

RASHTRIYA GOKUL MISSION

RashtriyaGokul Mission: Why it is required?

- Dairying is practiced by 70 million households with an average herd size of 2 animals per farmer. India has 299.6 million bovine population out of which 190.9 million are cattle and 108.7 million are buffaloes.
- "Rashtriya Gokul Mission" has been launched in Dec. 2014 with an outlay of Rs 2025 crore for development and conservation of indigenous breeds through selective breeding especially for genetic upgradation of 11.3 crore low milk yield nondescript bovine population. Project period is from 2014-15 to 2019-20.
- The Rashtriya Gokul Mission is very timely in that sense the cow as an income asset will become more productive and useful to the small and marginal farmer who largely own more than 90% of the poor productive cows.
- With increasing mechanisation of Agriculture, the demand of draught purpose breeds of cattle is reducing. These breeds are being preserved at Gokul Grams, National Kamdhenu Breeding Centres and also by creating Nucleus Herd through Embryo Transfer Technology and IVF.

I. What are the objectives of this scheme?

The Mission is being implemented with the following objectives:

- To promote indigenous cattle rearing and conservation in a scientific and holistic manner.
- To enhance productivity of indigenous breeds and increase economic returns from animal products in a sustainable manner.
- To propagate high genetic merit bulls of indigenous breeds.
- To enhance breeding coverage through strengthening breeding network

II. Major components of the scheme:

1. Enhancement of Production and Productivity

- 1.1. Field Performance Recording (FPR) /Pedigree Selection
- 1.2. High genetic merit bulls for AI

2. Conservation of Indigenous Breeds

- 2.1. Establishment of "Gokul Gram"
- 2.2. Establishment of National Kamdhenu Breeding Centre
- 2.3. Identification and issue of Health Cards to in Milk bovines

3. Extension of AI Coverage

- 3.1. Establishment of MAITRI centres
- 3.2. Strengthening of existing AI centres
- 3.3. Strengthening LN storage and transport system

- 3.4. Training of Existing AI Technicians
- 4. **Breed Improvement by Modern Technology**
 - 4.1. Establishment of ETT & IVF laboratories
 - 4.2. Sex sorted semen production
 - 4.3. E-Pashuhaat Portal
 - 4.4. Establishment of National Bovine Genomic Centre for Indigenous Breeds.
- 5. **Awareness Program:**
 - 5.1. Award to Farmers (“Gopal Ratna”) and Breeders’ Societies/Organisation (Kamdhenu”)
 - 5.2. Organisation of Fertility Camps

Projects worth Rs. 1496 Crs have been approved by the Project Sanctioning Committee of Rashtriya Gokul Mission and Rs. 547 Cr. has been released to the stated till 31 March 2018. Physical progress has been made in proportion to the fund released.

1. ENHANCEMENT OF PRODUCTION AND PRODUCTIVITY

The per animal productivity of Indian bovine is lower than the world average. Productivity enhancement is important as it will increase the milk production, income of the farmers and also will reduce load on feed resources.

Breeding through high genetic merit bulls would result into progenies with better milk potential. Hence High Genetic Merit bulls Production through scientific methods are important. Progeny Testing and Pedigree selection/Field Performance projects are being implementation for High Genetic Merit Bull Production of Popular dairying breeds. 16405 cows and buffaloes have been milk recorded in scientific method for bull production against the targeted 84381 by end of project period.

Financial support is being provided to semen station for induction of HGM bulls and supply of quality semen from these bulls for doorstep AI delivery. 1404 HGM bulls produced through scientific programs have been inducted for quality semen production against the targeted 5417 bulls by end of project period.

2. CONSERVATION OF INDIGENOUS BREEDS

2.1. Establishment of Gokul Grams

The Rashtriya Gokul Mission also envisages establishment of integrated cattle development centres ‘Gokul Grams to develop indigenous breeds including upto 40% nondescript breeds:

- To promote indigenous cattle rearing and conservation in a scientific manner.
- To propagate high genetic merit bulls of indigenous breeds.
- To optimize modern Farm Management practices and promote Common Resource Management.
- To utilize animal waste in economical way i.e. Cow Dung, Cow Urine

Establishment of 20 Gokul grams have been sanctioned for 13 states under the scheme with an outlay of Rs 197; crores. Rs. 68.71 crore has been released to states for establishment of Gokul Grams.

Details of 20 Gokul Grams sanctioned for establishment of is as under:

State	No. and Locations of the Gokul Grams	
	Nos. of Gokul Gram	Location
Andhra Pradesh	1	Chadalwada, Parkassam
Arunachal Pradesh	1	Lohit
Bihar	1	Dumraon Buxar
Chhattisgarh	2	Bemetra and Vilaspur
Gujarat	3	Dharampur, Surat and Banaskantha
Haryana	1	Hissar
Karnataka	1	Kurikuppe Bellary
Maharashtra	3	Palghar, Pohra and Tathawade
Madhya Pradesh	1	Ratona Sagar
Punjab	1	Bir Dosanji Patiala*
Uttar Pradesh	3	Varanasi*, Mathura*& Shahjahanpur
Uttarakhand	1	Govardhanpura
Telangana	1	Veterinary University Hyderabad
TOTAL	20	

*Completed

2.2. Establishment of National Kamdhenu Breeding Centres (NKBC):

For development, conservation and preservation of Indigenous Breeds two National Kamdhenu Breeding Centres are being set up, as a Centre of Excellence to develop and conserve Indigenous Breeds in a holistic and scientific manner. A Nucleus Herd of all the Indigenous Bovine Breeds (41 Cattle and 13 Buffaloes) will be conserved and developed with the aim of enhancing their productivity and upgrading genetic merit.

The project is being implemented for the establishment of National Kamdhenu Breeding Center at 2 locations (total Rs. 50 crores) at the cost of 25 crores each. The main objectives of the scheme are as follows:

- Conservation, promotion and development of 41 species of cattle and 13 species of animals.
- 1000 High Genetic Merit Indigenous animals will be maintained at each centre of all registered breeds

- Each center will be set up in about 1000 hectares for this purpose. Machinery for making modern semen centers, veterinary clinics, Biogas plants, arrangements of balanced diet, gumutra and dung materials etc. will also be established. Apart from this, arrangements for Vermi-Compost, Silage Pit, Training, Milk Processing etc. will also be arranged.
- Special emphasis on development of extinct species
- Marking the characteristics of all species and early evolution

Under the scheme, the work of National Kamdhenu Breeding Center is going on in two states - Chintaldevi, District- Nellore, Andhra Pradesh and Gram Kiratpur Itarsi, District Hoshangabad, Madhya Pradesh. Rs. 50 crores have also been released. NKBC at Chintaldevi has become operational.

2.3. Pashu Sanjivni:

Reasons for initiation of the scheme:

- (i) As per Integrated Sample Survey 90 million cattle & buffaloes are in but their records on breeding, productivity, treatment and vaccination were not properly maintained by the State Animal Husbandry Departments.
- (ii) System for maintaining records on the animals was not evolved in the country.
- (iii) Due to absence of records on animal identification and traceability, it was not possible to separate healthy animals from diseased animals and animal products obtained from healthy animals and diseased animals.
- (iv) Lack of proper animal identification and traceability was major cause of the spread of animal as well as zoonotic diseases in the country.
- (v) Country was also facing difficulty in expanding trade of milk & milk products there was no established animal identification and traceability to system to meet sanitary and phytosanitary (SPS) requirements.

Major Activities

- i) Animal identification and traceability using polyurethane tags with 12 digit unique identification number (UID) as per the method prescribed by International Committee on Animal Recording.
- ii) Uploading information on Information Network for animal Productivity and Health (INAPH) on online mode.

Technology for animal identification

- (i) Animals are being identified under the Pashu Sanjivni using poly urethane tags with 12 digit unique identification number as per method developed by International Committee on Animal Recording. Unique identification number are being generated by NDDB.
- (ii) NDDB has developed Information Network for animal Productivity and Health (INAPH) and same has been used as National data base for uploading breeding & health related information on the cattle and buffaloes identified using polyurethane tags with 12 digit unique identification number (UID).

Present Status:

Total 1.2crore cows and buffaloes have been ear tagged and their information is maintained digitally at National Database called INAPH (Information Network on Animal Productivity and Health). The owners of these animals are being issued Nakul Swasthya Patra. It is envisaged to maintain digital record of 9 crore in Milk Bovines in the National Database by end of the project period.

3. EXTENSION OF AI COVERAGE

Currently AI coverage in the India is around 30% i.e nearly one third of the animals are bred through AI and rest two third are either bred naturally or left un-bred. By increasing AI coverage the in Milk Population can be increased substantially which would result into increase in Milk Production.

3.1. Establishment of MAITRI (Multi-purpose Artificial Insemination Technicians in Rural India) centres:

Currently there are 1,05,000 Artificial Insemination Technicians (AITs) are providing AI services to the Farmers door step. In order to increase AI coverage we need to establish more AI centres. Under Rashtriya Gokul Mission financial support is being provided to establish additional 15783 new MAITRI centres by end of project period. Till date 5046 MAITRI centres have been established and establishment of remaining centre are going on.

3.2. Strengthening of existing AI centres

It is envisaged to strengthen 51000 existing AI centre to make them capable to provide services at Farmers doorstep. These existing AIT centres are being provided refresher training and the damaged AI kit and cryo-containers are replaced with new ones. Till date 17000 existing AI centres have been strengthened.

3.3. Strengthening LN storage and transport system

Efficient and effective supply chain for Frozen Semen Doses is backbone for AI delivery network. The Frozen Semen Doses are kept in Liquid Nitrogen before being used for AI. Efficient Liquid Nitrogen System is required for better success rate of AI delivery system. Under Rashtriya Gokul Mission financial support is being provided to State implementing Agencies for installing LN Silo at strategic location, LN transport vehicle, LN transport containers, LN production plants in Hilly and NER states etc. Rs. 100 Crores has been released to states for strengthening of LN distribution system.

3.4. Training of Existing AI Technicians

One of the important factors for poor conception rate of AI is due to their poor skill to carry out AI following standards notified by DADF. Financial support is being provided for training of existing AI Technicians in order to improve their AI skills for better conception rate. 14000 existing AITs have been trained against the targeted 54000 AITs by the end of project period.

4. BREED IMPROVEMENT BY MODERN TECHNOLOGY

4.1. Establishment/strengthening of Embryo Transfer and In-vitro Fertilization centres :

- Under the scheme it is envisaged to strengthen/establish 20 ETT/ IVF laboratories. Projects for strengthening/ establishment of 19 ETT/IVF lab are approved by Project Sanctioning Committee.
- It is envisaged that these ETT/IVF laboratories will produce 3000 High Genetic Merit Indigenous Breed Bulls which will be supplied for Semen Production or Natural Service.
- Last year during 2-14th October 391 Indigenous embryos were transferred with a success rate of 25%.

4.2. Establishment of Facility for Sex Sorted Semen Production:

With mechanisation of Agriculture, utility of male bovines have 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. Due to religious regions culling of male bovines is difficult in most part of the country. 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. This technology can be a game changer for India. Extensive use of this technology will not only address the stray animal issue but would also increase the number of female animals thereby increasing income of farmers by sale of female or by sale of milk.

One project for establishing facility of Sex Sorted Semen Production at Rishikesh, Uttarakhand is approved by Project Sanctioning Committee. It is expected that by end of December 2018 Sex Sorted Semen of Various Indigenous Breeds would be made available.

4.3. e-pashuhaat portal:

- For the first time in the country under the scheme National Mission on Bovine Productivity E Pashudhan Haat portal has been developed for connecting breeders and farmers regarding availability of quality bovine germplasm.
- Through the portal breeders/farmers can sale or purchase their breeding stock. Information on all forms of germplasm including semen embryos and live animals with all the agencies and stake holders in the country has been uploaded on the portal. Through this portal farmers will be aware about the availability of quality disease free bovine germplasm with different agencies in the country.
- The portal will lead to propagation of high genetic merit germplasm. Through the portal price evaluation will be available with the farmers/ breeders. Through the portal there will be no involvement of middlemen in sale and purchase of animals. Portal for sale and purchase of germplasm in all the forms is not available even in developed dairy countries.
- This portal will give new dimensions to development and conservation of indigenous breeds as at present information on availability of germplasm of indigenous breeds is not available with the farmers.
- Information on 7.58 crores semen doses; 371 embryos and 80039 live animals is available on the portal till date

4.4. National Bovine Genomic Center for Indigenous Breeds (NBGC-IB)

- In developed dairy countries genomic selection is used to increase milk production and productivity for attaining faster genetic gain.
- In order to increase milk production and productivity of indigenous cattle, a National Bovine Genomic Centre will be established in the country.
- By using genomic selection indigenous breeds can be made viable within few generations.
- This center will play crucial role in identification of disease free High genetic merit bulls of indigenous breeds.
- A custom genotyping chip (INDUSCHIP) which is suitable to genotype Indian cattle breeds and their crosses has been developed by NDDDB, Anand in partnership with SAG, Bidaj. This chip will be used for genomic selection in Indigenous Bovines.

5. AWARENESS PROGRAM:

5.1. National Gopal Ratna and Kamdhenu Awards:

In order to reward Farmers and Institutions who are engaged in scientific management of recognized Indigenous cattle breeds National Gopal Ratna and National Kamdhenu Award have been instituted under Rashtriya Gokul Mission. Department of Animal Husbandry, Dairying, and Fisheries, Ministry of Agriculture and Farmers Welfare Government of India bestowed 12 National Kamdhenu and 10 National Gopal Ratna Awards for the first time in 2017-18 on the World Milk Day- 1st of June 2017. Similarly, in 2018 various awards under Rashtriya Gokul Mission are being provided on World Milk Day – 1st June 2018.

5.2. Organization of Fertility Camps

Many Breedable Bovines face fertility/ Gynaecology issues. Financial support is provided to organized fertility camps in villages to treat such animals and create awareness among farmer about best practices of dairying.

