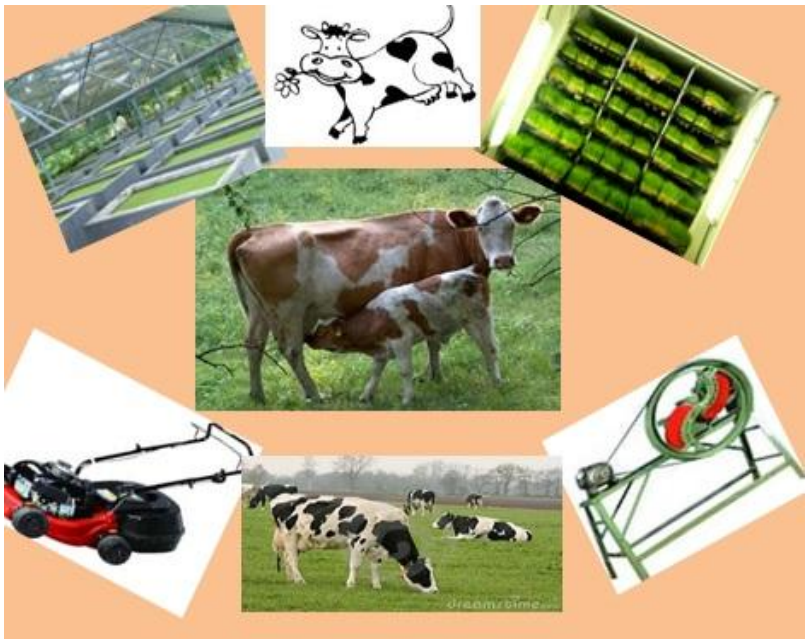
GOVERNMENT OF KERALA

Department of Dairy Development

Proposals for assistance under the

HI-TECH FODDER DEVELOPMENT PROGRAMME 2015-16



TOTAL OUTLAY – Rs 45.56 LAKH
PLAN FUND ASSISTANCE – Rs 22.563 LAKH

HEAD : COMMERCIAL DAIRY MILK AND MILK SHED DEVELOPMENT PROGRAMME

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01. INTRODUCTION

The livestock sector in India contributes to nearly 32% of total agricultural output. India with 2.3% share of global geographical area supports nearly 20% of the livestock population of the World, notably among them are cattle (16%), buffalo (55%), goat (20%) and sheep (5%). The desired annual growth of agriculture sector @ 4% can also be accomplished by enhancing productivity from the livestock sector. This would require a steady supply of fodder for supporting the livestock population. Having only 4% of total cropping area under fodder cultivation has resulted in a severe deficit of green fodder (36%), dry fodder (40%) and concentrates (57%). The need of the hour is, therefore, to fulfill this shortfall in demand for fodder (which is over 55%) from crop residues and agricultural bi-products. Fodder deficit can mainly be attributed to our limitations in increasing the area under fodder crops, limited availability of good fodder varieties/hybrids, lack of quality seeds of improved varieties/hybrids, poor quality of dry fodder like paddy/wheat straw etc. Besides, low priority accorded to investment in fodder production, lack of post-harvest management for surplus fodder, poor management of grazing/pasture lands and inadequate research, extension and manpower support have only aggravated the situation.

In Kerala, there is an acute shortage of green fodder for the cattle population. Studies have indicated that kerala is a state where the cost of production is on the higher side when compared to other states of India. Here the cost per litre of milk is as high as Rs 23-25 per litre of milk. Hence the profitability from dairying is marginal. More and more farmers are leaving this field owing to the low profitability. This is mainly attributed due to the factors like low productivity of animals, low availability of green fodder, too much dependency on concentrate feed for feeding cattle, high labour cost etc.

About 75 % of the cost of production is the feeding cost of milch animals. During the last 3 decades feed cost has increased 200 percent in the state whereas cost of milk has been increased only by 50 percent. More than 90 percent of the raw materials needed for compounded cattle feed are coming from nearby states. In order to make the system sustainable, farmers need to follow scientific feeding and management strategies. 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 setting 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.

Productivity enhancement programme has to be given more emphasis. Cultivation of fodder crops needs special attention. Dairy farmers having limited land availability can think of cultivating azolla at their homesteads. Azolla contains more than 25 percent protein, which will improve milk production and fat content in milk. Compounded feed and adlimitum water should be given separately. All types of new technologies in feeding have to be followed to increase milk production. Bypass fat and protein feeds, probiotics, urea molasses block, chelated mineral mixtures, total mixed ration concept; etc can be effectively used to exploit production.

1.2 Need for a High-Tech Fodder Development Programme in the state

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 which 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.

1.3 Innovative Approaches for Fodder Development

The innovative changes / Hi-tech fodder development programme that can bring about significant changes in the dairying field are

- ***Propagation of high yielding and disease resistant variety of fodder variety like CO 3, CO 4, Kilikulam, COGG3 etc***
- ***Popularizing the use of legumes for cattle feeding***
- ***Use of alternative protein rich fodder sources like Azolla***
- ***Popularizing the cultivation of fodder trees like Gliricidia, Sesbania, Subabul, Agathi etc***
- ***Mechanization of fodder cultivation activities like land preparation, sowing/planting, irrigation activities, weeding, ferlitilizer applications, harvesting etc***
- ***Introducing Hydroponic Techniques in Fodder Development***

1.4 HiTech Fodder development & State Plan Fund : 2015-16

For the year 2015-16, as per the plan document, under the Head : Commercial Dairy Milk and Milk Shed Development Programme, Out of the total allotment of Rs 3625 lakh, it has been proposed to undertake Hi-Tech fodder development activities for **Rs 50 lakh** in the state. Out of the total plan outlay of Rs 50 lakh, following scheme components with a total cost of Rs 45.563 lakh and plan outlay of Rs 22.5628 lakh were sanctioned as per GO (Rt) No. 1685/2015/AD dated 30.09.2015

HI-TECH FODDER DEVELOPMENT

SI.NO	PARTICULARS	NO. OF UNITS	UNIT COST (Rs)			TOTAL EXPENDITURE (Rs)		
			UNIT COST	UNIT SUBSIDY	BEN. CONTR	TOTAL COST	TOTAL SUBSIDY	TOT. BEN CONT.
1	**Irrigation Assistance for Fodder Plots above 1 acre (with linkage through DCS)**	60	50,000.00	25,000.00	25,000.00	**3,000,000.00**	**1,500,000.00**	**1,500,000.00**
2	**Mechanization& Modernization of fodder cultivation (with linkage through DCS)**	50	20,000.00	10,000.00	10,000.00	**1,000,000.00**	**500,000.00**	**500,000.00**
3	**Distribution of subsidised fodder through GOPALIKA GROUP or through DCS**	20	25,000.00	10,000.00	15,000.00	**500,000.00**	**200,000.00**	**300,000.00**
4	**Monitoring, Documentation and Internal Evaluation Charges**	Lump sum	Lumpsum	Lumpsum	Lumpsum	**56,280.00**	**56,280.00**	**-**
GRAND TOTAL						**4,556,280.00**	**2,256,280.00**	**2,300,000.00**

2.0 SCHEME PROPER

2.1 IRRIGATION ASSISTANCE FOR FODDER PLOTS ABOVE 1 ACRE (WITH LINKAGE THROUGH DCS) (Plan outlay – Rs 15.0 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 farmers who cultivate fodder for more than 1 acre. The scheme component shall be implemented with linkage through Dairy Co-operative.

Subsidy component will be limited to 50 % of the total cost or a maximum of Rs. 25,000/- to each unit.

2.1.1 FINANCIAL OUTLAY

FINANCIAL OUTLAY - IRRIGATION ASSISTANCE						
TOTAL UNITS	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
60	50000	25000	25000	30.00	15.00	15.00

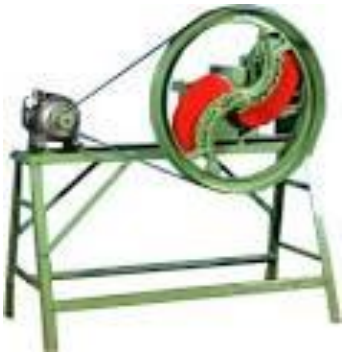
2.1.2 IMPLEMENTATION

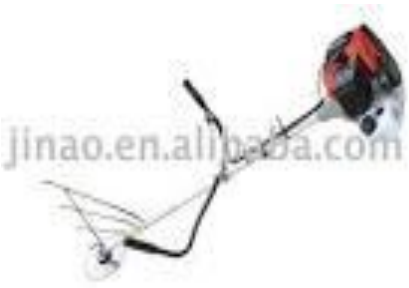
Beneficiaries shall be elite and progressive farmers who cultivate fodder for more than 1 acre at the time of application. For better accountability and as per the recommendations of the government working group meeting held on 09.09.2015, this scheme component shall be implemented with linkage through DCS. The applicant shall submit the duly filled application form through the DCS concerned. The Secretary of concerned DCS shall forward the application form of the beneficiary with relevant recommendations and copy of BOD resolution to the Dairy Extension Service Unit. The Society shall affirm that the beneficiary recommended for the scheme component is genuine in all respects and that he shall preserve the asset created by making use of the plan assistance. The Dairy Extension Officer with the help of his staff shall verify, scrutinize and recommend the list of selected beneficiary / beneficiaries and forward to the deputy director of concerned district for final approval. A beneficiary committee comprising of Dairy Extension Officer (or Dairy Farm Instructor as deputed by DEO), The President of concerned DCS of selected beneficiary, The Secretary of the concerned DCS (of selected beneficiary) and selected beneficiary shall undertake the purchase, installation and implementation of equipments under the scheme component. Proper monitoring and periodic evaluation shall be carried out at DESU level and DCS level right from the implementation level to functional level of the scheme component with periodic follow ups. 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. The ownership, maintenance and upkeep of the equipment / implements shall be vested with the beneficiary. A half yearly report (during the month of August and February) in prescribed format (beneficiary wise) shall be submitted by the Secretary of the DCS with proper recommendations of fodder promoter and Dairy Farm Instructor to the Dairy Extension Officer concerned regarding the status of implemented programme. A consolidated report (block wise) shall be submitted by the Dairy Extension Officer to the Deputy Director concerned.

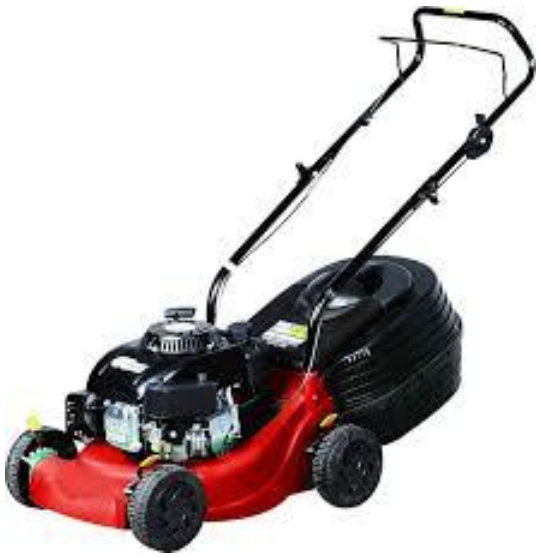
Registration Fees – Rs 150 / beneficiary

2.2 MECHANIZATION AND MODERNISATION OF FODDER CULTIVATION (IN LINKAGE WITH DCS) (Plan outlay – Rs 5.00 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, 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 and improve its intake and thus help in easy assimilation of the nutrients. The project envisages providing financial assistance for the purchase of machinery based on the requirement of the beneficiary. 50 % of the cost of the machinery or Rs 10,000/- whichever is less will be provided as assistance. The implementation of scheme component shall have linkage with DCS concerned. Preference shall be given to those farmers having fodder plots with more than 50 cents area.







2.2.1 FINANCIAL OUTLAY

FINANCIAL OUTLAY MECHANISATION AND MODERNISATION OF FODDER CULTIVATION						
TOTAL UNITS	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
50	20000	10000	10000	10.00	5.00	5.00

2.2.2 IMPLEMENTATION

Beneficiaries shall be elite and progressive farmers who cultivate fodder for more than 50 cents at the time of application. For better accountability and as per the recommendations of the government working group meeting held on 09.09.2015, this scheme component shall be implemented with linkage through DCS. The applicant shall submit the duly filled application form through the DCS concerned. The Secretary of concerned DCS shall forward the application form of the beneficiary with relevant recommendations and copy of BOD resolution to the Dairy Extension Service Unit. The Society shall affirm that the beneficiary recommended for the scheme component is genuine in all respects and that he shall preserve the asset created by making use of the plan assistance. The Dairy Extension Officer with the help of his staff shall verify, scrutinize and recommend the list of selected beneficiary / beneficiaries and forward to the deputy director of concerned district for final approval. A beneficiary committee comprising of Dairy Extension Officer (or Dairy Farm Instructor as deputed by DEO), The President of concerned DCS of selected beneficiary, The Secretary of the concerned DCS (of selected beneficiary) and selected beneficiary shall undertake the purchase, installation and implementation of equipments under the scheme component. Proper monitoring and periodic evaluation shall be carried out at DESU level and DCS level right from the implementation level to functional level of the scheme component with periodic follow ups. 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. The ownership, maintenance and upkeep of the equipment / implements shall be vested with the beneficiary. A half yearly report (during the month of August and February) in prescribed format (beneficiary wise) shall be submitted by the Secretary of the DCS with proper recommendations of fodder promoter and Dairy Farm Instructor to the Dairy Extension Officer concerned regarding the status of implemented programme. A consolidated report (block wise) shall be submitted by the Dairy Extension Officer to the Deputy Director concerned.

Registration Fees – Rs 150 / beneficiary

2.3 DISTRIBUTION OF SUBSIDIZED FODDER THROUGH WOMEN GOPALIKA GROUP OR THROUGH DCS

In Kerala, there is an acute shortage of green fodder for the cattle population. Studies have indicated that kerala is a state where the cost of production is on the higher side when compared to other states of India. Here the cost per litre of milk is as high as Rs 23-25 per litre of milk. Hence the profitability from dairying is marginal. More and more farmers are leaving this field owing to the low profitability.

The gap between the fodder requirement and fodder availability is significant as per as kerala is concerned. At present there are only few organized agencies that are producing, procuring and marketing fodder.

During the financial year 2015-16, the department, as a part of the fodder development programme has organized DCS linked GOPALIKA Women Fodder Marketing Groups for fodder procurement and fodder marketing.

The objective of the scheme is to assist the fodder marketing groups (GOPALIKA Women groups and other DCS involved in fodder marketing) by providing subsidy at the rate of Rs 1 per kg of fodder marketed. The cost of fodder marketed is estimated to be Rs 2.5 per kg. The plan assistance shall be Rs 1 per kg of fodder marketed. Maximum amount of subsidy to one group shall be Rs 10,000. The subsidy amount shall be passed on to the farmers who purchase fodder from the GOPALIKA Groups and DCS. The selected beneficiary GOPALIKA Group / DCS shall sell the fodder at the rate of Rs 1.5 per kg and submit the relevant documents to the Block Level Officer Concerned for release of subsidy amount from the department. Proper records shall be maintained at DCS level regarding the fodder marketed. After proper verifications by concerned officers, the subsidy amount ***(Rs 1 per kg of fodder marketed limited to Rs 10,000 per group)*** shall be distributed to the group / DCS concerned.

20 No.s of Groups / DCS shall be assisted during the year.

Reg Fees – Rs 150 / beneficiary group

2.4.1 FINANCIAL OUTLAY

Distribution of subsidised fodder through GOPALIKA GROUP or through DCS						
NO. OF UNITS	**UNIT COST (Rs)**			**TOTAL EXPENDITURE (Rs)**		
	UNIT COST	**UNIT SUBSIDY**	**BEN. CONTR**	**TOTAL COST**	**TOTAL SUBSIDY**	**TOT. BEN CONT.**
20	25,000.00	10,000.00	15,000.00	**5,00,000.00**	**2,00,000.00**	**3,00,000.00**

2.4 MONITORING, INTERNAL EVALUATION AND DOCUMENTATION CHARGES (Plan Outlay – Rs 0.5628 lakh)

The Dairy Extension Officer shall be the implementing officer at block level. The Dairy Farm Instructor, on directions from the DEO, shall scrutinize the application, conduct field surveys and conduct pre and post inspection of the plots. The Deputy Director shall be the sanctioning authority. The Deputy Director shall monitor and evaluate the district wise progress of the Hi-Tech Fodder Development programmes in the district. The Director shall be the state level authority in charge of implementation of the programme. The Deputy Directors shall ensure that the programmes are documented and submitted to the Director.

The Director, Dairy Development shall be the authority for state level implementation of the Hi-Tech Fodder Development Programme.

3.0 CONCLUSION

The innovative Hi-Tech Fodder development programme to be implemented in the state through the dairy development department is supposed to bring out a new culture among the dairy farmers of the state. Increasing the profitability by way of decreasing the cost of production through intensive, innovative and aggressive fodder cultivation activities is going to the strategy followed. The new approach will definitely reduce the feeding cost, will replace low yield fodder with high yielding variety, will introduce mechanization in fodder development area, proposes to introduce aggressive and innovative techniques in fodder development like Hydroponic fodder development, intends to introduce value addition in the sector like vermi compositing technique and also energy conservation techniques in dairying.