

# **“Impact Assessment and Evaluation of Fodder Seed Production and Sale activities under National Dairy Plan I – Rajasthan State”**



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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 small marginal 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.

**Agro-Economic Research Centre**  
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*(Ministry of Agriculture and Farmers Welfare,*  
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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                                 |
| ICDP        | - Intensive Cattle Development Programme                 |
| GCA         | - Gross Cropped Area                                     |
| GDP         | - Gross Domestic Product                                 |
| GIA         | - Gross Irrigated Area                                   |
| GNP         | - Gross National Product                                 |
| GOR         | - Government of Rajasthan                                |
| 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                          |
| 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   |