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**STANDING COMMITTEE ON AGRICULTURE, ANIMAL HUSBANDRY AND FOOD PROCESSING**
**(2024-25)**

**EIGHTEENTH LOK SABHA**

**MINISTRY OF FISHERIES, ANIMAL HUSBANDRY AND DAIRYING**
**(DEPARTMENT OF ANIMAL HUSBANDRY AND DAIRYING)**

**on**

# "Role of National Dairy Development Board (NDDB) for Protection and Development of Indigenous Cattle Breeds"

# FOURTEENTH REPORT


**LOK SABHA SECRETARIAT**
NEW DELHI
**August, 2025 /Shravana, 1947 (Saka)**

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**(DEPARTMENT OF ANIMAL HUSBANDRY AND DAIRYING)**

**on**

## "Role of National Dairy Development Board (NDDB) for Protection and Development of Indigenous Cattle Breeds"


Presented to Lok Sabha on 20.08.2025

Laid on the Table of Rajya Sabha on 20.08.2025




**LOK SABHA SECRETARIAT**
NEW DELHI
**August, 2025 / Shravana, 1947 (Saka)**

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29. Shri Harnath Singh Yadav
30. *Vacant*
31. *Vacant*

*** Standing Committee on Agriculture renamed as Standing Committee on Agriculture, Animal Husbandry and Food Processing *vide* Para No. 3293, Bulletin Part-II dated 23.11.2021**

**COMPOSITION OF THE STANDING COMMITTEE ON AGRICULTURE, ANIMAL HUSBANDRY AND FOOD PROCESSING (2022-23)**

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13. Shri Pocha Brahmananda Reddy
14. Shri Rajiv Pratap Rudy
15. Mohammad Sadique
16. Shri Devendra Singh *alias* Bhole Singh
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18. Shri V.K. Sreekandan
19. Shri Ram Kripal Yadav
20. *VACANT*[#]
21. *VACANT*[*]

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26. Shri Surendra Singh Nagar
27. Shri Kailash Soni
28. Shri Randeep Singh Surjewala
29. Shri Ram Nath Thakur
30. Shri Vaiko
31. Shri Harnath Singh Yadav

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[#]*Vacant w.e.f. 10.10.2022 due to demise of Shri Mulayam Singh Yadav on 10.10.2022 vide Bulletin- Part II, Para No. 5316 dated 14.10.2022.*

[*]*Vacant w.e.f.29.04.2023 due to disqualification of Shri Afzal Ansari from Lok Sabha Membership from the date of his conviction in terms of the provision of Article 102(1)(e) of the Constitution of India read with Section 8 of the Representation of the People Act, 1951 [Vide Table Office (B) Notification No.* 21/4(6)/2023 *dated 01.05.2023]*

**COMPOSITION OF THE STANDING COMMITTEE ON AGRICULTURE, ANIMAL HUSBANDRY AND FOOD PROCESSING (2023-24)**

**Shri P.C. Gaddigoudar - Chairperson**

**MEMBERS**

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14. Shri Sushil Kumar Rinku
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16. Mohammad Sadique
17. Shri Devendra Singh *alias* Bhole Singh
18. Shri Virendra Singh
19. Shri V.K. Sreekandan
20. Shri Ram Kripal Yadav
21. *VACANT*

**RAJYA SABHA**

22. Smt. Ramilaben Becharbhai Bara
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24. Dr. Anil Sukhdeorao Bonde
25. Shri S. Kalyanasundaram
26. Shri Vijay Pal Singh Tomar*
27. Shri Kailash Soni
28. Shri Randeep Singh Surjewala
29. Shri Ram Nath Thakur
30. Shri Vaiko
31. Shri Harnath Singh Yadav

* Shri Vijay Pal Singh Tomar, MP, Rajya Sabha has been nominated to the Committee *vide* Bulletin Part-II, Para No. 7523 dated 29.09.2023 *vice* Shri Surendra Singh Nagar *w.e.f.* 26.09.2023

**COMPOSITION OF THE STANDING COMMITTEE ON AGRICULTURE, ANIMAL HUSBANDRY AND FOOD PROCESSING**
**18th Lok Sabha (2024-25)**

**SHRI CHARANJIT SINGH CHANNI – CHAIRPERSON**

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26. Shri S. Kalyanasundaram
27. Shri Nitin Laxmanrao Jadhav Patil
28. Shri Madan Rathore
29. Shri Ramji Lal Suman
30. Shri P. P. Suneer
31. Shri Randeep Singh Surjewala

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*Shri Krishan Lal Panwar, Member resigned from Rajya Sabha on 14.10.2024.*

**Shri Masthan Rao Yadav Beedha, Member, Rajya Sabha has been nominated to the Standing Committee on Agriculture, Animal Husbandry and Food Processing w.e.f on 8th August 2025, vide Lok Sabha Bulletin Part-II, Para No. 3117 dated 13.08.2025.*

## SECRETARIAT

| | | | |
|---|---|---|---|
| 1. | Shri Srinivasulu Gunda | - | Joint Secretary |
| 2. | Shri Maheshwar | - | Director |
| 3. | Shri Anil Kumar Sanwaria | - | Deputy Secretary |
| 4. | Smt. Sonia Gupta | - | Committee Officer |

## INTRODUCTION

I, the Chairperson, Standing Committee on Agriculture, Animal Husbandry and Food Processing, having been authorized by the Committee to submit the Report on their behalf, present this Fourteenth Report on the subject "**Role of National Dairy Development Board (NDDB) for Protection and Development of Indigenous Cattle Breeds"** of the Ministry of Fisheries, Animal Husbandry and Dairying (Department of Animal Husbandry and Dairying).

2. The Standing Committee on Agriculture, Animal Husbandry and Food Processing had selected the Subject for examination during 2021--22. Briefing on the Subject by the Representatives of the Ministry of Fisheries, Animal Husbandry and Dairying (Department of Animal Husbandry and Dairying) was held at the Sitting of the Committee on 18.07.2022. As the examination of the subject could not be completed during 2021-22, the subject was again selected for examination by the Committee during 2022-23, 2023-24 [17th Lok Sabha] and 2024-25 [18th Lok Sabha]. Evidence of the Representatives of the Ministry of Fisheries, Animal Husbandry and Dairying (Department of Animal Husbandry and Dairying) and National Board of Dairy Development (NDDB) were taken by the Committee during their Sittings held on 19.12.2023 and 25.04.2025.

3. The report was considered and adopted by the Committee at their Sitting held on 18th August, 2025.

4. For facility of reference and convenience, the Recommendations / Observations of the Committee have been printed in bold letters in Part-II of the Report.

5. The Committee wish to express their thanks to the Officials of the Department of Animal Husbandry and Dairying and National Board of Dairy Development (NDDB) for appearing before the Committee and furnishing the information desired in connection with the examination of the subject.

**NEW DELHI;**
**19th August, 2025**
**28, Shravana, 1947 (Saka)**

**CHARANJIT SINGH CHANNI**
**Chairperson**
**Standing Committee on Agriculture, Animal Husbandry and Food Processing**

## ABBREVIATIONS

- ABIP- IVF- Accelerated Breed Improvement Programme-IVF
- ABIP- SS - Accelerated Breed Improvement Programme - using Sexed Semen
- AI - Artificial Insemination
- ALDA - Assam Livestock Development Agency
- ART - Assisted Reproductive Techniques
- BAIF - Bharatiya Agro Industries Foundation
- BPP - Bharat Pashudhan Portal
- BMF - Breed Multiplication Farm
- CAGR - Compound Annual Growth Rate
- CCBF - Central Cattle Breeding Farms
- DAHD – Department of Animal Husbandry and Dairying
- DAHO - District Animal Husbandry Officer
- DAY-NRLM – Deendayal Antyodaya Yojana - National Rural Livelihoods Mission
- ETs - Embryo Transfers
- ETT - Embryo Transfer Technology
- ETT/IVF - Establishment/Strengthening of Embryo Transfer Technology/In Vitro Fertilization
- EVM - Ethno-Veterinary Medicine
- EOP – End of Project
- FOR - Freight on Road
- FOM - Fermented Organic Manure
- FLW – Field Level Workers
- FSDs- Frozen Semen Doses
- HGM - High Genetic Merit
- HS - Hidradenitis Suppurativa
- IA - Implementing Agency
- INAPH - Information Network for Animal Productivity and Health
- INSPRM - Information Network for Semen Production and Resource Management
- IVF - In Vitro Fertilization
- LDB - Livestock Development Boards
- MAITRIs - Multi-Purpose Artificial Insemination Technicians in Rural India
- MSP - Minimum Standard Protocols
- MOET - Multiple Ovulation and Embryo Transfer
- NADCP - National Animal Disease Control Programme
- NAIP - Nationwide Artificial Insemination Programme
- NBAGR - National Bureau of Animal Genetic Resources
- NBGCIB - National Bovine Genomic Centre for Indigenous Breeds
- NDDB – National Dairy Development Board
- NDLM - National Digital Livestock Mission
- NDP-I - National Dairy Plan Phase - I
- NER - North Eastern Region
- NMRP - National Milk Recording Programme
- OPU-IVEP - Ovum Pick-up and In-Vitro Embryo Production
- PROM – Phosphate Rich Organic Manure
- PS/ PT - Pedigree Selection / Progeny Testing
- PSC - Project Sanctioning Committee
- PSMT – Pashu Sakhis and Master Trainer
- RGM – Rashtriya Gokul Mission
- SAG - Sabarmati Ashram Gaushala
- SSMS - Semen Station Management System
- ToT - Training of Trainers

**REPORT**

**PART – I**

**CHAPTER – I**

## Indigenous Breeds of Cattles and Buffaloes

### A. Introduction

Indigenous cattle breeds are an important part of the Indian ecology and farming sector for a very long time. India possesses the largest Bovine Population in the World consisting of 193.46 Million Cattle and 109.85 Million Buffaloes (20$^{th}$ Livestock Census, 2019). Among Cattle, the Indigenous/Non-descript Cattle constitute 73.45% (142.11 Million) and Exotic/Crossbred Cattle constitute 26.5% (51.36 Million) of the total Cattle population. In the Indigenous/Non-descript category, around 70% of Cattle are of Nondescript type, while the remaining 30% are registered Indigenous Breeds. As per ICAR- NBAGR (National Bureau of Animal Genetic Resources) there are 53 registered Indigenous Cattle Breeds and 21 registered indigenous breeds of buffalo. There are Exotic Cattle Breeds and their crosses and remaining Indigenous Cattle are classified as Non-descript Indigenous Cattle. The details of State wise population of registered Indigenous Cattle Breeds and Non-descript animals are mentioned in **Annexure-I.**

1.2 The Committee categorically desired to know from the Department of Animal Husbandry and Dairying (DAHD) about the status of Indigenous Breeds of Cattle and Buffaloes in the country that are on the verge of extinction. The Department of Animal Husbandry and Dairying, informed as under:

> "As per "Guidelines for management of animal genetic resources of India" of ICAR NBAGR, a cattle and buffalo breed are classified as critical on the basis of risk status at national level if total population is 1000 or less or total number of breeding females is 500 or less or total number of breeding males is 5 or less. As per this criterion and considering national livestock census for the year 2019, there are no registered breeds that are critical on basis of risk status at national level. Department of Animal Husbandry and Dairying is implementing Rashtriya Gokul Mission for development and conservation of indigenous bovine breeds, genetic upgradation of bovine population and enhancement of milk production and productivity. All 53 breeds of cattle and 21 breeds of buffalo are covered under the scheme."

1.3 As per information provided by the DAHD, the Last Cattle Census was conducted in the year 2019 and Cattle census is carried out at an interval of 05 years.

1.4 The indigenous animals possess the evolutionary advantage over the crossbred and exotic counterparts. The indigenous animals can also be reared with ease in nutritionally sparse area and prevalent hot humid climate of the country. The Indigenous Breeds have been considered to be better than the exotic breeds for the following reasons also:

- In indigenous cows, the body make up is such that it enhances heat tolerance.
- Indigenous cows are well acclimatized to Indian conditions and can survive in harsh climatic conditions without affecting their performance. They can survive summer temperatures up to 48-50°C.
- Indigenous cows have strong immunity and are resistant to tick borne diseases. They are also less susceptible to diseases like Hidradenitis Suppurativa (HS), etc. Hence, there is less economical loss for the farmers.
- The udder is medium to small in size and hence the animals are less prone to mastitis.
- Rearing of indigenous cows is quite economical. They can be kept on agricultural by products and grazing in grasslands, even with less feed, their performance is not affected.

1.5 The details of Average Milk Production Per Day Per Animal for the Listed Indigenous Breeds of cattles and buffaloes are placed at **Annexure II.**

**B. Population of Indigenous Breeds of Cattles and Buffalo**

1.6 On question of population and growth of indigenous breeds in the country, the Department stated that during NDP I and later on under RGM, there was special emphasis on improving productivity of Indigenous cattle and buffaloes by covering important breeds under systematic breeding and Artificial Insemination. As a result, overall there is an increase in population of Indigenous cattle and buffaloes by 21% and 25 % respectively since implementation of NDP I and RGM. Some of the major States having large livestock population like Bihar, Gujarat, Haryana, Madhya Pradesh, Punjab, Rajasthan, UP and West Bengal have witnessed significant increase in the population of Indigenous cattle and buffaloes.

1.7 The data on the increase in the population of indigenous breeds since the inception of National Dairy Plan - I and Rashtriya Gokul Mission is placed at **Annexure-III.**

1.8 The Committee desired to know the States that have witnessed decline in population of indigenous breeds during the past 10 years and steps taken by the Department to address the same, The Department submitted as under:

> "During last 10 year, there is a decline in indigenous / non-descript cattle population in the states of Assam, Chhattisgarh, Goa, Himachal Pradesh, Karnataka, Maharashtra, Manipur, Nagaland, Sikkim, Tamil Nadu, Uttarakhand, A&N Islands, Daman & Diu, Lakshadweep and Puducherry while there has been decline in buffalo population in the states of Andhra Pradesh, Assam, Goa, Himachal Pradesh, Kerala, Manipur, Meghalaya, Nagaland, Odisha, Sikkim, Tamil Nadu, Uttarakhand, A&N Islands, Chandigarh and Daman & Diu.
>
> The Department of Animal Husbandry is implementing the following steps under Rashtriya Gokul Mission for development and conservation of indigenous bovine breeds leading to increase in population of high yielding animals of bovines including indigenous breeds of cattle and buffalo.
>
> a. Implementation of Nationwide Artificial Insemination Programme to extend Artificial insemination coverage free of cost in the districts with less than 50% coverage
> b. Accelerated breed improvement programme using bovine In-Vitro Fertilization technology (IVF) for faster genetic upgradation of bovines
> c. Accelerated breed Improvement programme using sex sorted semen for production female calves with more than 90% accuracy
> d. Progeny Testing and Pedigree Selection Programme for production of high genetic merit bulls
> e. Delivery of quality artificial insemination services at farmers doorstep through Community resource persons/Multi-Purpose Artificial Insemination Technicians in Rural India (MAITRIs)."

## C. Production and Productivity of Indigenous Breeds of Cattles and Buffalo

1.9 A steady increase in the productivity of cattle and buffaloes is achievable by improving their genetic potential in a scientific manner. This necessitates large scale coordinated and continuous effort in improving productivity of the indigenous breeds.

1.10 On being asked by the Committee about the outcome of the initiatives of NDDB in terms of Productivity and Population of Indigenous Cattle and Buffalo Breeds, so far, the Department stated:

> *"*The average productivity per day per animal of indigenous cattle, which was 2.20 kg during 2009-10, has increased to 3.54 kg in 2023-24. In case of buffaloes the average productivity per day per animal which was 4.52 kg during 2009-10 has increased to 5.92 kg in 2023-24.
>
> During the same period, the population of in-milk indigenous cattle and buffaloes has increased from 30.19 million and 36.16 million to 38.56 million and 48.16 million in 2023-24 respectively."

1.11 As earlier stated at para 1.14, the DAHD had implemented NDP–I through NDDB which was a Central Sector Scheme of Govt. of India with implementation period from 2011-12 to 2018-19 as a multi-state initiative. Its objective was to help increase productivity of milch animals and thereby increase milk production to meet the rapidly growing demand for milk among other objectives**.**

1.12 The Department has provided the following details regarding increase in production and productivity of Indigenous Cattle and Buffalo Breeds in the country after implementation of National Dairy Plan Phase - I (NDP-I) between 2011-12 and 2018-19:

| Type | Details | 2011-12 | 2018-19 |
|---|---|---|---|
| Non-Descript/ Indigenous Cows | Average Yield per In-Milk Animal (Kg/Day) | 2.27 | 3.01 |
| | Estimates of Milk Production ('000 Tonnes) | 26695.24 | 38574.46 |
| Buffaloes | Average Yield per In-Milk Animal | 4.71 | 5.62 |
| | Estimates of Milk Production ('000 Tonnes) | 65352.41 | 91817.14 |
| *Source: Basic Animal Husbandry Statistics* | | | |

1.13 The data on the rate of increase in average productivity and population of Indigenous Cattle and Buffaloes from 2018-19 to 2023-2024 under the RGM, as provided by the Department, is as under:

| Indigenous animals | Details | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
|---|---|---|---|---|---|---|---|
| Non-Descript/ Indigenous Cows | Number of Animals In-Milk (000 Nos) | 35166.9 | 35391.4 | 35951 | 36972.46 | 37154.67 | 38562.43 |
| | Average Yield per In-Milk Animal (Kg/Day) | **3.01** | **3.08** | **3.2** | **3.37** | **3.44** | **3.54** |
| | Estimates of Milk Production ('000 Tonnes) | 38574.5 | 39771.8 | 42017.3 | 45464.09 | 46659.60 | 49907.53 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Buffaloes | Number of Animals In-Milk (000 Nos) | 44767.1 | 45718.4 | 46283.9 | 45810.14 | 46686.16 | 48165.93 |
| | **Average Yield per In-Milk Animal** | **5.62** | **5.75** | **5.65** | **5.96** | **6.06** | **5.92** |
| | Estimates of Milk Production ('000 Tonnes) | 91817.1 | 95942.6 | 95391.3 | 99626.36 | 103299.83 | 104388.24 |
| *Source: Basic Animal Husbandry Statistics* | | | | | | | |

The Department has also mentioned about the average productivity of Exotic and Crossbred cattles as well as that of Indigenous Cows and Buffaloes, as under:

| | | **2018-19** | **2019-29** | **2020-21** | **2021-22** | **2022-23** | **2023-24** |
|---|---|---|---|---|---|---|---|
| Non-Descript/ Indigenous Cows | Average Yield per In-Milk Animal (Kg/Day) | 3.01 | 3.08 | 3.2 | 3.37 | 3.44 | 3.37 |
| Buffaloes | Average Yield per In-Milk Animal | 5.62 | 5.75 | 5.90 | 5.96 | 6.06 | 5.96 |
| Exotic/ Crossbred | Average Yield per In-Milk Animal | 7.95 | 8.2 | 8.39 | 8.52 | 8.55 | 8.52 |
| *Source: Basic Animal Husbandry Statistics* | | | | | | | |

1.14 On being asked about how does the Department analyze the results regarding improvement in productivity of indigenous cattle and buffaloes from 2018-19 onwards and whether the said figures reflect achieving the targets set in this regard, the DAHD submitted the following reply:

> "Based on information collected under Integrated Sample survey productivity of in-milk animals is calculated. As a long run trend, current rise in productivity per animal since 2010-11 is 3.5% Compound Annual Growth Rate (CAGR) for Indigenous cattle and 2.1% CAGR in buffaloes. These numbers are comparable to the growth achieved by various countries in the world."

The Committee desired to know the position of India in terms of productivity of Cattle and Buffaloes *vis-a vis* other countries and the following comparative information was provided by DAHD:

**Productivity of Cattle (Kg/Year)**

| **Country** | **Year** | | |
|---|---|---|---|
| | **2010** | **2018** | **2022** |
| Israel | 11090 | 13814.4 | 13656 |
| United States of America | 9590 | 10462.9 | 10954 |
| Denmark | 8640 | 9851.2 | 10187 |
| Netherlands | 7468 | 9078.6 | 9257 |
| Germany | 7082 | 8068.3 | 8504 |
| New Zealand | 3635 | 4380.4 | 4456 |
| China | 2460 | 2533.3 | 2925 |
| **India** | **1284** | **1700** | **1948** |
| Pakistan | 1537 | 1460.7 | 1461 |

**Productivity of Buffalo (Kg/Year)**

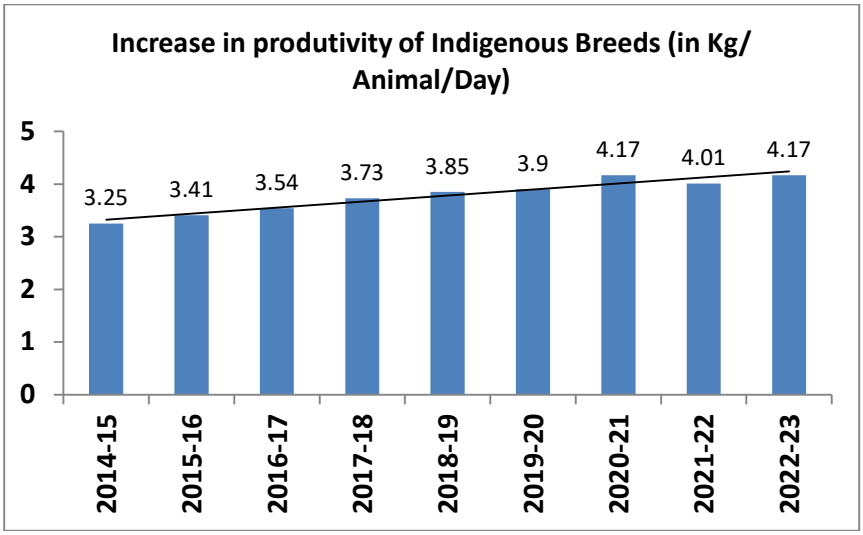
| Country | Year | | |
|---|---|---|---|
| | **2010** | **2018** | **2022** |
| Pakistan | 2298 | 2281 | 2298 |
| **India** | **1679** | **2051** | **2205** |
| Egypt | 1536 | 1393 | 1742 |
| Vietnam | 990 | 997 | 999 |
| Bulgaria | 1588 | 1348 | 992 |
| Nepal | 852 | 871 | 879 |
| Bangladesh | 258 | 528 | 619 |
| China | 555 | 503 | 504 |
| Myanmar | 857 | 500 | 500 |
| Italy | 726 | NA | NA |

1.15 On being asked about timeline for achievement of the goal of improving the genetic potential and productivity of Indigenous Cattle Breeds and Buffalo Breeds, the Department of Animal Husbandry and Dairying has submitted that it is implementing Rashtriya Gokul Mission for development and conservation of indigenous breeds, genetic upgradation of bovine population, enhancement of milk production and productivity. The Scheme envisages to enhance average productivity of bovines from 1924 kg per animal per year (5.34 Kg/Day) to 3000 kg per animal per year (8.0 Kg/Day) by 2025-26.

However, in subsequent updated replies the Department revised the timeline for increasing the target of average productivity of bovines to 3000 kg per animal per year (8.0 Kg/Day) by 2029-30.

1.16 When asked about practicality of achieving the target within the timeline, the Ministry replied during the oral evidence as under:

> "Sir, to be honest, the pandemic was quite a loss.उसकी वजह से हमने जो पर प्रोडक्टविटी एक्सपैक्ट थी, वह नहीं हो पाई । अगर आप ग्राफ में देखेंगे तो उस स्टेज में एक छोटा सा डिप आ रहा है, उसके बाद वे 19 वाले फिगर्स पर आ गई है । अपने ग्राफ का शेप देखा है कि वह एकदम ऊपर जा रहा है । Even if we are not able to reach exactly 3000kg in 2025-26, still our pace of increase is very good and we will get very good results which will benefit the farmers. We will reach fairly close to what we are hoping to do."




1.17 On being categorically asked by the Committee, whether the targets set for RGM in terms of productivity of cattle and buffaloes will be achieved within its timeline and the measures envisaged by the Department to ensure achieving the set targets, the DAHD submitted:

> "The mission envisages to enhance productivity of animals upto 3000 kg per animal per year. During last 9 years average productivity of cattle and buffaloes is increased by 24.3% from 1648.17 kg per animal per year during 2013-14 to 2048 kg per animal per year in 2021-22 which is highest productivity growth rate in the world. In order to achieve the targets within the prescribed time frame Department of Animal Husbandry and Dairying has initiated Nationwide Artificial Insemination Programme, Accelerated Breed Improvement Programme using IVF technology and Accelerated Breed Improvement Programme using sex sorted semen."

1.18 On being asked about the rationale for setting said targets for productivity of the Bovines and whether the Department justify the target as modest or bold *vis-à-vis* funds sanctioned for the Rashtriya Gokul Mission for duration of 2021- 2022 to 2025-26, the DAHD submitted:

> "Under Rashtriya Gokul Mission funds are sanctioned for extension of AI coverage and promotion of assisted reproductive technology to enhance milk productivity. Further milk productivity is continuously increasing and is at present more than 2000 kgs per animals. In case of buffaloes productivity is more than 2400 kgs and crossbred cattle productivity is more than 3000 kg."

1.19 On being asked by the Committee about the details of the Periodic Review carried out by the DAHD or NDDB to ensure achievement of envisaged targets, the DAHD submitted:

"Targets set under the Rashtriya Gokul Mission are reviewed periodically during regional review meetings and also at the level of National Steering Committee."

1.20 As per operational Guidelines for implementation of RGM, a Central Level Implementation Mechanism has been put in place by providing for a Project Sanctioning Committee (PSC) / Project Steering Committee constituted by drawing experts from related field which will be chaired by the Secretary, Animal Husbandry Department. The PSC will be responsible for approval of projects for funding under RGM Scheme received from Implementing Agencies (IAs). Projects will be appraised by DAHD officials before putting them to the PSC for approval. PSC will be empowered to lay down and amend operational guidelines, other than those affecting financing pattern, approve Annual Action Plans and sanction release of funds to the Implementing Agencies. The PSC would have powers to modify physical and financial targets based on review, approve inclusion and changes in eligibility criteria for implementing agencies and other guidelines including project area, composition of PSC, component structure, cost of components and re-appropriation proposals. PSC will be fully empowered to make changes and delegate powers necessary for smooth implementation of the Programme.

1.21 The Committee desired to know about the plans of the Department to align State policies with Rashtriya Gokul Mission (RGM) for development and conservation of Indigenous breeds and whether any State policies pose challenges for unified national goals of the RGM, the DAHD replied:

"Under Rashtriya Gokul Mission States are allowed to implement breeding activities of cattle and buffaloes as per State breeding policies. States have been requested to revisit breeding policy at regular intervals. Some States have yet to revisit their breeding policies."

1.22 The details of State-wise increase in average yield of Non-Descript/Indigenous Cows and Buffaloes in various States in the Country are provided at **Annexure-IV.**

## CHAPTER – II

## Role of NDDB and Breed Upgradation

### A. National Dairy Development Board (NDDB)

2.1 The National Dairy Development Board was initially set up in 1965 as a society under the Societies Registration Act, 1860 with the object that the dairy development be replicated in the country based on the success of dairy cooperative in Anand, Gujarat. The Indian Dairy Corporation, registered under the Companies Act, 1956 was set up to manage the food aid used in implementation of Operation Flood. To ensure that the functions performed by NDDB are carried out in a more effective manner with the freedom and flexibility continues to be available to it, the National Dairy Development Board Act, 1987 was enacted and the undertakings of the Indian Dairy Corporation were vested in the NDDB. The said Act declares NDDB to be an institution of national importance.

2.2 Organizational structure of Department of Animal Husbandry and Dairying (DAHD) under Ministry of Fisheries, Animal Husbandry & Dairying leading upto NDDB is placed at Annexure V.

2.3 The general superintendence, direction, control and management of NDDB's affairs and business vest with the Board of Directors comprising Chairman & Managing Director NDDB, Senior Officer of AS/JS rank supervising Department of Animal Husbandry& Dairying (DAHD) under Ministry of Fisheries, Animal Husbandry & Dairying, one representative from Educational Institutes in the related fields of NDDB, representatives of one or two State Cooperative Milk Federations and Executive Directors.

### B. Aims and objectives of NDDB

2.4 The functions of the NDDB have been described in the National Dairy Development Board Act, 1987 and as per the mandate of the Act, the NDDB promotes, plans and organizes programmes for the purposes of development of dairy and other agriculture based allied industries and biologicals on an intensive and nationwide basis and renders assistance in the implementation of such programmes. Further, NDDB adopts the co-operative strategy in a more effective manner on an intensive and nationwide basis and take such steps as may be necessary for the purpose aforesaid.

## C. Role of NDDB

2.5 NDDB had been working in the area of development of indigenous breeds of cattles and buffaloes in the country. During Operation Flood, NDDB in collaboration with the Mehsana Union initiated a Progeny Testing programme for Mehsana buffaloes in 1987 and later in 1992 initiated a similar programme in buffaloes in collaboration with the Sabarmati Ashram Gaushala and four milk unions in Gujarat. In addition, during 2008, NDDB supported Progeny Testing programmes for Murrah buffalo in Western Uttar Pradesh and Mehsana buffalo in Banaskantha (Gujarat). A total 42 bulls of Murrah and Mehsana breeds were made available for semen production. NDDB also implemented Indigenous Breed Development Project during 2002-08 for Development of Rathi breed of cattle in its native tract of Bikaner and Shri Ganganagar districts in Rajasthan and for development of Kankrej breed of cattle in its native tract of Banaskantha and Patan districts in Gujarat. Under this Indigenous Breed Development programme, 132 Rathi bulls and 90 Kankrej bulls were distributed for semen production and natural service. Artificial Insemination (AI) centres were established to provide AI at the farmers' doorstep, using semen from selected bulls in both the projects.

2.6 On being asked about the outcome of the Indigenous Breed Development Projects implemented by NDDB for Rathi and Kankrej Breeds of Cattle in Rajasthan and Gujarat, respectively during 2002-2008, the DAHD *inter-alia* replied:

> "Some of the major outcomes of these projects are popularization of Artificial Insemination (AI) and scientific animal husbandry practices in the breeding tracts of Rathi and Kankrej breeds of cattle in Rajasthan and Gujarat respectively. Because of this, the farmers have started accepting ear-tagging for animal identification and thus large numbers of animals could be registered through ear-tagging. The projects could popularize AI based breeding among the dairy farmers associated with the project area and could establish an AI network by providing doorstep AI services. These projects also could supply 132 Rathi bulls and 90 Kankrej bulls for semen production and natural service."

2.7 The DAHD further submitted that since 2002, NDDB has been working on the following indigenous Breed Development Projects:

| S. No. | State | Breed | End Implementing Agency |
|---|---|---|---|
| | **Cattle** | | |
| 1 | Gujarat | Kankrej | Banaskantha Milk Union |
| 2 | Gujarat | Gir | Sabarmati Ashram Gaushala |
| 3 | Rajasthan | Rathi | URMUL Trust |
| 4 | Rajasthan | Tharparkar | Rajasthan Livestock Development Board |
| 5 | Rajasthan | Sahiwal | Ganganagar Milk Union |
| 6 | Punjab | Sahiwal | Punjab Livestock Development Board |
| 7 | Haryana | Hariana | Haryana Livestock Development Board |
| 8 | Maharashtra | Gaolao | Maharashtra Livestock Development Board |
| | **Buffaloes** | | |
| 9 | Gujarat | Murrah | Sabarmati Ashram Gaushala |
| 10 | Haryana | Murrah | Haryana Livestock Development Board |
| 11 | Punjab | Murrah | Punjab Livestock Development Board |
| 12 | Uttar Pradesh | Murrah | Animal Breeding Research Organization |
| 13 | Gujarat | Mehsana | Banaskantha Milk Union |
| 14 | Gujarat | Mehsana | Mehsana Milk Union |
| 15 | Maharashtra | Pandharpuri | Maharashtra Livestock Development Board |
| 16 | Gujarat | Jaffarabadi | Sabarmati Ashram Gaushala |
| 17 | Punjab | Nili-Ravi | Punjab Livestock Development Board |
| 18 | Gujarat | Banni | Sarhad Dairy |

Since 2019-20 these projects are covered under Rashtriya Gokul Mission.

2.8 The Department have also informed *inter-alia* that the NDDB has acted as an implementation agency for National Dairy Plan –I which was a Central Sector Scheme of Govt. of India with implementation period from 2011-12 to 2018-19 as a multi-state initiative. One of the major objectives of the Scheme was to help increase productivity of milch animals and thereby increase milk production to meet the rapidly growing demand for milk.

2.9 The Rashtriya Gokul Mission (RGM) Scheme which was initiated in December 2014 is presently in operation in the country and it has been revised and realigned for implementation from 2021-22 to 2025-26.

2.10 The RGM Scheme has been implemented with the objectives of:

**a.** development and conservation of indigenous breeds in scientific and holistic manner
**b.** breed improvement programme for indigenous cattle breeds to improve their genetic makeup and increase the stock;
**c.** enhancement of milk production and productivity;
**d.** up-gradation of nondescript cattle using elite indigenous breeds like Gir, Sahiwal, Rathi, Deoni, Tharparkar, Red Sindhi
**e.** distribution of disease free high genetic merit bulls for breeding purpose

2.11 The funds allocation made available under the Scheme of Rashtriya Gokul Mission (RGM) along with expenditure made so far are as below:

| Financial Year | Rs. in Crore | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 | Total |
| Allocation | 159.4 | 81.77 | 119.5 | 190 | 750.5 | 270 | 400 | 663.55 | **604.75** | **869** | 4108.47 |
| Expenditure | 159.02 | 81.76 | 118.75 | 187.64 | 750.44 | 269.73 | 399.9 | 663.55 | **604.75** | **452** | 3687.54 |

The Rashtriya Gokul Mission was restructured/ realigned in July 2021 under Development Programmes with the approval of Cabinet Committee on Economic Affairs (CCEA) for implementation from 2021-22 to 2025-26 with allocated sum of ₹2400 crores. The Cabinet has approved the revised Rashtriya Gokul Mission in March 2025 with an additional outlay of ₹1000 crores that is total outlay of ₹3400 crores during 15$^{th}$ Finance Commission cycle that is from 2021-22 to 2025-26.

2.12 NDDB has been performing the following role in field of indigenous breeds of cattle and buffaloes under Rashtriya Gokul Mission (RGM) scheme:

(i) **Implementing Agency** for Progeny Testing, Pedigree Selection programme, Import of germplasm, Breed Multiplication Farm, Accelerated Breed Improvement Programme–In-Vitro Fertilization - Embryo Transfer, National Bovine Genomic Centre-Indigenous Breeds, Productivity enhancement projects, Establishment of Artificial Insemination network projects at various milk sheds

(ii) **Nodal Monitoring agency** for Accelerated Breed Improvement Programme –Sex Sorted Semen projects

(iii) **Monitoring agency** for North Eastern Region–Artificial Insemination projects

(iv) Besides, NDDB is also assisting in preparation of Semen Station Strengthening projects.

2.13 Further, NDDB has helped various states in formulating breeding policies and played an important role in capacity building through training of manpower on various aspects of animal breeding. It has also been assisting the Central Government in formulation of Minimum Standards for production of bovine semen, Minimum Standards for AI training institutes, SOPs for implementing Progeny Testing & Pedigree Selection projects, Artificial Insemination etc. NDDB also carried out breed suitability framework study to advise States in selecting breeds suitable for their environment.

2.14 On the question of the funding pattern followed by the Department for implementation of Schemes in collaboration with NDDB, the DAHD replied as below:

> "NDDB is functioning as an Implementing Agency for implementation of various projects under Rashtriya Gokul Mission. Most of the projects are implemented on 100% grant basis through State level implementing agencies. However, Accelerated Breed Improvement Programme using IVF technology for getting assured pregnancy under RGM, provides for a subsidy of Rs. 5000 to farmers. Under Accelerated Breed Improvement Programme-using sexed semen for getting assured pregnancy–a subsidy of Rs. 250 per insemination for two inseminations per pregnancy is provided to farmers. In case of Establishment of Breed Multiplication Farm, 50% subsidy on capital investment limited to maximum of Rs. 2.00 Crore is provided to beneficiaries."

## D. Breed Upgradation

2.15 The Rashtriya Gokul Mission (RGM) is being implemented for development and conservation of indigenous bovine breeds since December 2014. One of the objective of the scheme is upgrdation of non-descript cattle using elite indigenous breeds. Scheme is crucial for upliftment of rural poor as more than 80% low producing indigenous animals are with small and marginal farmers and landless labourers. The scheme is leading to multiplication of elite animals of indigenous breeds and increased availability of indigenous stock. The Scheme is proposed to be continued under umbrella Scheme Rashtriya Pashudhan Vikas Yojna. Its objectives are to enhance productivity of bovines and increasing milk production in a sustainable manner using advance technologies, to propagate use of high genetic merit bulls for breeding purposes, to enhance Artificial insemination coverage through strengthening breeding network and delivery of Artificial insemination services at farmers doorstep and to promote indigenous cattle & buffalo rearing and conservation in a scientific and holistic manner.

2.16 The Committee desired to know the details of work done towards Breed Improvement carried out in various Breeds of Cattles and Buffaloes enrolled under different programmes of NDDB over the years and their impact in terms of farmers' income or increase in average productivity of specified Breeds in a concentrated Region. The DAHD submitted:

> "Year wise and breed wise number of bulls produced under Progeny Testing and Pedigree Selection projects implemented for breed improvement of cattle and buffalo breeds is given in Tables below:

## Performance under National Dairy Plan I: Procurement of High Genetic Merit Bulls

| State | End Implementing Agency | Breed | Cum Target | Year-wise achievement | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 2012-13 | 2013-14 | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | |
| Andhra Pradesh | APLDA | CBJY | 178 | | | 6 | 4 | 41 | 41 | 50 | 142 |
| Gujarat | SAG | Gir | 104 | | | | 15 | 14 | 19 | 72 | 120 |
| Gujarat | SAG HFCB | HFCB | 318 | | 38 | 52 | 87 | 68 | 63 | 45 | 353 |
| Gujarat | SAG | Murrah | 209 | | 3 | 14 | 43 | 49 | 30 | 78 | 217 |
| Gujarat | SAG | Jaffrabadi | 34 | | | | 5 | 8 | 3 | 14 | 30 |
| Gujarat | BANAS | Mehsana | 79 | | 10 | 10 | 8 | 11 | 14 | 20 | 73 |
| Gujarat | BANAS | Kankrej | 73 | | | 16 | 23 | 10 | | | 49 |
| Gujarat | MEHSANA | Mehsana | 87 | | 11 | 4 | 11 | 28 | 16 | 28 | 98 |
| Haryana | HLDB | Hariana | 42 | | | | | 13 | 29 | 1 | 43 |
| Haryana | HLDB | Murrah | 241 | | | | | 10 | 68 | 117 | 195 |
| Karnataka | KMF | HF | 243 | 8 | 11 | 19 | 62 | 43 | 41 | 19 | 203 |
| Kerala | KLDB CBHF | CBHF | 77 | | | | | 12 | 22 | 23 | 57 |
| Maharashtra | MLDB | Pandharpuri | 34 | | | | | | 6 | 26 | 32 |
| Punjab | PLDB | Murrah | 116 | | | | | 22 | 51 | 105 | 178 |
| Punjab | PLDB | Sahiwal | 24 | | | | | | 4 | 24 | 28 |
| Punjab | PLDB | Nili-Ravi | 19 | | | | | | 2 | 12 | 14 |
| Rajasthan | URMUL | Rathi | 57 | | | 5 | 6 | 6 | 8 | 6 | 31 |
| Rajasthan | GANGMUL | Sahiwal | 25 | | | | | | 7 | 19 | 26 |
| Rajasthan | RLDB | Tharparkar | 15 | | | | | | 5 | 13 | 18 |
| Tamil Nadu | TCMPF | CBJY | 254 | | | 1 | 45 | 82 | 128 | 15 | 271 |
| Uttar Pradesh | BAIF | CBHF | 80 | | | | | | 10 | 83 | 93 |
| Uttar Pradesh | ABRO | Murrah | 128 | | 9 | | 12 | 20 | 22 | 59 | 122 |
| Uttarakhand | ULDB | CBHF | 69 | | | | | 3 | 12 | 57 | 72 |
| **Total** | | | **2506** | **8** | **82** | **127** | **321** | **440** | **601** | **886** | **2465** |

**Performance under Rashtriya Gokul Mission: Procurement of High Genetic Merit Bulls**

| State | Participating Agencies | Breed | Cum. Target | Year-wise achievement | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 | |
| Andhra Pradesh | APLDA | JYCB | 364 | 0 | 10 | 31 | 108 | 70 | 219 |
| Gujarat | SAG | Gir | 513 | 28 | 81 | 70 | 76 | 53 | 308 |
| Gujarat | SAG | Murrah | 390 | 17 | 44 | 44 | 87 | 69 | 261 |
| Gujarat | SAG | HFCB | 379 | 15 | 79 | 58 | 64 | 54 | 270 |
| Gujarat | SAG | Jaffarabadi | 86 | 6 | 8 | 23 | 4 | 1 | 42 |
| Gujarat | Banas MU | Mehsana | 109 | 5 | 4 | 12 | 25 | 26 | 72 |
| Gujarat | Banas MU | Kankrej | 48 | 7 | 3 | 6 | 5 | 2 | 23 |
| Gujarat | Mehsana MU | Mehsana | 98 | 10 | 6 | 11 | 19 | 22 | 68 |
| Gujarat | Sarhad Dairy | Banni | 12 | NA | NA | NA | NA | NA | 0 |
| Haryana | HLDB | Murrah | 544 | 0 | 47 | 87 | 116 | 64 | 314 |
| Haryana | HLDB | Hariana | 98 | 0 | 16 | 25 | 15 | 4 | 60 |
| Himachal Pradesh | HPL&PDB | Jersey | 26 | NA | NA | NA | NA | NA | 0 |
| Kerala | KLDB | HFCB | 271 | 11 | 31 | 66 | 51 | 28 | 187 |
| Maharashtra | MLDB | Pandharpuri | 71 | 0 | 2 | 15 | 12 | 4 | 33 |
| Maharashtra | MLDB | Gaolao | 14 | NA | NA | NA | NA | NA | 0 |
| Punjab | PLDB | Sahiwal | 329 | 9 | 23 | 53 | 60 | 25 | 170 |
| Punjab | PLDB | Murrah | 506 | 0 | 50 | 168 | 136 | 39 | 393 |
| Punjab | PLDB | Nili Ravi | 39 | 0 | 4 | 12 | 1 | 1 | 18 |
| Rajasthan | GANGMUL | Sahiwal | 385 | 15 | 23 | 54 | 65 | 43 | 200 |
| Rajasthan | URMUL | Rathi | 48 | 0 | 3 | 11 | 9 | 1 | 24 |
| Rajasthan | RLDB | Tharparkar | 141 | 0 | 17 | 42 | 33 | 0 | 92 |
| Tamil Nadu | TCMPF | JYCB | 558 | 0 | 35 | 116 | 97 | 102 | 350 |
| Uttar Pradesh | ABRO | Murrah | 588 | 44 | 93 | 99 | 93 | 84 | 413 |
| Total | | | 5617 | 167 | 579 | 1003 | 1076 | 692 | 3517 |

Shortfall with respect to HGM Bull production in some projects are mainly due to lesser demand of bulls for semen production for that particular breed.

The change in productivity of Indigenous Cattle and Buffaloes over the years in the states where the projects are implemented is:

| State | Average yield/in-milk animal/day (Kg/day) | | | | | |
|---|---|---|---|---|---|---|
| | Indigenous cattle | | Crossbred cattle | | Buffalo | |
| | 2019-20 | 2022-23 | 2019-20 | 2022-23 | 2019-20 | 2022-23 |
| Andhra Pradesh | NA | NA | 9.68 | 9.92 | NA | NA |
| Gujarat | 4.47 | 4.72 | 9.4 | 9.66 | 5.24 | 5.36 |
| Haryana | 6.19 | 6.83 | NA | NA | 9.51 | 10.61 |
| Kerala | NA | NA | 10.25 | 10.77 | NA | NA |
| Maharashtra | NA | NA | NA | NA | 5.18 | 5.34 |
| Punjab | 7.59 | 8.68 | NA | NA | 8.65 | 9.52 |
| Rajasthan | 5.31 | 5.91 | NA | NA | NA | NA |
| Tamil Nadu | NA | NA | 7.23 | 7.17 | NA | NA |
| Uttar Pradesh | NA | NA | NA | NA | 4.59 | 5.27 |

(Source: BAHS, 2023)

Impact Assessment of the Projects has not been initiated yet for these Projects."

2.17 The Committee further enquired about the status of Crossbreeding activities undertaken by the Department so as to transform the Non-descript Cattle and Buffaloes with Low Milk Yield with Indigenous Breeds of Cattle and Buffaloes with High Milk Yield. The DAHD submitted:

> "Grading up of non-descript animals with indigenous breeds (crossbreeding) is being promoted under Rashtriya Gokul Mission. Under the Scheme semen production of indigenous breeds has increased from 9.9 million doses in 2014-15 to 29 million doses in 2021-2022. High genetic Merit bulls under collection have increased from 450 bulls in 2014-15 to 1120 bulls in 2021-22. States are grading up non-descript animals using high yielding. Following is category wise changes in semen production with initiation of Rashtriya Gokul Mission:"

Semen Production in Million Doses

| Category | 2013-14 | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | % of increase |
|---|---|---|---|---|---|---|---|---|---|---|
| Exotic | 26.62 | 30.32 | 31.11 | 38.60 | 38.78 | 39.15 | 33.74 | 27.99 | 26.68 | 0.23 |
| Crossbred | 20.32 | 24.36 | 26.31 | 28.73 | 28.12 | 27.65 | 28.47 | 24.94 | 21.71 | 6.84 |
| Indigenous | 9.91 | 10.95 | 13.43 | 15.41 | 15.55 | 19.67 | 23.29 | 27.78 | 28.13 | 183.85 |
| Buffalo | 31.71 | 31.49 | 31.85 | 33.16 | 32.51 | 32.59 | 34.68 | 41.37 | 46.86 | 47.77 |

"

2.18 The Committee further enquired about the status of Crossbreeding activities undertaken by the Department so as to transform the Non-descript Cattle and Buffaloes with Low Milk Yield with Indigenous Breeds of Cattle and Buffaloes with High Milk Yield. The DAHD submitted:

> "Grading up of non-descript animals with indigenous breeds (crossbreeding) is being promoted under Rashtriya Gokul Mission. Under the Scheme semen production of indigenous breeds has increased from 9.9 million doses in 2014-15 to 29 million doses in 2021-2022. High genetic Merit bulls under collection have increased from 450 bulls in 2014-15 to 1120 bulls in 2021-22. States are grading up non-descript animals using high yielding. Following is category wise changes in semen production with initiation of Rashtriya Gokul Mission:"

Semen Production in Million Doses

| Category | 2013-14 | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | % of increase |
|---|---|---|---|---|---|---|---|---|---|---|
| Exotic | 26.62 | 30.32 | 31.11 | 38.60 | 38.78 | 39.15 | 33.74 | 27.99 | 26.68 | 0.23 |
| Crossbred | 20.32 | 24.36 | 26.31 | 28.73 | 28.12 | 27.65 | 28.47 | 24.94 | 21.71 | 6.84 |
| Indigenous | 9.91 | 10.95 | 13.43 | 15.41 | 15.55 | 19.67 | 23.29 | 27.78 | 28.13 | 183.85 |
| Buffalo | 31.71 | 31.49 | 31.85 | 33.16 | 32.51 | 32.59 | 34.68 | 41.37 | 46.86 | 47.77 |

"

2.19 The Committee desired to know the detailed Project Outline of Crossbreeding Programmes under Rashtriya Gokul Mission. The DAHD replied:

"Rashtriya Gokul Mission was initiated in December 2014 and the scheme was revised and realigned for implementation from 2021-22 to 2025-26. Following is the allocation made available under the scheme along with expenditure made so far:

| Financial Year | Rs. in Crore | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | **2014-15** | **2015-16** | **2016-17** | **2017-18** | **2018-19** | **2019-20** | **2020-21** | **2021-22** | **2022-23** | **2023-24** | **Total** |
| **Allocation** | 159.4 | 81.77 | 119.5 | 190 | 750.5 | 270 | 400 | 663.55 | **604.75** | **869** | 4108.47 |
| **Expenditure** | 159.02 | 81.76 | 118.75 | 187.64 | 750.44 | 269.73 | 399.9 | 663.55 | **604.75** | **452** | 3687.54 |

Funds have been released to the States for implementation of Rashtriya Gokul Mission for enhancing AI coverage using high yielding indigenous breeds. Details of the targets of the animals to be covered and actual achievements made under Nationwide Artificial Insemination programme.

Targets and achievements made under Nationwide Artificial Insemination programme

| Phase | Targets | No. of animals covered | % achievement | Reasons for less achievements |
|---|---|---|---|---|
| Phase-I | 10000000 | 76,68,044 | 76.68 | Time taken in establishment of AI network during initial stages |
| Phase-II | 15000000 | 1,25,32,544 | 83.55 | Time taken in establishment of AI network during initial stages |
| Phase-III | 15000000 | 1,79,98,410 | 119.3 | 100% achievements made |
| Phase-IV | 3,0000000 | 2,39,45,678 | 79.81 | on going |

"

2.20 On being asked about the challenges being faced in implementation of its Breed Improvement Programme in various States, the DAHD stated that low coverage of animals under Organized Breeding Programme is the major challenge being faced under RGM. Small herd size is another challenge being faced under the Programme.

2.21 The Committee desired to know the State-wise number of High Productivity Cross Bred Cattle and Buffaloes in the country, and their annual increase over the years. The DAHD replied:

"State-wise No. of animals in milk and their productivity is depicted in the following table:

Indigenous Cattle:

| S. No. | State/UT | Indigenous Animals in Milk (in Lakh) | | Average Productivity Kg/animal/day | |
|---|---|---|---|---|---|
| | | 2015 | 2022 | 2015 | 2022 |
| 1 | Andhra Pradesh | 1.18 | 1.61 | 4.24 | 5.62 |
| 2 | Arunachal Pradesh | 0.65 | 0.74 | 1.38 | 1.41 |
| 3 | Bihar | 19.41 | 34.76 | 3.24 | 3.28 |
| 4 | Chhattisgarh | 4.16 | 4.75 | 3.28 | 4.08 |
| 5 | Gujarat | 12.86 | 11.84 | 4.48 | 4.97 |
| 6 | Haryana | 1.27 | 2.07 | 5.55 | 7.07 |
| 7 | Himachal Pradesh | 0.272 | 0.21 | 3.24 | 3.69 |
| 8 | Jharkhand | 1.92 | 7.69 | 3.57 | 3.13 |
| 9 | Karnataka | 9.24 | 9.08 | 2.49 | 3.13 |
| 10 | Kerala | 0.2 | 0.82 | 2.31 | 2.19 |
| 11 | Madhya Pradesh | 6.35 | 9.98 | 2.88 | 3.38 |
| 12 | Maharashtra | 3.32 | 3.28 | 3.17 | 3.76 |
| 13 | Meghalaya | 1.16 | 1.27 | 0.77 | 0.79 |
| 14 | Odisha | 1.93 | 0.90 | 2.03 | 2.81 |
| 15 | Punjab | 0.74 | 1.20 | 6.76 | 9.15 |
| 16 | Rajasthan | 14.45 | 21.54 | 4.46 | 6.30 |
| 17 | Sikkim | 0.01 | 0.052 | 1.31 | 4.48 |
| 18 | Tamil Nadu | 6.21 | 0.97 | 2.78 | 3.46 |
| 19 | Telangana | 0.86 | 0.91 | 5.13 | 5.81 |
| 20 | Uttar Pradesh | 30.40 | 33.36 | 3.37 | 4.06 |
| 21 | Uttarakhand | 0.33 | 3.01 | - | 2.60 |
| 22 | West Bengal | 26.80 | 12.87 | 3.12 | 4.53 |
| | **All India** | **14.36** | **16.24** | **3.41** | **4.17** |

*Source: BAHS 2016 and BAHS 2023*

Buffalo:

| S. No. | State/UT | Indigenous Animals in Milk (in lakh) | | Average Productivity Kg/animal / day | |
|---|---|---|---|---|---|
| | | 2015 | 2022 | 2015 | 2022 |
| 1 | Andhra Pradesh | 21.01 | 22.41 | 7.33 | 9.62 |
| 2 | Arunachal Pradesh | 0 | 0 | 2.58 | 2.44 |
| 3. | Assam | 0.96 | 1.00 | 3.34 | 3.61 |
| 3 | Bihar | 20.58 | 25.25 | 4.26 | 4.63 |
| 4 | Chhattisgarh | 0.52 | 0.80 | 5.34 | 6.36 |
| 5 | Gujarat | 27.81 | 29.15 | 5.15 | 5.61 |
| 6 | Haryana | 19 | 20.59 | 8.40 | 10.82 |
| 7 | Himachal Pradesh | 1.41 | 1.70 | 4.30 | 4.53 |

| | | | | | |
|---|---|---|---|---|---|
| 8. | Jammu & Kashmir | 0.50 | 0.68 | 6.44 | 6.34 |
| 8 | Jharkhand | 0.73 | 1.64 | 6.37 | 5.35 |
| 9 | Karnataka | 9.87 | 9.97 | 3.12 | 4.40 |
| 10 | Kerala | 0.04 | 0.02 | 5.55 | 5.26 |
| 11 | Madhya Pradesh | 8.23 | 18.30 | 4.54 | 5.15 |
| 12 | Maharashtra | 9.28 | 11.09 | 6.22 | 6.64 |
| 13 | Meghalaya | 0.02 | 0.01 | 1.85 | 1.86 |
| 14 | Odisha | 0.29 | 0.12 | 4.26 | 4.63 |
| 15 | Punjab | 18.74 | 21.57 | 9.04 | 9.92 |
| 16 | Rajasthan | 27.66 | 33.07 | 6.69 | 7.48 |
| 17 | Sikkim | 0 | 0 | 0 | 0 |
| 18 | Tamil Nadu | 1.68 | 0.46 | 4.65 | 4.85 |
| 19 | Telangana | 7.79 | 9.56 | 7.16 | 8.52 |
| 20 | Uttar Pradesh | 82.49 | 87.03 | 4.65 | 5.59 |
| 21 | Uttarakhand | 2.04 | 2.18 | 5.15 | 5.58 |
| 22 | West Bengal | 1.20 | 0.78 | 5.44 | 5.52 |
| | **All India** | **263.07** | **298.27** | **5.76** | **6.76** |

Source: BAHS 2016 and BAHS 2023 of GoI"

2.22 On being asked about the mechanism followed by the Department or NDDB for identification of farmers with Low Productivity Cattle and Buffaloes and data about the number of farmers whose cattle and buffalo population has been upgraded through Cross Breeding, State-wise, the DAHD stated as under:

"States have formulated State Breeding Policy and breeding plans for cattle and buffalo breeding. Under the Nationwide Artificial Insemination Programme (NAIP) breeding services are delivered free of cost at the farmers doorstep State wise animals covered under the programme is given in the following table:

NAIP Progress

| State/UT | Total Animals inseminated | Total AI Done | Total Farmers benefitted |
|---|---|---|---|
| ANDHRA PRADESH | 4672722 | 6967656 | 2607051 |
| ARUNACHAL PRADESH | 3247 | 3422 | 1553 |
| ASSAM | 1092069 | 1258661 | 940965 |
| BIHAR | 2310875 | 2746018 | 1841874 |
| CHHATTISGARH | 1394816 | 1659084 | 918908 |
| GOA | 20318 | 31419 | 7424 |
| GUJARAT | 3464489 | 4633745 | 2305091 |
| HARYANA | 431012 | 503442 | 308976 |
| HIMACHAL PRADESH | 1286045 | 1819856 | 1090074 |
| JAMMU & KASHMIR | 1788087 | 2520772 | 1285941 |
| JHARKHAND | 1861037 | 2170219 | 1443052 |
| KARNATAKA | 3415102 | 4760751 | 2401455 |

| | | | |
|---|---|---|---|
| LADAKH | 5129 | 5801 | 4408 |
| MADHYA PRADESH | 6518280 | 7517656 | 4123896 |
| MAHARASHTRA | 4121407 | 4843556 | 2811744 |
| MANIPUR | 20600 | 21903 | 11231 |
| MEGHALAYA | 45391 | 62522 | 16603 |
| MIZORAM | 7779 | 9841 | 3754 |
| NAGALAND | 33196 | 37630 | 13201 |
| ODISHA | 4178328 | 5194643 | 2712363 |
| PUNJAB | 1131408 | 1565270 | 600692 |
| RAJASTHAN | 4086078 | 4865069 | 3059134 |
| SIKKIM | 32830 | 36612 | 25072 |
| TAMIL NADU | 3535421 | 5187794 | 1779865 |
| TELANGANA | 2639564 | 3104401 | 1429391 |
| TRIPURA | 194739 | 229753 | 167163 |
| UTTAR PRADESH | 9149027 | 12753437 | 6331063 |
| UTTRAKHAND | 1033263 | 1473440 | 852739 |
| WEST BENGAL | 3672418 | 4481019 | 2737181 |
| **Total** | **62144677** | **80466557** | **41832854** |

Source: Bharat Pashudhan app"

2.23 The Committed asked the DAHD to elaborate in details the mechanism in place to monitor various schemes in operation for indigenous breeds of cattle and buffaloes and how effectively they are working in the field. The DAHD submitted as follows:

> "To review the progress of projects approved under RGM and being implemented by NDDB, a Project Monitoring Committee is constituted by DAHD. The committee meets periodically to review both physical and financial progress of the projects.
>
> For each project, a project management committee at project level is constituted and the committee reviews the progress at six monthly intervals. The projects are also evaluated by external committee annually to verify effective implementation of the projects in the field."

## CHAPTER – III

## Breed Improvement Programmes of NDDB

### A. Pedigree Selection (PS)/ Progeny Testing (PT) Programmes

In Pedigree Selection (PS), breeding bulls are selected based on the performance of dam and sire, while in Progeny Testing, bulls are selected based on the performance of their daughters. One of the key factors affecting productivity is the genetic ability of an animal for milk production, which is an inherited character, while others provide an enabling environment. The breeding bull contributes significantly in enhancing the genetic potential of its progenies for economically important traits like milk production, fat, SNF and protein production, fertility, body conformation etc. Therefore, building an infrastructure for evaluation and production of breeding bulls with high genetic potential for milk production and other important traits and an infrastructure to transmit their genetic potential to maximum number of progenies is very important in any animal breeding programme.

3.2 Under National Dairy Plan Phase - I (NDP-I) [2011-12 and 2018-19], production of HGM bulls through PT and PS programmes for six indigenous cattle breeds (Sahiwal, Gir, Kankrej, Rathi, Tharparkar and Hariana) and five buffalo breeds (Murrah, Mehsana, Jaffarabadi, Nili Ravi and Pandharpuri) were taken up with partner agencies in six states of the country. Under NDP-I, 306 HGM bulls of Indigenous cattle and 959 bulls of buffalo were made available by these projects for distribution to various semen stations for frozen semen production in the country. For these Indigenous Breed Development programmes, Rs. 11879.29 Lakh were sanctioned for 16 projects. It was envisaged that by the end of NDP-I, these programmes would produce 1287 HGM bulls against which 1265 HGM bulls were made available for semen production.

3.3 The Details of various Progeny Testing/ Pedigree Selection Programmes sanctioned under NDP-I are at **Annexure VI.**

3.4 Against an allocation of Rs.11879.29 Lakh Indigenous Breed Development Programmes under NDP-I, the Department could utilize only Rs.11,329.36 Lakh and an amount of about Rs. 549.93 Lakh remained unutilized. On being asked about the major reasons for under-utilization under NDP-I for Indigenous Breed Development Projects, the Department stated that the major reasons were due to procurement of capital items

at lower rates than budgeted amount, savings under manpower costs including travel costs, etc.

3.5 DAHD further submitted that National Dairy Plan I implementation was completed in November 2019. According to World Bank Evaluation Report (ICRR), implementation of NDPI was rated as "Highly Satisfactory". NDDB was Implementing Agency (IA) for National Dairy Plan I. Major achievements under NDP I are as below:

| Component | Achievement |
|---|---|
| Bull Production through PT and PS | 2456 bulls were made available across all the semen stations in the country |
| Strengthening of Semen Stations | 28 semen stations strengthened |
| Import of Germplasm | 171 (76HF and 95 Jersey) Bulls imported and distributed to semen stations<br>69 (42 HF and 27 Jersey) Bulls produced through imported embryos and distributed to semen stations |

3.6 These PT and PS projects are now being continued under Rashtriya Gokul Mission (RGM) since 1st April 2019. These projects are major source of HGM bulls of Indigenous cattle and buffaloes for semen production in the country. Currently, nine each of PT and PS projects are being implemented covering Sahiwal (Punjab and Rajasthan), Gir (Gujarat), Rathi (Rajasthan), Tharparkar (Rajasthan), Kankrej (Gujarat), Hariana (Haryana), and Gaolao (Maharashtra) breeds of cattle and Murrah (Haryana), Mehsana(Gujarat), Nili-Ravi (Punjab), Jaffarabadi (Gujarat), Pandharpuri (Maharashtra) and Banni (Gujarat) breeds of buffaloes. The projects envisage the production of 4008 HGM bulls of Indigenous breeds of cattle and buffalo. The projects are being implemented for the period FY 2019-20 to FY 2025-26 in Uttar Pradesh, Rajasthan, Punjab, Haryana, Gujarat and Maharashtra states with a total outlay of Rs. 40301.22 Lakh. These projects together have produced 2936 HGM bulls of indigenous cattle & buffalo till March, 2025.

3.7 The Committee desired to know the reasons for NDDB laying emphasis on the development of selected Indigenous Breeds of the Cattle and Buffaloes. The DAHD replied as under:

> "Indigenous cattle and buffalo breeds that are having dairy potential have been considered for implementation of Progeny Testing and Pedigree Selection programmes under RGM. These projects are aimed at selecting elite cows and bulls to produce bulls for frozen semen production for use in the Artificial

Insemination programme. Moreover, these breeds have a relatively larger population in their breeding tracts to implement scientific genetic improvement programmes. In addition, DAHD is implementing National Milk Recording Programme under RGM for other indigenous breeds which are not covered under PT and PS programme and aim of the programme is to develop National Milch Herd. National Milk Recording Programme is being implemented through National Dairy Development Board."

Further, DAHD stated: -

"Funds have been released to all States having breeding tract of indigenous breeds for their development and conservation under Rashtriya Gokul Mission. Further the department has recently approved National Milk Recording Programme under which around 4.5 Lakh animals will be milk recorded to identify elite animals across the country."

3.8 The Committee observed that Pandharpur Breed of Buffalo selected from the State of Maharashtra under PT and PS Project has concentration specifically in Maharashtra state (4.7 lacs) and some concentration in state of Karnataka (0.42 lacs). Similarly, Gaolao Breed of Cattle again selected from State of Maharashtra has concentration specifically in Maharashtra (0.73 lacs) and Madhya Pradesh (1.13 lacs). When asked how does having Progeny Testing Programme and Pedigree Selection Programmes for such breeds with presence in only two states, help the overall goal of the Programme, and how does Department/NDDB shall arrange for their popularization in other states, the DAHD replied as under:

"The Progeny Testing and Pedigree selection programmes are being implemented in breeding tract of respective breeds. However, the bulls produced under these projects are distributed to the semen stations across the country to perform Artificial Insemination as per the breeding policy of respective states. This drives genetic progress across the country and help in achieving overall goal.

Popularization of such breeds is being done through induction of animals in different states. Further, publishing the performance records, collected under these programmes will help in popularizing the breeds in various states."

3.9 As per data on population of indigenous cattle breeds as provided at **Annexure–I,** Assam State has a Cattle Population of Indigenous Breed *viz*. Lakhimi of around 68.29 lacs. While states of Bihar and Jharkhand have Cattle Population of Indigenous Breed *viz.* Bachaur of around 43.45 lacs (Annexure - I). These State-specific Cattle population alone exceeds total all India cattle Populations of most of the cattle breeds selected under Progeny Testing and Pedigree Selection Programme. When asked about the plans of the Department for productivity enhancement of these two

populous breeds of cattle which are vital to the growth of milk production in the said states and country in general given their huge numbers, the DAHD replied as under:

> "As per 2022 breed survey report, country has 1421 lakh indigenous cattle population against this Assam has 68.29 lakh Lakhimi which is 4.8% of the total cattle population and similarly Bihar and Jharkhand has 43.45 lakh Bachaur cattle population which is 3.05% of the total indigenous cattle population.
>
> It is planned to cover the Lakhimi and Bachaur breeds under recently approved National Milk Recording Programme (NMRP) which will help in identifying elite animals of these breeds and facilitate genetic improvement of these breeds."

3.10 Further the DAHD admitted that focusing on improvement of breeds of cattle and buffaloes that are found in multiple states will help faster increase in productivity of breed compared to improvement of breeds that are found in one or two states. Larger population of breeds provides opportunity to increase selection intensity. Further due to wider presence of a breed will allow extensive use of semen doses of improved bulls in larger area and thus bringing faster genetic progress.

3.11 The details of the performance of Progeny Testing and Pedigree Selection projects since its inception under NDP I and RGM, in terms of Procurement of HGM bulls, has been provided at **Annexure VII**. It may be seen that a total of 2465 HGM bulls were procured under NDP I and 3517 bulls have been procured under RGM so far with state details at said **Annexure VII**. The DAHD further submitted that the shortfall with respect to HGM Bull production in some projects in States are mainly due lesser demand of bulls for semen production for that particular breed.

3.12 On being asked about the plans of the Department to extend Progeny Testing and Pedigree Selection Projects in other States and UTs, the Department of Animal Husbandry and Dairying stated that the Scientific breeding programme like Progeny Testing programme and Pedigree Selection Programmes are being implemented in the breeding tract/ milk pockets with high concentration of High Yield Animals/Breeds in order to produce High Genetic Merit Bulls for use in Breeding Programme being implemented by the States across the country.

3.13 When enquired about the outcome of the Progeny Testing (PT) and Pedigree Selection (PS) Projects, being undertaken under Rashtriya Gokul Mission (RGM), on the productivity of indigenous Cattle and Buffalo Breeds in related areas from April, 2019 till date, the Department replied:

"Under the Progeny Testing projects a total 1414 bulls have completed test Artificial Insemination, 3.16 lakh Animals have been put to milk recording, 3874 HGM bulls have been procured. Under the Pedigree Selection projects, 4.09 lakhs Artificial Insemination have been carried out and 32495 animals have been put to milk recording. 329 HGM bulls have been procured. The bulls produced under these projects are distributed to various semen stations for production of semen doses to be used in the Artificial Insemination programme of various States.

The genetic improvement programmes are long term projects and the outcomes would be realized in the future generations. However, the average productivity per day per animal of indigenous cattle, which was 2.20 kg during 2009-10, has increased to 3.54 kg in 2023-24. In case of buffaloes, the average productivity per day per animal, which was 4.52 kg during 2009-10, has increased to 5.92 kg in 2023-24."

3.14 Further, the DAHD provided the following data regarding the change in productivity of Indigenous cattle and buffaloes over the years in the states where the projects are implemented:

| State | Average Yield/In-Milk Animal/Day (Kg/Day) | | | | | |
|---|---|---|---|---|---|---|
| | Indigenous cattle | | Crossbred cattle | | Buffalo | |
| | 2019-20 | 2022-23 | 2019-20 | 2022-23 | 2019-20 | 2022-23 |
| Andhra Pradesh | NA | NA | 9.68 | 9.92 | NA | NA |
| Gujarat | 4.47 | 4.72 | 9.4 | 9.66 | 5.24 | 5.36 |
| Haryana | 6.19 | 6.83 | NA | NA | 9.51 | 10.61 |
| Kerala | NA | NA | 10.25 | 10.77 | NA | NA |
| Maharashtra | NA | NA | NA | NA | 5.18 | 5.34 |
| Punjab | 7.59 | 8.68 | NA | NA | 8.65 | 9.52 |
| Rajasthan | 5.31 | 5.91 | NA | NA | NA | NA |
| Tamil Nadu | NA | NA | 7.23 | 7.17 | NA | NA |
| Uttar Pradesh | NA | NA | NA | NA | 4.59 | 5.27 |

(Source: BAHS, 2023)"

"Impact assessment of the projects has not been initiated yet for these projects."

3.15 The Committee desired to know whether the targets set for RGM in terms of productivity of cattle and buffaloes will be achieved within its timeline and the measures envisaged by the Department to ensure the same. The DAHD replied that RGM envisages to enhance productivity of animals upto 3000 kg per animal per year. During last 9 years average productivity of cattle and buffaloes is increased by 24.3% from 1648.17 kg per animal per year during 2013-14 to 2048 kg per animal per year in 2021-22 which is highest productivity growth rate in the world. In order to achieve the targets

within the prescribed time frame Department of Animal Husbandry and Dairying has initiated Nationwide Artificial Insemination Programme, Accelerated Breed Improvement Programme using IVF technology and Accelerated Breed Improvement Programme using sex sorted semen.

3.16 Department during Oral Evidence submitted that they are replacing all Pedigree Selection Projects with Progeny Testing projects. On being asked about the rationale for the same, the cost implications and the impact of such decision on the achievement of targets of RGM, the DAHD submitted the following reply:

> "The objective of Pedigree Selection project is mainly to popularize Artificial Insemination in a breeding tract of a breed where Artificial Insemination is not well accepted. Building on the success of Artificial Insemination, now it is planned to convert these projects to Progeny Testing Projects which help in selection of more accurately and help in faster genetic improvement.
>
> The existing infrastructure of PS projects will be fully utilized and additional infrastructure will be created for implementing PT projects."

**B. Strengthening existing semen stations to produce quality Disease Free Frozen Semen Doses for AI (A & B grade semen stations only)**

3.17 In order to extend Artificial Insemination coverage from existing 30% of the breedable bovine females to 70% of the breedable bovine females, semen production is to be increased from 119 million doses to 200 million doses annually. Therefore, there is a need to strengthen existing semen station to meet demand of semen doses in the country. Also, there is always a need to keep semen stations up to the international standards so that our farmers receive quality Frozen Semen doses for Artificial Insemination delivery system. Semen stations continuously need to improve themselves to meet the improving standards of semen production and bio security.

3.18 To increase the quantity of frozen semen production and enhance the quality of the frozen semen produced in the country, 28 A and B graded semen stations were strengthened under National Dairy Plan Phase - I (NDP-I) [2011-12 and 2018]. The details are as under:

| List of 28 Semen Stations Strengthened under NDP-I | | |
|---|---|---|
| **S. No.** | **Semen Station Name** | **State/UT** |
| 1 | FSBS Banavasi | Andhra Pradesh |
| 2 | CSS, Anjora | Chhattisgarh |
| 3 | DSPU, Dama | Gujarat |
| 4 | PSK, Jagudan | Gujarat |
| 5 | SAG, Bidaj | Gujarat |
| 6 | ARDA, Ode | Gujarat |

| List of 28 Semen Stations Strengthened under NDP-I | | |
|---|---|---|
| **S. No.** | **Semen Station Name** | **State/UT** |
| 7 | SFSP&TI, GLDB, Patan | Gujarat |
| 8 | FSB, Hissar | Haryana |
| 9 | Rohtak Semen Station | Haryana |
| 10 | CFSPTI, Hesarghatta | Karnataka |
| 11 | Nandini, KMF | Karnataka |
| 12 | FSS, Dhoni | Kerala |
| 13 | FSS, Kulathupuzha | Kerala |
| 14 | FSS, Muttupatty | Kerala |
| 15 | CSS, Bhopal. | Madhya Pradesh |
| 16 | BAIF Pune | Maharashtra |
| 17 | Rahuri | Maharashtra |
| 18 | FSB, Cuttack | Odisha |
| 19 | FSBS, Nabha | Punjab |
| 20 | FSB, Bassi | Rajasthan |
| 21 | Alamadhi | Tamil Nadu |
| 22 | DLF, Ooty | Tamil Nadu |
| 23 | NJF, Ooty | Tamil Nadu |
| 24 | FSBS. Karimnagar | Telangana |
| 25 | ABC, Salon | Uttar Pradesh |
| 26 | DFSPC, Rishikesh | Uttarakhand |
| 27 | FSBS, Haringhata | West Bengal |
| 28 | FSBS, Salboni | West Bengal |

Funding for civil structures, lab equipment and fodder farm implement was made available under the projects to enable the semen stations to produce disease free quality semen doses from high genetic merit bulls.

3.19 On being enquired about the rationale for grading Semen Stations and their present distribution across countries along with the monitoring mechanism, the Department have submitted the following reply:

> "Presently, there are 62 semen stations in the country. In order to ensure production of quality frozen semen doses, DAHD, Government of India has prescribed minimum standard (MS) and standard operating procedure (SOP) for production of high-quality, disease-free semen. To ensure semen stations are producing high-quality, disease-free semen by adhering to the prescribed MS and SOP, a Central Monitoring Unit (CMU) comprising experts in the field of bovine frozen semen production has been constituted by DAHD, GoI. The CMU visits each semen station once in two years and evaluates it based on the minimum standards and grades them."

**State and UT wise distribution of Semen Stations is as below:**

| **S. No.** | **Semen Station Name** | **State/UT** |
|---|---|---|
| 1 | ABC MACS Veervalli | Andhra Pradesh |
| 2 | FSBS Banavasi | Andhra Pradesh |
| 3 | FSB Nandyal | Andhra Pradesh |
| 4 | FSBS Vishakapatnam | Andhra Pradesh |
| 5 | FSBS Barapetta | Assam |
| 6 | Purnea Semen Station | Bihar |
| 7 | CSS, Anjora | Chhattisgarh |
| 8 | DSPU, Dama | Gujarat |

| S. No. | Semen Station Name | State/UT |
|---|---|---|
| 9 | FSS, Dhanol | Gujarat |
| 10 | PSK, Jagudan | Gujarat |
| 11 | SAG, Bidaj | Gujarat |
| 12 | ARDA, Ode | Gujarat |
| 13 | SFSP&TI, GLDB, Patan | Gujarat |
| 14 | FSB, Gurgaon | Haryana |
| 15 | FSB, Hissar | Haryana |
| 16 | Semen Bank. Jagadhri | Haryana |
| 17 | HBSS, Haryana | Haryana |
| 18 | BAIF Jind | Haryana |
| 19 | Rohtak Semen Station | Haryana |
| 20 | Aduwal Sperm Station, Solan | Himachal Pradesh |
| 21 | Sperm Station, Palampur | Himachal Pradesh |
| 22 | CABS, Hakkal | J&K |
| 23 | FSP, Ranbirbagh | J&K |
| 24 | CFSPTI, Hesarghatta | Karnataka |
| 25 | FSS, Munirabad | Karnataka |
| 26 | Nandini, KMF | Karnataka |
| 27 | SLBTC, Hesarghatta | Karnataka |
| 28 | SSCC, Hesarghatta | Karnataka |
| 29 | FSS, Dharwad | Karnataka |
| 30 | FSS, Dhoni | Kerala |
| 31 | FSS, Kulathupuzha | Kerala |
| 32 | FSS, Muttupatty | Kerala |
| 33 | CSS, Bhopal. | Madhya Pradesh |
| 34 | Semen Station Nauner, Datia | Madhya Pradesh |
| 35 | BAIF Pune | Maharashtra |
| 36 | Chitale Genus ABS Ltd. | Maharashtra |
| 37 | FSL Aurangabad | Maharashtra |
| 38 | FSL Nagpur | Maharashtra |
| 39 | FSL Pune | Maharashtra |
| 40 | Rahuri | Maharashtra |
| 41 | CSB, ICDP, Upper Shillong | Meghalaya |
| 42 | FSB, Cuttack | Odisha |
| 43 | FSBS, Nabha | Punjab |
| 44 | FSS, Ropar | Punjab |
| 45 | FSS, Verka | Punjab |
| 46 | FSB, Bassi | Rajasthan |
| 47 | Germplasm Station, Narwa | Rajasthan |
| 48 | Alamadhi | Tamil Nadu |
| 49 | DLF, Hosur | Tamil Nadu |
| 50 | DLF, Ooty | Tamil Nadu |
| 51 | ECBF, Eachenkottai | Tamil Nadu |
| 52 | NJF, Ooty | Tamil Nadu |
| 53 | FSBS. Karimnagar. | Telangana |
| 54 | FSBS, Kamsanpally | Telangana |
| 55 | ABC, Salon | Uttar Pradesh |
| 56 | DFSS, Babugarh | Uttar Pradesh |
| 57 | DFSS, Rehmankhera | Uttar Pradesh |
| 58 | Morna Breeding Technology | Uttar Pradesh |
| 59 | DFSPC, Rishikesh | Uttarakhand |
| 60 | FSB, Beldanga | West Bengal |
| 61 | FSBS, Haringhata | West Bengal |
| 62 | FSBS, Salboni | West Bengal |

3.20 When asked about the criteria for distribution of Semen Stations across country, the Department has stated:

> "The Semen Stations are strategically placed- Alamadhi Semen Station covering South of the country, Rahuri Semen Station covering west and central part of the country, Sabarmati Ashram Gaushala along with Rohtak Semen Station covering west and North of the country and Animal Breeding Centre covering North and East of the country."

3.21 Semen Stations which were not covered under NDP-I scheme and semen stations which were covered under NDP-I scheme but have completed five years of strengthening can submit proposal for strengthening of Semen Station under Rashtriya Gokul Mission scheme.

3.22 The DAHD submitted that till November 2023, under strengthening of existing Semen Stations component of Rashtriya Gokul Mission (RGM), proposal for strengthening of 47 Semen Stations have been approved. The semen stations are being strengthened for civil infrastructure, laboratory equipment, farm machineries, IT systems and strengthening of biosecurity to facilitate production of disease-free quality semen doses. Subsequent to the approval of the proposals, strengthening work has been initiated. The details of 47 Semen Stations are as under:

| **Strengthening of Semen Stations approved under RGM till November 2025** | | |
|---|---|---|
| S. No. | Semen Station Name | State/UT |
| 1 | FSB Nandyal | Andhra Pradesh |
| 2 | FSBS Vishakapatnam | Andhra Pradesh |
| 3 | FSBS Barapetta | Assam |
| 4 | Purnea Semen Station | Bihar |
| 5 | DSPU, Dama | Gujarat |
| 6 | FSS, Dhanol | Gujarat |
| 7 | PSK, Jagudan | Gujarat |
| 8 | SAG, Bidaj | Gujarat |
| 9 | ARDA, Ode | Gujarat |
| 10 | SFSP&TI, GLDB, Patan | Gujarat |
| 11 | Rohtak Semen Station | Haryana |
| 12 | ICAR, NDRI | Haryana |
| 13 | ICAR, CIRB | Haryana |
| 14 | Aduwal Sperm Station, Solan | Himachal Pradesh |
| 15 | Sperm Station, Palampur | Himachal Pradesh |
| 16 | CFSPTI, Hesarghatta | Karnataka |
| 17 | FSS, Munirabad | Karnataka |
| 18 | Nandini, KMF | Karnataka |
| 19 | SLBTC, Hesarghatta | Karnataka |
| 20 | SSCC, Hesarghatta | Karnataka |
| 21 | FSS, Dharwad | Karnataka |
| 22 | FSS, Dhoni | Kerala |
| 23 | FSS, Kulathupuzha | Kerala |

| Strengthening of Semen Stations approved under RGM till November 2025 | | |
|---|---|---|
| S. No. | Semen Station Name | State/UT |
| 24 | FSS, Muttupatty | Kerala |
| 25 | CSS, Bhopal | Madhya Pradesh |
| 26 | FSL Nagpur | Maharashtra |
| 27 | Rahuri | Maharashtra |
| 28 | FSS, Verka | Punjab |
| 29 | FSB, Bassi | Rajasthan |
| 30 | Germplasm Station, Narwa | Rajasthan |
| 31 | Alamadhi | Tamil Nadu |
| 32 | DLF, Hosur | Tamil Nadu |
| 33 | DLF, Ooty | Tamil Nadu |
| 34 | ECBF, Eachenkottai | Tamil Nadu |
| 35 | NJF, Ooty | Tamil Nadu |
| 36 | FSBS, Karimnagar. | Telangana |
| 37 | FSBS, Kamsanpally | Telangana |
| 38 | ABC, Salon | Uttar Pradesh |
| 39 | DFSPC, Rishikesh | Uttarakhand |
| 40 | FSB, Beldanga | West Bengal |
| 41 | FSBS, Haringhata | West Bengal |
| 42 | FSBS, Salboni | West Bengal |
| 43 | Banavasi Semen Station APLDA | Andhra Pradesh |
| 44 | Semen Station Aurangabad | Maharashtra |
| 45 | Semen Station Pune | Maharashtra |
| 46 | Semen Station CIRC | Uttar Pradesh |
| 47 | Ranbirbagh SS | Kashmir, J&K UT |

3.23 The Department of Animal Husbandry and Dairying has further submitted that all the semen stations managed by Central and State Governments, NDDB, Federations/Cooperatives (excluding semen stations managed/owned by NGOs/Private) are targeted to be strengthened under Rashtriya Gokul Mission (RGM).

3.24 When asked about which Semen Stations are implementing Progeny Testing and Pedigree Selection projects and roles the remaining Semen Stations are performing towards goals for indigenous cattles and buffaloes, the DAHD submitted that except Sabarmati Ashram Gaushala, Bidaj and Animal Breeding Center, Salon, none other semen stations are directly implementing PT and PS projects. Further, the following semen stations are providing semen doses for implementation of PT and PS-

| S. No. | Semen Stations | Project |
|---|---|---|
| 1 | Sabarmati Ashram Gaushala, Bidaj | **Progeny Testing Projects** |
| | | SAG Gir |
| | | SAG Murrah |
| | | SAG HFCB |
| | | **Pedigree Semen Station** |
| | | Jaffarabadi |
| 2 | Nabha and Ropar Semen Station | **Progeny Testing Projects** |
| | | PLDB Sahiwal |
| | | PLDB Murrah |
| | | **Pedigree Semen Station** |
| | | Nili Ravi |
| 3 | Hisar, Jagadhari and Gurgaon Semen Stations | **Progeny Testing Projects** |
| | | HLDB Murrah |
| | | **Pedigree Semen Station** |
| | | Hariana |
| 4 | Animal Breeding Centre Salon | **Progeny Testing Projects** |
| | | ABRO Murrah |
| 5 | Daman Semen Station | **Progeny Testing Projects** |
| | | Banas Mehsana |
| | | **Pedigree Semen Station** |
| | | Kankrej |
| 6 | Jagudan Semen Station | **Progeny Testing Projects** |
| | | Mehsana Mehsana |
| 7. | Dhoni, Kulathupuzha and Matupatti Semen stations | **Progeny Testing Projects** |
| | | KLDB HFCB |
| 8. | Nandyal, Vishakhapattanam and Banawasi semen station | **Progeny Testing Projects** |
| | | APLDA JYCB |
| 9. | NJF Ooty | **Progeny Testing Projects** |
| | | TCMPF JYCB |
| 10. | Palampur and Aduwal semen station | **Progeny Testing Projects** |
| | | HPLDB JY |
| 11 | Pune | Pandharpuri |
| | | Gaolao |
| 12 | No specific semen station | **Progeny Testing Projects** |
| | | GANGMUL Sahiwal |
| 13 | No specific semen station | **Pedigree Semen Station** |
| | | Rathi |
| 14 | No specific semen station | Tharparkar |
| 15 | No specific semen station | Banni |

3.25 As per Operational Guidelines, expert team from NDDB will assist semen station in formulation of project proposal after detailed analysis of the infrastructure available and further strengthening required for meeting requirement of semen doses under RGM.

Further, it will be mandatory for all semen stations to use Semen Station Management System (SSMS) and Information Network for Semen Production and Resource Management (INSPRM) which is developed by NDDB.

3.26 Presently NDDB's wholly owned subsidiary NDDB Dairy Services (NDS) is managing 5 semen stations – Sabarmati Ashram Gaushala (SAG) Bidaj (Gujarat), Animal Breeding Centre (ABC) Salon (Uttar Pradesh), Semen Stations at Rohtak (Haryana), Rahuri (Maharashtra) and Alamadhi (Tamil Nadu). These five stations together produced around 10.6 million frozen semen doses of Indigenous cattle and buffaloes during 2023-24. During 2019-20 to 2021-22, NDS has incurred an expenditure of Rs. 4.41 crores towards the manpower engaged in management of the 5 semen stations.

The Target and Achievement of these 5 Semen Stations in Semen sales during the years 2019-20 to 2021-22 are as under: -

| Semen Station | 2019-20 | | 2020-21 | | 2021-22 | |
|---|---|---|---|---|---|---|
| | Target | Achievement | Target | Achievement | Target | Achievement |
| Semen Sales in lakh doses | | | | | | |
| SAG | 173.00 | 156.25 | 191.01 | 175.73 | 200.46 | 192.93 |
| Rohtak | 6.00 | 6.22 | 6.00 | 5.31 | 6.00 | 6.09 |
| ABC | 104.32 | 92.17 | 114.50 | 107.19 | 117.00 | 109.11 |
| Alamadhi | 64.00 | 52.78 | 56.94 | 74.10 | 79.50 | 96.21 |
| Rahuri | 62.11 | 52.39 | 52.50 | 57.38 | 72.08 | 70.05 |

3.27 On being asked about whether the Frozen Semen Doses of Indigenous Cattle and Buffaloes produced by the above 05 Semen Stations are distributed and utilized all over the Country or only in the State of the respective Semen Station, the Department of Animal Husbandry and Dairying submitted as under:

> "The frozen semen doses of indigenous Cattle and Buffalo produced by the 5 semen stations are distributed in the following States/UTs in the country. Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Chhattisgarh, Delhi, Goa, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Orissa, Punjab, Rajasthan, Tamil Nadu, Telangana, Tripura, Uttar Pradesh, Uttarakhand, West Bengal and Andaman & Nicobar."

3.28 On being asked about whether the existing/present number of Semen Stations in the Country is sufficient to cater to the present requirement, the Department in its written reply has submitted as under:

> "Semen Stations are being strengthened to cater to the requirement of Frozen Semen Doses (FSDs) for Artificial Insemination Programs in the country. Further, the strengthening is also directed to equip the semen stations towards improving biosecurity, quality semen production and ICT based systems.

Bovine Frozen Semen Production in the country is around 128 million doses, during 2021-22 and Artificial Inseminations coverage is around 30%. To achieve 70% coverage, Semen Stations are being strengthened to produce 200 million semen doses to cater to the future requirements of Frozen Semen Doses."

3.29 On question of new Semen Station being established in the country, the DAHD stated that under Rashtriya Gokul Mission new Semen Station has been established at Purnea, Bihar. At present existing Semen Stations are being strengthened for optimal utilization of existing infrastructure.

3.30 The Department has further submitted that during 2020-21, around 121.66 million semen doses were produced by 60 Semen Stations in the country. Out of 60 Semen Stations, 50 A & B graded semen stations maintain 4660 breeding bulls for frozen semen production. Of these 2810 breeding bulls belong to around 20 indigenous breeds of cattle (Kankrej, Rathi, Gir, Tharparkar, Sahiwal, Hariana, Red Sindhi, Khillar, Ongole, Gaolao, Malvi, Hallikar, Amritmahal, Kankgayam, Red Kandhari, Deoni, Dangi, Nimari, Nagori, Umbalachery and others) and 8 buffalo breeds (Murrah, Mehsana, Surti, Jaffarabadi, Bhadawari, Pandharpuri, Nili-Ravi and Banni). These bulls produced 68.69 million frozen semen doses which accounted for around 55% of the total semen doses produced in the country.

3.31 The Department further added that Semen Doses of Gir, Sahiwal, Kankrej, Rathi, Tharparkar, Hariana, Gaolao, Red Sindhi, Amritmahal, Halikar, Ongole, Deoni, Dangi,Vechur, Badri, Binjharpuri, Gangatiri, Dharwadi, Kangayam, Kenkatha, Khariar, Khilar, Krishna Valley, Malnad Gidda, Malvi, Nimari, Pulikulam, Punganur, Red Kandhari and Umblachery cattle breeds and Murrah, Mehsana, Jaffarabadi, Banni, Nili Ravi, Pandharpuri, Surati, and Bhadavari buffalo breeds are produced by the existing semen stations.

The year wise semen production for the years 2018-19 to 2022-23 is provided below:

FSD production in million

| Particulars | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
|---|---|---|---|---|---|
| Indigenous Cattle | 19.67 | 23.29 | 27.78 | 28.13 | 29.11 |
| Buffalo | 32.59 | 34.68 | 41.37 | 46.86 | 44.38 |

3.32 The Committee desired to know end use of the Frozen Semen Doses produced under Strengthening Existing Semen Stations Programme of NDDB and number of Calves born out of them so far with distribution in various States. The DAHD submitted:

> "As per the data entered in INAPH/Bharat Pashudhan application the details of Artificial Insemination done from the Frozen Semen Doses produced by the semen stations strengthened under NDP /RGM during the year 2022-23 and calves born is provided at **Annexure-VIII."**

3.33 On being asked by the Committee about the follow up mechanism for Semen Doses sold in terms of number of pregnancies resulting from number of semen doses administered, Male/Female Calves born out of them State wise, milk outputs of Female Calves etc. the DAHD stated:

> "Respective agencies that are providing Artificial Insemination services across the country are following for pregnancy occurred and calves born. The details are entered INAPH/ Bharat Pashudhan. Milk output of female calves born are only recorded in Progeny Testing projects implemented under RGM."

## C. Developing Genomic Selection Methodology for various cattle breeds and developing & validating microarray chip for buffaloes for Genomic Selection

3.34 Genomic selection, utilizing DNA-based technology using genomic chips, represents a revolutionary approach to accelerate genetic improvement in dairy cattle and buffaloes. Traditional selection methods are not only unscientific but also time-consuming and resource-intensive, requiring years to validate the genetic potential of animals. In contrast, genomic selection allows for the estimation of an animal's genetic worth at birth, significantly enhancing efficiency. Developed nations such as the USA, Germany, Denmark, the Netherlands and Australia have successfully adopted genomic selection to achieve faster genetic gains in their bovine populations.

3.35 However, the Genomic selection techniques developed by advanced dairy countries primarily cater to exotic breeds like Jersey and Holstein Friesian. Given that indigenous cattle and buffalo breeds in India differ genetically from their European and American counterparts, the genotyping chips and reference populations used abroad were found not suitable for our indigenous breeds.

3.36 In response to this challenge, the Department of Animal Husbandry and Dairying, Government of India, under the Rashtriya Gokul Mission, has funded for development of genomic selection methods tailored for indigenous breeds of cattle and buffaloes. NDDB

in collaboration with ICAR-National Bureau of Animal Genetic Resources (ICAR-NBAGR), National Institute of Animal Biotechnology (NIAB) and BAIF Development Research Foundation has developed multi-breed genomic chips “GAUCHIP” for cattle and “MAHISHCIP” for buffaloes which are more suited for our indigenous breeds. These genomics chips have been dedicated to the nation on 05 October 2024 by Hon’ble Prime Minister.

3.37 Further, genotyping services have also been launched, and farmers and other stakeholders are being offered Genomic Services through a unified portal managed by NDDB. NDDB is collaborating with interested organizations to expand the reference population, enhancing the accuracy of genomic breeding values and reducing the cost of genomic testing for farmers.

3.38 DAHD has stated in its replies that at present under National Bovine Genomic Centre for Indigenous Breeds (NBGC-IB), both NDDB and NBAGR are funded for creating reference population for genomic selection by genotyping recorded animals of various breeds. Gir, Sahiwal, Kankrej, Rathi, Tharparkar cattle breeds & their crosses, and Murrah, Mehsana, Jaffarabadi, Pandharpuri, Nili-Ravi & Banni breeds of buffaloes are genotyped under this project.

3.39 The Committee desired to know as to why the genomic data is being recorded only for specific breeds of cattle and buffaloes *viz.* Gir cattle, Murrah and Mehsana Buffaloes when the country has 53 indigenous cattle breeds and 13 indigenous buffalo breeds. The DAHD submitted as under:

> “NDDB has repository of samples from 10 registered riverine buffalo breeds, swamp buffaloes and 30 registered indigenous cattle breeds (in addition to other exotic and crossbreds). Genomic analysis is possible for all these breeds and being done for protection and development in long term. Further, the ICAR-National Bureau of Animal Genetic Resources (NBAGR) in Karnal, India, has a repository for the DNA of various cattle and buffalo breeds. This repository helps in preserving and analysing the genetic diversity of these breeds.”

3.40 Further, it was stated by DAHD that as part of research and development activities, Indian Council of Agricultural Research (ICAR)institute namely National Bureau of Animal Genetic Resources (NBAGR) have been engaged by the Department in development of genomic chip for indigenous cattle and buffalo. Institute has developed High Density Chip for cattle and buffalo for first time in the world. Data generated by

NBAGR has been utilized for development of more reliable genomic chip, one for cattle and one for buffalo. Funds have also been released to ICAR institutes for establishment of IVF labs and strengthening semen stations.

3.41 On being asked about the challenges being faced by the Department for expansion of genomic data recording to more number of breeds and steps taken by them to address those challenges and include more number of breeds of cattle and buffaloes, the Department submitted as under:

> "Under RGM unified genotyping chips "Gauchip" and "Mahishchip" were developed for large scale genotyping of cattle and buffalo breeds of India. Cost of genotyping was significantly reduced now as compared to initial years and genotyping services are made available to farmers for selection of elite heifers and bull calves.
>
> Availability of performance records and animals in pure bred form are major challenge for recording of genomic data to more number of breeds. Under RGM, National Milk Recording Program is initiated to include more breeds under systematic Performance recording and samples from these recorded animals will be collected for generating genomic data."

3.42 The Committee desired to know the estimated cost of carrying out Genomic Selection and Breeding for genetic improvement in various Breeds and the achievement made in this regard so far. The Department replied as under:

> "Present cost of sample collection, DNA isolation and genotyping of one animal is around Rs. 4200.
> Implementation of Genomic Selection for all the breeds requires creation of sufficiently large reference population for each breed. For that, around 5000 animals are to be performance recorded and genotyped for each breed. In addition to performance recording, cost of genotyping of 5000 animals would be around Rs. 2.75 Crores. Further, genotyping also needs to be carried out for the selection candidates.
>
> Till date, selection of bulls based on Genomic Breeding value have been initiated for five important breeds (Gir, Murrah, Mehsana, HF Crossbred and Jersey Crossbred).
>
> Year wise progress in last three years is as under:
>
> **2020-21**: Improved version of Genotyping chips for cattle and buffaloes was designed by NDDB and Genomic Selection for Crossbred cattle was initiated for selection of bulls.

**2021-22**: Genomic Selection for Gir cattle and Murrah buffaloes was initiated for selection of bulls.
NDDB completed developing de novo buffalo genome. Buffalo genome NDDB_SH_1 is now publicly available as a global Reference genome for Buffalo species (Bubalus bubalis). Latest version of BUFFCHIP is mapped to NDDB_SH_1 genome.

**2022-23**: Genomic Selection for Mehsana buffaloes was initiated for selection of bulls.

**2023-24**: Designing of common genotyping chip for cattle and buffaloes."

3.43 It was further submitted to the Committee that NDDB is working on National Bovine Genomic Centre for Indigenous Breeds (NBGC- IB) project, implemented under Rashtriya Gokul Mission, whereby INDUSCHIP and BUFFCHIP had been developed and reference population of Gir, Sahiwal, Kankrej, Murrah and Mehsana breeds have been created and selection of animals from field based on Genomic Breeding Values has been initiated for these breeds.

3.44 Under this project, a total of 37453 cattle and 39250 buffalo samples were genotyped respectively from April 2019 to till March 2025 including samples from PT/PS projects farmers, Gaushalas etc., and 5373 bull calves of both Cattle and buffalo were genotyped for selection of bull calves for procurement under this project.

3.45 On being asked about budgetary allocations, expenditure, physical targets fixed and achievements so far under the Genotyping Project being under taken by NDDB for Indigenous Breeds at the National Bovine Genomic Centre in SAG, Bidaj, the Department of Animal Husbandry and Dairying stated as under:

"A total of Rs. 45.06 Crore have been approved under the Genomic Selection Project of Sabarmati Ashram Gaushala Bidaj under Rashtriya Gokul Mission. So far Rs. 13.57 Crores has been utilized under the project. Physical targets Vs. achievement inclusive of all cattle and buffalo breeds in the project is provided below:

| Particulars | Cumulative from 2019-20 to 2024-25 | |
|---|---|---|
| | Target | Achievement |
| No. of samples collected for Genotyping | 151925 | 113831 |
| Samples from which DNA isolated | 151925 | 107226 |
| No. of DNA Samples custom genotyped | 71781 | 52020 |
| Number of DNA samples HD Genotyped | 2688 | 1033 |

"

3.46 The Committee desired to know as to number of States covered under the Genotyping Project and by what time does the Department envisage completion of genotyping of all Registered Breeds of Indigenous Cattle and Buffalo. The reply of the Department is recorded as below:

> "The Project is aimed at creating reference population and selection of bull calves from Progeny Testing (PT) and Pedigree Selection (PS) projects, hence genotyping is done for animals that are recorded in PT and PS projects. However, bulls of all semen stations across the country are also genotyped in the project. Multi-breed common genomic chip is developed under the project by combining data generated under the genomic projects implemented by National Bureau of Animal Genetic Resources, National Institute of Animal Biotechnology and Bharatiya Agro Industries Foundation (BAIF)."

3.47 The Committee enquired about the custody of genomic data being recorded in respect of indigenous breeds and what is the standard protocol with regard to recording of such data. The Department stated as under:

> "Genomic data generated under RGM are being maintained at NDDB under the supervision of DAHD. The data are generated following standard protocols and are under supervision of NDDB in guidance of DAHD."

3.48 On question of accessibility of the genomic data pertaining to indigenous breeds of cattle and buffaloes for researchers, state livestock boards and/or private and public sector stakeholders, the DAHD stated as under:

> "Genomic data is accessible to all stakeholders involved in building national genomic reference population. NDDB also collaborates with institutions such as NDRI, IVRI, NIAB, ICAR universities to use the data for research and development work through a legal framework to ensure data security.
>
> Services are provided for estimation of genomic breeding values and breed composition using GAUCHIP and MAHISCHIP. Genomic breeding values help farmers/semen stations/stake holders to select best of the animals for producing next generation. Breed composition ensures that indigenous germplasm propagated is purest and hence aids in conservation and development of breed. Collaborating universities also engage students to conduct research on existing practical issues using the genomic data."

## D. Accelerated Breed Improvement Programme

### (i) Accelerated Breed Improvement Programme-IVF (ABIP- IVF)

3.49 For rapid genetic upgradation in the country IVF technology will be used for getting assured pregnancy in the recipients maintained by farmers interested in taking technology for production of elite animals. Component will be implemented through NDDB throughout the country. Subsidy will be made available to participating farmers and calves produced under the programme will be subjected to parentage testing.

3.50 The objective of the programme is to improve adoptability of IVF technology for propagation of high yielding animals of various breeds of cattle and buffalo including indigenous breeds among farmers. Under this project it is envisaged to establish pregnancies through *in-vitro* fertilized embryos. So far, the projects have been approved for 29 Implementing Agencies and till March 2025, a total of 5742 embryos transferred and 991 pregnancies have been established.

3.51 As per information provided by the DAHD, ABIP IVF project of the department has a budgetary allocation of Rs. 11160 lakhs (Details at para 3.53) with physical target to establish 2.0 lakh pregnancies with bovine IVF embryos. Until November 2023, an expenditure of Rs. 89.91 lakh has been incurred in the project. So far, 6063 embryo transfers (ETs) have been performed in 30 milk unions in the states of Punjab, Rajasthan, Maharashtra, Gujarat, Madhya Pradesh, Puducherry, Karnataka and Jharkhand.

3.52 The Operational Guideline document for Rashtriya Gokul Mission (RGM) further clarifies that under ABIP it is proposed that 2 lakh pregnancies will be established over a project period of 3 years @ 66,000 pregnancy per year. About 2 lakh farmers will be benefitted from the project. During the project period 1.8 lakh female calves with high milk yielding potential will be added to the national milch herd. Project will be implemented through NDDB and during Phase-I, project will be implemented in the milk shed of 87 Milk Unions procuring more than 1 lakh lts of milk per day.

3.53 As per the Department, the Financial Implication, breakage is as follows:

| S. No. | Activity Component | Government of India Share (Rs in lakh) | Total (Rs in lakh) |
|---|---|---|---|
| 1. | Farmers incentives for 2 lakh pregnancies | 10000 | 10000 |
| 2. | Parentage testing | 500 | 500 |
| 3. | Farmers awareness programme (publication of leaflets, organization of seminars, milk yield competition *etc*) | 50 | 50 |
| 4. | Monitoring of the project by NDDB | 500 | 500 |
| 5. | Mid Term evaluation | 50 | 50 |
| 6. | Additional Manpower required at Head Quarter for implementation of the project (Veterinary Consultants (2), data entry operator (2) | 60 | 60 |
| | TOTAL | 11160 | 11160 |

3.54 The DAHD envisages that with the implementation of the project 1.7 lakh female calves (85% female calves and 15% male calves) would be born. Out of which 144500 (15% would be deaths and culled with different reasons) high yielding females will be added to the milch herd thus additional 578000 tonnes of milk will be added annually from Rs. 1.45 lakh additional high yielding milch animals produced under the programme. Additional amount of Rs 17340 crores will be added annually to the rural economy of the country after three years of the project implementation. Thus with investment of Rs. 111 crores return will be Rs 17340 crores from the project or with investment of Rs. 1 in implementation of the project return on investment will be more than Rs. 156.

3.55 On being asked about the success rate of adaptability of the technique in Indigenous Breeds of Cows and Buffaloes, so far, the Department provided the following reply:

> "Since the programme is in the initial phase of its implementation, it is too early to predict the adaptability of the technique in indigenous breeds of cattle and buffaloes. However, so far request from 30 Implementing Agencies have been received to establish 14790 pregnancies. So far 6063 embryo transfers (ETs) have been performed in 30 milk unions in the states of Punjab, Rajasthan, Maharashtra, Gujarat, Bihar, Madhya Pradesh, Puducherry, Karnataka and Jharkhand."

3.56 DAHD has submitted that under Accelerated Breed Improvement Programme (ABIP) using IVF technology project a subsidy of Rs. 5000 per pregnancy is provided to farmers. However, total price for establishment of pregnancy is Rs. 21,000/- and some of the farmers find it difficult to bear balance amount and therefore response to the Scheme is not very encouraging.

3.57 On being asked about the details of Statewise number of beneficiaries of subsidy Scheme under ABIP-IVF-ET (Embryo Transfer), the data provided by the DAHD is as follows:

"Accelerated Breed Improvement Programme using IVF technology

Statewise number of beneficiaries of the subsidy scheme under ABIP- IVF-ET is given below:

| S. No. | State | Number of beneficiaries (till Dec, 2023) |
|---|---|---|
| 1 | Gujarat | 1549 |
| 2 | Jharkhand | 96 |
| 3 | Maharashtra | 625 |
| 4 | Punjab | 491 |
| 5 | Rajasthan | 189 |
| 6 | MP | 166 |
| | | **3116** |

* Based on number of Embryo Transfers done

**Source: Bharat Pashudhan App**"

3.58 The total Outlay on Subsidy Scheme under ABIP IVF ET for establishment of 2 lakh pregnancies is estimated to be Rs. 10,000 lakh as per data provided by DAHD.

**(ii) Accelerated Breed Improvement Programme-using Sexed Semen (ABIP-SS) for getting assured pregnancy**

3.59 With mechanization of Agriculture, utility of male bovines have been reduced. Farmers are not willing to maintain Bullocks for agriculture or any other draft work. Hence, male calves born at farmer house have become a liability. Farmers often let the male calves loose which are resulting into increase in stray animal population. Only female calves can be produced (with more than 90% accuracy) by use of latest technology like Sex Sorted Semen in AI program. Extensive use will increase the number of female animals thereby increasing income of farmers through sale of female or through sale of milk. Use of sex sorted semen will also reduce male cattle population thereby limiting stray cattle population in the country.

3.60 The objective is to promote use of sexed semen for production of a greater number of female calves of various breeds of cattle and buffalo including indigenous breeds with 90% accuracy. Further, to make sex sorted semen technology affordable to farmers thereby increasing acceptability of artificial insemination with use of sex sorted semen, among others.

3.61 DAHD submitted in its replies that based on success of the pilot project, DAHD has approved implementation of Accelerated Breed Improvement Programme using sexed sorted semen throughout the country. The project aims to establish 51 lakh pregnancies with budgetary provision of Rs. 72,591 lakh (during 2021-22 to 2025-26). The projects are implemented by the State Implementing Agencies and funds for the same have been released to the respective agencies.

3.62 DAHD further submitted that Sex Sorted Semen production facility is created at 5 Government Semen Stations and so far 58.86 lakh sex sorted semen doses have been produced from these semen station and 60.40 lakh sex sorted semen doses production facility available at private NGO and Milk Union semen stations. Further, Department of Animal Husbandry and Dairying has initiated Accelerated Breed Improvement Programme for getting assured pregnancy using sex sorted semen. Under the project, subsidy at the rate of Rs. 750 per assured pregnancy is made available to the farmers. During next 5 years 51 lakh pregnancies will be established under the project.

3.63 The State and UT-wise, Budgetary Allocation and Physical targets for pregnancies under ABIP-SS Programme, as submitted by DAHD, on the question of Targets fixed in this regard, is as under:

| S. No. | States/UTs | Total outlay (Rs. In Lakh) | No. of Pregnancies to be established in 5 years |
|---|---|---|---|
| 1 | Andhra Pradesh | 4208.24 | 300000 |
| 2 | Bihar | 4208.24 | 300000 |
| 3 | Chhattisgarh | 4208.24 | 300000 |
| 4 | Goa | 164.44 | 10000 |
| 5 | Haryana | 4208.24 | 300000 |
| 6 | Himachal Pradesh | 4208.24 | 300000 |
| 7 | UT J&K | 4208.24 | 300000 |
| 8 | Jharkhand | 4208.24 | 300000 |
| 9 | Karnataka | 4208.24 | 300000 |
| 10 | Odisha | 4208.24 | 300000 |
| 11 | Punjab | 4208.24 | 300000 |
| 12 | Rajasthan | 4208.24 | 300000 |
| 13 | Telangana | 4208.24 | 300000 |
| 14 | Uttar Pradesh | 4208.24 | 300000 |
| 15 | West Bengal | 4208.24 | 300000 |
| 16 | Puducherry | 722.21 | 50000 |
| 17 | A & N Island | 164.44 | 3000 |
| 18 | Kerala | 4208.24 | 300000 |
| 19 | Uttarakhand | 4208.24 | 300000 |
| 20 | Assam | 4208.24 | 300000 |
| | **Total** | **72591.17** | **5163000** |

3.64 When asked about targets achieved so far, the state wise details of targets achieved, as submitted by DAHD are as under:

"Under Rashtriya Gokul Mission, the targets have been fixed for each approved project and no state-wise targets have been considered. The targets fixed for the various projects are till the year 2025-26. The State-wise achievements so far is provided below:

1. **Uttar Pradesh (Project Gir Varanasi, Project Harit Pradesh, Project Gorakhpur, Project Rohilkhand & Braj Region)**

| SN | Particulars | End of Project (EoP) Target | Actual since Inception Till Date (ITD)December 2023 |
|---|---|---|---|
| 1 | No of AI centers | **1,100** | 573 |
| 2 | AI done (No) | **29,37,015** | 1,26,766 |
| 3 | HGM Animals inducted | **485** | 480 |
| 4 | Assured IVF pregnancies | **5500** | 0 |
| **5** | **Pregnancies established** | **10,23,694** | **33,906** |
| 6 | Female Calves Registered | **3,03,205** | 8,435 |

2. **Maharashtra (Vidharba-Marathwada I and II region, Washim and Yavatmal)**

| S. No. | Particulars | End of Project (EoP) Target | Actual since Inception Till Date (ITD) December 2023 |
|---|---|---|---|
| 1 | No of AI centers | **600** | **450** |
| 2 | AI done (No) | **13,55,000** | 1,37,697 |
| 3 | HGM Animals inducted | **9000** | 9000 |
| **4** | **Pregnancies established** | **3,56,835** | **20,495** |
| 5 | Female Calves Registered | **1,60,621** | 158 |

3. **Bihar, Milk Shed Areas under Bapudham**

| S. No. | Particulars | End of Project (EoP) Target | Actual since Inception Till Date (ITD)December 2023 |
|---|---|---|---|
| 1 | No of AI centers | **100** | 111 |
| 2 | AI done (No) | **4,00,000** | 59,448 |
| 3 | HGM Animals inducted | **300** | 300 |
| 4 | Assured IVF pregnancies | **500** | 0 |
| **5** | **Pregnancies established** | **61,120** | **12,057** |
| 6 | Female Calves Registered | **42,000** | 17 |

4. **Jharkhand**

| S. No. | Particulars | End of Project (EoP) Target | Actual since Inception Till Date (ITD)December 2023 |
|---|---|---|---|
| 1 | No of AI centers | **1505** | 52 |
| 2 | AI done (No) | **22,57,500** | 0 |
| **3** | **Pregnancies established** | **6,77,250** | **0** |
| 4 | Female Calves Registered | **2,93,475** | 0 |

5. **Madhya Pradesh, Project Sheopur**

| S. No. | Particulars | End of Project (EoP) Target | Actual since Inception Till Date (ITD)December 2023 |
|---|---|---|---|
| 1 | No of AI centers | **100** | 100 |
| 2 | AI done (No) | **2,11,000** | 13794 |
| **3** | **Pregnancies established** | **79,704** | **2486** |
| 4 | Female Calves Registered | **27,896** | 0 |

**Andhra Pradesh, Project Rayalseema**

| S. No. | Particulars | End of Project (EoP) Target | Actual since Inception Till Date(ITD)December 2023 |
|---|---|---|---|
| 1 | No of AI centers | **200** | 80 |
| 2 | AI done (No) | **5,00,000** | 2300 |
| **3** | **Pregnancies established** | **1,67,000** | **0** |
| 4 | Female Calves Registered | **1,09,000** | 0 |

6. **Odisha, Project Mayurbhanj**

| S. No. | Particulars | End of Project (EoP) Target | Actual since Inception Till Date(ITD)December 2023 |
|---|---|---|---|
| 1 | No of AI centers | 60 | 50 |
| 2 | AI done (No) | 50,000 | - |
| 3 | HGM Animals inducted | 3000 | - |
| **5** | **Pregnancies established** | **15,000** | **0** |
| 6 | Female Calves Registered | 12,000 | 0 |

Till December 2023, the data of 1.39 lakh Artificial Insemination (AI) with sexed semen doses carried out at 71379 farmer herd have been entered in Bharat Pashudhan app. So far, 924 calving have been reported and out of which 762 female calves have been registered."

3.65 ABIP-SS is being monitored by National Dairy Development Board and funds are proposed under the project for monitoring of the project activities and Parentage verification. As per operational guidelines of Rashtriya Gokul Mission (RGM) the following monitoring mechanism are proposed:

- Call centre established under NADCP programme will be utilized for verification of AI conducted, and female calves born under the programme at regular intervals. Information received from the call centre will be analysed and submitted to IAs to take remedial measures.
- For online monitoring of all the activities of the project including identification of animals covered under the programme using Pashu Aadhar, AI using sex sorted semen, pregnancy diagnosis (after 90 days), birth of the calf, identification of calves using Pashu Aadhar will be uploaded on INAPH data base by AI technicians.
- Incentives to AI technicians will be made available on the basis of data uploaded on the INAPH data base.
- AI technician will upload photograph of empty straw of sex sorted semen immediately after AI and hand over empty straw to concerned farmer.
- Verification of information entered by AI technician on the INAPH data base by local veterinarian/ DAHO on daily basis.
- System of push and pull messages to the beneficiaries from the data base at regular interval will be evolved.
- Verification of information uploaded on INAPH data base by NDDB at regular interval (after every 15 days).

3.66 Further the Indicative Financial Outlay of the ABIP-SS Program has been indicated as below as per RGM Operational Guidelines:

| S. No. | Particulars | Financial Outlay in Rs. in crore |
|---|---|---|
| 1. | Getting assured pregnancy using sex sorted semen (Rs 750 /pregnancy during 1st and 2nd year and Rs 400/ pregnancy from 3rd year of the project) | 323 |
| 2. | Incentives to private AI technicians | 100 |
| 3. | Incentives to AI technicians on calf born @ Rs 100/ calf born | 51 |
| 4. | Consumables for AI@ Rs 10/ AI | 15 |
| 5. | Extension activities for the popularity of the Program (Rs. 10 lakh per state/year) to SIA | 5.10 |
| 6. | Parentage verification of randomly selected female calves born from Sexed Semen (at least 1000 female calves per state to be randomly tested for Parentage Verification) @ Rs 1700 per test | 8.67 |
| 7. | **Monitoring of the Program-NDDB** | **3.0** |
| 8. | Total Outlay | 509 |

3.67 On being asked about success rate of technique in field, the DAHD replied:

> "Sexed sorted semen technology aims to produce female progeny by exploiting genetics of superior bull where as IVF technique aims at maximum utilization of elite female. Both techniques can be used complimentary also. Department is using both the technologies through ABIP-IVF and ABIP-SS projects under RGM. The success rate of IVF is around 20% and of Sexed semen is around 33%."

3.68 NDDB had implemented a Pilot project during 2018-19 on use of sex-sorted semen of Indigenous cattle breeds like Gir, Sahiwal and Tharparkar in five districts of four states. Under this Project, total 12519 AI were carried out, which resulted into birth of 2423 female calves, which is about 92% of the total calves born under the pilot.

3.69 On being asked about the reason for roughly only 20% success rate in terms of numbers of calves born *vis-à-vis* number of AI carried out by the implementing agencies, the DAHD replied as under:

> "The variation in calf born percentage is mainly due to the calf born data is not uploaded on the INAPH/ Bharat Pashudhan Portal. In order to improve conception and calf born % Department is undertaking strengthening of semen station and provided training and retraining of AI technicians under Rashtriya Gokul Mission. Funds are made available under the scheme for streamlining Liquid Nitrogen transport and distribution system which is lifeline for AI programme."

3.70 As per Operational Guidelines for RGM, Freight on Road (F.O.R.) rates for supply of quality sex sorted semen to Implementing Agencies/ AI technicians by sex sorted semen production facility will be discovered by NDDB through online tendering process in a transparent manner. All semen stations having facility for sex sorted semen production may participate in the tender. Implementing Agencies (IA) will be allowed to purchase sex sorted semen doses only from the semen stations identified by NDDB (meeting all eligibility criteria) and on the discovered rates.

3.71 DAHD submitted that NDDB has finalized rate agreements with three suppliers of sexed semen and the Operational Guidelines have been prepared and communicated to the States. So far, the project has been approved for 21 State Implementing Agencies. Till March, 2025, States have procured 20.06 lakh sex sorted semen doses for artificial insemination under the programme.

3.72 The details of the Orders for procurement of Sexed Semen Doses from the suppliers placed by the implementing agencies and frozen semen doses supplied during last five years up until December, 2023, as provided by DAHD are:-

| Sl. No. | State | Name of IA | PO placed (doses) | Supplied (doses) |
|---|---|---|---|---|
| 1 | A&N Island | Department of AH | 2000 | 2000 |
| 2 | Andhra Pradesh | APLDA | 220000 | 220000 |
| 3 | Assam | ALDA | 100000 | 100000 |
| 4 | Bihar | BLDA | 124688 | 124688 |
| 5 | Chhattisgarh | CSLDA | 101228 | 101228 |
| 6 | Goa | Department of AH | - | - |
| 7 | Haryana | HLDB | - | - |
| 8 | Himachal Pradesh | HPLPDB | 45000 | 45000 |
| 9 | Jammu & Kashmir | Jammu LDB | 219990 | 219990 |
| | Jammu & Kashmir | Kashmir LDB | 219900 | 219900 |
| 10 | Jharkhand | JSIA | 27000 | 27000 |
| 11 | Karnataka | KLDA | 90000 | 90000 |
| 13 | Kerala | KLDB | 77000 | 77000 |
| 14 | Odisha | OLRDS | 124690 | 124690 |
| 15 | Puducherry | Department of AH | 18900 | 18900 |
| 16 | Punjab | PLDB | 175000 | 175000 |
| 17 | Rajasthan | Department of AH | | |
| 18 | Telangana | TSLDA | 110728 | 73048 |
| 19 | UP | UPLDB* | 123518 | 123518 |
| 20 | Uttarakhand | ULDB# | 400000 | 132020 |
| 21 | West Bengal | PBGSBS | 133000 | 133000 |
| | **Total** | | **2312642** | **2006982** |

3.73 On being asked about details of average cost of carrying out Breed Improvement Techniques on an individual cattle or buffalo and whether such costs are borne by the Livestock Owners/Farmers themselves, DAHD submitted:

> "Under Accelerated Breed Improvement Programme (ABIP) - using sexed semen for getting assured pregnancy, initially the cost of sexed semen has been discovered at Rs. 675 per dose. Out of which Rs. 425 as subsidy will be provided by DAHD, while livestock owner will have to pay Rs. 250 per Artificial Insemination (AI) with sexed semen for maximum for two AIs with sexed semen."
>
> "The farmer incurs on an average Rs. 1300 per female calf (considering 10% male calves and 3 AI per pregnancy) under ABIP-SS scheme using sexed sorted semen. Selling price of female calf is variable based on state and breed. DAHD provides Rs.425/AI as subsidy to farmer, for maximum 2 AIs in a lactation, for obtaining pregnancy from sexed sorted semen. Farmer pay Rs. 250/- AI with sex sorted semen. If animal is not conceived even after 2 AI entire amount paid by the farmer is refunded"

3.74 State wise number of beneficiaries of the subsidy Scheme under Accelerated Breed Improvement Programme - using Sexed Semen (ABIP- SS), as provided by DAHD, is given below:

| S. No. | State | Name of IA | Number of beneficiaries (till Dec, 2023)* |
|---|---|---|---|
| 1 | Andhra Pradesh | APLDA | 15645 |
| 2 | Bihar | BLDA | 231 |
| 3 | Chhattisgarh | CSLDA | 7139 |
| 4 | Himachal Pradesh | HPLPDB | 2796 |
| 5 | Jammu & Kashmir | Jammu & Kashmir LDB | 17230 |
| 6 | Jharkhand | JSIA | 3573 |
| 7 | Karnataka | KLDA | 204 |
| 8 | Odisha | OLRDS | 9062 |
| 9 | Puducherry | Dept. of AH | 571 |
| 10 | Punjab | PLDB | 8471 |
| 11 | Telangana | TSLDA | 1347 |
| 12 | West Bengal | PBGSBS | 5470 |
| | **Total** | | **71739** |

***Based on no. of AI carried with sexed semen doses**

**Source: Bharat Pashudhan app**

Total Outlay of the Subsidies is as under:

| Name of Scheme | Total Outlay of the subsidies (Rs. in Lakh) |
|---|---|
| ABIP SS (for establishment of 51.63 Lakh pregnancies) | 43885.5 |

## E. Establishment of Breed Multiplication Farm

3.75 At present entrepreneurs/farmers interested in taking up dairy programme are facing difficulties in sourcing disease free high yielding heifers or cows and farmers are dependent on either middlemen or other farmers maintaining dairy animals for sourcing low producing animals from other farmers engaged in dairying. There is no system available in the country for producing disease free elite animals of indigenous breeds of cattle and buffalo or exotic breeds of cattle. Therefore, Breed Multiplication Farms are proposed to be established to make available disease-free high yielding heifers/ pregnant heifers / cows preferably of indigenous breeds of cattle/buffaloes to farmers to fulfil their need of general shortage of such animals. Breed Multiplication Farm is proposed to be established through entrepreneurship model. It is proposed to make available 50% capital subsidy to interested entrepreneur for construction of cattle sheds, equipment, procurement of elite bull mothers etc. The entrepreneur will establish Breed Multiplication Farm (BMF) and produce elite heifers using sex sorted semen or IVF technology. Disease free heifers produced at the BMF will be made available to

interested farmers on cost basis HGM bulls born at BMF will be procured by semen stations for semen production. BMF will also act as the training center to conduct training for farmers and entrepreneurs. For establishment of BMF, entrepreneur will obtain loan from financial institutions and subsidy will be routed through NDDB. It will be implemented through NDDB as Implementing Agency.

3.76 On being asked about, State and UT-wise details of the distribution of Breed Multiplication Farms in the country so far, DAHD submitted the following details:

| State/UT | BMF Approved |
|---|---|
| Andhra Pradesh | 19 |
| Arunachal Pradesh | 1 |
| Bihar | 1 |
| Chhattisgarh | 1 |
| Gujarat | 16 |
| Haryana | 2 |
| Jammu & Kashmir | 7 |
| Karnataka | 9 |
| Kerala | 2 |
| Maharashtra | 33 |
| Madhya Pradesh | 4 |
| Rajasthan | 7 |
| Telangana | 12 |
| Tamil Nadu | 4 |
| Uttarakhand | 5 |
| Uttar Pradesh | 8 |
| West Bengal | 1 |
| Grand Total | 132 |

3.77 On being asked about the duration, targets fixed and achieved so far on Breed Multiplication Farms, the DAHD submitted, the following reply:

> "The Breed Multiplication Farm Project has been initiated by DAHD in September 2021. Till date 132 projects have been approved by DAHD. Subsidy has been released to 119 Breed Multiplication farms."

3.78 When asked about roles such farms will play in achieving overall goals for Indigenous Cattles and Buffaloes under different Schemes, the DAHD submitted:

> "Establishment of Breed Multiplication Farms (BMF) would facilitate in achieving the following aims and objectives:
>
> (i) In making available disease free High Genetic Merit heifers preferably of indigenous breeds of cattle and buffaloes to farmers.

(ii) Produce elite heifers using scientific breeding practices such as sexed semen and/or IVF technology.
(iii) Spreading awareness about scientific management practices including animal nutrition, disease prevention etc.
(iv) Multiplication of high yielding milch animals through scientific breeding techniques"

3.79 The Committee enquired about monitoring authority for the establishment of these farms and the details of monitoring mechanism in their regard. The information regarding any periodic review conducted, in this regard so far, was also sought from the DAHD. The reply as submitted by DAHD was as follows:

> "NDDB is monitoring the establishment of these farms. Periodic visits are being conducted to each of the approved BMFs. The Project Monitoring Committee constituted to review the progress of RGM projects implemented by NDDB conducts periodic review of the project activities."

3.80 The Details of Project Approval and Monitoring process, as per operational guideline of RGM regarding Breed Multiplication Farms (BMF) available on website of DAHD, are as follows:

- NDDB will float expression of interest for submission of the project as per guidelines of the scheme.
- Entrepreneur will formulate bankable proposal as per guidelines and submit proposal directly to NDDB. Entrepreneur will also tie up with bank/financial institution for obtaining 50% of the project cost as loan.
- On receipt of such proposals from entrepreneurs a committee constituted by Implementing Agency (NDDB) will screen all the application for eligibility.
- Eligible projects will be recommended by Implementing Agency (NDDB) to concerned bank/ financial institution for loan sanctioning.
- Implementing Agency (IA) will obtain proof from the bank/ financial institution that loan amount has been sanctioned to entrepreneur and submit project for approval of DAHD.
- First installment of the 50% of the subsidy amount will be released after approval of the project by DAHD and after bank/financial institution releasing 1$^{st}$ tranche in to the loan account of entrepreneur.
- After the receipt of the report from Implementing Agency that full infrastructure is in place and animals have been inducted another 25% of the subsidy amount will be released.
- After receipt of report from Implementing Agency that births of10% calves have been completed at the farm, the remaining balance 25% of the subsidy amount will be made available to entrepreneur.
- The assets will be monitored through GIS tagging. The State Government will be advised for physical monitoring of beneficiaries at regular interval.

3.81 DAHD has submitted that in case of Establishment of Breed Multiplication Farm, 50% subsidy on capital investment limited to maximum of Rs. 2.00 Crore is provided to beneficiaries.

3.82 As per Operational Guideline of RGM regarding Breed Multiplication Farms (BMF) available on website of DAHD, an amount of Rs 4.00 Crores will be required for establishment of Breed Multiplication Farm with the capacity of 200 milch animals. Therefore, maximum subsidy will not exceed Rs 2.00 crores. Indicative cost of model project for establishment of Breed Multiplication Farm is also provided as given below:

**(Rs in lakh)**

| S. No. | Particulars | Total Cost |
|---|---|---|
| 1. | Purchase of cows in first lactation/2nd lactation | 200 |
| 2. | Construction of cow sheds 10 sq meter per cow (sheds to house 200 cows and its followers | 100 |
| 3. | Construction of isolation shed | 2.5 |
| 4. | Administration block | 20 |
| 5. | Feed & fodder store room | 40 |
| 6. | Tractor 75 HP, with agriculture implements | 10 |
| 7. | Dairy equipments (BMC, stainless steel Milk cans, digital milko tester, deep freezer etc) | 5 |
| 8. | Shed for Agri implements | 22.5 |
| 9. | Chaff cutter (electric) | 1 |
| | **Total** | **401** |

Entrepreneur may be allowed to maintain herd of exotic/ crossbred. However, may use IVF technique to produce Calves with High Genetic Merit of Indigenous Breeds.

3.83 On being asked about role of Breed Multiplication Farms in the whole ecosystem working for improvements of indigenous cattle breeds, the DAHD replied as under:

> "Various farms like Central Cattle Breeding Farms (CCBFs), Breed Multiplication Farms, State cattle breeding farms etc. produce bull calves and heifers from elite cows and buffaloes. The elite bull calves are taken to semen stations for production of disease-free quality frozen semen doses. The Frozen Semen Doses are supplied to various Artificial Insemination service providers like Livestock Development Boards (LDBs), State Dept. of Animal Husbandry., NGOs, Cooperative Unions etc. The AI service providers provide AI services to the farmers for breeding cattle and buffaloes maintained by them. Training centers build technical capacity of various functionaries working in this domain. This is how entire eco-system works and drives genetic progress in the cattle and buffaloes in the country."
>
> Further as per Operational Guideline of Rashtriya Gokul Mission regarding Breed Multiplication Farms (BMF) available on website of DAHD, the entrepreneur will establish breed multiplication farm of atleast 200 milch cows /

buffalo and, using scientific breeding including IVF technology and sex sorted semen for continuously upgrading stock, the entrepreneur may make available 116 elite female calves to farmers on cost basis out of 160 calves born at the farm. Sex sorted semen and IVF technology will be used by the entrepreneur for production of female calves. Remaining female calves may be used for replacement of the stock available at the farm. The entrepreneur will make available high yielding heifers/ pregnant heifers/cows to the farmers / small entrepreneurs interested in taking up dairying. The entrepreneur will also guide farmers on animal nutrition, vaccination, disease testing, maintaining bio-security *etc.* and also provide veterinary aid to the farmer. NDDB will provide support to entrepreneur in marketing of milk and heifers produced at the farm."

3.84 There are also seven Central Cattle Breeding Farms (CCBF) under DAHD implementing the objectives of progressive genetic improvement for milk production in important breed/type of cows and buffaloes by following scientific methods, production and distribution of superior pedigreed bulls for use in cattle and buffalo breeding programmes, preservation of indigenous germplasm and production of upgraded crossbred animals suitable for specified breeding tracts. The performance statistics of the present Central Cattle Breeding farms has been provided by DAHD and the same is placed at **Annexure-IX.**

3.85 The Committee noted that the Central Cattle Breeding Farms (CCBF) have been constantly falling short in achieving their targets over the year. The same is also true for Central Frozen Semen Production and Training Institute. The Committee desired to know how does the Department plan to address the same and steps taken to address the same. DAHD submitted:

"In order to improve performance of Central Cattle Breeding Farms management of 03 Central Cattle Breeding Farm has been transferred to NDDB. Infrastructure of remaining 04 Central Cattle Breeding Farms has been strengthened. Farms are allowed to introduce elite animals of indigenous breeds. IVF labs have been established at all Central Cattle Breeding farms."

## F. <u>Indigenous Breed Development PROJECTS under Rashtriya Gokul Mission of NDDB</u>

### (i) Establishment of In Vitro Fertilization (IVF) centres at Central Cattle Breeding Farm (CCBF)

3.86 For rapid multiplication of superior cattle & buffalo germplasm in the country through IVF technology, NDDB has assisted in establishment of IVF labs at 07 CCBFs.

3.87 On being asked about the reasons for the lack of a single Central Cattle Breeding Farm (CCBF) in the North Eastern Region and in the Northern region such as J&K and Himachal Pradesh, the Department of Animal Husbandry and Dairying stated that genetic inputs produced at 7 Central Cattle Breeding Farms (CCBF) established at strategic location in the country are made available to all the States/ Union Territories across the country. In addition, Jammu & Kashmir, Uttarakhand and Himachal Pradesh are also maintaining State Cattle Breeding Farms to meet demand of breeding inputs in the States.

3.88 As per Operational Guidelines for Rashtriya Gokul Mission(RGM), all the labs practicing Embryo Transfer Technology (ETT)were to be converted into IVF lab by 2021-22. All labs are to be accredited and evaluated by Central Monitoring Unit.

3.89 Implementation of In Vitro Embryo Production Technology: IVF technology will be promoted at 7 CCBF for production of high genetic merit bulls. Unsexed semen will be used to produce bulls from donors above Minimum Standard Protocols (MSP). Private agency will be identified to produce HGM bulls at CCBFs. Male calves produced using IVF technology from the donors above MSP available with farmers meeting disease testing protocols will also be procured for use in semen production. HGM bulls produced will be distributed through bull distribution committee. Other labs sanctioned under the RGM will be allowed to develop revenue sharing model for getting assured pregnancy through IVF technology.

**(ii) Implementation of ETT/IVF Technologies for bovine breeding at SAG, Bidaj**

3.90 To produce superior male and female calves through ETT/IVF for semen production and herd replacement respectively, a project on strengthening of ETT/IVF facility at SAG, Bidaj was implemented by NDDB**.** Till April 2025, a total of 1736 embryos were transferred into suitable recipients resulting in 352 pregnancies. The project also recorded birth of 133 calves.

3.91 On being asked about the achievements made by NDDB under their Bovine Breeding project undertaken at the Sabarmati Ashram Gaushala (SAG) in Bidaj, the DAHD submitted year wise detailed figures as under:

"IVF Lab: The Achievements are as below:

| Particulars | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 | Total |
|---|---|---|---|---|---|---|---|
| No of Embryos produced | 762 | 1787 | 1694 | 928 | 123 | 2103 | 5294 |
| No of Embryos transferred | 172 | 342 | 532 | 431 | 121 | 771 | 1598 |
| No of Pregnancies established | 59 | 82 | 131 | 39 | 13 | 125 | 324 |
| Male and Female Calves born | 32 | 7 | 25 | 37 | 19 | 12 | 120 |

### (iii) National Bovine Genomic Centre-Indigenous Breeds at Sabarmati Ashram Gaushala (SAG), Bidaj

3.92 Multi-breed genomic chip for cattle and buffaloes are developed and being used to hasten the process of selection of high yielding animals. The project is being implemented for the period FY 2018-19 to FY 2025-26. The samples from the recorded animals are collected for genotyping from PT & PS projects. Under this project, a total of 37453 indigenous cattle and 39250 buffalo samples were genotyped using INDUSCHIP and BUFFCHIP, respectively between April 2019 to March 2025.

3.93 When asked about performance of the said project at SAG, Bidaj, the DAHD provided the following details:

> "A total of Rs. 45.06 Crores have been approved under the Genomic Selection Project of Sabarmati Ashram Gaushala Bidaj under Rashtriya Gokul Mission. So far Rs. 13.57 Crores has been utilized under the project. Physical targets vs. achievement inclusive of all cattle and buffalo breeds in the project is provided below:

| Particulars | Cumulative from 2019-20 to 2024-25 | |
|---|---|---|
| | Target | Achievement |
| No. of samples collected for Genotyping | 151925 | 113831 |
| Samples from which DNA isolated | 151925 | 107226 |
| No. of DNA Samples custom genotyped | 71781 | 52020 |
| Number of DNA samples HD Genotyped | 2688 | 1033 |

### (iv) Pilot project on AI with Sex Sorted Semen on Indigenous breeds

3.94 NDDB had implemented a pilot project during 2018-19 on use of sex sorted semen of indigenous cattle breeds like Gir, Sahiwal and Tharparkar in five districts of four states. Under this project, total 12519 AI were carried out, which resulted into birth of 2423 female calves, which is about 92% of the total calves born under the pilot.

3.95 On being asked about plans of the Department to emulate NDDB's Pilot Project on Artificial Insemination (AI) with Sex Sorted Semen on Indigenous Breeds in the remaining States and UTs in the country, the Department stated:

> "Based on success of the pilot project, DAHD has approved implementation of Accelerated Breed Improvement Programme using sexed sorted semen throughout the country. The project aims to establish 51.63 lakh pregnancies with budgetary provision of Rs. 74805.6 lakh (during 2021-22 to 2025-26). The projects are implemented by the State Implementing Agencies and funds for the same have been released to the respective agencies."

3.96 The Department further replied on extending coverage of the Project as under:

> "To promote use of sexed semen for production of a greater number of female calves of various breeds of cattle and buffalo including indigenous breeds with 90% accuracy "Accelerated Breed Improvement Programme-using sexed for getting assured pregnancy (ABIP-SS)" was sanctioned. The project has been approved for 21 State Implementing Agencies with a target to establish a total of 51.63 lakh pregnancies using sexed semen by 2025-26.
>
> Till December 2023, the data of 1.39 lakh AI with sexed semen doses carried out at 71379 farmer herd have been entered in Bharat Pashudhan app. So far, 924 calving have been reported and out of which 762 female calves have been registered."

**(v) Project Gir, Varanasi**

3.97 To augment milk production in Varanasi Milkshed of Uttar Pradesh, NDDB implemented Project Gir Varanasi through NDDB Dairy services under Govt. of India's RGM scheme. So far, the project has distributed 485 Gir cattle to beneficiary farmers. 122 Artificial Insemination centres have been established up to March, 2025 and carried out 194540 inseminations, out of which 45065 were done using sexed semen. A total of 81738 pregnancies have been established through Artificial Insemination and 11 pregnancies have been established through Embryo Transfer using IVF embryos so far.

3.98 On being asked about details of the Budgetary Allocations, Expenditure, Physical Targets fixed and achieved and the total number of Beneficiaries covered under Project Gir being carried out in Varanasi the DAHD submitted:

> "The project has a financial outlay of Rs. 36.45 Crore for five years and the utilisation has been Rs. 6.58 Crore. As against a target for induction of 494 Gir animals, 494 Gir animals have been inducted till date. The target for assured pregnancies using sex-sorted semen doses was two lakh and using IVF-ET was 5000 over a period of 5 years. The Artificial Insemination using sex-sorted semen doses has commenced in November 2022 and 1579 pregnancies have been established till December, 2023. Embryo Transfer activities would

commence in FY 2023-24. About 485 beneficiaries received the Gir animals and about 360 beneficiaries have availed AI using sex-sorted semen dose."

3.99 The details of the estimated number of veterinary and Para-veterinary staff along with the number of MAITRI technicians required for carrying out various activities related to implementation of Project Gir in Varanasi as provided by DAHD is as below:

"The project would require 2 Veterinarians, 9 para-veterinarians, 3 support staff and 100 MAITRI technicians for implementing activities related to AI network. All the desired manpower is in place."

3.100 Further, when asked about NDDB plans to emulate this model in other districts of the country, the following reply was submitted:

"DAHD has recently approved projects on similar lines for productivity enhancement in Bapudham Milk Producer Company Ltd., Motihari region of Bihar, Vidarbha Marathawada region of Maharashtra, Harit Pradesh in Uttar Pradesh, Sheopur in Madhya Pradesh, Mayurbhanj district of Odisha and Rayalaseema district of Andhra Pradesh."

3.101 The Latest Status of few of aforesaid projects as mentioned at above para is as below:

**"Productivity Enhancement services in Bapudham Milk Producer Company**

NDDB implemented this project through NDDB Dairy services under RGM scheme to augment the milk production in the milk shed areas of Bapudham Milk Producer Company, Bihar. So far, the project has distributed 300 Gir cattle, established 100 AI centres and carried out about 138643 inseminations, out of which 21193 were done using sexed semen. A total of 61133 pregnancies have been established through AI and 21 pregnancies have been established through Embryo Transfer using IVF embryos so far.

**Productivity Enhancement Project in Vidarbha- Marathwada region of Maharashtra**

The project is implemented by NDDB through NDDB Dairy Services under RGM scheme to enhance productivity of animals in Vidarbha- Marathwada region of Maharashtra. The project has distributed 2000 Gir cattle, established 465 AI centres, carried out 319974 inseminations, established 110145 pregnancies and 32783 calvings are reported in the project.

Besides the above, Projects for Establishment of AI network at Washim and Yavatmal districts of Maharashtra have also been approved under RGM with a total outlay of Rs 62.85 Crore. The projects aim to establish doorstep AI delivery network system through MAITRIs. The project will be implemented by NDDB through NDDB Dairy Services and the field activities for selection of AITs and manpower have been initiated

**Artificial Insemination Network Establishment in Sheopur district of Madhya Pradesh**

Till March 2025, the project has established 100 AI centres, carried out 54693 inseminations, established 19335 pregnancies and 2407 calvings are reported in the project.

**Productivity Enhancement Project in Harit Pradesh Milk Producer Company Ltd., Uttar Pradesh**

This project is implemented by NDDB through NDDB Dairy services under RGM scheme to enhance productivity of animals in Harit Pradesh Milk Producer Company Ltd., Uttar Pradesh. Till March 2025, the project has established 170 AI centres, carried out 48297 inseminations with sexed semen and established 18280 pregnancies through AI and 8 pregnancies have been established through Embryo Transfer using IVF embryos."

**Productivity Enhancement Services and Artificial Insemination (AI) Network Establishment in Mayurbhanj District, Odisha:**

Till March 2025, the project has distributed 3000 cows, established 51 AI centres, carried out 4684 inseminations with sexed semen and established 1785 pregnancies. The project for establishment of AI network in Mayurbhanj District has been sanctioned by National steering committee for implementation under GoI Rashtriya Gokul Mission scheme in March, 2023.

**Insemination services using sex sorted semen doses to women dairy farmers in Rayalaseema, Andhra Pradesh:**

The project for establishment of AI network in Rayalaseema District was sanctioned by National steering committee for implementation under GoI Rashtriya Gokul Mission Scheme in March, 2023. Till March 2025, the project has established 106 AI centres, carried out 23155 inseminations with sexed semen and established 7358 pregnancies.

**Establishment of AI Network in Rohilkhand and Braj Region, Uttar Pradesh**

Till March 2025, the project has established 503 AI centres, carried out 190599 inseminations and established 112029 pregnancies.

**Establishment of AI Network in Gorakhpur, Uttar Pradesh**

Till March 2025, the project has established 230 AI centres, carried out 75086 inseminations and established 38979 pregnancies.

**Establishment of AI Network in Jharkhand**

Till March 2025, the project has established 330 AI centres, carried out 56789 inseminations and established 30982 pregnancies.

### (vi) Establishment of Cow Sanctuary in Muzaffarnagar, Uttar Pradesh

3.102 The project for establishing a cow sanctuary in Muzaffarnagar, Uttar Pradesh was sanctioned under Govt. of India's RGM scheme with a total outlay of Rs. 63.70 crores. The project is being implemented by NDDB through NDDB Dairy services and construction work has been completed and facility now holds 3300 cows.

3.103 On being asked about details of Cattles Sanctuaries in the Country, their functioning, funding pattern, funds utilized so far, the DAHD submitted:

> "NDDB is implementing various manure management projects across the country. With the continuous efforts of NDDB and Dairy Cooperatives/ Milk Producer Organisations under the guidance of the Department of Animal Husbandry and Dairying (DAHD), different types of Manure Value Chain Models have evolved in the country.
>
> However, NDDB under the guidance of DAHD has created some pilots in the Gaushala with the funding support of the NDDB's own fund, CSR funds of various organizations and State govt. funds such as:
>
> **Cow Sanctuary, Muzaffarnagar**: Under Rashtriya Gokul Mission, the Department is establishing Cow Sanctuary, Muzaffarnagar, UP with state-of-the-art facility with the capacity to accommodate up to 5000 animals. A residential training institute for farmers and Artificial Insemination Technician (AIT) has also been incorporated to accommodate a batch of 80 trainees. Additionally, a trust has been established to oversee the procurement of fodder, a vital aspect that has already commenced
>
> **Kamdhenu Gau Abhyaran, Village- Salariya, Dist- Agar Malva, State- Madhya Pradesh**: NDDB has provided the technical support for setup of the slurry processing activity having capacity of 10 MTPD and production of both Fermented Organic Manure (FOM) and Phosphate Rich Organic Manure (PROM) in both powder and granule forms.
>
> **Basaman Mama Gauvansh Vanya Vihar, Village- Purwa, District-Rewa, State- Madhya Pradesh**: Based on the setup of the slurry processing centre at Kamdhenu Gau Abhyaran, Salariya; the setup for the PROM production unit (having capacity to handle 5MTPD slurry) was done"

### (vii) Multiple Ovulation and Embryo Transfer (MOET) /Ovum Pick-up and In-vitro Embryo Production (OPU-IVEP) Technologies

3.104 NDDB started using embryo transfer technology in 1986 and established for the first time in the country an embryo transfer laboratory at Sabarmati Ashram Gaushala (SAG), Bidaj. Using MOET technology, under this project, till date, total 16,390 viable embryos have been produced. Out of these, 3020 embryos are of indigenous cattle breeds, around 3000 embryos of buffalo breeds have been produced. SAG Bidaj has also produced 5496 embryos using OPU-IVEP Technology till March 2025. With these

embryos, bulls of various indigenous cattle and buffalo breeds have been produced and used for semen production.

3.105 Further, to take advantage of latest developments in the assisted reproductive technologies (ARTs), NDDB has established an OPU-IVEP facility in 2017 at NDDB, Anand. Using OPU-IVEP technologies, till March 2025, total 6626 in vitro fertilized (IVF) embryos of indigenous cattle and buffalo have been produced. So far, 477 pregnancies have been established and 263 calves have been born. 3386 embryos of indigenous cattle and buffalo have been frozen and stored for future use. The facility has also trained a total of 74 veterinarians from various organizations across the country.

3.106 On being asked about details of the Budgetary Allocation, Expenditure and achievement of Physical Targets with respect to the usage of Assisted Reproductive Techniques (ARTs) such as Multiple Ovulation and Embryo Transfer (MOET), Ovum Pick-up and In-vitro Embryo Production (OPU-IVEP) and In vitro Fertilization (IVF) for Indigenous Cattle and Buffalo Breeds in the Laboratory at Sabarmati Ashram Gaushala (SAG), Bidaj during the last three years, the DAHD submitted:

> "No budgetary provision is provided by the government to the Sabarmati Ashram Gaushala, Bidaj. Expenditure during last three years is given below:

| Particulars | 2019-20 | | 2020-21 | | 2021-22 | |
|---|---|---|---|---|---|---|
| | Budget | Achievement | Budget | Achievement | Budget | Achievement |
| Expenses (in lakhs) | 626.07 | 302.92 | 377.57 | 326.81 | 447.31 | 298.87 |

**Physical Achievement**

| Particulars | 2019-20 | | 2020-21 | | 2021-22 | |
|---|---|---|---|---|---|---|
| | Target | Achievement | Target | Achievement | Target | Achievement |
| No of Embryos produced | 736 | 762 | 1500 | 1787 | 1500 | 1694 |
| No of Embryos Transferred | 736 | 172 | 1500 | 342 | 1500 | 532 |
| No of Pregnancies established | 230 | 59 | 470 | 82 | 470 | 131 |

### (viii) Preservation of germplasm of indigenous breeds

3.107 As per the information provided by DAHD, a germplasm bank of indigenous cattle breeds namely Sahiwal, Red Sindhi, Gir, Rathi, Kankrej, Khillar, Harianaand Tharparkar and buffalo breeds namely Murrah, Mehsana, Jaffarabadi, Pandharpuri, Bhadawari, Banni and Todaby in-vitro methods in the form of frozen embryos and frozen semen has been established at Sabarmati Ashram Gaushala.

3.108 In response to separate query regarding the work undertaken by National Kamdhenu Breeding Centre, the DAHD submitted as under which highlighted their role as repository of Germplasm:

> "Two National Kamdhenu Breeding Centre one for southern region located at Chintla Devi Nellore District in Andhra Pradesh and other for Northern region at Itarsi in Narmadapuram district in Madhya Pradesh has been established under Rashtriya Gokul Mission. An amount of Rs 25 crore was released to each of the State respectively for establishment of the Centre. Both the centres are repository of germplasm of indigenous bovine breeds and making available germplasm of indigenous breeds to farmers. National Kamdhenu breeding centre is monitored at the State level by State level review committee and at central level by national Steering Committee, Central Monitoring Units and also by National Level Monitors. Both the States have utilized entire released amount and has no unspent balance."
>
> DAHD further stated that NDDB has no specific role in implementation of National Kamdhenu Breeding Centre.

3.109 In terms of Operational Guidelines of RGM, as part of availability of High genetic Merit Germplasm, it has been stated that Import of germplasm of indigenous and exotic breeds of very high genetic merit will be taken up to make replacement of low genetic merit bulls available at semen stations. During initial years import of the germplasm in the form of bulls will be taken up and imported bulls will be made available to semen stations under the control of Government of India, State Government, NDDB and Dairy Cooperatives. It is proposed to import unsexed embryos with high standards and specifications of indigenous /exotic breeds to meet long term requirement of bulls. Imported embryos would be made available to identified IVF centers for production of bulls (male calves). Male calves born through imported embryos will be made available to semen stations as mentioned above and female calves born under the programme will be made available to IVF centres for use as donor mothers. High genetic merit semen of breeds of Indian origin and exotic breeds will be imported to meet requirement of bulls and to create pool of high genetic merit bull mothers for use in IVF programmes. Germplasm in all the form semen, embryos and bull will be imported through NDDB. Funds under the component will be released directly to NDDB for implementation of the project.

3.110 As part of information on performance details of the National Dairy Plan – I (NDP-I) which was in operation during 2011-12 to 2018-19 during its implementation period and the role played by NDDB, the DAHD submitted the following reply which provide details of import of Germplasm during said period:

"National Dairy Plan I implementation is completed in November 2019. According to World Bank Evaluation Report (ICRR), implementation of NDP-I was rated as "Highly Satisfactory". NDDB was Implementing Agency for National Dairy Plan I. Major achievements under NDP I are as below:

| Component | Achievement |
|---|---|
| Bull Production through PT and PS | 2456 bulls were made available across all the semen stations in the country |
| Strengthening of Semen Stations | 28 semen stations strengthened |
| Import of Germplasm | 171 (76 Holstein Friesian and 95 Jersey) Bulls imported and distributed to semen stations<br>69 (42 Holstein Friesian and 27 Jersey) Bulls produced through imported embryos and distributed to semen stations |

3.111 DAHD submitted that during the year 2023-24, purchase order to import 40,000 conventional frozen semen doses of Progeny Tested Gir Bulls from Brazil has been imported. So far 15,000 doses have been allotted for use in breeding programme.

3.112 Gir Breed of Indigenous Bull is found in the State of Gujarat. On being asked as to why said Semen Doses of Progeny Tested Gir bulls were not produced locally as Strengthening existing Semen Stations Programme of NDDB is under way since 2018-19 under NDP-I, the DAHD submitted:

"Genetic improvement of the Gir germplasm in India was done initially through Pedigree Selection (PS) programme under NDP I and later on the project has been converted to Progeny Testing (PT) programme since 2019. It will take around 10 years to get proven bulls from this program. Meanwhile it was planned to import semen from Brazil which is implementing PT project for Gir Breed since 1985 to take advantage of the genetic progress done in Brazil."

3.113 Further, on being asked as to how NDDB proposes to eliminate the need of Importing Frozen Semen, the DAHD stated:

"The ongoing PT project and genomic selection operating under RGM would eliminate the requirement of importing frozen semen in future."

3.114 When asked about present status of import of all the Frozen Semen Doses in the country, the DAHD submitted:

"Under Rashtriya Gokul Mission (RGM) 2,00,000 conventional and 50,000 sexed frozen semen from Progeny tested Gir bulls from Brazil is envisaged out of which 40000 conventional doses have been imported."

## CHAPTER – IV

## Support System

### A. Establishment of Multi-Purpose AI Technicians in Rural India (MAITRIs)

Artificial insemination (AI) is important tool for enhancing milk production and productivity of bovines. After making several efforts, Artificial insemination AI coverage in the country is still limited to 30% of the breedable bovines and 70% of the breedable animals are covered through scrub bulls of unknown genetic merit. In developed nations 100% of the bovine population is under Artificial insemination coverage. One of important impediment in extending AI coverage in the country is shortage of trained AI technicians.

4.2 Under Nationwide Artificial Insemination programme under Rashtriya Gokul Mission (2021-22 to 2025-26), it is proposed to cover 30 million animals annually through artificial insemination. This will lead to increase in Artificial Insemination coverage from present level of 30% to 70% of the breedable bovine females

In this regard, against the requirement of 2,02,469 AI technicians, 1,16,586 AI technicians are available in the country. Thus additional 90,958 AI technicians will be required for extension of AI coverage from 30% to 70%. Under the scheme of Establishment of Multi-Purpose AI technicians in Rural India (MAITRIs), it is proposed to establish 40,000 MAITRI centers over five-year period.

4.3 The primary focus of the project is to enhance productivity of existing bovine population by increasing Artificial Insemination coverage through establishment of Multi-Purpose Artificial Insemination Technicians in Rural India (MAITRIs) to deliver artificial insemination services at farmers doorstep on self-sustainable basis. Benefit of the project directly accrue to 90958 educated rural youth and about 8.12 crore farmers engaged in dairying will get indirect benefit in terms of increased productivity and milk production.

MAITRIs are to be chosen from unemployed educated rural youth so as to generate employment. These workers will be from the local area, as they know the area and utility of the timely AI service. Pashu Sakhis established under Deendayal Antyodaya Yojana - National Rural Livelihoods Mission (DAY-NRLM) may also be selected by the States for training and established as MAITRIs.

4.4 The Project will accomplish training of MAITRIs through existing AI training institutes already accredited by Central Monitoring Unit of DAHD with State Animal Husbandry Departments, Dairy Cooperatives, reputed NGOs (BAIF and JK Trust) and **National Dairy Development Board (NDDB)**. The Veterinary Universities (13)/ Veterinary Colleges (41) managing large breeding farms and sufficient number of animals for practical training may also be allowed to conduct training. After training, Artificial insemination (AI) technicians will be established as MAITRIs in their respective Gram Panchayats by providing AI equipments and maintaining regular delivery of AI consumables in the form of semen doses and liquid nitrogen.

4.5 The cost of the training to be Rs 31,000/trainee for a minimum batch size of 30 trainee / batch with duration of training of 90 working days. The training includes 1-month classroom training programme and 2-month practical training programme. The training cost per trainee will also include lodging and boarding of trainee, strengthening of training centre, consumables and printing of training modules in local languages.

4.6 The funds will be released directly to the Implementing Agency to make payment to the Participating Agencies on the basis of targets set under the project and achievements made by Participating Agency. It will be the responsibility of Implementing Agencies to submit utilization certificate and Monthly Progress Reports to DAHD.

Further, Account of Implementing Agency will be open to monitoring under Rashtriya Gokul Mission and third-party evaluation of the project by an independent agency.

4.7 Data on Artificial Insemination carried out by MAITRIs will be uploaded on INAPH data base. Performance of MAITRIs working in the field will be assessed by Implementing Agencies through INAPH data base.

4.8 On being asked about the number of MAITRIs that have been trained throughout India with distribution in each state, the DAHD replied as under:

> "Multipurpose AI Technicians in Rural India (MAITRIs) have been established in order to deliver breeding inputs at farmers' doorstep. MAITRIs are trained at accredited AI training institutes over duration of 3 months (90 days). Grant for equipment at the rate of Rs 50,000 per MAITRI is made available to the concerned States. After 3 years, MAITRIs are self-sustainable through recovery of cost of goods and services.

Establishment of MAITRIs to extend AI Coverage from 2021-22 to 2023-24:

| S. No. | State | MAITRIs established |
|---|---|---|
| 1 | Andhra Pradesh | 4746 |
| 2 | Telangana | 163 |
| 3 | Karnataka | 1717 |
| 4 | Kerala | 0 |
| 5 | Gujarat | 458 |
| 6 | Madhya Pradesh | 5010 |
| 7 | Maharashtra | 220 |
| 8 | Rajasthan | 1310 |
| 9 | Goa | 0 |
| 10 | Jammu & Kashmir | 848 |
| 11 | Punjab | 0 |
| 12 | Haryana | 0 |
| 13 | Himachal Pradesh | 43 |
| 14 | Uttarakhand | 233 |
| 15 | Uttar Pradesh | 2497 |
| 16 | Ladakh | 0 |
| 17 | Assam | 992 |
| 18 | Arunachal Pradesh | 37 |
| 19 | Manipur | 100 |
| 20 | Meghalaya | 173 |
| 21 | Sikkim | 224 |
| 22 | Nagaland | 20 |
| 23 | Tripura | 94 |
| 24 | Mizoram | 0 |
| 25 | Jharkhand | 953 |
| 26 | Chhattisgarh | 125 |
| 27 | Bihar | 2733 |
| 28 | West Bengal | 938 |
| 29 | Odisha | 1311 |
| | **Total** | **24945** |

At present funds for establishment MAITRIs are released to State Implementing Agencies. As per the guidelines issued by the Department MAITRIs are selected and trained at accredited training institutes. Amount of Rs 31000/ MAITRI is made available for training and provision of Rs 50000 is available for procurement of equipments".

4.9 DAHD has stated that NDDB has established Artificial Insemination training Institute at Khanapara, Guwahati for Assam Livestock Development Agency (ALDA) for training of AI Technicians of North Eastern States (NER). The project has been completed in April 2023. Training of two batches of MAITRIs has been completed by ALDA. Further, to increase the coverage of Artificial Insemination (AI) through MAITRIs (Multi-Purpose AI Technicians) in NER states, NDDB is assisting the states in monitoring and supervision of AI network and impart training on INAPH. So far, a total of 1346

MAITRIs were deployed in the field and 699 participants have been trained on INAPH through 31 Training of Trainers (ToT) trainings.

4.10 DAHD has further stated that the institute will have a capacity of conducting training of 60 participants at a time in two batches, 30 participants in each batch. Considering 45 days (30 working days) of AI Basic training duration, 420 persons can be trained in 14 training programmes in a year.

4.11 On being asked about any assessment regarding number of AI Technicians required for North-Eastern States, the DAHD replied as under:

> "Based on Livestock Census 2019, assessment of the requirement of AI centres/AI technicians was carried out. Accordingly, NER AI projects for all 8 NER States under RGM have been prepared. The details of establishment of Artificial Insemination Technicians (MAITRI) under RGM during 2019-20 to 2023-24 is provided below:"

| State/UT | 19-20 | 20-21 | 21-22 | 22-23 | 23-24 | Total |
|---|---|---|---|---|---|---|
| Arunachal Pradesh | 0 | 30 | 25 | 0 | 0 | 55 |
| Assam | 489 | 600 | 1056 | 310 | 0 | 2455 |
| Manipur | 13 | 0 | 0 | 0 | 0 | 13 |
| Meghalaya | 20 | 90 | 145 | 23 | 0 | 278 |
| Mizoram | 0 | 0 | 0 | 0 | 0 | 0 |
| Nagaland | 20 | 0 | 0 | 0 | 0 | 20 |
| Sikkim | 10 | 0 | 0 | 0 | 0 | 10 |
| Tripura | 142 | 0 | 0 | 0 | 0 | 142 |
| **Total** | **694** | **720** | **1226** | **333** | **0** | **2973** |

4.12 Further on being asked about the rationale behind setting up an Artificial Insemination Network specifically in the North Eastern Region and its performance so far, the DAHD replied as under:

> "The Livestock sector plays key role in providing livelihoods to rural households in NER States.
> The North Eastern Region (NER) has 138.71 lakh (4.63%) bovines against 300 million bovines in the country. Average Productivity of crossbreds and buffaloes is only 5.35 kg and 3.55 kg per day per animal respectively, which is low as compared to average productivity of crossbreds and buffaloes of 7.52 kg and 5.25 kg per day per animal in the country, respectively. Artificial Insemination coverage is low (5.52%) compared to the country which is about 30% of the breedable bovine females.
>
> Therefore, there was a need for massive Artificial Insemination extension programme in order to enhance milk production and productivity of bovines to meet growing demand of milk in the region and making milk production more remunerative to the farmers of the region.

In NER Artificial Insemination Project, 38.98 lakh AI (74.4%) have been performed during 2019-20 to 2023-24 against target of 47.38 lakh Artificial Insemination.

Under this project, a total of 1700 MAITRIs were deployed in the field and 1181 participants have been trained on INAPH through 44 ToT trainings."

4.13 Under Incentive Package for Artificial Insemination (AI) technicians in Nationwide AI programme incentive will be made available to the private AI technician/MAITRIs @ Rs 50/ per AI and Rs. 100/- per calf born. All incentives for private A.I technicians/ MAITRIs to be disbursed strictly based on the data uploaded on INAPH and verification of the data by the concerned District Animal Husbandry Officer (DAHO). No incentives shall be paid to government AI technicians or technicians drawing salary from Milk Federations engaged in the programme. Additional conception linked incentive will be made available @ Rs 150 if conception achieved at 1st AI and Rs 100 if conception achieved at 2nd AI. The conception linked incentive will also be made available to Government AI technicians. In case of North Eastern States and Hilly States/Union Territories (Himachal Pradesh, Uttarakhand, Union Territories of Jammu and Kashmir and Ladakh), the incentive for private A.I technicians (Not getting salary by Government or Co-operatives) shall be @ Rs.100/- per A.I. and Rs 100 per calf born. Additional conception linked incentive as mentioned above will also be admissible to AI technicians in NER States.

4.14 Further for spreading farmer awareness about Artificial Insemination, at district level a fund of Rs.5 Lakhs per district has been made available for publicity at village and district level (wall writings, banners), storage and transportation of semen doses, Artificial Insemination (AI) consumables and monitoring. Further, at State level, Rs.5.00 lakh has been made available for printing of A.I formats, preparing and broadcasting of Radio jingles on the importance of A.I, organising awareness camps and Publicity through Television for creating awareness about the National AI programme at State level.

4.15 Further, Call centre created under National Animal Disease Control Programme (NADCP) programme will be utilized for the National Agricultural Innovation Project (NAIP) to undertake concurrent evaluation of the programme.

## B. Information Systems

4.16 NDDB has developed an information network INAPH (Information Network for Animal Productivity and Health) covering all areas of productivity enhancement including animal registration and identification, artificial insemination services, milk recording and progeny testing, ration balancing, health (treatment, diagnosis, testing, vaccination and outbreaks), advisory services and input supplies, milk component, feed testing and disease diagnostic laboratories etc.

To take this forward, the DAHD and NDDB have envisaged and are implementing National Digital Livestock Mission (NDLM) to empower livestock farmers through an end-to-end digitally integrated & comprehensive information system. The mobile application and web interface for the field workforce, known as "Bharat Pashudhan," have already been effectively rolled out nationwide. Presently, the field workforce has recorded more than one crore transactions using this application. Under this project, Call Centre software for mobile veterinary units are also being deployed. The project is envisaged to provide improved traceability system for livestock and its products; animal breeding, nutrition and health services through the system, and facilitate direct benefit transfers to the farmers.

4.17 Recognizing the need of a digital platform to help dairy farmers for managing their animals, Farmers' App 1962, earlier known as "e-GOAPLA" app, has also been developed on android based application which is available in 12 languages *viz.* Hindi, Gujarati, Marathi, Odiya, Kannada, Malayalam, Punjabi, Telugu, Bengali, Tamil, Assamese and English. This application provides various information to the farmers and helps in:

- Formulating balanced ration for dairy animals using locally available feed ingredients optimizing the feed costs.
- Management of nearly 30 common ailments of dairy animals e.g. Mastitis, indigestion, diarrhea etc. using ethno-veterinary medicine (EVM).
- Digital platform for buying/selling of dairy animals, information on source of quality semen doses available for various breeds of cattle and buffaloes and contact details for availability of IVF embryos and sex-sorted semen.
- Real-time information on breeding, nutrition and health of their animals from INAPH.

- Access to Pashupedia: A repository of detailed information about various livestock species, breeds and ethnoveterinary practices, empowering farmers with knowledge essential for efficient livestock farming.

4.18 DAHD has provided details of the expenditure incurred for INAPH system of NDDB for the last three financial years, which are as under.

| Year | Total (Rs.) |
|---|---|
| FY 2020-21 | 4,94,30,981 |
| FY 2021-22 | 5,08,55,706 |
| FY 2022-23 | 51,62,211 |

4.19 As per information provided by DAHD, NDLM (National Digital Livestock Mission) is a proposed 50:50 joint venture between DAHD and NDDB at a total estimated cost of Rs. 102 Crore. Out of this estimated cost, NDDB has made budgetary provision of Rs. 51 Crore for its part in FY 2021-22. **INAPH subsumed under Bharat Pashudhan (NDLM).**

4.20 On being asked about the percentage of Livestock Owners currently using these platforms for consultation and other services, the DAHD replied that as on date (June, 2025) livestock owners registered in INAPH are 9.3 Crores.

4.21 On present status of National Digital Livestock Mission (NDLM), DAHD replied that at present all the Livestock animals are being provided with a 12-digit Tag ID and their details are being captured in INAPH system developed by NDDB. Project has been conceptualized to form an integrated IT ecosystem based on the primary key of Tag ID. This database will be available for use by all the States, UTs and all other entities such as banking, insurance, etc. who are working in the field of Livestock. All the entities will be created as an organization in the software and they will have complete autonomy over the working of software in their designated area such as State, UT, etc. New system had been rollout across the India in 06 stages in phase wise starting from 10$^{th}$ April 2023 to 7$^{th}$ Nov 2023. It is being used by all Field Level Workers (FLWs).

4.22 The Committee desired to know the performance of INAPH system since their conception. The DAHD submitted:

"INAPH System was introduced in the month of November 2008 and worked till 7th Nov'2023 thereafter Bharat Pashudhan has replaced INAPH system.

In INAPH and now Bharat Pashudhan there are records of 28.7 Cr. livestock animals identified with unique Tag ID belonging to 8.7 Cr. registered farmers/owners in the system. All the activities performed on these tagged animals are recorded in the system using Tag ID as a primary key. With the help of this data various programmes such as productivity enhancement, NADCP, NAIP and other schemes of DAHD have been implemented.

The data is being entered by all the registered field level workers through their logins in their respective working areas while performing activities like AI, vaccination, etc. on the animals. This data entered by registered field level workers is only flowing to the system and there is no separate data collection body for this purpose."

4.23 The Committee further desired to know about the mechanism for collecting farmers and stakeholders feedback on each information technology tool launched by the Department. The DAHD replied:

"Both INAPH as well as Bharat Pashudhan applications are for the use of field workforce and no direct interactive tool is available for farmers in these applications. However regular inputs are taken from farmers through feedback call centres and various field activities."

4.24 As per Operational Guidelines of RGM, call centre established under National Animal Disease Control Programme (NADCP) programme will be utilized for verification of Artificial Insemination conducted, and female calves born under the programme at regular intervals. Information received from the call centre will be analyzed and submitted to Implementing Agencies to take remedial measures.

4.25 The Committee inquired about the steps being taken by the Department to popularise the usage of Information Technology Tools such as Information Network for Animal Productivity and Health (INAPH), Farmers' App 1962 Application, Information Network for Semen Production and Resource Management (INSPRM) etc. among the livestock owners in the country. The DAHD replied:

"Various steps have been undertaken by DAHD and other stakeholders to popularise the usage of IT Systems:

- For vaccination and breeding programmes under GoI programmes such as NADCP, NAIP, etc. tagging has been made mandatory and funds are released only when the data entries are available in INAPH system.
- Awareness camps are organised regularly to make the farmers aware about usage of Farmers' App 1962.

- As a result of various measures approximately 95% of the Livestock animals have been tagged and their data is available on Bharat Pashudhan System.
- For semen stations a centralized software called Semen Station Management System (SSMS) is available for use by all semen stations to digitize their complete working."

4.26 Further on question of number of awareness camps organized so far in various states of the country about Farmers' App 1962 app, INAPH system (now Pashudhan app), Semen Station Management System (SSMS) since their conceptualization, the DAHD submitted:

"Trainings have been organized on use of INAPH system (NDLM) and semen station management system:

| **Trainings imparted to Field users** | | |
|---|---|---|
| **State/UT** | **Total no. of training** | **No. of participants** |
| Manipur | 2 | 31 |
| Sikkim | 3 | 26 |
| Assam | 2 | 108 |
| Meghalaya | 7 | 224 |
| Mizoram | 3 | 62 |
| Nagaland | 3 | 60 |
| Arunachal Pradesh | 2 | 89 |
| Tripura | 2 | 27 |
| Gujarat | 1 | 12 |
| All India | 2 | 9 |
| Himachal Pradesh | 1 | 34 |
| Madhya Pradesh | 3 | 331 |
| West Bengal | 2 | 97 |
| Kerala | 1 | 47 |
| Andman & Nicobar | 1 | 21 |
| Maharashtra | 3 | 315 |
| Uttarakhand | 3 | 213 |
| Kashmir | 1 | 60 |
| Meghalaya | 4 | 122 |
| Telangana | 3 | 140 |
| Andhra Pradesh | 2 | 386 |
| Bihar | 1 | 194 |
| Rajasthan | 1 | 25 |
| Karnataka | 2 | 45 |
| UP, AP, MP, Odisha, MH, Bihar | 1 | 46 |
| Delhi | 1 | 10 |
| Chandigarh, Delhi, Punjab | 1 | 12 |

| System Trainings provided to Field users on NDLM | | |
|---|---|---|
| **State/UT** | **Total no of training** | **Total Participants** |
| Madhya Pradesh | 2 | 170 |
| Andhra Pradesh | 1 | 80 |
| Uttarakhand | 1 | 205 |
| Maharashtra | 1 | 270 |
| Telangana | 1 | 114 |
| Rajasthan | 1 | 150 |
| Karnataka | 3 | 284 |
| Delhi | 1 | 83 |
| Himachal Pradesh | 1 | 50 |
| Jharkhand | 2 | 114 |
| Jammu & Kashmir | 1 | 80 |
| Leh | 2 | 120 |
| Uttar Pradesh | 2 | 220 |
| Punjab | 1 | 8 |
| Haryana | 3 | 16 |
| Tamil Nadu | 1 | 205 |
| Puducherry | 1 | 55 |
| Bihar, UP and Uttarakhand | 1 | 20 |
| UP and Rajasthan | 1 | 20 |
| Maharashtra | | |
| Gujarat | 5 | 558 |
| West Bengal | 1 | 74 |

| SSMS Trainings | |
|---|---|
| **State** | **No. of Training** |
| Andhra Pradesh | 3 |
| Bihar | 6 |
| Chhattisgarh | 2 |
| Gujarat | 29 |
| Haryana | 10 |
| Himachal Pradesh | 4 |
| Karnataka | 8 |
| Kerala | 15 |
| Madhya Pradesh | 3 |
| Maharashtra | 22 |
| Odisha | 3 |
| Punjab | 6 |
| Rajasthan | 4 |
| Tamil Nadu | 9 |
| Telngana | 3 |
| Uttar Pradesh | 3 |
| Uttaranchal | 4 |
| West Bengal | 6 |
| **Grand Total** | **140** |

Further, around 131 A-HELP (Pashu Sakhis and Master Trainer) Training Programs have been arranged in which around 3091 participants trained, on Farmers' App 1962.

## PART – II

## OBSERVATIONS/RECOMMENDATIONS

**Gains in Productivity of Indigenous Cows and Buffaloes**

**1. Rashtriya Gokul Mission Scheme envisages to increase average productivity of bovines from 1924 Kg Per Animal Per Year (5.34 Kg/Day) to 3000 Kg Per Animal Per Year (8.0 Kg/Day) by 2025-26. In their subsequent replies, the Department of Animal Husbandry and Dairying (the Department), however revised them, pushing back the timeline for achieving the target to 2029-30. In other words, it pushed back achieving the targets set by four years. The Department could not furnish the reasons for pushing back the date for achieving the targets by four years. The data on productivity of Non-Descript/Indigenous Cows shows that productivity at 3.08 kg/day in 2019-20 has increased to 3.54 kg/ day in 2023-2024, an increase of 14.9% in four years. The productivity of Buffaloes at 5.75kg/ day in 2019-20 has improved to 5.92 kg/ day in 2023-2024, showing a mere increase of 2.9% during four year period. The average Productivity of both the Non-Descript/Indigenous Cows and Buffaloes at 4.41 kgs/ day in 2019-20 has increased to 4.73 kg/Day in 2023-2024, reflecting a mere increase of 7.2% over a period of four years.**

**The Department has not furnished any specific reasons to push back the targeted productivity achievement of 3000 kg/year per animal of all the three categories i.e. Non-descript, Indigenous and Buffaloes - from 2025-2026 to 2029-2030. The Committee are of the view that as the Department could not take into consideration ground realities before setting the targets, in the last year *i.e.* 2025-26, the Department had to push back the achievement of the targets by four years. Further, the Department did not appear to review the progress in between to ascertain its ability to achieve the said targets and could do so in the last year i.e. 2025-26 only. The Committee, therefore, request the Department to apprise them:**

**(i) of the details of the regional review meetings and National Steering Committee meetings conducted to review the progress in achieving the targets with respect to increasing the productivity of the bovines and the outcome there of.**

**(ii) Of the reason as to why the Department had to push back the achievement of targets by four more years i.e. up to 2029-30 in the last year (2025-26) which may lead to more than doubling the period from four years to ten years for achieving the average productivity of 3000 kgs / year?**

**(iii) the National Steering Committee meeting in which the decision was taken to push back the timelines to achieve the target**

**(iv) of the steps taken / proposed to be taken, their nature/ details and also how these steps ensure the achievement of target of average milk productivity of bovine animals by the extended timeline *i.e.* by 2029-30.**

**<u>Strengthening Review Mechanism through Accountability</u>**

**2. The Committee are of the view that an earnest review of Targets set periodically under various Schemes is crucial to ensure serious commitment towards achieving them. The setting of the targets by the Department in a routine manner, without taking into consideration ground realities, the Committee believe might have led to its failures to adhere to them. This in turn resulted in extension of the timelines to achieve the targets by 2029-30, which is two and half time more than the timeline set initially. This extension of timelines is despite reviewing periodically at regional review meetings and also at the level of National Steering Committee meetings. While noting that the Project Steering Committee is empowered to modify physical and financial targets based on review as per Operational Guidelines of RGM, the Committee are of the opinion, unrealistic targets should not be set in the first instance and revised at the eleventh hour with extended timeline, which in present case is two/ three times of the original timelines. In such cases, the integrity of the process of target setting itself is prone to be questioned. The Committee therefore recommend that in order to avoid recurrence of such issue, responsibility be fixed at the reviewing authority levels as to why despite regular review and monitoring, the productivity targets could not be achieved or revised suitably to meet the stipulated timeline of 2025-26, that too given full utilization of fund allocation under the scheme (Rs.2400 crores) one year prior to the completion of scheme duration.**

**Inclusivity in Implementation of the Schemes**

**3. As per data provided by the Department, there are many States viz. Bihar, Odisha, UP, Maharashtra, Kerala, Assam, J&K, Anadaman and Nicobar Islands, where productivity of Indigenous Cows and Buffaloes have decreased despite Progeny Testing and Pedigree Selection Programmes of the Department [Annexure IV]. Moreover, all India figure for increase in productivity for non-descript/Indigenous cattles is marginal and for buffaloes has actually decreased, as per data provided to the Committee [Para 1.13]. Moreover, performance of NDP – I and RGM Programmes in terms of procurement of High Genetic Merit Bulls is limited to 08 or 09 States of the country (Annexure VII). The fact that India has 28 States and 08 Union territories and impact of one of prominent Schemes of NDDB for Protection and Development of Indigenous Breeds of Cattles and Buffaloes, under the aegis of DAHD, is limited to just handful of States does not auger well for ensuring inclusivity in implementation of the Schemes. Progeny Testing and Pedigree Selection Programme is considered as the backbone of most important component of Rashtriya Gokul Mission (RGM) which is Bull Production Programme that impacts the Productivity of Progenies. The fact that RGM is in operation in the country since 2014 and a sum of Rs. 3687.54 Crores has been spent so far, the gains from the Programme in terms of productivity are limited to handful of States. The Committee recommend that the Department need to make all-out effort to ensure that benefits of these Schemes reach all the States of the country in an even manner. The Committee while appreciating the role of DAHD in implementing the scheme expect them to undertake work more meaningfully towards the protection and development of Indigenous Breeds of Cattle and Buffaloes, especially in the States, where either the number of In-milk Cattle and Buffaloes have declined over the year or their productivity has fallen or both *viz.* Himachal Pradesh, Jharkhand, Karnataka, Kerala, Maharashtra, Odisha, Tamil Nadu, West Bengal, Arunachal Pradesh, Chhattisgarh, J&K and Meghalaya and Bihar [Para 2.21].**

**Addressing Shortfalls in Targets under RGM**

**4. The Committee note with concern that there are several shortfalls in achievement of targets in various Components of Rashtriya Gokul Mission and by various bodies *viz.* NDDB, Semen Stations, Central Cattle Breeding Farms, Central Herd Registration Scheme and Central Frozen Semen Production & Training**

**Institute, Sabarmati Ashram Gaushala, Bidaj etc. working in the field of protection and development of Indigenous Cattle Breeds. NDDB is Implementing Agency for Progeny Testing, Pedigree Selection Programme, Import of Germplasm, Breed Multiplication Farm, Accelerated Breed Improvement Programme –In-Vitro Fertilization - Embryo Transfer, National Bovine Genomic Centre-Indigenous Breeds, Productivity Enhancement Projects and Establishment of Artificial Insemination Network Projects at various Milk Sheds, *etc.* There was shortfall in procurement of High Genetic Merit bulls under National Dairy Plan - I (NDP –I) and even under Rashtriya Gokul Mission (RGM) against a target of 5617 High Genetic Merit Bulls, 3517 Bulls have been procured between 2019-2020 and 2023-2024 with only two more years left (till 2025-2026) to achieve the target. (Para 2.16). The 05 Semen Stations under NDDB have been falling short in achievement of production and sale of Semen Doses in some or other year (Para 3.26). The Central Cattle Breeding Farms are falling short in their targets for Bull Calf Production, Bull Calf Sold/ Distribution and Training of Farmers. The same is the case with Central Herd Registration Scheme and Central Frozen Semen Production & Training Institute (Annexure IX). The Genomic Selection Project of Sabarmati Ashram Gaushala, Bidaj is falling behind in all targets related to work of Genomic Selection (Para 3.93). Even under RGM, although the State wise Targets have been fixed for achievement till 2025-26, performance on parameters of number of Artificial Insemination Centers, Artificial Insemination done, High Genetic Merit Animals inducted, Pregnancies established, Female Calves Registered etc. is very dismal in many states *viz.* Jharkhand, Odisha which does not inspire confidence in achievement of targets till 2025-26 (Para 3.64). The Committee are concerned to note that there are too many shortfalls in implementation of Schemes for the protection and development of Indigenous Cattles and Buffaloes. The Committee, therefore, recommend that DAHD may adopt an approach which discourages any shortfall in performance at various stages and components under RGM implemented by NDDB and others and conduct a serious review of the reasons for said shortfalls. The Committee would like to be apprised of actions taken by the Department in this regard.**

**<u>Making Genomic Selection Project More Breed Inclusive</u>**

**5. The work on Genomic Selection of Indigenous breeds by NDDB has been going on since National Dairy Plan – I (2011-12 to Nov' 2019) whereby NDDB**

**developed "BUFFCHIP" for Genomic Selection in Indian buffaloes and carried out whole genome sequencing of Murrah buffalo. Now under RGM (2021-22 to 2025-26), Genomic Breeding Value for Gir cattle, Murrah and Mehsana buffaloes are being estimated. Multi-breed genomic chip for cattle and buffaloes are being developed at SAG, Bidaj and being used to hasten the process of selection of High Yielding Animals. The DAHD has informed that Genotyping is done for animals that are recorded in Progeny Testing and Pedigree Selection Projects. However, Bulls of all Semen Stations across the country are also genotyped in the Project. The Progeny Testing and Pedigree Selection Projects are currently being run for six Indigenous Cattle Breeds (Sahiwal, Gir, Kankrej, Rathi, Tharparkar and Hariana) and five buffalo breeds (Murrah, Mehsana, Jaffarabadi, Nili Ravi and Pandharpuri). The Department, however, is ambiguous in its reply to whether all 53 registered indigenous cattle breeds will be covered by Genomic Selection Project. The Committee, thus, are of the view that the work on Genomic sequencing is not being inclusive with only popular Breeds being covered and accordingly recommend the DAHD to include all breeds of Indigenous Breeds of Cattle and Buffaloes in their programmes for breed upgradation and popularization among farmers. Further, the Committee require the DAHD to elucidate objectively the benefits of genotyping that have accrued to indigenous Breeds of Cattles and Buffaloes and justify whether the said Programme has been capitalized amply to expedite genetic improvement in the Cattle and Buffalo population.**

**<u>Revision of Criteria for Critical Cattle and Buffalo Breeds</u>**

**6. DAHD has submitted to the Committee that implementation of Genomic Selection for all the Breeds requires creation of sufficiently large reference population for each Breed and for that, around 5000 Animals are to be performance recorded and genotyped for each Breed (Para 3.42). The DAHD has further apprised that as per "Guidelines for management of animal genetic resources of India" of ICAR- National Bureau of Animal Genetic Resources (NBAGR), a Cattle and Buffalo Breed is classified as critical on the basis of risk status at National Level if total population is 1000 or less or total number of Breeding Females is 500 or less or total number of breeding males is 5 or less (Para 1.3). As per data on State and Breed wise Indigenous Cattle population, one Breed *viz* Belahi has an all India population of 5264 and almost 11 other Registered**

**Breeds of Cattle and Buffaloes have population of less than 30000 like Khariar (25,021), Krishna Valley (22,532), Mewati (21,901), Ponwar (28,648), Punganur (13,275), Pulikulum (13,934), Siri (24,067), Vechur (15,181), Chilika (13,658), Kalahandi (25.164) and Toda (19868) (Annexure - I). The Committee, therefore, recommend DAHD to revise the criteria for critical Cattle and Buffaloes Breeds to minimum 50,000 to provide enough buffer for ensuring population of registered indigenous breeds of Cattles and Buffaloes does not fall below the numbers required for their Genomic Selection procedure in future at all times and also for protection against mass eradication from any disease. Accordingly, the Committee desires that work may be initiated for increasing population of indigenous breeds which are near or below threshold of 50,000 animals at all India level for their protection and development.**

**Making Breed Improvement Programme more Inclusive**

**7. Under National Dairy Plan Phase - I (NDP-I) [2011-12 and 2018], production of High Genetic Merit bulls through Progeny Testing and Pedigree Selection programmes for 06 Indigenous Cattle Breeds (Sahiwal, Gir, Kankrej, Rathi, Tharparkar and Hariana) and 05 buffalo breeds (Murrah, Mehsana, Jaffarabadi, Nili Ravi and Pandharpuri) were taken up with partner agencies in six States of the country. Currently under RGM (2021-2022 to 2025-26), production of HGM Bulls through Progeny Testing and Progeny Selection Programmes for 07 Indigenous Cattle Breeds [Sahiwal (Punjab and Rajasthan), Gir (Gujarat), Kankrej (Gujarat), Rathi (Rajasthan), Tharparkar (Rajasthan), Hariana (Haryana), and Gaolao (Maharashtra) and 06 buffalo breeds [Murrah (Haryana), Mehsana (Gujarat), Nili-Ravi (Punjab), Jaffarabadi (Gujarat), Pandharpuri (Maharashtra) and Banni (Gujarat)] are being implemented. There has been an increase of just 01 Breed each of Cattle (Gaolao) and buffalo (Banni) since 2011-12 under Progeny Testing and Pedigree Selection Project of the NDDB under aegis of DAHD. There are 53 Registered Indigenous Breeds of Cattle and Buffaloes in the country. In order to ensure long term growth and protection of Indigenous Breeds of Cattle and Buffaloes, it is important that Breed Improvement Programmes are implemented for each and every breed of Indigenous Cattle and Buffaloes. Otherwise the country shall witness extinction of low productivity breeds in favour of high productivity breeds. The present Progeny Testing and Pedigree Selection Programme with handful of breeds pose a threat to non-included indigenous breeds in terms of them being cross bred or replaced completely by HGM bulls of**

**selected few breeds under such programmes. The Committee, therefore, recommend that NDDB under aegis of DAHD need to expand its Breed Improvement Programme to include State dominant breeds in order to uplift the productivity of existing breeds of livestock with farmers in the State and to ensure long term protection and growth of all Indigenous Breeds. Instead of cross breeding such breeds with a few high yielding breeds of other States selected under current Progeny Testing and Pedigree Selection projects, the Committee recommend that DAHD may customise these programmes as per breeds dominant in particular States or cluster of States so that breeds from all over country may be subjected to breed improvement potential in terms of both productivity and population which will ensure their long term growth and survival.**

**Accelerated Breed Improvement Programme falling short of its targets**

**8. Under the Accelerated Breed Improvement Programme - IVF (ABIP – IVF), it is proposed that 02 Lakh Pregnancies will be established over a project period of 03 years (2022-25) @ 66,000 pregnancies Per Year [Para 3.52]. The Project is a part of the Rashtriya Gokul Mission, which has a timeline from 2021-2022 to 2025-26. As per information provided by DAHD, so far, the projects have been approved for 29 Implementing Agencies and till March 2025, a total of 5742 embryos transferred and 991 pregnancies have been established (Para 3.50). Further, DAHD has submitted that under Accelerated Breed Improvement Programme (ABIP) using IVF Technology Project, a subsidy of Rs. 5000 per pregnancy is provided to farmers against the cost of IVF pregnancy of Rs. 21,000. For the target for establishing 02 Lacs Pregnancies, Rs. 10,000 lacs @ Rs. 5000 per farmer has been earmarked as farmers subsidy incentive (Para 3.53). Till December, 2023 a total of 3116 farmers have been granted the said subsidy with total outlay amounting to Rs. 155 Lacs (3116 Times Rs. 5000) (Para 3.57). Since only Rs. 155 Lacs of subsidy out of earmarked Rs.10000 Lacs could only be disbursed, it seems to be one of the reasons for the number of Pregnancies established grossly falling short of targeted level of 2 Lac for the period 2022-2025. Similarly, under the Accelerated Breed Improvement Programme (ABIP) using Sex Sorted Semen [ABIP-SS], the number of Pregnancies to be established in 5 years [2021-22 to 2025-26] in various States/UTs is around 3 lacs except Goa, Puducherry and Andaman and Nicobar Island (Para 3.63 Table). However, Actual pregnancies established in said States hardly crosses few thousands with figure of Zero in Andhra Pradesh, Orissa and**

**Jharkhand (Para 3.64) whereas the Cumulative target for the project is to establish 51.63 Lakh Pregnancies throughout country with budgetary provision of Rs. 72591.17 lakh (during 2021-22 to 2025-26). As per data provided by DAHD, 71739 beneficiaries have received subsidy under ABIP- SS (Para 3.74). Thus, it is amply clear that DAHD is grossly falling short of meeting its targets of establishing pregnancies using ABIP – IVF and ABIP – SS. The Committee, therefore, recommend the Department to enquire in such gross shortfalls in meeting the targets and take urgent action to speed up implementation of these two Accelerated Breed improvement Programmes for the benefit of farmers. Further to correct the underutilization of funds allocated for the purpose, the Committee recommend that the subsidy related to IVF pregnancy be increased to Rs. 15,000 from current level of Rs. 5,000, to encourage more milk farmers to avail IVF techniques for inducing pregnancy in their cattle breeds.**

**Distribution and Mandate of Breed Multiplication Farms(BMFs)**

**9. The Committee note that the Breed Multiplication Farms have been spread unevenly across various States of the Country with some States getting more such farms like Maharashtra (33), Andhra Pradesh (19), Gujarat (16) and some other getting quite less like West Bengal (01), Bihar (01), Chhattisgarh (01), Punjab (00), Sikkim (00), Himachal Pradesh (00), Jharkhand (00), Meghalaya (00), Arunachal Pradesh (01) among others. They, therefore, recommend that Breed Multiplication Farms are distributed evenly, as far as possible, across the country with specific focus on States with low productivity and/or relatively low population of Indigenous Breeds of Cattles and Buffaloes. Further, the Committee note that Breed Multiplication Farms have not been mandated about the type of breeds to be reared and maintained by them as they are allowed to maintain herd of exotic/ crossbred cattles and buffaloes as well. The Operational Guidelines for RGM mention that Breed Multiplication Farms are proposed to be established to make available Disease-Free High Yielding Heifers/ Pregnant Heifers / Cows preferably of Indigenous Breeds of Cattle/Buffaloes to farmers to fulfil their need of general shortage of such animals (Para 3.75). It is, thus, clear that there is no guideline or criteria fixed for Breed Multiplication Farms to focus on rearing and development of Indigenous Breeds mandatorily. The Committee, therefore are of the apprehension that BMFs may not on their own volition maintain adequate and diverse breeds of Indigenous Breeds of Cattle and Buffaloes with their decision guided by profitability concerns, as Exotic/Crossbred Breeds have relatively**

**higher productivity in terms of Average Yield per In-Milk Animal [Para 1.13]. The Committee accordingly recommend that the DAHD prescribe minimum size of herd of Indigenous Cattles and their varieties, with the focus to cover all the breeds of Indigenous Cattle and Buffaloes in the country, to be maintained by the Breed Multiplication Farms as one of the criteria for releasing subsidy to them.**

**Increasing Output, Targets and Distribution of Semen Stations**

**10. In order to extend Artificial Insemination (AI) coverage from existing 30% of the breedable bovine females to 70% of the breedable bovine females, semen production is proposed to be increased from 119 million doses to 200 million doses annually. At present there are 61 Semen Stations in the country and out of them five are directly under control of NDDB's wholly owned subsidiary NDDB Dairy Services. Three out of said five Semen Stations fell short of their targeted Semen production (Para 3.26) during the period 2019-20 to 2021-22. The Committee feel that such a shortfall in attainment of the targets over a three-year period should be viewed as serious as no remedial measures seems to have been taken to address the shortfalls during the period. This is especially so as it has a bearing in turn on achievement of overall goals for Indigenous Cattles under RGM. The Committee, therefore, recommend that**

- **(i) DAHD may consider the possibility of disincentivising such shortfalls and fix responsibility on the heads of the institutions/ organisations responsible for recurring shortfalls in semen production and sale by all the 61 Semen Stations especially in view of its drive for strengthening 47 Semen Stations.**
- **(ii) The Committee want DAHD to clarify whether increasing production of Semen Doses by only 70% help achieve extension of Artificial Insemination coverage by more than 100%.**
- **(iii) targets for Semen Production in the country for the stipulated period under Rashtriya Gokul Mission may be revised in line with targets for increasing Artificial Insemination coverage *i.e.* by 130%.**
- **(iv) exclusive Semen Stations may be set up for Northeastern States of the Country and other far lying places like Andaman and Nicobar Islands, Ladakh, Lakshadweep Islands as transportation is difficult to such places.**

(v) **Further the Committee observes, that within States also there is uneven distribution of semen stations, for example, in State of Punjab, there are semen Station in Ropar, Nabha and Verka, thus being concentrated in one part of the State. The Committee recommend that more Semen Station may be opened in Jalandhar and Gurdaspur district of Punjab to make them spread evenly across State. On similar pattern, DAHD make an assessment of farmers' population covered by each Semen Station to ensure their even distribution with in all States of the country and take action for opening new semen stations accordingly.**

(vi) **Sex sorted semen production and distribution facility should be made available at all semen stations across the country to provide easy access to farmers to enable them to choose gender of offsprings of their cattle breeds and address menace of stray animals as well.**

**11. The Committee also observe that out of 61 Semen Stations in the country only 11 Semen Stations (Para 3.24) are supplying Semen Doses for Progeny Testing and Pedigree Selection projects of NDDB. The Committee recommend that more number of Semen Stations may be earmarked for supplying semen doses of diverse indigenous breeds of cattle and buffaloes for Progeny Testing and Pedigree Selection Projects.**

**<u>Increasing Network of MAITRIs</u>**

**12. Artificial Insemination (AI) coverage in the country is still limited to 30% of the Breedable Bovines. In developed nations 100% of the Bovine Population is under Artificial Insemination coverage. As per information provided by DAHD, one of the important impediments in extending AI coverage in the country is shortage of trained Artificial Insemination (AI) Technicians. As against the requirement of 2,02,469 AI Technicians, only 1,16,586 AI Technicians are available in the country. Thus, additional 90,958 AI Technicians will be required for extension of AI coverage from 30% to 70%. Under the Scheme of Establishment of Multi-Purpose AI Technicians in Rural India (MAITRIs), it is proposed to establish 40,000 MAITRI over five-year period. However, till 2023-24, MAITRIs established are only 24,945, with time limit for RGM fixed till 2025-26 (para 4.8). Further, the Committee note that many States like Kerala, Punjab, Haryana, Ladakh, Mizoram have Zero MAITRI established so far. The Committee, therefore, recommend that DAHD make all out efforts to increase establishment of trained Technicians with view of increasing**

**Artificial Insemination coverage by the desired level. The Committee also recommend that DAHD in collaboration with NDDB may focus particularly on States with zero established MAITRIs for increasing the network of trained Technicians in an inclusive manner.**

**Provision for Farmers' Verification in Bharat Pashudhan App (erstwhile INAPH)**

**13. Bharat Pashudhan App [erstwhile Information Network for Animal Productivity and Health (INAPH)] serves as a crucial follow up mechanism and to some extent review mechanism, as Implementing Agencies are following upon pregnancy occurred and calves born through the details entered in INAPH/ Bharat Pashudhan. Further, the details of Artificial Insemination done from the Frozen Semen Doses is also entered in INAPH/Bharat Pashudhan application by field workers like MAITRIs etc. Since the performance of MAITRIs is incentive linked with Rs 50/ Per Artificial Insemination done and Rs. 100/- Per Calf born being paid to them, the performance of MAITRIs working in the field will be assessed by Implementing Agencies through Data uploaded on INAPH Data Base on Artificial Insemination carried out by MAITRIs. As there is target to increase Artificial Insemination coverage from existing 30% of the breedable bovine females to 70% of the breedable bovine females by increasing semen production from 119 million doses to 200 million doses, this would entail minimum expenditure related to incentive to AI technician/MAITRIs of Rs. 1000 crore for just administering Artificial Insemination through Semen Dose. Thus, data entered in Bharat Pashudhan app has huge financial implications directly and indirectly for overall project outlay. The Committee, however, were informed that there is no mechanism for farmer feedback/verification of data entered in Bharat Pashudhan App by field operators like MAITRIS for performing activities like Artificial Insemination, vaccination, etc. on the Livestock Animals. DAHD has submitted that 95% of the Livestock Animals have been tagged and their data is available in INAPH system (para 4.25). In view of the same, the Committee recommend that these Apps may be suitably modified to give Farmers of Ear Tagged Livestock Animals access to these Apps and have a provision for such Farmers for verification/approval of data entered by field workers like MAITRI, Pashu Sakhis *etc.* after availing services for their Livestocks. This way the final admissibility for incentives to MAITRIS and other field workers is granted by the farmers who are**

**owner of Indigenous Breeds of Battle and Buffaloes and for whom these Schemes are meant to benefit.**

**Increasing Farmer Awareness Towards Artificial Insemination**

**14. There is a provision of Rs. 5 lacs at District level and Rs. 5 lacs at State level for farmer awareness towards Artificial Insemination (Para 4.14), the Committee have not been provided any information about number of awareness camps organized so far in various states of the country for farmer awareness and whether such funds allocated at district levels and state levels are utilized for the purpose. The Committee require the DAHD to be forthcoming on the data about work done in the area of farmer awareness towards artificial insemination and e-gopala app and other activities being under taken under Rashtriya Gokul Mission (RGM) which calls for farmer awareness during the period of implementation of the Rashtriya Gokul Mission (RGM). Further, the Committee recommend that DAHD should focus on spending more funds under Rashtriya Gokul Mission Scheme (RGM) on activities like spreading farmers awareness towards Artificial Insemination and enhancing subsidies to them among other things to achieve desired results under the RGM Scheme.**

**NEW DELHI;**
**19th August, 2025**
**28, Shravana, 1947 (Saka)**

**CHARANJIT SINGH CHANNI**
**Chairperson**
**Standing Committee on Agriculture, Animal Husbandry and Food Processing**

**Annexure-I**

## State wise, breed wise indigenous cattle population

| States | Amritmahal | Bachaur | Badri | Bargur | Belahi | Binjharpuri | Dangi | Deoni | Gangatiri | Gaolao | Ghumusari |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A&N Islands | | | | | | | | | | | |
| Andhra Pradesh | 298 | | 4 | | 3 | | - | 6 | | | |
| Arunachal Pradesh | | | | | | | | | | | |
| Assam | | | | | | | | | | | |
| Bihar | | 10,04,014 | | | | | | | 106 | | |
| Chandigarh | | | | | | | | | | | |
| Chhattisgarh | 98 | 29 | 766 | 58 | 9 | | 19 | 58 | 352 | | 7 |
| D&N Haveli | | | | | | | 277 | | | | |
| Daman & Diu | 6 | 41 | | | | | 10 | | | | |
| Delhi | | | | - | | | - | | | | |
| Goa | | | | | | | | 1 | | | |
| Gujarat | 5 | | | | | | 63,454 | | | | |
| Haryana | 6 | | | 3 | 5,252 | | 5 | | | | |
| Himachal Pradesh | | | | | | | | | | | |
| Jammu & Kashmir | | | | | | | | | | | |
| Jharkhand | | 33,41,799 | | | | | | | | | |
| Karnataka | 3,00,825 | | | | | | | 1,10,983 | | | |
| Kerala | 76 | 57 | | | | | | 4 | 2 | | |
| Lakshadweep | | | | | | | | | | | |
| Madhya Pradesh | | | | | | | | | | 1,13,323 | |
| Maharashtra | 24 | | | | | | 1,27,930 | 1,23,947 | | 73,564 | |
| Manipur | | | | | | | | | | | |
| Meghalaya | | | | | | | | | | | |
| Mizoram | | | | | | | | | | | |
| Nagaland | 13 | | | | | | | | | | |
| Odisha | | | | | | 83,849 | | | | | 38,880 |
| Puducherry | | | | | | | | | | | |
| Punjab | 2 | | | | | | | | | | |
| Rajasthan | | | | | | | | 18 | | | |
| Sikkim | | | | | | | | | | | |
| Tamil Nadu | | | | 55,389 | | | | | | | |
| Telangana | 1 | | | 9 | | | | 49,325 | | | |
| Tripura | | | | | | | | | | | |
| Uttar Pradesh | | | | | | | | | 5,14,085 | | |
| Uttarakhand | | | 9,88,598 | | | | | | | | |
| West Bengal | | | 7 | | | | | | | | |
| **All India** | **3,01,354** | **43,45,940** | **9,89,375** | **55,459** | **5,264** | **83,849** | **1,91,695** | **2,84,342** | **5,14,545** | **1,86,887** | **38,887** |

**Annexure-I**

## State wise breed wise indigenous cattle population (Continued)

| State | Gir | Hallikar | Hariana | Kangayam | Kankrej | Kenkatha | Khariar | Kherigarh | Khillar | Kosali | Krishna Valley |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A&N Islands | 567 | | | | | | | | | | |
| Andhra Pradesh | 1,751 | 7,363 | | | 18 | | | | | | |
| Arunachal Pradesh | | | | | | | | | | | |
| Assam | | | 6 | | | | | | | | |
| Bihar | 60,774 | | 1,93,975 | | | | | | | | |
| Chandigarh | 1 | | 192 | | | | | | | | |
| Chhattisgarh | 4,13,947 | 136 | 1,33,544 | 11 | 1,296 | 8 | 8 | | 10 | 15,56,613 | |
| D&N Haveli | 55 | | | | 279 | | | | | | |
| Daman & Diu | 97 | | | | 2 | | | | | | |
| Delhi | - | | 12,911 | | - | | | | | | |
| Goa | 716 | | | | | | | | 271 | | |
| Gujarat | 17,56,342 | | | | 17,71,982 | | | | 14 | | |
| Haryana | 8,155 | | 5,68,033 | | 437 | | | | | | |
| Himachal Pradesh | 74 | | 9,713 | | | | | | | | |
| Jammu & Kashmir | | | | | | | | | | | |
| Jharkhand | 1,75,062 | | 1,35,216 | | | | | | | | |
| Karnataka | 12,802 | 7,94,167 | | | 43 | | | | 6,21,230 | | 22,409 |
| Kerala | 2,955 | 112 | 47 | 511 | 148 | | 4 | 1 | 1 | | 108 |
| Lakshadweep | | | | | | | | | | | |
| Madhya Pradesh | 6,02,854 | | 1,84,460 | | | 1,55,204 | | | | | |
| Maharashtra | 1,60,345 | | | 5 | 9,118 | | | | 6,76,947 | 61 | 13 |
| Manipur | | | | | | | | | | | |
| Meghalaya | | | | | | | | | | | |
| Mizoram | | | | | | | | | | | |
| Nagaland | | | 2 | | | | | | | | |
| Odisha | 5,666 | | 27,502 | 7 | | | 25,009 | | | | |
| Puducherry | 1 | 618 | | 93 | | | | | | | |
| Punjab | 6,659 | | 1,00,503 | | 545 | | | 140 | 621 | | |
| Rajasthan | 10,43,312 | | 2,35,863 | | 4,31,253 | | | | | | |
| Sikkim | | | | | | | | | | | |
| Tamil Nadu | 2,742 | 13,586 | | 1,51,887 | 272 | | | | 102 | | |
| Telangana | 16,117 | 3,155 | 64 | 27 | 16 | | | | | | 2 |
| Tripura | | | | | | | | | | | |
| Uttar Pradesh | 2,01,092 | | 11,45,079 | 2 | | 11,030 | | 48,577 | | | |
| Uttarakhand | 1,858 | | 9,425 | | 128 | 25 | | | | | |
| West Bengal | 23,83,840 | | 651 | | | | | | | | |
| **All India** | **68,57,784** | **8,19,137** | **27,57,186** | **1,52,543** | **22,15,537** | **1,66,267** | **25,021** | **48,718** | **12,99,196** | **15,56,674** | **22,532** |

**Annexure-I**

## State wise breed wise indigenous cattle population (Continued)

| State | Lakhimi | Malnad Gidda | Malvi | Mewati | Motu | Nagori | Nimari | Non-Descript | Ongole | Ponwar |
|---|---|---|---|---|---|---|---|---|---|---|
| A&N Islands | | | | | | | | 19,039 | | |
| Andhra Pradesh | | | | | | | | 19,18,161 | 3,98,702 | |
| Arunachal Pradesh | | | | | | | | 3,32,234 | | |
| Assam | 68,29,484 | | | | | | | 32,99,200 | | |
| Bihar | | | | | | | | 93,81,808 | | |
| Chandigarh | | | | | | | | 4,048 | | |
| Chhattisgarh | | 11 | 64 | 4 | | 32 | 11 | 71,37,696 | 24,086 | 8 |
| D&N Haveli | | | | | | | | 37,955 | | |
| Daman & Diu | | | | | | | | 1,440 | | |
| Delhi | | | | | | | | 9,199 | | |
| Goa | | | | | | | | 31,362 | | |
| Gujarat | | | | | | 4 | | 26,34,585 | | |
| Haryana | | | | 1 | | 3 | | 2,00,760 | | |
| Himachal Pradesh | | | | | | 11 | | 7,45,432 | | |
| Jammu & Kashmir | | | | | | | | 10,89,714 | | |
| Jharkhand | | | | | | | | 64,62,212 | | |
| Karnataka | | 7,12,998 | | | | | | 19,78,017 | 4,581 | |
| Kerala | | 10 | | | 11 | | 1 | 63,064 | 25 | |
| Lakshadweep | | | | | | | | 1,285 | | |
| Madhya Pradesh | | | 8,47,651 | | | | 4,79,049 | 1,43,86,358 | | |
| Maharashtra | | | 31,184 | | | | | 80,22,256 | 19 | |
| Manipur | | | | | | | | 2,06,520 | | |
| Meghalaya | | | | | | | | 8,70,165 | | |
| Mizoram | | | | | | | | 24,246 | | |
| Nagaland | | | | | | | | 59,880 | | |
| Odisha | | | | | 2,33,626 | | | 78,72,504 | 548 | |
| Puducherry | | | 3 | | | | | 4,982 | | |
| Punjab | | | | | | 6,739 | | 1,91,409 | | |
| Rajasthan | | | 1,54,066 | 52 | | 3,40,286 | | 78,91,629 | | |
| Sikkim | | | | | | | | 26,699 | | |
| Tamil Nadu | | | | | | | | 15,08,571 | 273 | |
| Telangana | | 39 | | | | | | 32,74,810 | 2,74,908 | |
| Tripura | | | | | | | | 6,10,171 | | |
| Uttar Pradesh | | | | 21,844 | | | | 91,03,421 | | 28,648 |
| Uttarakhand | | | | | | 6 | | 1,75,561 | | |
| West Bengal | | | | | | | | 1,06,50,166 | | |
| **All India** | **68,29,484** | **7,13,058** | **10,32,968** | **21,901** | **2,33,637** | **3,47,081** | **4,79,061** | **10,02,26,559** | **7,03,142** | **28,656** |

**Annexure-I**

## State wise breed wise indigenous cattle population (Continued)

| State | Pulikulum | Punganur | Rathi | Red Kandhari | Red Sindhi | Sahiwal | Siri | Tharparkar | Umbla Cherry | Vechur | All |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A&N Islands | | | 59 | | 45 | 464 | | 745 | | | 20,919 |
| Andhra Pradesh | | 11,531 | | | | | | 21 | | | 23,37,858 |
| Arunachal Pradesh | | | | | | | | | | | 3,32,234 |
| Assam | | | | | 6 | 10,218 | 1,376 | | | | 1,01,40,290 |
| Bihar | | | | | 2,83,513 | 3,62,951 | | 10,372 | | | 1,12,97,513 |
| Chandigarh | | | | | | 195 | | 2 | | | 4,438 |
| Chhattisgarh | | | 8 | | 32,224 | 3,92,208 | | 23,608 | | | 97,16,929 |
| D&N Haveli | | | | | | | | | | | 38,566 |
| Daman & Diu | | | | | | | | | | | 1,596 |
| Delhi | | | | | | 3,336 | | - | | | 25,446 |
| Goa | | | | | 124 | 244 | | | | | 32,718 |
| Gujarat | | | | | 4 | 58 | | | | | 62,26,448 |
| Haryana | | | 14,529 | | 21 | 1,48,949 | | 3,387 | | | 9,49,541 |
| Himachal Pradesh | | | 27 | | 1,892 | 1,811 | | 122 | | | 7,59,082 |
| Jammu & Kashmir | | | | | 1,079 | 5,220 | | | | | 10,96,013 |
| Jharkhand | | | | | 1,61,982 | 2,86,000 | | 34,588 | | | 1,05,96,859 |
| Karnataka | | 417 | | | 1,057 | 1,127 | | 186 | | | 45,60,842 |
| Kerala | | 19 | 39 | | 107 | 195 | | 65 | 6 | 15,124 | 82,692 |
| Lakshadweep | | | | | | | | | | 12 | 1,297 |
| Madhya Pradesh | | | | | | 2,41,770 | | 45,184 | | | 1,70,55,853 |
| Maharashtra | | 6 | 27 | 1,49,159 | 25 | 8,016 | | 1,925 | | 3 | 93,84,574 |
| Manipur | | | | | 26 | | | | | | 2,06,546 |
| Meghalaya | | | | | | | | | | | 8,70,165 |
| Mizoram | | | | | | | | | | | 24,246 |
| Nagaland | | | | | | | | | | | 59,895 |
| Odisha | | | 8 | 3 | 35,657 | 331 | | | | | 83,23,590 |
| Puducherry | | | | | | | | | 48 | | 5,745 |
| Punjab | | | 28,097 | | 900 | 87,894 | | 2,364 | | | 4,25,873 |
| Rajasthan | | | 11,26,167 | | 12 | 10,938 | 3 | 3,80,998 | | | 1,16,14,597 |
| Sikkim | | | | | | | 4,461 | | | | 31,160 |
| Tamil Nadu | 13,934 | 16 | 95 | | 3,445 | 966 | | 333 | 42,330 | | 17,93,941 |
| Telangana | | 1,286 | 28 | 59 | 97 | 1,260 | | 475 | 6 | 42 | 36,21,726 |
| Tripura | | | | | | 23 | | | | | 6,10,194 |
| Uttar Pradesh | | | | | 37,680 | 17,07,673 | | 77,882 | | | 1,28,97,013 |
| Uttarakhand | | | 744 | | 52,914 | 46,044 | | | | | 12,75,303 |
| West Bengal | | | | | 90 | 26,31,783 | 18,227 | | | | 1,56,84,764 |
| **All India** | **13,934** | **13,275** | **11,69,828** | **1,49,221** | **6,12,900** | **59,49,674** | **24,067** | **5,82,257** | **42,390** | **15,181** | **14,21,06,466** |

**#Note: 12 Cattle Breeds (Poda Thurpu, Nari, Dagri, Thuntho, Shweta Kapila, Himachi Pahari, Purnea, Kankan Kapila, Ladakhi, Kathani, Sanchori & Masilum) are newly registered breeds.**

**Annexure-I**

## State wise breed wise buffalo population (Continued)

| Row Labels | Banni | Bhadawari | Chilika | Jaffarabadi | Kalahandi | Marathwadi | Mehsana | Murrah | Nagpuri | Nili Ravi | Non-Descript | Pandharpuri | Surti | Toda | All India |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A&N Islands | | | | | | | | 51 | | | 3649 | | | | 3700 |
| Andhra Pradesh | | | | 162 | | | | 3982510 | | | 2236817 | 0 | 10 | | 6219499 |
| Arunachal Pradesh | | | | | | | | | | | 6379 | | | | 6379 |
| Assam | | | | | | | | 39,635 | | | 3,78,318 | | 3,762 | | 4,21,715 |
| Bihar | | | | | | - | 5,603 | 23,65,158 | | 92 | 53,48,941 | | | | 77,19,794 |
| Chandigarh | | | | | | | | 10,501 | | 296 | 1,380 | | | | 12,177 |
| Chhattisgarh | 31 | 24 | 6 | 34 | | | 9,175 | 2,26,955 | 14,959 | 540 | 9,15,842 | 3 | 7,153 | | 11,74,722 |
| D&N Haveli | 14 | | | 156 | | | 311 | | | | 496 | | 20 | | 997 |
| Daman & Diu | | | | 10 | | | 186 | | | | 139 | | 39 | | 374 |
| Delhi | | | | | | | | 1,39,326 | | 1,201 | 21,354 | | 261 | | 1,62,142 |
| Goa | | | | 11 | | | | 1,087 | | | 25,625 | 484 | | | 27,207 |
| Gujarat | 7,78,261 | | | 14,75,659 | | | 39,54,691 | 7,654 | | | 31,78,622 | | 11,48,363 | | 1,05,43,250 |
| Haryana | 6 | 370 | | 65 | | | 2 | 38,16,649 | 1 | 31,977 | 5,18,850 | | 103 | | 43,68,023 |
| Himachal Pradesh | | 1,839 | | | | | | 3,80,687 | | 7,104 | 2,56,935 | | | | 6,46,565 |
| Jammu & Kashmir | | | | | | | | 1,85,614 | | 7,198 | 4,98,017 | | | | 6,90,829 |
| Jharkhand | | | | 140 | | | 1,79,240 | 3,86,737 | 80,958 | | 6,45,796 | | 57,442 | | 13,50,313 |
| Karnataka | | | | 14,417 | | | 18,157 | 5,48,284 | | | 17,03,464 | 42,539 | 6,57,699 | | 29,84,560 |
| Kerala | 91 | 125 | 14 | 689 | 1 | 23 | 253 | 30,911 | 40 | | 68,663 | 8 | 686 | | 1,01,504 |
| Lakshadweep | | | | | | | | | | | 16 | | | | 16 |
| Madhya Pradesh | | 2,19,698 | | 11,064 | | | 420 | 31,19,646 | 3,295 | | 69,53,008 | | | | 1,03,07,131 |
| Maharashtra | 34 | | | 3,30,744 | | 2,42,596 | 1,80,599 | 9,94,944 | 50,608 | | 32,80,768 | 4,71,933 | 51,466 | | 56,03,692 |
| Manipur | | | | | | | | 872 | | | 35,358 | | | | 36,230 |
| Meghalaya | | | | | | | | | | | 15,714 | | | | 15,714 |
| Mizoram | | | | | | | | | | | 2,109 | | | | 2,109 |
| Nagaland | 7 | | | | | | | 9 | | 1 | 15,456 | | 181 | | 15,654 |
| Odisha | | | 13,638 | | 25,161 | | | 8,440 | | | 4,11,085 | | | | 4,58,324 |
| Puducherry | | | | | | | | 280 | | | 2,115 | | | | 2,395 |
| Punjab | | | | 5,133 | | | | 37,39,576 | | 1,26,355 | 1,44,883 | | | | 40,15,947 |
| Rajasthan | 18 | 1,151 | | 514 | 2 | 31 | 1,220 | 73,27,558 | | 300 | 58,38,220 | | 5,24,302 | | 1,36,93,316 |
| Sikkim | | | | | | | | 38 | | | 1,106 | | | | 1,144 |
| Tamil Nadu | | | - | 204 | | | | 1,04,315 | | | 3,94,348 | | 60 | 19,868 | 5,18,795 |
| Telangana | 4 | | | 41,554 | | | 28,873 | 16,08,137 | 6,382 | 11 | 25,40,639 | | 706 | | 42,26,306 |
| Tripura | | | | | | | | 24 | | | 7,107 | | | | 7,131 |
| Uttar Pradesh | | 17,42,076 | | 2,58,571 | | | 58 | 1,73,14,773 | | 59,278 | 1,36,42,019 | | 10 | | 3,30,16,785 |
| Uttarakhand | | 16,569 | | | | | | 4,79,719 | | 1,896 | 3,68,050 | | 84 | | 8,66,318 |
| West Bengal | | | | | | | | 2,45,358 | 4 | | 3,85,544 | | 15 | | 6,30,921 |
| **All** | **7,78,466** | **19,81,852** | **13,658** | **21,39,127** | **25,164** | **2,42,650** | **43,78,788** | **4,70,65,448** | **1,56,247** | **2,36,249** | **4,98,46,832** | **5,14,967** | **24,52,362** | **19,868** | **10,98,51,678** |

**Annexure-II**

**Average milk production per day per animal for the listed breeds:**

**Average milk production per day per animal for cattle breeds**

| S. No. | Breed Name | Avg Milk yield (Kg) /day |
|---|---|---|
| 1 | Amritmahal | 1.88 |
| 2 | Bachaur | 1.14 |
| 3 | Badri | 2.07 |
| 4 | Bargur | 1.15 |
| 5 | Belahi | 3.32 |
| 6 | Binjharpuri | 3.70 |
| 7 | Dangi | 1.41 |
| 8 | Deoni | 2.85 |
| 9 | Gangatiri | 3.44 |
| 10 | Gaolao | 1.98 |
| 11 | Ghumusari | 1.80 |
| 12 | Gir | 6.92 |
| 13 | Hallikar | 1.78 |
| 14 | Hariana | 3.27 |
| 15 | Kangayam | 1.77 |
| 16 | Kankrej | 5.70 |
| 17 | Kenkatha | 1.80 |
| 18 | Khariar | 1.07 |
| 19 | Kherigarh | 1.31 |
| 20 | Khillar | 1.48 |
| 21 | Kosali | 0.69 |
| 22 | Krishna Valley | 3.00 |
| 23 | Lakhimi | 1.18 |
| 24 | Malnad Gidda | 0.72 |
| 25 | Malvi | 3.00 |
| 26 | Mewati | 3.14 |
| 27 | Motu | 0.39 |
| 28 | Nagori | 1.98 |
| 29 | Nimari | 2.51 |
| 30 | Ongole | 2.62 |
| 31 | Ponwar | 1.50 |
| 32 | Pulikulum | 1.25 |
| 33 | Punganur | 1.79 |
| 34 | Rathi | 5.11 |
| 35 | Red Kandhari | 1.96 |
| 36 | Red Sindhi | 6.03 |
| 37 | Sahiwal | 7.62 |
| 38 | Siri | 1.40 |
| 39 | Tharparkar | 5.73 |
| 40 | Umbla Cherry | 1.62 |
| 41 | Vechur | 1.84 |

**Average milk production per day per animal for Buffalo breeds**

| S. No. | Breed Name | Avg Milk yield (Kg) /day |
|---|---|---|
| 1 | Banni | 9.37 |
| 2 | Bhadawari | 4.24 |
| 3 | Chilika | 1.64 |
| 4 | Jaffarabadi | 7.34 |
| 5 | Kalahandi | 2.62 |
| 6 | Marathwadi | 3.67 |
| 7 | Mehsana | 6.52 |
| 8 | Murrah | 5.74 |
| 9 | Nagpuri | 3.41 |
| 10 | Nili Ravi | 6.39 |
| 11 | Pandharpuri | 5.87 |
| 12 | Surti | 5.47 |
| 13 | Toda | 1.64 |

**Annexure-III**

## State-wise details of Cattle and Buffalo population

**No. of In-milk animals in Thousands**

| S. No. | States/UTs | Buffalo ('000) | | | | Indigenous cattle ('000) | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | 2012-13 | 2019-20 | 2023-24 | % Chg | 2012-13 | 2019-20 | 2023-24 | % Chg |
| 1 | Andhra Pradesh | 5501.13 | 5724.87 | 5132.63 | -6.7 | 1605.44 | 1945.51 | 1691.05 | 5.3 |
| 2 | Arunachal Pradesh | 0.00 | 0.47 | 0.66 | NA | 27.26 | 86.47 | 81.51 | 199.0 |
| 3 | Assam | 117.00 | 95.54 | 91.23 | -22.0 | 1227 | 1271.28 | 1128.85 | -8.0 |
| 4 | Bihar | 2013.28 | 2546.01 | 2539.06 | 26.1 | 2211.01 | 2271.7 | 3693.06 | 67.0 |
| 5 | Chhattisgarh | 207.92 | 215.37 | 244.81 | 17.7 | 1508.44 | 1327.39 | 1481.54 | -1.8 |
| 6 | Goa | 21.81 | 7.41 | 7.34 | -66.3 | 13.87 | 6.15 | 5.85 | -57.8 |
| 7 | Gujarat | 3383.18 | 3922.56 | 4209.95 | 24.4 | 1510.94 | 1981.37 | 1811.17 | 19.9 |
| 8 | Haryana | 2217.82 | 2729.56 | 2329.14 | 5.0 | 196.45 | 218.21 | 295.75 | 50.5 |
| 9 | Himachal Pradesh | 306.62 | 276.34 | 291.41 | -5.0 | 269.18 | 158.49 | 164.79 | -38.8 |
| 10 | Jammu & Kashmir | 166.04 | 257.63 | 189.99 | 14.4 | 254.82 | 276.77 | 295.71 | 16.0 |
| 11 | Jharkhand | 304.71 | 355.56 | 313.27 | 2.8 | 1465.11 | 1810.51 | 1953.81 | 33.4 |
| 12 | Karnataka | 1802.56 | 1472.89 | 1833.50 | 1.7 | 1657.7 | 1455.68 | 1603.4 | -3.3 |
| 13 | Kerala | 40.66 | 6.22 | 8.11 | -80.1 | 11.5 | 27.67 | 35.87 | 211.9 |
| 14 | Madhya Pradesh | 3109.30 | 4645.48 | 5823.34 | 87.3 | 3931.1 | 5794.93 | 5918.21 | 50.5 |
| 15 | Maharashtra | 2448.00 | 2313.84 | 2637.10 | 7.7 | 1998 | 1764.08 | 1869.3 | -6.4 |
| 16 | Manipur | 10.99 | 13.53 | 5.81 | -47.1 | 46.71 | 50.67 | 42.44 | -9.1 |
| 17 | Meghalaya | 3.00 | 1.33 | 1.54 | -48.7 | 108.11 | 124.16 | 128.25 | 18.6 |
| 18 | Mizoram | | | | NA | 2.91 | 3.17 | 3.45 | 18.6 |
| 19 | Nagaland | 3.51 | 3.79 | 1.06 | -69.8 | 13.25 | 12.53 | 9.25 | -30.2 |
| 20 | Odisha | 178.00 | 175.62 | 87.96 | -50.6 | 1397 | 1807.98 | 1548.58 | 10.9 |
| 21 | Punjab | 2084.29 | 2987.39 | 2424.22 | 16.3 | 127.83 | 117.44 | 163.75 | 28.1 |
| 22 | Rajasthan* | 3527.00 | 4961.45 | 6637.08 | 88.2 | 3051 | 3232.03 | 4667.72 | 53.0 |
| 23 | Sikkim | 0.10 | 0.00 | 0.13 | 30.0 | 11.51 | 0 | 2.16 | -81.2 |
| 24 | Tamil Nadu | 439.00 | 264.17 | 190.52 | -56.6 | 725 | 581.41 | 559.56 | -22.8 |
| 25 | Telangana | - | 1956.54 | 1905.41 | NA | - | 867.99 | 812.21 | NA |

| S. No. | States/UTs | Buffalo ('000) | | | | Indigenous cattle ('000) | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | 2012-13 | 2019-20 | 2023-24 | % Chg | 2012-13 | 2019-20 | 2023-24 | % Chg |
| 26 | Tripura | 1.52 | 1.86 | 3.06 | 101.3 | 112.39 | 146.51 | 168.55 | 50.0 |
| 27 | Uttar Pradesh | 9983.88 | 12126.08 | 12505.63 | 25.3 | 4515.22 | 5461.1 | 5046.98 | 11.8 |
| 28 | Uttarakhand | 529.07 | 448.48 | 387.16 | -26.8 | 457.25 | 332.19 | 368.67 | -19.4 |
| 29 | West Bengal | 125.00 | 154.02 | 156.48 | 25.2 | 3377 | 3119.96 | 3766.32 | 11.5 |
| 30 | A&N Islands | 2.00 | 1.30 | 0.76 | -62.0 | 6 | 4.22 | 3.33 | -44.5 |
| 31 | Chandigarh | 13.83 | 8.24 | 8.13 | -41.2 | 0.54 | 0.54 | 0.88 | 63.0 |
| 32 | D.& N. Haveli | | | | NA | 5.97 | | 25.22 | 322.4 |
| 33 | Daman & Diu | 0.25 | 0.21 | 0.18 | -28.0 | 0.69 | 0.29 | 0.59 | -14.5 |
| 34 | Delhi | 95.52 | | 103.43 | 8.3 | 23.28 | | 26.23 | 12.7 |
| 35 | Lakshadweep | | | | NA | 0.44 | 0.31 | 0.03 | -93.2 |
| 36 | Puducherry | 1.00 | 1.19 | 1.26 | 26.0 | 1 | 0.63 | 0.68 | -32.0 |
| | India | 38638.94 | 45718.40 | 48165.96 | 24.7 | 31870.92 | 35391.38 | 38562.51 | 21.0 |

**Source: Basic Animal Husbandry Statistics**

**Annexure-IV**

**Average productivity of Non-Descript/Indigenous Cows in the country is provided in the table below:**

| State-wise Average Yield per In-Milk Animal of Non-Descript/Indigenous Cows during 2018 -19 to 2020-21 (figures in kg/day) | | | | |
|---|---|---|---|---|
| **S. No.** | **States/UTs** | **2018-19** | **2019-20** | **2020-21** |
| 1 | Andhra Pradesh | 3.53 | 3.41 | 3.8 |
| 2 | Arunachal Pradesh | 1.39 | 1.4 | 1.4 |
| 3 | Assam | 1.02 | 1.06 | 1.06 |
| 4 | Bihar | 3.35 | 3.37 | 2.93 |
| 5 | Chhattisgarh | 2.18 | 2.24 | 2.2 |
| 6 | Goa | 2.27 | 2.2 | 2.12 |
| 7 | Gujarat | 4.4 | 4.47 | 4.56 |
| 8 | Haryana | 5.91 | 6.19 | 6.26 |
| 9 | Himachal Pradesh | 2 | 2.06 | 2.07 |
| 10 | Jammu & Kashmir | 3.68 | 3.81 | 3.52 |
| 11 | Jharkhand | 1.56 | 1.56 | 1.86 |
| 12 | Karnataka | 2.36 | 2.9 | 3.17 |
| 13 | Kerala | 2.97 | 3.21 | 3.29 |
| 14 | Madhya Pradesh | 3 | 3.09 | 3.24 |
| 15 | Maharashtra | 2.3 | 2.34 | 2.31 |
| 16 | Manipur | 1.45 | 1.52 | 1.53 |
| 17 | Meghalaya | 0.78 | 0.79 | 0.79 |
| 18 | Mizoram | 1.6 | 1.61 | 1.64 |
| 19 | Nagaland | 1.77 | 1.8 | 1.81 |
| 20 | Odisha | 1.42 | 1.47 | 1.47 |
| 21 | Punjab | 6.91 | 7.59 | 8.86 |
| 22 | Rajasthan | 5.12 | 5.31 | 5.62 |
| 23 | Sikkim | 0 | 0 | 0 |
| 24 | Tamil Nadu | 3.05 | 3.11 | 3.08 |
| 25 | Telangana | 2.45 | 2.59 | 2.84 |
| 26 | Tripura | 1.8 | 1.94 | 1.85 |
| 27 | Uttar Pradesh | 3.07 | 3.11 | 3.03 |
| 28 | Uttarakhand | 2.19 | 2.25 | 2.44 |
| 29 | West Bengal | 2.99 | 3.02 | 3.03 |
| 30 | A&N Islands | 3.24 | 3.25 | 2.29 |
| 31 | Chandigarh | 5.47 | 5.81 | 5.95 |
| 32 | Ladakh | - | - | 0.57 |
| 33 | D.& N. Haveli | - | - | 6.52 |
| | Daman & Diu | 4.81 | 4.23 | |
| 34 | Delhi | - | - | - |
| 35 | Lakshadweep | 3 | 3.31 | 3.33 |
| 36 | Puducherry | 2.55 | 2.56 | 2.56 |
| | All India | 3.01 | 3.08 | 3.2 |

*"-" not received/not available*
*Source: Basic Animal Husbandry Statistics 2020*

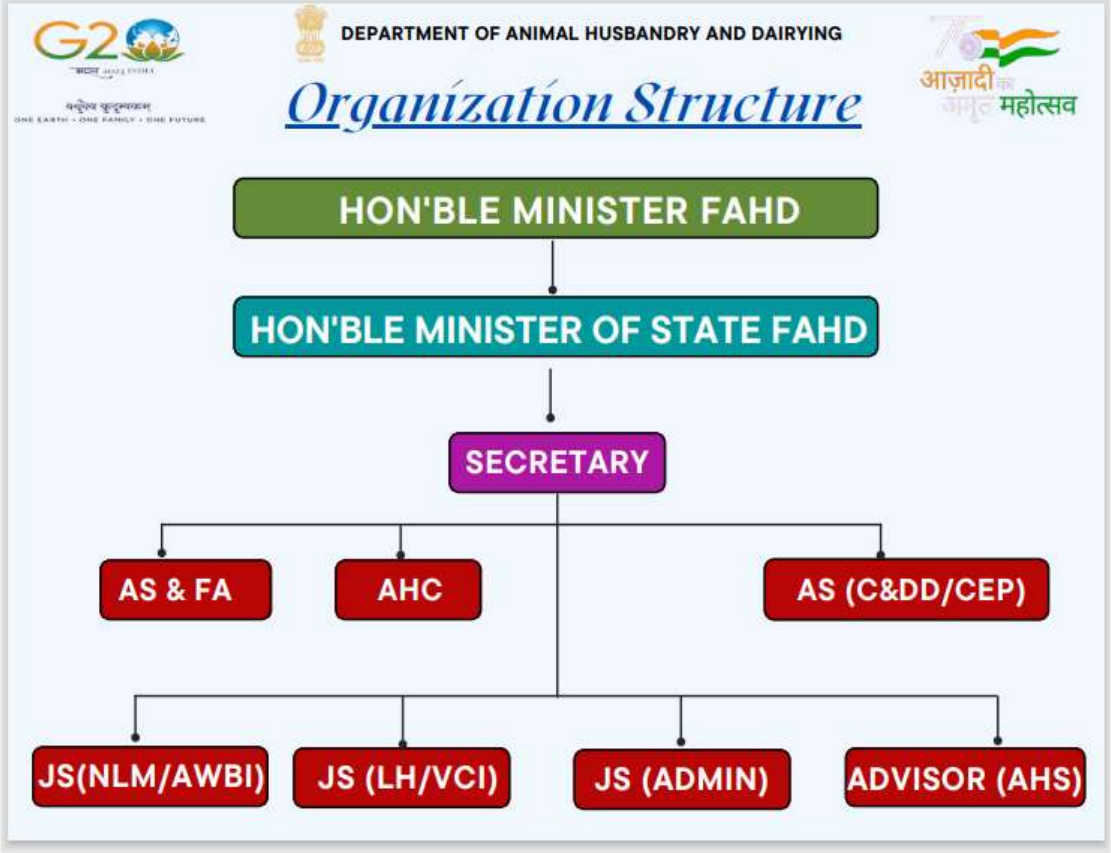
**Average productivity of Buffaloes in the country is provided in the table below:**

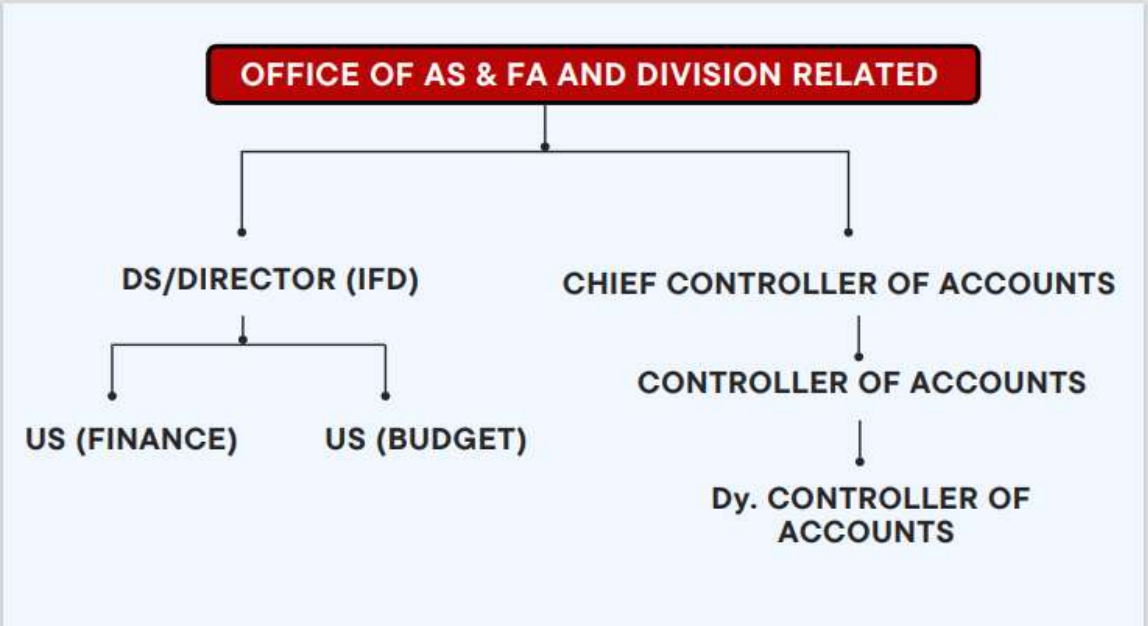
| State-wise Average Yield per In-Milk Animal from Buffaloes during 2018-19 to 2020-21 (figures in kg/day) | | | | |
|---|---|---|---|---|
| **S.No.** | **States/UTs** | **2018-19** | **2019-20** | **2020-21** |
| 1 | Andhra Pradesh | 7.52 | 6.94 | 7.77 |
| 2 | Arunachal Pradesh | 2.55 | 2.52 | 2.4 |
| 3 | Assam | 3.43 | 3.46 | 3.45 |
| 4 | Bihar | 4.39 | 4.47 | 2.56 |
| 5 | Chhattisgarh | 4.91 | 5.01 | 5.21 |
| 6 | Goa | 4.38 | 3.98 | 3.76 |
| 7 | Gujarat | 5.15 | 5.24 | 5.29 |
| 8 | Haryana | 9.11 | 9.51 | 9.63 |
| 9 | Himachal Pradesh | 3.97 | 4.09 | 4.13 |
| 10 | Jammu & Kashmir | 5.23 | 5.23 | 4.7 |
| 11 | Jharkhand | 3.32 | 3.33 | 3.66 |
| 12 | Karnataka | 3.29 | 3.9 | 4.31 |
| 13 | Kerala | 5.04 | 5.27 | 5.2 |
| 14 | Madhya Pradesh | 4.58 | 4.67 | 4.79 |
| 15 | Maharashtra | 5.12 | 5.18 | 5.26 |
| 16 | Manipur | 3.28 | 3.32 | 3.31 |
| 17 | Meghalaya | 1.84 | 1.85 | 1.85 |
| 18 | Mizoram | 0 | 0 | 0 |
| 19 | Nagaland | 3.5 | 3.28 | 3.5 |
| 20 | Odisha | 3.97 | 3.12 | 1.61 |
| 21 | Punjab | 8.44 | 8.65 | 9.46 |
| 22 | Rajasthan | 6.93 | 7.51 | 8.32 |
| 23 | Sikkim | 0 | 0 | 0 |
| 24 | Tamil Nadu | 4.04 | 4.1 | 3.54 |
| 25 | Telangana | 5.17 | 5.54 | 5.6 |
| 26 | Tripura | 2.59 | 2.87 | 3.16 |
| 27 | Uttar Pradesh | 4.53 | 4.59 | 4.5 |
| 28 | Uttarakhand | 4.66 | 4.75 | 4.87 |
| 29 | West Bengal | 4.83 | 4.87 | 4.88 |
| 30 | A&N Islands | 3.84 | 3.88 | 2.35 |
| 31 | Chandigarh | 9.26 | 9.83 | 10.26 |
| 32 | Ladakh | - | - | 0 |
| 33 | D.& N. Haveli | - | - | 9.35 |
| | Daman & Diu | 0.45 | 5.93 | |
| 34 | Delhi | - | - | - |
| 35 | Lakshadweep | 0 | 0 | 0 |
| 36 | Puducherry | 5.29 | 5.28 | 5.28 |
| | All India | 5.15 | 5.75 | 5.65 |

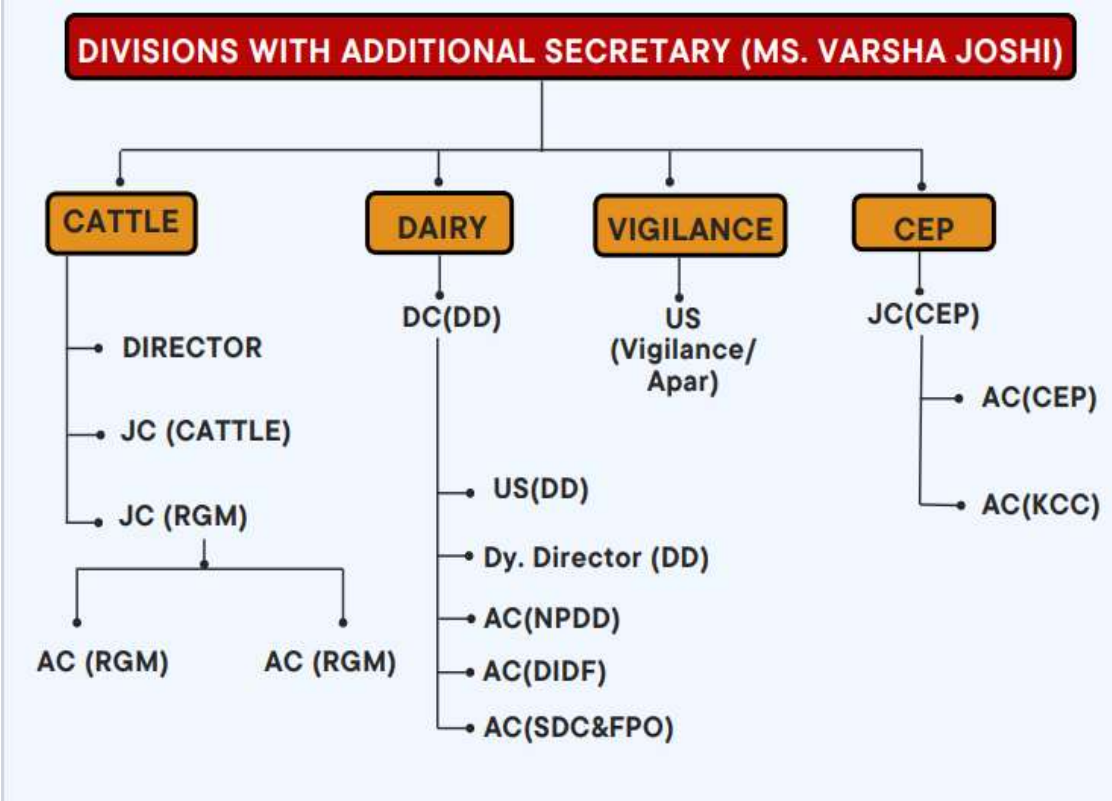
*"-" not received/not available*
*Source: Basic Animal Husbandry Statistics 2020*

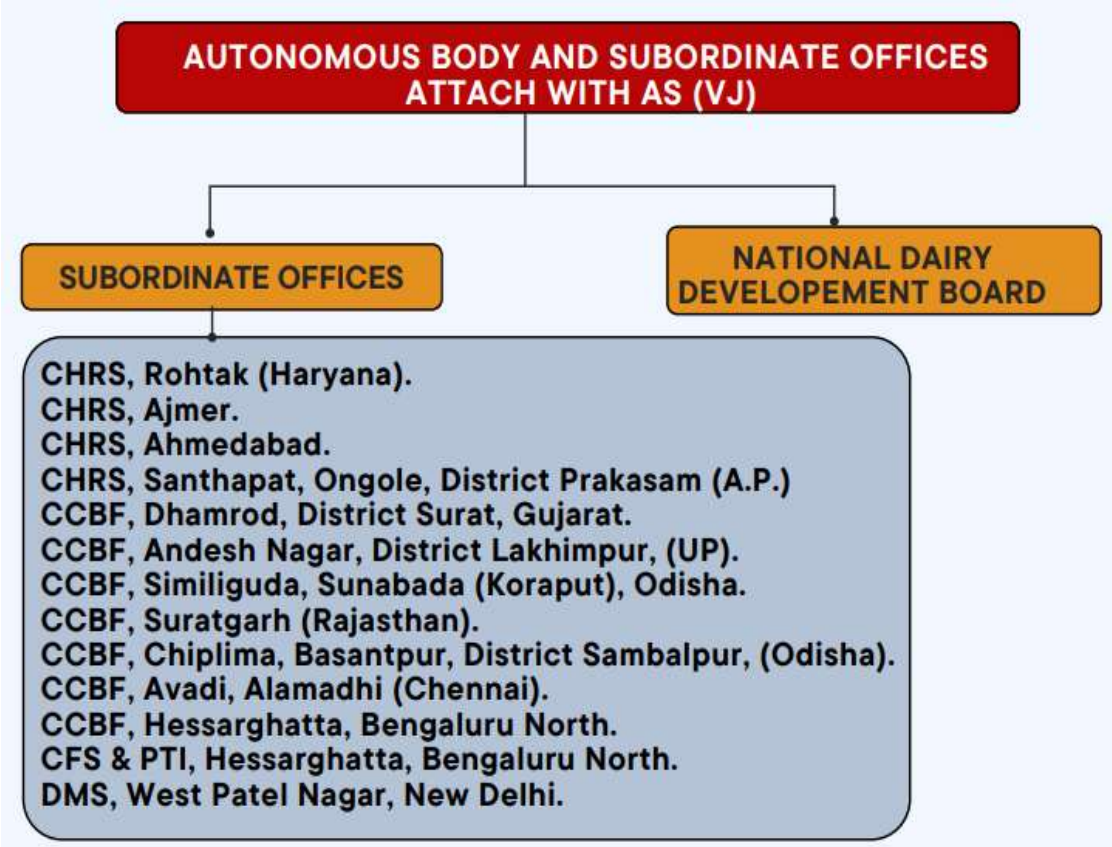
**Annexure-V**

## Organization structure of Department of Animal Husbandry and Dairying leading upto NDDB




DIVISIONS WITH ADDITIONAL SECRETARY (MS. VARSHA JOSHI)
CATTLE
DAIRY
VIGILANCE
CEP
DIRECTOR
JC (CATTLE)
JC (RGM)
AC (RGM)
AC (RGM)
DC(DD)
US(DD)
Dy. Director (DD)
AC(NPDD)
AC(DIDF)
AC(SDC&FPO)
US (Vigilance/ Apar)
JC(CEP)
AC(CEP)
AC(KCC)


AUTONOMOUS BODY AND SUBORDINATE OFFICES ATTACH WITH AS (VJ)
SUBORDINATE OFFICES
NATIONAL DAIRY DEVELOPEMENT BOARD
CHRS, Rohtak (Haryana).
CHRS, Ajmer.
CHRS, Ahmedabad.
CHRS, Santhapat, Ongole, District Prakasam (A.P.)
CCBF, Dhamrod, District Surat, Gujarat.
CCBF, Andesh Nagar, District Lakhimpur, (UP).
CCBF, Similiguda, Sunabada (Koraput), Odisha.
CCBF, Suratgarh (Rajasthan).
CCBF, Chiplima, Basantpur, District Sambalpur, (Odisha).
CCBF, Avadi, Alamadhi (Chennai).
CCBF, Hessarghatta, Bengaluru North.
CFS & PTI, Hessarghatta, Bengaluru North.
DMS, West Patel Nagar, New Delhi.

**Annexure-VI**

## Progeny Testing/ Pedigree Selection programmes sanctioned under NDP-I

| Sr. No. | State | Breed | End Implementing Agency | Areas covered | Fund Utilized (Rs. Lakh) | HGM Bulls made available |
|---|---|---|---|---|---|---|
| **Cattle** | | | | | | |
| 1 | Gujarat | Kankrej | Banaskantha Milk Union | Milk shed of Banaskantha Milk Union | 382.12 | 49 |
| 2 | Gujarat | Gir | Sabarmati Ashram Gaushala | Amreli, Bhavnagar, Junagadh | 1113.30 | 111 |
| 3 | Rajasthan | Rathi | URMUL Trust | Bikaner, Shri Ganganagar, Hanumangarh and Churu | 568.12 | 31 |
| 4 | Rajasthan | Tharparkar | Rajasthan Livestock Development Board | Barmer, Jaisalmer and Jodhpur | 238.78 | 18 |
| 5 | Rajasthan | Sahiwal | Ganganagar Milk Union | Shri Ganganagar and Hanumangarh | 303.19 | 26 |
| 6 | Punjab | Sahiwal | Punjab Livestock Development Board | Fazilka, Firozpur, Muktsar, Ludhiana and Jalandhar | 222.82 | 28 |
| 7 | Haryana | Hariana | Haryana Livestock Development Board | Bhiwani, Fatehabaad, Hissar, Jhajjar, Jind, Rohtak, Sonipat and Sirsa | 429.41 | 43 |
| **Buffaloes** | | | | | | |
| 8 | Gujarat | Murrah | Sabarmati Ashram Gaushala | Sabarkantha, Surat, Tapi and Panchmahal | 1285.17 | 217 |
| 9 | Haryana | Murrah | Haryana Livestock Development Board | Bhiwani, Hisar, Jhajjar, Jind, Rohtak and Sonipat | 1600.41 | 195 |
| 10 | Punjab | Murrah | Punjab Livestock Development Board | Patiala, Sangrur and Barnala | 1236.70 | 178 |
| 11 | Uttar Pradesh | Murrah | Animal Breeding Research Organization | Bagpat and Meerut | 1043.31 | 122 |
| 12 | Gujarat | Mehsana | Banaskantha Milk Union | Banaskantha and Patan | 808.73 | 73 |
| 13 | Gujarat | Mehsana | Mehsana Milk Union | Banaskantha and Patan | 970.40 | 98 |
| 14 | Maharashtra | Pandharpuri | Maharashtra Livestock Development Board | Solapur | 338.86 | 32 |
| 15 | Gujarat | Jaffarabadi | Sabarmati Ashram Gaushala | Amreli, Bhavnagar, Junagadh | 460.54 | 30 |
| 16 | Punjab | Nili-Ravi | Punjab Livestock Development Board | Fazilka, Ferozpur, Taran tarn and Amritsar | 327.50 | 14 |
| | | | | **TOTAL** | **11329.36** | **1265** |

**Annexure-VII**

**The performance of Progeny Testing and Pedigree Selection projects since its inception is provided below:-**

**Performance under NDP I: Procurement of HGM bulls**

| State | End Implementing Agency | Breed | Cum Target | Year-wise achievement | | | | | | | Cum.. Ach |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 2012-13 | 2013-14 | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | |
| Andhra Pradesh | APLDA | CBJY | **178** | | | **6** | **4** | **41** | **41** | **50** | **142** |
| Gujarat | SAG | Gir | **104** | | | | **15** | **14** | **19** | **72** | **120** |
| Gujarat | SAG HFCB | HFCB | **318** | | **38** | **52** | **87** | **68** | **63** | **45** | **353** |
| Gujarat | SAG | Murrah | **209** | | **3** | **14** | **43** | **49** | **30** | **78** | **217** |
| Gujarat | SAG | Jaffrabadi | **34** | | | | **5** | **8** | **3** | **14** | **30** |
| Gujarat | BANAS | Mehsana | **79** | | **10** | **10** | **8** | **11** | **14** | **20** | **73** |
| Gujarat | BANAS | Kankrej | **73** | | | **16** | **23** | **10** | | | **49** |
| Gujarat | MEHSANA | Mehsana | **87** | | **11** | **4** | **11** | **28** | **16** | **28** | **98** |
| Haryana | HLDB | Hariana | **42** | | | | | **13** | **29** | **1** | **43** |
| Haryana | HLDB | Murrah | **241** | | | | | **10** | **68** | **117** | **195** |
| Karnataka | KMF | HF | **243** | **8** | **11** | **19** | **62** | **43** | **41** | **19** | **203** |
| Kerala | KLDB CBHF | CBHF | **77** | | | | | **12** | **22** | **23** | **57** |
| Maharashtra | MLDB | Pandharpuri | **34** | | | | | | **6** | **26** | **32** |
| Punjab | PLDB | Murrah | **116** | | | | | **22** | **51** | **105** | **178** |
| Punjab | PLDB | Sahiwal | **24** | | | | | | **4** | **24** | **28** |
| Punjab | PLDB | Nili-Ravi | **19** | | | | | | **2** | **12** | **14** |
| Rajasthan | URMUL | Rathi | **57** | | | **5** | **6** | **6** | **8** | **6** | **31** |
| Rajasthan | GANGMUL | Sahiwal | **25** | | | | | | **7** | **19** | **26** |
| Rajasthan | RLDB | Tharparkar | **15** | | | | | | **5** | **13** | **18** |
| Tamil Nadu | TCMPF | CBJY | **254** | | | **1** | **45** | **82** | **128** | **15** | **271** |
| Uttar Pradesh | BAIF | CBHF | **80** | | | | | | **10** | **83** | **93** |
| Uttar Pradesh | ABRO | Murrah | **128** | | **9** | | **12** | **20** | **22** | **59** | **122** |
| Uttarakhand | ULDB | CBHF | **69** | | | | | **3** | **12** | **57** | **72** |
| **Total** | | | **2506** | **8** | **82** | **127** | **321** | **440** | **601** | **886** | **2465** |

## Performance under RGM: Procurement of HGM bulls

| State | Participating Agencies | Breed | Cum. Target | Year-wise achievement | | | | | Cum. Ach |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 | |
| Andhra Pradesh | APLDA | JYCB | 364 | 0 | 10 | 31 | 108 | 70 | 219 |
| Gujarat | SAG | Gir | 513 | 28 | 81 | 70 | 76 | 53 | 308 |
| Gujarat | SAG | Murrah | 390 | 17 | 44 | 44 | 87 | 69 | 261 |
| Gujarat | SAG | HFCB | 379 | 15 | 79 | 58 | 64 | 54 | 270 |
| Gujarat | SAG | Jaffarabadi | 86 | 6 | 8 | 23 | 4 | 1 | 42 |
| Gujarat | Banas MU | Mehsana | 109 | 5 | 4 | 12 | 25 | 26 | 72 |
| Gujarat | Banas MU | Kankrej | 48 | 7 | 3 | 6 | 5 | 2 | 23 |
| Gujarat | Mehsana MU | Mehsana | 98 | 10 | 6 | 11 | 19 | 22 | 68 |
| Gujarat | Sarhad Dairy | Banni | 12 | NA | NA | NA | NA | NA | 0 |
| Haryana | HLDB | Murrah | 544 | 0 | 47 | 87 | 116 | 64 | 314 |
| Haryana | HLDB | Hariana | 98 | 0 | 16 | 25 | 15 | 4 | 60 |
| Himachal Pradesh | HPL&PDB | Jersey | 26 | NA | NA | NA | NA | NA | 0 |
| Kerala | KLDB | HFCB | 271 | 11 | 31 | 66 | 51 | 28 | 187 |
| Maharashtra | MLDB | Pandharpuri | 71 | 0 | 2 | 15 | 12 | 4 | 33 |
| Maharashtra | MLDB | Gaolao | 14 | NA | NA | NA | NA | NA | 0 |
| Punjab | PLDB | Sahiwal | 329 | 9 | 23 | 53 | 60 | 25 | 170 |
| Punjab | PLDB | Murrah | 506 | 0 | 50 | 168 | 136 | 39 | 393 |
| Punjab | PLDB | Nili Ravi | 39 | 0 | 4 | 12 | 1 | 1 | 18 |
| Rajasthan | GANGMUL | Sahiwal | 385 | 15 | 23 | 54 | 65 | 43 | 200 |
| Rajasthan | URMUL | Rathi | 48 | 0 | 3 | 11 | 9 | 1 | 24 |
| Rajasthan | RLDB | Tharparkar | 141 | 0 | 17 | 42 | 33 | 0 | 92 |
| Tamil Nadu | TCMPF | JYCB | 558 | 0 | 35 | 116 | 97 | 102 | 350 |
| Uttar Pradesh | ABRO | Murrah | 588 | 44 | 93 | 99 | 93 | 84 | 413 |
| **Total** | | | 5617 | 167 | 579 | 1003 | 1076 | 692 | 3517 |

**Annexure-VIII**

**Details of Artificial Insemination (AI) and Calves born in phases of Nationwide Artificial Insemination Program (NAIP) under Rashtriya Gokul Mission (RGM)**

| State/UT | NAIP- Phase-I | | NAIP-Phase-II | | NAIP- Phase-III | | NAIP- Phase-IV | | TOTAL | |
|---|---|---|---|---|---|---|---|---|---|---|
| | AI Done | Calf Born | AI Done | Calf Born | AI Done | Calf Born | AI Done | Calf Born | AI Done | Calf Born |
| Andhra Pradesh | 552659 | 46302 | 1224413 | 131697 | 1885270 | 106237 | 4067938 | 58754 | 7730280 | 342990 |
| Arunachal Pradesh | 134 | 8 | 494 | 4 | 467 | 2 | 621 | 2 | 1716 | 16 |
| Assam | 160720 | 5945 | 400503 | 55700 | 493633 | 77994 | 652718 | 37574 | 1707574 | 177213 |
| Bihar | 333238 | 62529 | 512342 | 84201 | 868192 | 59357 | 1188086 | 7796 | 2901858 | 213883 |
| Chhattisgarh | 192392 | 31160 | 337818 | 69503 | 474931 | 90720 | 578221 | 19646 | 1583362 | 211029 |
| Delhi | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 0 |
| Goa | 0 | 0 | 14283 | 110 | 7770 | 11 | 4200 | 9 | 26253 | 130 |
| Gujarat | 1071156 | 35792 | 1202053 | 151560 | 1453238 | 176364 | 2033727 | 28742 | 5760174 | 392458 |
| Haryana | 64758 | 272 | 241644 | 6636 | 245332 | 310 | 45295 | 29 | 597029 | 7247 |
| Himachal Pradesh | 177365 | 4064 | 626280 | 20327 | 635326 | 16786 | 580092 | 9932 | 2019063 | 51109 |
| Jammu &Kashmir | 205203 | 13338 | 746238 | 21672 | 839787 | 12981 | 765723 | 5278 | 2556951 | 53269 |
| Jharkhand | 98709 | 12546 | 453989 | 53582 | 682142 | 89269 | 905116 | 22766 | 2139956 | 178163 |
| Karnataka | 1242532 | 61108 | 837306 | 76490 | 1801451 | 185458 | 2352257 | 76946 | 6233546 | 400002 |
| Ladakh | 590 | 184 | 1851 | 649 | 1486 | 572 | 1595 | 32 | 5522 | 1437 |
| Kerala | 18243 | 0 | 0 | 0 | 0 | 0 | 1165 | 3 | 19408 | 3 |
| Madhya Pradesh | 793691 | 174115 | 2042244 | 573127 | 2116792 | 578181 | 2526165 | 56736 | 7478892 | 1382159 |
| Maharashtra | 375109 | 30285 | 706140 | 94071 | 1928889 | 116323 | 2059558 | 71409 | 5069696 | 312088 |
| Manipur | 0 | 0 | 5107 | 155 | 5068 | 0 | 2636 | 0 | 12811 | 155 |
| Meghalaya | 4054 | 43 | 14679 | 129 | 19608 | 188 | 21949 | 145 | 60290 | 505 |
| Mizoram | 1282 | 10 | 2535 | 414 | 2424 | 573 | 2389 | 162 | 8630 | 1159 |
| Nagaland | 599 | 0 | 3056 | 178 | 5934 | 775 | 8463 | 26 | 18052 | 979 |
| Odisha | 859487 | 33685 | 1640945 | 60774 | 1504419 | 41404 | 1314757 | 9321 | 5319608 | 145184 |
| Puducherry | 0 | 0 | 0 | 0 | 0 | 0 | 428 | 3 | 428 | 3 |
| Punjab | 512133 | 24467 | 696471 | 38050 | 950453 | 18951 | 3209 | 172 | 2162266 | 81640 |
| Rajasthan | 725652 | 26718 | 1070945 | 51195 | 2182972 | 85814 | 2075224 | 16781 | 6054793 | 180508 |
| Sikkim | 1199 | 144 | 6305 | 608 | 11626 | 1712 | 12110 | 934 | 31240 | 3398 |
| Tamil nadu | 460025 | 3751 | 1173839 | 7251 | 1812469 | 4658 | 2242937 | 2639 | 5689270 | 18299 |
| Telangana | 609275 | 86659 | 1018150 | 99113 | 653556 | 24286 | 812634 | 3713 | 3093615 | 213771 |
| Tripura | 303 | 2 | 53980 | 5890 | 67816 | 9775 | 97175 | 4234 | 219274 | 19901 |
| Uttar Pradesh | 814034 | 31997 | 1562006 | 87210 | 2642705 | 112718 | 8118012 | 47182 | 13136757 | 279107 |
| Uttrakhand | 116002 | 4711 | 488709 | 10354 | 478806 | 2571 | 419694 | 2979 | 1503211 | 20615 |
| West Bengal | 0 | 0 | 0 | 0 | 1761150 | 32319 | 2937645 | 13386 | 4698795 | 45705 |
| Total | 9390544 | 689835 | 17084325 | 1700650 | 25533712 | 1846309 | 35831741 | 497331 | 87840322 | 4734125 |

**Annexure-IX**

| A. Physical targets and achievements of Central Cattle Breeding Farms | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Sl. No.** | **Parameter** | **2020-21** | | **2021-22** | | **2022-23 (upto Dec. 2022)** | | **2023-24** |
| | | **Target** | **Ach.** | **Target** | **Ach.** | **Target** | **Ach.** | **Target** |
| 1 | Bull Calf Production (in no.) | 450 | 261 | 264 | 196 | 264 | 192 | 264 |
| 2 | Bull Calf Sold/ Distribution (in no.) | 378 | 239 | 232 | 151 | 232 | 85 | 232 |
| 3 | Training of Farmers (in no.) | 3885 | 1502 | 2455 | 1998 | 2455 | 2113 | 2455 |
| **B. Physical targets and achievements of Central Herd Registration Scheme** | | | | | | | | |
| 1 | Primary registration | 15000 | 9244 | 13500 | 9374 | 13500 | 8244 | 13500 |
| 2 | Animals Finally Registered | 9200 | 6811 | 9200 | 5674 | 9200 | 5230 | 9200 |
| 3 | Breeders awareness/publicity camps conducted | 210 | 207 | 210 | 217 | 210 | 193 | 210 |
| 4 | Number of Persons trained for conducting milk recording | 580 | 267 | 530 | 453 | 530 | 166 | 530 |
| **C. Physical targets and achievements of Central Frozen Semen Production & Training Institute** | | | | | | | | |
| 1 | Frozen Semen- Sales (In Lakhs) | 9.00 | 4.59 | 9.00 | 6.17 | 9.00 | 6.3 | 9 |
| 2 | No. of professional to be trained (In Nos.) | 300.00 | 0 | 300.00 | 177 | 300.00 | 201 | 300 |
| 3 | Revenue (In Lakhs) | 100.00 | 89.55 | 100.00 | 126.29 | 100.00 | 109.61 | 100 |
| 4 | Frozen Semen Production (In Lakhs) | 10.00 | 5.82 | 10.00 | 8.02 | 10.00 | 7.64 | 10 |

**Appendix-I**

**Standing Committee on Agriculture, Animal Husbandry and Food Processing (2021-22)**

**Minutes of the Twenty First Sitting of the Committee**

*****

The Committee sat on Monday, the 18th July, 2022, from 1600 hours to 1715 hours in Committee Room No.2, Block 'A' Extension to Parliament House Annexe Building, New Delhi.

**PRESENT**

Shri P.C. Gaddigoudar – *Chairperson*

***Members***

***Lok Sabha***

2. Shri Mohan Mandavi
3. Shri Devji Mansingram Patel
4. Smt. Sharda Anilkumar Patel
5. Shri Bheemrao Baswanthrao Patil
6. Shri Shriniwas Dadasaheb Patil
7. Shri Kinjarapu Ram Mohan Naidu
8. Shri Pocha Brahmananda Reddy
9. Shri Rajiv Pratap Rudy
10. Shri Virendra Singh
11. Shri V.K. Sreekandan

***Rajya Sabha***

12. Smt. Ramilaben Becharbhai Bara
13. Shri Kailash Soni
14. Shri Ram Nath Thakur
15. Shri Vaiko

***Secretariat***

| | | | |
|---|---|---|---|
| 1. | Shri Sundar Prasad Das | - | Director |
| 2. | Shri Anil Kumar | - | Deputy Secretary |
| 3. | Shri Prem Ranjan | - | Deputy Secretary |

***List of Witnesses***

**Ministry of Fisheries, Animal Husbandry and Dairying**

**[Department of Animal Husbandry and Dairying (DAHD)]**

| | Name | Designation |
|---|---|---|
| **1.** | **Shri Atul Chaturvedi** | **Secretary (DAHD)** |
| **2.** | **Ms. Varsha Joshi** | **Additional Secretary (Cattle & Dairy Dev.)** |
| **3.** | **Dr. Praveen Malik** | **Animal Husbandry Commissioner** |
| **4.** | **Dr. Bhushan Tyagi** | **Joint Commissioner (Rashtriya Gokul Mission)** |
| **5.** | **Shri C. Sen** | **Deputy Commissioner (Dairy Dev.)** |

**National Dairy Development Board (NDDB)**

| | | |
|---|---|---|
| **6.** | **Shri R.O. Gupta** | **Senior General Manager, NDDB** |
| **7.** | **Shri S. Raghupati** | **Senior General Manager, NDDB** |

**Indian Council of Agricultural Research (ICAR)**

| | | |
|---|---|---|
| **8.** | **Shri Bhupendra Nath Tripathi** | **Deputy Director General (Animal Science)** |

2. At the outset, the Chairperson welcomed the Members of the Committee to the Sitting convened for having a Briefing by the Representatives of the Ministry of Fisheries, Animal Husbandry and Dairying (Department of Animal Husbandry and Dairying) on the Subject 'Role of National Dairy Development Board in Protection and Conservation of Indigenous Cattle Breeds'. Thereafter, the Representatives of the Department of Animal Husbandry and Dairying (DAHD), National Dairy Development Board (NDDB) and Indian Council of Agricultural Research (ICAR) were called in. The Chairperson welcomed the Representatives to the Sitting of the Committee and apprised them of the provisions of Directions 58 of the Directions by the Speaker, Lok Sabha, regarding Confidentiality of the Proceedings.

3. After the introduction, the Chairperson initiated the discussion, which was followed by a Power-point Presentation by the Representatives of the Department. The Chairperson and Members of the Committee raised several issues / points, as briefly mentioned below and sought clarifications / information from the Department:

(i) To work towards increasing production as well as profitability of the Livestock Sector in rural areas;

(ii) To focus on improving the production, productivity and quality with respect to Indigenous Cattle and Buffalo Breeds;

(iii) To revive traditional uses of male offspring of cattle and buffaloes and to focus on increasing the rate of production of female offspring from Indigenous Cattle and Buffalo Breeds;

(iv) To make the Breed Improvement Programmes of the Department more inclusive by also incorporating other Region-specific Indigenous Breeds of Cattle and Buffalo than the ones already included;

(v) To take measures to ensure preservation and conservation of Indigenous Cattle and Buffalo Breeds on the verge of extinction, such as, the Punganur Cow which is native to Andhra Pradesh and nearing extinction;

(vi) To address the challenges faced by the National Dairy Development Board (NDDB) and the Department in protection and development of Indigenous Cattle and Buffalo Breeds;

(vii) To strive for a field expert to be appointed as Chairman of the National Dairy Development Board;

(viii) Need to increase the reach of the National Dairy Development Board (NDDB) and bring more States under its ambit;

(ix) The need to cater to the requirements of the Tribal Population of the country with respect to the Livestock and Dairy Sector by NDDB;

(x) Need to address the challenges faced by Livestock owners while availing subsidies and other financial benefits under various Government Schemes being implemented in rural and remote areas;

(xi) To critically evaluate the Reports of the State Government regarding achievement of Physical and Financial Targets under Central Government or Centrally Sponsored Schemes and to avoid the possibility of a mismatch between the data available with the Central Government viz-a-viz the ground reality of Scheme implementation at the State level;

(xii) To ensure the presence of an Officer of the Department of Animal Husbandry and Dairying (DAHD) to assist Local Representatives at the District Development Coordination and Monitoring Committee (DISHA) Committee Meetings so that implementation of Schemes can be properly analyzed;

(xiii) Need to increase the number of Animal Health and Breeding Research Institutes in the country so as to improve the coverage of districts across States;

(xiv) Steps to be taken for harnessing the potential of cow-dung in areas of energy generation, Organic Farming etc.; and

(xv) To raise awareness among Livestock owners regarding Government Schemes such as Rashtriya Gokul Mission (RGM) and to work towards better inclusion of Livestock owners under these.

4. The Representatives of the Department responded to most of the queries raised by the Members. The Chairperson, then, thanked the witnesses for sharing valuable information with the Committee on the Subject and directed them to send, in writing, the requisite information on points / items, which were not readily available with them, to the Committee Secretariat by 28th July, 2022.

***The Committee then adjourned.***

*[A copy of the verbatim proceedings of the Sitting has been kept separately.]*

**Appendix-II**

**STANDING COMMITTEE ON AGRICULTURE, ANIMAL HUSBANDRY AND FOOD PROCESSING (2023-24)**

**MINUTES OF THE FOURTH SITTING OF THE COMMITTEE**

*****

The Committee sat on Tuesday, the 19th December, 2023, from 1500 hours to 1630 hours in Committee Room No.3, Block 'A' Extension to Parliament House Annexe Building, New Delhi.

**PRESENT**

Shri P.C. Gaddigoudar – *Chairperson*

**MEMBERS**

**LOK SABHA**

2. Shri Kanakmal Katara
3. Shri Mohan Mandavi
4. Smt. Sharda Anilkumar Patel
5. Shri Bheemrao Baswanthrao Patil
6. Shri Pocha Brahmananda Reddy
7. Shri Rajiv Pratap Rudy
8. Shri Ram Kripal Yadav

**RAJYA SABHA**

9. Smt. Ramilaben Becharbhai Bara
10. Shri Masthan Rao Yadav Beedha
11. Dr. Anil Sukhdeorao Bonde
12. Shri S. Kalyanasundaram
13. Shri Kailash Soni
14. Shri Vijay Pal Singh Tomar
15. Shri Harnath Singh Yadav

**SECRETARIAT**

| | | | |
|---|---|---|---|
| 1. | Shri Shiv Kumar Wadhawan | - | Additional Secretary |
| 2. | Shri Uttam Chand Bharadwaj | - | Director |
| 3. | Shri N. Amarathiangan | - | Under Secretary |
| 4. | Shri Ashwaghosh B. Lokhande | - | Under Secretary |

## LIST OF REPRESENTATIVES

## MINISTRY OF FISHERIES, ANIMAL HUSBANDRY AND DAIRYING (DEPARTMENT OF ANIMAL HUSBANDRY AND DAIRYING)

| Sl. No. | Name of the Officers | Designation |
|---|---|---|
| 1. | Ms. Alka Upadhyaya | Secretary, DAHD |
| 2. | Ms. Varsha Joshi | Additional Secretary (C&DD), DAHD |
| 3. | Dr. Abhijit Mitra | Animal Husbandry Commissioner, DAHD |
| 4. | Dr. J K Jena | Deputy Director General (Animal Science) ICAR |
| 5. | Dr. Bhushan Tyagi | Joint Commissioner, DAHD |

| NDDB OFFICIALS | | |
|---|---|---|
| 6. | Sh. S Regupathi | ED, NDDB |
| 7. | Dr.R.O Gupta | Senior General Manager, NDDB |
| 8. | Dr. Nilesh Nayee | Senior Manager, NDDB |
| 9. | Shri Prestesh Joshi | Senior Manager |

2. At the outset, the Chairperson welcomed the Members of the Committee to the Sitting convened for having evidence of the Representatives of the Ministry of Fisheries, Animal Husbandry and Dairying (Department of Animal Husbandry and Dairying) on the Subject 'Role of National Dairy Development Board in Protection and Development of Indigenous Cattle Breeds'. Thereafter, the Representatives of the Department of Animal Husbandry and Dairying (DAHD) and National Dairy Development Board (NDDB) were called in. The Chairperson welcomed the Representatives to the Sitting of the Committee and apprised them of the Provisions of Directions 58 of the Directions by the Speaker, Lok Sabha, regarding Confidentiality of the Proceedings.

3. After the introduction, the Chairperson initiated the discussion, which was followed by a Power-point Presentation by the Representatives of the Department. The Chairperson and Members of the Committee raised several issues / points, as briefly mentioned below and sought clarifications / information from the Department thereon:

(i) To control accidental road causalities of Cattle and Buffaloes released by the farmers for open gazing to check the losses to farmers on this account;

(ii) To find ways for procurement of Cow Dung and Urine for productive purposes in farming, medicinal uses, Gobar Gas Plants etc., so as to make non lactating Cattles and Buffaloes; as source of income for farmers and tackle the problem of Stray Cattles.

(iii) To make appropriate provisions for habitation of Stray Cattles and finding ways to utilize them in a productive way;

(iv) To have more focus on increasing the rate of production of Female Offspring from Indigenous Cattle and Buffalo Breeds with more accuracy using the latest techniques;

(v) To have an effective Annual Assessment Mechanism as regards the Goals and Targets under the Rashtriya Gokul Mission;

(vi) To enhance efforts towards crossbreeding of Non-Descript/Low Productivity Cattles and Buffaloes with High Genetic Merit Cattles and Buffaloes so as to contribute towards increasing the income of the farmers specifically in areas with low milk production;

(vii) Providing assistance to various Gaushalas operational in the country with view to enrolling their services towards goal of increasing productivity of Cattles and Buffaloes.

(viii) To devise proper mechanism and assistance for the disposal of Dead Cattles and Buffaloes with a view of increasing soil fertility of Farm Lands by way of nourishment through Bovine Fossils etc.;

(ix) To make more efforts towards increasing awareness amongst farmers about the productivity enhancement techniques for Cattles and Buffaloes with holistic plan besides the incentive schemes.

(x) To have a strong Data Base in regard to implementation of various Centrally Sponsored Schemes at State Level maintained in an accurate manner and that should be readily available with view of timely assessment of various Schemes;

(xi) To expand Training Centers for Artificial Insemination Technicians and establishment of more Institutes for the same purpose to provide trained staff on the ground for assisting farmers with latest techniques in Assisted Productivity Enhancement Techniques.

(xii) To elaborate on role of Central Breeding Farms and Cattle sanctuaries in protection and development of Indigenous Breeds.

(xiii) To explore the possibility of establishing Cow Sanctuaries so as to address the problems of Stray Cattle discarded by the farmers.

(xiv) To explore the possibility of devising a suitable 'Adoption Scheme' for the Stray Cattles.

(xv) Establishing Bio-CNG plants using Cow Dung.

(xvi) To accelerate the development of indigenous technology and achieve self-reliance in the field of Sex Sorted Semen.

(xvii) To focus on strengthening of National Kamdhenu Breeding Centres in Chintaladevi, Andhra Pradesh.

4. The Representatives of the Department responded to most of the queries raised by the Members. The Chairperson, then, thanked the witnesses for sharing valuable information with the Committee on the Subject and directed them to send, in writing, the requisite information on the Points /Items, which was not readily available with them, to the Committee Secretariat by 02nd January, 2024.

***The Committee then adjourned.***

*[Copy of the verbatim proceedings of the Sitting are placed on the file.]*

**Appendix-III**

**MINUTES OF THE TWENTY FOURTH SITTING OF THE STANDING COMMITTEE ON AGRICULTURE, ANIMAL HUSBANDRY AND FOOD PROCESSING (2024-25)**

*****

The Committee sat on Friday, the 25th April, 2025, from 1515 hours to 1715 hours in Committee Room `C' Parliament House Annexe, New Delhi.

**PRESENT**

Shri Charanjit Singh Channi - Chairperson

**Members**

**Lok Sabha**

2. Shri Rajkumar Chahar
3. Md. Abu Taher Khan
4. Shri Rahul Singh Lodhi
5. Smt. Krishna Devi Shivshankar Patel
6. Shri Naresh Chandra Uttam Patel
7. Shri Dharambir Singh
8. Shri Dushyant Singh
9. Shri Sudhakar Singh
10. Shri Kodikunnil Suresh
11. Shri Bhausaheb Rajaram Wakchaure

**Rajya Sabha**

12. Smt. Ramilaben Becharbhai Bara
13. Shri S. Kalyanasundaram
14. Shri Nitin Laxmanrao Jadhav Patil
15. Shri Madan Rathore
16. Shri Ramji Lal Suman

**Secretariat**

| | | | |
|---|---|---|---|
| 1. | Shri Srinivasulu Gunda | - | Joint Secretary |
| 2. | Shri Khakhai Zou | - | Director |
| 3. | Shri Prem Ranjan | - | Deputy Secretary |
| 4. | Shri Anil Kumar Sanwaria | - | Deputy Secretary |

## List of Witnesses

## MINISTRY OF FISHERIES, ANIMAL HUSBANDRY& DAIRYING
## (DEPARTMENT OF ANIMAL HUSBANDRY & DAIRYING)

| | | |
|---|---|---|
| 1. | Ms. Varsha Joshi | Additional Secretary |
| 2. | Dr. Abhijit Mitra | Animal Husbandry Commissioner |
| 3. | Dr. Raghavendra Bhatta | Deputy Director General (Animal Science) ICAR |
| 4. | Dr. Meenesh Shah | Chairman & Managing Director NDDB |
| 5. | Dr. Bhushan Tyagi | Joint Commissioner, Animal Husbandry |

2. At the outset, the Chairperson welcomed the Members of the Committee to the sitting convened for having evidence of the representatives of the Ministry of Fisheries, Animal Husbandry & Dairying (Department of Animal Husbandry & Dairying) on the subject 'Role of National Dairy Development Board in Protection and Development of Indigenous Cattle Breeds'. Thereafter, the representatives of the Department of Animal Husbandry and Dairying (DAHD) and National Dairy Development Board (NDDB) were called in. The Chairperson welcomed the representatives to the sitting of the Committee and apprised them of the provisions of Directions 55 (1) of the Directions by the Speaker, Lok Sabha, regarding confidentiality of the proceedings.

3. After the introduction by the witnesses, a power-point presentation was made by the representatives of the Department on the subject such as importance of indigenous Cattles in milk production in India, enhancement of milk production in India *vis-à-vis* other countries, activities of NDDB in implementing several schemes of various Ministries of the Government of India, efforts and contribution made by the NDDB in development of Indigenous cattles and buffaloes like genetic improvement and raising production of Indian Bovines, Progeny Testing Programmes, Management of Semen Stations, Indigenous Bovine Semen Sex-sorting Technology, Genomic Selection for Indigenous cattle breeds, preservation of Germplasm, Multiple Ovulation and Embryo Transfer (MOET)/ Ovum Pick-up and IVF Embryo Production Technologies, launch of Bharat Pashudhan Application for registration of animals by the rearing farmers, development of Farmers' App 1962, production of High Genetic Merit Bulls to produce disease free semen doses under NDP Phase I and Rashtriya Gokul Mission (RGM) and strengthening of Semen Stations.

4. Thereafter, the Chairperson and Members of the Committee raised several issues / points, as briefly mentioned below and sought clarifications / information from the Department thereon:

(i) Need to strengthen Semen Stations as there is an ample opportunity for Kankej, Rathi, Tharparkar and Sahiwal in the Barmer, Jaisalmer, Jodhpur and Pali in the State of Rajasthan.

(ii) Provision and maintenance of proper grazing fields for Cattle and Buffaloes at village level in dairy dominant districts of the country;

(iii) Find out ways for procurement of Cow Dung and Urine for productive purposes in farming, medicinal uses, Gobar Gas Plants etc., so as to make non lactating Cattles and Buffaloes as another source of income for farmers and to deal with the problem of stray cattles;

(iv) Explore the potential for establishing Community Gobar Gas plants at village level for utilization of cow dung and generation of electricity at each village level for cattle conservation and electricity security;

(v) Provision for proper habitation of stray cattles through gaushalas and finding ways to utilize them in a productive and self-sustaining way;

(vi) Focus on increasing the rate of production of Female Offspring from Indigenous Cattle and Buffalo Breeds with more accuracy using the latest techniques;

(vii) Effective Annual Assessment Mechanism regarding objectives and targets under the Rashtriya Gokul Mission and mechanism for grievance redressal between government agencies and private dairy sector entities with respect to fund allocation;

(viii) Need to increase outreach of Progeny Testing and Pedigree Selection Programmes under the Rashtriya Gokul Mission in the Southern and Eastern States and also establish research institutes /universities and selection of State dominant indigenous breeds for breed upgradation;

(ix) Despite not making much growth in cattle population, there is a tremendous growth in milk production which raises a doubt about the quality and artificial generation of milk and milk products;

(x) Need for increased efforts towards crossbreeding of Non-Descript/Low Productivity Cattles and Buffaloes with High Genetic Merit Cattles and Buffaloes so as to contribute towards increasing the income of the farmers specifically in areas with low milk production;

(xi) Provision of assistance to various Gaushalas operational in the country with view to enrolling their services towards goal of increasing productivity of Cattles and Buffaloes;

(xii) Awareness creation amongst farmers about the productivity enhancement techniques for Cattles and Buffaloes with holistic plan besides the incentive schemes;

(xiii) Creation and maintenance of data base in regard to implementation of various Centrally Sponsored Schemes at State Level to aid in having informed policy decisions;

(xiv) Creation and expansion of physical infrastructure such as Training Centers for Artificial Insemination and provision of adequate manpower for assisting farmers with latest techniques for productivity enhancement;

(xv) Explore the possibility of establishing self-sustaining Cow Sanctuaries across country so as to address the problems of Stray Cattle discarded by the farmers;

(xvi) Need to accelerate the development of indigenous technology and achieve self-reliance in the field of Sex Sorted Semen with higher success rate in establishing pregnancies;

(xvii) Need to provide sufficient number of Bulls in the far-away/Tribal areas where due to lack of regular supply of electricity the scheme of Artificial Insemination is not being implemented or not feasible.

(xviii) Need to set up Kishi Vigyaan Kendra (KVK) dedicated to Animal Husbandry and Dairying sector for dissemination of information and training to farmers in field of Animal Husbandry and Dairying;

4. The Representatives of the Department responded to most of the queries raised by the Members. The Chairperson, then, thanked the witnesses for sharing valuable information with the Committee on the Subject and directed them to send, in writing, the requisite information on the Points /Items, which was not readily available with them, to the Committee Secretariat.

***The Committee then adjourned.***

*[Copy of the verbatim proceedings of the Sitting are placed on the file.]*

**Appendix-IV**

**MINUTES OF THE THIRTY FIFTH SITTING OF THE COMMITTEE ON AGRICULTURE, ANIMAL HUSBANDRY AND FOOD PROCESSING (2024-25)**

The Committee sat on Monday, 18th August, 2025 from 1500 hours to 1530 hours in Committee Room No. 3, Extension to Parliament House Annexe, New Delhi.

**Present**

**Shri Charanjit Singh Channi – Chairperson**

Members

Lok Sabha

2. Shri Umeshbhai Babubhai Patel
3. Shri Rajkumar Chahar
4. Smt. Anita Nagarsingh Chouhan
5. Shri Rajpalsinh Mahendrasinh Jadav
6. Md. Abu Taher Khan
7. Shri Sukanta Kumar Panigrahi
8. Smt. Krishna Devi Shivshankar Patel
9. Shri Naresh Chandra Uttam Patel
10. Shri Murasoli S.
11. Shri Dharambir Singh
12. Shri Sudhakar Singh
13. Shri Kodikunnil Suresh
14. Smt. Geniben Nagaji Thakor
15. Shri Bhausaheb Rajaram Wakchaure

***Rajya Sabha***

16. Smt. Ramilaben Becharbhai Bara
17. Shri Masthan Rao Yadav Beedha
18. Shri Banshilal Gurjar
19. Shri Nitin Laxmanrao Jadhav Patil
20. Shri Madan Rathore
21. Shri Ramji Lal Suman
22. Shri P.P. Suneer

***Secretariat***

| | | | |
|---|---|---|---|
| 1. | Shri Dhiraj Kumar | - | Joint Secretary |
| 2. | Shri Maheshwar | - | Director |
| 3. | Shri Prem Ranjan | - | Deputy Secretary |

2. At the outset, the Chairperson welcomed the Members to the Sitting of the Committee and expressed condolences on passing away of Shri Srinivasulu Gunda, Joint Secretary attached to the Committee. Thereafter, the Committee took up for consideration and adoption the following Reports:

(i) Draft Report on the subject **"Role of National Dairy Development Board (NDDB) for Protection and Development of Indigenous Cattle Breeds",** pertaining to the Ministry of Fisheries, Animal Husbandry and Dairying (Department of Animal Husbandry and Dairying)**;**

(ii) XXXX XXXX XXXX XXXX XXXX XXXX**;**

(iii) XXXX XXXX XXXX XXXX XXXX XXXX**;**

(iv) XXXX XXXX XXXX XXXX XXXX XXXX**;**

(v) XXXX XXXX XXXX XXXX XXXX XXXX**;**

(vi) XXXX XXXX XXXX XXXX XXXX XXXX**;**

(vii) XXXX XXXX XXXX XXXX XXXX XXXX**;**

(viii) XXXX XXXX XXXX XXXX XXXX XXXX.

3. After some deliberations, the Committee adopted the Draft Reports with slight modifications as shown at Annexure and the Committee authorized the Chairperson to finalize and present these Reports to Parliament.

***The Committee then adjourned.***

**Annexure (Appendix-IV)**

During the Sitting held on 18.08.2025, the Members made the following suggestions to be incorporated into the Draft Report on "Role of National Dairy Development Board for Protection and Development of Indigenous Cattle Breeds", pertaining to the Department of Animal Husbandry and Dairying (DAHD), under Ministry of Fisheries, Animal Husbandry and Dairying:-

| Recommendation No. | Modifications Incorporated |
|---|---|
| 8 | **Further, to correct the underutilization of funds allocated for the purpose, the Committee recommend that the subsidy related to IVF pregnancy be increased to Rs. 15,000 from current level of Rs. 5,000, to encourage more milk farmers to avail IVF techniques for inducing pregnancy in their cattle breeds.** |
| 10 | **(v) Further the Committee observes, that within States also there is uneven distribution of semen stations within States, for example, in State of Punjab, there are semen Station in Ropar, Nabha and Verka. Thus, the Committee recommend that more Semen Station may be opened in Jalandhar and Gurdaspur district of Punjab to make them spread evenly across State. On similar pattern, DAHD make an assessment of farmers' population covered by each Semen Station to ensure their even distribution within States of the country and take action for opening new semen stations accordingly.**<br><br>**(vi) Sex sorted semen production and distribution facility should be made available at all semen stations across the country to provide easy access to farmers to enable them to choose gender of offsprings of their cattle breeds and address menace of stray animals as well.** |