

1 EXECUTIVE SUMMARY

Cattle, especially milch cattle, play a pivotal role in the economy of rural India. Availability of green fodder in adequate quantity results in better health of cattle and increase in milk yield. Of late, various factors such as a) gradual reduction in the land available for Gomala and for common grazing; b) commercial crops replacing the traditional cereal crops etc. had adversely affected the availability of green fodder. In order to improve availability of green fodder, the Govt. of Karnataka (GoK) has implemented 'Special Development Programme (SDP) in 114 backward taluks in 27 districts of the state identified by Nanjundappa Committee. This Scheme is implemented by Department of Animal Husbandry and Veterinary Services (AH&VS).

The SDP has been drawn with the objectives of,

1. To gradually decrease the gap of the deficit of green fodder against the requirement and creating awareness amongst farmers regarding growing of different varieties of fodder crops.
2. By giving good green fodder, the quantity of concentrate feed requirement is to be reduced which results in lesser expenses to farmers.
3. To mitigate the scarcity of fodder due to rain and crop failures in drought situation.
4. By promoting perennial grasses, soil erosion is prevented, soil fertility is increased and the practice is eco-friendly.

The farmers selected as beneficiaries under SDP are provided assistance for raising fodder plots. The area of fodder plot is 10 guntas (0.1 hectare or 1000 sq. mts.) estimated to cost of developing Rs. 6000. The beneficiary farmers contribute Rs. 3000 by means of ploughing land and cost of fertilizers/organic manure and State Government to provide roots of grass [2000 Napier [(*Pennisetumpurpureum*) / Guinea (*Megathyrsusmaximus*) /Rhodes (*Chlorisgayana*) roots for a plot] and its transportation cost. The programme was implemented during the period 2009-10 to 2012-13.

Under SDP, selected farmers have been provided with chaff cutters, both hand driven and power operated during the years 2011-12 and 2012-13. The cost of hand driven chaff cutter is Rs. 7,500 of which Rs. 3750 is subsidy. The cost of 2 HP motor driven cutter is Rs. 20,000, of which Rs. 9500 is subsidy.

The Government of Karnataka has decided to evaluate the SDP implemented by the Department of AHVS from 2009-10 to 2012-13. As per the ToR, the purpose of evaluation is to know whether the objectives set under scheme are fulfilled or not, and to get feedback from farmers on awareness, benefits, economic improvement of farmers and loopholes in implementation of the scheme. The study provides answers to 19 evaluation questions listed in the ToR in order to meet the objectives of evaluation.

The evaluation study cover 24 taluks spread over 21 districts in Karnataka. The period of evaluation is from 2009-10 to 2012-13 in case of fodder beneficiaries and 2011-12 and 2012-13 and 6 taluks have been selected from those implemented in four years for 2011-12. The evaluation is based on both primary and secondary sources including published documents and unpublished documents by the department of AHVS. Studies conducted by others about fodder availability, Livestock Census 2012 Reports, Dairying in Karnataka, A Statistical Profile 2015, NDDDB and other documents also have been consulted. Primary sources are surveys, interviews with the beneficiaries of scheme done through structured questionnaires, FGDs conducted with fodder and non-fodder beneficiaries and interviews with district officials have been conducted with the help of a checklist.

The findings are based on a sample size of 607 fodder beneficiaries and for 180 chaff cutter beneficiaries. In addition 9 FGDs were conducted with beneficiary & non-beneficiary groups. Also interviews have been conducted with district/taluk level officials involved in the implementation of the SDP scheme.

1.1 FINDINGS

1.1.1 Demand and Supply

The demand for fodder has been estimated district wise using the census data of 2007 and 2012 of livestock and projected to 2016, using respective CAGR. Two fodder consumption norms based on study of a) Dikshit, 2010 and b) NDDDB, 2015 for green and dry fodder, for different categories of livestock, were used to estimate the requirement of fodder. Based on the consumption norms of Dikshit, 2010 the demand estimated is 38.76 million tons for green fodder and 30.81 million tons for dry fodder in 2016. Based on Consumption Norms – NDDDB, 2015 demand is estimated as 37.89 million tons and 27.26 million tons for green and dry fodder, respectively.

District-wise availability of green fodder was estimated based on the projected area under a) forests; b) permanent pasture and c) fodder crops in 2016 and using appropriate conversion norms. Estimated supply of green fodder at state level is 6.61 million tons. Availability of dry fodder was estimated based on projections of different crops in 2016 and adopting conversion factors indicated by the National Centre for Agricultural Economics and Policy Research. It is estimated that availability of green fodder is 44.88 million tons in 2016.

1.1.2 Fodder Beneficiaries

1. The Napier grass is the most preferred and suited fodder variety for further propagation. The average plot size of fodder farm is 17.2 guntas higher than the envisaged under scheme (10 guntas). The average yield among the SDP fodder plot beneficiaries is 8.12 tones per 10 guntas per annum against the expected yield of Napier grass of around 13 tons per annum. Veterinary doctor/hospital is the main source of information. Few respondents also grown short term crop to meet the fodder requirement and amongst them 82% grow maize followed by cowpea.
2. Among the fodder plot beneficiaries 14.2% are women; 45.1% are BPL card holders while 22.6% are marginal and 33.3% are small farmers.
3. The area under fodder plots remained at the same level for 85.53 % beneficiaries increased for 11.36 beneficiaries and decreased for 3.06 % beneficiaries. The decline is comparatively larger at 20 percent between 2011-12 and 2012-13 compared to the earlier years. The major reason for decline in the area under fodder as attributed by the sample beneficiaries is the reduction in water source due to drought prevailed in the years 2012 which lead water scarcity caused drying of fodder farms.
4. Availability of fodder has led to a) change in the number of cattle with the beneficiaries; b) improvement in health of the cattle and c) increase in milk production and d) increase in income. Average number of local cattle per 100 households declined from 340 to 230, while average number of cross breed increased from 130 to 250. About 95% of the beneficiaries mentioned that health of their cattle improved. Overall increase of milk production per day per household is about 56.8%, before and after the Scheme. The average income per month per household from milk production also increased by 57.9% before and after the scheme.
5. Green grass from fodder plots is cut and used on daily basis as per the requirement. Only 3% of the beneficiaries are adopted the silages system, which are effective to

preserve nutrient content of green grass. Fodder stacks and blocks are mainly used for dry fodder from other sources.

6. About 36% of fodder beneficiaries reported distributing fodder slips to others in their village. Average number of slips distributed is 2400.
7. About 63% of the respondent beneficiaries has informed that they are using cattle feed and concentrates to their animals along with green fodder. Overall use of the concentrate/cattle feed declined from 3.6 to 2.8 kg per day and resulted in savings of Rs 12 per day.
8. Satisfaction is high/medium with implementation as well as benefits for 99% of the beneficiaries.
9. Around 95% of respondent beneficiaries had mentioned that the SDP has improved the availability of fodder and helped to overcome scarcity of fodder, which is the main objective of the scheme. About 77% of respondent beneficiaries had admitted that the SDP has helped to reduce soil erosion and 94% of the respondent beneficiaries informed that they are using manure in the farm to supplement plant nutrients as well as to improve soil fertility.
10. About 64% mentioned that the expenditure incurred by them is more than the subsidy received. On an average the additional expenditure incurred is Rs. 2712. While 68.5% met the additional expenditure from their own resources, the remaining 31.5% have taken loans.
11. Amongst the fodder beneficiaries 33.70% are using drip/sprinkler system for irrigation of fodder farms. Of these 12.8% received support from Department of Agriculture and 2.1% from Horticulture and other departments.
12. Major problems mentioned by the fodder beneficiaries are a) lack of guidelines for farmers; b) low yield of grass; c) inadequate subsidy and delay in providing seeds.
13. Main suggestions include a) better awareness creation; b) increased subsidy; d) guidelines to grow fodder efficiently; c) provide good quality and high yielding seeds and d) provide variety of seeds.

1.1.3 Chaff Cutter Beneficiaries

1. Among the chaff cutter beneficiaries 15% are women; 31.5% are BPL card holders, while 25.0% are marginal and 20.6% are small farmers.
2. Majority of the chaff cutters (84.7%) provided under SDP are in working condition. Cutting of belt is the most cited reason for chaff cutter not working followed by breaking of blade.
3. About 62% of the beneficiaries use the chaff cutter for more than 20 days in a month. About 59% mentioned that usage of chaff cutter reduced wastage.
4. About 86% of the beneficiaries preferred power driven chaff cutters to hand driven cutter. Primary reasons for preferring motor driven chaff cutters are a) lesser wastage of fodder (52%); b) saves time (17.1%) and c) easy to handle (14.6%).
5. The chaff cutters are primarily used self and only 1.8% of the beneficiaries had spared the cutters for others. The hiring of cutters has been found in Chikkaballapur, Aland and Sedam taluka while 4% of cutters in Aland had lent to cooperatives and SHGs.
6. There is marginal increase in both local breeds and cross bred cattle.
7. While 58.5% has rated satisfaction as highly with implementation, 55.9% rated benefit of scheme as high.
8. Major problems expressed by the chaff beneficiaries are a) delay in the supply of chaff cutter; b) lack of knowledge to operate the cutter; b) problem with blade and belt of cutters and c) low subsidy prevailing.
9. Main suggestions of chaff cutter beneficiaries include a) subsidy to be increased; b) better quality motors, belts and blades and c) guidelines/ training.

1.2 Recommendations

Based on the results of the study we feel it is good to continue the scheme for larger coverage and benefit of the farming community. In this regard we make following recommendations to implement in the short run as well as through policy guidelines.

Short Term Practicable

- a) Provide guide lines to farmer on package of practice for growing of fodder and use of chaff cutters to grow fodder or literature in the form of play card for hanging in the drawing room of farmer for his ready reference.
- b) The department needs to select better quality chaff cutters since many indicated the belt and blade problems in those supplied.

- c) Time taken from application to approval needs to be reduced, so that the beneficiaries do not lose interest in the scheme.
- d) The scheme should be supported with drought resistant fodder crops which as few beneficiaries have discussed during the FGDs.

Long Term Practicable

- a) Undertake capacity building of district and taluk officials in order to enable them prepare appropriate estimates of demand and supply of fodder, which is based on accurate data on cattle population and appropriate norms of consumption and production. Estimates should be prepared for dry as well as green fodder. Such projections will help them take necessary corrective measure, in time, to avoid scarcity of green fodder.
- b) Also the officials need to be encouraged to document success stories and disseminate the information so that other farmers also get benefit of good practices.
- c) Proportion of beneficiaries distributing fodder slips to others and number of slips distributed needs to be improved by suitable motivational measures like improving subsidy; providing manure etc.
- d) There is scope for planting draught resistant perennial fodder on their farm bunds which would help them during the drought period .Hence these varieties be included
- e) Department officials mentioned other schemes like AFD, RKVY, NLM, under which also fodder slips are distributed. But awareness of such schemes among beneficiaries of SDP as well as non-beneficiaries is low. Awareness may be improved though Gram Sabha, local TV and cable and Inter Personal Communication.
- f) Demonstration for i) fodder plots; ii) fodder preservation methods for green fodder such as silage and iii) fodder enrichment methods/use of concentrate can be thought of.
- g) Guidelines to speed up the scheme implementation with time line be prescribed to the district and taluk level officials.

Policy Related

- a) Government of Karnataka may plan for formulation of Fodder Security Policy in the line of the formulated by – Government of Andhra Pradesh.
- b) Subsidy component for chaff cutters may be increased to ensure availability of quality cutters and supplier be insisted to provide at least 5 years warranty on the motor and cutter.
- c) Efforts to be made for convergence of assistances of concerned departments in implementation fodder scheme and supporting other assistances. The scheme may also be implemented as inter crop which may help to may beneficiaries.
- d) Keeping in mind, the trend of diminishing grass lands, common property resources and community lands the Government of Tamil Nadu has ordered not to transfer the grazing lands for other Governmental purposes unless alternate land of the same extent which is qualified for grazing is provided in the same District. Similar steps may be taken by the GoK also to recover, expand gomala lands.