

# **“Impact Assessment and Evaluation of Fodder Seed Production and Sale activities under National Dairy Plan I- Andhra Pradesh”**



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## Foreword

India is the highest milk producer country in the World but milk production per animal per year is very low. Deficiency in quantity and quality of fodder is one of the major cause of this low productivity. The animals need proper feeding to meet their nutrient requirement to express their full genetic production potential. Deficiency of green forage is mainly due to non-availability of land for fodder cultivation. India has vast tracts of grazing land, most of which has fragmented or become degraded due to lack of appropriate policy interventions and management inputs. Fodder are cultivated or grown naturally on degraded and marginal lands with minimum inputs, in terms of fertilizers water and operational energy. Moreover, in case of forages, regional and seasonal deficiencies are more important than the national deficiencies, as it is not economical to transport the forage over long distances.

The marginal and small farmers own only 44 per cent of the agricultural land while they own 80 per cent livestock assets. Quite logically, if the income of the farmer is to be doubled by 2022 as per the vision given by the Hon Prime Minister in 2016, then livestock is perhaps the best and most available assets to enhance farmers income due to higher availability of the livestock as compared to land as an asset for income generation. While overall productivity of livestock has been low in past, because of inadequate nutrition from green fodder, along with dry residue and protein concentrate. As per NIANP (ICAR) estimate, there is shortage of up to 36 per cent of green fodder and protein concentrates besides up to 23 per cent shortage of dry fodder.

With an aim to increase productivity of milch animals and thereby increase milk production to meet the rapidly growing demand for milk as well as to provide rural milk producers with greater access to the organised milk-processing sector, Government of India approved the scientifically planned multi-state initiative, i.e. National Dairy Plan Phase I (NDP I) as a Central Sector Scheme for a period of six years from 2011-12 to 2016-17. This plan was launched to cover 15 major milk producing States viz. Andhra Pradesh, Telangana (after separation), Bihar, Gujarat, Haryana, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Odisha, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal which account for over 90 per cent of the country's milk production, having 87 per cent of breedable cattle and buffalo population and 98 per cent of the fodder resources. In June/August 2015, the Union Government included three more states viz. Uttarakhand, Jharkhand and Chhattisgarh and it was extended up to 2018-19. This plan was implemented wholly by National Dairy Development Board, Anand (Gujarat) through milk co-operatives and state agencies. The project includes a number of programs, of which Fodder Development Programme (FDP) was designed with an aim to enhance green fodder yield of cultivated fodder crops from the land already under fodder production as well as to increase seed production of fodder crops and enhance use of quality fodder seeds. To strengthen fodder seed multiplication and distribution chain, an important component of sub-project plan on Fodder Development, NDP I was to create required infrastructure of fodder seed production, processing, storage and marketing of fodder seeds at dairy cooperative level, encourage production and usage of fodder seeds by

farmers for enhancing yield and availability of green fodder. About 3.18 per cent of total project cost (Rs. 2060 Crore) was earmarked for this component. Fodder Development Programme under NDP I had entered into its 5<sup>th</sup> year of operations in April, 2017. It was planned to undertake an impact assessment and evaluation for strengthening fodder seed multiplication and distribution chain at dairy cooperative level under sub project of FDP. Therefore, present study was undertaken in eight states covered under NDPI fodder development programme (Andhra Pradesh, Bihar, Gujarat, Karnataka, Maharashtra, Punjab, Rajasthan and Uttar Pradesh) for a comprehensive assessment of the present status of fodder development programme under NDP I thereby enhancing dairy development. The study came out with important and relevant policy implications which would help to enhance efficiency of implementation benefitting the milk producers.

I am thankful to authors and their research team for putting in a lot of efforts to complete this excellent piece of work. I also thank the National Dairy Development Board, Anand for giving us an opportunity to undertake this study. I hope this report will be useful for policy makers and researchers.

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## List of Abbreviations

<i>A.H.</i>	- <i>Animal Husbandry</i>
A.I	- Artificial Insemination
ADP	- Annual Development Plan
AN	- Animal Nutrition
ASMM	- Area Specific Mineral Mixture
Av.	- Average
BENFGH)	- Beneficiary Fodder Grower Households
BENSEED	- Beneficiary Fodder Seed Growers
CB	- Cross Breed
CSS	- Centrally Sponsored Scheme
DADF	- Department of Animal Husbandry, Dairying and Fisheries
DCS	- Dairy Cooperative Society
DES	- Directorate of Economics and Statistics
DM	- Dry Matter
EIA	- End Implementing Agency
FGD	- Focus Group Discussion
ICAR	- Indian Council for Agricultural Research
ICDP	- Intensive Cattle Development Programme
GCA	- Gross Cropped Area
GDP	- Gross Domestic Product
GIA	- Gross Irrigated Area
GNP	- Gross National Product
GOAP	- Government of Andhra Pradesh
GOI	- Government of India
GVA	- Gross Value Added
GVO	- Gross Value of Output
ha	- Hectare
HH/hh	- Household
IDA	- International Development Association
IGFRI	- Indian Grassland and Fodder Research Institute
INAPH	- Information Network for Animal Productivity and Health
ISP	- International Organization for Standardization
kg	- kilograms
Km	- Kilometer
KVK	- Krishi Vigyan Kendra
LRP	- Local Resource person
LTPD	- Litres per day
M.T./mt	- Metric Tone
mha	- Million hectares
MOA	- Ministry of Agriculture
MU	- Milk Union (district level)
NA	- Not Available/ Not Applicable

NIANP	- National Institute of Animal Nutrition and Physiology
NCDFI	- National Cooperative Dairy Federation of India
NDDB	- National Dairy Development Board
NDP	- National Dairy Plan
NITI Ayog	- National Institution for Transforming India
NLM	- National Livestock Mission
No./Nos	- Number
NONBFGH	- Non-Beneficiary Fodder Grower Households
NSSO	- National Sample Survey Office's
OF	- Operation Flood
OFP	- Operation Flood Programme
PCs	- Producers Company
PDCS	- Primary Dairy Cooperative Society (village level)
PDO	- Project Development Objective
PMC	- Project Management Cell
PMU	- Project Management Unit
Prodvty.	- Productivity
RBP	- Ration Balancing Programme
Rs.	- Rupees
SAUs	- State Agricultural University
SC	- Scheduled Caste
SF/MF/AL	- Small Farmer, Marginal Farmer, Agricultural Laborer
SMR	- Seed Multiplication Ratio
SNF	- Solid Not Fat
ST	- Scheduled Tribe
SUMUL	- Surat Milk Union Limited
TL	- Truthful Seed
VAP	- Village Awareness Programme
Y	- Yield