

# TARGET PRELIMS 2024

## BOOKLET-24; ECONOMY-5

### AGRICULTURE-4: ANIMAL REARING

#### 1. TABLE OF CONTENTS

<b>2. Important Stats.....</b>	<b>2</b>
1) Basic Animal Husbandry Statistics, 2023 .....	2
2) 20 <sup>th</sup> Livestock Census.....	2
<b>3. Dairy Sector in India.....</b>	<b>3</b>
1) Important Schemes/ Initiatives for Livestock Sector .....	3
A) Rashtriya Gokul Mission:.....	3
B) E Pashu Haat Portal:.....	3
C) National Livestock Mission: .....	3
D) Livestock Health and Disease Control Scheme: .....	4
E) Dairy Development: .....	4
F) Rs 15,000 crore for Animal Husbandry Infrastructure Development Fund (AHIDF) .....	4
G) First Ever Credit Guarantee Scheme for livestock sector launched (July 2023).....	4
H) Kisan Credit Card (KCC) For Animal Husbandry & Dairying Farmers.....	5
I) E-Gopala App - inaugurated in Sep 2020 .....	5
J) SUTRA PIC (Scientific Utilization Through Research Augmentation).....	5
K) Rashtriya Kamdhenu Aayog was approved by Cabinet in Feb 2019 .....	5
2) Dairy Breeds in India .....	5
3) Lumpy Skin Disease .....	6
4) Small Ruminant Sector .....	7
<b>4. Fishery Sector.....</b>	<b>8</b>
1) Regulation of the sector .....	8
2) Schemes .....	8
A) Pradhan Mantri Matsya Sampada Yojana (PMMSY) launched in 2020 .....	8
B) Budget 2024-25: PMMSY will be stepped up:.....	9
C) National Genetic Improvement Facility for Shrimp Breeding .....	9
D) Sagar Parikrama .....	9
E) KCC scheme extended to Animal Husbandry and Fishery Sector by Budget 2018-19 .....	9
<b>5. Inland Fisheries .....</b>	<b>9</b>

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## 2. IMPORTANT STATS

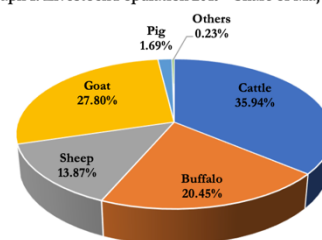
### 1) BASIC ANIMAL HUSBANDRY STATISTICS, 2023

- Released by Ministry of Fishery, Animal Husbandry & Dairying in Nov 2023. It is based on Animal Integrated Sample Survey (March 2022-Feb 2023). This ISS is conducted across the country in three seasons i.e., Summer (March-June), Rainy (July-Oct) and Winter (Nov - Feb).
- **Key Highlights:**
  - i. **Milk Production:**
    - 230 million tonnes (a growth of 22.81% over past five years which was 187.75 million tonnes in 2018-19).
    - Highest Milk Producing States: UP (15.72%); Rajasthan (14.44%); Madhya Pradesh (8.73%); Gujarat (7.49%) and Andhra Pradesh (6.70%)
  - ii. **Egg Production:**
    - **138.38 billion** (33% growth over five years as compared to estimates of 103.83 billion in 2018-19)
    - **Highest Egg Producing States:** Andhra Pradesh (20.13%); TN (15.58%); Telangana (12.77%); West Bengal (9.94%) and Karnataka (6.51%);
  - iii. **Meat Production:**
    - **9.77 million tonnes** (20.39% increase in five years - 8.11 million tonnes in 2018-19)
    - **Highest Meat Producing State** (Uttar Pradesh (12.20%); West Bengal (11.93%); Maharashtra (11.50%); Andhra Pradesh (11.20%); Telangana (11.06%)
  - iv. **Wool Production:**
    - **33.61 million Kgs** (**negative growth** (-16.84% over the past five years as compared to the estimates of 40.42 million kg during 2018-19)
    - **Highest Wool Producing States:** Rajasthan (47.08%); J&K (22.55%); Gujarat (6.01%); Maharashtra (4.73%); Himachal Pradesh (4.72%)

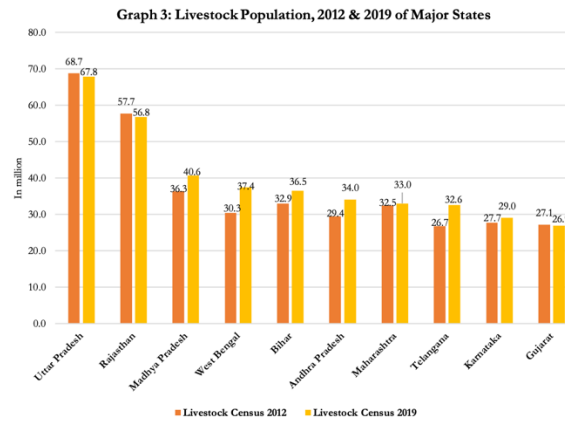
### 2) 20<sup>TH</sup> LIVESTOCK CENSUS

- **Background:**
  - » The livestock census is conducted periodically [**every five years**] in the country since 1919. It usually covers all domesticated animals.
- **Key highlights of 20th Livestock census** (launched in Oct 2018)
  - » **Total livestock population: 535.78 million** (showing an increase of 4.6% over the livestock census 2012)
  - » **The Bovine population** (Cattle, Buffalo, Mithun and Yak) is 302.79 million in 2019 and shows an increase of 1% over the previous census.
    - **Cattle - 192.49 million** (+0.8%)
    - **Buffaloes - 109.85** [+1%]
    - **Total milch animals** (in milk + dry) in cows and buffaloes - **125.34 million** (+0.6%)
  - » **Total Goat - 148.88 million** (+10.1%)

Graph 1: Livestock Population 2019 - Share of Major Species



- » **Total Sheep** - 74.26 million (+14.1%)
- » **Pigs** - 9.06 million (-12.03%)
- » **Other livestock** (Mithun, Yak, Horses, Ponies, Mule, Donkeys, camel - 0.23% of the total livestock: **1.24 million**.
- » **State wise distribution.**



### 3. DAIRY SECTOR IN INDIA

- India is the **world's largest producer (20% of the world's production) and consumer of milk** and has the world's largest dairy herd comprised of water buffaloes and indigenous and crossbred cattle.
- **Currently** India produces more than 230 million tonnes of milk. It is an important secondary source of income for 80 million rural households engaged in dairying and for 70% of the workforce that comprised women. It contributes to a fifth of India's farm output and is important source of nutrition in average Indian diet.
- **Net Exporter:** Since the early 2000s, India is a net exporter of the dairy products which primarily include the milk powder.
- **Key Challenges:** Dairy sector in India is characterized by low input -> low output.
  - For e.g. in India annual milk yield per cow is 1642.9 kg, which is only 2/3rd of the global average of 2430.2 kg. The average for USA is 10,457.4 kg.

#### 1) IMPORTANT SCHEMES/ INITIATIVES FOR LIVESTOCK SECTOR

##### A) RASHTRIYA GOKUL MISSION:

- » To undertake breed improvement program for Indigenous breeds so as to improve the genetic makeup and increase the stock.

##### B) E PASHU HAAT PORTAL:

- » The portal has been developed under National Mission on Bovine Productivity. It **connects breeders and farmers** regarding availability of quality bovine germplasm. Through the portal, breeders/farmers can sell or purchase their breeding stock. Information about all forms of germplasm including semen, embryos and live animals with all the agencies and stakeholders in the country has been uploaded on the portal.

##### C) NATIONAL LIVESTOCK MISSION:

- » It ensures intensive development of livestock, especially **small livestock (sheep/goat, poultry rearing etc.)** along with adequate availability of quality feed and fodder.
- » The scheme has been restructured for 2021-22 to 2025-26. It focuses on entrepreneurship development and breeds improvement in poultry, sheep, goat, and piggery, including feed and fodder development.

#### **D) LIVESTOCK HEALTH AND DISEASE CONTROL SCHEME:**

- » It provides assistance for prevention and control of animal disease like Foot and Mouth Disease (FMD), Peste des Petits Ruminants (PPR), Brucellosis, Classical Swine Fever etc.
- » It is being implemented to supplement the state/UT governments' efforts towards preventing, controlling, and containing, animal disease of economic and zoonotic importance by vaccination.

#### **E) DAIRY DEVELOPMENT:**

Government is making efforts for strengthening infrastructure for production, processing and marketing of quality milk and milk products through following schemes:

- National Program for Dairy Development
- National Dairy Plan (Phase-1)
- Dairy Entrepreneurship Development Scheme
- Dairy Processing and Infrastructure Development Fund (DIDF)

#### **F) RS 15,000 CRORE FOR ANIMAL HUSBANDRY INFRASTRUCTURE DEVELOPMENT FUND (AHIDF)**

- » Launched as part of ANBA 1.0
- » Aimed at incentivizing investments by individual entrepreneurs, private companies including MSME, FPOs, and Section 8 of Companies to establish (i) dairy processing and value addition infrastructure (ii) meat processing and value addition infrastructure, and (iii) animal feed plant.
- » Government will provide a 3% interest subvention to eligible beneficiaries. There will be a 2 year moratorium period for the principal loan amount and 6 years repayment period thereafter.
- » Loan of upto 90% of the project cost from Scheduled Bank, National Cooperative Development Cooperation.
- » The government would also set up a Credit Guarantee Fund of Rs 750 crore to be managed by NABARD.
  - Credit guarantee would cover those sanctioned projects which are covered under MSME defined ceilings.
  - Guarantee coverage would be upto 25% of the credit facility of the borrowers.
- » To **ease out the process** an **online portal 'ahidf.udyamimitra.in'** has been developed by SIDBI through which applicants can apply online to avail loans under the scheme.

#### **G) FIRST EVER CREDIT GUARANTEE SCHEME FOR LIVESTOCK SECTOR LAUNCHED (JULY 2023)**

- » Under AHIDF.
- » The scheme facilitates access to finance for unserved and underserved livestock sector, making availability of financial assistance from lenders to mainly first-generation entrepreneurs and underprivileged section of society, who lack collateral security for supporting their ventures. It thus ensures smooth flow of credit to MSME engaged in livestock sector without hassles of collateral security.

- » For operationalizing the scheme, DAHD has established a **Credit Guarantee Fund Trust** of Rs 750 crores, which will provide credit guarantee coverage of upto 25% of the credit facility extended to the MSMEs by the eligible lending institutions.
- » The fund trust incentivizes investments by individual entrepreneurs, private companies, MSMEs, FPOs to establish.
  1. the dairy processing and value addition infrastructure,
  2. meat processing and value addition infrastructure,
  3. Animal Feed Plant,
  4. Breed Improvement technology and Breed Multiplication Farm
  5. Animal Waste to Wealth Management (Agri Waste Management) and;
  6. Setting up of Veterinary Vaccine and Drugs Manufacturing facilities

## H) KISAN CREDIT CARD (KCC) FOR ANIMAL HUSBANDRY & DAIRYING FARMERS

### I) E-GOPALA APP - INAUGURATED IN SEP 2020

- » It is a comprehensive breed improvement marketplace and information portal for direct farmer use.
  - It gives farmers the freedom from middlemen and provide **all information related to productivity, health and diet for cattle**. It will make it easy for farmers to choose advanced stock.

### J) SUTRA PIC (SCIENTIFIC UTILIZATION THROUGH RESEARCH AUGMENTATION

- » Prime Products From Indigenous Cows) (**Feb 2020**) - Under this initiative academic organizations and capable NGOs are provided funds to do research on indigenous cows, its products and application in health, medicine, agriculture, food, nutrition etc.

### K) RASHTRIYA KAMDHENU AAYOG WAS APPROVED BY CABINET IN FEB 2019.

- » The Government of India has constituted the “Rashtriya Kamdhenu Aayog” to organize animal husbandry on modern and scientific lines and to take steps for preserving and improving breeds, and prohibiting the slaughter, of cows and calves and other milch and draught cattle
- » It is a high powered permanent body which will formulate policy and issue directions for scaling up sustainable genetic upgradation of bovine resources and also look after implementation of laws and welfare schemes for cows.

## 2) DAIRY BREEDS IN INDIA

- » Indian breeds have lower milk yield when compared to advanced economies but many of them are capable of improved yields. Further they also carry some beneficial traits like disease resistance, survival on low quality forage which is native to India etc.
- » **Indian Buffalo Breeds**

- The Indian breeds are well adapted to heat and humidity of the region and can consume both green and dry fodder. Most of these water buffaloes are characterized as non-descript or mixed, but there are some well-known breeds including:

Breed	State(s)	Yield (Kg)
Bhadawari	UP	800-1220
Murrah	Punjab and Haryana	1500-2500
Pandharpuri	MHA	1500
Mehsana	Gujarat	1200-1500

» **Indigenous Cattle**

- India has been bestowed with large number of cattle breeds. Some breeds specialize in milk production, while the others for draught purposes. There are many mixed, non-descript breeds too found in India. Some of the high yielding breeds include:

Breed	State(s)	Yield (Kg)
Sahiwal	Punjab and Rajasthan	1400-2500 kg
Red Sindhi	Odisha, TN, and Kerala	1250-1800 kg
Tharparkar	Rajasthan, Gujarat	1,800-2600 kg
Rathi/Rath	Rajasthan	
Gir	Gujarat	1200 - 1800 kg

» **Cross-bred Cattle**

- 1960s saw the beginning of programs for inter-breeding through Artificial Insemination of imported exotic breeds with indigenous breeds.
  - Cross-breeds can provide 30 to 50% more milk than indigenous animals under general management.
- The best exotic breeds for India tends to be Holstein, Brown Swiss, Red Dane, and Jersey.
- The most prevalent cross-bred combination includes:

Cross-Bred	Original cattle	Yield
Karan Swiss	American Brown Swiss with Sahiwal or Red Sindhi	3,257 kg
Karan Fries	Holstein-Friesen with Tharparkar	3,700 kg
Frieswal	Friesian with Sahiwal	27,00 kg

### 3) LUMPY SKIN DISEASE

- **About Lumpy Skin Disease:**

- It is a contagious viral disease that affects cattle.



- » The disease is characterized by **fever**, **enlarged superficial lymph nodes** and **multiple nodules** (measuring 2 to 5 cms in diameter) on the skin and mucous membranes (including those of the respiratory and gastrointestinal tracts).



- » **Negative Economic Implications: Mortality (1-2%) of cattles;** permanent damage on skin lowers the value of hide; the disease may also create reduction in milk production; poor growth; infertility; abortion, and sometimes death.

- **About the Lumpy Skin Disease Virus:** It is a virus of the family *Poxviridae*, and genus *Capripoxvirus* also known as Neethling virus.
- **Transmission:**
  - » **Vectors:** The disease is transmitted by blood feeding insects, such as certain species of flies and mosquitoes, or ticks.
  - » **Direct Transmissions:** Though LSD is primarily a vector borne disease, it can also spread through direct contact with the mucus of the infected cattle.
- **Extent of Spread in the world:**
  - » LSD was first seen as an epidemic in Zambia in 1929. It has also spread to Middle East and Europe.
  - » **Indian Subcontinent:**
    - LSD was first reported to the Bangladesh Department of Livestock Services in July 2019. India too saw the first case of the disease in the same year in WB and Odisha.
    - In 2022, LSD was reported in Gujarat, and it has spread to eight states/UT now.
- **Why is being done to control LSD?**
  - » The process of giving goat pox vaccine to healthy cattle has been started.
  - » States are putting temporary ban on cattle transport and cattle fairs.

#### 4) SMALL RUMINANT SECTOR

- **Introduction**
  - » Small ruminants (sheep and goat) are widely distributed across various agro-ecological zones of India, playing an important role in socio-economic development of resource poor farmers in rural India. Around 15% of the households in rural India rear sheep/goat and around 70% of the sheep goat are reared by small and marginal farmers.
  - » The total population of goat and sheep in India stands at 200 million (40% of the livestock population in India).
- **Advantage/Significance of Sheep and Goat rearing:**
  - » **Alternate Source of income**
  - » **Advantage over ruminant dairy sector.**
    - Low capital investment and production input.
    - Low Feed and management needs
    - Less Space and Feeding requirements



- **Highly Adaptable to drought/Climate Change etc** (high survival rate; high reproductive rates)
- » **Main source of meat production in India**
- » They are also important source of **wool and leather products** along with small amount of milk production.

#### 4. FISHERY SECTOR

- India is the third largest producer of fish in the world (17.4 million tonnes) in 2022-23. India contributes to 8% of the total fish production in the world.
  - **Note:** In 2019-20, India was the 2nd largest fish producer in the world with 14.6 million tonnes.
- **Inland fishery** has a major share in India's fish output with a total production of 16.1 million tonnes (Budget 2024-25 speech).
- Fish has the potential of a fast-growing sector. Keeping this in mind, government created a separate Department of Fisheries in Feb 2019.

#### 1) REGULATION OF THE SECTOR

- Fishery is a **state subject**, thus fishing in the IW and TS come within the purview of the states concerned.
  - » Other activities in the TS and activities, including fishing beyond the TS upto the limit of EEZ, are in the Union List
  - » The Respective **State Marine Fishing Regulation Acts** (MFRA) protect and regulate the fishery resources in the territorial waters (i.e. upto 12 nautical miles from the baseline)
- **Maritime Zones of India** (Regulation and Fishing of Foreign Vessels) Act, 1981, or MZI Act, regulates fishing by foreign fishing vessels in the maritime zones.

#### 2) SCHEMES

##### A) PRADHAN MANTRI MATSYA SAMPADA YOJANA (PMMSY) LAUNCHED IN 2020

- It is a flagship scheme for focused and sustainable development of fisheries sector in India.
- **Targets:**
  - » **Enhance fish production to 220 lakh metric tons by 2024-25** at an average growth rate of 9%. This result will also lead to doubling export earning to Rs 1,00,000 crores and generate direct and indirect export employment opportunities of about 55 lakhs in the fisheries sector over next five years.
- **Aims and Objectives:**
  - » **Harnessing fishing potential** in a sustainable, inclusive and equitable manner
  - » **Enhancing of fish production** (
  - » **Modernization and Strengthening of Value Chain** - post harvest management and quality improvement.
  - » **Doubling income** of fishermen and fish farmers and **generating employment**
  - » **Ensuing social, physical and economic security** of fishers and fish farmers

- » **Robust fishery management and regulatory framework.**
- The scheme envisages an **investment of Rs 20 thousand crores in five years** [Centre-9407 crore, States - 4880 crores, Beneficiaries - 5763 crores].
  - » Under this scheme, **Rs 11,000 crore** will be spent on **activities in Marine, Inland fisheries and Aquaculture** and **Rs 9,000 crore** will be spent for developing **infrastructure** (such as fishing harbours, cold chain, markets)
- It will be implemented over a period of five years from FY 2020-21 to FY 2024-25 in all states/UTs.

#### B) BUDGET 2024-25: PMMSY WILL BE STEPPED UP:

- Aquaculture productivity will be enhanced to 3 to 5 tons per hectare.
- **Double exports** to Rs 1 lakh crores
- Generate 55 lakh employment opportunities in near future.

#### C) NATIONAL GENETIC IMPROVEMENT FACILITY FOR SHRIMP BREEDING

- This facility has been created under PMMSY.

#### D) SAGAR PARIKRAMA

- **Why in news?**
  - » Union Minister for Fisheries, Animal Husbandry and Dairying (FAH&D) launched Sagar Parikrama Phase-9 on 7th Oct 2023 at Thondi, Tamil Nadu.
- **Sagar Parikrama** is an outreach program intended to **reach out fishermen community across the entire coastal belt of the country.** It has been launched to understand the issues, experiences and aspirations of fisherfolks and also to create awareness of various schemes and programs including PMMSY and KCC of the Government available to fishermen in coastal areas.
- The **first eight phases of Sagar Parikrama** have covered 4,115 km in 8 Coastal states/UTs including Gujarat, Diu & Daman, Maharashtra, Goa, Karnataka, Kerala, Puducherry, and Andaman & Nicobar.

#### E) KCC SCHEME EXTENDED TO ANIMAL HUSBANDRY AND FISHERY SECTOR BY BUDGET 2018-19

### 5. INLAND FISHERIES

- **What are Inland Fisheries and Aquaculture?**
  - » **Inland fishery** is any activity conducted to extract fish and other aquatic organisms from inland waters
  - » **Aquaculture** is the breeding, rearing and harvesting of fish, shellfish, plants, algae, and other organisms in all types of water environments. Aquaculture can be marine or Freshwater.
- **Current Situation:**

- » The inland fish production in the country has witnessed a healthy growth in last five years with production reaching 131.13 lakh tonnes 2022-23. The details of year-wise inland fish production during last five years is given as under:

S.No.	Year	Fish Production (in Lakh Tonnes)	Annual Growth Rate (%)
1	2018-19	97.2	8.62
2	2019-20	104.37	7.37
3	2020-21	112.49	7.8
4	2021-22	121.21	7.76
5	2022-23	131.13	8.18