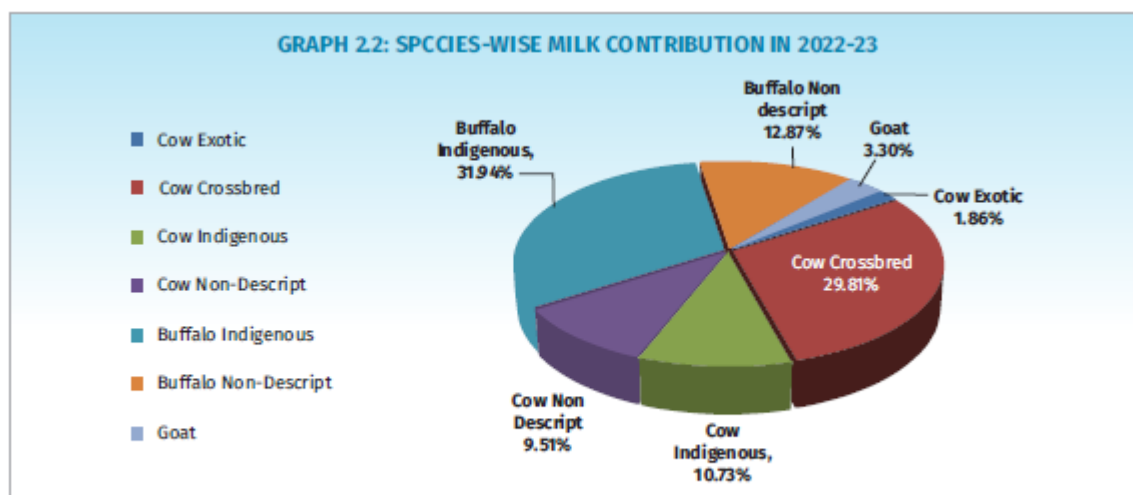
DAIRY DEVELOPMENT DEPARTMENT: 2024-25 DPR- FODDER- ONGOING SCHEMES

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

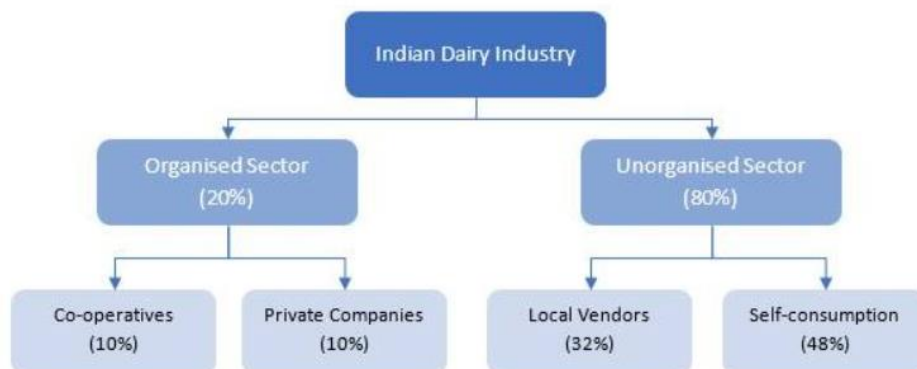


The Indian dairy industry is divided into the organized and unorganized segments. The unorganized segment consists of milk handled by traditional milkmen/vendors, self-consumption at home, the organized segment consists of cooperatives and private dairies. As per the Annual Report for FY19 of Dept. of 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

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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.

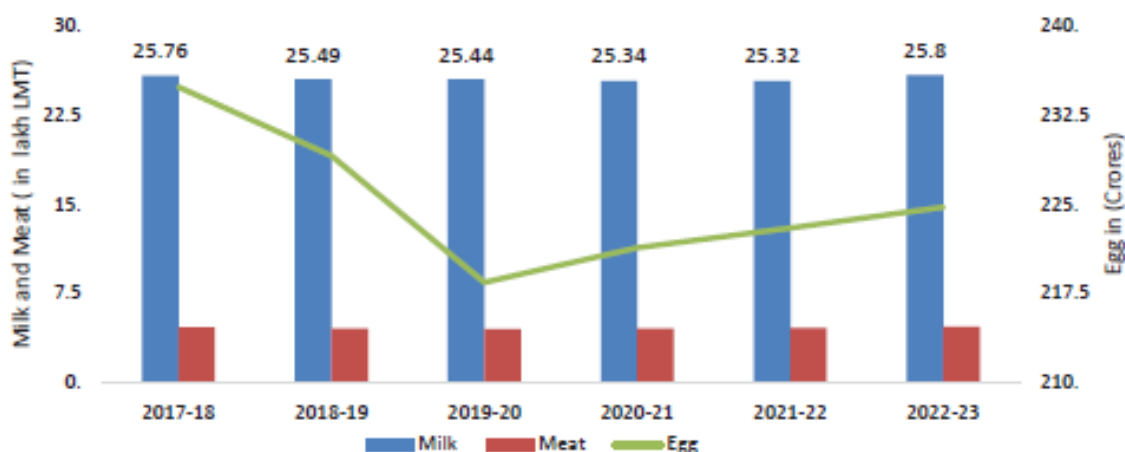
DAIRY DEVELOPMENT DEPARTMENT: 2024-25 **DPR- FODDER- ONGOING SCHEMES**

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.

1.2 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

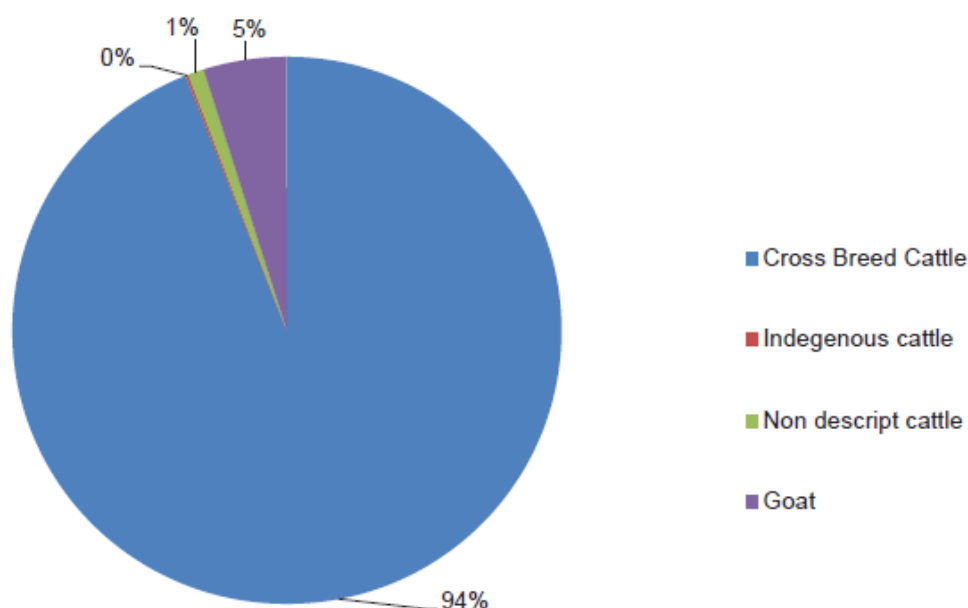


The total milk requirement in Kerala in 2021- 22 was 33.51 lakh metric tonnes. But the annual production was only 25.79 lakh metric tonnes, which resulted in an average outside purchase of over 2.5 lakh litres of milk per day. Out of 25.79 lakh MT of milk produced in the State, a major share was produced by cross bred cattle (93.56 per cent). Indigenous cattle produced only 0.0661 LMT of milk

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. 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.

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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

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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

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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. FODDER PRODUCTION AND ITS SIGNIFICANCE

Kerala produces only 60% of the roughages required for cattle in Kerala. One of the main constraints for increasing milk production is the shortage of quality fodder. Marginal and small farmers who are the major cattle owners of the state have limited space for fodder development. Whatever space available, the whole of which is mostly devoted to producing cash crops. Since fodder is not directly yielding any benefit, fodder cultivation takes a back seat. Such dairy farmers anyway need fodder to reduce their cost of production and thus would be eager to purchase fodder if readily available. Cows of Kerala are one of the high yielding animals of India. Lack of fodder and high cost of cattle feed leads to underfeeding of these animals resulting in suboptimal production of milk. Necessary steps needs to be taken for improving the fodder availability in the state and ensuring optimal feeding of these animals so that we can increase the productivity of these animals to their optimum potential.

DAIRY DEVELOPMENT DEPARTMENT: 2024-25

DPR- FODDER- ONGOING SCHEMES

Out of 14 districts seven districts viz., Palakkad, Ernakulam, Kollam, Thrissur, Kannur, Thiruvananthapuram and Kozhikode have large number of crossbred cattle. Among these 7 districts Palakkad, Ernakulam, Thrissur and Thiruvananthapuram face acute dry matter deficiency of above 600 thousand metric tons. State has a whole present's extremely bleak picture of dry matter deficiency of 74.17 per cent.

It is estimated that fodder cultivation would be required in at least 64,000 Ha, if Kerala has to meet the roughage production target. Public Sector Undertakings viz, Kerala Feeds Ltd and MILMA, District Cooperative Societies and Joint Liability Groups must be encouraged and supported to initiate and expand fodder production in the State.

Districts	Indigenous cattle ('000)	Crossbred cattle ('000)	Buffalo ('000)	Goats (number)	Sheep (number)	Dry matter (000 MT) deficit
Palakkad	12.3	153.6	9.2	113031	1157	649
Ernakulam	4.7	102.1	12.8	123538	50	756
Kollam	1.4	100.9	5.8	111342	9	271
Thrissur	2.9	99.9	18.7	128130	94	870
Kannur	1.5	98.3	0.8	56445	3	134
Thiruvananthapuram	0.8	97.7	3.8	163980	31	691
Kozhikode	8.7	96.1	4.3	43962	12	374
Idukki	7.1	82.9	5.7	98503	23	553
Kottayam	0.9	80.8	6.1	94297	9	357
Malappuram	2.6	77.9	19.9	137718	9	259
Alappuzha	0.6	75.3	6.0	55158	0	152
Wayanad	2.4	70.3	5.2	35150	21	000/Nil
Pathanamthitta	0.6	63.8	2.8	51066	18	178
Kasaragod	30.7	52.0	1.3	33757	10	98
Kerala state	77.0	1,251.60	102.3	1246077	1446	74.17%

Source: 19th Livestock Census, Department of Animal Husbandry, Dairying & Fisheries, Ministry of Agriculture and Farmers Welfare, GoI

As per the data from the Department, the total required fodder for the milch animals in the State is 335.5 lakh kg per day. However, the available fodder cultivation is only 47 per cent of the total required fodder. The State urgently needs a fodder and feed plan for its livestock sector to cover the deficit in fodder production, to reduce the cost of production of milk, to ensure a balanced ration for animals and maintain productivity and animal health.

Presently, there are 8,020 fodder plots in the State, of which, 5,897 plots (73.54 per cent) are between one acre and 2.5 acres in area. There are 1877 plots (23.4 per cent) with area between 2.5 acres and five acres. There are only 246 plots (3.07 per cent) of area more than five acres. (Economic Review 2023)

The present cost of milk production is mainly driven by the cost of concentrates and external inputs for productivity. The farmer's expenditure on feeding of the productive animal is influenced by the difference of the selling price of milk with the cost of concentrate feed. This compels the farmers to adopt under feeding practices, which lead to malnutrition resulting in a longer inter-calving period and reduction in the production potential of the crossbred animals.

A cost effective feeding practices for productive crossbred animal can be achieved by decreasing the dependence on external input i e., concentrates and increasing the internal input system through fodder production at farmer's level for nutrient availability & its balancing for optimum productivity by assisting farmers in adopting fodder cultivation in their own lands. This envisages focused attention on the special need to develop feed resources by improving availability of green fodder.

The project is intended to ensure the availability of fodder in farmer's field where the available land is utilized by adopting integrated cropping pattern. The cultivation can be pure crop or inter crop.

In the current scenario, where competing demands on land renders even expansion of food/cash crops a difficult proposition, the probability of increasing area under fodder crops is very difficult. It is therefore imminent to adopt a multi-pronged strategy for adequate availability of fodder in order to provide a buffer to the farmer even in times of climatic variability. This strategy envisages supply of quality seeds, promoting production of fodder crops, extending fodder cultivation to currently fallow and unutilized lands, promotion of dual-purpose varieties of crops that has the potential of meeting fodder requirements in season and off-season, promotion of non-traditional fodder, post-harvest technologies for preservation of fodder etc.

Besides, improving productivity in areas already under fodder cultivation, improving productivity of grazing and pasture lands, raising perennial fodder crops on field bunds and boundaries, peri-urban areas and exploiting unutilized and under-utilized fodder crops are also some of the promising options to enhance fodder availability. Plant Breeders in India have also identified a number of varieties/hybrids, which could give a better quality and higher yield of crop residue without any compromise in grain yield.

Mechanization in the field of fodder development is a need of the hour. Farm mechanization has been helpful to bring about a significant improvement in agricultural productivity. Thus, there is strong need for mechanization of agricultural operations. The factors that justify the

strengthening of farm mechanization in the country can be numerous. The timeliness of operations has assumed greater significance in obtaining optimal yields from different crops, which has been possible by way of mechanization. As production increases with mechanization of the farm operations, it creates a good scope for commercialization of fodder cultivation. Normally, there are good chances to reduce the cost of production if farm operations are mechanized as it saves labour, both human and bullock. In the absence of mechanization, the ever-increasing wage rate of human labour and cost of upkeep of draught animals will increase the cost of production much higher. Further, large-scale production means less per unit cost on the farms. Farm machines have not only increased the mechanical advantage, but also helped to reduce drudgery while performing the different agricultural operations. The contributions of agricultural mechanization in various stages of crop production could be viewed as saving in seeds, saving in fertilizers, saving in time, reduction in labour, increasing in cropping intensity and higher productivity.

The State Planning Board, GOK has already entrusted the Dairy Development Department to submit the proposals for publishing the “State Fodder Policy”. The Department has started the background work for formulation of the same.

During the year 2024-25, as per the Kerala State Budget Provisions, it has been proposed to undertake fodder development activities for Rs 850 lakh in the state. The Department intends to take up Novel Fodder Development Plan and activities in the state. During 2024-25, under the Fodder Development Programme itself it is envisaged to cultivate perennial fodder in 2213 Ha of land. The total allocation for the on-going project proposals includes Rs 369.50 Lakhs only.

02. OBJECTIVES OF SCHEME COMPONENTS UNDER THE SCHEME: PRODUCTION AND CONSERVATION OF FODDER IN FARMER FIELDS AND DAIRY CO-OPERATIVES

- To introduce new scientific low cost feeding culture among Dairy farmers.
- To uplift the sustainability and reliability in dairying by reducing the feeding cost by 30%
- To ensure existence of fodder sufficient panchayats by optimizing the fodder development activities through Dairy Co-operatives

DAIRY DEVELOPMENT DEPARTMENT: 2024-25
DPR- FODDER- ONGOING SCHEMES

- Providing irrigation assistance and mechanization of fodder cultivation activities.
- To improve the general health of the milch animal and the quality of milk produced.
- To bring additional 2213 Ha of land under fodder cultivation thereby ensuring the availability of green fodder throughout the season by assisting the farmers by providing planting materials and cultivation assistance.
- To generate employment and income to the producers by sale of fodder.
- To enhance the capacity of farmers for adoption of fodder production technology through field level training and demonstrations.
- To establish 10 numbers of DCS based JLG /SHG/ other recognized Groups for fodder production and marketing.
- To encourage Massive/Comprehensive Fodder Cultivation Programme in Barren / Unutilized land in selected zones covering 55 Ha of Land.
- To encourage the maize cultivation in 50 Ha of land
- To establish and popularize Commercial Silage Making Unit as a pilot scheme for individuals/JLG/ SHG/ DCS / FPOs as a major activity in order to reduce the feed cost
- To establish “Kolar Model” fodder cultivation (Cultivation of Hybrid Napier with Muringa as intercropping/bio fencing)
- To encourage the Fodder Trees including live fencing.

03. BUDGET PROVISION 2024-25 & APPROVED PLAN WRITE UP

As per the budget outlay 2024-25, Rs 850.00 Lakh has been earmarked for implementation of different scheme components under the scheme **PRODUCTION AND CONSERVATION OF FODDER IN FARMERS FIELDS AND DAIRY CO-OPERATIVES** with H.O.A – 2404-00-102-77. In the budget document 2024-25, Rs 850 lakhs is divided as follows under 4 sub heads

2404-00-102-77-34-OC-03-Other items	-	Rs. 816.45 Lakh
2404-00-102-77-04-01-Tour TA	-	Rs. 16.78 Lakh
2404-00-102-77-05(OE)-04-Other items	-	Rs. 5.59 Lakh
2404-00-102-77-45-POL	-	Rs. 11.18 Lakh
<hr/>		
Grand Total (2404-00-102-77)	-	Rs. 850.00 Lakh

DAIRY DEVELOPMENT DEPARTMENT: 2024-25
DPR- FODDER- ONGOING SCHEMES

As per Proceedings No. DDDKER/1372/2024-D3 dated 11.04.2024 of the Director, DDD, a provision of Rs. 75.53982 lakh has been allocated to cover expenses related to scheme components of Plan 2023-24 that were physically achieved during the FY 2023-24 but not financially met due to a lack of permitted balance, movement of contingent bills to the treasury queue/WAMS/BAMS. This amount be sourced from the budgeted state plan provision of FY 2024-25.

In tune with the plan, fund provisions and *PLAN WRITE UP* approved by GOK, Out of the total 18 Scheme components of FY 2023-24 are on-going in nature. The Head of the Department (Director, Dairy Development Department) is delegated with the power to accord administrative sanction for implementation of on-going scheme components.

DAIRY DEVELOPMENT DEPARTMENT: 2024-25
DPR- FODDER- ONGOING SCHEMES

04. FINANCIAL OUTLAY

DAIRY DEVELOPMENT DEPARTMENT PRODUCTION AND CONSERVATION OF FODDER IN FARMERS FIELDS AND DAIRY CO-OPERATIVES : 2024-25							
SL.NO	SCHEME COMPONENTS	UNITS	2024-25				
			NO OF UNITS	UNIT COST	UNIT SUBSIDY	TOTAL COST	TOTAL SUBSIDY
				(Rs)	(Rs)	(Lakhs)	(Lakhs)
1	Assistance for automation and mechanisation of fodder cultivation activities						
	Irrigation assistance	No.	55	20000	10000	11.00	5.50
	Irrigation assistance - above one acre	No.	28	50000	25000	14.00	7.00
	Mechanisation assistance	No.	100	20000	10000	20.00	10.00
	Assistance for automation and mechanisation of fodder cultivation activities		183			45.00	22.50
2	Assistance for transportation of fodder planting material	No.				4.00	4.00
3	Assistance for comprehensive and massive fodder cultivation in barren and unutilised lands	Ha.	55	157820	94272	86.80	51.85
4	Fodder Hubs / Fodder Marketing Units through Dairy Co-operatives by JLGs / SHGs / Other registered groups	No.	10	100000	75000	10.00	7.50
5	Assistance for Maize Cultivation	Ha	50	47160	15785	23.58	7.89
6	Kolar Model -Cultivation of Hybrid Napier with Muringa as Intercropping / Biofencing	Ha.	40	35000	17500	14.00	7.00
7	Cultivation of Fodder trees including live fencing	No.	65150	10	10	6.52	6.52
8	Commercial Silage Making Unit for Individuals / JLGs / SHGs - Pilot Scheme	No.	1	1710000	1000000	17.10	10.00
9	Fodder Seminar / Fodder day celebration at district level and state level	No.	16	Lumpsum		5.00	5.00
10	Dairy Promoter Incentive (@Rs 8000 per month for 10 months) including festival allowance @ Rs 1000 per Dairy Promoter	No.	162	81000	81000	131.22	131.22
11	Assistance to State Fodder Farm, Valiyathura	No.	1	500000	500000	5.00	5.00
12	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	No.	Lumpsum			74.69	74.69
13	Implementation, Documentation and Monitoring	No.	Lumpsum			2.78	2.78
GRAND TOTAL FODDER OC - 2404-00-102-77-34-OC-03 OTHER ITEMS						425.69	335.95
14	2404-00-102-77-04 TE (1) TOUR TA	NO.	Lumpsum			16.770	16.77
15	2404-00-102-77-04 TE (1) TOUR TA - Queue	NO.	Lumpsum			0.010	0.01
16	2404-00-102-77-05 OE-4 OTHER ITEMS	NO.	Lumpsum			5.590	4.89
17	2404-00-102-77-05 OE-4 OTHER ITEMS - Queue	NO.	Lumpsum			0.700	0.70
18	2404-00-102-77-45-POL	NO.	Lumpsum			11.050	11.05
19	2404-00-102-77-45-POL - Queue	NO.	Lumpsum			0.130	0.13
GRAND TOTAL - FODDER - 2404-00-102-77						459.94	369.50

Savings in any scheme component shall be utilized for meeting the expenditure pertaining to any other scheme component with the same Head of Account

05. ONLINE SCHEME IMPLEMENTATION THROUGH KSHEERASREE PORTAL

The implementation of selected schemes especially those targeting individual beneficiaries shall be exclusively done online through ksheerasree portal (<https://ksheerasree.kerala.gov.in/>). The entire processes starting from registration using Aadhaar and online submission of application till the transfer of subsidy in DBT mode to the bank accounts of beneficiaries will be done through the portal. The portal is owned by Department of Dairy Development, developed by NIC and is integrated to e-treasury, ReLIS and e-PDS portals of Treasury department, Revenue department and Civil Supplies department respectively.

The entire workflow and processes can be summarized as follows:

1. Release of calendar of activities from Directorate regarding various stages of scheme implementation starting from application submission dates to release of financial assistance.
 2. Submission of online applications along with necessary documents
 3. Priority list and waiting list generation based on eligibility and priority criteria as detailed in DPR and allied documents.
 4. Field level physical verification by concerned officials
 5. Further verification and final approval by concerned officials
 6. Online remittance of registration fees by approved beneficiaries through ksheerasree portal
 7. Physical Implementation of scheme components by approved beneficiaries
 8. Online Submission of documents by selected beneficiaries as proof of implementation as detailed in DPR
 9. Physical and online verification and approval of scheme implementation by concerned officials
 10. Proceedings generation and TR 59 Bill generation through portal by implementing officers
 11. e-Submission of bills to treasury through ksheerasree portal
 12. Online bank transfer of subsidy/financial assistance to beneficiaries via e DBT mode from treasury
 13. Report generation
- The selection and ranking of applicants are made based on the eligibility criteria and priority criteria earmarked against each scheme component as given below. In order to attract youngsters towards dairy sector, weightage should be given for lower age group for all schemes processed through ksheerasree portal in case of a tie during selection process. The timelines shall be strictly adhered to. Officers authorized for verification and final approval shall be notified separately.
 - The approved beneficiaries shall remit prescribed registration fees for respective schemes within one week from the date of beneficiary approval

and the implementing officer reserves the right and power to reject any approved beneficiary if he or she fails to remit the registration fees within the prescribed time limit. This is to ensure smooth implementation of project and to keep the timelines of the project

- From among the applications submitted by the applicant, after verification by concerned officials, if an application is approved by the concerned authority and is selected as beneficiary for that particular scheme component during the financial year, then it will be considered as final for that scheme. The selected beneficiary will be entitled to implement that particular scheme component only and is liable to complete its implementation and submit all required documents for availing subsidy within prescribed time limit.
- The selected beneficiaries of schemes (as specified in the approved guidelines) shall submit an agreement (in the model prescribed by the Dairy Development Department) in Kerala Stamp Paper worth the amount as published by GOK (Rs 200/-)
- Individual applicants who received financial assistance under any scheme component during this fiscal year will not be considered for selection during this financial year.

06.01. ASSISTANCE FOR AUTOMATION & MECHANIZATION OF FODDER CULTIVATION ACTIVITIES

06.01.01. IRRIGATION ASSISTANCE

Plan Outlay- Rs. 5.50 Lakhs

This Scheme envisages providing irrigation assistance for existing fodder plots having source of irrigation. Pump sets, storage tanks, connecting hose, sprinkler system, drip system etc. can be established under this scheme. Assistance may be given for Rain water harvesting purpose also. The Scheme is for those beneficiaries having fodder plots with more than 50 cents area.



DAIRY DEVELOPMENT DEPARTMENT: 2024-25
DPR- FODDER- ONGOING SCHEMES

Eligibility Criteria	Priority Criteria
<ul style="list-style-type: none"> • The applicant shall be an Indian citizen • Shall be a resident of Kerala possessing valid ration card • Should have attained 18 years of age • Presently engaged in fodder cultivation • Owned land or leased land of 50 cents • Estimate value should be equal to or more than Rs. 20,000 	<ul style="list-style-type: none"> • More area under cultivation • Presently pouring milk to DCS • Progressive dairy farmers rearing 5 or more cattle inclusive of milch animals and heifers • Women applicants • SC/ST applicants • Young applicant below 30 years

The subsidy permissible to beneficiary is 50% of unit cost approved and the unit subsidy shall be Rs 10,000/- per beneficiary

A beneficiary who has availed financial assistance (fodder cultivation above 50 cents) for fodder cultivation during the previous year can also apply for this scheme component during the FY 2024-25

Registration Fees – Rs 170 / beneficiary

06.01.01. Financial Outlay

FINANCIAL OUTLAY - IRRIGATION ASSISTANCE						
TOTAL UNITS	UNIT COST			COST FOR TOTAL UNITS		
	TOTAL	SUBSIDY	BENEF. CONT	TOTAL COST	SUBSIDY	BEN. CONTR
	Rs	Rs	Rs	Rs in Lakh	Rs in Lakh	Rs in Lakh
55	20000	10000	10000	11.00	5.50	5.50

**DAIRY DEVELOPMENT DEPARTMENT: 2024-25
DPR- FODDER- ONGOING SCHEMES**

**06.01.02. IRRIGATION ASSISTANCE OF FODDER PLOTS
- ONE ACRE AND ABOVE
Plan Outlay – Rs. 7.00 lakh**

This Scheme component envisages providing irrigation assistance for existing fodder plots having source of irrigation. Pump sets, storage tanks, connecting hose, sprinkler system, drip system etc. can be established under this scheme. Assistance may be given for rain water harvesting purpose also. Beneficiaries shall be elite and Progressive farmers/JLG/SHG/NGOs/FPOs / Other Institutions who cultivate fodder for more than 1 acre.



Eligibility Criteria	Priority Criteria
<ul style="list-style-type: none"> • The applicant shall be an Indian citizen • Shall be a resident of Kerala possessing valid ration card • Should have attained 18 years of age • Presently engaged in fodder cultivation • Owned land or leased land of 100 cents • Estimate value should be equal to or more than Rs. 50,000 • Registration Certificate – for application from groups (minimum four members in one group) (DCS/SHG/JLG/FPOs/NGOs/other registered organizations. 	<ul style="list-style-type: none"> • More area under cultivation • Presently pouring milk to DCS • Progressive dairy farmers rearing 10 or more cattle inclusive of milch animals and heifers • In case of groups: all members rearing cattle and pouring milk to DCS. • Women applicants • SC/ST applicants • Young applicant below 30 years

DAIRY DEVELOPMENT DEPARTMENT: 2024-25
DPR- FODDER- ONGOING SCHEMES

The subsidy permissible to beneficiary is 50% of unit cost approved and the unit subsidy shall be Rs 25,000/- per beneficiary.

A beneficiary who has availed financial assistance (fodder cultivation above 50 cents) for fodder cultivation during the previous year can also apply for this scheme component during the FY 2024-25

FINANCIAL OUTLAY - IRRIGATION ASSISTANCE						
TOTAL UNITS	UNIT COST			COST FOR TOTAL UNITS		
	TOTAL	SUBSIDY	BENEF. CONT	TOTAL COST	SUBSIDY	BEN. CONTR
	Rs	Rs	Rs	Rs in Lakh	Rs in Lakh	Rs in Lakh
28	50,000	25,000	25,000	14.00	7.00	7.00

Applications and selection will be done through KSHEERASREE PORTAL. The beneficiary shall execute an agreement in stamp paper (valued as per existing government norms) that the assisted plot and implements purchased shall be maintained in good condition for a minimum period of 3 years.

Registration Fees – Rs 170 / beneficiary

06.01.03. MECHANIZATION & MODERNIZATION OF FODDER

CULTIVATION

Plan outlay – ₹ 10.00 Lakh

The economic viability of a dairy unit largely depends on the availability of fodder grass. Better resource management and farm mechanization have led to an increase in the fodder yield, despite the challenges posed by adverse climate, soil and water salinity. Mechanization will encourage dairy farmers to take up fodder production on commercial basis.

It includes providing machineries like tillers, harvester, chaff cutter, agricultural implements etc. This will help in reducing the labour cost and thereby make fodder cultivation economically viable occupation to those having sufficient land. Use of chaff cutters will prevent wastage of fodder, improve its intake, and thus help in easy assimilation of the nutrients.

**DAIRY DEVELOPMENT DEPARTMENT: 2024-25
DPR- FODDER- ONGOING SCHEMES**

Eligibility Criteria	Priority Criteria
<ul style="list-style-type: none"> • The applicant shall be an Indian citizen • Shall be a resident of Kerala possessing valid ration card • Should have attained 18 years of age • Presently engaged in fodder cultivation • Estimate value should be equal to or more than Rs. 20,000 • Registration Certificate – for application from groups (minimum four members in one group) (DCS/SHG/JLG/FPOs/NGOs/other registered organizations. 	<ul style="list-style-type: none"> • More area under cultivation / intended for cultivation • Presently pouring milk to DCS • Dairy farmers having 2 or more milch animals • In case of groups: all members rearing cattle and pouring milk to DCS • Women applicants • SC/ST applicants • Young applicant below 30 years

The project envisages providing financial assistance for the purchase of machinery based on the requirement of the beneficiary.

The subsidy permissible to beneficiary is 50% of unit cost approved and the unit subsidy shall be Rs 10,000/- per beneficiary.

A beneficiary who has availed financial assistance (fodder cultivation above 50 cents) for fodder cultivation during the previous year can also apply for this scheme component during the FY 2024-25

Registration Fees – Rs 170 per beneficiary



DAIRY DEVELOPMENT DEPARTMENT: 2024-25
DPR- FODDER- ONGOING SCHEMES

FINANCIAL OUTLAY - MODERNIZATION & MECHANIZATION OF FODDER CULTIVATION						
TOTAL UNITS	UNIT COST			COST FOR TOTAL UNITS		
	TOTAL	SUBSIDY	BENEF. CONT	TOTAL COST	SUBSIDY	BEN. CONTR
	Rs	Rs	Rs	Rs in Lakh	Rs in Lakh	Rs in Lakh
100	20,000	10,000	10,000	20.00	10.00	10.00

06.02. ASSISTANCE FOR TRANSPORTATION OF FODDER PLANTING MATERIALS

Plan Outlay – Rs. 4.00 Lakhs

An amount of Rs. **4.00 Lakh** has been kept apart to meet the transportation cost of fodder, planting materials and seeds within the district/ inter-district.

06.03. COMPREHENSIVE & MASSIVE FODDER CULTIVATION IN BARREN & UNUTILIZED LANDS
Plan Outlay – ₹ 51.85 lakh

06.03.01. Fodder Requirement and Availability

Total female cattle population in Kerala is 14 lakhs. The annual Dry Matter requirement for maintaining our herd is about 84 lakh kg per day. The Dry Matter Requirement is estimated to be 84 lakh kg per day of which 56 lakh kg per day has to be met from roughages. Considering an average DM content of 20 percent in fodder, the green fodder requirement per day is 0.28 lakh tonne per day or 102.2 LMT per year. Kerala is only 47 % self-sufficient as far as green fodder availability is concerned (48 LMT availability as against the requirement of 102 LMT)

The feed resources available from existing agricultural practices meet roughly 40% of the dairy industry requirement of green and dry fodder. With increased crossbreeding, the physical stature of dairy animals has improved considerably and their body weight now is in the range of 325-350 kg as against earlier body weight of around 150 kg. As a result, the demand for feed and fodder has further increased. Below table indicates dry matter availability and deficit in Kerala, which experiences dry matter deficiency to the tune of 74.17%.

DAIRY DEVELOPMENT DEPARTMENT: 2024-25
DPR- FODDER- ONGOING SCHEMES

Particular	Requirement	Availability	Deficit	Percent
Dry matter	71.89 m tonnes	18.57 m tonnes	53.32 m tonnes	74.17%

On account of the above the area to be made available under fodder cultivation is around 64,000 Ha (Hybrid Napier) whereas the availability is only around 30,000 Ha.

06.03.02. Need for a pioneering fodder plan for the state.

The profitability of dairy farmers is deeply hindered by the high production cost. A limiting factor in this regard is high dependence on concentrate / compound feed due to non-availability of adequate fodder especially green grass. The farmers of Kerala are mainly marginal in nature. The limitation in land availability, availability of high yielding varieties of fodder, resistance of farmers to take up fodder development activities, inadequate mechanization activities, inadequate fodder marketing facilities, lack of proper facilities for fodder processing activities are some factors to be redressed for establishing a new fodder development culture in the state.

The fodder availability in the state is sufficient enough to meet on an average 47 % of the requirement. In order to narrow the gap, innovative and novel approaches have to be initiated. As a part of the same, intensive fodder cultivation activities has to be taken up by the department. Fodder cultivation has to be taken up in available barren lands that too in an intensive and aggressive manner. The project implemented during the year 2017-18 to 2023-24 for undertaking comprehensive fodder development in barren land was a huge success.

06.03.03. Objectives of the Scheme

The scheme is aimed at

- ④ Undertaking intensive fodder cultivation programme in selected zone of the state where barren / unutilized land is available for fodder cultivation.
- ④ Ensuring fodder cultivation in **55 Ha** of barren land available in the selected areas by integrating and ensuring the participation of Department, LSGD, Dairy Co-operative Societies, PSU's, progressive farmers etc.
- ④ Ensuring **9,350 MT** of additional green fodder per annum.
- ④ Developing sustainable and model fodder development programme in selected areas. Integration of mechanization activities to be ensured

- Narrowing the gap between fodder requirement and availability of the state
- Developing sustainable, effective and profitable fodder cultivation models so as to encourage individuals, JLG, SHG, registered FPOs, Govt agencies to take up fodder development activities
- Utilizing cultivable forest lands for fodder cultivation

06.03.04. Scheme Proper

It is proposed that the comprehensive and massive fodder production scheme be implemented in selected areas of the state. The selected beneficiary (individuals /JLG /SHG groups / DCS / NGO / Charitable organizations etc.) will have to establish fodder cultivation in minimum 1 hectare of barren/unutilized cultivable land under its geographical premises. Minimum unit plot size shall be 1 acre. There will not be any upper limit for unit plot size or number of units permissible for a particular beneficiary including individual / organization / institution.

Registration Fees – Rs 180 per beneficiary

The implementation of the scheme involves the following stages

- 1. Ensuring state wide publicity for the project**
- 2. Preliminary awareness programme for Farmers**
- 3. Inviting applications through *KSHEERASREE PORTAL***
- 4. Selection of beneficiary through *KSHEERSREE PORTAL***

The beneficiary applicant can apply for barren land through Ksheerasree portal. The DFI / DEO will verify the application after proper inspection. The Deputy Director shall be the authority responsible for final selection of beneficiary in a particular district through the portal. The district selection shall be based on the target allotted from the Directorate.

The procedure for beneficiary selection and further processing is as detailed in Para 05 of this document.

The following criteria shall be adhered to while ranking / selecting the beneficiary.

- *Availability of barren cultivable land in the selected area / Zone*
- *Priority of ownership of barren land in the order of Govt owned, PSU Owned, LSGD owned, Charitable organizations, progressive farmers, other individuals etc*
- *Availability of land on lease.*
- *Source and availability of water and electricity for irrigation purpose*
- *Availability and concurrence of a potential DCS coming under the DESU which is willing to take up the project.*

The present status of available fodder shall not be criteria for selection of beneficiary rather the potential of the area and the gap in fodder and the possibilities to make use of the available barren land will be the criteria.

- 5. Training programme for the representatives of selected beneficiary:** Training for selected beneficiaries shall be carried out at district level. Training shall be arranged with the technical support from Dairy Training Centre of the Department
- 6. Land preparation and other preliminary activities pertaining to selected beneficiary / beneficiary Institution / Organization.**
Mechanized land preparation activities shall be followed (like use of Renovators, Ploughing machineries, weeding techniques etc.)
- 7. Mechanized Fodder Cultivation activities**
- 8. Harvesting of fodder**
- 9. Marketing of fodder (with linkage to DCS to the maximum extent possible)**
- 10. Release of financial assistance to the beneficiary**
- 11. Monitoring of the scheme**
- 12. State wide documentation**

06.03.05. Technical and Financial Parameters / Outlay

Technical cum Financial Parameters

- Min unit / Plot Size – 1 acre
- Max permissible units - No limit
- Type of fodder to be cultivated - High yielding variety of Hybrid Napier
- Ploughing by cultivator – Rs 6000 per hectare
- Ploughing by Rotovator – 2 times for 1 acre (1 hour per acre) @ Rs 800/hr.
i.e. Rs 4000/- per hectare

Fertilizer Application – Preliminary

- Basal dose Manuring after initial Ploughing by Rotovator
- Urea - 87.5 kg / ha
- Potash - 50 kg / ha
- Rock phosphate - 250 kg / ha
- Cow dung - 2000 kg / ha @ Rs 2.5 per kg

Fertilizer Application - After each cutting

- Urea application - 20 Kg / Ha

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- Hand picking / clearing of land – 4 man days per ha
- Cost of fodder slip – 15,000/Ha @ Rs0.70 per slip
- No. of slips required per Ha – 15,000 per Ha
- Planting Charges – 10 man days per Ha
@ Rs 800 per man day
- Irrigation Charges – Rs 30,000 per Ha
- Top Dressing Charges – Rs 3000/Ha
- Harvesting Charges – Rs 5000/Ha
(Including loading and unloading of fodder to the vehicle)
- No. of cutting expected per year – 7
- Transportation Charges (Lump sum) - Rs 20,000 per Ha
- Provisions for Cost Of Implements - Rs 20,000 (Lump sum)
Weighing Machine and Other Unforeseen Expenditure
- Selling price of fodder – Rs 3.0 per Kg

Note:

If DCS is linked to this scheme, then the DCS can engage supervisory staff for the overall monitoring and implementation of the project (No plan fund will be provided for this). The Project may be loan linked if possible. DCS can avail eligible loan from banks

Eligibility Criteria	Priority Criteria
<ul style="list-style-type: none"> • The applicant shall be an Indian citizen • Shall be a resident of Kerala possessing valid ration card • Should have attained 18 years of age • Min area – 1 Ha • Min unit plot size shall be 1 acre • Maximum no. of plots – 2 No.s • Registration Certificate – for application from groups (minimum four members in one group) (DCS/SHG/JLG/FPOs/NGOs /other registered organizations) 	<ul style="list-style-type: none"> • Availability of more barren / unutilized land for commercial / massive fodder cultivation – either own land or leased land • Ownership of land in the order of Govt owned / PSU owned / LSGD owned / Charitable owned / Progressive Farmers / Other individuals etc • Availability of water and electricity for irrigation purpose • Availability of a DCS willing for linkages • Applicants who are already trained in Department DTC / Other Government Institutions • In case of groups: all members rearing cattle and pouring milk to DCS

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	<ul style="list-style-type: none"> • Women applicants • SC/ST applicants • Young applicant below 30 years • Individuals and applicant groups who have not received financial assistance under any of the fodder scheme for the last three years.
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06.03.06 FINANCIAL OUTLAY

COST BREAK UP (1 HA)		
SI.NO	PARTICULARS	TOTAL CHARGE PER ANNUM (Rs)
1	RENT FOR LEASE LAND (Optional)	9000
2	LAND PREPARATION CHARGES (PRELIMINARY PLOUGHING BY CULTIVATOR + PLOUGHING BY ROTOVATOR+AND PICKING / CLEARING OF LAND / INTERWEEDING)	13200
3	COST OF SLIP	10500
4	FERTILIZER APPLICATION (BASAL DOSE MANURING + MANURING AFTER EACH HARVESTING + TOP DRESSING)	12120
5	LABOUR CHARGES (PLANTING COST+HARVESTING CHARGES)	43000
6	TRANSPORTATION CHARGES	20000
7	IRRIGATION CHARGES (INCLUDING ELECTRICITY CHARGES) - CAPITAL + SPRINGLER AND ACCESSORIES + PIPE FITTINGS AND ACCESSORIES	30000
8	COST OF IMPLEMENTS, WEIGHING MACHINE AND OTHER UNFORSEEN EXPENDTURE	20000
GRAND TOTAL		157820

Savings in any component can be utilized for meeting the expenditure pertaining to any other sub component listed above.

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Note: 1. If the scheme is implemented in own land, the provision for rent can be avoided. The cost structure and subsidy need to be revised accordingly.

2. In case if rent is not included in the total cost, then the subsidy shall be Rs 89,000/-

DAIRY DEVELOPMENT DEPARTMENT COMPREHENSIVE SCHEME FOR MASSIVE FODDER PRODUCTION IN SELECTED PANCHAYATS FINANCIAL ANALYSIS	
PARTICULARS	YEAR : 2024-25
<i>Expenditure</i>	
LSGD CONTRIBUTION-MNREGS	-
DEPT SUBSIDY	94,272
BEN. CONTRIBUTION	63,548
GRAND TOTAL COST (1)	1,57,820
<i>Revenue</i>	
YIELD PER HECTRE - 170 TONNES PER ANNUM (@Rs 3.0 per KG) (2)	5,10,000
ESTIMATED PROFIT	3,52,180

FINANCIAL ABSTRACT

YEAR	UNIT COST (PER HA) (in Lakhs)			TOTAL COST - FOR 55 Ha (in Lakhs)		
	COST PER HA.	BENIFICARY CONTRIBUTION	PLAN ASSISTANCE	TOTAL COST	DCS/BENIFICARY CONTRIBUTION	PLAN ASSISTANCE
2024-25	1.5782	0.635	0.94272	86.80	34.93	51.85

**06.04. SCHEME FOR FODDER CULTIVATION & MARKETING BY SHG /
DCS / JLG / FPOs / OTHER REGISTERED GROUPS**

Plan Outlay – Rs. 7.50 Lakh

06.04.01. Introduction

The non-availability of land for fodder cultivation discourages many farmers from taking up dairying. If fodder is made available at cost on a regular basis many of these farmers will take up Dairying or increase the number of animals reared which would boost up the milk production of the state. There are many SHGs / DCS / JLGs/ FPOs / OTHER REGISTERED GROUPS within the area of operation of a Dairy Cooperative who is willing to cultivate, collect and market fodder to the needy farmers at a cost. These SHG / DCS / JLGs / FPOs / OTHER REGISTERED GROUPS can be assisted to cultivate fodder in their own or leased land and also collect the natural grass and other crop residues available in the locality, chaff it and pack in gunny bags and bring it to the DCS where the needy farmers can purchase it.

06.04.02. The scheme

The scheme envisages assisting the SHG / DCS / JLG / OTHER REGISTERED GROUPS under the supervision of the Dairy Co-operative to take up fodder cultivation and marketing to the needy farmers. Groups as prescribed by Dairy Department can be followed. The group members may take up fodder cultivation in their own land or in leased land. The minimum area to be cultivated should be one acre.

They may also collect locally available natural grass or other crop residues like plantain leaves and stem, coconut leaves after removing the spine and other stem and leaves (tapioca, pineapple etc.) which can be chaffed and mixed with the cultivated grass. A chaff cutter will also be provided to them. A shed to store the collected and chaffed fodder and a platform balance to weigh the fodder will also be provided. The chaffed fodder will be packed in gunny bags and carried to the DCS where dairy farmers come twice daily to pour milk. Those farmers who are in need of the fodder can purchase the fodder at a cost decided by the SHG / DCS / JLG / OTHER REGISTERED GROUPS based on the demand in the area.

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Assistance for One Group (One Acre of Land)

Sl. No	Particulars	Cost	subsidy
1	Cost of cultivation of fodder in One acre of land	20,000	15,000
2	Chaff cutter , and electrical accessories	20,000	15,000
3	Shed for storing Equipment's, tools ,implements and fodder	20,000	15,000
4	Weighing balance (platform type)	20,000	15,000
5	Tools and implements for cultivation , harvesting , gunny bags for packing chaffed fodder etc.	20,000	15,000
	TOTAL	1,00,000	75,000

Savings in any component can be utilized for meeting the expenditure pertaining to any other sub component listed above.

Eligibility Criteria	Priority Criteria
<ul style="list-style-type: none"> • Registration Certificate – for application from groups (minimum four members in one group) (DCS/SHG/JLG/FPOs /NGOs/other registered organizations • Availability of own land or leased land for fodder cultivation • Min area – 1 acre • Availability of DCS ready for taking up marketing of fodder • All members in group should have attained 18 years of age 	<ul style="list-style-type: none"> • Group members who are already trained in Department DTC / Other Government Institutions • Availability of land already under cultivation – by applicant groups • Availability of water and electricity for irrigation purpose • In case of groups: all members rearing cattle (inclusive of milch animal and heifers) and pouring milk to DCS • women groups • SC/ST groups • All members in the group with age below 30 years • Applicant groups which have not received financial assistance under any of the fodder scheme for last 3 years

**DAIRY DEVELOPMENT DEPARTMENT: 2024-25
DPR- FODDER- ONGOING SCHEMES**

The estimated cost for establishing one unit is **Rs. 1,00,000/-** for which **Rs. 75,000/-** will be provided as subsidy for the year 2024-25. The remaining amount has to be channelized by the beneficiary group through own fund or bank loan. It is estimated that the group will be able to sell about 150 to 200 tons of fodder a year at an estimated cost of Rs. 3/Kg.

Registration Fees – Rs 180 per beneficiary

FINANCIAL OUTLAY - FODDER CULTIVATION AND MARKETING BY SHG/DCS/JLG						
TOTAL UNITS	UNIT COST			COST FOR TOTAL UNITS		
	TOTAL	SUBSIDY	BENEF. CONT	TOTAL COST	SUBSIDY	BEN. CONTR
	Rs	Rs	Rs	Rs in Lakh	Rs in Lakh	Rs in Lakh
10	1,00,000	75,000	25,000	10	7.5	2.5

06.05. SCHEME FOR MAIZE CULTIVATION FOR GRAIN PRODUCTION

Plan Outlay – Rs 7.89 lakhs

06.05.01. Introduction

Maize is one of the important coarse cereal crops grown in different agro-climatic conditions. It is being used for manufacturing lot of industrial products. In addition it is used as an important feed and fodder for animals. Maize is rich source of starch, proteins, fat and minerals. Maize is a major component of cattle feed mixture providing the much needed carbohydrate in the animal ration. At present the feed companies like Kerala Feeds, Milma feeds and feed factories run by Dairy co-operatives are procuring Maize from Northern States incurring heavy expenditure. Quite often they face difficulties in procuring Maize due to seasonal fluctuation and non-availability. If Maize is cultivated in the state on a large scale the seeds can be made available to Kerala Feeds/Milma feeds/Dairy co-operatives on a buy back arrangement and the Stover (crop residue) can be fed to cattle as dry roughage.

06.05.02. The Scheme

The scheme envisages cultivating Maize as a pure crop by selected farmers who have sufficient land / are willing to cultivate in leased land. The minimum cultivation area is 30 cents and multiples of ten. The scheme will be implemented in those districts which have proximity to the Feed factories and have the suitable Agro-climatic conditions favouring maize cultivation.

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The beneficiary selection may be done at the district level. Priority should be given to the land near the Feed Factories. Application for the scheme will be invited through KSHEERASREE PORTAL (Refer Para 5 of this document)

On receipt of application through portal, the implementing officer and subordinates should inspect the plot and will verify. The sanctioning authority will be the District officer. In case of the excess production of maize, the selected beneficiary will sign an agreement that they will give the maize seed produced to the Feed factories on the rate fixed by the Board of Feed factories. In the event of the price of Maize grains provided by Feed factories is lower or Feed factories are not in a position to collect the Maize grains , the farmer will be free to sell it as directed by the Dairy Development Department . Since Maize is not commonly cultivated for grain purpose in Kerala, the selected beneficiaries will be given training on package of practices of Maize crop for grain production. Also the implementing officers will be given a chance to visit the fodder farms in other states, mainly Maize grown for grain purposes.

Eligibility Criteria	Priority Criteria
<ul style="list-style-type: none"> • The applicant shall be an Indian citizen • Shall be a resident of Kerala possessing valid ration card • Should have attained 18 years of age • Registration Certificate – for application from groups (minimum four members in one group) (DCS/SHG/JLG/FPOs/NGOs/other registered organizations • Availability of min area of 30 cents of own land or leased land for maize cultivation 	<ul style="list-style-type: none"> • More available cultivable land either owned or on leased • Presently pouring milk to DCS • Individual applicant already trained in DTC • At least 50% of group members already trained in Department DTC / Other Government Institutions • Availability of water and electricity for irrigation purpose • In case of groups: all members rearing cattle and pouring milk to DCS • Women applicants • SC/ST applicants • Young applicant below 30 years • Individual applicant / Applicant groups which have not received financial assistance under any of the fodder scheme for last 3 years

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06.05.03. Financial outlay

Component	Area Ha	Unit Seed rate Kg	Seed Cost per Kg Rs./Kg	Total Plan Outlay Rs.
Maize Seed	50	40	79	1,58,000.00
Assistance to farmer per Ha @ Rs.12625/Ha	50			6,31,250.00
Grand Total				7,89,250.00

To get the maximum yield of maize, farmers will be given seeds by the Department from the certified agencies. In order to get maximum growth and production, the requirement of seed per hectare of land is estimated as 40 Kg. The assistance given to the beneficiaries for cultivation of Maize in one Ha of land will be Rs.12625 in addition to the seeds supplied free of cost. Value of seeds supplied /hectare of land is estimated to be Rs. 3160/- (40 Kg x Rs.79 /Kg of seed, the rate per kg seeds may change).

Therefore the total assistance for cultivating Maize in one hectare of land comes to Rs 15,785/-.

SI.NO	PARTICULARS	AMOUNT	SUBSIDY
			(Rs)
1	Cost of seeds (@40 Kg /Ha) X Rs.79/Kg)	3160	3,160
2	Cultivation expenses such as Land preparation, basal Manuring, fertilizers, planting, weeding pest control, irrigation, pesticides, top dressing, harvesting, rent for crusher, cost for drying the seed etc. Plus Implementation Charges	44,000	12,625
Total Assistance per Ha		47,160.00	15,785.00

The average yield per Ha of Maize is 2.3 tons of grains. In Kerala condition the yield may be slightly lesser and we may assume it to be 2 tones/Ha, which will result in 100 tons of seed which can be procured by feed factories. The seeds produced will be procured by Feed factories at a price fixed by the Board of the Feed factories.

The crop residue (Stover) can be sold to other farmers through the Dairy Co-operatives as dry roughage for which there are high demand and will be remunerative for the farmer cultivating maize.

If any savings is available in any component of the schemes, that amount will be utilized for purchase of seasonal fodder.

06.05.04. Monitoring

The District Deputy Director under the guidelines issued then and there will monitor the implementation

06.05.05. Conclusion

The scheme will help in addressing the shortage of dry matter required for cattle in the State as well as provide some quantity of raw material for feed manufacturing within the state itself.

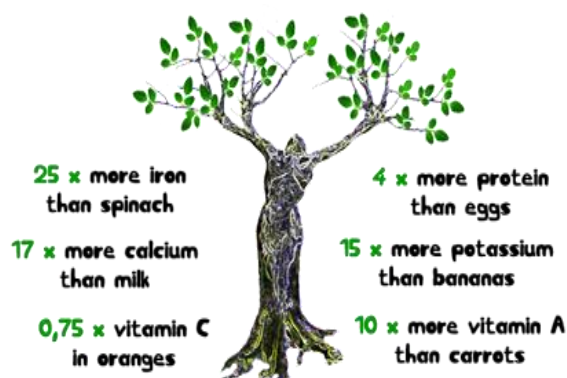
06.06. CULTIVATION OF HYBRID NAPIER WITH MURINGA TREES (MORINGA OLEIFERA) AS INTERCROPPING/BIOFENCING FOR CATTLE FEEDING – KOLAR MODEL

Plan Outlay – Rs 7.00 LAKH

06.06.01. Introduction

The scheme envisages replicating the highly successful KOLAR MODEL of cultivating high yielding Hybrid Napier (CO3/CO4) with highly nutritious Muringa Trees (**MORINGA OLEIFERA**) as intercropping/biofencing. This model has been found highly successful in KOLAR district of Karnataka State. The project of intercropping/biofencing hybrid napier with muringa trees for livestock feeding was taken up by GKVK university of Karnataka situated at Hebbal, Bangalore.

The muringa leaves are high in protein and nutritive value and hence can be used as an alternative livestock feed.



Moringa leaves are about 40% protein, with all of the 9 essential amino acids present in various amounts (histidine, isoleucine, leucine, lysine, methionine, phenylalanine, threonine, tryptophan, valine). Moringa is considered to have the highest protein ratio of any plant so far studied on earth. Moringa has protein quality and quantity similar to soy beans. Moringa is a vitamin treasure trove. The amounts of beta-carotene, Vitamin C and Vitamin E found in Moringa exceed those amounts commonly found in most other plants. Moringa leaves are also rich in VITAMIN B1, B2, B3 and cholin. Sulphur containing amino acids are plenty in muringa leaves. It contains Calcium, Iron and Potassium in significant amounts. Other minerals that Moringa contains include selenium, zinc, magnesium, phosphorus, copper and sulfur.

Complex mixtures of naturally occurring antioxidants from plants are the most effective and beneficial protectors against oxidation and aging. Moringa contains many other antioxidants including alpha carotene, xanthins, kaempferol, quercetin, and rutin.

Studies have indicated that feeding dairy cow with muringa leaves @ 2 – 2.5 kg per day increases the yield of milk by around 10-12 percent.

06.06.02. Advantages Of Intercropping Muringa With Hybrid Napier

- The muring leaves are high in protein and other essential nutrients
- Inclusion of muringa leaves (2-2.5 kg per day for a milch animal) increases the yield of milk by around 10-12 percent
- Muringa leaves being high in Iron Content and Vit A, inclusion of muringa leaves in cattle helps to counter many reproductive problems.
- Muringa leaves can be used as a cheaper source of protein in the diet of the animal.
- Muringa leaves along with Hybrid napier, if fed to cattle, will improve the digestability and overall health of the animal
- The Muringa Seeds, which have good commercial value, can be harvested many times an year, and hence the plot intercropped with muringa and hybrid napier, yeilds additional income to the dairy farmer.

06.06.03. Intercropping/biofencing Pattern

The proposed plot shall be 50 cents in area. The Hybrid Napier Slips will be planted at the rate of 15,000 slips per hectre (i.e 3000 slips per 50 cents) and muringa planting material (preferably grown in poly bags) as intercropping/biofencing at the rate of 1000 muringa trees per hectre (i.e 200

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plants per 50 cents). The spacing for muringa tree intercropping/biofencing shall be 5 m X 5 m apart.

06.06.04. Feeding Pattern

The incorporation of Muringa Leaves shall be restricted to 10 percentage of total green fodder fed to animals limited to a maximum of 2.5 kg per animal per day

06.06.05. The Scheme

The scheme envisages to assist cultivation of high yielding Hybrid Napier Variety with Muringa Trees as intercropping/biofencing of the plot. One unit shall be 50 cents. 40 units state wide will be assisted during the year 2024-25. No beneficiary shall be allotted more than one unit. Application for assistance shall be in prescribed format. Registration Fees shall be Rs 180 per beneficiary. Maximum proponganda for the said scheme through the Dairy Extension Service Units / Dairy Co-operatives / LSGD institutions / AIR / FIB / Dailies shall be ensured by the department level offices.

Selection of the beneficiary shall be through Ksheerasree Portal (Refer Para 05 of the DPR)

06.06.06. Eligibility & Prioity Criteria

Eligibility Criteria	Priority Criteria
<ul style="list-style-type: none">• The applicant shall be an Indian citizen• Shall be a resident of Kerala possessing valid Kerala state ration card• Should have attained 18 years of age• Availability of min area of 50 cents of own land or leased land for intercropping of Hybrid Napier with Muringa.	<ul style="list-style-type: none">• More available cultivable land either self-owned or on lease• Progressive dairy farmers rearing 5 or more cattle inclusive of milch animals and heifers• Presently pouring milk to DCS• Women applicants• SC/ST applicants• Young applicant below 40 years• Applicants who have not received financial assistance under fodder scheme for last 3 years

The beneficiary shall arrange for distribution of stem cutting / rooted slips of Hybrid Napier and planted muringa trees (in polybags). The beneficiary shall

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purchase short variety of Muringa from Agriculture Department- Govt. Farms, Accredited Nurseries, nurseries maintained by the DCS / NGO's / individuals. The Department shall have a facilitating role for arranging various components to the beneficiary.

06.06.07. Unit Cost (1 UNIT = 50 CENTS)

CULTIVATION OF HYBRID NAPIER WITH MURINGA TREES (MORINGA OLEIFERA) AS INTERCROPPING / BIOFENCING - KOLAR MODEL	
UNIT COST (COST FOR 50 CENTS)	
PARTICULARS	AMOUNT (Rs)
COST OF SLIPS (15000 SLIPS/Ha @ Rs.0.70 per slip)	2,100.00
COST OF MURINGA PLANT (1000 Plant/Ha @ Rs.30 per Muringa Plant)	6,000.00
LAND PREPARATION (30 Man Days X Rs.500/Man Day - per Ha)	3,000.00
BASAL MANURING (Rs.17000 per Ha)	3,400.00
PLANTING (25 Man Day X Rs 500/Man Day - per Ha)	2,500.00
WEEDING CHARGES (Rs 7000 per Ha)	1,400.00
TOP DRESSING (Rs.7000 per Ha)	1,400.00
IRRIGATION CHARGES (1HP motor, Sprinkler, Hose, etc)	12,700.00
MISCELLENEOUS	2,500.00
GRAND TOTAL	35,000.00
UNIT SUBSIDY	17,500.00

Savings in any one component shall be utilized for any other component in the scheme

Note: Susidy rates

1. Assistance for Planting Materials – 100 % subsidy
(Rs 8100/- max)
 2. Assistance for Irrigation Charges – 50 % of total cost
or Rs 6,000 (max)
 3. Assistance for land preparation – 33 % max.
Planting and related charges
- Total Subsidy shall be Rs 17,500/- per unit
(1 unit = 50 cents)

Savings in one of the component shall be utilized for any other component in the scheme

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06.06.08. Financial Outlay

CULTIVATION OF HYBRID NAPIER WITH MURINGA TREES (MORINGA OLEIFERA) AS INTERCROPPING / BIOFENCING - KOLAR MODEL						
TOTAL UNITS	UNIT COST			COST FOR TOTAL UNITS		
	TOTAL Rs	SUBSIDY Rs	BENEF. CONT Rs	TOTAL Rs in Lakh	SUBSIDY Rs in Lakh	BENEF. CONT Rs in Lakh
40	35000	17500	17500	14.00	7.00	7.00

06.07. CULTIVATION OF FODDER TREES

Plan Outlay – Rs 6.520 LAKH

Dairy farmers of Kerala find it difficult to cultivate sufficient fodder to feed their animals as the land holdings are small and pressure on the land from cash crops are high. They turn to other non-conventional feedstuff such as tree leaves and other crop residues to meet the requirement of roughage. Fodder trees such as Agathi, Subabul, Gliricidia etc are rich in crude protein and if fed regularly can help in reducing the cost of milk production. The project envisages promoting cultivation of Agathi / Subabul / Gliricidia for fodder in coastal areas, riverbanks and other available areas. The seedlings of Agathi / Subabul / Gliricidia shall be supplied to the farmers free of cost to encourage them to take up cultivation of fodder trees. Dairy cooperatives/ SHG's / NGO's/ Students Dairy Clubs shall produce seedlings using seeds obtained from KLDB, other fodder research stations and approved fodder farms. Fodder trees suitable for coastal areas, riverbanks shall be made available for such areas. The Dairy development department shall provide Rs.10.00/seedling (including transportation) supplied to the farmers. 65,150 seedlings shall be planted/distributed to selected beneficiaries. The Dairy Extension Officer shall maintain a list of beneficiaries.

06.08. COMMERCIAL SILAGE MAKING/ BAILING UNIT FOR INDIVIDUALS / JLGS / SHGs / FPOs/OTHER REGISTERED GROUPS - PILOT SCHEME

Plan Outlay – Rs 10.00 LAKH

In layman's language "Silage" means "Pickled Grass". Silage is the fodder, which is conserved by reducing pH through natural anaerobic fermentation and is used for feeding during scarcity period, drought or floods and for Utilizing surplus forage. The suitable crops are sorghum, maize etc. During lean period, feeding of silage acts as a green fodder and maintains livestock productivity.

Silage making means preservation of chaffed cereal green fodder in anaerobic condition by way of fermentation method. In anaerobic condition (no air inside pit/tank), with the help of microorganisms, sugar contained in green fodder is converted in to Lactic acid, which help to preserve the green fodder for longer duration.

During the silage making process, the pasture is cut when the grasses contain the highest nutrient levels. This level is attained just before they are fully mature. The reason why it is cut just before they are fully mature is that all forms of preserved grass, such as hay and silage, will have lower amounts of nutrients than fresh pasture, so everything must be done to make the product be as nutritious as possible. During Silage preparation, the grass is allowed to wilt in the field for a few hours to reduce the moisture content to around 60-75% as this is the optimum level. If the grass is left out longer, it may get too dry, or it may get rained on – and both these will reduce the efficiency of the fermentation.

Silage is a substitute of green fodder. However, initially for 3 – 4 days, its feeding is limited @ 5 to 10 kg/animal/per day to adjust the animals on silage feeding. Storage life will depend on the type of plastic used. Unwrapped round and square bales can be stored in pits or hillside bunkers and covered with plastic sheeting.

06.08.01. Process of Ensiling

The whole process can be divided into 4 different phases

Phase I – The phase I immediately starts after sealing the tightly filled silo. The plant continues to respire till the oxygen trapped is exhausted. The carbon dioxide production makes the silo anaerobic, thus favouring the growth of anaerobic bacteria

Phase II – At the initial stage, clostridia and coliform bacteria are active, causing degradation of protein and amino acid and producing amine and acetic acid. Lactic acid bacteria also increases

Phase III – The lactic acid producing bacteria dominate and cause increase in lactic acid production and reduction in PH of ensiled material. The presence of readily available carbohydrate enhance the growth of such types of desired bacteria producing lactic acid and reducing the PH

Phase IV – This phase is quite variable and dependent on Phase III. If PH is reduced to around 4, silage is stable and no further degradation occurs. If sufficient acid is not produced to bring down the PH round 4, microbial activity still continues. High moisture content favours this undesirable fermentation.

06.08.02. Advantages of silage making

There are several advantages of silage making.

- Silage preserves up to 85 per cent of nutritive value of crop.
- Silage can ensure supply of quality forage in lean period. When green production in excess, it can be preserved for future use by silage making.
- The produce from a given area can be stored in less space compared to when stored in dry condition.
- A cubic foot of silage contains about three times more dry weight of feed than a cubic foot of long hay stored in the heap.



06.08.03. Objectives

This scheme envisages to provide assistance to selected beneficiary for commercial / semi automated silage bailing.

06.08.04. Crops used for silage making

Crops having good percentage of sugar and appropriate (35-40% dry matter; 65-60% moisture.) moisture are good for silage making.

Crops like

- Maize,
- Jowar,
- Bajra,
- Hybrid Napier,
- Oat are most suitable for silage making.

Leguminous crops like

- Berseem,
- Lucerne is also suitable

06.08.05. Characteristics of good silage

- Good silage should be green, brown or golden colour (black colour indicate poor silage).
- It should not contain mould.
- Its smell should be good smell of lactic and acetic acid (like dahi and vinegar).
- Taste should be pleasant and acidic.

Reg Fees for commercial silage making units – Rs 500 per beneficiary.

06.08.06. BENEFICIARY SELECTION – THROUGH KSHEERASREE PORTAL

Selection of the beneficiary shall be through Ksheerasree Portal (Refer Para 05 of the DPR)

Eligibility Criteria	Priority Criteria
<ul style="list-style-type: none"> • The applicant shall be an Indian citizen • Shall be a resident of Kerala possessing valid kerala state ration card • Should have attained 18 years of age • Min area – 2 Ha 	<ul style="list-style-type: none"> • Availability of more commercially cultivated land and availability more land for cultivation (Maize) – either owned land or leased land • Availability of water and electricity for irrigation purpose

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<ul style="list-style-type: none">• Registration Certificate – for application from groups (minimum four members in one group) (DCS/SHG/JLG/FPOs/NGOs/ other registered organizations)• Groups /Individuals presently engaged in commercial fodder cultivation activity for last two years and certified by district officer of dairy department based on recommendation by DEO.• Applicants shall implement the scheme as bank loan linked.(Nationalized/Scheduled /Kerala bank)	<ul style="list-style-type: none">• Availability of a DCS willing for marketing linkages• Individuals/Groups who are already trained in Department DTC / Other Government Institutions• Applicants below 40 years for individuals• Groups having more experience
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06.08.07. FLOW CHARTS

01. Semi-Automatic Silage Making – Manual harvesting of fodder, PTO operated Chaff cutter & Automatic Silage Bailer

Stages of Silage Making

Selection of Fodder Crop

Manual Harvesting (Just before the flowering stage)

Chopping using chaff cutter attached to Tractor PTO

Addition of Molasses (2%) and Salt (1%)

Addition of Additives (optional)

Mixing

Loading the mixture to Silage bailer

Wrapping the lot with Polyethylene bags ensuring anaerobic condition

Loading to trucks

Transportation of silage bags to dairy farms

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06.08.08. Technical Parameters

- Type of fodder crop to be used – Maize / Hybrid Napier
- Capacity of Automatic / Semi-automatic Silage Making – 20 MT
- Capacity of bunker used for silage making – 20 MT x 2 Bunker
- Cost of Maize – Rs 3.5 per kg
- Chopper capacity – 5 Tonne per hour
- Molasses – Rate – 2%
- Salt – 1 %
- Molasses cost – Rs 60 per kg
- Salt (Cost) – Rs 10 per kg
- Labor charges – Rs 800 per man-day
- Type of wrapper – Polyethylene
- Cost of wrapper – Rs 8000 per batch of 20MT
- Selling Price of Silage – Rs 8 per Kg
- Production Rate – 20 MT x10 batches per month

06.08.09. Financial Outlay

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Silage bailing - Semi automated - without mechanical harvesting, with chopping unit and auto bailing unit (20 Tonne per day)		
	Own Fund	Loan Linked
Capital Cost	Rs	Rs
PTO operated Chaff Cutter	250000	250000
Molasses and Common Salt mixer cum spraying machine	10000	10000
Auto Silage Bailer	1300000	1300000
Storage Room for balancing	150000	150000
Capital Expenditure	1710000	1710000
Recurring Cost		
Crop - Zea Maize / Hybrid Napier	70000	70000
Molasses	1200	1200
NACL	200	200
Additives (Optional)	5000	5000
Labour Cost - Without Harvesting Machine	20000	20000
Rent for Tractor	10000	10000
Diesel Charge	2500	2500
Polyethylene Wrapping Film	8000	8000
Operator charge - bailing machine	4000	4000
Other Labour Cost	1600	1600
Rent, Rates, Loading and Transportation Cost	10000	10000
Total Recurring Cost	132500	132500
Share of Capital Cost (per batch of 20 Tonne)	1357	0
Interest plus Principal on capital amount	0	2592
Grand Total	133857	135092
Cost per Kg of Silage Produced	6.69285	6.7546
Selling Price @ Rs 8 per Kg	1,60,000	1,60,000

Savings in any component shall be utilized for meeting the expenditure pertaining to any other scheme component detailed above

Subsidy – Rs 10 lakh per unit

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COMMERCIAL SILAGE BAILING UNITS - SEMI AUTOMATED TYPE						
TOTAL UNIT	UNIT COST			COST FOR TOTAL UNITS		
	TOTAL	SUBSIDY	BENEF. CONT	TOTAL	SUBSIDY	BENEF. CONT
	Rs	Rs	Rs.	Rs in Lakh	Rs in Lakh	Rs in Lakh
1	17,10,000	10,00,000	7,10,000	17.10	10.00	7.10

06.09. FODDER SEMINAR & 'FODDER DAY' CELEBRATIONS

Plan Assistance – Rs. 5.00 Lakhs

It is proposed to conduct district level Fodder Seminar in all the 14 districts along with the celebration of 'Fodder Day' on a predetermined date involving the farmers, officials of the various departments, dairy co-operatives, representatives of the dairy industry and experts / scientists from universities etc. Discussions on topics of relevance to the current situation in the field of fodder production will be made. Exhibits of relevance to fodder production will be displayed in the event. Short duration fodder crop seeds like maize, jowar, cowpea, fodder trees etc. will be distributed to farmers on the 'Fodder day' celebration in each district. Best sustaining farmers in fodder cultivation will be honoured during the function. A sum of **Rs. 5.00 Lakh** is provided for the 'Fodder day' celebrations in State level and district level with fodder exhibitions.

06.10. DAIRY PROMOTER INCENTIVE

Plan Outlay – Rs. 131.22 Lakh

To familiarize the cultivation of green fodder, commercial fodder production, cultivation of fodder in cultivable wasteland under irrigated condition, to get maximum yield by doing timely operations, dairy farmers need constant timely interaction and persuasion to establish the crop, in addition to the available amenities. Hence, it is proposed to utilize the service of trained matriculate in the field, one in each block on incentive basis, designated as **Dairy Promoters**. This Dairy Promoter should also have computer literacy. The incentives will be paid at a rate of **Rs. 8000/ month**. They will be given 2 days training on fodder development activities, which are required for field, and they shall be engaged for 10 months.

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Rs.1000 is included as a festival allowance for these dairy promoters based on the Government Orders issued during the Onam season. This amount may vary according to the Government Orders.

**Rs. 8000 x 10 months x 162 blocks + Rs.1000 (festival allowance) x
162 Blocks = Rs. 131.22 Lakh**

06.11. ASSISTANCE TO STATE FODDER FARM, VALIYATHURA

Plan Outlay – Rs.5.00 Lakhs

The State Fodder Farm under Dairy Development Department at Valiyathura, Trivandrum is producing fodder for supply to the dairy farmers in and around the city. The Farm also supplies root slips, stem cuttings for fodder propagation in addition to the sale of fodder. A new fodder-training centre has been established at State Fodder Farm, Valiyathura. The treated water from the sewage treatment plant can be used for irrigating the fodder cultivated in the farm. Necessary infrastructure is to be created for upgrading the farm as **State Fodder Farm cum Fodder Training Centre**. The existing fodder cultivation is to be sustained for supplying fodder and planting material to farmers. It is proposed to set apart a portion of the outlay to meet the expenditures incidental to the activities of the farm, crop maintenance, fodder/ planting material, to dig a Bore well, purchase PVC storage tank, facilities for irrigation using treated water from Sewage treating plant, desilting of canals, repairs and maintenance of buildings, fencings, transportation, purchase of farm equipment's and small implements, a Hydroponic machine for Demonstration purpose, etc. Any development activity for the state fodder farm shall be undertaken under this scheme component. In case of components not detailed in this DPR, The Farm Superintendent shall submit a detailed proposal for final approval from the Director, DDD

Plan Outlay (Lump sum Amount) – Rs 5.00 lakh

06.12. IMPLEMENTATION, DOCUMENTATION AND MONITORING

Plan Outlay – Rs. 2.78 Lakhs

Rs.2.78 Lakh is set apart for meeting documentation, monitoring, implementation and evaluation charges for the above-mentioned schemes.

06.13. 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

Plan Outlay – Rs. 74.69 Lakhs

Administrative sanction orders vide proceedings no. DDDKER/1372/2024-D3 dated 11.04.2024 of The Director, Dairy Development Department has already been issued 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 with a plan outlay of Rs.74.69 Lakh.

07. IMPLEMENTATION, MONITORING AND EVALUATION OF SCHEMES UNDER FODDER DEVELOPMENT ACTIVITIES

The Block Level Officer (Dairy Extension Officer / Sr. Dairy Extension Officer) shall be the implementing officer of this scheme component. The concerned Dairy Farm Instructors and Dairy Promoters shall assist the Implementing officer.

Banner in prescribed format and size shall be displayed in all plots above 50 cents. Photograph of the fodder development activity is mandatory for all selected beneficiaries

Monitoring of the District level programme shall be the responsibility of the District Deputy Director. The Assistant Directors of the District (Technical Assistant & Quality Control Officer) shall assist the District officer. The District Deputy Director shall report periodically the progress of the scheme component to the Directorate. The Farm Superintendent, SFF Valiyathura shall be the implementing officer for fodder development activities at State Fodder Farm, Valiyathura

The Director, Dairy Development shall monitor the state wide progress of the scheme component. The Joint Director (Planning), The Deputy Director (Planning) and the officers of Project Cell shall assist the Director for making periodic assessment regarding the progress of this scheme component.

08. ROAD MAP

SI.NO	ACTIVITY	PERIOD
1	Administrative Sanction Orders.	before 30.04.2024
2	Propaganda for the programme	before 06.06.2024
3	Selection of beneficiaries	before 25.06.2024
4	Training at District Level	before 15.07.2024
5	Land Preparation activities at selected plots	before 10.08.2024
6	Fodder Cultivation activities	Aug, 2024 – Oct, 2024
7	Project Evaluation	before 15.11.2024
8	Release of Plan Assistance	before 15.12.2024
9	Documentation of the Programme	before 06.01.2025
10	State Level Evaluation	before 25.01.2025

09. CONCLUSION

The above schemes will help to nurture the fodder development activities of the state, will generate self-employment opportunities and will help to reduce the feed cost and thereby ensuring the socio-economic security of the farmers


DIRECTOR

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ANNEXURE

DAIRY DEVELOPMENT DEPARTMENT PRODUCTION AND CONSERVATION OF FODDER IN FARMERS FIELDS AND DAIRY CO-OPERATIVES : 2024-25 SUBSIDY AND REGISTRATION FEES DETAILS				
SI.NO	SCHEME COMPONENTS	REG. FEES (Rs.)	2024-25	
			UNIT COST	UNIT SUBSIDY
			(Rs)	(Rs)
1	Assistance for automation and mechanisation of fodder cultivation activities			
	Irrigation assistance	170	20000	10000
	Irrigation assistance - above one acre	170	50000	25000
	Mechanisation assistance	170	20000	10000
	Assistance for automation and mechanisation of fodder cultivation activities			
2	Assistance for comprehensive and massive fodder cultivation in barren and unutilised lands	180	157820	94272
3	Fodder Hubs / Fodder Marketing Units through Dairy Co-operatives by JLGs / SHGs / Other registered groups	180	100000	75000
4	Assistance for Maize Cultivation	180	47160	15785
5	Kolar Model -Cultivation of Hybrid Napier with Muringa as Intercropping / Bio fencing	180	35000	17500
6	Commercial Silage Making Unit for Individuals / JLGs / SHGs - Pilot Scheme	500	1710000	1000000