(957)

BEFORE THE NATIONAL GREEN TRIBUNAL

PRINCIPAL BENCH, NEW DELHI

O.A NO. 46 of 2018

IN THE MATTER OF:-

NUGGEHALLI JAYASIMHA **APPLICANT**

VERSUS

GOVT. OF NCT DELHI **RESPONDENT(S)**

INDEX

SL NO.	PARTICULARS	PAGE NO.
1.	**GUIDELINES FOR ENVIRONMENTAL MANAGEMENT OF DAIRY FARMS AND GAUSHALAS** IN COMPLIANCE OF HON'BLE NGT ORDER DATED 08.07.2019.	
2.	**ANNEXURE-I** INVENTORY PERFORMA FOR DAIRIES AND GAUSHALA IN THE STATE/UT.	
3.	**ANNEXURE-II** HON'BLE TRIBUNAL ORDER DATED 08.07.2019.	

A Agrwl

(AJAY AGGRAWAL)
SCIENTIST 'E'
CENTRAL POLLUTION CONTROL BOARD
PARIVESH BHAWAN, EAST ARJUN NAGAR
DELHI- 110032

PLACE: - DELHI
DATED: 18.09.2018

"Guidelines for Environmental Management of Dairy Farms and Gaushalas"

Central Pollution Control Board

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

Parivesh Bhawan, East Arjun Nagar

Delhi-110032

(September 2019)

Guidelines for Environmental Management of Dairy Farms and Gaushalas

1. Background

The Hon'ble National Green Tribunal (NGT), Principal Bench, New Delhi, issued the following directions to CPCB and SPCBs/PCCs vide order dated 8.7.2019 in the matter of O.A. No. 46/2018, Nuggehalli Jayasimha Vs Government of NCT of Delhi :

"...Let the CPCB undertake a study in the matter and lay down appropriate guidelines for management and monitoring of environmental norms by the dairies throughout India and furnish a report in the matter by e-mail at judicial-ngt@gov.in before the next date. The local bodies in all the States/UTs be required to file inventory of dairies in their respective jurisdiction so that state PCB can compile such information in their respective reports furnished to CPCB..."

In order to comply above directions, CPCB forwarded a copy of the aforesaid order to all SPCBs/PCCs on 8.8.2019 and 9.9.2019 for their information and with the request to provide consolidated inventory of diaries operating under their jurisdiction to this office.

Further, CPCB constituted an Expert Group, comprising of the members from National Dairy Research Institute (NDRI), Karnal, Indian Institute of Technology (IIT), Delhi and CPCB, Delhi, to lay down guidelines for management and monitoring of environmental norms in dairies. The Expert Group, in its two meetings, held on 4.9.2019 and 16.9.2019 discussed the issues thoroughly & also interacted with a few stakeholders such as Dairies, Gaushalas, NDDB, SPCBs/PCCs, etc. for their views/feedback on the subject and finalised the "Guidelines for Environmental Management of Dairy Farms and Gaushalas" as given in the following paragraphs/sections.

2. Introduction

India ranks first among the world's milk producing Nations since 1998 and has the largest bovine population in the World. Dairying has become an important secondary source of income for millions of rural families and has assumed the most important role in providing employment and income generating opportunities particularly for marginal and women farmers. Most of the milk is produced by animals reared by small, marginal farmers and landless labours.

The dairies/gaushalas may be categorised on the basis of nos. of animals (adult cows & female buffaloes) in a dairy/gaushala i.e. Category-I (upto 25 animals), Category-II (26-50 animals), Category-III (51-75 animals), Category-IV (76-100 animals) and Category-V (above 100 animals).

As per the Livestock Census, carried out by the Department of Animal Husbandry, Dairying & Fisheries, Ministry of Agriculture and Farmers Welfare, the year-wise livestock population of adult female bovine is as follow:

Sr. No.	Year	Adult Cows	Adult Female Buffaloes	Total Cows & Buffaloes
1	1951	5,44,00,000	2,10,00,000	7,54,00,000
2	1956	4,73,00,000	2,17,00,000	6,90,00,000
3	1961	5,10,00,000	2,43,00,000	7,53,00,000
4	1966	5,18,00,000	2,54,00,000	7,72,00,000
5	1972	5,34,00,000	2,86,00,000	8,20,00,000
6	1977	5,46,00,000	3,13,00,000	8,59,00,000
7	1982	5,92,00,000	3,25,00,000	9,17,00,000
8	1987	6,21,00,000	3,91,00,000	10,12,00,000
9	1992	6,44,00,000	4,38,00,000	10,82,00,000
10	1997	6,44,00,000	4,68,00,000	11,12,00,000
11	2003	6,45,00,000	5,10,00,000	11,55,00,000
12	2007	7,30,00,000	5,45,00,000	12,75,00,000
13	2012	7,67,00,000	5,66,00,000	13,33,00,000

Also, as per the Livestock Census carried out by the Department of Animal Husbandry, Dairying & Fisheries, Ministry of Agriculture and Farmers Welfare, in 2012, the state-wise total population of adult female bovine is as follow:

Sr. No.	State/UT	Adult Cows	Adult Female Buffaloes	Total Cows & Buffaloes
1	Andhra Pradesh	34,79,000	57,63,000	92,41,000
2	Arunachal Pradesh	1,44,000	1,000	1,45,000
3	Assam	35,31,000	1,57,000	36,88,000
4	Bihar	59,82,000	40,17,000	99,99,000
5	Chhattisgarh	33,27,000	4,09,000	37,36,000
6	Goa	25,000	16,000	41,000
7	Gujarat	41,41,000	56,46,000	97,87,000
8	Haryana	8,44,000	29,14,000	37,58,000
9	Himachal Pradesh	9,52,000	4,23,000	13,75,000
10	Jammu & Kashmir	12,28,000	4,17,000	16,44,000
11	Jharkhand	26,22,000	3,98,000	30,20,000
12	Karnataka	43,69,000	20,56,000	64,25,000
13	Kerala	6,66,000	10,000	6,76,000
14	Madhya Pradesh	69,54,000	42,51,000	1,12,04,000
15	Maharashtra	54,40,000	33,59,000	87,99,000
16	Manipur	96,000	23,000	1,19,000
17	Meghalaya	3,52,000	4,000	3,56,000
18	Mizoram	16,000	2,000	18,000

19	Nagaland	90,000	9,000	99,000
20	Odisha	34,59,000	2,50,000	37,09,000
21	Punjab	12,97,000	28,05,000	41,01,000
22	Rajasthan	64,70,000	69,33,000	1,34,03,000
23	Sikkim	62,000	0	62,000
24	Tamil Nadu	44,85,000	4,23,000	49,08,000
25	Tripura	3,43,000	4,000	3,47,000
26	Uttarakhand	8,07,000	5,82,000	13,89,000
27	Uttar Pradesh	90,69,000	1,54,32,000	2,45,01,000
28	West Bengal	63,23,000	1,72,000	64,94,000
29	A & N Islands	18,000	2,000	20,000
30	Chandigarh	6,000	10,000	16,000
31	D. & N. Haveli	9,000	1,000	10,000
32	Daman & Diu	1,000	0	1,000
33	Delhi	47,000	95,000	1,42,000
34	Lakshadweep	2,000	0	2,000
35	Puducherry	32,000	1,000	33,000
36	**All India**	**7,66,85,000**	**5,65,86,000**	**13,32,71,000**

The bovine animal, on an average, weigh 400 kg and dung produced by it is about 15-20 kg. Mainly, two types of dairy wastes are produced i.e. cow/buffalo dung and wastewater. According to the definition as provided in the 'Solid Waste Management Rules, 2016', dairy waste has been categorised as 'solid waste'. Many dairy farms and gaushalas discharge the cattle dung along with wastewater into the drains, leading to clogging, which ultimately reach to rivers and create water pollution. Also, these clogged drains become breeding ground for mosquitoes creating health hazards and odour nuisance. The dung produces many gases/compounds such as carbon dioxide, ammonia, hydrogen sulphide, methane, etc. which emitted into the atmosphere and responsible for degradation of air quality. The greenhouse gases mainly methane and carbon dioxide are produced by dung also impact the climate.

The disposal of cow/buffalo dung is the biggest challenge in dairy farms and gaushalas. However, cattle dung, if effectively utilised, can be an excellent resource of manure & energy and reduce the adverse impact on environment. The cattle dung contains many beneficial constituents which may be used as fuel source either by direct combustion or converted to biogas, soil conditioner, fertilizers, material for wall plastering, construction of granaries, livestock & fish feeding, etc.

It is therefore, necessary to prepare guidelines on management of wastes from dairy farms and gaushalas in order to minimize the environmental impacts associated with their operations and management.

(9)

3. Management of Solid Wastes

The solid wastes produced from dairy farms and gaushalas are basically organic in nature, consisting of cattle dung, feed residue, bedding, etc. The waste produced is not hazardous in nature but its proper disposal needs attention. The guidelines for the management of solid wastes are as follow:

i. Dairies and gaushalas should collect dung from the floor of the shed. The surrounding areas should also be cleaned regularly to prevent obnoxious smell in the area causing inconvenience to the people.

ii. Dairy premises and its surrounding areas should be properly sanitized and disinfected, e.g. by sprinkling crushed lime, regularly.

iii. The solid wastes should be segregated based on organic waste, medicinal & chemical waste and other solid wastes and same should be contained, collected & stored in separate bins/pits/tanks for treatment.

iv. Dairies and gaushalas should store chemicals & veterinary medicines securely and dispose the biomedical wastes (vaccines, vails, medicines, syringes, etc.) as per the provisions of "Biomedical Waste Management Rules, 2016".

v. Dairies and gaushalas should not wash dung & fodder residue etc. into drains in order to avoid clogging of drains and destruction of aquatic life downstream. The local bodies/corporations/SPCBs should ensure that untreated wastes are not discharged outside the dairy premises.

vi. Dairies and gaushalas should have adequate infrastructure to ensure proper disposal of solid wastes and wastewater. They may set-up individual or common treatment facilities for the same. The local government bodies/corporations/SPCBs should facilitate the dairies/gaushalas/ entrepreneurs/ NGOs in setting up of individual or common treatment facilities, such as identification of land with power & water supply & drainage, funding, etc.

vii. The following few methods for the disposal of solid wastes along with its efficient utilization may be adopted:

   a. Composting/Vermicomposting: Composting is a manure management practice to reduce the impact on the environment. Composting is the biological decomposition and stabilization of organic material. The process produces a final product that is stable, free of pathogens, reduced odours and can be beneficially applied on the land. Vermicomposting is the method of preparing compost with the use of earthworms that enriches soil quality by improving its physicochemical and biological properties. It is becoming popular as a major component of organic farming system.

   b. Biogas/Compressed biogas (CBG) production (anaerobic fermentation): Biogas plants are the best way to handle the waste, especially cow/buffalo dung. Biogas is generated in the process of biodegradation of organic materials under anaerobic conditions which may be utilised for cooking and power generation. The Biogas plant not only provides the digested organic manure for crops but is also a step towards controlling global warming. Biogas plant can fulfil the energy

needs of dairy itself besides generating value added compost. Biogas can be processed and filled in cylinders. The bio-gas may be further purified to remove hydrogen sulphide (H_2S), carbon dioxide (CO_2) & water vapour and compressed (known as Compressed Bio Gas, CBG) which has methane (CH_4) content of more than 90% as per BIS standard IS 16087:2016. CBG has calorific value and other properties similar to CNG and hence can be utilized as green renewable fuel as replacement of CNG in automotive, industrial and commercial areas.

c. Use as fuel as replacement of firewood: The use of firewood has been causing deforestation. The cattle dung can be used as fuel as a replacement of firewood. The cattle dung can be dewatered and converted to value added products such as logs, powder etc. by mechanized/semi-mechanized manner. This option can be easily adopted at dairy farms and gaushalas in economical manner, creating substantial value & no damage to the environment.

4. Wastewater Management

The guidelines for the management of wastewater are as follow:

i. Dairies and gaushalas should take necessary steps for the judicious usage of water for drinking & bathing of cattles and other services, however, the same should not exceed 100 litres/day/cattle.
ii. Permission should be obtained by dairies and gaushalas from Central Ground Water Authority (CGWA) for extraction of groundwater. The local bodies/corporations should ensure disconnection in cases of illegal bore-wells existing in the dairies and gaushalas.
iii. Electronic meters should be installed for raw water consumption and logbook should be maintained by all dairies and gaushalas.
iv. Dairies and gaushalas should ensure that the wastewater, being discharged, is adequately treated so as to meet the standards as prescribed by SPCBs/PCCs as per mode of disposal.
v. Dairies and gaushalas should ensure that the wastewater does not percolate through ground and pollutes the groundwater. The flooring of the shed should be properly paved (impervious) with a wastewater collection system. However, the floor should not be slippery in order to ensure safety of animals.
vi. Dairies and gaushalas should use phosphate free and eco-friendly cleaning agents in order to avoid eutrophication in water bodies.

5. Air Quality Management

The guidelines for the management of air quality/emissions (includes gaseous emissions, odour and dust) from dairy farms and gaushalas are as follow:

i. The animal housing should be adequately ventilated allowing sufficient supply of fresh air to remove humidity, dissipate heat and prevent build-up of gases such as carbon dioxide, ammonia, etc.

ii. Dairy farms and gaushalas should follow good housekeeping practices like maintaining proper sanitary conditions, protecting dung from unwanted pests/insects in order to minimize odour nuisance.

iii. The floor, feeding, water and air spaces available for each animal should be adequate for standing, resting, loafing, exercising, feeding, watering and ventilation. The space requirements should be provided as per the standards prescribed by the Bureau of India Standards (BIS).

iv. Dairy farms and gaushalas should collect carcasses on regular basis and dispose them appropriately in a hygienic manner.

v. Dairy farms and gaushalas should improve/modify the quality and dosage of feed/forage/supplements in order to reduce enteric methane generations from livestock. It is beneficial to animal health/nutrition and reduced impact on environment.

vi. Dairy farms and gaushalas should plant trees or develop green belts to provide a barrier against the spread of foul smell or noise originating from them.

6. Monitoring Mechanism

i. The local authorities/corporations should carry out inventory of all the dairy farms and gaushalas located in their jurisdiction in the prescribed performa given at **Annexure-I**. The same should be updated and shared with the concerned SPCB/PCC on regular basis.

ii. The dairy farms and gaushalas should be registered with the local bodies/corporations/SPCBs/PCCs.

iii. The concerned local bodies/corporations/SPCBs/PCCs should monitor the dairy farms and gaushalas on regular basis to ensure the proper disposal of cattle dung and wastewater in compliance with the environmental norms.

iv. The concerned authorities should prepare time bound short term (i.e. upto one year) and long term (i.e. more than one year) action plans, with responsible implementing agencies/departments, for environmental management in dairies and gaushalas. The progress of implementation of action plans should be reviewed by District and State levels monitoring committees, quarterly.

v. Hands on practical trainings on environment/waste management & associated treatment technologies, scientific feeding for enteric methane reduction, waste to wealth management programme, etc. should be provided to dairy workers/holders/entrepreneurs by the government bodies.

vi. In case of new dairies, the local authorities should ensure the following site location criteria:

   a. Dairy farms should be located outside the populated areas, preferably outside the city boundaries.
   b. The location of the dairy farm and activities of neighbouring properties should be considered in order to minimize the risk of environmental contamination of milk.
   c. Dairy farms should not be located on the banks of river or any of the water bodies.

****

Annexure-I

Inventory Performa for Dairies and Gaushalas in the State/UT

Sl. No.	Description	Urban Area	Peri-urban Area	Rural Area
1.	Total no. of dairies			
	• Category-I (upto 25 animals)	•	•	•
	• Category-II (26-50 animals)	•	•	•
	• Category-III (51-75 animals)	•	•	•
	• Category-IV (76-100 animals)	•	•	•
	• Category-V (above 100 animals)	•	•	•
	• Total	•	•	•
2.	Total no. of animals in			
	• Category-I dairies	•	•	•
	• Category-II dairies	•	•	•
	• Category-III dairies	•	•	•
	• Category-IV dairies	•	•	•
	• Category-V dairies	•	•	•
	• Total	•	•	•
3.	Total amount of cow/buffalo dung produced (ton per day) by			
	• Category-I dairies	•	•	•
	• Category-II dairies	•	•	•
	• Category-III dairies	•	•	•
	• Category-IV dairies	•	•	•
	• Category-V dairies	•	•	•
	• Total	•	•	•
4.	Methods of disposal/utilisation of cattle dung and wastewater by dairies (to be enclosed)			
5.	Total no. of dairy colonies/clusters (list of such dairy colonies/clusters along with the details of no. of dairies, no. of cattles, method of disposal/utilisation of cattle dung & wastewater, etc. to be enclosed)	•	•	•
6.	Total no. of Gaushalas			
	• Category-I (upto 25 animals)	•	•	•
	• Category-II (26-50 animals)	•	•	•
	• Category-III (51-75 animals)	•	•	•
	• Category-IV (76-100 animals)	•	•	•
	• Category-V (above 100 animals)	•	•	•
	• Total	•	•	•
7.	Total no. of animals in			
	• Category-I Gaushalas	•	•	•
	• Category-II Gaushalas	•	•	•
	• Category-III Gaushalas	•	•	•
	• Category-IV Gaushalas	•	•	•
	• Category-V Gaushalas	•	•	•
	• Total	•	•	•

8.	Total amount of cow dung produced (ton per day) by • Category-I Gaushalas • Category-II Gaushalas • Category-III Gaushalas • Category-IV Gaushalas • Category-V Gaushalas • Total	 • • • • • •	 • • • • • •	 • • • • • •
9.	Methods of disposal/utilisation of cattle dung and wastewater by Gaushalas (to be enclosed)			

Note:

Urban area: As per the Census of India 2011, the urban area is defined as follows:

i. All places with a municipality, corporation, cantonment board or notified town area committee, etc.
ii. All other places which satisfied the following criteria:
   a. A minimum population of 5,000;
   b. At least 75 per cent of the male main working population engaged in non-agricultural pursuits; and
   c. A density of population of at least 400 persons per sq. km.

Peri-urban area: It is an area or habitation located on the perimeter of the urban area having partial or complete influence of urbanization. It undergoes dramatic changes over a given period of time.

****