

# “Management of Waste from Dairy Farms”

Presented by:  
Vinay Prabhakar  
Scientist ‘B’



## Central Pollution Control Board

(Ministry of Environment, Forest and Climate Change, Govt. of India)

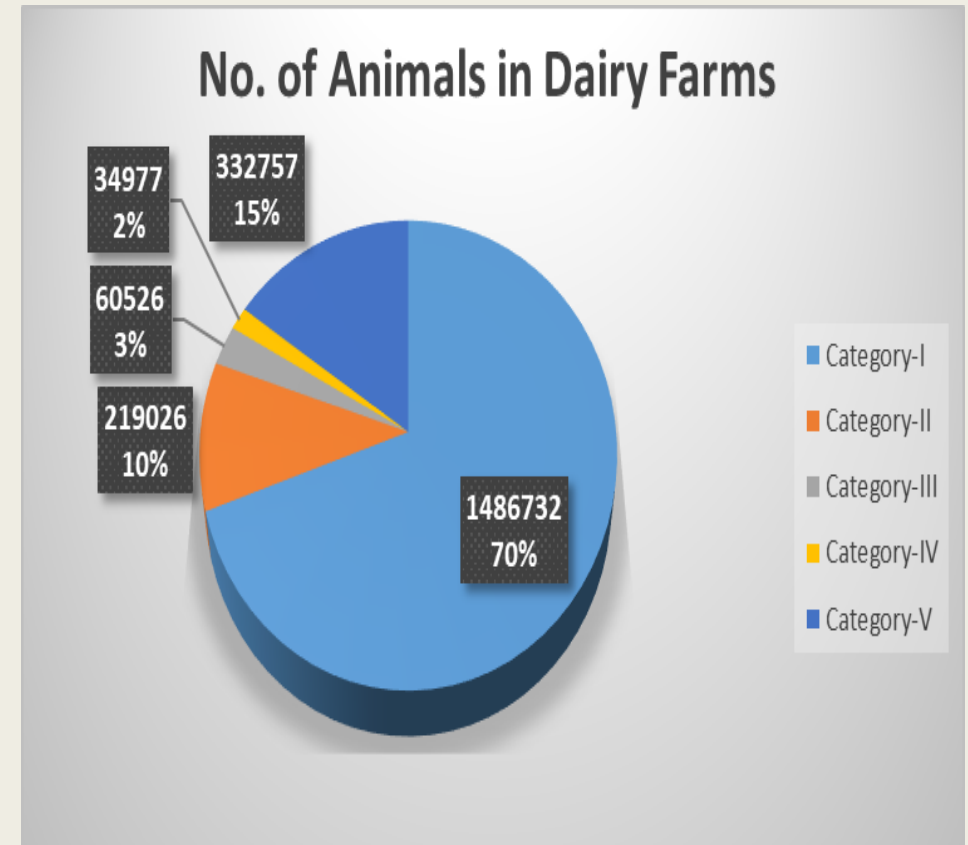
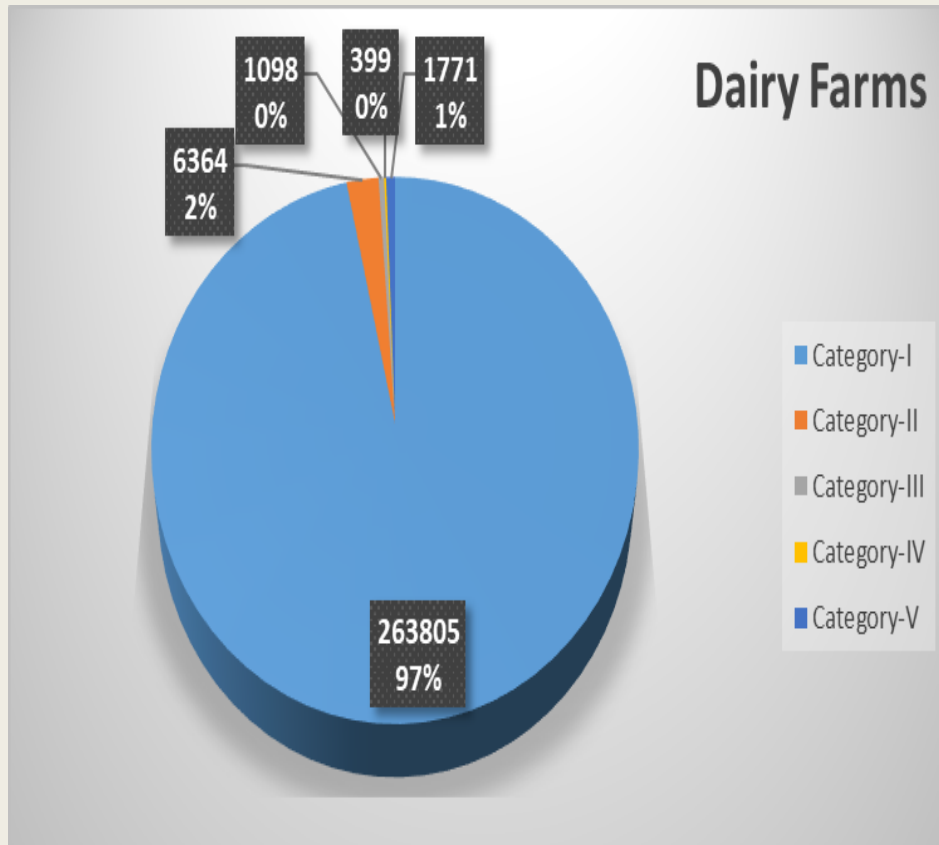
Parivesh Bhawan, East Arjun Nagar

Delhi-110032

# Introduction

- Dairy farms are the establishment which house milching animals to produce milk for distribution and send to milk processing plants.
- CPCB has formulated the “**Guidelines for Environmental Management of Dairy farms and Gaushalas**”, highlighting the Solid Wastes Management, Wastewater Management, Air Quality Management, Siting Policy and Regulatory/Monitoring Mechanism.
- The Guidelines have been circulated to all SPCBs/PCCs for implementation in the month of July.

# Inventory of Dairy Farms



Dairy colonies/clusters = 2793

26 States/UTs:Dairy Farms: 2,73,437 and Animals 21,34,018

The total amount of dung generated/produced by animals in Dairy Farms is 2,60,922 tons/day

# Environmental Issues in Dairy Farms

- Discharges of dung and urinal wastewater.
- The poor handling of dung and wastewater causes odour problem.
- A Bovine animal, on an average, weigh 400 kg and discharges 15-20 kg/day of dung and 15-20 litres/day of urine.
- Cattle dung is discharged along with wastewater into the drains leads to Clogging and water pollution in rivers.
- Breeding ground for mosquitoes: Health hazards and odour nuisance.
- Housekeeping

# General Characteristics of Wastewater Discharged from Dairy Farms based on the CPCB Study

Parameter	Dairy Farms
pH	6.9 – 7.6
COD (mg/l)	3,800 – 14,200
BOD (mg/l)	1,100 – 2,900
TSS (mg/l)	3,800 – 12,900



# Current Scenario of Dairy Farms in India: Indicating need for CPCB Guidelines



**Picture-1:** Bio-medical waste handling in Goyla Dairy Farm



**Picture-2:** Cattle dung discharged into drain and on road from Kakrola Dairy Farm



**Picture-3:** Floor Cleaning Wastewater discharged in drain from Shahbad Dairy Farm



**Picture-4:** Cattle dung discharged into drain from Goyla Dairy Farm



# Current Scenario of Dairy Farms in India: Indicating need for CPCB Guidelines



**Picture-5:** Poor housekeeping practice in Chiranjiv Vihar Dairy Farm



**Picture-6:** Good housekeeping practice in Nangli Dairy Farm



**Picture-7:** Vermi-composting for handling of dung generated from Dairy Farm



**Picture-8:** Biogas generation for handling of dung generated from Dairy Farm

# Salient Features of “Guidelines for Environmental Management of Dairy Farms and Gaushalas”

## 1. Solid Waste Management

- The following methods for disposal/ utilisation of solid wastes (dung) may be adopted:
  - *Composting/Vermicomposting*
  - *Biogas/Compressed biogas (CBG) production (anaerobic digestion)*
  - *Manufacture of dung wood to be used as fuel*
- Collection of dung from the floor of the shed at regular interval.
- Sanitization and disinfection, e.g. by sprinkling crushed lime, regularly
- Dispose the domestic hazardous wastes (vaccines, vials, medicines, syringes, etc.): “Solid Waste Management Rules, 2016”



# Contd.

## 2. Wastewater Management

- Take necessary steps for the judicious use of water for drinking & bathing of cattles and other services : Not exceed 150 litres/day/cattle
- Wastewater being discharged, is adequately treated so as to meet the standards

## 3. Air Quality Management

- The animal housing should be adequately ventilated
- Follow good housekeeping practices
- The floor, feeding, water and air spaces available for each animal : BIS 12237:1987 & 11799:2005
- Improve/modify the quality and dosage of feed/forage/supplements in order to reduce enteric methane generations from livestock : Obtain ration advisory from any of the agricultural institutes/departments
- Plant trees or develop green belts

# Contd.

## 4. Siting Policy and Regulatory/Monitoring Mechanism

- Located outside city/village boundaries, atleast 200 meters away from residential dwellings and 500 meters away from hospitals & schools.
- Inter-se distance between two establishments : Atleast 5 meters for ventilation
- Training and consultation to the Gram Panchayat by SPCBs/PCCs
- Practical trainings on environment/waste management & treatment technologies, scientific feeding for enteric methane reduction, waste to wealth management programme, etc. to dairy workers/entrepreneurs by the local bodies/SPCBs/PCCs on regular interval



*Thank  
You*

