

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL
SOUTHERN ZONE, CHENNAI**

IN THE MATTER OF:

Original Application No. 147 of 2020 (SZ)

Smt. R. Prabha

... Applicant

vs

The Tamil Nadu Pollution Control Board and Others.

... Respondent(s)

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Place : Chennai
Date : 17.11.2020



S Suresh
DEPONENT

S. SURESH
REGIONAL DIRECTOR
CENTRAL POLLUTION CONTROL BOARD
REGIONAL DIRECTORATE (SOUTH)
MIN. OF ENV, FORESTS & CC, GOVT. OF INDIA
BENGALURU - 560 079. MOB : 9480672128

**The Report of
Joint Committee
in compliance with the Order of
Hon'ble NATIONAL GREEN TRIBUNAL,
Southern Zone, Chennai
in the matter of OA No: 147 of 2020**



NOVEMBER, 2020

by
**Joint Committee
constituted in compliance with the Order of
Hon'ble NATIONAL GREEN TRIBUNAL,
Southern Zone, Chennai
in the matter of OA No: 147 of 2020**

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Joint Committee report in compliance with the Order dated 13.08.2020 of Hon'ble National Green Tribunal (Southern Zone), Chennai in the matter of O.A. No.147 of 2020

1. Background:

Smt.R. Prabha has filed an original application No. 147 of 2020 (SZ) before the Hon'ble National Green Tribunal (Southern Zone), Chennai (NGT) against the poultry farm namely M/s. RVS Poultry Farm located at S.F.No 106/1 & 108/2B in Village Ariyagoundampatty, Rasipuram Taluk, Namakkal District, Tamilnadu alleging that

- *The poultry farm did not confirm to any of the guidelines provided by the Central Pollution Control Board (CPCB)*
- *Not provided any 'green belt' as required*
- *Not provided any mechanism for disposal of waste generated which ultimately causes pollution in that area.*
- *Over exploitation of water from a place which is a critically exploited area*
- *Not obtained the permission from the Authorities for drawing ground water*

and seeking the following reliefs:

- a) Direct the 4th respondent to shift the poultry at Vellappan Poultry Farm, Nanjappan Thottam, Ariya Goundampatty, Rasiuram Taluk, Namakkal District – 637 406 to a site conforming to the law and the guidelines dated 20.10.2015.
- b) Direct the 4th respondent to obtain consent under the Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981.
- c) Direct the payment of compensation for environmental harm and pollution caused by the 4th respondent and suffered by the applicant.
- d) Issue such other orders as it deems fit in the interest of the case and render justice.

After going through the application, NGT satisfied that there arises a substantial question of environment which required the interference of this tribunal for resolving the same and passed an Order (A1) appointing a joint committee comprising of

- The District Collector, Namakkal District, or a senior Officer not below the rank of Assistant Collector or Sub Divisional Magistrate deputed by the District Collector
- A senior officer from Central Pollution Control Board, Regional Office, Chennai
- A senior officer from Tamil Nadu Pollution Control Board (TNPCB) deputed by the Chairman to
- *Inspect the area in question*
- *Ascertain the present status of the functioning of the poultry farm*
- *Ascertain as to how many such units are functioning in Namakkal district*
- *Whether all those units are functioning in conformity with the guidelines provided by the CPCB*
- *Whether necessary precautions for disposal of waste generated is being followed by them*
- *Submit a status as well as action taken report if there is any violation found*
- *Ascertain the status of the water scarcity in that area*
- *Whether necessary permissions have been obtained from the authorities for drawing ground water by poultry farms*
- *If there is any violation found, assess the environmental compensation against them.*
- *The Committee shall submit a report to Hon'ble NGT, Southern Zone, Chennai on or before 20.10.2020 by e-filing.*
- *CPCB, Regional Office, Chennai will be the nodal agency for co-ordination and for providing all necessary logistics for this purpose.*

Constitution of Joint Committee

In compliance with the Order dated 13.08.2020 of Hon'ble National Green Tribunal (Southern Zone), Chennai in the matter of O.A. No.147 of 2020 and based on the nomination received from the respective department, a joint committee was constituted by CPCB, Regional Directorate (RD), Chennai with the following members (A2)

- Dr. V.P. Ponnuvel, Regional Joint Director, Animal Husbandry, Namakkal (RJD)
- Shri. M. KottaiKumar, Revenue Divisional Officer, Namakkal (RDO)
- Shri. R. Ravikumar, District Environmental Engineer, TNPCB, Namakkal
- Shri. S. Karthikeyan, Scientist-C, CPCB, RD, Chennai

Terms of References of the Committee:

- *Inspect the area in question*
- *Ascertain the present status of the functioning of the poultry farm*
- *Ascertain as to how many such units are functioning in Namakkal district*
- *Whether all those units are functioning in conformity with the guidelines provided by the CPCB*
- *Whether necessary precautions for disposal of waste generated is being followed by them*
- *Submit a status as well as action taken report if there is any violation found*
- *Ascertain the status of the water scarcity in that area*
- *Whether necessary permissions have been obtained from the authorities for drawing ground water by poultry farms*
- *If there is any violation found, assess the environmental compensation against them.*
- *The Committee shall submit a report to Hon'ble NGT, Southern Zone, Chennai on or before 20.10.2020 by e-filing.*

Meeting of the Joint Committee;

An introductory meeting of the joint committee was held on 06-10-2020 at 15.00 hours through video conference on account of national lock down due to the ongoing pandemic situation. The agenda of the first meeting is placed at (A3). The meeting was attended by the following members

- Dr. V.P. Ponnuvel, Regional Joint Director, Animal Husbandry, Namakkal
- Shri. M. KottaiKumar, Revenue Divisional Officer, Namakkal
- Shri. R. Ravikumar, District Environmental Engineer, TNPCB, Namakkal
- Shri. S. Karthikeyan, Scientist-C, CPCB, RD, Chennai

The nodal officer appraised the case, procedures to be followed and stressed the significance of time line. The committee members deliberated the terms of references of joint committee made by Hon'ble NGT and the issues involved therein. The minutes of the first meeting is placed at (A4). The Gist of the meeting are:

- Finalized the date for the site visit for the assessment of the functioning of poultry farms in Namakkal district
- Decided to collect the information related to the case
- Decided to prepare a questionnaire for the assessment of poultry farm (A5)
- Discussed the methodology to be adopted for the execution of the work
- Discussed the time line proposed and finalized the same for the progress of the report preparation.
- Decided to pray NGT for two months time considering the Nationwide lock down due to COVID-19, restriction on movement due to local level containment zone declared by local administration and as it is a exhaustive work

Based on the prayer to Hon'ble NGT for two months time, the case is adjourned to 19th November, 2020.

Statutory requirement for poultry farms:

As per the Environmental Guidelines for poultry farms issued by CPCB, the poultry farms which are handling one lac or more birds at a given time in single location, need to approach State Pollution Control Board to obtain necessary Consent under Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981. The Poultry and Hatchery sector is classified under Green Category of industries and less polluting industries.

Based on CPCB guidelines, TNPCB too classified poultry farms as Green Category of industries.

As per Reserve Bank of India's Master circular related to Lending to priority sector, development of the poultry farm in all aspects including erection of poultry houses is placed under Agricultural allied activities. It is reported that the poultry farm is considered as an agricultural allied activity in Namakkal district and exempted from getting any approval/NOC from government departments.

Under provision (1.0) of Notification no.: S.O.3289(E) dt.: 24th September, 2020 by Central Ground Water Authority, Department of Water Resources, River Development and Ganga Rejuvenation, Under Ministry of Jal Shakti, New Delhi for the purposes of regulation and control of Ground Water management and development gives exemption from seeking No Objection Certificate in case of Agriculture activities consumers for ground water extraction.

Under provision of Regulations for Management of Ground Water and issue of No Objection Certificate / Licence for extraction of Ground Water in Tamil Nadu State issued vide GO (Ms) No.: 142 dt.:23rd July, 2014;

The Regulation (I) (C) says "Drawal and transportation of ground water for agricultural and horticultural purposes in the state of Tamil Nadu are exempted from applying for No Objection Certificate.

Site visit of the Joint Committee:

As decided in the introductory meeting, meeting of the committee was held at the office of District Environmental Engineer, TNPCB, Namakkal on 19th October, 2020 at 10 AM and all the members attended the meeting along with the following officials:

- Dr. K. Sivaprakasam, Assistant Director, Poultry Diseases & Diagnostics Laboratory, Namakkal
- Dr. P. Periyasamy, Veterinary Assistant Surgeon, Animal Husbandry, Namakkal
- Shri. N. Gunasekaran, AE, TNPCB, Namakkal

District Environmental Engineer, TNPCB, Namakkal has made elaborate arrangements for the meeting and facilitated. After a briefing, deliberated the general scenario of poultry farm functioning, their statutory requirement, methodology to be adopted and planned the site visit. During the deliberation the Bio-security procedures to be followed as recommended by world organization for animal health (OIE) Terrestrial Animal Health Code dt.28th June, 2019 discussed. As per OIE guidelines inspecting person can visit only one poultry farm in 24 hours interval .

In view of above, it is decided to visit the M/s. RVS poultry Farm in question first on the same day followed by the meeting, by the committee to assess the functioning of the poultry farm and to hear the version of the complainant. Further it is decided to carry out the visit of other poultry farms for assessment by roping in other officials of TNPCB and Department of Animal Husbandry due to the limitation prescribed in OIE Terrestrial Animal Health Code, considering time constraints and in order to cover more farms so that a conclusion can be drawn about the functioning of poultry farms in Namakkal district. Accordingly twelve poultry farms were selected based on their number of birds handling and were

visited by the team individually. The list of poultry farms visited and the respective inspecting official is placed at [A25](#).

As decided, the committee visited M/s. RVS poultry Farm, the farm in question first on 19th October, 2020 followed by the meeting. During the visit, an opportunity was given to the industry to present their views on the complaint. On behalf of M/s. RVS poultry Farm, Shri. R. Vellappan responded the committee, showed the entire facilities of the poultry farm, and produced the requisite documents and records to the committee. No residential zone was observed within 500 m from the poultry farm. The functioning of M/s. RVS poultry Farm in a questionnaire form is placed at [A7](#).

In order to give an opportunity to the Complainant to hear her nature of complaint, problems being faced and grievances to the committee, the Committee visited the Complainant's house. The complainant house was constructed in the year 2016 which is after the establishment of the poultry farm. The complaint house was constructed within the farm land of the complainant and found that both the Complainant and her husband Shri. G. Ramesh were not available to offer their version. Only the lease holder of the land Shri. Natarajan was present at the time of visit of the joint committee and his version was heard by the committee. The observations of the committee are placed below

The Committee deliberated the matter during the visit of the committee covering all aspects of the functioning of poultry farm in Namakkal district. The information presented in the report is based on perusal of various documents and records, inspection of site & and the statement given by the officials, farm representatives and the office bearers of the poultry farm association. The following materials are referred.

- “Environmental Guidelines for Poultry Farm” issued by CPCB ([A19](#))
- Poultry Farm Manual ([A21](#))

- Biosecurity procedures in poultry production issued by World Organization for Animal Health (OIE) – Terrestrial Animal Health Code dt.28th June, 2019 (A20).
- GoT Notification on categorization of Firkas as Over exploited, Critical, Semi Critical, Safe and saline / poor quality for ground water development vide Order GO no.: Ms no.:257, Public Works (21), 1st October, 2018 (A22).
- GoT Notification on “Effective management of Ground Water, Regulations for management of Ground Water and issue of NOC / Licence for extraction of Ground Water in Tamil Nadu State vide GO Ms No.:142, dt.: 23rd July, 2014 (A23).
- Journal “Environmental Impacts of Poultry Production” published by Poultry, Fisheries and Wildlife Sciences.
- Reserve Bank of India’s (RBI) Master circular related to Lending to priority sector. (Development of the poultry farm in all aspects including erection of poultry houses is placed under Agricultural allied activities) (A24).

Findings of the Committee;

Namakkal district profile;

Namakkal district is an administrative district in the state of Tamil Nadu. The district has two revenue divisions, Namakkal and Tiruchengode and has eight taluks namely Namakkal, Tiruchengode, Kumarapalayam, Rasipuram, Paramathi Velur, Kolli Hills, Sendamangalam and Mohanur. The district comes under the North Western Agro Climatic zone of Tamil Nadu. It is situated in the dividing portion of two watersheds between Cauvery and the Vellar system.

Kolli and a few isolated hills and ridges are scattered over Namakkal, Sendamangalam, Rasipuram and Tiruchengode are along with the valleys and rolling hills, make up the characteristics topography of the district.

The geographical area of the district is 3363.35 Sq. km. which lies between 11.00 and 11.360 North Latitude and 77.280 and 78.300 East Longitude. As per census 2011, Namakkal had a population of 17,26,601.

Climate; The climate of the district is hot and dry during summer i.e., from March to May and in Winter it is very cold and misty i.e., from November to February. The average rainfall of the district is 716.540 mm.

The National Highways (NH7) connecting Kanniayakumari to Kashmir, passes through the district. State highways too running through the district.

Facts related to Poultry farm;

After examine the data, and interaction with the officials of Animal Husbandry & Poultry Diseases & Diagnostics Laboratory, Namakkal and office bearers of Poultry Farm Owners Association, the findings of the joint committee are

In Namakkal district, around 1175 poultry farms are functioning based on the “All-in All-out” single age group principle in each shed in a farm. Out of which the handling capacity of 1028 poultry farms is less than one lac birds. Most of the poultry farms are run by the farmers. They have established their poultry farm in their own ancestor property of agriculture fields. The poultry farm is carried out as an agriculture allied activity. The poultry farms are the back bone of the rural economy in the Namakkal District and also provides employment in the rural area. Due to climatic advantages, presence of Namakkal Veterinary College and Research Institute (Under Tamilnadu Veterinary and Animal Sciences University, Chennai) and Poultry Diseases & Diagnostics Laboratory and their good support, poultry farms are more in this district compare to any other districts in Tamilnadu. As per Reserve Bank of India’s Master circular related to Lending to priority sector, development of the poultry farm in all aspects including erection of poultry houses is placed under Agricultural allied activities. It is reported that the poultry farm is considered as an agricultural allied activity in Namakkal district and exempted from getting any approval/NOC from government departments. In these region, Bank loan too available for establishment poultry farm in simple steps. Poultry farms are often being instructed by TNPCB to follow the CPCB guidelines. Since most of the poultry farms are handling less than one lakh birds,

they have not applied and obtained Consent from TNPCB as per CPCB guidelines. None of the farm obtained NOC/ licence from the State Ground and Surface Water Resources Data Centre, Chennai, claiming that it is an agriculture activity and is exempted from obtaining from NOC. Mostly, the poultry farms are functioning in line with

- Bio-Security procedures in poultry production issued by World Organization for Animal Health (OIE) – Terrestrial Animal Health Code dt.28th June, 2019 (A20).
- Poultry Farm Manual issued by Department of Animal Husbandry, Dairying & Fisheries, Ministry of Agriculture and Farmers Welfare, Government of India, New Delhi (A21).
- Advice given by Poultry Diseases & Diagnostics Laboratory, Namakkal in vaccine administration matter
- Advice given by Namakkal Veterinary College and Research Institute, (Under Tamil Nadu Veterinary and Animal Sciences University, Chennai) in feed and water management

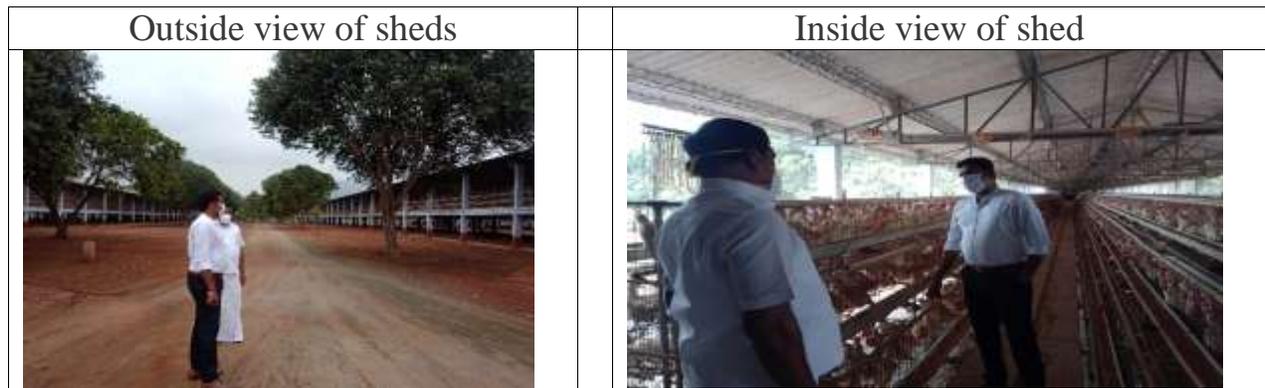
Out of 1175 farms, only three poultry farms are carrying out Hatchery operation. Remaining poultry farms are carrying out the egg production by rearing day old Chicks to Growers and to layers in batches. The rearing cost will be around Rs.750/- per bird including shed construction. The duration of one batch varies from seventy two weeks to seventy five weeks. Egg production normally starts from 18 to 20 weeks and goes up to seventy-two weeks. Once the egg production reduces to less than 70%, the batch will be sold for meat.

It is reported that most of the poultry farms are fenced either with barbed wire or chain linked mesh of 5 feet height all around the farm.

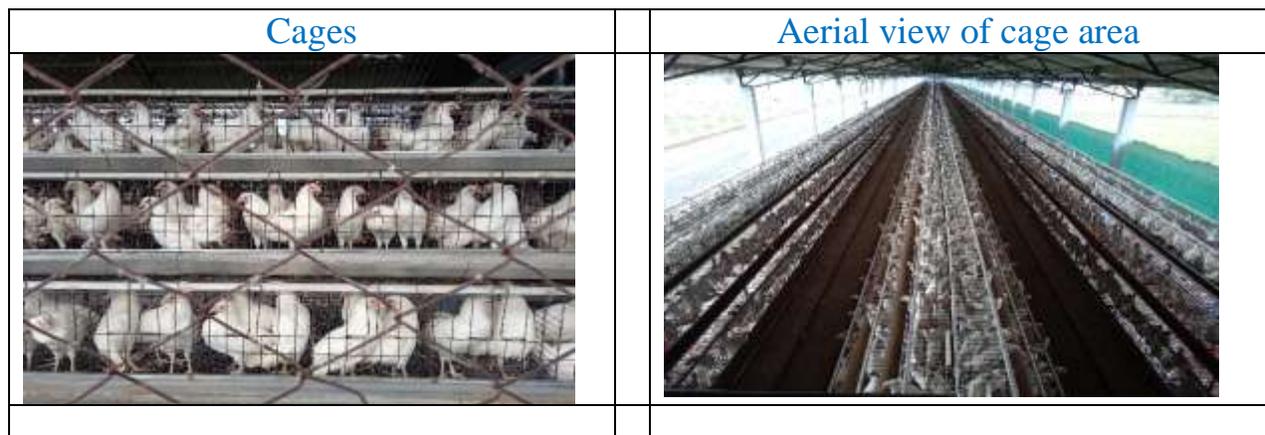
Shed; As per the Bio security procedures, a space of 0.75 Square feet is required for a bird. The bird reared in a shed of breath varying from 30 feet to not more than 50 feet. The breath of the shed is recommended. Whereas there is no restriction on length of the shed. The length will vary depends on the land availability. Normally the shed will be in rectangular shape and maximum of 20000 to 50000 birds will be accommodated in one shed. The shed will be oriented in East – West direction. The distance between the sheds shall be not less than 50 feet. The cage area of the

shed will be covered by bird mesh all around. The cost of shed per bird works out to be Rs.250/- excluding land cost.

The floor beneath the shed is of hardened earthen floor and the inspection platform is RCC. Most of the roof is be AC sheet or Zinc Sheet or Colour Sheet. The roof is normally extended up to 2m wide from the exterior of cage to prevent the rain water from getting into manure floor. In case of new ones, the roof of the shed are extended up to 2.5m to prevent the entry of rain water into the shed. Once water enters the manure floor, it will lead to septic condition and foul odour nuisances, Flies/mosquitos production and maintenance problem starts. It is reported that extreme care is being taken by the farmers to prevent the water contamination with manure. Because the manure has good demand and price. In Namakkal district, so many agents are there to purchase the manure and sell to the farmers. In case, any accidental water spillage happens, the same will be managed by covering the area with lime power.



Cages will be built in three or four tier system and in two to four lines in the shed. The cage is of the dimension 1.25 * 1.25 sq. ft.



Feeds; It is reported that less farm owners stopped using animal protein, bone meal, fish meal, dry fish etc. for preparing feed for the last six years. (From 2014 onwards) because of its odour nuisances and infections. At present they are using grain based feeds only in order to avoid odour nuisances. The feed composition is placed at A6. The feeds are transported through Bulk Bunker Container. The same is loaded to the silo through closed conduit with chute. From Silo, it is transferred to auto feeder through closed pipe line. Filling of feed tray is carried out twice in a day through Auto feeder. Feeds are refilled in the feed tray through an auto feeder twice in a day. Consumption of feed per bird is around 105 to 120 grams. The feeding rate normally varies in between 105 to 115 grams per bird per day. The feed cost works out to be around Rs.1400/- to 1500/- per bird per batch.

Bulk Feed Tanker	Feed Silo
	
Auto Feeder	Delivery lines of auto feeder
	

Main source of **water** is open well. Water is treated with 10% Hydrogen Peroxide solution mostly as per the advice of Veterinary doctors from Namakkal Veterinary College and Research Institute, (Under Tamilnadu Veterinary and Animal Sciences University, Chennai) A bird consumes water from 200 to 220 ml per day.

Water is supplied to the birds through a pipe line through nipple with single or double lock system. The water supply is controlled by a water level regulator, bulb type. In order to collect the water spillages, a half cut pipe is placed below the line to channel the water and collected. It is reported that it will prevent the falling to manure bed. Since it is a meagre quantity, gets dried out.

Vaccination: As per the advice given by chick suppliers the schedule of vaccination followed by the farmers. (A26)

Litter; The floor of the cage is mesh type, the litter is dropped to the floor, where manure is collected and kept dry by maintaining good ventilation and free air flow. Once in four to six months, the manure will be sold at the rate of Rs.700 to 1200 per ton. The top layer will fetch a good price; whereas the lower one will be sold at lesser price depends on the demand. The top layer is used as manure for Rubber plantations. Bottom one is used for Coconut trees and paddy fields.



Egg yield: It is reported that a bird starts laying egg from eighteen weeks to seventy two/seventy five weeks. The layers will lay the egg from 9 AM to 12 noon. The floor of the cage is given a gradient in such way that the egg rolls down to the egg tray. From egg tray, egg is being collected either manually or through conveyor system. The shelf life of egg is 20 to 25 days. Normally the egg is sold within three days maximum. It is reported that if the egg is washed with water, then the egg starts degrading and will be rotten in ten days. Therefore no farmer

will carry out the water washing of eggs. Eggs without shell, broken one which are unable to handle and Defective eggs will fall down and is managed along with manure. Defective eggs @1% like weak shell, little cracked, strained etc will be consumed and sold off locally.

Chicks; Day one chick are purchased from Hatchery and reared. Day one to eight weeks old birds are called chicks. The chicks reared in chick shed.

Growers; Eight weeks old to sixteen weeks birds are called Growers. The growers reared in growers shed. On sixteenth weeks feather dropping takes place. It happens one time per batch.

Layers; From sixteen weeks old to seventy two – seventy five weeks old birds are called layers. The layers are reared in layer shed. From eighteenth weeks onwards the layers will start laying the egg and laying process continues till seventy-two to seventy five weeks. Once the egg production reduces to less than 70%, the batch will be sold for meat through agents.

Cleaning protocol: Normally it takes two months time in between two batches. The step by step procedure of cleaning the shed

- Manure will be sold through agent in two batches namely upper one and lower one. Sweeping the floor.
- Cleaning of web dust
- Maintenance works will be carried out
- Removal of bird nest
- Cleaning of cages using flame gun
- Fumigation of shed using 10% Formalin Solution.
- White wash
- Remaining period, the shed is kept free for quarantine purpose.

Normally water wash is not carried out during the batch changes. Whenever there is an outbreak of any diseases, then only the cages will be washed with water. Waste water will be treated along with the manure bed in six week time.

Manure; The litter is be dropped on the elevated earthen floor below the rearing shed. Good ventilation and free air flow will be maintained to keep the manure in dry condition. Population of beetles will develop and eats the egg of flies, mosquitoes, thus control the nuisances and ammonia emission and enable the composting process. Since the manure has good demand and price, extreme care shall be taken by the farmer to keep it dry.

Dead Birds; The dead birds are removed immediately and kept isolated in a thermocol box/closed plastic container and disposed off in the disposal pit in the evening. The floor of the pit will be concrete with masonry walls, air sealed and vent pipe of ten feet will be provided. Normally, the mortality rate is 15 birds per day per lac of birds.



Chlorinedioxide and Chlorinated Hydrocarbon Compounds (0.5 to 1 %) used as disinfectant for livestock housing, surfaces, equipment, vehicle, foot dip, water delivery system and aerial disinfection

Observations of the committee with respect to the Complaint		
S.No.	Nature of Complaint	Observations of the committee
•	Illegal Operation of Poultry Farm	The farm is handling forty thousand birds at any given time in a single location in two sheds. Since it is handling less than 1 lac birds it has not applied and obtained consent of TNPCB. Water consumption is estimated around 9 KLD. The unit has not obtained NOC for Ground water

		<p>withdrawal</p> <p>Since Poultry Farm comes under Agriculture activity and exempted from obtaining NOC for withdrawal of ground water.</p>
•	Non Compliance of CPCB's guidelines	*Point wise compliance status is submitted at the end of table
•	Over exploitation of ground water in a critically exploited area	At present, the farm is handling forty thousand birds at a given time in a single location, thus consuming water, 9000 litres per day (9 KLD) through a conduit system with single lock nipple . The unit is located in the foot hills of Kolli Hills and no scarcity of water was reported.
•	Not obtained the permission from the authorities for drawing ground water	The farm does not hold the NOC for drawal of ground water on account of following reason. The Poultry Farm comes under Agriculture activity and exempted from obtaining the Ground water NOC vide GO (Ms) No.: 142 dt.:23 rd July, 2014 issued by Government of Tamil Nadu. .
•	Not provided green belt	The farm has not provided green belt and it was reported by the animal husbandry department that the if the trees are grown in the farms there is chances of foreign birds with infection may rest on these trees which will act as the agency for the transmission of diseases to the poultry birds.
•	No mechanism for disposal of waste	The litter is collected on hardened elevated earthen floor below the shed and maintained in dry condition by maintaining free air flow and avoiding wet spots/patches. The manure is sold once in three to six months depends on the price and quantity. Failed to construct the base with stone slabs, concrete or impervious compacted clay.
•	Waste generated causes pollution in that area	Denied. The committee is satisfied with the management of waste generated from the functioning of the poultry farm and did not notice

		any mosquitoes/flies and odour nuisances.
•	Payment of compensation for environmental harm and pollution caused	The committee is satisfied with the management of the poultry farm functioning. Therefore, the question of Environmental harm and pollution caused and payment of compensation does not arise.
•	Payment of compensation for the complainant's suffer	The committee visited the complainant's house and did not notice any mosquitoes/flies and odour nuisances in his house and fields. The lease holder was carrying out the agricultural activities. Vegetation in his field was in healthy condition. Therefore, the question of paying compensation does not arise.

Compliance status of CPCB's guidelines;

Siting criteria

Siting criteria	Compliance status
This Siting criteria is applicable to new ones only. This is an existing poultry farm any how the compliance with respect to new siting criteria also examined	
The poultry farm should not be located within	
500 m from residential zone	The unit is established 500 m away from the residential zone. No residential zone are noticed within 500m from the unit. The complaint house is being constructed within the complainant's farm land in the year 2016 which is after the establishment of the poultry farm
200 m from major water course like river, lake and canals	Complied with
500 m from any major drinking water reservoir on catchment side	Complied with
100 m from any drinking water source	Complied with

like wells, summer storage tanks, other tanks	
500 m from nearby poultry, dairy or another livestock enterprises or industry	Complied with
150 – 200 m from National Highway (NH)	Complied with
100 m from State Highway	Complied with
10-15 m from rural roads/internal roads / village pagdandis	Complied with
Poultry shed should not be located within 10 m from farm boundary	Not complied with. On E direction.: 5 feet On W direction.: 10 feet On N direction.: 5 feet On S direction.: 50 feet
Poultry shed should be positioned on East to West direction	Complied with
Poultry shed should be positioned at least 2 m above the water table	Complied with
Poultry shed should be positioned at least 0.5 m above ground level	Complied with
Fencing	Not complied with
Green belt development	Not complied with
Minimization of air emission and Odour nuisances	Complied with
Feed Mills	Feed mill is under construction stage

Feed management practices	Feed is received in a bin through a Bulk Feed tanker. From bin it is transferred to auto feeder through a conduit system. The auto feeder has ten delivery lines. Through delivery lines, feed will be fed in the feed tray. The feed tray is a half cut 6 inches pipe and kept along the cages and outside of the cages to keep the waste to a bare minimum. The committee is satisfied with the feed management practices.
Water management practices	The main source of water is own open well situated in premises. The water is pumped to the over head tank (OHT). From OHT, water is supplied to the birds through a single lock nipple and water level regulators. Each cage will have two nipples. The committee is satisfied with the water supply arrangements.
Control of Microbial load	Once in fifteen days, 0.1 to 0.5% Glutaraldehyde Compounds (Khorshalin TH) solution is used for Control of Microbial load as per the advice of Poultry Disease Diagnostics Laboratory, Namakkal
Waste Water management	No waste water generation
Management of Solid wastes;	
Feed waste	By adopting automated feeding system, the feed waste generation is kept bare minimum. Any spillage is there, it will fall to the manure floor. It will be composed along with the manure.
Litter	The litter will fall to the manure floor. It will be composed along with the manure.
Feathers	Feather dropping takes at eighth and sixteenth week naturally. The feathers will be burnt using a flame gun.
Damaged eggs	It is reported that damaged eggs fit for handling will be consumed by farm owner's family and labours and sold off locally. Damaged eggs unfit for handling will be allowed to fall on the manure floor and processed along with other solid wastes.
Dead birds	Dead birds will be removed from the cage immediately, isolated in a closed plastic container and disposed off in the disposal pit in the evening. The disposal pit is of

	dimension 22'x 14'x 16' with two compartments. The floor of the pit is concrete with masonry walls, air sealed and two number of vent pipe of ten feet has been provided. The mortality rate is 25 to 30 birds per week.
Composting	Onsite composting is being carried out at the bottom of the poultry shed itself. Adequate care was taken to keep the manure in dry condition by maintaining free air flow. The manure will be sold quarterly. In one quarter, the generation of manure will be around 30 to 40 T. Top layer is sold from Rs.1500 to 2000, where the bottom layer is sold at the rate ranging from Rs.300 to 500/-.
Chicken	Day one chick to seventy two to seventy five weeks old chicken are reared in this farm for egg production. Once egg production reduced to less than 70% ie., 15000 eggs per day per 20000 birds, then the chicken will be sold off.
Incinerator	No incinerator is installed.
Manure storage and management storage	There was no manure storage facility separately. It is reported that the manure is sold from the shed itself to the purchaser directly on as and where it is basis.
Hatchery waste management	Hatchery operation is not carried out in this farm. Day one chick is purchased from the hatcheries and reared to layers for egg production only.
House keeping	The committee is satisfied with the Environment management, house keeping and general hygiene in the poultry farm.

Photos from M/s. RVS Poultry Farm in question	
Shed ready for operation	
	

Shed under operation	Feed mill under construction
	
Carcass disposal pit	Entry road from village road
	
Set back on southern side	Complainant's house
	
Complainant's field	Complainant's field
	

Conclusion as per Scope of Work:

- *Inspect the area in question*

In accordance with the Hon'ble NGT Order, the committee visited the poultry farm in question, M/s. RVS Poultry farm is located at Survey No.: 106/1 & 108/2B, Village Ariyagoundampatty, Namagiripettai Firkas, Rasipuram Taluk, Namakkal district – 637 406 on 19th October, 2020. Also carried out the assessment of functioning of poultry farms in Namakkal district on 19th and 20th October, 2020. The findings and observations of the committee are summarized in the report

- *Ascertain the present status of the functioning of the poultry farm*

The poultry farm in question, M/s. RVS Poultry farm is located at Survey No.: 106/1 & 108/2B, Village Ariyagoundampatty, Namagiripettai Firkas, Rasipuram Taluk, Namakkal district – 637 406. The present status of the poultry is summarized in this report.

During the inspection, the committee found that the Farm has been established in an agricultural land of 6 acres for egg production (Layers). It was observed that two sheds have been established and forty thousand birds are reared in total at present. Three more sheds have been constructed and ready for operation. One more shed is under construction. The unit authorities reported that the total number of birds after expansion will be 80,000 birds only. Apart from poultry farm, feed mill is under construction stage up to plinth level. Water requirement is met out through open well owned by the farm.

It is reported that other than egg production, no other operation is carried out. As per advice of the officials of Poultry Diseases & Diagnostics Laboratory, Namakkal, Vaccination is being done. Feed and water supply is being done as per the advice of the Veterinary doctors from Veterinary College and Research Institute Namakkal. In general they are following Bio-Security procedures in poultry production issued by World Organization for Animal Health (OIE) – Terrestrial Animal Health Code dt.28th June, 2019.

Statutory status: The farm has not applied and obtained consent of the TNPCB since it is exempted from the getting consent of the TNPCB (as per CPCB Guildelines the farms having less than 1 lac birds are exempted from obtaining

consent of SPCB). The unit has not obtained NOC for ground water withdrawal since the unit is agriculture allied activity and exempted from obtaining the Ground water NOC vide GO (Ms) No.: 142 dt.:23rd July, 2014 issued by Government of Tamil Nadu. .

The Committee is satisfied with the functioning of poultry farm, its house keeping, general hygiene and Environment management.

- *Ascertain as to how many such units are functioning in Namakkal district*

As per the records of the department of animal husbandry, 1175 poultry farms are functioning in Namakkal district. Out of 1175 poultry farms, 1028 poultry farms are handling less than one lac birds.

- *Whether all those units are functioning in conformity with the guidelines provided by the CPCB*

It is reported by the farm owners that they are following the Bio-Security procedures in poultry production issued by World Organization for Animal Health (OIE) – Terrestrial Animal Health Code dt.28th June, 2019.

Generally the functioning of the poultry farms are functioning in conformity with the guidelines provided by the CPCB with respect to the pollution control measures and devices except the raising of green belt, set backs in some of the cases and in obtaining licence procedures. None of the farm is in possession of consent and NOC renewal to draw ground water stating that it comes under Agriculture activity. Out of 1175 poultry farms, 1028 poultry farms are handling less than one lac birds. These 1028 farms need not take Consent from TNPCB as per CPCB guidelines. Remaining 147 poultry farms need to take Consent from TNPCB in which 6 farms have applied for the consent of the TNPCB.

As per World Organization for Animal Health (OIE) – Terrestrial Animal Health Code dt.28th June, 2019, in order to prevent entry of wild birds inside the farm, trees, vegetation, fruit bearing trees and plantation inside the farms is not advisable, since the wild birds may carry virus and bacteria that may infect the birds in the poultry farm. In order to prevent Avian Influenza infection the wild birds should not be allowed in the premises of poultry farms.

- *Whether necessary precautions for disposal of waste generated is being followed by them*

Manure; The litter is dropped to the elevated floor below the shed. Good ventilation and free air flow is maintained to keep the manure in dry condition. Population of beetles will develop and eats the egg of flies, mosquitoes, thus control the nuisances and ammonia emission and enable the composting process.

The floor of the shed will be hardened earthen floor. The roof is of AC sheet or Zinc Sheet or Colour Sheet. The roof is normally extended up to 2m wide from the exterior of cage to prevent the rain water from getting into manure floor. In case of new ones, the roof of the shed will be extended up to 2.5m. Once water enters the manure floor, it will lead to septic condition and foul odour nuisances, Flies/mosquitoes production and maintenance problem starts. It is reported that extreme care will be taken by the poultry farmers to prevent the water contamination with manure. Since the manure has good demand and price. In Namakkal district, so many agents are there to purchase the manure and sell to the farmers. In case, any accidental water spillage happens, the same will be managed by covering the area with lime power. On the other hand, if good hygiene is not maintained, chances of infection is more and the poultry farm has to incur heavy loss.

Spillage of Feeds; The Committee satisfied with the management of Feeds. The spillage of feeds in meagre quantity is collected on the manure bed and sold as manure.

Spillage of water; The Committee satisfied with the management of water supply system. The spillage of water in meagre quantity is collected on the manure bed and sold as manure.

Damaged egg unfit to handle; The damaged egg which is unfit to handle will fall on the manure bed. The same will be covered by littering, processed along with the manure naturally and sold as manure.

The Dead Birds are removed immediately and kept isolated in a thermocol box/closed plastic container and disposed off in the disposal pit in the evening. The floor of the pit will be concrete with masonry walls, air sealed and vent pipe of ten feet will be provided. Normally, the mortality rate is 15 birds per day per lac of birds.

- *Submit a status as well as action taken report if there is any violation found*

Poultry farms are often being instructed by TNPCB to follow the CPCB guidelines. Since most of the poultry farms are handling less than one lac birds, they have not applied and obtained Consent from TNPCB as per CPCB guidelines. None of the farm obtained NOC/ licence from the State Ground and Surface Water Resources Data Centre, Chennai, claiming that it is an agriculture activity and is exempted from obtaining from NOC. During the site visit for assessment, the committee found that M/s. RVS Poultry farm is handling 40,000 birds at a given time in a single location and instruction has been issued by TNPCB to the farm to follow the CPCB guide lines strictly. Since most of the poultry farm owners are farmers It was informed by TNPCB that meeting was conducted with the Poutry Association to instruct members who are having more than 1 lac birds to apply and obtain consent of the Board

- *Ascertain the status of the water scarcity in that area*

As per Annexure – I to Government of Tamil Nadu Notification on Categorization of Firkas as Over exploited, Critical, Semi Critical, Safe and saline / poor quality for ground water development as on March, 2013 vide Order GO no.: Ms no.:257, Public Works (21), 1st October, 2018 the committee found that there are 30 Firkas in Namakkal district and is categorized as detailed in the table placed below, which gives the scenario of water scarcity in Namakkal area.

Over exploited >100%	Critical 90 to 100%	Semi Critical 70 to 90%	Safe < 70%	Saline / poor quality
Namakkal Taluk Alanganatham Erumaipatti Kalappanaikan Patti Mohanur Nallipalayam Namakkal Puduchatram				

Sellappampatti Senthamangalam Valaiyapatti				
Kollimalai Taluk			Thirupuli Nadu Valavanthi Nadu	
Paramathi Velur Taluk Nallur Paramathi Pandamangalam	Pallapatti	Jedarpalayam		
Rasipuram Taluk Mangalapuram Mullukurichi Namagiripettai Rasipuram Vennandur				
Tiruchengode Taluk Mallasamudram Vaiyappamalai	Elachipalayam	Kumarapalayam Manickam Palayam Molasi Tiruchengode	Pallipalayam	

The Namakkal District is situated in the dividing portion of two watersheds between Cauvery and the Vellar system. It is found that water is available at a depth of 50' to 100' with water column varying from 20' to 40' in the open wells located within or adjacent to the poultry farms in the Namakkal District

Whether necessary permissions have been obtained from the authorities for drawing ground water by poultry farms

None of the poultry farm has obtained the NOC to draw ground water from open well or borewell from the Chief Engineer, State Ground and Surface Water Resources Data Centre, Chennai for extraction of ground water stating that the Poultry Farm comes under Agriculture activity and exempted from obtaining the NOC to extract Ground water vide GO (Ms) No.: 142 dt.:23rd July, 2014 issued by Government of Tamil Nadu.

- If there is any violation found, assess the environmental compensation against them.*

During the site visit for assessment, the committee observed the following:

- Regarding M/s. RVS Poultry Farm in question the committee is satisfied with the management of the poultry farm functioning. The poultry farm has complied with the CPCB guidelines except fencing, Green belt development and providing offset to poultry sheds from the Poultry Farm boundary. Also it is exempted from obtaining consent from TNPCB as per CPCB Guidelines and exempted from obtaining NOC from Ground water department vide. GO (Ms) No.: 142 dt.:23rd July, 2014. Therefore, the question of Environmental harm and pollution caused and payment of compensation does not arise.

Summary of the report:

M/s. RVS Poultry Farm in question; The farm is handling 40000 birds only at present. The farm is exempted from obtaining consent from TNPCB as per CPCB guidelines.

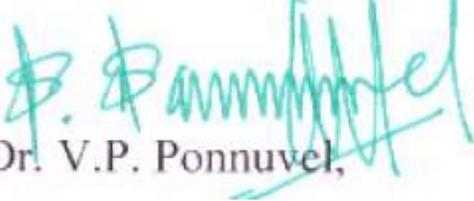
As per Reserve Bank of India's Master circular related to lending to priority sector, development of the poultry farm in all aspects including erection of poultry houses is placed under Agricultural allied activities. As per GO (Ms) No.: 142 dt.:23rd July, 2014 the poultry farm is exempted from obtaining NOC from Chief Engineer, State Ground and Surface Water Resources Data Centre, Chennai for extraction of ground water.

The Committee is of the opinion that the poultry farm in question is well planned, established and managed in accordance with the OIE guidelines in general. The poultry farm has complied with the CPCB guidelines except fencing, Green belt development and providing offset to poultry sheds from the Poultry Farm boundary. The Environment management, housekeeping and level of hygiene maintained were satisfactory Also the committee is satisfied with the management of the poultry farm functioning. Therefore, the question of Environmental harm and pollution caused and payment of compensation does not arise.

Totally 1175 poultry farms are functioning in Namakkal in which 1028 farms are handling below 1 lac birds which are exempted from obtaining consent of the TNPCB. These poultry farms are the back bone of the rural economy in the Namakkal District and provide the employment in the rural area.

There are 147 poultry farms are functioning with more than 1 lac birds in which 6 farms have applied for the consent of TNPCB and since most of the poultry farm owners are farmers. It was informed by TNPCB that meeting was conducted with the Poultry Association to instruct strictly its members who are having more than 1 lac birds to apply and obtain consent of the Board.

By considering all the above facts, the Hon'ble NGT may pass appropriate Order / Directions as deemed fit.



Dr. V.P. Ponnuel,

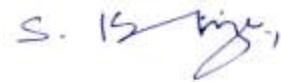
Regional Joint Director, Animal
Husbandry, Namakkal



M. KottaiKumar,
Revenue Divisional Officer,
Namakkal



R. Ravikumar,
District Environmental Engineer,
TNPCB, Namakkal



S. Karthikeyan, Scientist-C,
CPCB, RD, Chennai

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S. No	Document	Label	Page no
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3.	Agenda of the Joint Committee meeting	A3	40
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8.	Assessment of poultry Farm in Namakkal district	A8 to A18	90
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10.	Bio-Security procedures in poultry production issued by World Organization for Animal Health (OIE) – Terrestrial Animal Health Code dt.28 th June, 2019.	A20	102-125
11.	Poultry Farm Manual issued by Department of Animal Husbandry, Dairying & Fisheries, Ministry of Agriculture and Farmers Welfare, Government of India, New Delhi.	A21	126-163
12.	GoT Notification on categorization of Firkas as Over exploited, Critical, Semi Critical, Safe and saline / poor quality for ground water development vide Order GO no.: Ms no.:257, Public Works (21), 1 st October, 2018 .	A22	164-188
13.	GoT Notification on “Effective management of Ground Water, Regulations for management of Ground Water and issue of NOC / Licence for extraction of Ground Water in Tamil Nadu State vide GO Ms No.:142, dt.: 23 rd July, 2014	A23	189-218
14.	Reserve Bank of India's Master circular related to Lending to priority sector	A24	219-223
15.	List of poultry farms visited by the team individually	A25	224
16.	Vaccine Schedule	A26	225

Item No.01:

**BEFORE THE NATIONAL GREEN TRIBUNAL
SOUTHERN ZONE, CHENNAI**

Original Application No. 147 of 2020 (SZ)

(Through Video Conference)

IN THE MATTER OF

Smt. R. Prabha

...Applicant(s)

Versus

The Tamil Nadu Pollution Control Board and others.

...Respondent(s)

Date of hearing: 13.08.2020.

CORAM:

HON'BLE MR. JUSTICE K. RAMAKRISHNAN, JUDICIAL MEMBER

HON'BLE MR. SAIBAL DASGUPTA, EXPERT MEMBER

For Applicant(s):

Miss. Chetanna represented Mr. A.
Yogeshwaran

For Respondent(s):.

Sri. C. Kasirajan through M/s. Meena
for R1
Sri. Mani Gopi for R2,R3 andR5.

ORDER

1. The grievance in this application is regarding the illegal operation of poultry farm run by the 4th respondent, against the guidelines provided by the Central Pollution Control Board in respect of such matters.
2. According to the applicant, the poultry farm did not confirm to any of the guidelines provided by the Central Pollution Control Board in this regard. There is over exploitation of water from a place which is a critically exploited area and they have not obtained the permission from the authorities for drawing ground water.
3. It is also submitted by the learned counsel appearing for the applicant, that there are large numbers of such poultry farms functioning in Rasipuram Taluk of Namakkal District.
4. There is no carrying capacity assessment conducted by the authorities regarding such units which are mushrooming in large scales. They have not provided any 'green belt' as required and also any mechanism for disposal of waste generated which ultimately causes pollution in that area.
5. It is also alleged in the application that when complaint has

been lodged by the applicant to the Tamil Nadu State Pollution Control Board, after inspection they have sent a reply dated 27.01.2020 stating that this poultry farm is being run by the 4th respondent in compliance with the directions of the guidelines provided by the Central Pollution Control Board and also directions were issued to the poultry farm to operate as per Central Pollution Control Board guidelines without causing any damage to the public or republic. So, the applicant was not satisfied with the directions issued. So, she filed this application seeking the following reliefs:

- a) *Direct the 4th respondent to shift the poultry at Vellappan Poultry Farm, Nanjappan Thottam, Ariya Goundampatty, Rasiuram Taluk, Namakkal District – 637 406 to a site conforming to the law and the guidelines dated 20.10.2015.*
 - b) *Direct the 4th respondent to obtain consent under the Water (Prevention and Control of Pollution) Act, 1974, Air (Prevention and Control of Pollution) Act, 1981.*
 - c) *Direct the payment of compensation for environmental harm and pollution caused by the 4th respondent and suffered by the applicant.*
 - d) *Issue such other orders as it deems fit in the interest of the case and render justice.*
6. When the matter came up for hearing for admission today through Video Conference, Miss. Chethana represented Sri. A.

Yogeshvaran counsel for the applicant. Sri. C. Kasirajan through M/s. Meena represented 1st respondent and Sri. Mani Gopi represented respondents 2, 3 and 5.

7. Ongoing through the allegations in the application, we are satisfied that there arises a substantial question of environment which requires the interference of this Tribunal for resolving the same. So, the matter is admitted.
8. Since the official respondents 1 to 3 and 5 entered appearance through standing counsel, notice to them is dispensed with. Issue notice to respondents 4 and 6.
9. The applicant is directed to take steps to issue notice to respondents 4 and 6 by Registered post with Acknowledgement Due, e-mail and also by Dusthi if possible and produce proof of service along with affidavit as per rules.
10. The applicant is also directed to produce necessary requisite before this Tribunal within a week along with the postal cover and necessary postal stamps so as to enable this Tribunal to send notice to the respondents 4 and 6.
11. Applicant is also directed to serve the copy of the application and the documents produced to the standing counsel appearing for respondents 1 to 3 and 5 within a week.

12. In order to ascertain the present status of the functioning of the poultry farm and also to ascertain as to how many such units are functioning in Namakkal District, and also whether all those units are functioning in conformity with the guidelines provided by the Central Pollution Control Board and also whether necessary precautions for disposal of waste generated is being followed by them, we feel it appropriate to appoint a joint committee comprising of 1) the District Collector, Namakkal District, or a Senior Officer not below the rank of Assistant Collector or Sub Divisional Magistrate deputed by the District Collector, 2) a Senior Officer from Central Pollution Control Board, Regional Office, Chennai and 3) a Senior Officer from the Tamil Nadu State Pollution Control Board deputed by the Chairman to inspect the area in question and submit a status as well as action taken report if there is any violation found.

13. The committee is also directed to ascertain the status of the water scarcity in that area, and whether necessary permissions have been obtained from the authorities for drawing ground water by poultry farms and if there is any

violation found, assess the environmental compensation against them.

14. The Central Pollution Control Board, Regional Office, Chennai will be the nodal agency for co-ordination and for providing all necessary logistics for this purpose.

15. The committee is directed to submit the report to this Tribunal within a period of two months i.e., on or before 20.10.2020 by e-filing.

16. The applicant is also directed to submit a set of papers to the members of the committee within a week.

17. The Registry is directed to communicate this order to the members of the committee and also to the official respondents immediately by e-mail, so as to enable them to comply with the direction.

18. For appearance of parties, consideration of report and for submission of pleadings, post on 20.10.2020.

.....J.M.
(Justice K. Ramakrishnan)

.....E.M.
(Shri. Saibal Dasgupta)

O.A. No.147/2020
13th August 2020. Sr.



CENTRAL POLLUTION CONTROL BOARD
Ministry of Environment, forest & Climate Change, Govt. of India

F.No.: CPCB/RDC/NGT147(2020)/Poultry/20-21/

30th September 2020

ORDER

Subject: Constitution of Joint Committee as per the Order of Hon'ble NGT.,
Southern Zone, Chennai in the matter of O.A. 147/2020

Ref.: 1. Original application no.: 147/2020 before the Hon'ble NGT, Southern Zone,
Chennai
2. Hon'ble NGT, Southern Zone, Chennai Order dated 13.08.2020 in OA no.:
147/2020

In the matter of O.A No. 147/2020 against the "Illegal operation of Poultry farm in the village Ariya Goundampatty, Rasipuram Taluk, Namakkal district, Tamilnadu", before Hon'ble NGT, Southern Zone, Chennai, the Hon'ble Tribunal vide Order dt 13th August 2020 directed to constitute a Joint Committee comprising of officials from the District Collector or his nominee, TNPCB and CPCB.

In view of above, a Joint committee, with the following members, is being constituted herewith based on the nominations received from the respective department:

S. No	Expert Member	Organization	Contact details Mob no & email ID	Capacity
1.	Dr. V. P. Ponnuel, Regional Joint Director	Animal Husbandry, Namakkal. Nominated by District Collector, Namakkal.	9445032503 & rjdahnamakkal@yahoo.in	Member
2.	Shri. M. Kottaikumar, Revenue Divisional Officer	Namakkal Revenue Division. Nominated by District Collector, Namakkal.	9445000433 & rdonkl.tnmk@nic.in	Member
3.	Shri. R. Ravikumar, District Environmental Engineer	Tamilnadu Pollution Control Board Namakkal District	8056042467 & rravikumar564@gmail.com	Member
4.	Shri. S. Karthikeyan Scientist C	Central Pollution Control Board, Regional Directorate, Chennai	9243424389 & skarthikeyan.cpcb@nic.in	Member

Terms of Reference:

The committee shall

1. *Inspect the area in question*
2. *Ascertain the present status of the functioning of the poultry farm*

**Regional Directorate (Chennai), Second Floor, 77 - A, South Avenue Road, Ambattur Industrial Estate,
Chennai, Tamil Nadu 600 058, E-mail: cpcbrcchennai@gmail.com**

**Head Office: Parivesh Bhawan, East Arjun Nagar, Delhi – 110 032
Telephone: 011 – 43102030, Fax 22305793, 22307078, 22301932, 22304945
E-mail: cpcb@nic.in, Website: www.cpcb.nic.in**



CENTRAL POLLUTION CONTROL BOARD
Ministry of Environment, forest & Climate Change, Govt. of India

3. Ascertain as to how many such units are functioning in Namakkal district
4. Whether all those units are functioning in conformity with the guidelines provided by the CPCB
5. Whether necessary precautions for disposal of waste generated is being followed by them
6. Submit a status as well as action taken report if there is any violation found
7. Ascertain the status of the water scarcity in that area
8. Whether necessary permissions have been obtained from the authorities for drawing ground water by poultry farms
9. If there is any violation found, assess the environmental compensation against them.
10. The Committee shall submit a report to Hon'ble NGT, Southern Zone, Chennai on or before 20.10.2020 by e-filing.
11. CPCB, Regional Office, Chennai being the nodal agency for co-ordination
12. The committee may require to visit the site and carryout detailed study including monitoring, if it is required to assess the pollution and environmental damages caused by the poultry farm in District, Tamilnadu. Details of the inspection, study and further course of action will be decided during the course of the Committee proceedings.
13. Monitoring and Analysis of samples shall be carried out by the third party (NABL accredited or EPA recognized laboratory) as decided by the Committee
14. In accordance with the Hon'ble NGT orders dated 07-02-20 & 20-04-2017 in the matter of O.A. 24 of 2011, CPCB shall pay sitting fee only shall be paid to local members of the committee attending the meetings/inspections @Rs.2500 per meeting/per day and no DA will be paid.
15. The expenditure on this regard will be met from the budget head "NGT 25%" at CPCB.


(S. Suresh)
Regional Director
Chennai

To

1. Dr. V. P. Ponnuvel, Regional Joint Director, Animal Husbandry, Namakkal.
2. Shri.M. Kottaikumar, Revenue Divisional Officer, Namakkal Revenue Division ai
3. Shri. R. Ravikumar, DEE, TNPCB, Namakkal
4. Shri. S. Karthikeyan, Sci-C, CPCB, RD, Chennai

Copy to

5. Shri. S. K. Gupta, Sci-E-cum-I/c. IPC-V, CPCB, HO, Delhi
6. Shri. G. Rambabu, Sci-E-cum-I/c. Law Division, CPCB, HO, Delhi
7. Accounts Section, CPCB, RD, Bengaluru

Regional Directorate (Chennai), Second Floor, 77 - A, South Avenue Road, Ambattur Industrial Estate,
Chennai, Tamil Nadu 600 058, E-mail: cpcbrcennai@gmail.com

Head Office: Parivesh Bhawan, East Arjun Nagar, Delhi – 110 032
Telephone: 011 – 43102030, Fax 22305793, 22307078, 22301932, 22304945
E-mail: cpcb@nic.in, Website: www.cpcb.nic.in

**First Meeting of the Joint Committee constituted in compliance with
Hon'ble NGT case in the matter of OA no.: 147(2020)
on 06-10-2020 & 1200 noon through video conference**

AGENDA OF THE FIRST MEETING

- ❖ Due to ongoing Nationwide lock down, the meeting is proposed through video conference on **6th October, 2020 at 1500 hours in google meet platform**. The inconvenience is regretted. The link will be forwarded through email.
- ❖ Self-introduction by all the members/participants
- ❖ Formal procedures followed in the Hon'ble NGT cases will be presented by S. Karthikeyan, CPCB
- ❖ The committee will deliberate the following issue
 - Ascertain the present status of the functioning of the poultry farm
 - How many such units are functioning in Namakkal district?
 - Whether all those units are functioning in conformity with the CPCB guidelines
 - Whether necessary precautions for disposal of waste generated is being followed
 - Ascertain the status of the water scarcity in that area
 - Whether necessary permissions have been obtained for drawing GW by poultry farms. If there is any violation found, assess the environmental compensation against them.
- ❖ To finalize the Objective, Scope and Methodology of site assessment
- ❖ Interaction among the members about the issues raised by the applicant
- ❖ Finalize the tentative date for site inspection for the assessment
- ❖ Any other matter proposed by the members of the Joint Committee.

**First Meeting of the Joint Committee constituted in compliance with
Hon'ble NGT case in the matter of OA no.: 147(2020)
on 06-10-2020 & 1500 noon through video conference**

MINUTES OF THE MEETING

- ❖ As proposed the first meeting of the Joint Committee was organized through video conference on **6th October, 2020 at 1500 hours in google meet platform**
- ❖ All the four members attended the meeting.
- ❖ All the members Self-introduced themselves
- ❖ The nodal officer Sh. S. Karthikeyan, CPCB explained the formal procedures to be followed in proceeding the case. Further apprised the allegations made by the applicant and terms of references of Hon'ble Nation Green Tribunal (NGT). Since it is a time bound work, all the members were requested to extend their co-operation by following the timelines strictly.
- ❖ The committee deliberated the following issues
 - Ascertain the present status of the functioning of the Vellappan poultry farm
 - How many such units are functioning in Namakkal district?
 - Whether all those units are functioning in conformity with the CPCB guidelines
 - Whether necessary precautions for disposal of waste generated is being followed
 - Ascertain the status of the water scarcity in that area
 - Whether necessary permissions have been obtained for drawing GW by poultry farms. If there is any violation found, assess the environmental compensation against them.
- ❖ It is decided to collect the information on
 - District profile
 - Area Classification from DTCP or suitable agency
 - List of poultry farm functioning in Namakkal District containing information viz., Name of the poultry farm, location, Contact Person with contact details (Mobile Number & mail ID), Capacity (Number of birds).
 - In consultation with the Poultry Farm Association select the sample poultry farm, representing all the categories & practices, to be visited in a such a way that it will reflect the scenario of Namakkal district. Since it is not possible to visit all the 1200 poultry farm due to time constraints.
 - Present practices followed by the poultry farms
 - Present statutory norms & guidelines if any
 - List of poultry farms obtained permission to withdraw groundwater from the Office of PWD/CGWB.
- ❖ Prepare a questionnaire to assess the measures provided by the poultry farm
- ❖ It is decided to carry out the site visit for the assessment during 19th October to 21st October, 2020. The Committee will assemble at the Office of the District Environmental Engineer, Tamilnadu Pollution Control Board, Namakkal on 19th October at 10 AM.
- ❖ In light of above, the Committee has decided to seek two months time to submit the final report
- ❖ The meeting ended with vote of thanks

Questionnaire – Poultry Farm

1.	Name of the Poultry Farm and its address	
2.	Owner Name	
3.	Contact person and his contact details	
4.	Particulars of Consent / License obtained if any	
5.	Standalone or Integrated	
6.	Operation (Breeders, Hatchery, layers and Broilers)	
7.	No. of birds handling at given time in a single location	
8.	Year of Establishment	
9.	Total Plant area	
10.	Extent of establishment area	
11.	No. of Sheds	
12.	Dimension of all Sheds	
13.	Other facilities Copy of layout plan	
14.	Source of Water	
15.	No. & depth of Borewell	
16.	Water table	
17.	Consumption of Water, KLD Domestic Birds feed Washing of Shed Washing of birds Others if any	
18.	Waste water generation, KLD	
19.	Characteristics of WW	
20.	WW treatment facilities available	
21.	Characteristics of treated WW	
22.	Mode of Disposal	

Air emission:

23.	List of installations having/likely to have emission	
24.	Capacity of DG sets, KVA, its number & Pollution Control measures / devices provided	
25.	General Housekeeping & Hygiene	
26.	Odour control measures:	
27.	Feed Mill installed or not installed	
28.	Dust collection system installed or not	

Solid waste:

S. No.	Name of SW	Qty of generation Kg/day	Treatment	Mode of disposal	Remarks, if any
29	Feathers				
30	Spillage of Feeds				
31	Spillage of water				
32	Littering				
33	Carcass				
34	Hatchery Waste				
35	Damaged eggs				

Compliance with the Guidelines for Poultry Farm issued by CPCB

S. No.	Guidelines	Compliance status
36.	Green belt all around the farm with min of two rows spaced apart of not more than 3 m	
37.	Barbed wire / linked mesh upto a ht of 1.5 m with secured entrance and outlet	
38.	Proper ventilation and free flow of air over manure collection points to keep it dry	
39.	Protection of manure from pests/insects	
40.	Protection of manure from run off water	
41.	Design of storage facilities for manure, litter and washings	
42.	O & M of waste storage facilities	
43.	Observation of any open burning, indiscriminate dumping of any dead birds/Feathers/Offals/litter/empty gunnies/containers	
44.	Shed should be positioned on East to West direction	
45.	Shed should be positioned atleast 2m above the water table Shed should be positioned at least 0.5m above ground level	
46.	Others, if any	

	FEED Mills:	
47.	Installed capacity	
48.	Operational capacity	
49.	Located at elevated level and isolated from other poultry farms	
50.	Separate entrance and exit with crisscrossing the poultry roads	
51.	Vehicle tyre dip facility at the entrance	
52.	Damp proof, rodent/vermin proof Concrete floor and raised above the GL by a min of two feet	
53.	Fire safety equipments	
54.	Safety mesasures	
55.	All ingredients should be stored on pallets or platforms to easy detection of leakage and to prevent moisture absorption	
56.	Dust collection system	
57.	PPEs	
58.	Protocol to prevent pest infestation	
59.	Storage of any Pesticide / poisonous materials	
60.	Storage facilities	
61.	Covered containers & delivery to sheds	
62.	Storage facilities	
63.	Prevent interaction of feeds with wild birds, rodents, pests, flies etc.	
64.	Spillages, if any observed	
65.	General sanitation	

COMPOSITION OF POULTRY FEED

S.No.	Name of the item	Quantity, kg
1.	Maize	350
2.	Broken Rice	100
3.	Pearl millet (Kambu in Tamil)	100
4.	Rice Polish	20
5.	Bran	70
6.	Sunflower cake	50
7.	Soya	175
8.	Calcite	30
9.	Shells	80
10.	DCP	7
11.	Molasses	25
12.	Cooking Soda	1
13.	Common Salt	3
14.	TM Mix (Beneficial metals in traces Iron, Copper and Zinc)	1
15.	Enzyme Kemin	0.35
16.	Chlorine	0.2
17.	Premix Rovimix (Vitamins)	0.5
18.	Phytase	0.1
19.	Acidifier H+	1
20.	Heapto care	0.5
21.	UTTP biotech (Binder)	0.5
	Total	1015.2

Questionnaire – Poultry Farm

1.	Name of the Poultry Farm and its address	M/s. RVS Poultry Farm, S.F.No 106/1 & 108/2B, Ariyagoundampatti Village, Rasipuram Taluk, Namakkal District, Tamilnadu
2.	Owner Name	Mr. R. Velappan
3.	Contact person and his contact details	Mr. R. Velappan, Cell No.: 94432 40294 E-mail id: rvsarul@gmail.com
4.	Whether integrated or standalone	Standalone
5.	Category; Breeder, Layer, Broiler or Hatchery	Layer
6.	Total number of birds	40,000
7.	Particulars of Consent / License, Registration, Building plan approval obtained if any	Since, the unit has less than 1 Lakh birds it is exempted from consent of TNPCB Building plan approval obtained from Local body. Not Obtained NOC from ground water Authority since it comes under Agriculture activity
8.	Year of Establishment	1996
9.	Total Plant area	6 Acers
10.	Extent of establishment area	4.2 Acers
11.	No. of Sheds	7 Nos.
12.	Dimension of all Sheds	1 – 45'x300' 2 – 45'x300' 3 – 45'x300' 4 - 60'x160' 5 – 60'x160' 6 - 60'x160' 7 - 65'x160'
13.	Other facilities Copy of layout plan	Nil
14.	Source of Water	Ground water - open well
15.	No. & depth of Borewell	One & 80'
16.	Water table	60'
17.	Consumption of Water, KLD Domestic Birds feed Washing of Shed Washing of birds Others if any	0.2 KLD 8.8 KLD -- -- --
18.	Waste water generation, KLD	NIL

19.	Characteristics of WW	Not applicable
20.	WW treatment facilities available	Not applicable
21.	Characteristics of treated WW	Not applicable
22.	Mode of Disposal	Not applicable
23.	List of installations having/likely to have emission	Gen set – 15 KVA
24.	Pollution Control measures / devices	Acoustic enclosures with Stack provided for Gen set
25.	Odour control measures:	Periodical spraying disinfection such as lime powder, bleaching powder, etc., Green belt around the periphery.

Solid waste:

S. No.	Name of SW	Qty of generation Kg/day	Mode of disposal	Remarks, if any
26.	Poultry litter	215	Sold out for manure	--

Compliance with the Guidelines for Poultry Farm issued by CPCB

S. No.	Guidelines	Compliance status
27.	Green belt all around the farm with min of two rows spaced apart of not more than 3 m	Not available
28.	Barbed wire / linked mesh upto a ht of 1.5 m with secured entrance and outlet	Provided except the north side.
29.	Air emission:	
30.	Proper ventilation and free flow of air over manure collection points to keep it dry	Yes. Proper ventilation available.
31.	Protection of manure from runoff water and cover it to avoid dust and odours in storage pits	Protection of manure from runoff was available – manure collected on above ground level bed.
32.	Design of storage facilities for manure, litter and washings	Periodically disposed and no storage practice is followed.
33.	O & M of waste storage facilities	Not applicable.
34.	Regular Collection system for carcasses	Yes. Available. Carcasses collected in the closed container.
35.	Proper disposal system for carcasses	Concrete anaerobic pit available for disposal of carcasses.
36.	FEED Mills:	Captive Feed mill is under construction. Has applied for Consent of the Board.
37.	Installed capacity	150 T/Month
38.	Operational capacity	150 T/Month
39.	Located at elevated level and isolated	Yes. Located at elevated level and

	from other poultry farms	isolated from other poultry farms
40.	Separate entrance and exit with crisscrossing the poultry roads	Yes. Separate entrance and exit available.
41.	Vehicle tyre dip facility at the entrance	Construction under progress.
42.	Damp proof, rodent/vermin proof Concrete floor and raised above the GL by a min of two feet	Construction under progress.
43.	Fire safety equipments	Construction under progress.
44.	Safety mesasures	Construction under progress.
45.	All ingredients should be stored on pallets or platforms to easy detection of leakage and to prevent moisture absorption	Construction under progress.
46.	Dust collection system	Construction under progress.
47.	PPEs	Construction under progress.
48.	Protocol to prevent pest infestation	Construction under progress.
49.	Storage of any Pesticide / poisonous materials	Construction under progress.
50.	Storage facilities	Construction under progress.
51.	Covered containers & delivery to sheds	Construction under progress.
52.	Storage facilities <i>Never</i>	Construction under progress.
53.	Prevent interaction of feeds with wild birds, rodents, pests, flies etc.	Construction under progress.
54.	Spillages, if any observed	Construction under progress.
55.	General sanitation	Satisfactory
56.	Cleanliness	Satisfactory
57.	Management of SW (Carcass. Manure and Hatchery debris)	
58.	Minimization of generation	Proper medical care provided to reduce the mortality rate.
59.	Management system	Carcass is disposed in the anaerobic decomposing pit. The manure is sold out.
60.	Application of manure:	The top layer of manure is used as manure in

		rubber estates. The bottom layer of manure is used in Paddy fields and coconut fields
61.	Keep dry and avoid wet	Collected under rain roof shed on elevated platform. Good ventilation and free air flow are maintained
62.	Storage facilities	No storage is practised since the manure has good demand.
63.	Composting	Onsite composting activity for manure and is sold out periodically. Carcass are disposed in anaerobic decomposing pit.
64.	Measures to reduce the mortalities	Proper medical care provided to reduce the mortalities.
65.	Rendering plant	NIL
66.	Observation of any open burning, indiscriminate dumping of any dead birds/Feathers/Offals/litter/empty gunnies/containers	No such activities noticed during inspection.
67.	Mechanism for proper collection, storage, transport and disposal of dead birds	Dead birds are collected in closed containers to the disposal point.
68.	Disposal of dead birds:	Dead birds are disposed in anaerobic decomposing pit.
69.	General practice: The dead birds are placed in the anaerobic pits with salt media for decomposition.	
70.	General practice of Composting:	The dead birds are placed in the anaerobic pits with salt media for decomposition.
71.	Distance from the nearest residence	100 meters.
72.	Distance from the water course	No notified water course.
73.	Permanent Roof	RCC roof.
74.	Floor	Consolidated, elevated earthen platform
75.	Fencing of 1.5 m all around the compost pit to avoid stray dogs	Compost pit is the closed RCC chamber with opening lid to drop the dead birds.
76.	Incineration: No incineration	
77.	Hatchery management: No hatchery	
78.	House keeping practices:	Satisfactory
79.	Odour control Measures	Periodical spraying of disinfection such as lime powder, bleaching powder, etc.,
80.	Control of flies	Keep the manure bed in dry condition by

		maintaining good ventilation and free air flow
81.	Control of rodents	Protection measures adopted

Questionnaire – Poultry Farm

1.	Name of the Poultry Farm and its address	V. Periyasamy Poultry Farm, SF.No. 30/5, 45/7, 45/8, 45/9, Agraharauduppam Village, Namakkal Taluk, Namakkal District
2.	Owner Name	V. Periyasamy
3.	Contact person and his contact details	V. Periyasamy Cell No. 94437 35085 Mail id: navinperiyasamy66@gmail.com
4.	Whether integrated or standalone	Standalone
5.	Category; Breeder, Layer, Broiler or Hatchery	Layer
6.	Total number of birds	65,000
7.	Particulars of Consent / License, Registration, Building plan approval obtained if any	Since, the unit is handling less than 1 Lakh birds it is exempted from consent of SPCB Building plan approval obtained from Local body.
8.	Year of Establishment	2013
9.	Total Plant area	2.35 Hectors
10.	Extent of establishment area	1.13 Hectors
11.	No. of Sheds	7 Nos.
12.	Dimension of all Sheds	1 – 36’x150’ 2 – 26’x160’ 3 – 39’x160’ 4 - 39’x400’ 5 – 22’x400’ 6 - 39’x400’ 7 - 39’x200’
13.	Other facilities Copy of layout plan	----
14.	Source of Water	Ground water - open well
15.	No. & depth of Borewell	Not applicable
16.	Water table	85’
17.	Consumption of Water, KLD Domestic Birds feed Washing of Shed Washing of birds Others if any	0.6 KLD 16.5KLD -- -- --
18.	Waste water generation, KLD	NIL
19.	Characteristics of WW	Not applicable
20.	WW treatment facilities available	Not applicable
21.	Characteristics of treated WW	Not applicable
22.	Mode of Disposal	Not applicable
23.	List of installations having/likely to have emission	Gen set – 35 KVA
24.	Pollution Control measures /	Stack provided for Gen set

	devices	
25.	Odour control measures:	Periodical spraying disinfection such as lime powder, bleaching powder, etc., Green belt around the periphery.

Solid waste:

S. No.	Name of SW	Qty of generation Kg/day	Mode of disposal	Remarks, if any
26	Poultry litter	350	Sold out as manure	--

Compliance with the Guidelines for Poultry Farm issued by CPCB

S. No.	Guidelines	Compliance status
27.	Green belt all around the farm with min of two rows spaced apart of not more than 3 m	Green belt provided on three sides at the poultry farm
28.	Barbed wire / linked mesh upto a ht of 1.5 m with secured entrance and outlet	Provided.
29.	Air emission:	
30.	Proper ventilation and free flow of air over manure collection points to keep it dry	Yes. Proper ventilation and free air flow are maintained.
31.	Protection of manure from pests/insects	NIL
32.	Protection of manure from runoff water and cover it to avoid dust and odours in storage pits	Protection of manure from runoff was available – manure collected on above ground level bed.
33.	Design of storage facilities for manure, litter and washings	Periodically disposed off and no storage facilities are available.
34.	O & M of waste storage facilities	Not applicable.
35.	Regular Collection system for carcasses	Yes. Available. Carcasses collected in the closed container and disposed off in disposal pit on daily.
36.	Proper disposal system for carcasses	Concrete anaerobic pit is available for disposal of carcasses.
37.	FEED Mills:	No captive feed mill facility.
38.	General sanitation	Good
39.	Cleanliness	Good
40.	Management of SW (Carcass. Manure and Hatchery debris)	
41.	Minimization of generation	Proper medical care provided to reduce the mortality rate.

42.	Management system	Carcass is disposed in the anaerobic decomposing pit. The manure is sold out for agriculture farms.
43.	Application of manure:	The manure is sold out for agriculture farms as manure.
44.	Keep dry and avoid wet	Collected under rain roof shed on elevated platform.
45.	Storage facilities	No storage.
46.	Measures to reduce the mortalities	Proper medical care provided to reduce the mortalities.
47.	Rendering plant	NIL
48.	Observation of any open burning, indiscriminate dumping of any dead birds/Feathers/Offals/litter/empty gunnies/containers	No such activities were noticed during inspection.
49.	General practice:	The dead birds are placed in the anaerobic pits with salt media for decomposition.
50.	General practice of Composting:	The dead birds are placed in the anaerobic pits with salt media for decomposition.
51.	Distance from the nearest residence	150 meters.
52.	Distance from the water course	No notified water course.
53.	Permanent Roof	RCC roof.
54.	Floor	Consolidated, elevated earthen platform
55.	Fencing of 1.5 m all around the compost pit to avoid stray dogs	Compost pit is the closed chamber with opening lid to drop the dead birds.
56.	Incineration: No incineration	
57.	Hatchery management: No hatchery	
58.	House keeping practices:	Satisfactory
59.	Odour control Measures	Periodical spraying disinfection such as lime powder, bleaching powder, etc.,
60.	Control of flies	By proper medicine along with the feed.
61.	Control of rodents	Protection measures adopted
62.	Feed management	Feed management carried out the advice of Veterinary Doctors
63.	Siting criteria for new Poultry farms:	Not applicable, since this is existing poultry farm.

Questionnaire – Poultry Farm

1.	Name of the Poultry Farm and its address	Dhanraj Poultry Farm Kolathupalayam (PO) Sellappampatti (Via) Namakkal District
2.	Owner Name	K.Dhanaraj
3.	Contact person and his contact details	9443762985
4.	Whether integrated or standalone	Standalone
5.	Category; Breeder, Layer, Broiler or Hatchery	Layer
6.	Total number of birds	80,000
7.	Particulars of Consent / License, Registration, Building plan approval obtained if any	Nil
8.	Year of Establishment	1982
9.	Total Plant area	8 acres
10.	Extent of establishment area	Nil
11.	No. of Sheds	6
12.	Dimension of all Sheds	320' by 45'
13.	Other facilities Copy of layout plan	Feed Mill available
14.	Source of Water	Well Water
15.	No. & depth of Borewell	3 & 300 feet
16.	Water table	
17.	Consumption of Water, KLD Domestic Birds feed Washing of Shed Washing of birds Others if any	20 KLD
18.	Waste water generation, KLD	Nil
19.	Characteristics of WW	NA
20.	WW treatment facilities available	NA
21.	Characteristics of treated WW	NA
22.	Mode of Disposal	NA
23.	List of installations having/likely to have emission	-do-
24.	Characteristics of Emissions	-
25.	Pollution Control measures / devices	
26.	Odour control measures:	Good ventilation and Free air flow are maintained in order to keep the manure in dry condition

Solid waste:

S. No.	Name of SW	Qty of generation Kg/day	Mode of disposal	Remarks, if any
27	Poultry Manure	31,000 Kg/day	Sale to Kerala for Agriculture purpose	-

Compliance with the Guidelines for Poultry Farm issued by CPCB

S. No.	Guidelines	Compliance status
28.	Green belt all around the farm with min of two rows spaced apart of not more than 3 m	Not Complied with 50 Trees are in the Farm
29.	Barbed wire / linked mesh upto a ht of 1.5 m with secured entrance and outlet	Complied with
30.		
31.	Air emission:	
32.	Proper ventilation and free flow of air over manure collection points to keep it dry	Maintained
33.	Protection of manure from pests/insects	Sprinkling lime powder periodically
34.	Protection of manure from run off water and cover it to avoid dust and odours in storage pits	Bund has been provided
35.	Design of storage facilities for manure, litter and washings	1- 10x5 – round, type
36.	O & M of waste storage facilities	Available
37.	Regular Collection system for carcasses	Complied with
38.	Proper disposal system for carcasses	Complied with
39.	FEED Mills:	
40.	Installed capacity	250 tonnes
41.	Operational capacity	8 tonnes /day
42.	Located at elevated level and isolated from other poultry farms	Yes
43.	Separate entrance and exit with crisscrossing the poultry roads	Yes
44.	Vehicle tyre dip facility at the entrance	Sprayer is used to spray the disinfectant
45.	Damp proof, rodent/vermin proof	Yes

	Concrete floor and raised above the GL by a min of two feet	
46.	Fire safety equipments	Available
47.	All ingredients should be stored on pallets or platforms to easy detection of leakage and to prevent moisture absorption	Stored on platform
48.	Dust collection system	Available
49.	PPEs	Available
50.	Protocol to prevent pest infestation	Cyromethin mixed in feed to prevent pest infection
51.	Storage of any Pesticide / poisonous materials	Store in separate room
52.	Storage facilities	Available
53.	Covered containers & delivery to sheds	Available
54.	Prevent interaction of feeds with wild birds, rodents, pests, flies etc.	Prevented by roenticide pesticides
55.	Spillages, if any observed	No
56.	General sanitation	Satisfactory
57.	Cleanliness	Satisfactory
58.	Management of SW (Carcass. Manure and Hachery debris) proper disposal	
59.	Minimization of generation	Maintained
60.	Management system	Maintained
61.	Application of manure:	Sprinkling of lime powder
62.	Keep dry and avoid wet	Maintained
63.	Storage facilities	Disposed 3 times/ year
64.	Composting	No disposed

65.	Measures to reduce the mortalities	Proper maintenance
66.	Rendering plant	No
67.	Observation of any open burning, indiscriminate dumping of any dead birds/Feathers/Offals/litter/empty gunnies/containers	No
68.	Mechanism for proper collection, storage, transport and disposal of dead birds	Carcass will be removed from the cage immediately and stored in a closed and disinfected container at one corner of the shed. Disposed off in disposal pit in the evening
69.	Disposal of dead birds:	Disposed in disposal pits
70.	General practice:	Maintained at satisfactory level
71.	Distance from the nearest residence	150-meter
72.	Distance from the water course	500-meter
73.	House keeping practices:	Satisfactory
74.	Odour control Measures	Satisfactory
75.	Control of flies	Satisfactory
76.	Control of rodents	Satisfactory
77.	Feed management	Using Auto feeder with delivery lines, feeds are supplied twice in a day.
78.	Siting criteria for new Poultry farms:	Not applicable in this case

Questionnaire – Poultry Farm

1.	Name of the Poultry Farm and its address	S V Poultry Farms Pullappanaickenpatti , Puthal, Namakkal TK. PIN - 637412
2.	Owner Name	K Chinnadurai
3.	Contact person and his contact details	C Vimalraj Kumar 94437 40189 svpoultryfarm@gmail.com
4.	Whether integrated or standalone	Standalone
5.	Category; Breeder, Layer, Broiler or Hatchery	Layer
6.	Total number of birds	1,20,000
7.	Particulars of Consent / License, Registration, Building plan approval obtained if any	None
8.	Year of Establishment	Purchased from others on 2014
9.	Total Plant area	16 acres
10.	Extent of establishment area	5 acres
11.	No. of Sheds	5
12.	Dimension of all Sheds	600' x 46 ½'
13.	Other facilities Copy of layout plan	No
14.	Source of Water	Open Well – 1 & 70' depth
15.	No. & depth of Borewell	Borwell -1 & 800' depth
16.	Water table	
17.	Consumption of Water, KLD Domestic Birds feed Washing of Shed Washing of birds Others if any	0.15 25 - Nil -
18.	Waste water generation, KLD	Nil
19.	List of installations having/likely to have emission	No
20.	Pollution Control measures / devices	Nil
21.	Odour control measures:	Good ventilation and free air flow are maintained to keep the manure bed in dry condition

Solid waste:

S.	Name of SW	Treatment	Mode of disposal	Remarks, if
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No.				any
22	Manure	Natural composting	Sold out as manure	--
23	Carcass	Nil	In Carcass disposal pit	--

Compliance with the Guidelines for Poultry Farm issued by CPCB

S. No.	Guidelines	Compliance status
24.	Green belt all around the farm with min of two rows spaced apart of not more than 3 m	Nil
25.	Barbed wire / linked mesh upto a ht of 1.5 m with secured entrance and outlet	16 Acres
	Air emission:	-
26.	Proper ventilation and free flow of air over manure collection points to keep it dry	Yes
27.	Protection of manure from pests/insects	Yes
28.	Protection of manure from run off water and cover it to avoid dust and odours in storage pits	Yes, Available
29.	Design of storage facilities for manure, litter and washings	---
30.	O & M of waste storage facilities	---
31.	Regular Collection system for carcasses	Plastic buckets are kept to collect and dispose of the carcass
32.	Proper disposal system for carcasses	Available – Disposable pits are available
	FEED Mills:	
33.	Installed capacity	No feed mill
	Management of SW (Carcass, Manure and Hatchery debris)	
34.	Measures to reduce the mortalities	Vaccine schedule followed as per advice of Veterinary doctors
35.	Rendering plant	Nil
36.	Observation of any open burning, indiscriminate dumping of any dead birds/Feathers/Offals/litter/empty gunnies/containers	Nil
37.	Distance from the water course	4 to 5 km
38.	Incineration:	Nil
39.	Hatchery management:	Nil
40.	House keeping practices:	Satisfactory
41.	Odour control Measures	Satisfactory

42.	Control of flies	Satisfactory
43.	Control of rodents	Satisfactory
44.	Siting criteria for new Poultry farms:	Existing one. Not applicable
45.	500 m from residential zone	Complied with
46.	200 m from major water course	Complied with
47.	500 m from major drinking water reservoir	Complied with
48.	100 m from drinking water source	Complied with
49.	500m from nearby poultry, dairy or any other livestock industry	6 to 7 km
50.	150-200m from NH	4 km
51.	100m from state highways	4 km
52.	10-15m from rural roads	10 km
53.	Poultry shed should not be located within 10m from farm boundary	Yes
54.	Shed should be positioned on East to West direction	Yes
55.	Shed should be positioned atleast 2m above the water table Shed should be positioned at least 0.5m above ground level	Yes

Questionnaire – Poultry Farm

Name of the Poultry Farm and its address	M/s. Mahalakshmi Poultry Farm Survey No.: 40/2, 41/1, 2, 3 Village Kalangani, NH7 Main Road, Reddipudur (PO), Namakkal District
Owner Name	Thiru. N. Kandasamy Gounder Thiru. K. Soundararaj Thiru. S. Premraj
Contact person and his contact details	Thiru. K. Soundararaj 9443244356 & mahalakshmifeedsmlf@gmail.com
Activities	The unit is purchasing day one chick and rearing growers and layers for egg production only. No hatchery and Feed Mill
Whether integrated or standalone	Standalone
Category; Breeder, Layer, Broiler or Hatchery	Layer
Total number of birds	1,00,000
Particulars of Consent / License obtained if any	Nil
Year of Establishment	1997
Total Plant area	11 acres
Extent of establishment area	5 acres
No. of Sheds	7
Dimension of all Sheds, feet	31*249, 33*363, 30*110, 33*236, 31*90, 31*248 & 43*312
Other facilities Copy of layout plan	Office room G+1, 1 Egg godown and Veranda 10*62.6. Water sump, 400 KL Water Tank, 50 KL Layout plan attached
Source of Water	Open well
No. & depth of Borewell	Two & 50' & 60'
Water table	25' and in summer it goes up to 50'
Consumption of Water, KLD Domestic Birds feed Washing of Shed Washing of birds Others if any	1.0 23 Nil Nil 1.0 (For disinfectant spray)
Waste water generation, KLD	Nil
Characteristics of WW	NA
WW treatment facilities available	NIL
Characteristics of treated WW	NA
Mode of Disposal	NA

	List of installations having/likely to have emission	DG Set, 63 KVA
	Pollution Control measures / devices	1.Acoustic enclosures 2.Stack
	Odour control measures:	Free air flow maintained to keep the manure in dry condition

Solid waste:

S. No.	Name of SW	Treatment	Mode of disposal	Remarks, if any
	Feathers	Burnt onsite using LPG fired flame gun	Processed and sold alongwith manure	
	Littering	Free air flow maintained to keep the manure in dry condition	Sold twice in one batch	
	Spillage of feed	Collected above the manure bed	Processed and sold alongwith manure	
	Spillage of water			
	Lightly damaged eggs	--	Consumed by owners, employees and labours. Remaining sold off locally	
	Unfit to handle the damaged eggs	--	The damaged eggs are collected over the manure beds	

Compliance with the Guidelines for Poultry Farm issued by CPCB

S. No.	Guidelines	Compliance status
	Green belt all around the farm with min of two rows spaced apart of not more than 3 m	Not complied with.
	Barbed wire / linked mesh up to a ht of 1.5 m with secured entrance and outlet	Complied with. Fencing with chain linked mesh up to a height of 5' has been provided
	Air emission:	
	Proper ventilation and free flow of air over manure collection points to keep it dry	Complied with
	Protection of manure from pests/insects	Complied with
	Protection of manure from run off water and cover it to avoid dust and odours in storage pits	Complied with
	Design of storage facilities for manure, litter and washings	Littering, spillage of feeds and water are collected over the manure bed on a

		hardened clay earthen floor
	O & M of waste storage facilities	No storage facilities. Directly sold from collection beds
	Regular Collection system for carcasses	The carcass is removed from the cage immediately, stored in a closed and disinfected container (Thermocol box) and disposed in disposal pit in the evening
	Proper disposal system for carcasses	Disposal pit of dimension 12*10*12, 1 no. and made of RCC floor with masonry wall. Four nos. of Air vent of dia 6”.
	FEED Mills:	
	Installed capacity	No Feed mill. So this section is not applicable
	Observation of any open burning, indiscriminate dumping of any dead birds/Feathers/Offals/litter/empty gunnies/containers	No
	Mechanism for proper collection, storage, transport and disposal of dead birds	Complied with
	General practice: The farm is purchasing the day one chick and rearing it to growers and layers for seventy two to seventy five weeks for egg production. When egg production falls below 70%, the layers will be sold off.	
	Distance from the nearest residence	Own house is on east side of the farm at a distance of 300’.
	Hatchery management: No Hatchery operation being carried out	
	House keeping practices:	
	Control of flies	Satisfactory
	Control of rodents	Satisfactory
	Feed management	Satisfactory.
	Siting criteria for new Poultry farms:	
	500 m from residential zone	Established in agricultural fields. Own house is on east side of the farm at a distance of 300’.
	200 m from major water course	Complied with
	500 m from major drinking water reservoir	Complied with
	100 m from drinking water source	Complied with
	500m from nearby poultry, dairy or	Complied with

	any other livestock industry	
	150-200m from NH	Complied with
	100m from state highways	Complied with
	10-15m from rural roads	Complied with
	Poultry shed should not be located within 10m from farm boundary	Complied with
	Shed should be positioned on East to West direction	Complied with
	Shed should be positioned atleast 2m above the water table Shed should be positioned at least 0.5m above ground level	Complied with

Questionnaire – Poultry Farm

1.	Name of the Poultry Farm and its address	Abinaya Poultry Farm K. Kandampalyam, Rasampalayam Panchayat, Namakkal T K Konur P.O.
2.	Owner Name	Mr. P. Elango
3.	Contact person and his contact details	Mr. P. Elango 9442334737
4.	Particulars of Consent / License, Registration, Building plan approval obtained if any	Nil
5.	Whether integrated or standalone	Standalone
6.	Category; Breeder, Layer, Broiler or Hatchery	Layer
7.	Total number of birds	2,90,000
8.	Year of Establishment	1995
9.	Total Plant area	46 Acres, Farm in 20 Acres
10.	Extent of establishment area	20 Acres
11.	No. of Sheds	14
12.	Dimension of all Sheds	450' x 35' - 6 no, 450' x 33' - 6 no, 450' x 46' - 2 no.
13.	Other facilities Copy of layout plan	Nil
14.	Source of Water	Well – 3 no 75, 70 & 60 feet
15.	No. & depth of Borewell	2 no but Not in use
16.	Water table	25' feet from Ground level
17.	Consumption of Water, KLD Domestic Birds feed Washing of Shed Washing of birds Others if any	5 72 - Nil Nil
18.	Waste water generation, KLD	Nil
19.	Characteristics of WW	Nil
20.	WW treatment facilities available	Nil
21.	Characteristics of treated WW	NA
22.	Mode of Disposal	NA
23.	List of installations having/likely to have emission	Nil
24.	Characteristics of Emissions	NA
25.	Pollution Control measures / devices	NA
26.	Odour control measures:	

Solid waste:

S. No.	Name of SW	Qty of generation Kg/day	Category	Treatment	Mode of disposal	Remarks, if any
27	Manure (litter)	11,200 Kg/day	-	-	Sold twice in a year	-

Compliance with the Guidelines for Poultry Farm issued by CPCB

S. No.	Guidelines	Compliance status
28.	Green belt all around the farm with min of two rows spaced apart of not more than 3 m	Not Complied with
29.	Barbed wire / linked mesh upto a ht of 1.5 m with secured entrance and outlet	Complied with
30.		
31.	Air emission:	-
32.	Proper ventilation and free flow of air over manure collection points to keep it dry	Complied with
33.	Protection of manure from pests/insects	Complied with
34.	Protection of manure from run off water and cover it to avoid dust and odours in storage pits	Not Complied with
35.	Regular Collection system for carcasses	Daily collection
36.	Proper disposal system for carcasses	Daily collected and put it in the Carcass disposal pit
	FEED Mills:	
37.	Installed capacity	1 MT per batch. 6 MT per hour
38.	Operational capacity	30 MT/day
39.	Located at elevated level and isolated from other poultry farms	Complied with
40.	Separate entrance and exit with crisscrossing the poultry roads	Complied with
41.	Vehicle tyre dip facility at the entrance	Not Complied with
42.	Damp proof, rodent/vermin proof Concrete floor and raised above the GL by a min of two feet	Complied with
43.	Fire safety equipments	Complied with
44.	Safety measures	Not Complied with

45.	All ingredients should be stored on pallets or platforms to easy detection of leakage and to prevent moisture absorption	Complied with
46.	Dust collection system	Complied with
47.	PPEs	Complied with
48.	Protocol to prevent pest infestation	Complied with
49.	Storage of any Pesticide / poisonous materials	Complied with
50.	Storage facilities	500 tonnes
51.	Covered containers & delivery to sheds	Available
52.	Storage facilities <i>Never</i>	80 tonnes
53.	Prevent interaction of feeds with wild birds, rodents, pests, flies etc.	Complied with
54.	Spillages, if any observed	No
55.	General sanitation	Nil
56.	Cleanliness	Satisfactory
57.	Management of SW (Carcass. Manure and Hatchery debris)	
58.	Minimization of generation	-
59.	Management system	Manure sold off twice in a year
60.	Application of manure:	Agricultural use
61.	Keep dry and avoid wet	Complied with
62.	Storage facilities	Nil
63.	Composting	Nil
64.	Measures to reduce the mortalities	Vaccination against viral diseases
65.	Rendering plant	Nil

66.	Observation of any open burning, indiscriminate dumping of any dead birds/Feathers/Offals/litter/empty gunnies/containers	No
67.	Mechanism for proper collection, storage, transport and disposal of dead birds	Yes, collected in plastic drum in each shed and disposed off in carcass disposal pit
68.	Disposal of dead birds:	-
69.	General practice:	Nil
70.	Distance from the nearest residence	500 m
71.	Distance from the water course	Not applicable
72.	House keeping practices:	Complied with
73.	Odour control Measures	Good ventilation and free air flow are maintained
74.	Control of flies	Complied with
75.	Control of rodents	Complied with

Questionnaire – Poultry Farm

1.	Name of the Poultry Farm and its address	Sri Krishna Poultry Farm K. Kandampalyam, Namakkal
2.	Owner Name	Mr. M. Murali
3.	Contact person and his contact details	Mr. M. Murali 9843443333 krishmuralim@gmail.com
4.	Whether integrated or standalone	Standalone
5.	Category; Breeder, Layer, Broiler or Hatchery	Layer
6.	Total number of birds	3,50,000
7.	Particulars of Consent / License, Registration, Building plan approval obtained if any	Nil
8.	Year of Establishment	2005
9.	Total Plant area	36 Acres
10.	Extent of establishment area	36 Acres
11.	No. of Sheds	7 (1+1+5)
12.	Dimension of all Sheds	800 x 50' Each
13.	Other facilities Copy of layout plan	---
14.	Source of Water	Rain Water Harvesting, well
15.	No. & depth of Borewell	5 well 80-140', Borewell-5 No, 850-1000 ft
16.	Water table	90 ft.
17.	Consumption of Water, KLD Domestic Birds feed Washing of Shed Washing of birds Others if any	25 75 - -
18.	Waste water generation, KLD	Nil
19.	Characteristics of WW	NA
20.	WW treatment facilities available	NA
21.	Characteristics of treated WW	NA
22.	Mode of Disposal	NA
23.	List of installations having/likely to have emission	Nil
24.	Characteristics of Emissions	NA
25.	Pollution Control measures / devices	NA
26.	Odour control measures:	Good ventilation and free air flow are maintained to keep the manure in dry condition to avoid odour nuisances

Solid waste:

S. No.	Name of SW	Qty of generation Kg/day	Mode of disposal	Remarks, if any
27.	Manure	10,000 Kg/day	Yearly Once	-

Compliance with the Guidelines for Poultry Farm issued by CPCB

S. No.	Guidelines	Compliance status
28.	Green belt all around the farm with min of two rows spaced apart of not more than 3 m	Nil
29.	Barbed wire / linked mesh upto a ht of 1.5 m with secured entrance and outlet	Yes, Available
	Air emission:	-
30.	Proper ventilation and free flow of air over manure collection points to keep it dry	Yes
31.	Protection of manure from pests/insects	Yes
32.	Protection of manure from run off water and cover it to avoid dust and odours in storage pits	Yes, Available
33.	Design of storage facilities for manure, litter and washings	No storage
34.	O & M of waste storage facilities	NA
35.	Regular Collection system for carcasses	Available. Disinfected Plastic buckets are used to collect and carry the carcasses
36.	Proper disposal system for carcasses	Disposable pit is available
	FEED Mills:	
37.	Installed capacity	300 tonnes / day
38.	Operational capacity	30 tonnes /day
39.	Located at elevated level and isolated from other poultry farms	Yes
40.	Separate entrance and exit with crisscrossing the poultry roads	Yes
41.	Vehicle tyre dip facility at the entrance	Available
42.	Damp proof, rodent/vermin proof Concrete floor and raised above the GL by a min of two feet	Yes, Available
43.	Fire safety equipments	Yes
44.	Safety measures	Available

45.	All ingredients should be stored on pallets or platforms to easy detection of leakage and to prevent moisture absorption	Yes
46.	Dust collection system	Yes
47.	PPEs	Nil
48.	Protocol to prevent pest infestation	Nil
49.	Storage of any Pesticide / poisonous materials	Nil
50.	Storage facilities	3000 storage capacity
51.	Covered containers & delivery to sheds	Yes
52.	Prevent interaction of feeds with wild birds, rodents, pests, flies etc.	Yes
53.	Spillages, if any observed	No
54.	General sanitation	Good
55.	Cleanliness	Good
56.	Measures to reduce the mortalities	Proper vaccination and technical facilities provided
57.	Rendering plant	Nil
58.	Observation of any open burning, indiscriminate dumping of any dead birds/Feathers/Offals/litter/empty gunnies/containers	No
59.	Mechanism for proper collection, storage, transport and disposal of dead birds	Available
60.	Incineration: Nil	
61.	Hatchery management: Nil	
62.	House keeping practices:	Satisfactory
63.	Odour control Measures	Satisfactory
64.	Control of flies	Satisfactory
65.	Control of rodents	Satisfactory
66.	Siting criteria for new Poultry farms:	Existing one. So Not applicable
67.	500m from nearby poultry, dairy or any other livestock industry	1000 mts
68.	150-200m from NH	1500 mts
69.	100m from state highways	-
70.	10-15m from rural roads	30 mts
71.	Poultry shed should not be located	Yes

	within 10m from farm boundary	
72.	Shed should be positioned on East to West direction	Yes
73.	Shed should be positioned atleast 2m above the water table Shed should be positioned at least 0.5m above ground level	Yes

Questionnaire – Poultry Farm

Name of the Poultry Farm and its address	K.S. Poultry Farm (Unit I) Ienkadu, Sanniyasipatti Post, Sankagiri West, Kumarapalayam Taluk, Namakkal District – 637 303.
Owner Name	K. Subrammani, Proprietor
Contact person and his contact details	Cell No. 9842729666 Mail id: kstraders17@gmail.com
Whether integrated or standalone	Standalone
Category; Breeder, Layer, Broiler or Hatchery	Layer
Total number of birds	75,000
Particulars of Consent / License, Registration, Building plan approval obtained if any	Since, the unit has less than 1 Lac birds it is exempted from consent of SPCB The unit failed to furnish building plan approval during inspection
Year of Establishment	March 1992
Total Plant area	1.618743 Hectors
Extent of establishment area	0.56578 Hectors
No. of Sheds	8 Nos.
Dimension of all Sheds	1 – 22'x150' 2 – 22'x150' 3 – 22'x150' 4 – 30'x150' 5 – 30'x150' 6 – 40'x350' 7 – 40'x350' 8 – 40'x350'
Other facilities Copy of layout plan	----
Source of Water	Ground water - Bore well
No. & depth of Borewell	5 Nos. & 700 ft each
Water table	250 ft
Consumption of Water, KLD Domestic Birds feed Washing of Shed Washing of birds Others if any	-- 0.6 KLD 15 KLD -- -- --
Waste water generation, KLD	NIL
Characteristics of WW	Not applicable
WW treatment facilities available	Not applicable
Characteristics of treated WW	Not applicable
Mode of Disposal	Not applicable
List of installations having/likely to have emission	NIL
Characteristics of Emissions	--
Pollution Control measures / devices	--
Odour control measures:	--

Solid waste:

S. No.	Name of SW	Qty of generation Kg/day	Category	Treatment	Mode of disposal	Remarks, if any
1	Poultry litter	400	--	--	Sold out for manure	--

Compliance with the Guidelines for Poultry Farm issued by CPCB

S. No.	Guidelines	Compliance status
	Green belt all around the farm with min of two rows spaced apart of not more than 3 m	NIL
	Barbed wire / linked mesh upto a ht of 1.5 m with secured entrance and outlet	Provided.
	Air emission:	
	Proper ventilation and free flow of air over manure collection points to keep it dry	Yes. 7 feet height.
	Protection of manure from pests/insects	NIL
	Protection of manure from runoff water and cover it to avoid dust and odours in storage pits	Protection of manure from runoff was available – manure collected on above ground level bed.
	Design of storage facilities for manure, litter and washings	Periodically disposed and no storage practice is followed.
	O & M of waste storage facilities	Not applicable.
	Regular Collection system for carcasses	Yes. Available. Carcasses collected in the closed container.
	Proper disposal system for carcasses	Concrete anaerobic pit available for disposal of carcasses.
	FEED Mills:	Nil
	Installed capacity	Not applicable, Since no feed mill
	Operational capacity	Not applicable, Since no feed mill
	Located at elevated level and isolated from other poultry farms	Not applicable, Since no feed mill
	Separate entrance and exit with crisscrossing the poultry roads	Not applicable, Since no feed mill
	Vehicle tyre dip facility at the entrance	Not applicable, Since no feed mill
	Damp proof, rodent/vermin proof Concrete floor and raised above the GL by a min of two feet	Not applicable, Since no feed mill
	Fire safety equipments	--
	Safety measures	--
	All ingredients should be stored on pallets or platforms to easy detection of leakage and to prevent moisture absorption	Not applicable, Since no feed mill
	Dust collection system	Not applicable, Since no feed mill
	PPEs	Not applicable, Since no feed mill
	Protocol to prevent pest infestation	Not applicable, Since no feed mill
	Storage of any Pesticide / poisonous materials	Separated
	Storage facilities	Not applicable, Since no feed mill
	Covered containers & delivery to sheds	Not applicable, Since no feed mill
	Storage facilities <i>Never</i>	Not applicable, Since no feed mill
	Prevent interaction of feeds with wild birds, rodents, pests, flies etc.	Not applicable, Since no feed mill
	Spillages, if any observed	Not applicable, Since no feed mill
	General sanitation	Good
	Cleanliness	Good
	Management of SW (Carcass, Manure and Hatchery debris)	
	Minimization of generation	Proper medical care is provided to reduce the mortality rate.
	Management system	Carcass is disposed in the anaerobic decomposing pit. The manure is sold out.
	Application of manure:	The manure is used for agricultural fields.

	Keep dry and avoid wet	Collected under rain roof shed on elevated platform.
	Storage facilities	No storage.
	Composting	No composting activity for manure and is sold out periodically. Carcass are disposed off in anaerobic decomposing pit.
	Measures to reduce the mortalities	Proper medical care is provided to reduce the mortalities.
	Rendering plant	NIL
	Observation of any open burning, indiscriminate dumping of any dead birds/Feathers/Offals/litter/empty gunnies/containers	No such activities noticed during inspection.
	Mechanism for proper collection, storage, transport and disposal of dead birds	Dead birds are collected in closed containers to the disposal point.
	Disposal of dead birds:	Dead birds are disposed in anaerobic decomposing pit.
	General practice: The dead birds are placed in the anaerobic pits with salt media for decomposition.	
	General practice of Composting:	The dead birds are placed in the anaerobic pits with salt media for decomposition.
	Distance from the nearest residence	400 meters.
	Distance from the water course	No notified water course.
	Capacity	
	Permanent Roof	RCC roof.
	Floor	Consolidated, elevated earthen platform
	Fencing of 1.5 m all around the compost pit to avoid stray dogs	Compost pit is the closed chamber with opening lid to drop the dead birds with air vent.
	Mgt. of manure storage: Manure the disposed periodically.	
	Composting of Manure: No composting	
	Incineration: No incineration	
	Hatchery management: No hatchery	
	House keeping practices:	Satisfactory
	Odour control Measures	Periodical spraying disinfection such as lime powder, bleaching powder, etc.,
	Control of flies	By applying lime powder and keeping the manure bed in dry condition
	Control of rodents	Periodical application of lime powder
	Feed management	Feed management carried out as per the advice of Veterinary Doctors
	Siting criteria for new Poultry farms:	Not applicable, since this is an existing poultry farm.

Questionnaire – Poultry Farm

1.	Name of the Poultry Farm and its address	K.S. Poultry Farm (Unit II) Ienkadu, Sanniyasipatti Post, Sankagiri West, Kumarapalayam Taluk, Namakkal District – 637 303.
2.	Owner Name	K. Subrammani, Proprietor
3.	Contact person and his contact details	Cell No. 9842729666 Mail id: kstraders17@gmail.com
4.	Whether integrated or standalone	Standalone
5.	Category; Breeder, Layer, Broiler or Hatchery	Layer
6.	Total number of birds	1,10,000
7.	Particulars of Consent / License, Registration, Building plan approval obtained if any	Since, the unit has more than 1 Lakh birds and yet to be applied for consent of the Board. The unit failed to furnish building plan approval and NOC from CGWB during inspection
8.	Year of Establishment	March 2010
9.	Total Plant area	4.046856 Hectors
10.	Extent of establishment area	0.727 Hectors
11.	No. of Sheds	8 Nos.
12.	Dimension of all Sheds	1 – 22'x150' 2 – 22'x150' 3 – 22'x150' 4 – 30'x150' 5 – 30'x150' 6 – 40'x350' 7 – 40'x350' 8 – 40'x350'
13.	Other facilities Copy of layout plan	----
14.	Source of Water	Ground water - Bore well –. (South East Direction)
15.	No. & depth of Borewell	5 Nos & 700 ft each
16.	Water table	250 ft
17.	Consumption of Water, KLD Domestic Birds feed Washing of Shed Washing of birds Others if any	-- 0.6 KLD 22 KLD -- -- --
18.	Waste water generation, KLD	NIL
19.	Characteristics of WW	Not applicable
20.	WW treatment facilities available	Not applicable
21.	Characteristics of treated WW	Not applicable
22.	Mode of Disposal	Not applicable
23.	List of installations having/likely to have emission	NIL
24.	Characteristics of Emissions	--
25.	Pollution Control measures / devices	--
26.	Odour control measures:	--

Solid waste:

S. No.	Name of SW	Qty of generation Kg/day	Mode of disposal	Remarks, if any
27	Poultry litter	650	Sold out for manure	--

Compliance with the Guidelines for Poultry Farm issued by CPCB

S. No.	Guidelines	Compliance status
28.	Green belt all around the farm with min of two rows spaced apart of not more than 3 m	NIL
29.	Barbed wire / linked mesh upto a ht of 1.5 m with secured entrance and outlet	Provided.
	Air emission:	
30.	Proper ventilation and free flow of air over manure collection points to keep it dry	Yes. 7 feet height.
31.	Protection of manure from pests/insects	NIL
32.	Protection of manure from runoff water and cover it to avoid dust and odours in storage pits	Protection of manure from runoff was available – manure collected on above ground level bed.
33.	Design of storage facilities for manure, litter and washings	Periodically disposed and no storage is practiced.
34.	O & M of waste storage facilities	Not applicable.
35.	Regular Collection system for carcasses	Yes. Available. Carcasses collected in the closed container.
36.	Proper disposal system for carcasses	Concrete anaerobic pit available for disposal was carcasses.
	FEED Mills:	Captive Feed Mill
37.	Installed capacity	Mixer & Grinder – 1 T/hr (each) 20 T/Day
38.	Operational capacity	15 T/Day
39.	Located at elevated level and isolated from other poultry farms	Yes Located at 3 Feet above ground level and isolated from other poultry farms
40.	Separate entrance and exit with crisscrossing the poultry roads	Yes, separate entrance and exit available
41.	Vehicle tyre dip facility at the entrance	Disinfectant spraying for the vehicle tyres are carried out at entrance
42.	Damp proof, rodent/vermin proof Concrete floor and raised above the GL by a min of two feet	Complied with
43.	Fire safety equipments	Provided
44.	Safety measures	Yes adopted
45.	All ingredients should be stored on pallets or platforms to easy detection of leakage and to prevent moisture absorption	Ingredients are stored over the concrete flooring
46.	Dust collection system	Bag filters are provided
47.	PPEs	Workers are provided with personal protective equipment's
48.	Protocol to prevent pest infestation	Adopted
49.	Storage of any Pesticide / poisonous materials	No pesticide or poisonous materials observed
50.	Storage facilities	Separate storage for raw materials and products available
51.	Covered containers & delivery to sheds	The poultry feed is delivered to the shed through covered containers
52.	Storage facilities	Emergency storage facility available at every poultry shed
53.	Prevent interaction of feeds with wild	Barbed wire fencing provided

	birds, rodents, pests, flies etc.	
54.	Spillages, if any observed	No spillage was observed.
55.	General sanitation	Good
56.	Cleanliness	Good
57.	Management of SW (Carcass. Manure and Hatchery debris)	
58.	Minimization of generation	Proper medical care is provided to reduce the mortality rate.
59.	Management system	Carcass is disposed off in the anaerobic decomposing pit. The manure is sold out
60.	Application of manure:	The manure is sold out to use as a manure for agricultural fields.
61.	Keep dry and avoid wet	Collected under rain roof shed on elevated platform.
62.	Storage facilities	No storage.
63.	Composting	No composting activity for manure and is sold out periodically. Carcasses are disposed off in anaerobic decomposing pit.
64.	Measures to reduce the mortalities	Proper medical care is provided to reduce the mortalities.
65.	Rendering plant	NIL
66.	Observation of any open burning, indiscriminate dumping of any dead birds/Feathers/Offals/litter/empty gunnies/containers	No such activities were noticed during inspection.
67.	Mechanism for proper collection, storage, transport and disposal of dead birds	Dead birds are collected in closed containers to the disposal point.
68.	Disposal of dead birds:	Dead birds are disposed off in anaerobic decomposing pit.
69.	General practice: The dead birds are placed in the anaerobic pits with salt media for decomposition.	
70.	General practice of Composting:	The dead birds are disposed off in the anaerobic pits with salt media for decomposition.
71.	Distance from the nearest residence	250 meters.
72.	Distance from the water course	No notified water course.
73.	Permanent Roof	RCC roof.
74.	Floor	Consolidated, Concrete floor
75.	Fencing of 1.5 m all around the compost pit to avoid stray dogs	Compost pit is a closed chamber with opening lid to drop the dead birds with air vent pipes.
76.	Mgt. of manure storage: Manure is disposed off periodically.	
77.	Composting of Manure: No composting	
78.	Incineration: No incineration	
79.	Hatchery management: No hatchery	
80.	House keeping practices:	Satisfactory
81.	Odour control Measures	Periodical spraying of disinfectant such as lime powder, bleaching powder, etc.,
82.	Control of flies	By proper medicine along with the feed.
83.	Control of rodents	Protection measures adopted
84.	Feed management	Feed management carried out the advice of Veterinary Doctors
85.	Siting criteria for new Poultry farms:	Not applicable, since this is an existing poultry farm.

Questionnaire – Poultry Farm

1.	Name of the Poultry Farm and its address	NSR Poultry Farm S.F.No. 208/1, Nagarpalayam Village, Chettikadu, Vaiyappamalai Post, Thiruchengode Taluk, Namakkal District
2.	Owner Name	S.R. Somasundaram, Proprietor
3.	Contact person and his contact details	Cell No. 9047039664 Email ID: nsrpoultryfarm85@gmail.com
4.	Whether integrated or standalone	Standalone
5.	Category; Breeder, Layer, Broiler or Hatchery	Layer
6.	Total number of birds	1,14,000
7.	Particulars of Consent / License, Registration, Building plan approval obtained if any	Since, the unit has more than 1 Lakh birds and yet to be applied for consent of the Board. The unit failed to furnish NOC from CGWB building plan approval during inspection
8.	Year of Establishment	March 1990
9.	Total Plant area	8.093713 Hectors
10.	Extent of establishment area	0.885 Hectors
11.	No. of Sheds	8 Nos.
12.	Dimension of all Sheds	1 – 45'x365' 2 – 45'x365' 3 – 33'x365' 4 – 45'x350' 5 – 45'x350' 6 – 42'x335' 7 – 28'x 21' 8 – 28'x 150'
13.	Other facilities Copy of layout plan	----
14.	Source of Water	Ground water - Open well
15.	No. & depth of Borewell	3 Nos. and 90 ft, 60 ft, 40 ft.
16.	Water table	30 ft, 30 ft, 20 ft.
17.	Consumption of Water, KLD Domestic Birds feed Washing of Shed Washing of birds Others if any	-- 0.6 KLD 22.8 KLD -- -- --
18.	Waste water generation, KLD	NIL
19.	Characteristics of WW	Not applicable
20.	WW treatment facilities available	Not applicable
21.	Characteristics of treated WW	Not applicable
22.	Mode of Disposal	Not applicable
23.	List of installations having/likely to have emission	NIL

Solid waste:

S. No.	Name of SW	Qty of generation Kg/day	Mode of disposal	Remarks, if any
1	Poultry litter	649	Sold out for manure	--

Compliance with the Guidelines for Poultry Farm issued by CPCB

S. No.	Guidelines	Compliance status
24.	Green belt all around the farm with min of two rows spaced apart of not more than 3 m	Green belt provided on three sides at the poultry farm
25.	Barbed wire / linked mesh upto a ht of 1.5 m with secured entrance and outlet	Provided.
26.		
27.	Air emission:	
28.	Proper ventilation and free flow of air over manure collection points to keep it dry	Yes. Proper ventilation available.
29.	Protection of manure from pests/insects	NIL
30.	Protection of manure from runoff water and cover it to avoid dust and odours in storage pits	Protection of manure from runoff was available – manure collected on above ground level bed.
31.	Design of storage facilities for manure, litter and washings	Periodically disposed and no storage practice available.
32.	O & M of waste storage facilities	Not applicable.
33.	Regular Collection system for carcasses	Yes. Available. Carcasses collected in the closed container.
34.	Proper disposal system for carcasses	Concrete anaerobic pit available for disposal was carcasses.
35.	FEED Mills:	Captive Feed Mill
36.	Installed capacity	Mixer & Grinder – 1T/hr (Each) 30 T/Day
37.	Operational capacity	15 T/Day
38.	Located at elevated level and isolated from other poultry farms	Yes Located at 3 Feet above ground level and isolated from other poultry farms
39.	Separate entrance and exit with crisscrossing the poultry roads	Yes, separate entrance and exit available
40.	Vehicle tyre dip facility at the entrance	Disinfected spraying for the vehicle tyres carried out at entrance
41.	Damp proof, rodent/vermin proof Concrete floor and raised above the GL by a min of two feet	Not applicable, Since no feed mill
42.	Fire safety equipments	Provided
43.	Safety measures	Yes adopted
44.	All ingredients should be stored on pallets or platforms to easy detection of leakage and to prevent moisture absorption	Ingredients are stored over the concrete flooring
45.	Dust collection system	Bag filters provided
46.	PPEs	Workers are provided with personal protective equipment's
47.	Protocol to prevent pest infestation	Adopted
48.	Storage of any Pesticide / poisonous materials	No pesticide or poisonous materials observed
49.	Storage facilities	Separate storage for raw materials and products available
50.	Covered containers & delivery to sheds	The poultry feed is delivered to the shed through covered containers
51.	Storage facilities	Emergency storage facility available at every poultry shed
52.	Prevent interaction of feeds with wild birds, rodents, pests, flies etc.	Barbed wire fencing provided
53.	Spillages, if any observed	No spillages observed.
54.	General sanitation	Good
55.	Cleanliness	Good
56.	Management of SW (Carcass. Manure and Hachery debris)	
57.	Minimization of generation	Proper medical care provided to reduce the dead birds.
58.	Management system	Carcass is disposed in the anaerobic decomposing pit.

		The manure is sold out for agri farms.
59.	Application of manure:	The manure is sold out for agri farms.
60.	Keep dry and avoid wet	Collected under rain roof shed on elevated platform.
61.	Storage facilities	No storage.
62.	Composting	No composting activity for manure is sold out periodically. Carcass are disposed in anaerobic decomposing pit.
63.	Measures to reduce the mortalities	Proper medical care provided to reduce the mortalities.
64.	Rendering plant	NIL
65.	Observation of any open burning, indiscriminate dumping of any dead birds/Feathers/Offals/litter/empty gunnies/containers	No such activities noticed during inspection.
66.	Mechanism for proper collection, storage, transport and disposal of dead birds	Dead birds are collected in closed containers to the disposal point.
67.	Disposal of dead birds:	Dead birds are disposed in anaerobic decomposing pit.
68.	General practice: The dead birds are placed in the anaerobic pits with salt media for decomposition.	
69.	General practice of Composting:	The dead birds are placed in the anaerobic pits with salt media for decomposition.
70.	Distance from the nearest residence	400 meters.
71.	Distance from the water course	No notified water course.
72.	Capacity	
73.	Permanent Roof	RCC roof.
74.	Floor	Consolidated, elevated earthen platform
75.	Fencing of 1.5 m all around the compost pit to avoid stray dogs	Compost pit is the closed chamber with opening lid to drop the dead birds.
76.	Mgt. of manure storage: Manure the disposed periodically.	
77.	Composting of Manure: No composting	
78.	Incineration: No incineration	
79.	Hatchery management: No hatchery	
80.	House keeping practices:	Good
81.	Odour control Measures	Periodical spraying disinfection such as lime powder, bleaching powder, etc.,
82.	Control of flies	By proper medicine along with the feed.
83.	Control of rodents	Protection measures adopted
84.	Feed management	Feed management carried out the advice of Veterinary Doctors
85.	Siting criteria for new Poultry farms:	Not applicable, since this is an existing poultry farm.
86.	500 m from residential zone	250 Meters
87.	200 m from major water course	Not applicable, since this is an existing poultry farm.
88.	500 m from major drinking water reservoir	Not applicable, since this is an existing poultry farm.
89.	100 m from drinking water source	Not applicable, since this is an existing poultry farm.
90.	500m from nearby poultry, dairy or any other livestock industry	Not applicable, since this is an existing poultry farm.
91.	150-200m from NH	Not applicable, since this is an existing poultry farm.
92.	100m from state highways	Not applicable, since this is an existing poultry farm.

93.	10-15m from rural roads	0 Meters
94.	Poultry shed should not be located within 10m from farm boundary	Not applicable, since this is an existing poultry farm.
95.	Shed should be positioned on East to West direction	Not applicable, since this is an existing poultry farm.
96.	Shed should be positioned atleast 2m above the water table Shed should be positioned at least 0.5m above ground level	Not applicable, since this is an existing poultry farm.

Questionnaire – Poultry Farm

1.	Name of the Poultry Farm and its address	PSP Poultry Farm, S.F. No. 297/18, Mannankadu, Monjanur Village, Thiruchengode Taluk, Namakkal District.
2.	Owner Name	K. Palanivel, Proprietor
3.	Contact person and his contact details	Cell No. 9965555188 Mail id: palanivelpsp3637@gmail.com
4.	Whether integrated or standalone	Standalone
5.	Category; Breeder, Layer, Broiler or Hatchery	Layer
6.	Total number of birds	60,000
7.	Particulars of Consent / License, Registration, Building plan approval obtained if any	Since, the unit has less than 1 Lakh birds it is exempted from consent of SPCB The unit has not furnish building plan approval during inspection
8.	Year of Establishment	2008
9.	Total Plant area	2.4281 Hectors
10.	Extent of establishment area	0.4673 Hectors
11.	No. of Sheds	4 Nos.
12.	Dimension of all Sheds	1 – 47'x130' 2 – 47'x220' 3 – 47'x380' 4 – 39'x410'
13.	Other facilities Copy of layout plan	----
14.	Source of Water	Open well
15.	No. & depth of Borewell	60 ft
16.	Water table	40 ft
17.	Consumption of Water, KLD Domestic Birds feed Washing of Shed Washing of birds Others if any	-- 0.6 KLD 12 KLD -- -- --
18.	Waste water generation, KLD	NIL
19.	Characteristics of WW	Not applicable
20.	WW treatment facilities available	Not applicable
21.	Characteristics of treated WW	Not applicable
22.	Mode of Disposal	Not applicable
23.	List of installations having/likely to have emission	D.G. Set 25 KVA

Solid waste:

S. No.	Name of SW	Qty of generation Kg/day	Mode of disposal	Remarks, if any
24	Poultry litter	324	Sold out for manure	--

Compliance with the Guidelines for Poultry Farm issued by CPCB

S. No.	Guidelines	Compliance status
25.	Green belt all around the farm with min of two rows spaced apart of not more than 3 m	Green belt provided on three sides at the poultry farm
26.	Barbed wire / linked mesh upto a ht of 1.5 m with secured entrance and outlet	Provided.
27.		
28.	Air emission:	
29.	Proper ventilation and free flow of air over manure collection points to keep it dry	Yes. Proper ventilation available.
30.	Protection of manure from pests/insects	NIL
31.	Protection of manure from runoff water and cover it to avoid dust and odours in storage pits	Protection of manure from runoff was available – manure collected on above ground level bed.
32.	Design of storage facilities for manure, litter and washings	Periodically disposed and no storage practice available.
33.	O & M of waste storage facilities	Not applicable.
34.	Regular Collection system for carcasses	Yes. Available. Carcasses collected in the closed container.
35.	Proper disposal system for carcasses	Concrete anaerobic pit available for disposal was carcasses.
36.	FEED Mills:	Nil
37.	General sanitation	Good
38.	Cleanliness	Good
39.	Management of SW (Carcass. Manure and Hachery debris)	
40.	Minimization of generation	Proper medical care provided to reduce the dead birds.
41.	Management system	Carcass is disposed in the anaerobic decomposing pit. The manure is sold out for agri farms.
42.	Application of manure:	The manure is sold out for agri farms.
43.	Keep dry and avoid wet	Collected under rain roof shed on elevated platform.
44.	Storage facilities	No storage.
45.	Composting	No composting activity for manure is sold out periodically. Carcass are disposed in anaerobic decomposing pit.
46.	Measures to reduce the mortalities	Proper medical care provided to reduce the mortalities.
47.	Rendering plant	NIL
48.	Observation of any open burning, indiscriminate dumping of any dead birds/Feathers/Offals/litter/empty gunnies/containers	No such activities noticed during inspection.
49.	Mechanism for proper collection, storage, transport and disposal of dead birds	Dead birds are collected in closed containers to the disposal point.
50.	Disposal of dead birds:	Dead birds are disposed in anaerobic decomposing pit.
51.	General practice:	The dead birds are placed in the anaerobic pits with salt media for decomposition.
52.	General practice of Composting:	The dead birds are placed in the anaerobic pits with salt media for decomposition.
53.	Distance from the nearest residence	450 meters.
54.	Distance from the water course	No notified water course.

55.	Capacity	
56.	Permanent Roof	RCC roof.
57.	Floor	Consolidated, elevated earthen platform
58.	Mgt. of manure storage: Manure the disposed periodically.	
59.	Composting of Manure: No composting	
60.	Incineration: No incineration	
61.	Hatchery management: No hatchery	
62.	House keeping practices:	Good
63.	Odour control Measures	Periodical spraying disinfection such as lime powder, bleaching powder, etc.,
64.	Control of flies	By proper medicine along with the feed.
65.	Control of rodents	Protection measures adopted
66.	Feed management	Feed management carried out the advice of Veterinary Doctors
67.	Siting criteria for new Poultry farms:	Not applicable, since this is an existing poultry farm.

Questionnaire – Poultry Farm

1.	Name of the Poultry Farm and its address	Thamarai Poultry Farm, S.F. No. 297/18, Kolathu Palayadhar kadu, Selamba Goundanpalayam Village, Thiruchengode Taluk, Namakkal District.
2.	Owner Name	T. Prabha
3.	Contact person and his contact details	Cell No. 9047023385 Mail id: thamaraipoultry@gmail.com
4.	Whether integrated or standalone	Standalone
5.	Category; Breeder, Layer, Broiler or Hatchery	Layer
6.	Total number of birds	30,000
7.	Particulars of Consent / License, Registration, Building plan approval obtained if any	Since, the unit has less than 1 Lakh birds it is exempted from consent of SPCB The unit failed to furnish NOC from Ground Water and building plan approval during inspection
8.	Year of Establishment	2001
9.	Total Plant area	2.326942 Hectors
10.	Extent of establishment area	0.259 Hectors
11.	No. of Sheds	4 Nos.
12.	Dimension of all Sheds	1 – 28'x115' 2 – 26'x160' 3 – 33'x310' 3 – 33'x310'
13.	Other facilities Copy of layout plan	----
14.	Source of Water	Open well
15.	No. & depth of Borewell	75 ft
16.	Water table	60 ft
17.	Consumption of Water, KLD Domestic Birds feed Washing of Shed Washing of birds Others if any	-- 0.6 KLD 6 KLD -- -- --
18.	Waste water generation, KLD	NIL
19.	Characteristics of WW	Not applicable
20.	WW treatment facilities available	Not applicable
21.	Characteristics of treated WW	Not applicable
22.	Mode of Disposal	Not applicable
23.	List of installations having/likely to have emission	D.G. Set 15 KVA
24.	Odour control measures:	By maintaining good ventilation and free air flow

Solid waste:

S. No.	Name of SW	Qty of generation Kg/day	Mode of disposal	Remarks, if any
25	Poultry litter	162	Sold out for manure	--

Compliance with the Guidelines for Poultry Farm issued by CPCB

S. No.	Guidelines	Compliance status
26.	Green belt all around the farm with min of two rows spaced apart of not more than 3 m	Green belt provided on three sides at the poultry farm
27.	Barbed wire / linked mesh upto a ht of 1.5 m with secured entrance and outlet	Provided.
	Air emission:	
28.	Proper ventilation and free flow of air over manure collection points to keep it dry	Yes. Proper ventilation available.
29.	Protection of manure from pests/insects	NIL
30.	Protection of manure from runoff water and cover it to avoid dust and odours in storage pits	Protection of manure from runoff was available – manure collected on above ground level bed.
31.	Design of storage facilities for manure, litter and washings	Periodically disposed and no storage practice available.
32.	O & M of waste storage facilities	Not applicable.
33.	Regular Collection system for carcasses	Yes. Available. Carcasses collected in the closed container.
34.	Proper disposal system for carcasses	Concrete anaerobic pit available for disposal was carcasses.
	FEED Mills:	Captive feed mill
35.	Installed capacity	10 T/Day
36.	Operational capacity	3 T/Day
37.	Located at elevated level and isolated from other poultry farms	Yes Located at 3 Feet above ground level and isolated from other poultry farms
38.	Separate entrance and exit with crisscrossing the poultry roads	Yes, separate entrance and exit available
39.	Vehicle tyre dip facility at the entrance	Disinfected spraying for the vehicle tyres carried out at entrance
40.	Damp proof, rodent/vermin proof Concrete floor and raised above the GL by a min of two feet	Not applicable, Since no feed mill
41.	Fire safety equipments	Provided
42.	Safety measures	Yes adopted
43.	All ingredients should be stored on pallets or platforms to easy detection of leakage and to prevent moisture absorption	Ingredients are stored over the concrete flooring
44.	Dust collection system	Bag filters provided
45.	PPEs	Workers are provided with personal protective equipment's
46.	Protocol to prevent pest infestation	Adopted
47.	Storage of any Pesticide / poisonous materials	No pesticide or poisonous materials observed
48.	Storage facilities	Separate storage for raw materials and products available
49.	Covered containers & delivery to sheds	The poultry feed is delivered to the shed through covered containers
50.	Storage facilities	Emergency storage facility available at every poultry shed
51.	Prevent interaction of feeds with wild birds, rodents, pests, flies etc.	Barbed wire fencing provided
52.	Spillages, if any observed	No spillages observed.
53.	General sanitation	Good
54.	Cleanliness	Good
55.	Management of SW (Carcass. Manure and Hachery debris)	
56.	Minimization of generation	Proper medical care provided to reduce the mortality rate.
57.	Management system	Carcass is disposed in the anaerobic decomposing pit.

		The manure is sold out.
58.	Application of manure:	As a manure in Rubber estates and agriculture and horticulture land
59.	Keep dry and avoid wet	Collected under rain roof shed on elevated platform.
60.	Storage facilities	No storage.
61.	Composting	No composting activity for manure is sold out periodically. Carcass are disposed in anaerobic decomposing pit.
62.	Measures to reduce the mortalities	Proper medical care provided to reduce the mortalities.
	Rendering plant	NIL
63.	Observation of any open burning, indiscriminate dumping of any dead birds/Feathers/Offals/litter/empty gunnies/containers	No such activities noticed during inspection.
64.	Mechanism for proper collection, storage, transport and disposal of dead birds	Dead birds are collected in closed containers to the disposal point.
65.	Disposal of dead birds:	Dead birds are disposed in anaerobic decomposing pit.
66.	General practice: The dead birds are placed in the anaerobic pits with salt media for decomposition.	
67.	General practice of Composting:	The dead birds are placed in the anaerobic pits with salt media for decomposition.
68.	Distance from the nearest residence	250 meters.
69.	Distance from the water course	No notified water course.
70.	Capacity	
71.	Permanent Roof	RCC roof.
72.	Floor	Consolidated, elevated earthen platform
73.	Fencing of 1.5 m all around the compost pit to avoid stray dogs	Compost pit is the closed chamber with opening lid to drop the dead birds.
74.	Mgt. of manure storage: Manure the disposed periodically.	
75.	Composting of Manure: No composting	
76.	Incineration: No incineration	
77.	Hatchery management: No hatchery	
78.	House keeping practices:	Good
79.	Odour control Measures	Periodical spraying disinfection such as lime powder, bleaching powder, etc.,
80.	Control of flies	By proper medicine along with the feed.
81.	Control of rodents	Protection measures adopted
82.	Feed management	Feed management carried out the advice of Veterinary Doctors
83.	Siting criteria for new Poultry farms:	Not applicable, since this is an existing poultry farm.
84.	500 m from residential zone	200 Meters
85.	200 m from major water course	Not applicable, since this is an existing poultry farm.
86.	500 m from major drinking water reservoir	Not applicable, since this is an existing poultry farm.
87.	100 m from drinking water source	Not applicable, since this is an existing poultry farm.
88.	500m from nearby poultry, dairy or any other livestock industry	Not applicable, since this is an existing poultry farm.
89.	150-200m from NH	Not applicable, since this is an existing poultry farm.
90.	100m from state highways	Not applicable, since this is an existing poultry farm.

	10-15m from rural roads	Not applicable, since this is an existing poultry farm.
91.	Poultry shed should not be located within 10m from farm boundary	Not applicable, since this is an existing poultry farm.
92.	Shed should be positioned on East to West direction	Not applicable, since this is an existing poultry farm.
93.	Shed should be positioned atleast 2m above the water table Shed should be positioned at least 0.5m above ground level	Not applicable, since this is an existing poultry farm.



PUNJAB POLLUTION CONTROL BOARD

VATAVARAN BHAWAN, NABHA ROAD, PATIALA

Ph: 2215793, 2215802 PBX: 2200282, Extn. 210

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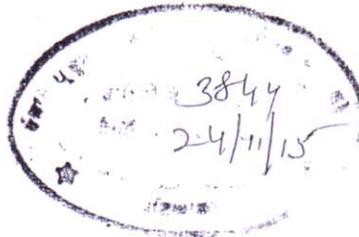
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No SEE(HQ-2)/2015/.....46346-74

Dated ...23.../11/15

To

- i) The Chief Environmental Engineer,
Punjab Pollution Control Board,
Patiala/Ludhiana/Jalandhar/PBIP
- ii) The Senior Environmental Engineer,
Punjab Pollution Control Board,
Zonal Office, LDH-I/II/PTA-I/II/
JAL/ASR/BTI & SEE-HQ-I & III.
- iii) The Senior Scientific Officer,
Punjab Pollution Control Board,
Head Office, Patiala
- iv) The Additional Secretary(P&G)
Punjab Pollution Control Board,
Nodal Office, Chandigarh.
- v) The Environmental Engineer,
Punjab Pollution Control Board,
Regional Office, Patiala/Sangrur/Batala
Fatehgarh Sahib/Bathinda/Faridkot/
Ludhiana-I/II/III/IV/Jalandhar/
Hoshiarpur/Amritsar & Mohali.



4/11/15

Subject: CPCB guidelines on Poultry Farm regarding.

Ref:- CPCB letter no.B-4032/PCI-SSI/Poultry/2015/13165 dtd.20.10.2015.

Please find enclosed herewith a copy of Environmental guidelines on Poultry Farm as received from Central Pollution Control Board, Delhi for your information & compliance please.

DA/As above

[Signature]
23/11/15

Sr. Environmental Engineer(HQ-2)

Endst.no. _____

Dtd. _____

A copy of the above along with a copy of Environmental guidelines on Poultry Farm as received from Central Pollution Control Board, Delhi is forwarded to Environmental Engineer(Computer), Punjab Pollution Control Board, Head Office, Patiala for uploading the same on the Website of the Board.

DA/As above

Endst. 4298432 Dtd. 24/11/15

A Copy of the above is forwarded to AEE - I, II, III & JEE - I, II for information and compliance.

[Signature]
Sr. Environmental Engineer(HQ-2)

[Signature]
24/11/15



केन्द्रीय प्रदूषण नियंत्रण बोर्ड
CENTRAL POLLUTION CONTROL BOARD
(पर्यावरण एवं वन मंत्रालय, भारत सरकार)
(MINISTRY OF ENVIRONMENT & FORESTS, GOVT. OF INDIA)

Registered AD

B-4032/PCI-SSI/poultry/2015

October 20, 2015

To,

The Member Secretary
Punjab State Pollution Control Board
Vatavaran Bhawan, Nabha Road
Patiala - 147 001
Punjab

2/11
ਦੀ ਡਾਕ

ਚੇਅਰਮੈਨ

ਮੈਂਬਰ ਸਕੱਤਰ

31/11/15

Sub: CPCB Guidelines on Poultry Farms regarding

Sir,

Central Pollution Control Board has done a study on 'Development of Environmental Guidelines for Poultry Farms'.

CPCB approved guidelines for poultry farms is enclosed herewith to address the environmental problems from Poultry Farms.

Yours faithfully

Encl: as above

(Abhey Singh Soni)
Sc 'D' & I/c PCI-SSI Division

'परिवेश भवन' पूर्वी अर्जुन नगर, दिल्ली-110032

'Parivesh Bhawan', East Arjun Nagar, Delhi - 110032

दूरभाष/Tel. : 43102030, फ़ैक्स/Fax : 22305793, 22307078, 22307079, 22301932, 22304948
ई-मेल/e-mail : cpcb@nic.in वेबसाइट/Website : www.cpcb.nic.in

ENVIRONMENTAL GUIDELINES FOR POULTRY FARM

1.0

1.1 Fencing and Green Belt Development

1. The poultry farm should raise green belt all around the farm with minimum of two rows spaced apart of not more than 3 m.
2. The poultry farm should be fenced with barbed wire / linked mesh upto a height of 1.5 m with appropriately secured entrance and outlet.

2.0 Air Emission (Includes gaseous emission, Odour and Dust)

2.1 Minimization of odour / gaseous pollution problem

- Ensure proper ventilation and free flow of air over manure collection points to keep it dry
- Protect manure from unwanted pests/insects
- Protect manure from run off water and cover it to avoid dust and odours in storage pits
- Design, construct, operate and maintain waste storage facilities to contain all manure, litter and washings
- Collect carcasses promptly on regular basis and dispose them appropriately without damaging the environment.

2.2 Feed Mills

1. The feed mill and godown should be located on a well elevated ground-preferably near the entrance to the farm and isolated from other poultry sheds.
2. It should have a separate entrance and exit without crisscrossing the internal poultry farm roads.
3. Provision for vehicle tyre dip should be made available at the entrance control gate
4. Floor of the feed mill and godown should be concrete, damp proof, rodent/vermin proof and raised above the ground level by a minimum of 2 feet.

5. Should have adequate fire and other accident safety provisions.
6. All feed ingredients should be stored on pallets or platforms to facilitate easy detection of leakage and to prevent absorption of moisture from the ground.
7. Dust collector system should be installed in the feed mill .
8. All the workers working in the feed mill should be provided with dust masks.
9. Avoid pest infestation of stored feed ingredients by frequent inspection and following prompt interventions.
10. Never store pesticides and other poisonous materials in feed plants or feed making premises.
11. Provide exclusive storage facility within feed plant for feed additives like vitamins, minerals etc.,
12. Always store finished feed in covered containers and try to deliver to sheds for distribution to birds in specially made closed delivery trucks avoiding baggage and its reuse.
13. Never store finished feed in sheds for more than the current days requirement.
14. Prevent interaction of feeds with wild birds, rodents, pests, flies etc; as a measure of food safety and prevention of spread of diseases.
15. Avoid spillages to limit wastage and discourage habitation for pests and rodents
16. Observe sanitation and cleanliness as a routine to ensure quality and safety of feed grains

3. Management of solid wastes (Solid Waste contains Dead Birds, Manure and Hatchery Debris)

General:

- Place primary importance to minimize waste generation in regular farm management schedule.
- Properly collect, sort, treat, transport and utilize the solid wastes
- Always balance land application of manure to the nutritional requirements of soil and crop

- Keep manure dry and avoid wet spots/patches
- Store manure properly by following appropriate storage technologies like composting
- Reduce mortalities on farm by proper animal care and disease prevention program
- The products from the rendering plant can be used a pet food.
- No open burning or indiscriminate dumping of any dead birds / feathers / offal's, unused materials like litter / empty gunnies / containers etc. should be adopted within or outside the farm premises
- Use reliable options for collection, storage, transport and disposal of dead birds

A

Dead Birds Disposal

a) Burial

1. The dead birds arising from day to day farm activity should be separated from other live birds promptly and should be stored in closed containers \ disposed off within 24 hours by following any of the appropriate disposal methods.
2. The dead bird burial pit should be of 3 to 4 m in depth and 0.8 to 1.2 m diameter and located above minimum of 3 m from the ground water table.
3. The dead bird burial pit should be provided with a vermin/fly proof cover made up of wooden / metal / concrete having a central operable lid of proper size for day to day dropping of carcasses.
4. When the pit is full, a compacted soil cover of 0.5 m should be provided with the top of the covered soil well above the ground level.
5. The distance between any two burial pits should not be less than 1 m.

b) Composting

1. The composting facility should not be located within 300 m from the nearest dwelling and 100 m from any well or water course.
2. The capacity of the composting facility must be sufficient to handle the average mortalities on the farm.
3. The roof of the composting facility should be permanent with bottom concreted.
4. The composting facility should be secured with link mesh all around raised to a height of 1.5 m above the ground level to avoid the predation by straw dogs etc.
5. A proper mixture of smaller and larger particle sizes to obtain an optimum air exchange within the mixture and buildup of temperature.
6. Moisture content of the composting pile should be approximately 60%. More than this may result in odor
7. problems and less than this will reduce the efficiency of the composting process.
8. Carbon and nitrogen are vital nutrients for the growth and reproduction of bacteria and fungi. The carbon-to-nitrogen ratio must be in the range of 20:1 and 25:1 for proper composting. This is obtained by carefully balancing the dead bird and carbon sources.
9. The optimum temperature for composting is 54 to 66°C which pasteurizes the compost. If temperature falls below 49°C after a week or so, the material should be moved to the secondary stage unit. To facilitate the easy transfer of the first stage material to the secondary stage, the proper designing of the primary stage (first stage) facility is desirable as illustrated in figure 5.5. Failure to do so will result into poor compost. The temperature in the secondary stage unit will begin to raise as beneficial bacterial activity begins and will peak in 5 to 10 days.

c) Incineration

1. The incinerator should be located in down wind direction to the poultry houses and populated areas.

2. The incinerator capacity should be of sufficient size such that no un-burnt carcasses are left in a day's operation.
3. The guide lines and standards prescribed under Bio-Medical Waste (Management and Handling) Rules, 1998 should be followed for erection and operation of the Incinerator.

B

Manure Storage and Management Storage

1. The litter / manure storage dumps should be minimum 2 m above the water table and of sufficient size based on the type and number of birds handled. It's base should be constructed with stone slabs or concrete or impermeable compacted clay.
2. The litter / manure storage dumps should have a 25 m buffer strip all around to keep out of wet areas/drainage discharges.
3. Keep manure dry and avoid wet spots/patches
4. The dry manure dump should be covered with permanent roof or with plastic / similar material to prevent air emissions and the precipitation falling on it.
5. Store manure properly by following appropriate storage technologies like composting.

Composting of Manure:

The composting process of poultry manure consists:

- Properly mixing the waste with a carbon rich material (e.g., paddy straw / husk, wood shavings) in pits or in windrows. Carbon to nitrogen ratios of 20-25:1 are usually recommended. Pure manure can also be composted if all factors are carefully monitored.
- Addition of air by periodic stirring
- Proper balancing of moisture levels (35 to 50% moisture).
- Temperature monitoring to determine if composting conditions have occurred.

6. Efforts may be made to Utilize Manure for Biogas Generation

C Hatchery Waste Management:

- Efforts may be made in converting the shells to animal feed to supply as a source of calcium, especially for poultry feeds.
- Extrusion with soybean meal can be used to make a shell / hatchery meal.
- Un-hatched eggs should be disposed of by composting or by rendering at a byproduct plant. It can also be processed by extrusion with soybean meal to be used as hatchery meal in pet food manufacturing.

4. Waste water Discharge

The waste water generated from the cleaning operations (after each batch removal) should be collected in appropriate holding tank and put to use in the green belt.

➤ Process for treatment and disposal of effluent

- Proper drainage / outlet for collection and discharge should be provided for storm runoff / discharges from the farm.
- Improve drainage, reduce standing water and water ditches to control mosquitoes and flies
- Reduce water use and spills from drinking devices by preventing overflow or leakages and using calibrated, well-maintained self-watering devices;
- Installation of vegetative filters (reed filters) and surface water diversions to direct clean run offs around areas containing wastes will help in decreasing spread of pollutants
- Use of pressure pumps, hot water or steam in cleaning activities instead of cold water and plain water scrubs can tremendously improve sanitation and reduce the quantities of wash water effluents considerably

- No obstruction should be created for any water course within the farm or outside the farm boundary.
- Implement buffer zones to surface water bodies, as appropriate to local conditions and requirements, and avoid land spreading of manure within these areas.

5. Good House Keeping Practices in Poultry Farms

The following good Management Practices should be practiced In Poultry Farms

- a) Control of Flies in Poultry Farms:** An integrated approach that ensures the proper treatment and disposal of manure, correct ventilation of sheds, control of temperature, good sanitation, swift repairs of leaks, avoidance of feed spills, prompt removal of broken eggs and dead birds will all help control of flies in the poultry farms.
- b) Control of Rodents:** Monitoring should be undertaken on regular basis after recognizing the rodent problem. The methods for the control of rodents may include : i) Exclusion ii) Trapping iii) Glue boards iv) Slow killing toxic baits v) Rapid killing toxic baits and vi) Tracking powder

- The loading and unloading operations can be limited to day time
- Should have adequate fire and other accident safety provisions.

c) Efficient Feed Management Practices

- Avoid exposure of feed and feed ingredients to rain, moisture, flies and pests
- Ensure proper storage of feed and its transport
- Avoid reuse of used feed bags
- Keep feeder equipment always clean and tidy
- Dispose properly the waste feed with due consideration to bio-security and environment
- Properly balance the feed for meeting the precise nutritional requirements

- Avoid overages/excess nutrients. Never store finished feed in sheds for more than the current days requirement
- Match feed formulation to the specific nutritional requirements of birds like growth, production, breeding etc.
- Balance properly the energy: protein, calcium: phosphorous, Lysine: Methionine, Manganese: Zinc: Selenium ratios in the diet
- Use enzymes, amino acids and gut modifiers etc. for enhancing feed utilization and nutrient adsorption
- Ensure proper balancing and mixing of trace elements like vitamins, trace minerals, amino acids and other feed additives
- Accurate weighing and proper distribution of feed to avoid wastage
- Always use quality, uncontaminated feed material
- Implement a comprehensive nutrient management plan for the entire farm
- Maintain records for feed issues and consumption of water and feed on daily basis
- Provide good quality drinking water
- Deliver safe water to birds without exposure to contaminants – nipple system is best compared to open dispenses.
- Avoid spillage or leakage of water on the farm
- Prevent interaction of feeds with wild birds, rodents, pests, flies etc; as a measure of food safety and prevention of spread of diseases.
- Observe sanitation and cleanliness as a routine to ensure quality and safety of feed grains.

d) Good Pest Management Practices

- Design and construct all poultry structures to keep out pests
- Implement integrated pest control and management to control pests and limit pesticide use on farm

- Use predators to control pests
- If pesticides are used follow the correct doses, methods of application and proper disposal of used containers
- Consider rotating the generic contents of pesticide to avoid build up of resistance in the target pest
- Avoid use of pesticides that fall under Hazardous class
- Always follow label guidelines for dose application and safety precautions while mixing, transfer and application of pesticides should be undertaken by trained persons in well ventilated and well lit areas.
- Never store pesticides and other poisonous materials in feed plants or feed making premises.
- Avoid contamination of feed, water and other food material including their equipment with pesticides.
- Store pesticides always in their original container at exclusively dedicated place and kept under lock and key
- Properly evaluate the effectiveness of pesticide and its potential environmental impacts before application
- Never use pesticide containers for any other use and should be properly disposed to an engineered land fill facility
- Avoid pest infestation of stored feed ingredients by frequent inspection and following prompt interventions.

6. Administrative mechanism

In the absence of any specific registration procedure in the country to enumerate the poultry farms, their size and nature of operations, the following are recommended:

- The hatcheries of any size which are performing this exclusive operation, feed mills of any capacity and the commercial poultry farms which are handling more than 5,000 birds at a given time on any single location need to be got registered with local bodies.

12/01/2

- The poultry farms which are handling 1,00,000 or more birds at a given time in single location need to approach State Pollution Control Board to obtain necessary Consent for Operation under Water Act, 1976.
-

Siting Criteria (For New Poultry Farms)

1. The poultry farm should not be located within
 - 500 m from residential zone
 - 200 m from major water course like River, Lake and Canals
 - 500 m from any major drinking water reservoir on catchment side.
 - 100 m from any drinking water source like wells, summer storage tanks, other tanks
 - 500 m from nearby poultry, dairy or another livestock enterprises or industry
 - 150-200 m from National Highway (NH)
 - 100 m from State Highway (SH)
 - 10-15 m from rural roads/internal roads/village pagdandis
2. The poultry sheds should not be located within
 - 10 m from farm boundary
3. The poultry sheds should be positioned
 - on East to West direction
 - at least 2 m above the water table
 - at least 0.5 m above ground level

Revised August, 2015

**General Guidelines
for
Biosecurity
at
Central Poultry Development
Organizations**
(Basic Tenets can be applied to State Poultry Farms and
Private Poultry Farms)

**Department of Animal Husbandry, Dairying & Fisheries
Ministry of Agriculture and Farmers' Welfare
Government of India
2015**

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General Guidelines for Biosecurity at Central Poultry Development Organizations

Executive Summary

Biosecurity is an integrated approach encompassing policy and regulatory frameworks to analyze and manage risks in the areas of animal health and food safety, including associated environmental risk. The liberalization of global trade in agriculture since 90's has brought in many challenges apart from opening up new avenues for growth and diversification. Pests do not recognize geographical boundaries and liberalization of trade has opened new routes for animal diseases and pests through import of animal (livestock, poultry) and animal products. Many of the pests have a potential to establish and to cause serious economic losses.

2. An integrated biosecurity programme is an application on logical and sound principles specific to an enterprise, monitoring of disease status, evaluation of ongoing poultry farm operations on continuous basis with an objective to contain the diseases at bare minimum level.

3. The farms should strive to maximise the benefits achievable through effective biosecurity and to be consistent with HACCP (Hazard Analysis, Critical Control Points) principles which can be developed easily. For this, the CPDO&TI(SR), Hessarghatta may even design training modules and hold workshops based on demand from the States.

4. After lessons from Avian Influenza outbreaks at CPDO(ER), Bhubaneswar and CPDO&TI(SR), Hessarghatta and many other outbreaks across the country both in public and private farms, we must implement, as far as possible, an impeccable biosecurity plan to prevent any future disasters. These guidelines are proposed to act as roadmaps for keeping a close vigil and maintenance of biosecurity. They are structured under following heads:

- I. Farm Location and Design
- II. Restricted Access to Birds
 - a) Movement restriction in general at farm level
 - b) Movement restriction at poultry shed level
 - c) Restrict vehicle entry in the farm area
 - d) Restriction to visitors
 - e) Restriction to farm workers
 - f) Restriction to carriers of transmission of infection in the farm
 - g) Multiple Species rearing and precautions
- III. Isolation and quarantine of new birds
- IV. Cleaning and Sanitation
 - a) Cleaning and disinfection of farm equipments
 - b) Cleaning and disinfection of poultry houses
 - i. Complete or terminal house cleaning
 - ii. Partial/concurrent house cleaning
- V. Personnel hygiene
- VI. Hygienic disposal of poultry manure
- VII. Disposal of dead birds and other bio/ biomedical wastes
- VIII. Feed safety
- IX. Period of rest or Rearing of single age group

- X. Medication/ vaccination of birds
- XI. Flock profiling
- XII. For high risk/ Alarming situation
- XIII. Documentation and Record keeping
- XIV. General considerations for collection of infective/ suspected material for laboratory testing
- XV. Appendices

5. An indicative checklist for implementing an effective poultry biosecurity plan is also added for quick reference. Immediate report of abnormal mortality in poultry stock at following e-mail address:-

ahc-dadf@nic.in / rs.rana9@nic.in / jspf-dadf@nic.in / jcpoul@nic.in /
hansrajkhanna@yahoo.com / sujit.nayak@nic.in

6. Nearest RDDDL should also be informed to collect samples / material as per their norms and protocols for disease diagnosis both for on spot with the help of Kits and also for onward transmission to NIHSAD, Bhopal.

7. Immediately stop sale-purchase / inflow-outflow of all poultry products, feed or feed ingredients, etc, if disease is even suspected or diagnosed in any shed or farm till final test results of disease diagnosis is done and regarding Notified diseases / Avian Influenza after confirmation from designated / NIHSAD Bhopal.

8. Disposal of dead bird/s in a bio-secured manner and for Notified diseases as per the Action Plan issued by DADF, GOI.

9. If any mortality reported in wild bird / water birds / crows, etc in farm campus the Post Mortem of such birds must not be conducted at all in farm area. The Department and the RDDDL should be informed immediately and the RDDDL should be requested to collect the samples as per their protocol for diagnosis or for onward transmission to NIHSAD, Bhopal for diagnosis, as per the requirement to be decided by the competent authority.

10. If Avian Influenza or Notified disease is suspected or confirmed at any farm demobilize the staff of the farm with immediate effect.

11. Workshops may be conducted by all the CPDO's and State Farms on Bio-security and Action plan on Avian Influenza-2015 (also available on Department website : www.dahd.nic.in under the link Animal Health-Bird Flu) forwarded by the DADF with all staff of CPDO & CPPTC inviting speakers from the Departments of Poultry Science, Pathology, Medicine, Epidemiology, Veterinary public health from State Veterinary University / College and also from RDDDL from time to time. In such workshops the State Government officials may also be invited.

12. Whenever there is a modification or updation of the General Guidelines of Biosecurity or the Action Plan on Avian Influenza such workshop is to be conducted within 15 days from the date of Notification or issuance.

13. Further, guidelines may be modified according to other species and reference can also be made to the checklist for compartmentalization. The same is available at department's website.

14. The Prevention and Control of Infectious and Contagious Diseases in Animals Act, 2009 may also be seen for any necessary steps or measures required for compliance.

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Indicative Quick Checklist for Implementing an Effective Poultry Biosecurity Plan

Implementing any of these suggestions will reduce the risk of disease entry. Each additional step implemented will further reduce biosecurity risks.

1. Secure perimeter; Keep “restricted” signs posted at drive entrances
2. No trees or dense foliage around sheds, no roosting site for wild birds
3. Restrict entry to essential personnel and record entry.
4. Keep poultry houses locked; fasten from inside while inside.
5. Provide boots and coveralls for staff and visitors for each shed.
6. Staff should change into dedicated/disposable boots and coveralls upon entering each different shed. Clean footbaths may be appropriate within a shed if changed regularly.
7. When caring for flocks, the resident flock manager should keep clothing (including shoes, boots, hat and gloves) separate from those worn off the farm.
8. After caring for the flock, change clothes completely and wash hands and arms before leaving premises.
9. Flock manager and other caretakers should not visit any other poultry flocks.
10. If possible, provide show facilities for visitors.
11. Remove poultry mortality daily. Store or dispose them off by an approved method.
12. Ensure staff and visitors are aware of the dangers of raising or visiting other avian species and their contact with your flock.
13. Essential visitors such as owners, meter readers, service personnel, fuel and feed delivery drivers, and poultry catchers and haulers must wear protective outer clothing, including boots and headgear, before being allowed near the flocks.
14. Monitor vehicles entering premises for poultry pickup or delivery, feed delivery, fuel delivery, etc., to determine if they have been scrubbed down and the undercarriage and tyres spray-disinfected before entering.
15. Minimize entry of equipment, supplies, etc. and take appropriate precautions such as disinfection, removal from shipping boxes, etc.
16. Clean and disinfect all coops, crates and other poultry containers or equipment before and after use.
17. Maintain a strong vector control program for insect, mammalian and avian vectors. Maintain bait stations (bait stations must be numbered and a map kept of their location; bait stations must be placed at regular intervals around the sheds), clean up feed spills, prevent entry by wild animals (rats, birds, insects) or pets (dogs, cats). Use screens in windows, air inlets, doors feed bin exhausts etc.

18. Maintain minimal vegetation and no debris around poultry facilities to lessen food and shelter opportunities for vectors.
19. Ensure that feed, water and bedding sources are free from infectious agents.
20. Review your biosecurity plan and flock health program, including vaccination protocols, with veterinarian on a regular basis.
21. Sick or dying birds should be sent to a state laboratory for diagnosis. Commercial growers should contact their flock supervisor.

Major Routes for Disease and Pathogen Transmission

1. Poultry : transfer of birds from production area to other production area and dead bird disposal
2. Other animals : wild birds, feral and domestic animals, including other livestock and pets, insects, rodents—rats/mice etc., domestic birds
3. People: farm personnel and family members living on site; contractors, maintenance personnel, neighbours, serviceperson, visitors; disease can be transmitted by, for example, hands, boots, clothing, dirty hair etc.
4. Equipment: Feeders, waterers, nests, debeakers, vaccinators, sprayers, burners etc.
5. Vehicles: Feed Trucks, Product & waste collection vehicles
6. Air : transmission as an aerosol or dust
7. Water supply: water supplies may become contaminated with faeces from contact with avian or other animal species
8. Feed: feed may be contaminated by the raw materials used, post-production and during transport, or by exposure to rodents and birds on the property. Bacteria and mould in poor quality or damaged feed may also be a concern.

An integrated Biosecurity programme must be regarded as an application on logical and sound principles specific to enterprise, monitoring of disease status, evaluation of ongoing poultry farm operations on continuous basis with an objective to contain the diseases at bare minimum level.

The location and structural biosecurity principles are to be followed at the very beginning, while setting up the farm. Operational biosecurity measures in general revolve around three basic principles viz:

- I. isolation,
- II. traffic control and
- III. sanitation

Biosecurity and animal welfare:

It is of utmost importance that the birds must be free from stress for which overcrowding should be avoided, appropriate ventilation and temperature must be regulated to make the environment ambient. Cleanliness, good quality feed/ premix and potable drinking water must be ensured. These basic management measures will allay immunosuppression due to stress making the birds vulnerable to pathogens.

Biosecurity also ensures animal welfare to a great extent as observed by OIE also. Biosecurity means a set of measures designed to maintain a flock at a particular health status and to prevent the entry (or exit) of specific infectious agents. Biosecurity programmes should be designed and implemented, commensurate with the best possible flock health status and current disease risk (endemic and exotic or transboundary) that is specific to each epidemiological group of birds and in accordance with relevant recommendations found in the Terrestrial Code (OIE document).

Outcome-based measurable parameters may be incidence of diseases, metabolic disorders and parasitic infestations, mortality, performance etc.

I. Farm Location and Design:

Poultry farm maintaining the valuable germplasm should ideally be located at a well isolated site away from other farms. It should be located away from water bodies that can be source of water for wild birds and animals and these wild birds and animals and these wild birds ultimately may become source of infection to birds maintained in the farm. Ideally it should be located at least 1-2 km away from other commercial facilities.

1. The perimeter of the farm and hatchery must be secured with boundary wall and other measures. The production area must have a perimeter fence or otherwise well defined boundary (e.g. vegetation) establishing a clearly defined biosecurity zone.
2. Major critical points to ensure biosecurity must be displayed in regional and local languages at every different species unit.
3. Sign boards indicating 'Biosecurity area', 'visitors are not allowed' are to be displayed at breeding stocks and hatcheries of each species.
4. The farm should be designed in such a way that it has sufficient ventilation and should have access to sunlight. This will be necessary for reducing the build-up of infectious agents in poultry house apart from reducing the stress of accumulated gases.
5. Direction of long axis: This depends on geographical location of the farm. If the farm is located in cold region then the direction of long axis should be North-South. If the farm is located in hot and humid condition then it should be East-

West, if the farm is located in region with very high temperature in summer months, then long axis should be South-East.

6. Overhanging branches of trees over run-area of poultry like turkey, ducks etc. should strictly be pruned/ removed to avoid falling of droppings of feral birds. Ideally no dense foliage and trees should be there.
7. Ensure bird-proofing nets in all units to prevent entry of small feral birds into sheds
8. Cover any open drains to avoid attraction of wild animals
9. There should be no roosting site for wild birds
10. There should be proper drainage facility and water should not stagnate. The production area should be adequately drained to prevent accumulation and stagnation of water likely to attract other birds, especially in the areas around sheds and range areas.
11. Houses should be provided with concrete floor for easy and proper cleaning.
12. Foot dips of uniform size must be provided at the entry of all the poultry sheds and preferably use 50% lime powder + 50% Bleaching powder
13. Ideally, lay out of the farm should be such that at farm entry point brooder shed should be followed by shed for growers and lastly for adult birds. Similar pattern should be followed for drainage system also from brooding to adult shed.
14. Hatchery should be located at least 500 ft. away from other sheds.
15. Bird reflectors may be used alongwith high frequency sound devices to divert the birds away by sound waves
16. From biosecurity point of view, distance between two different sheds of same type should be 30 ft. and of different type should be 100ft.
17. Roads should be of concrete material so that transport of organisms with shoes and tyres can be reduced.
18. Facility for post-mortem examination near to the incinerators and separate laboratory with suitable facilities and manpower are also required for regular monitoring and surveillance of diseases at the farm level.
19. There should be single window system for sale of all poultry & poultry products with sale counter at gate. Client and their vehicle should not be allowed in any case to visit farm or hatchery.
20. The Sale Counter for the sale of poultry & hatchery products should be arranged at the entrance gate to avoid entry of commercial vehicle in the campus.
21. One demonstration shed may be constructed near the laboratory side for demonstration regarding poultry and other avian species to the poultry farmers and other trainees.

II. Restricted Access to Birds:

It means restricting access to a farm by employing fences and enclosures which creates a barrier between clean areas where poultry are kept and outside environment and it is the most important biosecurity measures for restricting source of infection away from farm and even from the infected farm to other non-infected farm. Movement restriction should be

applied both at farm as well as at shed level. CCTV, if required, in the whole campus to monitor & supervise the activities in the campus is recommended.

i) Movement restriction in general at farm level:

1. As far as possible, separate personnel must be made available to each species of poultry to avoid frequent movement between different species units.
2. All the farms should be provided with fence to protect the entry of persons, vehicles, animals etc.
3. Entrance should be forbidden to everyone. The poultry farms can only be entered with the permission of the farm manager or appointed responsible.
4. Permit the access on the farm only to those people that are necessary on the farm e.g. personnel, veterinary services.
5. It should be kept in mind that visiting two different farms within 24 hr should be avoided. If necessary, showering in between visits is highly recommended. Similar instructions should be applied to the team of persons who catch and load poultry.
6. To improve control on the access of the farm, there should only be one entrance and one exit. The road used for such personnel should be cleaned and disinfected daily.
7. At the entry point of the farm, provide boot and wheel dip baths filled with an effective disinfectant. It should be ensured that the baths are renewed on daily basis.
8. Farm/ production area entry-point: there should be facility for changing room with hand washing facility (if required, showering facility may be provided).
9. On clean side, there should be facility to put on clean clothes and boots and after use they should be left out in the changing room, and while exiting, put on the clothes which the individual was wearing before the entry into the changing room.

ii) Movement restriction at poultry shed level:

1. Keep the shed locked at all times.
2. Footwear dedicated for that shed, Foot-dips and handwash at entrance of every shed should be provided for. If felt necessary, farms may have higher norms, like having change room and shower facility even at shed level.
3. It should be ensured that all materials, drugs, vaccines etc., are cleaned and disinfected and they should be have passed a quarantine storage period of 10 days in a especially designed storage room which should be cleaned regularly.
4. All material used in farm operations should be cleaned and disinfected before and after use.

5. Every shed should be provided foot dips at entrance and exit and it should be ensured that the dips are renewed on daily basis.
6. Fogging of the populated sheds should be a part of a prevention programme to minimize the risk of contamination. The disinfectant should be used with right dilution as per manufacture's direction.

iii) Restrict vehicle entry in the farm area:

Since many poultry diseases are known to be spread by transportation and thus it is of paramount importance to clean and disinfect vehicles before entry into farm premises.

1. Provision of wheel dip and walk way for personnel is required at the entrance
2. Person doing cleaning and disinfection of vehicles should wear clean and disinfected clothing.
3. It should be ensured to remove all dry litter, straw, mud from all surfaces, wheel arches etc.
4. Remove all equipment from the vehicle that can be dismantled and cannot be cleaned on the spot.
5. For cleaning purpose, use a powerful car and truck cleaning product to soak all surfaces. Attention should be paid to wheels, ceilings; lifts etc and then leave it for 15 to 30 minutes.
6. Clean the removed equipment and other tools of vehicles with a proper detergent. After soaking for some time, rinse all surfaces and equipments under high pressure. It should be ensured that no organic material remain on the vehicle with detergent safe for the vehicle and effective at all temperatures.
7. During disinfection operations, disinfect all surfaces inside and out with the disinfectant. Work your way down from the top to bottom and attention should be paid to cracks and wheels. It should also be ensured that underside of the vehicle also get disinfected.
8. Then move the vehicle to a clean and disinfected place to let it drain and for drying.
9. Apply restrictions on the movement of driver.
10. All feed delivery vehicles should be kept clean before loading the feed
11. Transport the feed first to the young flock and then to the older flock.
12. Drivers not to enter poultry houses under any circumstances.
13. Drivers to spray soles of shoes and floorboard of vehicle with disinfectant after every delivery.
14. Wash hands with disinfectant solution before leaving for another shed.

iv) Restriction to visitors:

1. Allow only essential people to contact the poultry kept in the farm.

2. Build a separate demonstration area and birds kept there should not later be stocked with shed-house birds.
3. If visitors have their birds of their own do not allow them to come near to the birds.
4. Allow entry of the visitors in essential situation after taking all biosecurity measures at farm entry as well after entry into the shed. These measures should include footbaths at the entry of farm and then at shed level, every visitor may change clothes/cap/footwear, (go through shower-in policy if required) and wear clean and disinfected clothes/ cap and boots. Specific coveralls and footwear for visitors are also to be provided.

v) Restriction to farm workers:

1. At the outset train the farm workers about the basic tenets of biosecurity
2. Allow only the employees of that farm to handle the birds on a day-to-day basis.
3. Make sure that employees should not have a commercial or private bird operation as they may transmit disease to the birds kept at the farm.
4. Do not allow farm workers to visit any other poultry farm or places where birds are kept. Similarly, the farm workers should not be allowed to visit the bird shows or bird fairs.
5. Workers engaged in rearing of one poultry species should not be allowed to visit other farms where different poultry species is being reared.
6. All the farm workers should be allowed in the farm after going through all the biosecurity measures as mentioned for visitors.
7. All the farm workers must put off their clothes and boots after finishing their jobs and should go through shower-out policy.
8. All workers must wear clean and disinfected clothes during farm operations.
9. Frequent washing of hands with detergent or soap with sufficient contact time should be encouraged in day to day farm operations.

vi) Restricting carriers of transmission of infection in the farm:

Some of the mechanical carriers of infection should be restricted to enter into the farm building.

1. Prevent the entry of introduction of new birds to a previously infected poultry house at least for 3 weeks after clean out.
2. Wild birds – resident fowl or migratory birds – should have no contact with the flock through the use of screens or overlying nets.
3. Bird reflectors/ solar fencing may be considered.
4. There should be insect control programme in place since flies of several species are important in transfer of certain pathogens.

5. Rodents have also been implicated in the transfer of infection. Therefore, control and preventing their movements between houses on a single premise are essential.
6. Steps should be taken to prevent the accumulation of stagnant water. Since such water bodies can serve as source of water to migratory waterfowl and shore birds.
7. Limit sources of food for wild and free flying birds.

vii) Multiple Species rearing and precautions:

The specific guidelines for keeping multiple species are to be further deliberated. However, the following thumb rules may be kept in mind:

1. Poultry units should be distantly located or well bifurcated from each other.
2. Separate hatchery for each species may be considered.
3. Provision of separate feed storage facility at units of different species may also be considered.
4. Equipment meant for different species of birds should be separate.
5. Provision of all-round spray system of disinfectants at the entry of each species units
6. Exclusive infrastructure facility is essential to rear each species separately and to follow all-in all-out system

III. Isolation and quarantine of new birds:

Isolation and quarantine of new birds is necessary in a separate place and enclosure so that infectious agents which may be there in the newly introduced birds may be detected before introduction of these birds with other flocks.

1. If the birds have been used for a show or a fair, keep them isolated from rest of the flock for 21 days after the event and observe for signs of any disease.
2. New birds should be kept separate from old stock for at least 21 days and they should be observed for any disease symptoms and samples (blood, faecal, swabs) should be collected for thorough investigation before mixing to the already existing old stock.
3. It should be ensured that shed houses birds of same age group, even if farm consists of birds of different age group.
4. Pest proofing is recommended before restocking

IV. Cleaning and Sanitation:

General Points

1. Effective cleaning and disinfection is an essential component of good hygiene and thus one of the key biosecurity measures for disease control. This should be carried out from time to time to reduce the build-up of pathogenic organisms and a disinfectant known to be effective against a large range of pathogens should be used regularly for prevention of ingress of the infection. It should address the disinfection of materials.
2. Approved disinfectants like chlorine dioxide and peracetic acid for disinfection or sterilization may be used.
3. Farm equipment entering the farm, cleanliness of personnel on the farm, disposal of dead birds and poultry manure and sanitizing the drinking water should be paid attention.
4. The area around poultry sheds should be kept clean from vegetation, food waste, plastic bottles, glass bottles, tins or drums.
5. Water Testing should be done at regular intervals.
6. Proper ventilation with adequate air flow in all sheds is recommended.
7. Regular testing of Microbial load – at different places is recommended

a) Cleaning and disinfection of farm equipments:

1. Feeding pans and drinking equipment used in the shed area should be kept clean daily.
2. Scrubbing should be done and then application of hot water followed by disinfection with an effective disinfectant.
3. Make sure all equipments that had contact with the poultry, lawn, garden and poultry equipments are washed and disinfected before taken to another place. The same should be followed where some equipment are to be brought into the farm.
4. Keeping the shed equipments clean prevents pathogens from accumulating and causing health problems. Cages, if there, should be disinfected at regular intervals. They may be left in the sun and then they may be disinfected but it is essential to remove manure before disinfecting cages. Disinfectant will not work if there is still manure present on items.
5. Newly purchased equipments should be thoroughly washed with soapy water or otherwise should be disinfected before use.
6. Newly purchased cages should also be subjected to washing with soapy water or should be disinfected.
7. Poultry equipments such as egg crates, cages, shovels or rakes, should not be shared between family or neighbouring farms. Plastic or metal equipment may be preferred over wooden material.
8. Clean feeder and waterers daily.

b) Cleaning and disinfection of poultry houses:

House cleaning is the most arduous phase of bio-security and it can be divided in two types:

I. Complete or terminal house cleaning: This is practiced after removal of flock and the following points should be given consideration.

1. After removing the flock, remove the left over feathers, droppings, litter etc. It should be then followed by complete disinfection of the shed. Firstly the house should be fumigated and then it should be subjected to an effective disinfection. Keep the shed empty for a minimum period of 10 days before arrival of new flock.
2. Before introduction of new flock it should be ensured that there should be no extra moisture in litter, otherwise chances of fungal growth are more.

II. Partial/concurrent house cleaning: This type of cleaning is done while the birds remain inside the house with following considerations:

1. Thoroughly clean the fans and it should be a regular feature.
2. Sweep the house from top to bottom.
3. Remove the caked litter from the house, or forking with some drying agent.
4. Place the clean litter in the house, or top dressing may be done.
5. Regularly disinfect the brooder guards, feeders, jugs, drinking water containers using iodophores and 5% sodium hypochlorite. Other chemical effective like sodium dodecyl sulphate, formalin and iodine compounds can also be used.
6. Regularly sanitize the drinking water. Drinking water for poultry, as well as cooling water used in poultry sheds, must meet appropriate water standards. Water that does not meet the standard must be treated (e.g. chlorination, iodine) to ensure that the standard is met.
7. Proportion of disinfectant added must be displayed at the entrance of each shed/ hatchery.

V. Personnel hygiene:

1. Specific over all clothing for employees must be provided.
2. Wash hands thoroughly before and after entering the farm area. Washing of hands can be done with soap or detergents with contact time of 10 minutes.
3. Wear clean clothes or coveralls while working with birds in the farm. The clothes should be washable with laundry detergent. Preferably for this purpose

detergents or oxidizing agents (sodium hypochlorite dilute to give 2-3% available chlorine @ 2% with contact time of 10 minutes) and alkali (sodium hydroxide 2% solution or sodium carbonate anhydrous 4% solution with 10-30 minutes contact time) can be used, especially at the entrance on foot mats to clean the shoes gumboots and other items. Dirty clothes should be washed with detergent and hung out to dry in the sun. Quaternary-ammonium salts can be used for the treatment of walls, floors, ceilings and equipment, Cresolic-acid 2.2% solution or Synthetic phenols 2% solution can be used for the treatment of floors.

4. Since disease in poultry can be transmitted easily through boots, therefore, boots should be used after cleaning and disinfection. The best approach would be disinfecting footwear before and after working with birds or keeping a separate pair of shoes to work around birds and changing into other shoes when leaving the premise. The person should use coveralls, which can be removed and cleaned when leaving the premise. Boots should be washed in chlorinated water or with soapy water. Also scrub boots while entering and existing.
5. When the care personnel needs to attend to chickens or other poultry (e.g. collecting eggs, feeding or watering, change of bedding or repair of fencing material), a change of clothes/ boots is required.
6. Medical check up of all workers coming in contact with livestock and feed should be done.

VI. Hygienic disposal of poultry manure:

1. Use of poultry manure and other poultry by-products such as feathers in agriculture and aquaculture as fertilizer and in untreated form as food for pigs and fish may serve as source of infection as many viruses may not be deactivated for several weeks inside the organic matter such as faeces.
2. Poultry manure should be left undisturbed for at least 90 days and then can be used as fertilizer. High risk farming practices such as use of contaminated water and recycling of poultry waste without treatment should be stopped.
3. Effluent generated from poultry processing of manure can also be disposed off after treatment with acids such as hypochloric acid 2% or citric acid 0.2% or with alkali treatment such as Sod. Hydroxide 2% or sodium carbonate anhydrous 4%.

VII. Disposal of dead birds and other bio/ biomedical wastes:

Dead birds should be removed quickly and properly, to ensure no contact with other birds which will be helpful in removing the source of infected foci to poultry as well as to handlers. The best way to dispose off dead birds is by rendering, burial or incineration.

Other wastes generated are: Litter waste – Shed cleanout with poultry manure and bedding materials, hatchery waste, Biomass wastes like fallen tree leaves, twigs etc.,

biomedical wastes like syringe, needle, swabs, empty vials and other used chemical containers.

Incineration, rendering, boiling, fermentation, composting, enzyme or sodium hydroxide treatment, autoclaving are some of the methods of destruction which may be followed.

The Bio-Medical Waste (Management & Handling) Rules, 1998 under Environment (Protection) Act, 1986 should be referred for appropriate disposal of some biomedical wastes.

VIII. Feed safety:

Feed Safety Objectives make use of principles that relate to animal health, farm practices and human food safety objectives for products of animal origin. Particular emphasis should be on the types of feed used in relation to feed borne animal diseases caused by infectious and chemical agents and on the relationship between animal feed and zoonotic foodborne diseases. To produce safe animal feed, a pro-active control system is advocated. This approach has been very successful in relation to human food and involves the use of Good Manufacturing Practices (GMP) and the Hazard Analysis Critical Control Point (HACCP) concept as the main tools.

A critical control point in a feed production process can be defined as a location, practice or procedure where hazards can be minimised or reduced to an acceptable level. Therefore, the identification of CCP's in a feed production process is an important step in the control of such hazards. There are various means for controlling potentially hazardous bacteria and chemical agents in feed production processes. Suitable control of hazardous chemical agents can be achieved by setting appropriate criteria for raw materials. Hazardous microorganisms can be inactivated by e.g. heating or irradiation, while acidification of feed and use of controlled storage conditions, etc. may also be of value. In some cases stabilisation of microbial levels i.e. prevention of growth, may be sufficient. Stabilisation can be achieved by adjusting the formulation to give a low aW (water activity), pH, etc. Such measures not only stabilize bacterial populations, but can also reduce the numbers of any pathogens present. In nutshell, there are several options to produce safe animal feed. They comprise of: setting requirements (criteria) for the raw materials used; setting criteria for processing (e.g. heat treatment); composition of the feed material (e.g. pH, aW); setting storage conditions etc.

Feed and feed ingredients business operators and other relevant parts of industry should practice self-regulation to secure compliance with required standards for procurement, handling, storage, processing, distribution and use. Operators have full responsibility for implementing systems for quality control. The Competent Authority should verify that process control systems and safety standards achieve all regulatory requirements.

Some examples of attaining Feed Safety Objectives are:

1. Subject to financial and practical considerations, feed should be pelleted to achieve pasteurization. This requires a temperature of 82⁰ C for at least 30 seconds to eliminate enteric bacteria. Maintaining Good Manufacturing Practices and careful monitoring of the pelleting process will reduce the probability of infection.
2. Either feed plant personnel should be trained in the selection, application or control of pesticides and rodenticides, or a licensed applicator should be used. This may reduce the probability of accidental contamination of feed or contravention of regulations.

IX. Period of rest and rearing of single age group:

One disease prevention measure that can be instituted in the farm is the method of practice of all-in all-out system. This method envisages a complete growth cycle of chickens (or other species) from the period of introduction as in day-old-chicks all the way till the birds are marketed.

The all in-all-out system should be followed in poultry farms maintaining the important germplasms. This system provides considerable advantages in the disease control. Using this system, proper sanitary practices can be effectively carried out, coupled with necessary resting period of the building to ensure no infectious agents are carried over from one batch to another. Birds of multiple ages kept on the same premise/shed constitute a serious disease potential from such birds and recovered carriers, especially when birds of different ages are closely associated together.

End of batch procedures:

1. After final pick-up, the shed doors must be kept closed except during litter removal. After washing and fumigating/ disinfecting with a suitable disinfectant, shed doors must be kept closed. If drying is a problem, ventilate using fans or bird wire screens in shed doorways. Wild birds must be kept out after disinfection.
2. Litter and manure must not be stockpiled in the production area. Litter and manure must be stored in an appropriately designed storage area, off the production area, with sufficient buffering zone from the bird sheds and enclosures.
3. It is also important to allow sufficient downtime in between flocks. A free period of atleast 10 days should be given after destocking before arrival of new batch.

X. Medication/ vaccination of birds:

The birds should be provided certain medicines and essential vaccines regularly, which can boost immunity such as vitamins, trace minerals and proteins. Deficiency of these will not only lead to decreased production but there will be more chances of getting infection in flock with low level of immunity. Anti-stress medication during hot weather and other stressed conditions may be given.

XI. Flock profiling:

1. Analysis of feed for mycotoxins or other toxic components should be a part of regular biosecurity measures.
2. Environmental monitoring of Salmonella in poultry house should also be carried out regularly.
3. Isolation, identification and antibiogram of pathogenic organisms should be a part of biosecurity measures.
4. Stress reducing measures should be part of regular biosecurity measures. Controlling environmental temperature is most important for removing summer stress.
5. Person working with poultry operation should be educated about the disease, its transmission and prevention measures.

XII. For high risk/ Alarming situation:

1. Self quarantine upon the suspicion of an infectious disease - No movement of poultry, eggs, dead carcass, manure, farm machinery, and equipment should be allowed within the affected shed area and to outside/other sheds area.
2. Immediately adopt enhanced biosecurity protocols for unaffected sheds.
3. Treat dead birds as infectious material and dispose off accordingly.
4. Dedicate specific employees to the affected shed(s).
5. The farm personnel should wear protective clothing all the time inside the farm, including face-masks & gloves, gumboots.
6. Follow strict personal biosecurity procedures while leaving the farm.
7. Immediately restrict on and off-farm access by locking gates.
8. Suspend all unnecessary traffic – no vehicle should be allowed to ply in & out in the farm. Personal vehicle should be left outside the farm premises.
9. Disinfection procedures should be strictly applied at the entrance and around the premises.
10. Immediate reporting of the unusual mortality & sickness of the birds in the farm to nearest Government Veterinary Officer/ Ministry.

XIII. Documentation and Record keeping (indicative list)

1. Outlay / map of the entire farm with clear demarcation of clean and dirty areas with unidirectional approach (one-way route) roads/ access points-roads and gates/ clean-dirty water demarcation etc. – all colour codes should be displayed in office with Critical Control Points clearly marked and should be kept up-to-date.
2. Personnel roster- shed-wise/ entry/exit time; duty /job chart-cleaning of shed, feeding pans/ watering channels, cage cleaning, litter turning etc.
3. Visitor's entry log
4. Vehicle entry log
5. Disinfectant spray schedule for houses; wheel/ foot-dip change roster
6. Trace-in and Trace-out for both consignments (chicks/ Hatching Eggs etc.)arrivals and transfers respectively
7. Log for feed / equipment arrival and allocation shed-wise, in hatchery/ disinfection of equipment
8. Health check-up and cleanliness check-up schedules for personnel
9. Vaccination and health register/ record
10. Schedule for vector/ rodent control program & monitoring
11. Record of dead bird disposal, hatchery waste disposal/ manure disposal
12. Water sanitization schedule / water testing frequency
13. Microbial load testing frequency in different areas- schedule of testing for ensuring freedom status from Salmonella, Coli and Clostridium species
14. Salmonella testing schedule
15. Shed cleaning/ disinfection/ fumigation schedule
16. Record of separate sheds having single age group stocks etc.
17. Feed Testing schedule

XIV. General considerations for collection of infective/ suspected material for laboratory testing

1. The diseases most commonly encountered in are of bacterial, viral, parasitic, fungal and metabolic origin. Diagnosis based on symptoms and laboratory examination of the relevant materials is essential for initiating treatment at the proper time. In general, the following points should be duly considered while collecting materials for laboratory diagnosis.

2. All materials collected should be accompanied with full history of disease outbreak namely species affected, duration of disease, clinical signs, morbidity and mortality rates, disease suspected etc.
3. The collected biological specimens should be transported on ice to the nearest laboratory as early as possible.
4. Materials collected for bacteriological examination should be kept at refrigeration temperature (4° C) in case of delay of transportation. If a viral etiology is suspected, the material can be stored at –20 to -80° C.
5. When sero-diagnosis is required, collect paired serum samples (about 2 ml sera). One serum sample should be collected at the onset of disease and second sera after recovery (3-4 weeks) from disease preferably on 21st day.
6. If death is reported, the post-mortem examination should be conducted at the earliest as putrefied materials are unfit for laboratory examination.
7. Detailed post-mortem report should be attached along with the samples collected during postmortem.
8. The different virological transport media that can be used are 50% Phosphate Buffered Glycerine Saline and Phosphate Buffer Saline (pH 7.2-7.4). Collect samples in sterile containers when a transport media is not available and put them on ice as early as possible.
9. For histopathological studies, tissues should be preserved in 10% formalin. The volume of formalin used should be approximately 10 times the volume of material. Specimen bottles with wide mouth should be used for collecting tissues.
10. The specimen bottles should be sealed well so as to avoid leakage and kept clearly indicating the fixative/transport media used.
11. All the impression smears before keeping, should be fixed in methanol for 1-5 minutes unless otherwise specified.
12. In case of outbreaks, try to collect materials from as many ailing animals (5-6 or more) as possible at the height of body temperature /clinical signs.

Action Plan for Prevention, Control & Containment of Avian Influenza (Revised – 2015) may be referred to specific sample collection, processing and despatch methodology in case of avian influenza.

APPENDIX-I

Entry conditions for visitors to poultry shed and/or range areas

Entry to Poultry farms/ sheds should be subject to the following conditions:

<ul style="list-style-type: none">• Visitors should not keep poultry, caged birds or pigs at home.
<ul style="list-style-type: none">• Visitors must not have been in contact with any avian species or untreated poultry manure on the same day, unless a full head-to-head shower and a change of protective clothing have been carried out.
<ul style="list-style-type: none">• Visitors must wear protective clothing provided.
<ul style="list-style-type: none">• Visitors must wear protective boots/foot coverings.
<ul style="list-style-type: none">• Visitors must sanitize boots in the footbath provided on entering production area /shed, or change into a separate pair of shed boots.
<ul style="list-style-type: none">• Visitors must sanitize hands before entering sheds .

Model Format for record/ log keeping of visitors:

Date	Name	Company	Poultry Contact in last 48 hours	Reason for visit	Time in	Signature	Time out	Signature
------	------	---------	----------------------------------	------------------	---------	-----------	----------	-----------

WATER QUALITY

DO'S AND DON'TS OF WATER MANAGEMENT

DO'S	DON'TS
Clean drinker twice a day	Do not store water more than one day in shed water tank
Maintain water tank under shade	Do not administer water in bent pipelines
Store water sanitizers in cool and dark places	Do not keep Water sanitizers on top of the tank
Daily check out for water sanitizers available in store (Quantity and quality)	Check the compatibility of medicine in drinking water with sanitizer used
Clean the drinker after raking the litter	Do not multi source water to the birds

WATER SANITATION RECORD				
Date	Time	Test Result (e.g. ppm of free available chlorine)	Corrective action	Name / initials

APPENDIX-III

Illustrative formats for concurrent biosecurity monitoring/ in-house auditing

A.	Documentation and training	Yes	No	N/A	Corrective action
A1.	Is a copy of the current Biosecurity Manual held on the production area and readily available?				
A2.	Has staff been given instruction / suitable training in the relevant biosecurity procedures?				
A3.	Is a record kept of all relevant training received by employees?				
A4.	Is a bird mortality register being maintained?				
A5.	Is an appropriate bird movement register being maintained?				

B.	Facility standards	Yes	No	N/A	Corrective action
B1.	Does the production area have a perimeter fence and can access routes be closed off to prevent vehicle entry?				
B2.	Is there a sketch or map clearly defining the production area and the property, including all access roads and gates?				
B3.	Is there adequate signage to inform visitors of the Biosecure Area and what action they should take?				
B4.	Is there an off-site parking area for visitors?				
B5.	Are footbaths available and used at all entrances allowing personnel access to sheds?				
B6.	Are the footbaths inspected daily and replenished as required?				
B7.	Alternative to B5 and B6: is a separate pair of boots available and used for each poultry enclosure?				
B8.	Is the area around the sheds neat and tidy? E.g. grass, vegetation				
B9.	Are the sheds rodent proof? Is there a bait plan in position?				
B10.	Is hand sanitizer or washing facilities available and used at all entrances allowing personnel access to sheds?				
B11.	Are other livestock excluded from the production area or effectively restricted so that their faeces do not come in contact with poultry either directly or indirectly, e.g. water draining into poultry areas/ shed?				
B12.	Are the sheds wild bird proof?				
B13.	Are no other pet caged or aviary birds, pigs or any other animals held on the property?				

APPENDIX-III(Contd.)

C	Personnel standards	Yes	No	N/A	Corrective action
C1.	Is there a visitors' log book and are all production area visitors required to complete their details in the book?				
C2.	Are the conditions of entry to the production area visitors required to complete their details in the book?				

D	Water treatment	Yes	No	N/A	Corrective action
D1	Is there a Water sanitizing system in place for the production area?				
D2	Is the effectiveness of the sanitizing confirmed by independent microbiological testing on an annual basis if required?				

E.	Dead bird and bio-wastes disposal (including vaccine vials, needles, syringes etc.)	Yes	No	N/A	Corrective action
E1.	Is there an appropriate procedure in place for the disposal of dead birds and other bio-wastes?				
E2.	Is the procedure both environmentally sound and biosecure?				

F.	Health related records	Yes	No	N/A	Corrective action
F1.	Is vaccination record in place?				
F2.	Are the details of medication and other management procedures, post-mortem report, sale of culled birds recorded?				

F.	Species specific requirements	Yes	No	N/A	Specific action taken
F1.					

Notes:

POULTRY FARM MANUAL

A Reference Guide for Central & State Poultry Farms



**DEPARTMENT OF ANIMAL HUSBANDRY
DAIRYING AND FISHERIES**

MINISTRY OF AGRICULTURE AND FARMERS WELFARE

GOVERNMENT OF INDIA

Krishi Bhawan, New Delhi - 110 001

POULTRY FARM MANUAL

A REFERENCE GUIDE FOR CENTRAL & STATE POULTRY FARMS

2014-15



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POULTRY FARM MANUAL

A Reference Guide for Central & State Poultry Farms

Department of Animal Husbandry, Dairying & Fisheries,
Ministry of Agriculture and Farmers Welfare,
Government of India, Krishi Bhawan, New Delhi - 110 001

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Disclaimer:

Utmost care has been taken in compiling this Manual mainly drawing from the actual practices followed in Central Poultry Development Organisations (CPDOs). However, many general guidelines or SOPs practiced, in the poultry sector, both public and private, and pictures etc. have been drawn from various publications, literature, and online available material, some of which might not have been referred inadvertently or because proper reference / citation were not available.

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FOREWORD

It is reasonably well established and generally accepted that the Livestock Sector and Poultry have a major role to play in providing safe and healthy animal food/ protein for our growing population. The real challenge is to do this sustainably.

This is where the four Central Poultry Development Organizations (CPDOs), located in four regions of the country at Chandigarh, Bhubaneswar, Hessarghatta (Bengaluru) and Mumbai have a clear role to play. These CPDOs are our apex poultry farms, responsible for providing good quality low-input technology stocks and training to trainers and farmers in good poultry practices.

In this backdrop, there was a dire need for a Poultry Farm Manual, encompassing relevant Technical and Administrative activities and processes, to serve as a Reference Guide for not only our CPDOs but also State Poultry Farms. Some of the general tenets on breeding, feeding and nutrition, biosecurity, vaccination etc. may also be useful for entrepreneurs, students, academicians and other stakeholders. Many portions of this Manual are dynamic in nature and will need continual updating as per changing technological and farming practices and as per evolving requirements of trade, food safety, environment and pollution norms. This manual is therefore to be seen as a beginning. Congratulations for this outstanding effort are due to the team of officers and scientists of the Department and CPDOs under the leadership of Shri Sanjay Bhoosreddy, Joint Secretary.

(Anup Kumar Thakur)



संयुक्त सचिव
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PREFACE

The publication of this Poultry Farm Manual, would act as a Reference book for all Poultry Farms in public sector including Central Poultry Development Organizations (CPDOs). We have planned the Manual broadly in three parts: History & Planning, Technical and Administrative. The Technical Portion is applicable to most of other public sector farms besides CPDOs.

We have structured the History & Planning with anamnesis and vignettes of the CPDOs with future strategic planning; The technical part of the manual is a comprehensive document encompassing General Management, Breeding, Nutrition and Feeding, Feed Analysis, Hatchery Management, Health, Biosecurity, Training & Extension components. The disaster management chapter is just indicative and needs to be developed over time. The latest updates on Biosecurity guidelines including application of HACCP principles have been incorporated in this Manual.

The breeds and disease chapters have been attempted as a visual guide. We have also included the Central Poultry Performance Testing Center SOPs and protocols for Stock Testing- Layers and Broilers. The appendices give valuable information on maintenance of Records- List, Infrastructure Plan, Stock position Records, Trainee records, Costs and Prices, Post-Mortem format, Hatchery record Acts and Policies and Committees details etc.

The next section on Administration and Planning (including Establishment & Accounts) is envisaged with various information and documents on Organizational Set-up, Duties & Responsibilities, RRs, Delegation of Financial Powers, various Rosters, Service Books record details, Leave maintenance record, Store-keeping records, Tender Process followed (e-tendering), Machinery and Equipment inventory, etc.

Each of these chapters, it is felt, can be developed into full-fledged Manual but we are restricting the same so as not to make it formidable and more user-friendly. We further intend to add on newer developments germane to the poultry sector and your valuable feedback would be welcome


(Sanjay Bhoosreddy)



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This Poultry Farm Manual could be compiled due to inputs from many persons, who through their contributions, have put in the hands-on knowledge and field experiences so as to make this Manual more practicable.

I would like to specially mention Dr. A. Arun Kumar and Dr. Sujit Nayak for their dogged determination in compiling and editing this Manual with great care and enthusiasm.

Special thanks go to all those who gave their valuable technical inputs like Dr. Ravvi Kumarr, Dr. Bandi Kumar Mallik, Dr. P. S. Mahesh, Dr. Bharti Singh, Dr. S. Ganesan and Shri A. Gaffar.

Preparation of this Manual would not have been possible without the cooperation and hardwork of my team and all hands assisting them in providing and compiling all the valuable inputs.

Special acknowledgement is due to Dr. P.K.Shukla, Professor & HOD, DUVASU, Mathura for sparing his time in designing the chapters, proof reading and also for his invaluable inputs to this manual.

I look forward to continued concerted efforts of all in further evolving this Manual.

(P. Blahwar)
Joint Commissioner (Poultry)

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LIST OF ABBREVIATIONS USED

AI	Avian Influenza
AIA	Acid Insoluble Ash
ANF	Anti Nutritional Factor
BIS	Bureau of Indian Standards
CAC	Codex Alimentarius Commission
CARI	Central Avian Research Institute
CF	Crude Fibre
CP	Crude Protein
CPBF	Central Poultry Breeding Farm
CPCB	Central Pollution Control Board
CPDO	Central Poultry Development Organization
CPDO & TI	Central Poultry Development Organization & Training Institute
CPIO	Central Public Information Officer
CPPTC	Central Poultry Performance Testing Centre
CPTI	Central Poultry Training Institute
CTIPPM	Central Training Institute of Poultry Production & Management
DADF	Department of Animal Husbandry Dairying and Fisheries
DPR	Directorate of Poultry Research
EMI	Emergency Management Institute
FAO	Food and Agricultural Organization
FEMA	Federal Emergency Management Agency
GMP	Good Manufacturing Practices
GOI	Government of India
HACCP	Hazard Analysis Critical Control Point
ICAR	Indian Council of Agricultural Research
IPEMA	Indian Poultry Equipments Manufacturers Association
ISO	International Organization for Standardization

KAU	Kerala Agricultural University
ME	Metabolizable Energy
MoEF/MoEF&CC	Ministry of Environment and Forests & Climate Change
NIHSAD	National Institute of High Security Animal Diseases
NIR	Near Infrared Spectroscopy
NSP	Non Starch Polysaccharides
OIE	Office International des Epizooties
PCC	Pollution Control Committee
PMES	Performance Monitoring and Evaluation System
PPE	Personal Protective Equipment
QMS	Quality Management System
RDDL	Regional Disease Diagnostic Laboratory
RFAL	Regional Feed Analytical Laboratory
RFD	Result Framework Document
RIR	Rhode Island Red
RPE	Respiratory Protective Equipment
RRS	Reciprocal Recurrent Selection
RSLTU	Random Sample Laying Test Unit
RSPPTC	Regional Sample Poultry Performance Testing Centre
RTI	Right to Information
SOP	Standard Operating Procedure
SPCB	State Pollution Control Board
TA	Total Ash
TANUVAS	Tamil Nadu Veterinary and Animal Sciences University
TPI	Technical Project Institute
WHO	World Health Organization
WLH	White Leghorn

SECTION - 1

FARM HISTORY AND FUTURE PLANNING

Poultry rearing has always been an integral component of livestock production system in India. Poultry production in India has taken a quantum leap in the last four decades, emerging from an entirely unorganized and unscientific farming practice to a commercial production system with state-of-the-art technological interventions. Indian commercial poultry sector has advanced remarkably due to a scientific approach adopted by the industry and an enabling environment created by the Government. The Indian Poultry Sector is broadly divided into organized and unorganized sub-sectors. Needs for each of the sub-sectors are very different. Government of India is catering to the needs of each of the sub-sectors through development programs of Poultry Development and for entrepreneurship development. Central Poultry Development Organizations are playing a pivotal role in the coordination and dissemination of these developmental programs of the Government.

1. FARM HISTORY

The genesis of the Central Poultry Development Organizations (CPDOs) located at Chandigarh, Bhubaneswar and Mumbai, Central Poultry Development Organization & Training Institute, Bangalore and Central Poultry Performance Testing Centre, Gurgaon is briefly described as follows:

1.1. Regional Poultry Farms

1.1.1 During the first Five Year Plan a modest beginning towards commercial poultry-keeping was made in the First Plan (1951-55) with the launching of a pilot project in Odisha. The Odisha pilot project developed into an all India Poultry Development Programme during the Second Plan (1956-60) which marked the first large scale organized effort to lay the foundation of modern poultry farming in the country. Three Regional Poultry Breeding Farms at Hessarghatta (Bengaluru), Bhubaneswar and Bombay (Mumbai) were set up on regional basis to acclimatize the genetically superior stock imported in 1956 from America under the Technical Cooperation Mission and introduce them in different regions.

1.2. Central Poultry Breeding Farm, Chandigarh

1.2.1 This Organization was initially set up by the Punjab Government for the development of poultry in the state during 1963. After the reorganization of Punjab state on 1.11.1966, this institute came under the control of Chandigarh Administration in the name of Poultry Project, Chandigarh. It was further taken over by the Ministry of Agriculture, New Delhi on 1.4.1978 from the Chandigarh Administration under its direct administrative control and it was given the name of Central Poultry Breeding Farm, Chandigarh.

1.3. Central Poultry Breeding Farms

1.3.1 From 1973, the Regional Poultry Farms were renamed as Central Poultry

SECTION - 2

INFRASTRUCTURE PLAN

The demand for modern poultry infrastructure in India is fuelled by an increase in the size of the poultry farms. Previously poultry farms had production of only a few hundred birds (200-500 chickens) per cycle. However presently, poultry units with fewer than 5,000 birds are an exception with the majority of the farms breeding more than 500,000 birds. Similar is the case with layer poultry farms.

The Indian poultry equipment market is estimated at hundreds of millions of dollars and estimated to grow at 10 percent annually. Another factor that provides substantial stimulus to the poultry machinery industry is the rapid growth of the poultry processing industry. With increasing demand for quality poultry products, the adoption of better machinery to ensure quality has become very important to the Indian poultry units.

Barring a few items like egg graders, poultry processing equipment etc. most of the equipment are available / produced in the country. India is almost self-sufficient in indigenous production of most of the basic equipment like hatchers/ incubators, feeders, poultry houses, even environmentally controlled & pre-fabricated houses etc.

1. Basic tenets of Poultry farming

- 1.1 The location and design of the farm shall comply with the State Pollution Control Board.
- 1.2 The farm shall not be located at least 100 meters from any major water drinking source and 500 meters from any other livestock / poultry farm enterprise
- 1.3 The farm should be fenced with barbed wire/ concrete boundary wall upto height of 8 feet with appropriately secured entrance and outlet.
- 1.4 The farm shall raise green belt all round with minimum of two rows spaced apart of not more than 3 meters.
- 1.5 Proper drainage / outlet for collection and discharge shall be provided for storm runoff / waste discharges (possibly explore the tenet of rain water harvesting).
- 1.6 No obstruction shall be created for any water course within the farm or outside the farm boundary.

2. Basic tenets of Poultry housing

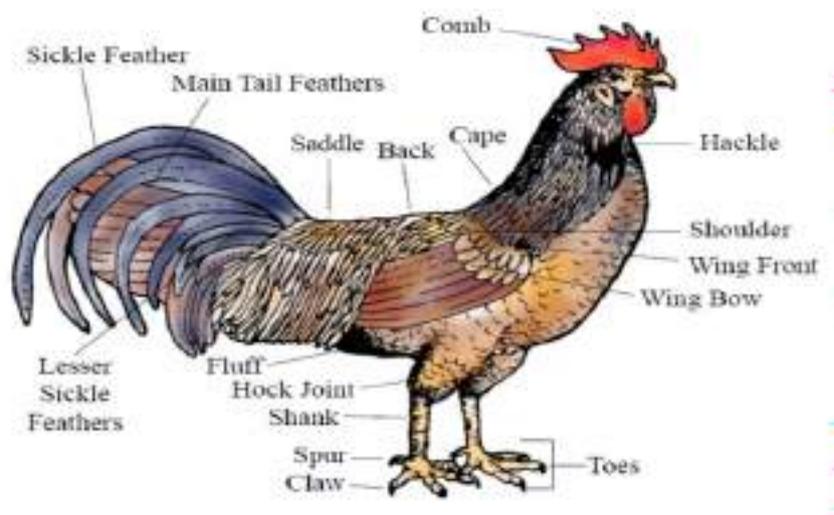
- 2.1 Shall be located on a fairly raised and properly drained site not liable to flooding.
- 2.2 The long axis of the house faced east-west direction, to avoid direct sunlight in areas which experience heat and draught in most part of the year. The long axis to be North-South if the farm is located in cold region
- 2.3 Length depends on number, type of birds and system of rearing. Width not to exceed 9m or 30ft) to avoid ammonia accumulation in the shed.

SECTION - 3

GENERAL MANAGEMENT

Poultry production is highly dynamic in terms of structural and management changes. In today's business environment, faster the ability to adapt to the changing system requirement, faster is the growth. However sustainability often requires dependence on other sectors like feed/ingredient inputs and processing facilities. In India, poultry sector growth may be attributed to many factors like rising incomes and a rapidly expanding middle class, together with the emergence of vertically integrated poultry producers that have reduced consumer prices by lowering production and marketing costs. Integrated production, market transition from live birds to chilled and frozen products, and policies that ensure supplies of competitively priced corn and soyabean are keys to future poultry industry growth in India. Further, disease surveillance, monitoring and control will also decide the fate of this sector. Concurrently, India's unorganised and backyard poultry sector is also one of the potent tools for subsidiary income generation for many landless/ marginal farmers and also provides nutritional security to the rural poor.

PARTS OF A ROOSTER



1. PREPARATION OF SHED BEFORE BROODING

- 1.1 Spray an insecticide just after the old birds have been removed.
- 1.2 Remove all the non-stationary equipment and residual feed from troughs and bins.
- 1.3 Eliminate all rodents and wild birds if any.
- 1.4 Remove all the manure, litter, feathers, cobwebs, dust, and any other organic materials by scrapping with hard brush.
- 1.5 Remove all weeds and rubbish from the area outside the house, burn feathers, etc.
- 1.6 Remove dust/ feathers from wire mesh, crevices, cracks, cages and floor using flame gun.

SECTION - 4 BREEDS

Definition of breeds vary and has been debated extensively. Largely we adopt the following version:

Breeds are either

- (a) *a sub-specific group of domestic livestock or birds with definable and identifiable external characteristics that enable it to be separated by visual appraisal from other similarly-defined groups within same species; or*
- (b) *a group for which geographical and/or cultural separation from phenotypically similar groups has led to acceptance of its separate identity.*

1. INDIGENOUS CHICKEN

Breed	Habitat	Characteristics
Aseel 	Andhra Pradesh	<p>A game bird known for its pugnacity, high stamina, majestic gait and dogged fighting qualities. Small but firmly set pea comb. Bright red wattles and ear lobes. Long and slender face devoid of feathers.</p> <p>Comb type: Pea Plumage colour: Red/ Black Skin colour: Yellow Egg shell colour: Brown Avg Annual production: 92 Avg Body wt.: Male 4 kg Female 2.59 kg</p>
Ankaleshwar 	Gujarat	<p>Small single combed bird well known for its hardiness but is poor in productivity</p> <p>Comb type: Single & Rose Plumage colour: Yellow with black strips Skin colour: Yellow Egg shell colour: Light Brown Avg Annual production: 81 Avg Body wt.: Male 1.8 kg Female 1.58kg</p>

SECTION - 5

BREEDING MANAGEMENT

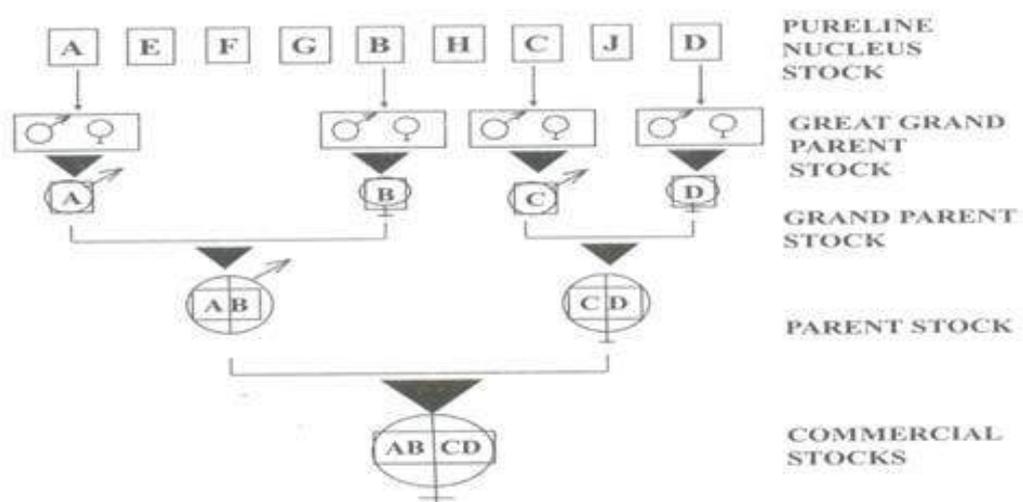
1. BREEDING SCHEMES

The production of commercial chicks does not happen by chance, but is the outcome of systematic and time consuming scientific breeding. Breeding is a never-ending search for perfection. Success in any breeding programme depends on the way a breeder exploits the natural variation in birds for making a proper selection of stock chosen for crossing. It takes approximately eight years to breed, select and develop a new genetic line, to rigorously test it under different condition and to launch it as a new commercial product.

2. GLOSSARY OF BREEDING

- 2.1 **PURELINE** is basic stock which produces hybrid, when crossed with other line or breed. Pure line and also produce multiplication of stock, grandparent and parent when mated according to a scheme.
- 2.2 **GRAND PARENT** are the pure line bird basically, but cannot be utilized either to produce pure line or grand parents, they can only produce parents.
- 2.3 **PARENT** can produce only commercial hybrid in specific combination with another line or breed.
- 2.4 **COMMERCIALS** are final hybrid reared either to produce egg or chicken.
- 2.5 **NONE** of the stock can physically recognized, the utility of grand parent, parent, commercial, is limited by the economical age of the birds and have to be produced from predecessor generation stock.

Flow Diagram Showing the Set Up of a Breeding Organization



SECTION - 6

NUTRITION AND FEEDING

Poultry convert feed into food products quickly and efficiently. Their high rate of productivity results in relatively high nutrient needs. Poultry require the presence of at least 38 nutrients in their diets in appropriate concentrations and balance. The minimal nutrient needs for poultry are derived from experimentally determined levels after an extensive review of data. Criteria used to determine the requirement for a given nutrient include growth, feed efficiency, egg production, prevention of deficiency symptoms, and quality of poultry product. These requirements assume that the nutrients are in a highly bioavailable form, and they do not include a margin of safety. Consequently, adjustments should be made based on bioavailability of nutrients in various feedstuffs. A margin of safety should be added based on changes in rates of feed intake due to environmental temperature or dietary energy content, genetic strain, husbandry conditions (especially the level of sanitation), and the presence of stressors including diseases and mycotoxins....

... Merck's Veterinary Manual

1 Forms of feed

- 1.1 Mash feed: Obtained by grinding and mixing of the raw materials. It is most commonly used feed, easy to prepare and economical
- 1.2 Pellet feed : Prepared by exposing the mash feed to heat treatment under pressure. The heat destroys the micro organisms and anti-nutritional factors in raw materials enabling the feed for better digestibility. This system of feed minimises the feed wastage.
- 1.3 Crumbles: the pellets are broken into granules. The feed preparation is little expensive compared to mash and pellets.

2. Feed ingredients used for Poultry

2.1 Energy Sources

Ingredient	Quality for check	Adulterants	Toxins
Maize 	Moisture max. 10% Freshness, Colour, size, weevils, moldy odour. Thiaram pesticide	Cobs, cob dust, sand, silica	Citrinin, Aflatoxin 

SECTION - 7

SAMPLING AND NUTRIENT ANALYSIS

Importance of nutrient analysis....

A nutritional deficiency may be due to a nutrient being omitted from the diet, adverse interaction between nutrients, or interaction between nutrients and specific anti-nutrients. The latter situations are difficult to diagnose, because on analysis the diet is found to contain a normal level of the nutrient under study. Micronutrients are often added to diets in the form of premixes, so it is rare to see classic individual deficiency symptoms—the effect is more commonly a compilation of many individual metabolic conditions. In many instances, a correct diagnosis can be made only by obtaining complete information about diet and management, clinical signs in the affected living birds, necropsies, and tissue analyses.

A diet that, by analysis, appears to contain just enough of one or more nutrients may actually be deficient to some degree in those nutrients. Stress (bacterial, parasitic, or viral infection, high or low temperature, etc) may either interfere with absorption of a nutrient or increase the quantity required. Thus, a toxin or microorganism, for example, may destroy or render unavailable to the bird a particular nutrient that is present in the diet at apparently adequate levels.

... Merck's Veterinary Manual

1. Sampling Procedures

1.1. General Requirement of Sampling

- a) In drawing preparing, storing and handling samples, care should be taken that the properties are not affected. The following precautions and directions shall be observed.
- b) Take samples in a protected place not exposed to damp air dust or soot.
- c) The sampling instrument shall be clean and dry when used.
- d) Protect the samples, the material being sampled, the sampling instrument and containers for samples from adventitious contamination.
- e) The samples shall be placed in clean and dry glass containers. The sample containers shall be of such a size that they are almost completely filled by the sample.
- f) Each container shall be sealed air-tight with a stopper or a suitable closer after filling in such a way that it is not possible to open and reseal it without detection, and marked with full details of sampling, date of sampling, batch or code number, name of the manufacturer and other imported particulars of the consignment.
- g) Sampling shall be stored in such a manner that there is no deterioration of the material.

SECTION - 8

GENERAL GUIDELINES FOR BIOSECURITY

(Basic Tenets can be applied to State Poultry Farms and Private Poultry Farms)

Biosecurity is an integrated approach encompassing policy and regulatory frameworks to analyze and manage risks in the areas of food safety, animal health, and plant health, including associated environmental risk. The liberalization of global trade in agriculture has brought in many challenges apart from opening up new avenues for growth and diversification of agriculture. Pests do not recognize geographical boundaries and liberalization of trade has opened new routes for entry of plant and animal diseases and pests through import of seeds/ planting material/ animal (livestock, poultry and aquatic) and animal products. Many of the pests have a potential to establish and to cause serious economic losses. Also, the invasions of ecosystems by invasive alien species, as well as the potential for bioterrorism demands that countries foster policies and develop technological capabilities to prevent, detect, and respond to incidents involving such acts.

1. Executive Summary

- 1.1. Biosecurity is an integrated approach encompassing policy and regulatory frameworks to analyze and manage risks in the areas of animal health and food safety, including associated environmental risk. The liberalization of global trade in agriculture since 90's has brought in many challenges apart from opening up new avenues for growth and diversification. Pests do not recognize geographical boundaries and liberalization of trade has opened new routes for animal diseases and pests through import of animal (livestock, poultry) and animal products. Many of the pests have a potential to establish and to cause serious economic losses.
- 1.2. An integrated biosecurity programme is an application on logical and sound principles specific to an enterprise, monitoring of disease status, evaluation of ongoing poultry farm operations on continuous basis with an objective to contain the diseases at bare minimum level.
- 1.3. The farms should strive to maximise the benefits achievable through effective biosecurity and to be consistent with HACCP (Hazard Analysis, Critical Control Points) principles which can be developed easily. For this, the CPDO&TI(SR), Hessarghatta may even design training modules and hold workshops based on demand from the States.
- 1.4. After lessons from Avian Influenza outbreaks at CPDO(ER), Bhubaneswar and CPDO&TI(SR), Hessarghatta and many other outbreaks across the country both in public and private farms, we must implement, as far as possible, an impeccable biosecurity plan to prevent any future disasters. These guidelines are proposed to

SECTION - 9

POULTRY HEALTH & DIAGNOSTICS

Animal health and human health are closely interlinked – more than sixty percent of the pathogens that cause diseases in humans originate from domestic or wild animals. In addition, both animals and humans are affected by, and affect, the environment in which they exist. Zoonotic pathogens may be transmitted to humans via food, through direct contact between animals and humans, or by other routes.

Further an unprecedented increase of movement of people and commodities worldwide, the increasing interactions of humans with the environment, deforestation, climate change and variability, urbanisation, the intensification of animal production in response to growing global demands for proteins of animal origin such as milk, eggs and meat, economic development, and the international trade in exotic pets are just some of the factors that have provided greater opportunity for transmission of pathogens between animal species and human .

The OIE seeks to strengthen activities aimed at consolidating the “One health” concept: it works in partnership with other world organisations to prevent, control and eradicate diseases existing at the interface between animals, humans and environment. It is therefore important to have a strategy which focuses on eradication at the animal source through the following key actions: early detection; early warning; rapid confirmation of suspects; rapid response; and rapid and transparent notification. It is therefore necessary to have a manual which outlines a harmonized approach to disease diagnosis by describing internationally agreed laboratory diagnostic techniques.

Poultry vaccines are widely applied to prevent and control contagious poultry diseases. Their use in poultry production is aimed at avoiding or minimising the emergence of clinical disease at farm level, thus increasing production. Vaccines and vaccination programmes vary broadly in regard to several local factors (e.g. type of production, local pattern of disease, costs and potential losses) and are generally managed by the poultry industry. In the last decade, the financial losses caused by the major epidemic diseases of poultry (avian influenza and Newcastle disease) have been enormous for both the commercial and the public sectors. Thus, vaccination should also be applied in the framework of poultry disease eradication programmes at national or regional levels under the official supervision of public Veterinary Services.

Various documents of OIE...

1. VACCINATION IN POULTRY

Vaccination is the inoculation of specific biological substance (antigen) to stimulate resistance or immunity to the birds against diseases

1.1. Types of vaccine

1.1.1. Live vaccines

1.1.1.1 Naturally occurring strains of micro organisms with low pathogenicity or attenuated strains.

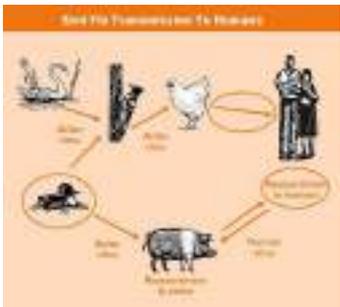
SECTION - 10 POULTRY DISEASES VISUAL GUIDE

1. BACTERIAL DISEASES

Name and etiology	Gross lesions	Post-Mortem lesions	Treatment & Control
<p>Fowl cholera</p> <p><i>Pasterulla multocida</i></p> <p>Common in adult laying flock</p> <p>Spread through contaminated feed and water</p>	  <p>Swelling of ear lobe/sinus</p> <p>Swollen wattles with cheesy exudate</p> <p>Ruffled feathers, bluish comb & wattle</p> <p>Difficulty in breathing</p>	    <p>Multiple necrotic areas in liver.</p> <p>Caseous exudates in sinus, wattles</p> <p>Intestinal haemorrhages, peritonitis</p>	<p>Enrofloxacin in water.</p> <p>Inj. Gentamycin in severe cases.</p> <p>Strict biosecurity, rodent control.</p> <p>Vaccination</p>

SECTION - 11

ZONOTIC DISEASES OF POULTRY

Diseases	Mode of Transmission to Human being	Signs in Human being	Risk control
<p>Avian In-fluenza</p>	<p>Direct contact with infected birds, contact with surfaces contaminated with feces, oral or nasal discharge from infected birds.</p> <p>Contaminated litter and surfaces such as egg collection containers</p> <p>Eating raw or undercooked poultry and poultry products.</p> 	<p>Clinical signs — include fever, sore throat, cough, muscle aches, eye infections and pneumonia and severe respiratory infections.</p> <p>Diagnosis — Laboratory confirmation of the virus in patient samples</p> <p>Treatment — antiviral drugs and supportive care</p>	<p>Wear gloves, mask and protective clothing, disinfect well.</p> <p>In suspected or confirmed cases personal protective equipment should be worn, including a fit tested FFP3 respirator, protective coveralls, gloves, boots and eye protection.</p> <p>Contaminated equipment should be disinfected with an appropriate disinfectant.</p> <p>Antivirals can be given to reduce the risk of infection for people who have been exposed to avian influenza.</p> <p>Good occupational hygiene practices should be followed, especially washing with warm water and soap.</p> <p>Cuts and abrasions should be covered with waterproof plasters.</p> <p>Ensure high hygienic standards (at farm and in public)</p> <p>If the authorities proclaim a state of alert, follow all official warnings and indications – as a precautionary measure, avoid crowded places and unnecessary human contact such as shaking hands. Cover your mouth and nose when coughing or sneezing</p>

SECTION 12

HATCHERY MANAGEMENT

There are certain basic tenets, which if followed, like frequent collection of eggs, point-down setting of egg, candling, setting eggs of same weight, shell thickness and quality monitoring, fumigation etc. which improve hatchability immensely. The indicators of sanitation and hygiene are also reflected in improved hatchability and quality of Day-Old-Chicks.

... observations of Shri. Sanjay Bhoosreddy, Joint Secretary (ANLM)

The design of the hatchery should take account of work flow and air circulation needs, with 'one way flow' movement of eggs and day-old birds and one way air flow in the same direction. The hatchery buildings should include physical separation of areas used for personnel changing, showering and sanitary facilities; receipt, storage and transfer of eggs; incubation; hatching; sorting, sexing and other handling of day-old birds; storage of egg boxes and boxes for day-old birds, egg flats, chick box liners, chemicals and other items; equipment washing; waste disposal; dining facilities for personnel; office space.

...Additional measures for hatcheriesOIE Terrestrial Animal Health Standards Commission / September 2011

The tables and figures in this section are indicative and local conditions and experience may require adoption of measures to achieve optimum hatchability / livability etc. This is broadly based on chickens (fowls) and necessary alterations are needed for other species. The micro-environment control in hatchery needs to be monitored closely.

1. Methods of hatching chicken eggs

1.1. Natural Incubation

1.1.2. Natural brooding by chicken

1.1.3. By using a natural heating source (e.g the sun)

1.2. Artificial Incubation

1.2.1. In an incubator (Setter and Hatcher)

1.3. The process of Artificial Incubation utilizes the principles of standard hatchery practices by all means to produce good quality and cost efficient chicks

2. HATCHERY OPERATIONS

2.1 The Standard Hatchery operations includes the following steps

2.1.1. HATCHING EGGS RECEIVING

2.1.2. FUMIGATION

2.1.3. GRADING, SELECTION AND TRAYING

2.1.4. STORAGE OF HATCHING EGGS IN COLD ROOM

2.1.5. LOADING IN SETTERS (SETTER ROOM MANAGEMENT)

2.1.6. TRANSFER TO HATCHERS (HATCHER ROOM MANAGEMENT)

2.1.7. CHICKS PULLOUT AND CHICKS ROOM

SECTION - 13

BIOWASTE MANAGEMENT

...Future of Bio-Wastes...

...The rapid expansion of poultry production has caused an increased production of poultry biowaste, i.e. (mainly) chicken manure. Improper use of chicken manure can result in pollution of air, soil and groundwater.

...Biowastes are eco-friendly to produce typical nanoparticles with well-defined chemical composition, size, and morphology. There are recent developments in the production of nanoparticles from biowastes e.g. eggs and shrimp peels etc.... Bioprocessing of nanoparticles from such resources with microbes such as bacteria, fungi and yeasts are being increasingly explored to meet the twin objectives of resource recycling and pollution mitigation.

... Nanoparticles from biowastes and microbes: Focus on role in water purification and food preservation...

by Mahgoub S. and Samaras P.

1.1 Poultry Farm Wastes

The wastes generated in Poultry farm are

- 1.1.1 Litter waste – Shed cleanout with poultry manure and bedding materials
- 1.1.2 Dead birds
- 1.1.3 Hatchery waste
- 1.1.4 Bio mass wastes like fallen tree leaves, twigs etc
- 1.1.5 Bio Medical wastes like syringe, needle, empty vials and other used chemical containers.

1.2. Management of Hatchery Waste

The waste from the hatchery can be classified as

- 1.2.1. Solid waste - Dead chicks, infertile whole eggs and shells from hatched eggs.
- 1.2.2. Liquid waste – Water used to wash down incubators, hatcher and chick room.

1.3. Separation of wastes

1.3.1 Solid wastes

- 1.3.1.1. Dry, very light shells in the hatcher can be removed by powerful suction vacuum.

SECTION - 14

DISASTER MANAGEMENT

Disaster management (or emergency management) is the effort of communities or businesses to plan for and coordinate all personnel and materials required to either mitigate the effects of, or recover from, natural or man-made disasters, or acts of terrorism. Disaster management does not avert or eliminate the threats, although their study is an important part of the field. Events covered by disaster management include acts of terrorism, industrial sabotage, fire, natural disasters (such as earthquakes, hurricanes, etc.), public disorder, industrial accidents, and communication failures.

1. Phases of disaster management



SECTION - 15

JAPANESE (DOMESTICATED) QUAIL MANAGEMENT

*Japanese quail (**Coturnix coturnix var japonica**) are the domesticated farm bred variety of quails. These are the smallest avian species farmed for meat and egg production. Quail probably the smallest avian species used for production of table eggs and meat. Because of prolific egg production and meat yield, it attains the status of viable commercial poultry enterprises. Quail has unique qualities of hardiness and adaptability to diversified agro-climatic condition. Several attributes of this species making it ideal for rural poultry production for creation of rural employment for solving gender issue in employment and to provide supplemental income and protein requirement to rural farmers.*

Quails are ground loving birds with little homing instincts, but also highly susceptible to predation. Therefore these need confinement rearing in enclosures or deep litter pens. Under the scheme of Government of India 'Assistance to State Poultry Farms' (ASPF) some farms have been assisted for Japanese quail stock production in the country. Central Poultry Development Organization (Western Region), Mumbai also maintains Japanese quails. First raised by CARI, Izatnagar as experimental poultry birds and subsequently improved germplasm and technical knowhow was supplied to a franchise for commercial exploitation in the country.



1. Quail probably the smallest avian species used for production of table eggs and meat. Because of prolific egg production and meat yield, it attains the status of viable commercial poultry enterprises. Quail has unique qualities of hardiness and adaptability to diversified agro-climatic condition. Several attributes of this species making it ideal for rural poultry production for creation of rural employment for solving gender issue in employment and to provide supplemental income and protein requirement to rural farmers.

1.1. SALIENT FEATURES OF JAPANESE QUAIL:

- 1.1.1 Low space requirement (5 – 6 adult quails can be reared in one sq. ft.)
- 1.1.2 Short generation interval (3 – 4 generations in a year)
- 1.1.3 Fast growth (170 – 190 gm body weight at 5th week)
- 1.1.4 Low feed consumption (550 – 600 gm of feed / bird up to 5th week)
- 1.1.5 Early maturity (egg production starts at 6 – 7 weeks of age)
- 1.1.6 High rate of egg laying (280 eggs in a year / bird)

SECTION - 16

DUCKS MANAGEMENT

*Domestic ducks (**Platyrrhynchos domesticus**) are decedents of wild mallard ducks. These are the first major component of the alternate poultry segment. Duck production in India is largely traditional enterprise among farming community. Free range and backyard duck keeping is normal practice. Night shelter is provided in the household and ducks are allowed to scavenge for themselves in the open, especially paddy fields. This is the reason while undertaking vulnerability mapping for Avian Influenza, paddy growing areas were juxtaposed with duck density data.*

Duck farming in the Central Poultry Development Organization (Southern Region) at Hessarghatta, Bangaluru is under closed high biosecurity system. This farm was developed in collaboration with United Kingdom in 1987 and is re-starting duck breeding program with new stock after complete de-population of the stocks in 2012.

1. Advantages of Duck farming

- 1.1 Ducks lay more eggs per bird per year than chicken.
- 1.2 The size of the duck egg is larger than hen egg by about 15 to 20 gms.
- 1.3 Ducks require lesser attention and thrive well in scavenging conditions.
- 1.4 Ducks supplement their feed by foraging. They eat fallen grains in paddy fields, insects, snails, earthworms, small fishes and other aquatic materials.
- 1.5 From commercial point of view, ducks have a longer profitable life. They lay well even in second year.
- 1.6 Ducks do not require any elaborate houses like chicken
- 1.7 Ducks are quite hardy, more easily brooded and more resistant to common avian diseases.
- 1.8 Marshy river side, wetland and barren moors upon which chicken or no other type of stock will flourish, are excellent quarters for duck farming.
- 1.9 Ducks lay 95–98% of their eggs in the morning before 9.00AM., thus saving lot of time and labour.
- 1.10 Ducks are suitable for integrated farming systems such as duck-cum-fish farming, duck farming with rice cultivation. In duck-cum-fish farming the droppings of ducks serve as feed for the fishes and no other feed or manuring of the pond is necessary for fishes (200-300 ducks per hectare of waste area). Under integrated duck farming with rice cultivation, the ducks perform four essential functions viz., inter tillage as they search for food, their bills loosen up the soil around the rice plants-weeding, insect control and manure application.

SECTION - 17

TURKEY MANAGEMENT

*Domestic turkeys (**Melegris gallopavo**), the descendants of Central and South American regions were introduced in the country possibly by Christian Missionaries. This a species introduced with specific market demand wherein they are catered mostly during Thanksgiving and Christmas seasons. However the scope is increasing over the years.*

Exotic germplasm viz. Beltsville – mini, medium and large are raised at research institutes, universities and government farms and some private organizations. Others like Bronze, White Holland, Bourbon Red, Narragansett, Black and Slate are also present but commercial production of broad-breasted white and Bronze alongwith Beltsville is more popular. Commonly raised stocks are non-descript native germplasm. Mainly raised for meat turkeys production is mostly carried in Tamil Nadu and Andhra Pradesh. In Uttar Pradesh turkey production is popular around Allahabad, Bareilly and Mirzapur regions. Earlier Turkey production failed to generate market demand but now it is no longer a festive food. Several states have well organized turkey production units e.g. Punjab, West Bengal, Tripura, Mizoram.

Evolved truly tropical regions, the locally available varieties have retained its ruggedness, self reliance and adaptability to harsh local environmental conditions. Turkeys are natural foragers and scavengers. These thrive past where they can roam about freely and generally do well with less management inputs. Turkeys walk swiftly rather than fly but successfully avoid predators.

1. Advantages of Turkey farming

- 1.1 Turkey can be produced round the year.
- 1.2 There is no religious taboo and consumed by all society.
- 1.3 Reared mainly for meat purpose and meat is leanest among other domestic avian species.
- 1.4 Turkey grows faster and marketed at 16-20 weeks of age.
- 1.5 As an alternate farming to chicken broiler and layer and a prospective micro entrepreneurial avenue.

2. Breeds of turkeys in India & CPDOs

Turkeys are not classified into breeds, however seven standard varieties are available, Bronze, White Holland, Bourbon red, Narragansett, Black, Slate, Beltsville small white. There are three varieties of turkey commonly available in India. White turkeys seem to be more suitable for Indian conditions.

SECTION - 18

GUINEA FOWL MANAGEMENT

*Guinea fowl or helmeted guinea fowl (*Numida meleagris galeata*) is an important and economic alternate poultry species. One of the most ancient birds, the guinea fowl is considered to have originated from South Africa from where it spread all over the continent, excluding desert regions, up to the Mediterranean sea. For a long period of time, the guinea fowl, and its eggs, was one of the main dish of the Africans. It can explain why this bird is more resistant to hot weather than the chicken. Guinea fowl were possibly introduced into the Indian sub-continent during the mediaeval centuries. Preliminary survey of guinea fowl showed its distinct popularity with marginal farmers and other vulnerable groups as small-scale poultry enterprise. The indigenous germplasm seems well adapted to the diversified agro-climatic conditions prevailing in semi-arid regions. In a natural environment, the guinea fowl is monogamous. Guinea fowl as per literature establishes its distinct popularity with marginal farmers, tribes and pastoralists, which may be attributed to its inherent hardiness and excellent foraging potentials to go as animal component of biomass-based polycultural systems. In recent years this alternate poultry species witnessed increasing emphasis for low-input grain-saving aviculture (LISA). It is hard to distinguish between the male and the female since they both have the same plumage. Majority of guinea fowl are raised in semi-arid pockets of Punjab, Uttar Pradesh, Bihar, Rajasthan, Madhya Pradesh, Maharashtra, Saurashtra, Karnataka, Andhra Pradesh, Orissa and Tamil Nadu.*

1. Advantages of Guinea Fowl farming



As a diversified variety, guinea fowl has the potential for landless labourers and marginal farmers of arid and semi arid region due to its hardy nature as a tool to lift their socio-economic status.

Possess excellent foraging capabilities with unique ornamental value. They act as bioinsecticides and bioweedicides. Guinea fowls are used as a watch dog in protecting the farm flock from intruders and predators by its loud, harsh, cry and its pugnacious disposition. Guinea fowls are extremely good runners which help them to escape from predators. Hard egg shell provides minimum breakage and long keeping quality. Hard and are disease- resistant.

Tolerate weather extremes fairly well after they are fully feathered and can be suitable to any agro- climatic conditions. Input requirements are low. Consumes all non- conventional feed stuffs. Has natural tolerance to Aflatoxin.

Guinea fowl meat is rich in vitamin and low in cholesterol.

SECTION - 19

POULTRY PERFORMANCE TESTING

The idea of random sample testing (RST) in animal breeding was first proposed by Hagedoorn (1927), who advised its use for laying competitions in Holland as an alternative to entering group of pullets pre-selected for higher egg production by the breeders. Hagedoorn's proposal incorporated all essential aspects of random sample testing collection of a representative sample of the breeders' stock in the form of hatching eggs by an independent person on the breeder's premises. Hatching and rearing of all entries at the testing station, drawing the required number of pullets for the laying competition randomly from each breeder's entry and uniform treatment of all entries throughout the test. It was another twenty years before Hagedoorn's idea was put into practice when the first random sample egg laying test was established in California in 1947. The following 15 years showed a rapid increase in the number of testing stations both for egg laying and broiler stocks in United States and Canada.

.....W. Hartmann (1985). Random Sample Poultry Tests—Their Development and Present Status in European Countries. World's Poultry Science Journal, 41, pp 153-159. doi:10.1079/WPS19850014.

1. Objective

- 1.1. To assess the potentiality of performance of egg and broiler production of the genetic stocks of chicken developed by public and private sectors for commercial purpose.
- 1.2. This is being achieved by conducting Random Sample Test under uniform environmental conditions, standard management practices and scientific randomization techniques.

2. Mission

- 2.1 To provide necessary information about the performance of various Layer, Broiler and Low Input stocks available in the country.
- 2.2 To provide guidance to poultry breeders regarding relative merits of various economic traits of the stocks in different agro climatic conditions.
- 2.3 To help in establishing norms regarding various production traits.

3. Usefulness

The tests thus serve the farmers, entrepreneurs and scientists by providing information about the production potentiality of various stocks available, the relative economic advantages to enable them to choose the stock, evaluate the merits of stock developed by them, assessing thereby the comparative success of the poultry breeding technique followed by them.

SECTION - 20 MACHINERY & EQUIPMENT

1. WATERING SYSTEMS



Manual drinker



Automatic drinker



Nipple drinker (in deep litter)



Nipple pipeline (in enclosures)

2. FEEDING SYSTEMS



Manual feeder pans



Automatic pans

(as shared by Indian Poultry Equipment Manufacturer's Association-IPEMA)

SECTION - 21

TRAINING & EXTENSION

Extension and Training plays a pivotal role in disseminating new technologies and development pertaining to Livestock Sectors including Poultry. It is imperative to capacitate the Target group viz, farmers/unemployed Youth/SGHs and NGOs before they are given any developmental programmes related to sustainable livelihood options in order to uplift their economic condition. In addition the said target groups need to be exposed to the new ideas about the Livestock Sector as a commercial venture. During the process of Capacity Building, attitudinal changes among the farmers is also felt necessary which enable them to become proactive and self esteemed to act as producers of the goods. Given the fact, the Extension and Training Cell creates a platform to have a close interaction with the farmers/educated unemployed youth and expose them to the latest scientific advancement in the field of rearing productive livestock and poultry, thereby increasing their capacity for income generation and self employment opportunity for improving their standard of living. Beside this, the section has been putting its all efforts to build linkages between farmers and different functionaries for adoption of viable technology for their self-reliance through sustainable livestock development by conducting various Capacity/Skill Development Program.

1.1 Poultry farming plays a significant role in the economy of our country, particularly the rural backyard farming and micro entrepreneurial activity which envisages the BPL families to enable them to gain supplementary income and nutritional support. A technology backup and creating awareness through training programmes would empower entrepreneurship with appropriate knowledge and technical skills.

1.2. Mandate of training programme

- 1.2.1. Impart practical training programmes for rural farmers for awareness on poultry development programmes on regional basis.
- 1.2.2. Encouraging women farmers in groups to have hands on knowledge and demonstrations on poultry farming.
- 1.2.3. To promote entrepreneurship activity amongst unemployed youths on recent trends of poultry farming and thereby to create employment and generate revenue.

1.3. Target groups

Rural farmers

Unemployed youth

Micro Entrepreneurs (Marginal farmers)

Each batch of training is advised to have around 16.2% of SC, 8% ST and 30% women beneficiaries

SECTION - 22

RECORDS KEEPING

Record keeping helps keep track of both physical performance and expenses. It can aid in monitoring the progress of your flock. Records are important to the financial and also physical health of a business or operation. Efficient and profitable poultry operations are not guaranteed by good record keeping, but success is unlikely without them. Records are essential tools for management to maintain a successful flock. Record keeping involves keeping, filing, maintaining and categorizing inventory, financial, production and health information for one's flock. This can be accomplished by hand recording or by using computer software.

Record keeping is important. Records tell an owner or manager where the business/operation has been and the direction in which it is going. Records show the strength and weaknesses of the poultry operation. They provide useful insight to financial and physical stability for one's flock. If there are any shortcomings, records will show where adjustments can be made.

...adapted and modified from University of Maryland (Extension) website

1. Standard registers to be kept in Breeding Farms

1.1. Basic Registers

1.1.1. Attendance and Daily wages register

This register will cover the details of the employees, their attendance and wages paid to contract labour.

1.1.2. Building Register

This register will contain details of all the civil structures, its maintenance expenditure, and annual depreciation.

1.1.3. Equipment Register

Various farm equipment and machineries like feed mill, vehicles, cages, incubators, feeders, waterers etc. would be recorded in this register. The details of purchase of the equipment, repairs carried out would be recorded. The annual depreciation and actual post depreciation value for equipment would be taken to the next year's record.

1.1.4. Feed and feed ingredient register

Few pages may be allotted for each feed ingredient. For each feed ingredient the details such as opening balance, receipts, issues, storage loss and closing balance would be entered. The source of purchase, invoice number and date and cost per unit may also be recorded. Remark on the quality of the raw material may also be indicated.

SECTION - 23 APPENDICES

1. POSTMORTEM REPORT FOR POULTRY

Name of the farm

Poultry necropsy No. :

Date & Time of making necropsy:

Reference :

Date, time and place of death :

Particulars of the bird :

Species: Breed: Type of bird: Commercial/ Breeder/
Broiler / Layer

Age: Sex : M / F Identification :Wing /Leg band No:
Colour:

History:

Total stock:

Mortality :

Pattern for last 7 days:
Percentage :

Signs :

NECROPSY FINDINGS

EXTERNAL EXAMINATION FINDINGS

1. Condition of the carcass :
2. Eyes :
3. Beak :
4. Feathers :

SECTION - 24

ADMINISTRATION AND PLANNING

A. ESTABLISHMENT & ACCOUNTS

1. ORGANIZATIONAL SET UP

A Model indicating the man power requirement (Technical and non-technical) to run a poultry breeding farm of about 2000-3000 GGP / GP capacity or to run a poultry farm keeping 50,000/- 1,00,000 commercial birds at a time in different traditional labour intensive, semi-automated and complete automated scenarios is presented below:

Type of farm	Capacity	Manpower requirement								
		Traditional			Semi-Automatic			Automatic		
		T	NT	Total	T	NT	Total	T	NT	Total
Grand Parent	2000	1	3	4	1	2	3	1	1*+0	2
Parent	2000	1	2	3	1	1	2	1	1*+0	2
Grand Parent	3000	1	4	5	1	2	3	1	1*+0	2
Parent	3000	1	3	4	1	1	2	1	1*+0	2
Com. Broiler	50000	1	10*+4	15	1	8*+4	13	1	6*+4	11
Com. Layer	50000	1	17*+4	22	1	14*+4	19	1	10*+4	15
Com. Broiler	100000	1	20*+6	27	1	14*+6	21	1	10*+6	17
Com. Layer	100000	1	33*+6	40	1	23*+6	30	1	16*+6	23

Source: Poultry Industry standards

1.1. An ideal manpower and their duties for Poultry Development Organizations (Central/ State) is given below

S.No.	Post	Name of the Post	Duties / in-charge / manage
1	1	Director	Overall in charge of the farm
2	1	Deputy Director / Manager	All farms, Feed plant & lab
3	1	Deputy Director / Manager	Hatchery, Business development and Training
4	1	Assistant Director / Farm Manager / Veterinary Officer	Farm – Chicken units
5	1	Assistant Director / Farm Manager / Veterinary Officer	Farm – Alternate species units
6	1	Assistant Director / Farm Manager / Veterinary Officer	Feed plant & Feed Lab
7	1	Assistant Director / Farm Manager / Veterinary Officer	Hatchery unit
8	1	Assistant Director / Farm Manager / Veterinary Officer	Training and Extension
9	1	Assistant Director / Farm Manager / Veterinary Officer	Business Development



DEPARTMENT OF ANIMAL HUSBANDRY, DAIRYING AND FISHERIES
MINISTRY OF AGRICULTURE AND FARMERS WELFARE
GOVERNMENT OF INDIA

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ABSTRACT

GROUND WATER – Estimation of Ground Water Resources of Tamil Nadu as on March, 2013 – Categorization of Firkas as Over Exploited, Critical, Semi-Critical, Safe and Saline / Poor Quality for Ground Water Development in Tamil Nadu – Approved – Orders – Issued.

Public Works (R2) Department

G.O. (Ms) No.257

Dated 01.10.2018

விளம்பி, புரட்டாசி 15

திருவள்ளூர் ஆண்டு 2049

Read :

1. G.O.(Ms).No.326, Public Works Department, Dated 23.11.1993.
2. G.O.(Ms).No.51, Public Works Department, Dated 11.02.2004.
3. G.O.(Ms).No.52, Public Works Department, Dated 02.03.2012
4. G.O.(Ms).No.142, Public Works Department, Dated 23.07.2014
5. G.O.(Ms).No.113, Public Works Department, Dated 09.06.2016
6. From the Chief Engineer, State Ground and Surface Water resources Data Centre, Letter No. DD (G)/AG-V/Assessment/2013, Dated 31.10.2017.

•/•/•

ORDER:

Based on the development of the ground water resources, the Panchayat Union Blocks in Tamil Nadu were categorized as Dark and Grey areas as on January 1992 and January 1997 in the Government Order 1st read above. The Blocks with ground water development between 85% to 100% were categorized as "Dark Blocks" and the Blocks with ground water development between 65% to 85% were categorized as "Grey Blocks". The Government directed that no Scheme should be formulated in the Dark Blocks and that in the Grey Blocks, Schemes should be formulated in consultation with the Ground Water Wing of the Public Works Department only. The above categorisation was done in accordance with the then prevailing Ground Water Estimation Committee – 1984 (GEC-1984) Norms. Thereafter, the Committee constituted by the Ministry of Water Resources, Government of India, has recommended to adopt the GEC-1997 Norms for estimation of the ground water resources in all the States.

2. In the Government Order second read above, the Government approved the categorization of the Panchayat Union Blocks in Tamil Nadu as Over-Exploited, Critical, Semi-Critical and Safe Blocks for ground water development as on January, 2003. The Government directed that no Schemes should be formulated in the Over Exploited and Critical Blocks and in the Semi-Critical and Safe Blocks, all the Schemes should be formulated in consultation with the State Ground and Surface Water Resources Data Centre of the Water Resources Organisation in the Public Works Department. It was also ordered therein that the term "Scheme" excludes energisation of agricultural pump sets by the Tamil Nadu Electricity Board. The Government further directed that appropriate rain water harvesting and artificial recharge schemes be carried out in all the categories of Blocks and while carrying

out the above Schemes, priority should be given to the Over Exploited and Critical Blocks so as to avoid further deterioration.

3. In the Government Order third read above, the Government approved the categorization of the Over-Exploited, Critical, Semi-Critical and Safe Blocks based on the assessment of the State Ground Water Resources as on March 2009. All the Over Exploited and Critical Blocks were notified as A Category Blocks (where the stage of ground water extraction is 90% and above) and all the Semi Critical and Safe Blocks were notified as B Category Blocks (where the stage of ground water extraction is below 89%). The Government directed that no Schemes should be formulated in Over Exploited and Critical blocks "Notified as A Category Blocks" In Semi-Critical and Safe Blocks "Notified as B Category Blocks", all the Schemes should be formulated through the State Ground and Surface Water Resources Data Centre of the Water Resources Department and the Chief Engineer, State Ground and Surface Water Resources Data Centre, would issue "No Objection Certificate" for ground water clearance. The Government further directed to exclude the ground water drawal for domestic purpose by individual household; domestic Infrastructure Project (Housing); Government's Drinking Water Supply Schemes and Non Water based Industries (i.e., the industries which do not require and use water, either as raw material or for other processing). The Chief Engineer, State Ground and Surface Water Resources Data Centre, would permit domestic use of water by these Non Water based Industries by issuing "No Objection Certificate" based on the hydro-geological conditions. The Government further directed that appropriate Rain Water Harvesting and Artificial Recharge Schemes should be carried out in the categories viz, Over exploited, Critical, Semi Critical and Safe Blocks of Tamil Nadu and while carrying out the above Schemes, priority should be given to marginal quality and bad quality areas so as to avoid further deterioration. The Government further directed that all the Schemes and Proposals based on ground water would have to adhere to the Government Orders and Conditions detailed in the Annexure-II to the above mentioned Government Order. This Government Order had been upheld by the Hon'ble Bench of Madras High Court, in its Common Judgement dated 18.09.2013, in WA Nos. 923 to 926 of 2009, etc. WP Nos 23116 of 2006, 23896 to 23900 of 2016, 4711 of 2004 and 12375 of 2008. The Hon'ble High Court had made it clear that even with the repealing of the Tamil Nadu Ground Water (Development and Management) Act, 2003, this GO would govern the interest of the parties and the State in the matter of regulating the business of the Writ Appellants.

4. In furtherance of the Orders and Instructions issued in the Government Order third read above, the Regulations for management of groundwater and Issue of No Objection Certificate / License for extraction of groundwater in the State were approved in the Government Order fourth read above.

5. Subsequently, in the Government Order fifth read above, the Dynamic Groundwater resources in the State were estimated taking a Revenue Firka as an unit of assessment by the State Level Technical Co-ordination Committee as on March 2011 and accordingly the Government have approved categorization of the Over-Exploited, Critical, Semi-Critical, Safe and Saline Firkas based on the above assessment.

6. In the letter sixth read above, the Chief Engineer (State Ground and Surface Water Resources Data Centre) has sent a proposal to the Government for approval of Estimation of the Dynamic Groundwater Resources in Tamil Nadu as on March 2013 and Categorisation of Firkas and requested for approval of the Ground

Water Assessment 2013 and notification of the Categorization of the Firkas of Tamil Nadu based on the above assessment.

7. The Government have decided to approve the categorization of the Revenue Firkas in the State based on the Estimation of the Dynamic Ground Water Resources as on March, 2013 and accordingly, the Government approve the categorisation of the Revenue Firkas as Over-Exploited, Critical, Semi-Critical, Safe and Saline/Poor Quality as detailed in the Annexure of this Order, which shall be notified in the Tamil Nadu Government Gazette.

8. The Chief Engineer(State Ground and Surface Water Resources Data Centre),Water Resources Department is directed that appropriate rain water harvesting and Artificial recharge schemes shall be carried out in the categories viz, Over exploited, Critical, Semi Critical, Safe and saline/Poor quality Firkas of Tamil Nadu. While carrying out the above Schemes, priority shall be given to marginal quality and bad quality areas so as to avoid further deterioration.

(BY ORDER OF THE GOVERNOR)

**S.K. PRABAKAR
PRINCIPAL SECRETARY TO GOVERNMENT**

To

The Works Manager, Government Central Press, Chennai-79

✓ The Chief Engineer, State Ground and Surface Water Resources Data Centre, Water Resources Department, Taramani, Chennai-113.

The Engineer-in-Chief, Water Resources Department and Chief Engineer (General), Public Works Department, Chennai-5.

All the Regional and Functional Chief Engineers, Water Resources Department.

The Additional Chief Secretary and Commissioner of Land Administration, Chennai-5.

All District Collectors.

The Director of Rural Development and Panchayat Raj, Chennai-15.

The Chairman, Tamil Nadu Pollution Control Board, Chennai-35.

The General Manager, National Bank for Agriculture and Rural Development, Chennai-34.

The Registrar of Co-operative Societies, Chennai.

The Chief Engineer (Agricultural Engineering), Chennai-35.

The Director of Agriculture, Chennai - 5.

The Director of Horticulture, Chennai-5.

The Commissioner, Tamil Nadu Sugar Corporation Limited, Chennai-35.

The Managing Director, Tamil Nadu Water Supply and Drainage Board, Chennai-5.

The Engineering Director, Tamil Nadu Water Supply and Drainage Board, Chennai-5.

The Managing Director, Chennai Metropolitan Water Supply and Sewerage Board, Chennai-2.

The Chairman, Tamil Nadu Electricity Board, Chennai-2.

Copy to

The Energy Department, Chennai-9.

The Agriculture Department, Chennai-9.

The Revenue and Disaster Management Department, Chennai-9.

The Environment and Forest Department, Chennai-9.

The Municipal Administration and Water Supply Department, Chennai-9.

The Rural Development and Panchayat Raj Department, Chennai-9.

The Co-operation, Food and Consumer Protection Department, Chennai-9.

The Industries Department, Chennai-9.

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// Forwarded by Order //

S. K. Prabakar
Section Officer

OVER EXPLOITED (Greater than 100%)		CRITICAL (Between 90 and 100%)		SEMI CRITICAL (Between 70 and 90%)		SAFE (Less than 70%)		SALINE / POOR QUALITY	
METTUPALAYAM TALUK									
				1	KARAMADAI				
				2	METTUPALAYAM				
SULUR TALUK									
1	KARUMATHAM PATTI								
2	SELAKKARICHAL								
3	SULUR								
4	VARAPATTI								
POLLACHI TALUK									
1	KOLARPATTI			1	KOTTUR	1	ANAMALAI		
2	PERIANEGAMAM			2	MARCHINAICKENPALAYAM				
3	POLLACHI(N)								
4	POLLACHI(S)								
5	RAMAPATTINAM								
KINATHUKATAVU TALUK									
1	KINATHUKATAVU								
2	VADACHITTUR								
3	KOVILPALAYAM								
VALPARAI TALUK									
						1	VALPARAI		
CUDDALORE (Total Firkas-32)									
CHIDAMBARAM TALUK									
				1	SETHIYATHOPE	1	BHUVANAGIRI	1	PARANG IPETTAI
						2	CHIDAMBARAM		
						3	ORATHUR		
						4	THIRUVAKULAM		
CUDDALORE TALUK									
1	RETTY CHAVADI			1	MANJAKKUPPAM				
2	THIRUVANTHI PURAM								
KATTUMANNARKOIL TALUK									
						1	KATTUMANNARKOIL		
						2	KUMARACHI		
						3	PUTHUR		
						4	SRIMUSHNUM		
						5	UDAIYARKUDI		
KURINJIPADI TALUK									
						1	KURINJIPADI		
						2	KULLANCHAVADI		
PANRUTI TALUK									
		1	NELLIKUPPAM	1	PANRUTI	1	KADAMPULIYUR		
						2	MARUNGUR		
TITTAGUDI TALUK									
		1	PENNADAM	1	TITTAGUDI (E)	1	TITTAGUDI (W)		
				2	SIRUPAKKAM	2	THOZHURUR		
VIRUDHACHALAM TALUK									
1	KAMMAPURAM(E)					1	NALLUR		
2	KAMMAPURAM(W)					2	VEPPUR		
3	UMANGALAM					3	VIRUDHACHALAM (N)		
4	VIRUDHACHALAM (S)								
DHARMAPURI DISTRICT (Total Firkas -22)									
DHARMAPURI TALUK									
1	INDUR	1	NALLAMPALLI	1	DHARMAPURI				
2	PALAYAM			2	KRISHNAPURAM				

OVER EXPLOITED (Greater than 100%)		CRITICAL (Between 90 and 100%)		SEMI CRITICAL (Between 70 and 90%)		SAFE (Less than 70%)		SALINE / POOR QUALITY	
ERODE DISTRICT (Total Firkas -34)									
ANTHUR TALUK									
1	ANTHIYUR	1	ATHANI			1	BURGUR		
		2	AMMAPETTAI						
BHAVANI TALUK									
				1	BHAVANI				
				2	KAVANDAPADI				
				3	KURICHI				
ERODE TALUK									
1	ERODE EAST	1	ARACHALUR	1	KILAMPADI	1	POONDURAI		
2	ERODE NORTH	2	ERODE WEST			2	SIVAGIRI		
3	KODUMUDI								
4	MODAKURICHI								
GOBICHTTIPALAYAM TALUK									
1	NAMBIYUR			1	KASIPALAYAM	1	GOBICHTTIPALAYAM		
2	ELATHUR			2	SIRUVALUR	2	VANIPUTHER		
						3	KUGALUR		
PERUNDURAI TALUK									
1	CHENNIMALAI			1	THINGALUR				
2	PERUNDURAI			2	KANJIKOIL				
3	VELLODE								
SATHYAMANGALAM TALUK									
1	BHAVANISAGAR	1	ARASUR	1	KUTHIYALATHUR				
2	PUNJAIPULIAM PATTI			2	SATHYA MANGALAM				
				3	THALAVADI				
KANCHEEPURAM (Total Firkas-67)									
ALANTHUR TALUK									
						1	ALANTHUR		
						2	PAMMAL		
						3	PALLAVARAM		
CHENGALPATTU TALUK									
1	SINGAPERUMAL KOIL	1	APPUR	1	CHENGALPATTU	1	PALLUR		
						2	GUDUVANCHERI		
						3	KATTANKULATHUR		
						4	VANDALUR		
CHEYYUR TALUK									
				1	CHEYYUR	1	KADAPAKKAM		
				2	CHITHAMUR	2	KAYAPAKKAM		
						3	LATHUR		
						4	KODUR		
						5	SUNAMPEDU		
KANCHEEPURAM TALUK									
1	GOVINDHAVADI	1	THIRUPPU KUZHI			1	KANCHEEPURAM		
2	SIRUKAVERI PAKKAM					2	CHITTIAMBAKKAM		
3	WALAJABAD					3	MAHARAL		
						4	PARANDUR		
						5	THENNERI		
MADURANTHAKAM TALUK									
1	LENDATHUR	1	ORATHI	1	ACCHIRUPAKKAM	1	KARUNKUZZHI		
						2	MADHURANTHAGAM		
						3	JAMEENENDATHUR		
						4	PERUMPAKKAM		

OVER EXPLOITED (Greater than 100%)	CRITICAL (Between 90 and 100%)	SEMI CRITICAL (Between 70 and 90%)	SAFE (Less than 70%)	SALINE / POOR QUALITY
SHOLINGANALLUR TALUK				
			1 SHOLINGANALLUR	
			2 PALLIKARANAI	
			3 MEDAVAKKAM	
SRIPERUMPUDUR TALUK				
	1 MANGADU		1 KUNRATHUR	
			2 MADURAMANGALAM	
			3 PADAPPAI	
			4 SERAPPANACHERI	
			5 SRIPERUMPUDUR	
			6 SUNKUVARCHATRAM	
			7 THANDALAM	
			8 VALLAM	
TAMBARAM TALUK				
			55 CHITLAPAKKAM	
			56 MADAMBAKKAM	
			57 TAMBARAM	
THIRUPORUR TALUK				
			1 THIRUPORUR	
			2 NELLIKUPPAM	
			3 KARUMBAKKAM	
			4 KELAMBAKKAM	
			5 MAMPAKKAM	
			6 MANAMBATHY	
			7 PAIYANUR	
THIRUKAZHUKUNDRAM TALUK				
	58 THIRUKAZHU KUNDRAM	60 MAMALLAPURAM		
	59 NERUMBUR	61 PONVILAYANTHAKALATHUR		
UTHIRAMERUR TALUK				
	62 THIRUPULIVANAM	64 KALIYAMPOONDI	67 SALAVAKKAM	
	63 ARUMPULIYUR	65 KUNNAVAKKAM		
		66 UTHIRAMERUR		
KANYAKUMARI DISRICT(TOTAL FIRKAS-18)				
AGATHEESWARAM TALUK				
		1 RAJAKKA MANGALAM	1 KANNIYAKUMARI	
			2 NAGERCOIL	
			3 SUCHINDRAM	
KALKUALM TALUK				
			1 COLACHEL	
			2 KULASEKARAM	
			3 KURUNTHUNCODE	
			4 THIRUVATTAR	
			5 THIRUVITHANCODE	
			6 THUCKALAY	
THOVALAI TALUK				
			1 AZHAIPANDIPURAM	
			2 BHOOTHAPANDY	
			3 THOVALAI	

OVER EXPLOITED (Greater than 100%)		CRITICAL (Between 90 and 100%)		SEMI CRITICAL (Between 70 and 90%)		SAFE (Less than 70%)		SALINE / POOR QUALITY	
VILVANCODE TALUK									
						1	ARUMANAI		
						2	EDAICODE		
						3	MIDALAM		
						4	PAINKULAM		
						5	VILAVANCODE		
KARUR DISTRICT (Total Firkas- 19)									
ARAVAKURICHI TALUK									
1	K.PARAMATHY					1	ARAVAKURICHI		
2	PALLAPATTI					2	CHINNADHARA PURAM		
3	THENNILAI								
KADAVUR TALUK									
1	KADAVUR								
2	MAILAMPATTI								
KARUR TALUK									
1	THORANAKALPATTI	1	PUGALUR	1	KARUR				
2	VANGAL	2	THALAPATTI						
3	VELLIYANAI								
KRISHNARAYAPURAM TALUK									
1	PANJAPATTI	1	KATTALAI			1	CHINTHALAVADI		
KULITHLAI TALUK									
1	THOGAIMALAI					1	KULITHALAI		
						2	NANGAVARAM		
KRISHNAGIRI DISTRICT (Total Firkas -29)									
DENKANIKOTTAI TALUK									
				1	RAYAKOTTAI	1	ANDEVANAPALLI		
						2	ANJETTI		
						3	DENKANIKOTTA		
						4	KAKKADASAM		
						5	THALLY		
						6	KELAMANGALAM		
HOSUR TALUK									
		1	HOSUR	1	BERIGAI	1	BAGALUR		
					2	SHOOLAGIRI			
					3	UTHANAPALLI			
					4	MATHIGIRI			
KRISHNAGIRI TALUK									
1	ALAPATTI			1	PERIAMUTHUR	1	KAVERIPATTINAM		
2	BARGUR								
3	GURUPARAPALLI								
4	PALEPALLI								
5	VEPPANAPALLI								
6	KRISHNAGIRI								
POCHAMPALLI TALUK									
1	MATHUR			1	BARUR				
2	POCHAMPALLI			2	NAGARASAM PATTI				

OVER EXPLOITED (Greater than 100%)		CRITICAL (Between 90 and 100%)		SEMI CRITICAL (Between 70 and 90%)		SAFE (Less than 70%)		SALINE / POOR QUALITY	
UTHANGARAI TALUK									
1	KALLAVI								
2	SAMALPATTI								
3	SINGARAPETTAI								
4	UTHANGARAI								
MADURAI DISTRICT(Total Firkas-51)									
MADURAI NORTH TALUK									
						1	APPAN THIRUPATHI		
						2	ARUMABANUR		
						3	CHATHRAPATTI		
						4	KALLANDHIRI		
						5	KOOLAPANDI		
						6	KULAMANGALAM		
						7	KUNNATHUR		
						8	OTHAKKADAI		
						9	RAJAKKUR		
						10	SAKKIMANGALAM		
						11	SAMAYANALLUR		
						12	SATHAMANGALAM		
MADURAI SOUTH TALUK									
		1	MADURAI WEST	1	MADURAI EAST	1	AVANIYAPURAM		
				2	NAGAMALALI PUDUKOTTA	2	THIRUPPARAN KUNDRAM		
						3	VALAYANKULAM		
						4	VIRATHANUR		
MELUR TALUK									
1	AVELLALPATTI	1	KOTTAMPATTI	1	VELLALUR	1	KARUNGALAKUDI		
						2	KEELAVVALAVU		
						3	MELAVVALAVU		
						4	MELUR		
						5	THIRUVATHAVUR		
PERAIYUR TALUK									
		1	SEDAPATTI	1	ATHIPATTI	1	MOTHAGAM		
				2	ELUMALAI	2	T.KALLUPATTI		
				3	PERAIYUR				
THIRUMANGALAM TALUK									
		1	KOKKULAM	1	KALLIGUDI	1	KURAIYUR		
				2	THIRUMANGALAM	2	SVARAKKOTTAI		
				3	PANNIKKUNDU				
USILAMPATTI TALUK									
1	USILAMPATTI	1	SINDHUPATTI	1	KARUMATHUR				
2	UTHAPPA NAICKANUR			2	VALANTHUR				
VADIPATTI TALUK									
1	MUDUVARPATTI			1	NEERATHAN	1	ALANGANALLUR		
2	PALAMEDU			2	THENKARAI	2	SOLAVANDHAN		
						3	THANICHIAM		
NAGAPATTINAM DISTRICT(Total Firkas-31)									
KILVELUR TALUK									
								1	KEELAIYUR
								2	KILVELUR
								3	THEVOOR
								4	VELANGANNI

OVER EXPLOITED (Greater than 100%)		CRITICAL (Between 90 and 100%)		SEMI CRITICAL (Between 70 and 90%)		SAFE (Less than 70%)		SALINE / POOR QUALITY	
RASIPURAM TALUK									
1	MANGALAPURAM								
2	MULLUKURICHI								
3	NAMAGIRIPETTAI								
4	RASIPURAM								
5	VENNANDUR								
THIRUCHENGODE TALUK									
1	MALLASAMUDRAM	1	ELACHIPALAYAM	1	KUMARAPALAYAM	1	PALLIPALAYAM		
2	VAIYAPPAMALAI			2	MANICKAM PALAYAM				
				3	MOLASI				
				4	TIRUCHENGODE				
NIGIRI DISTRICT (Total Firkas-15)									
COONNOOR TALUK									
						1	COONNOOR		
						2	KETTI		
						3	MELUR		
GUDALUR TALUK									
						1	DEVARSHOLA		
						2	GUDALUR		
KOTHAGIRI TALUK									
						1	KILKOTAGIRI		
						2	NEDUGULA		
						3	KOTAGIRI		
KUNDAH TALUK									
						1	ITHALAR		
						2	KUNDAH		
PADANDURUAI TALUK									
						1	CHERAMBADI		
						2	PANDALUR		
UDHAGAMANDALAM TALUK									
						1	SHOLUR		
						2	THUNERI		
						3	UDHAGAMANDALAM		
PERAMBALUR DISTRICT (Total Firkas-11)									
ALANDUR TALUK									
1	CHETTIKULAM			1	KOLAKANATHAM				
				2	KOOTHUR				
KUNNAM TALUK									
1	KEELAPULIYUR					1	VADAKKALUR		
						2	VARAGUR		
PERAMBALUR TALUK									
1	KURUMBALUR								
2	PERAMBALUR								
VEPPANTHATTAI TALUK									
1	PASUMBALUR								
2	VALIKANDAPIRAM								
3	VENGALAM								
PUDUKOTTAI DISTRICT (Total Firkas-44)									
ALANGUDI TALUK									
				1	ALANGUDI	1	VALLANADU		
				2	KEERAMANGALAM	2	VENNAVALKUDI		
ARANTHANGI TALUK									
				1	ARASARKULAM	1	ARANTHANGI		
						2	ATHANI		
						3	NAGUDI		
						4	POOVATHAKUDI		
						5	SILATTUR		

OVER EXPLOITED (Greater than 100%)	CRITICAL (Between 90 and 100%)	SEMI CRITICAL (Between 70 and 90%)	SAFE (Less than 70%)	SALINE / POOR QUALITY
AVUDAIYARKOIL TALUK				
			1 AVUDAIYARKOIL	
			2 EMBAL	
			3 PONPETTE	
			4 MIMISAL	
GANDARVAKOTTAI TALUK				
			1 GANDARVAKOTTAI	
			2 KALLAKKOTTAI	
			3 PUDUNAGAR	
ILLUPPUR TALUK				
		1 VIRALIMALAI	1 KODUMBALUR	
			2 KUDUMIYANMALAI	
			3 ILLUPPUR	
			4 SITHANAVASAL	
			5 VEERAPATTY	
KULATHUR TALUK				
			1 KEERANUR	
			2 KILLUKKOTTAI	
			3 KUNNANDARKOIL	
			4 NARTHAMALAI	
			5 NEERPALANI	
KARAMBAKUDI TALUK				
			1 MALAIYUR	
			2 KARAMBAKUDI	
MANAMELKUDI TALUK				
			1 MANAMELKUDI	1 PERU MARUTHUR
				2 KOTTAI PATTINAM
				3 SINKAVANAM
PUDUKKOTTAI TALUK				
			1 PUDUKKOTTAI	
			2 VARAPPUR	
PONNAMARAVATHY TALUK				
		1 KARAIYUR	1 ARASAMALAI	
			2 PONNAMARAVATHY	
THRUMAYAM TALUK				
			1 KEELANILAI	
			2 KOTTUR	
			3 SENGEERAI	
			4 THIRUMAYAM	
			5 VIRACHILAI	
RAMANATHAPURAM DISTRICT(Total Firtae-38)				
KADALADI TALUK				
			1 AAPPANUR	1 KADALADI
				2 MELACHEL VANUR
				3 S.THARAIKUDI
				4 SAYALKUDI
				5 SIKKAL

OVER EXPLOITED (Greater than 100%)		CRITICAL (Between 90 and 100%)		SEMI CRITICAL (Between 70 and 90%)		SAFE (Less than 70%)		SALINE / POOR QUALITY	
KAMUTHI TALUK									
						1	ABIRAMAM		
						2	KAMUTHI EAST		
						3	KAMUTHI WEST		
						4	KOVILANKULAM		
						5	PERUNAAZHI		
MUDUKULATHUR TALUK									
						1	KAKKUR	1	MUDUKULATHUR SOUTH
						2	KEELATHUVAL		
						3	MELAKODUMALUR		
						4	MUDUKULATHUR NORTH		
						5	THERIRUVELI		
PARAMAKUDI TALUK									
						1	BOGALUR		
						2	KILIYUR		
						3	MANJUR		
						4	NAINARKOIL		
						5	PARAMAKUDI		
						6	PARTHIPANOOR		
RAMANATHAPURAM TALUK									
				1	PERUNKULAM	1	DEVIPATTINAM	1	THIRUPULLANI
						2	KEELAKKARAI		
						3	MANDAPAM		
						4	RAMANATHAPURAM		
						5	T.U.MANGAI		
RAMESHWARAM TALUK									
						1	RAMESHWARAM		
THIRUVADANAI TALUK									
						1	AANANDHUR	1	MANGALAKUDI
						2	PULLUR	2	THONDI
						3	R.S.MANGALAM		
						4	SHOLANDHUR		
						5	THIRUVADANI		
SALEM DISTRICT(Total Firtas-42)									
ATTUR TALUK									
1	ATTUR					7	KALRAYANMALAI		
2	KATTUKKOTTAI								
3	MALLIYAKARAI								
4	PETHANAICKAN PALAYAM								
5	THALAVASAL								
6	YETHAPUR								
EDAPPADI TALUK									
1	EDAPPADI	1	POOLAMPATTI						
2	KONGANAPURAM								
GANGAVALLI TALUK									
1	GANGAVALLI			1	VEERAGANOOR	1	PATCHMALAI		

OVER EXPLOITED (Greater than 100%)		CRITICAL (Between 90 and 100%)		SEMI CRITICAL (Between 70 and 90%)		SAFE (Less than 70%)		SALINE / POOR QUALITY	
METTUR TALUK									
1	MECHERI			1	KOLATHUR				
2	NANGAVALLI			2	POTTANERI				
3	PALAMALAI			3	METTUR				
OMALUR TALUK									
1	KADAYAMPATTI			1	KARUPUR				
2	OMALUR								
3	SEMMANDAPPATTI								
4	THARAMANGALAM								
SALEM TALUK									
1	PANAMARATHUP PATTI	1	SURAMANGALAM						
2	SALEM_TOWN								
3	THIRUMALAIGIRI								
4	VALASAIYUR								
5	VEERAPANDI								
6	VEMBADITHALAM								
SANKARI TALUK									
1	ERNAPURAM			1	THEVUR				
2	SANKARI EAST								
3	SANKARI WEST								
VAZHIPPADI TALUK									
1	VAZHAPPADI			1	BELUR	1	ARUNOOTHUMALAI		
2	KARIPPATTI								
YERCAUD TALUK									
						1	PUTHUR		
						2	VELLAKKADAI		
						3	YERCAUD		
SIVAGANGAI DISTRICT (Total Fircas-38)									
DEVAKOTTAI TALUK									
						1	DEVAKOTTAI		
						2	KANDEVI		
						3	KANNANGUDI		
						4	PUZHIAL		
						5	SARUGANI		
ILYANGUDI TALUK									
						1	ILYANGUDI		
						2	SOORANAM		
						3	THAYAMANGALAM		
						4	A THIRUVUDUIR PURAM		
						5	SALAIGRAMAM		
KARAIKUDI TALUK									
						1	KALLAL		
						2	KARAIKUDI		
						3	PALLATHUR		
						4	SAKOTTAI		
						5	MITHRAVAYAL		
MANAMADURAI TALUK									
						1	SEIKALATHUR		
						2	MUTHANENTHAL		
						3	MANAMADURAI		

OVER EXPLOITED (Greater than 100%)		CRITICAL (Between 90 and 100%)		SEMI CRITICAL (Between 70 and 90%)		SAFE (Less than 70%)		SALINE / POOR QUALITY	
THIRUVAIYARU TALUK									
1	KANDIYUR	1	THIRUKKATTU PALLI			1	AGARAPETTAI		
2	NADUKAVERI								
3	THIRUVAIYARU								
THIRUVIDAMARUDUR TALUK									
1	ADUTHURAI								
2	KATHIRA MANGALAM								
3	THIRUVIDA MARUDUR								
4	TIRUPPANANDAL								
5	PANDANALLUR								
THENI DISTRICT (Total Firkas-17)									
ANDIPATTI TALUK									
1	KANDAMANUR	1	ANDIPATTI			1	MAYLADUMPARAI		
		2	RAJATHANI						
BODINAYAKANUR TALUK									
						1	BODINAYAKANUR		
						2	KODANGIPATTI		
						3	RASINGAPURAM		
PERIYAKULAM TALUK									
				1	DEVATHANAPATTI				
				2	THENKARAI				
THENI TALUK									
1	KODIVILARPATTI			1	THENI				
UTHAMAPALAYAM TALUK									
1	ERASAKKA NAICKANUR			1	UTHAMAPALAYAM	1	CHINNAMANUR		
2	THEVARAM					2	MARKAYANKOTTAI		
						3	CUMBAM		
THIRUVALLUR DISTRICT (Total Firkas-46)									
AMBATTUR TALUK									
1	AMBATTUR			1	MORAI	1	MADURAVOIL		
GUMMIDIPOONDI TALUK									
		1	GUMMIDIPOONDI			1	ELAVUR		
						2	MADHARPAKKAM		
						3	POOVALAMBEDU		
MADHAVARAM TALUK									
				1	MADHAVARAM	1	REDHILLS		
PALLIPATTU TALUK									
1	R.K.PET	1	BALAPURAM	1	POTHATTUR PETTAI				
		2	ERUMBI	2	PALLIPATTU				
PONNERI TALUK									
				1	KATTUR	1	ARANI	1	MINJUR
						2	GNAYIRU		
						3	KOLUR		
						4	PONNERI		
						5	SHOLAVARAM		
						6	THIRUPALAVANAM		

OVER EXPLOITED (Greater than 100%)		CRITICAL (Between 90 and 100%)		SEMI CRITICAL (Between 70 and 90%)		SAFE (Less than 70%)		SALINE / POOR QUALITY	
THOOTHUKUDI DISTRICT (Total Firkas-41)									
ETTAYAPURAM TALUK									
						1	CHOLAPURAM		
						2	ETTAYAPURAM		
						3	KADALIYUR		
						4	MUTHULAPURAM		
						5	PADARNTHAPULI		
KOVILPATTI TALUK									
1	ILAYARASANENDAL			1	KADAMBUR	1	KALUGUMALAI		
				2	KAYATHAR	2	KAMANAICKEN PATTI		
						3	NALLATIN PUTHUR		
						4	KOVILPATTI		
OTTAPIDARAM TALUK									
		1	PARIVALLIKOTTAI	1	OTTAPIDARAM	1	EPPODUMVENDRAN		
						2	MANIYACHI		
						3	PASUVANTHANAI		
						4	VEDANATHAM		
SATTANKULAM TALUK									
1	PALLAKURICHI			1	SATTANKULAM	1	SRIVENKATES WARAPURAM		
SRIVAIKUNDAM TALUK									
						1	ARUMUGA MANGALAM		
						2	DEIVASEYALPURAM		
						3	PERUNGULAM		
						4	SEIDUNGANALLUR		
						5	SRIVAIKUNDAM		
						6	VALLANAD		
THOOTHUKUDI TALUK									
						1	KEELATHATTA PARAI		
						2	MUDIVAITHANENDAL		
						3	PUDUKOTTAI		
						4	THOOTHUKUDI		
TIRUCHENDUR TALUK									
1	UDANGUDI					1	ALWARTHIRU NAGARI		
						2	AUTHOOR		
						3	TIRUCHENDUR		
VILATHIKULAM TALUK									
						1	KADALKUDI		
						2	KULATHUR		
						3	PUDUR		
						4	SIVAGNANA PURAM		
						5	VENBAR		
						6	VILATHIKULAM		
TRICHY DISTRICT (Total Firkas-41)									
LALGUDI TALUK									
		1	PERUVALPUR			1	ANBIL		
						2	KALLAKKUDI		
						3	LALGUDI		
						4	PULLAMBADI		
						5	VALADI		

OVER EXPLOITED (Greater than 100%)		CRITICAL (Between 90 and 100%)		SEMI CRITICAL (Between 70 and 90%)		SAFE (Less than 70%)		SALINE / POOR QUALITY	
MANNACHANALLUR TALUK									
1	KARIYAMANICKAM			1	MANNACHA NALLUR				
				2	SIRUGAMBUR				
MANAPPARAI TALUK									
1	MARUNGAPURI	1	MANAPPARAI			1	VALANADU		
2	VAIYAMPATTI	2	PANNAPPATTI						
3	THUVARANGURICHI	3	V.PERIYAPATTI						
MUSIRI TALUK									
1	THUMBALAM			1	MUSIRI	1	AAMUR		
2	PULIVALAM								
3	THATHAIYANGAR PETTAI								
4	VALAIEDUPPU								
SRIRANGAM TALUK									
1	MANIKANDAM					1	ANDANALLUR		
						2	KULUMANI		
						3	SOMARASAN PETTAI		
						4	SRIRANGAM		
THOTTIYAM TALUK									
1	KATTUPUTHUR	1	THOTTIYAM	1	EALURPATTI				
THURAIYUR TALUK									
1	KOPPAMPATTI	1	ERAGUDI	1	UPPILIYAPURAM				
2	THURAIYUR	2	SENGATTUP PATTI						
3	KANNANUR								
TIRUVERUMBUR TALUK									
						1	NAVALPATTU		
						2	TIRUVERUMBUR		
						3	VENGUR		
TRICHY TALUK									
						1	TRICHY NORTH		
						2	TRICHY SOUTH		
TIRUNELVELI DISTRICT (Total Firkas -60)									
ALANKULAM TALUK									
1	KEEZHAPAVOOR	1	VENKADAMPATTI	1	ALANKULAM	1	PUDUPATTI		
2	NETTUR								
AMBASAMUDRAM TALUK									
						1	ALWARKURICHI		
						2	AMBASA MUDRAM		
						3	CHERAN MAHADEVI		
						4	KADAYAM		
						5	MELASEVAL		
						6	MUKKUDAL		
						7	PAPPAKUDI		
						8	SINGAMPATTI		
NANGUNERI TALUK									
						1	ERUVADI		
						2	KALAKADU		
						3	MOOLAKARAIPATTI		
						4	NANGUNERI		
						5	POOLAM		
						6	VIJAYARAYANA PURAM		
PALAYAMKOTTAI TALUK									
				1	SIVANTHIPATTI	1	MELAPATTAM		
						2	MUNEER PALLAM		
						3	PALAYAMKOTTAI		

OVER EXPLOITED (Greater than 100%)		CRITICAL (Between 90 and 100%)		SEMI CRITICAL (Between 70 and 90%)		SAFE (Less than 70%)		SALINE / POOR QUALITY	
VANIYAMBADI TALUK									
1	AMBALUR	1	ALANGAYAM	1	ANDIYAPPANUR				
2	VANIYAMBADI								
AMBUR TALUK									
1	AMBUR	1	AGARAM						
2	MADHANUR	2	MELASANNAN KUPPAM						
3	THUTHIPATTU								
VELLORE TALUK									
1	ANAICUT	1	KANIYAMBADI						
2	PALLIKONDA	2	ODUGATHUR						
3	SATHUVACHARI								
4	USSOOR								
5	THENVELLORE								
6	VADAVELLORE								
7	PENNATHUR								
WALAJAH TALUK									
				1	RANIPET				
				2	SHOLINGHUR				
				3	VELAM				
				4	VISHARAM				
				5	WALAJAH				
VILLUPURAM DISTRICT (Total Firkas-56)									
CHINNA SALEM									
1	NAINARPALAYAM	1	CHINNASALEM	1	VADAKANANDAL	1	VELLIMALAI		
GINGEE TALUK									
1	AVALURPETTAI								
2	GINGEE								
7	MELMALAIYANUR								
3	MELOLAKKUR								
4	SATHAMPATI								
5	SATHIYA MANGALAM								
6	VALLAM								
KALLAKURICHI TALUK									
1	INDILI			1	KALLAKURICHI				
2	NAGALUR								
3	THIYAGADURGAM								
SANKARAPURAM TALUK									
				1	KALVARAYAN MALAI	1	ALATHAUR		
						2	ARIYALUR		
						3	VADAPONPARAPI		
						4	SANKARAPURAM		
						5	RISHIVANDHIYAM		
TINDIVANAM TALUK									
1	BRAMMADESAM			1	MAILAM	1	DEEVANUR		
2	MARAKKANAM					2	RETTANAI		
3	OLAKKUR								
4	SIRUVADI								
5	TINDIVANAM								
6	VADASIRUVALUR								
THIRUKOVILUR TALUK									
1	CHITHALINGA MADAM			1	THIRUKOVILUR	1	THIRUPPALA PANDAL		
2	T.V.NALLUR			2	ARAKANDANALLUR				
				3	MANALURPETTAI				
				4	MUGAIYUR				

OVER EXPLOITED (Greater than 100%)		CRITICAL (Between 90 and 100%)		SEMI CRITICAL (Between 70 and 90%)		SAFE (Less than 70%)		SALINE / POOR QUALITY	
ULUNDURPETTAI TALUK									
1	ARASUR			1	SENGURICHI	1	THIRUNAVALUR		
2	ELAVANASUR KOTTAI								
3	ERAIYUR								
4	KALAMARUDUR								
5	ULUNDURPETTAI								
VANUR TALUK									
1	KILYANUR	1	VANUR						
2	NEMILI								
3	UPPUVELUR								
VILLUPURAM TALUK									
1	ANNIYUR	1	KANJANUR	1	KANAI	1	VALAVANUR		
2	SITHALAMPATTU	2	VILLUPPURAM	2	KANDAMANGALAM				
3	VIKKIRAVANDI								
VIRUDHUNAGAR DISTRICT (Total Firkas-36)									
ARUPPUKOTTAI TALUK									
						1	ARUPPUKOTTAI		
						2	PALAYAMPATTI		
						3	PANDALKUDI		
						4	PARALATCHI		
						5	MANDAPASALAI		
KARIAPATTI TALUK									
		1	MALLANKINAR			1	KALKURUCHI		
						2	KARIAPATTI		
						3	MUDUKKAN-KULAM		
RAJAPALAYAM TALUK									
1	CHOLAPURAM			1	YANKOLLAN KONDAN	1	SEITHUR		
2	KEELARAJAKULA RAMAN			2	RAJAPALAYAM				
SATTUR TALUK									
1	ETHIRKOTTAI	1	MANGALAM	1	NALLI	...3	NENMENI		
SIVAKASI TALUK									
		1	SALWARPATTI	1	ELAYIRAM- PANNAI	1	SATTUR		
				2	SIVAKASI				
SRIVILLIPUTTUR TALUK									
1	NATHAMPATTI			1	KOTTAIYUR				
2	PILLAIYARKULAM			2	MALU				
				3	SRIVILLIPUTTUR				
THIRUCHULI TALUK									
				1	WATRAP	1	A.MUKKULAM		
						2	NARIKUDI		
						3	THIRUCHULI		
						4	VEERACHOLAN		
VIRUDHUNAGAR TALUK									
		1	VATCHAKARA-PATTI	1	AMATHUR	1	VIRUDHUNAGAR		
				2	ONDIPULINAIC KANUR				
	OVER EXPLOITED		CRITICAL		SEMI CRITICAL		SAFE		SALINE
	358		105		212		429		35

S.K. PRABAKAR
PRINCIPAL SECRETARY TO GOVERNMENT

/// True Copy ///

S. Manickavel
03/10/2018
Section Officer

Groundwater Resources Assessment as on March 2013

Sl. NO	District	Total No.of Firkas	Over Exploited	Critical	Semi Critical	Safe	Saline / Poor Quality
1	Ariyalur	15			2	13	
2	Chennai	20	20				
3	Coimbatore	33	21	2	8	2	
4	Cuddalore	32	6	2	5	18	1
5	Dharmapuri	22	14	3	5		
6	Dindugal	40	21	5	9	5	
7	Erode	34	12	5	11	6	
8	Kancheepuram	67	5	8	15	39	
9	Kanyakumari	18			1	17	
10	Karur	19	10	3	1	5	
11	Krishnagiri	29	12	1	8	8	
12	Madurai	51	5	5	13	28	
13	Nagappattinam	31	11	1		2	17
14	Namakkal	30	20	2	5	3	
15	Nilgiris	15				15	
16	Perambalur	11	7		2	2	
17	Pudhukottai	44			5	36	3
18	Ramanadhapuram	38			1	28	9
19	Salem	42	27	2	7	6	
20	Sivagangai	38			1	37	
21	Thanjavur	50	24	5	11	10	
22	Theni	17	4	2	4	7	
23	Thiruvallur	46	4	8	14	19	1
24	Thoothukudi	41	3	1	4	33	
25	Thirunelveli	60	15	6	9	30	
26	Tiruppur	31	21	4	5	1	
27	Thiruvarur	27	9	1	3	10	4
28	Thiruvannamalai	52	13	16	19	4	
29	Trichy	41	13	7	5	16	
30	Vellore	53	26	8	17	2	
31	Villupuram	56	30	4	11	11	
32	Viruthunagar	36	5	4	11	16	
	Total	1139	358	105	212	429	35

S.K. PRABAKAR
PRINCIPAL SECRETARY TO GOVERNMENT

/// True Copy ///

2 Nov 2018
03/10/2018
Section Officer

MINISTRY OF JAL SHAKTI
(Department Of Water Resources, River Development And Ganga Rejuvenation)
(CENTRAL GROUND WATER AUTHORITY)

NOTIFICATION

New Delhi, the 24th September, 2020

S.O. 3289(E).—WHEREAS, on the directions of Hon'ble Supreme Court vide its order dated the 10th December, 1996 passed in Civil writ Petition No 4677 of 1985, MC Mehta Vs Union of India, the Central Government constituted the Central Ground Water Authority (hereafter referred to as the 'Authority') vide notification number S.O. 38 (E), dated the 14th January, 1997 to exercise powers under Section 5 of the Environment (Protection) act, 1986 (29 of 1986) for the purposes of regulation and control of Ground Water management and development and to exercise certain powers and perform certain functions relating thereto;

AND WHEREAS, the Authority has been regulating ground water development and management by way of issuing 'No Objection Certificates' for ground water extraction to industries or infrastructure projects or Mining Projects etc., and framed guidelines in this connection from time to time in twenty two States and two Union territories, where ground water development is not being regulated by the State Government Union Territory administration concerned;

AND WHEREAS, some of the State Governments or, Union territories enacted legislations and issued regulatory directions or orders for regulating ground water development and management;

AND WHEREAS, the Hon'ble National Green Tribunal, New Delhi vide order dated the 15th April 2015 in OA Nos. 204/205/206 of 2014 has issued directions to the Authority to ensure that any person operating tube-well, or any means to extract ground water shall obtain permission from the Authority and shall operate the same subject to the law in force, even if such unit is existing unit or the unit is yet to be established;

AND WHEREAS, the said Hon'ble Tribunal vide its order dated the 09th July, 2015 in OA Nos. 34 and 37 of 2014 directed all industrial units which are members of the Common Effluent Treatment Plants (CETPs) to approach the Authority through State Pollution Control Board for obtaining 'No Objection Certificate' in accordance with the law;

AND WHEREAS, the aforesaid Hon'ble Tribunal vide order dated the 13th July, 2017 in OA No 200- of 2014 directed that every industry should be directed to pay for extraction of such water, that too, subject to the conditions stated in the order permitting such extraction;

AND WHEREAS, the said Hon'ble Tribunal vide its order dated the 28th August, 2018 in O.A. Nos. 176 of 2015 and 59 of 2012 respectively directed the Ministry of Water Resources, River Development and Ganga Rejuvenation to forthwith review the existing mechanism so as to ensure effective steps for conserving the groundwater resources;

AND WHEREAS, in pursuance of the directions of the Hon'ble National Green Tribunal and powers conferred by sub-section (3) of section 3 and section 5 of the Environment (Protection) Act, 1986 the Authority, with a view to protect the ground water resources had circulated the draft guidelines for grant of 'No Objection Certificate' on the 11th October, 2017 inviting comments and suggestions from all the stakeholders;

AND WHEREAS, all objections and suggestions received in response to the said draft guideline have been duly considered by the Central Government, the Authority notified the guidelines to regulate groundwater over-exploitation and to conserve the groundwater resources in the country vide notification number S.O. 6140 (E), dated the 12th December, 2018;

AND WHEREAS, the aforesaid Hon'ble Tribunal vide order dated the 03rd January 2019 in the OA No. 176 of 2015 directed that the above mentioned notification dated the 12th December, 2018 may not be given effect to as it is unsustainable if tested on 'Precautionary Principle, Sustainable development as well as Inter-generational Equity Principles' and if implemented, will result in fast depletion of groundwater and damage to water bodies and will be destructive of the fundamental right to life under Article 21 of the Constitution of India;

AND WHEREAS, the said Hon'ble Tribunal vide order dated the 11th September, 2019 constituted a committee to deliberate on steps for preventing depletion of groundwater, robust monitoring mechanism

against unauthorised extractions and fulfillment of 'No Objection Certificate' conditions, environment compensation etc and to submit a report;

AND WHEREAS, the aforesaid committee submitted the report along-with draft guidelines to regulate groundwater extraction and groundwater conservation in Hon'ble Tribunal on the 16th March, 2020;

AND WHEREAS, the above said Hon'ble Tribunal vide order dated the 20th July, 2020 directed to comply with certain points for sustainable groundwater management while issuing 'No Objection Certificates' to commercial establishments by the Authority;

Now therefore, in pursuance of the directions of Hon'ble National Green Tribunal and the powers conferred by sub-section (3) of Section 3 read with Section 5 of the Environment (Protection) Act, 1986 (29 of 1986), the Department of Water Resources, River Development & Ganga Rejuvenation, hereby notifies the guidelines to regulate and control groundwater extraction in the country in supersession to this Ministry notification vide S.O. 6140 (E), dated the 12th December, 2018 as per the Schedule below:

SCHEDULE

Guidelines to regulate and control ground water extraction in India

(with immediate effect)

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[F. No. CGWA-21/4/2020-CGWA]

ASHISH KUMAR, Director

ANNEXURES

- Annexure I: Estimation of water requirements for drinking and domestic use.
- Annexure II: Guidelines for construction of piezometers and monitoring of groundwater levels and quality.
- Annexure III: Measures to be adopted to ensure prevention from pollution in the plant premises of polluting industries/ projects.
- Annexure IV: Outline of hydro-geological report for obtaining No Objection Certificate for industries.
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- Annexure VII: Supreme Court Order in Civil Writ petition 36 of 2009 regarding measures for prevention of fatal accidents of small children due to their falling into abandoned bore wells and tube wells.
- Annexure VIII: List of States/ Union territories where ground water extraction is being regulated by Central Ground Water Authority (CGWA)
- Annexure IX: Glossary of technical terms used
- Annexure X : Annual water audits by the industries

Guidelines to regulate and control groundwater extraction in India**Preamble and Background:**

On the directions of Hon'ble Supreme Court vide its order dated 10th December, 1996 passed in Civil writ Petition No 4677 of 1985, MC Mehta Vs Union of India, the Central Government had constituted the Central Ground Water Board as Authority vide notification number S.O. 38 (E), dated the 14th January, 1997 to exercise powers under sub section (3) of section 3 of the Environment (Protection) act, 1986 (29 of 1986) for the purposes of regulation and control of Ground Water Management and Development and to exercise certain powers and perform certain functions as per the said Act.

The Authority has been regulating ground water development and management by way of issuing 'No Objection Certificates' for ground water extraction to industries or infrastructure projects or Mining Projects etc., and framed guidelines in this connection from time to time applicable in twenty two States and two Union territories, where ground water development is not being regulated by the State Government and Union territory administration concerned.

To have sustainable management of water resources in the country groundwater abstraction guidelines have been prepared to regulate groundwater extraction and conserve the scarce groundwater resources in the country.

These guidelines will come into force with immediate effect from the date of Gazette Notification and will supersede all earlier guidelines issued by the Central Ground Water Authority (CGWA).

These guidelines will have pan India applicability. Ground water abstraction in States/ Uts (which are not regulating ground water abstraction) shall continue to be regulated by Central Ground Water Authority.

Further, wherever States/ Uts have come out with their own groundwater abstraction guidelines, which are inconsistent with the CGWA guidelines, the provisions of CGWA guidelines will prevail. However, in case the guidelines followed by such States/ Uts contain some more stringent provisions than CGWA guidelines, such provisions may also be given effect to by the States/ Uts Authorities in addition to those contained in the CGWA guidelines. States may be at liberty to suggest additional conditions/ criteria based on the local hydro-geological situations which shall be reviewed by CGWA/Ministry of Jal Shakti, Government of India before acceptance.

All new/existing industries, industries seeking expansion, infrastructure projects and mining projects abstracting ground water, unless specifically exempted under Para 1.0 below, will be required to seek No Objection Certificate from Central Ground Water Authority or, the concerned State/ UT Ground Water

Authority as the case may be. The entire process of grant of No Objection Certificate shall be online through a web based application system.

Water management plans shall be prepared by all the State Ground Water Authorities/ Organizations for all Over-exploited, Critical and Semi-critical assessment units starting with Over-exploited units. Water management plans shall be reviewed and updated periodically. Water management plans, data on water availability and scarcity and policy framed in this regard shall be placed on the websites of Central Ground Water Authority/ State Ground Water Authority.

1.0 Exemptions from seeking No Objection Certificate:

Following categories of consumers shall be exempted from seeking No Objection Certificate for ground water extraction:

- (i) Individual domestic consumers in both rural and urban areas for drinking water and domestic uses.
- (ii) Rural drinking water supply schemes.
- (iii) Armed Forces Establishments and Central Armed Police Forces establishments in both rural and urban areas.
- (iv) Agricultural activities.
- (v) Micro and small Enterprises drawing ground water less than 10 cum/day.

1.1 Registration of Drilling Rigs

State / Ut Governments shall be responsible for registering drilling rigs operating within their jurisdiction and for maintaining the database of wells drilled by them. Appropriate link shall be provided in CGWA portal for making the data available to CGWA.

2.0 Drinking & Domestic use for Residential apartments/ Group Housing Societies/ Government water supply agencies in urban areas

For grant of No Objection Certificate for ground water extraction, the project proponent has to furnish the details as per the guidelines issued by the CGWA in proper format as available in CGWA website. No Objection Certificate for new /existing wells shall be granted only in such cases where the local Government water supply agency is unable to supply requisite amount of water in the area.

No Objection Certificate shall be granted subject to the following specific conditions:

- i) Installation of Sewage Treatment Plants shall be mandatory for all residential apartments/ Group Housing Societies where ground water requirement is more than 20 m³/day. The water from Sewage Treatment Plants shall be utilized for toilet flushing, car washing, gardening etc.
- ii) The No Objection Certificate shall be valid for a period of five years from the date of issue or till such time local Government water supply is provided to the project area, whichever is earlier. In case the project proponent receives water supply from the concerned local Government Water Supply Agency during the validity of the No Objection Certificate, intimation regarding availability of public water supply shall be sent by the project proponent to CGWA and No Objection Certificate will be cancelled by the Authority. In other cases, the project proponent will apply for renewal of No Objection Certificate, ninety days before the expiry of No Objection Certificate.
- iii) Proponents shall be liable to pay ground water abstraction charges for the quantum of ground water proposed to be extracted, as per rates mentioned in Table 5.1.

Documents to be submitted with the application

- a) Details of water requirement computed as per National Building Code, 2016 (**Annexure I**), taking into account recycling/ reuse of treated water for flushing etc.
- b) Affidavit on non-judicial stamp paper of Rs. 10/- by the applicant, confirming non/ inadequate availability of public water supply in case of users requiring ground water up to 10 m³/ day for drinking/ domestic use.
- c) Certificate of non-availability of water from local government water supply agency in cases requiring ground water in excess of 10 m³/ day for drinking/ domestic use. Government water supply agencies

applying for No Objection Certificate shall submit copy of government approval of the scheme/project proposed to be implemented.

- d) Ground water quality data of existing bore well/ tube well/ dug well from any National Accreditation Board for Testing and Calibration Laboratories (NABL) accredited laboratory or Govt. approved laboratory (in case of existing projects applying for no objection certificate)
- e) Proposal for rain water harvesting/ recharge within the premises as per Model Building Bye Laws issued by Ministry of Housing & Urban Affairs.

3.0 Agriculture Sector

Agriculture sector is the backbone of the Indian economy. As per Minor Irrigation Census 2013-14, 87.86% of wells are owned by marginal, small and semi-medium farmers having land holding up to 4 hectares (ha). Around 9.18 % of wells are owned by medium farmers having land holding 4 – 10 ha and 2.96% of the wells are owned by big farmers having land holding more than 10 ha.

Considering the number of ground water abstraction structures, regulation of ground water in agriculture sector through a 'command and control' strategy will prove to be an arduous task. Therefore, a participatory approach for sustainable ground water management would be more productive.

States/Uts are advised to review their free/subsidized electricity policy to farmers, bring suitable water pricing policy and may work further towards crop rotation/diversification/other initiatives to reduce over-dependence on groundwater.

Agriculture sector shall be exempted from obtaining No Objection Certificate for ground water extraction.

4.0 Commercial Use

No new major industries shall be granted No Objection Certificate in over-exploited assessment areas except as per the policy guidelines.

Availability of ground water resources shall be given due regard while considering applications for grant of No Objection Certificate for commercial use.

Commercial entities extracting ground water shall be required to submit online annual water audit report including an audit of water use as mentioned in the relevant sections. CGWA/ State Ground Water Authority (SGWA) shall publish all such audit reports online.

CGWA/ SGWAs shall engage independent agencies to verify the compliance of No Objection Certificate conditions periodically.

4.1 Industrial Use

In Over-exploited assessment units, No Objection Certificate shall not be granted for ground water abstraction to any new industry except those falling in the category of Micro, Small and Medium Enterprises (MSME). However, No Objection Certificate for drinking/ domestic use for work force, green belt use by these new industries shall be permitted. Expansion of existing industries involving increase in quantum of ground water abstraction in over-exploited assessment units shall not be permitted. No Objection Certificate shall not be granted to new packaged water industries in Overexploited areas, even if they belong to MSME category.

No Objection Certificate for ground water extraction by industries shall be granted subject to the following specific conditions:

- i) No Objection Certificate shall be granted only in such cases where local government water supply agencies are not able to supply the desired quantity of water.
- ii) All industries shall be required to adopt latest water efficient technologies so as to reduce dependence on ground water resources.
- iii) All industries abstracting ground water in excess of 100 m³/d shall be required to undertake annual water audit through Confederation of Indian Industries (CII)/ Federation Indian Chamber of Commerce and Industry (FICCI)/ National Productivity Council (NPC) certified auditors and submit audit reports within three months of completion of the same to CGWA. All such industries shall be

- required to reduce their ground water use by at least 20% over the next three years through appropriate means.
- iv) Construction of observation well(s) (piezometer)(s) within the premises and installation of appropriate water level monitoring mechanism as mentioned in Section 15 shall be mandatory for industries drawing/ proposing to draw more than 10 m³/day of ground water and. Monitoring of water level shall be done by the project proponent. The piezometer (observation well) shall be constructed at a minimum distance of 15 m from the bore well/production well. Depth and aquifer zone tapped in the piezometer shall be the same as that of the pumping well/ wells. Detailed guidelines for design and construction of piezometers are given in **Annexure II**. Monthly water level data shall be submitted to the CGWA through the web portal.
 - v) The proponent shall be required to adopt roof top rain water harvesting/ recharge in the project premises. Industries which are likely to pollute ground water (chemical, pharmaceutical, dyes, pigments, paints, textiles, tannery, pesticides/ insecticides, fertilizers, slaughter house, explosives etc.) shall store the harvested rain water in surface storage tanks for use in the industry.
 - vi) Injection of treated/ untreated waste water into aquifer system is strictly prohibited.
 - vii) Industries which are likely to cause ground water pollution e.g. Tanning, Slaughter Houses, Dye, Chemical/ Petrochemical, Coal washeries, other hazardous units etc. (as per CPCB list) need to undertake necessary well head protection measures to ensure prevention of ground water pollution (**Annexure III**).
 - viii) All industries drawing ground water in safe, semi-critical and critical assessment units shall be required to pay ground water abstraction charges as applicable as per Tables 5.2 A and 5.3 A.
 - ix) All existing industries drawing ground water in over-exploited assessment units shall be liable to pay ground water restoration charges as applicable as per Tables 5.2 B and 5.3 B.

Documents to be submitted with the application

- (a) An affidavit on non judicial stamp paper of Rs. 10/- regarding non availability of water supply from local government agencies in cases where ground water requirement is up to 10 m³/day.
- (b) Certificate regarding non/ partial availability of fresh water/ treated waste water supply from the local government water supply agency in cases where requirement of ground water is more than 10 m³/day.
- (c) Ground water quality data of existing bore well/ tube well/ dug well from any NABL accredited laboratory or Govt. approved laboratory (in case of existing projects applying for No Objection Certificate)
- (d) Water quality data of bore well/ tube well/ dug well in respect of existing industries from NABL accredited laboratories/Government approved laboratories.
- (e) Proposal for rain water harvesting/ recharge within the premises as per Model Building Bye Laws issued by Ministry of Housing & Urban Affairs.
- (f) **Impact Assessment report:** All projects extracting/proposing to extract ground water in excess of 100 m³/day in Over-exploited, Critical and Semi-critical areas shall have to mandatorily submit impact assessment report of existing/ proposed ground water withdrawal on the ground water regime and also socio-economic impacts report prepared by accredited consultants. Pro-forma for the report is given in **Annexure IV**.

4.2 Mining Projects

All existing as well as new mining projects will be required to obtain No Objection Certificate for ground water abstraction. Since mining projects are location specific, there will be no ban on grant of No Objection Certificate for abstraction of ground water for such projects in over-exploited assessment units.

No Objection Certificate for mining projects shall be granted subject to the following specific conditions:

- i) It shall be mandatory for all the mining industries to ensure that water available from de-watering operations is properly treated and should be gainfully utilized for supply for irrigation, dust

suppression, mining process, recharge in downstream and for maintaining e-flows in the river system.

- ii) Construction of observation well(s) (piezometers) along the periphery in the premises, for monthly ground water level monitoring, shall be mandatory for mines drawing/ proposing to draw more than 10 m³/day of ground water. Depth and aquifer zone tapped in the piezometer shall be commensurate with that of pumping well/ wells.
- iii) In addition, the proponent shall monitor ground water levels by establishing observation wells (piezometers) in the core and buffer zones as specified in the No Objection Certificate.
- iv) In case of coal and other base metal mining the project proponent shall use the advance dewatering technology (by construction of series of dewatering abstraction structures) to avoid contamination of surface water.
- v) In addition to this, all mining units shall also monitor the water quality of mine seepage and mine discharge through NABL accredited/ Govt. approved laboratories and the same shall be submitted at the time of self compliance.
- vi) All mining projects drawing ground water in safe, semi-critical and critical assessment units shall be required to pay ground water abstraction charges as applicable as per Tables 5.4 A.
- vii) All mining projects drawing ground water in over-exploited assessment units shall be liable to pay ground water restoration charges as per Table 5.4 B.

Documents to be submitted with the application

- (a) Mining plan approved by the concerned Govt. agency/ department.
- (b) Proposal for rain water harvesting/ recharge within the premises as per Model Building Bye Laws issued by Ministry of Housing & Urban Affairs.
- (c) Comprehensive report prepared by accredited consultant on ground water conditions in both core and buffer zones of the mine, depth wise and year wise mine seepage calculations, impact assessment of mining and dewatering on ground water regime and its socio-economic impact, details of recycling, reuse and recharge, reduction of pumping with use of technology for mining and water management to minimize and mitigate the adverse impact on ground water, based on local conditions. Format for report is given in **Annexure V**.

4.3 Infrastructure projects:

Since infrastructure projects are location specific, grant of No Objection Certificate to such projects located in over-exploited assessment units shall not be banned. New infrastructure projects/ residential buildings may require dewatering during construction activity and/ or use ground water for construction. In both cases, applicants shall seek No Objection Certificate from CGWA before commencement of work. However, in over-exploited assessment units, use of ground water for construction activity shall be permitted only if no treated sewage water is available within 10 km radius of the site. New as well as existing Infrastructure projects shall also be required to seek No Objection Certificate for abstraction of ground water.

No 'No Objection Certificate' shall be granted for extraction of groundwater for Water Parks, Theme Parks and Amusement Parks in over-exploited assessment units.

Indicative list of Infrastructure projects is given in Annexure VI.

The No Objection Certificate for ground water abstraction will be granted subject to the following specific conditions:

- i) In case of infrastructure projects that require dewatering, proponent shall be required to carry out regular monitoring of dewatering discharge rate (using a digital water flow meter) and submit the data through the web portal to CGWA/SGWA as applicable. Monitoring records and results should be retained by the proponent for two years, for inspection or reporting as required by CGWA/SGWA.

- ii) Installation of Sewage Treatment Plants (STP) shall be mandatory for new projects, where ground water requirement is more than 20 m³/day. The water from STP shall be utilized for toilet flushing, car washing, gardening etc.
- iii) For infrastructure dewatering/ construction activity, No Objection Certificate shall be valid for specific period as per the detailed proposal submitted by the project proponent.
- iv) All infrastructure projects drawing ground water in safe, semi-critical and critical assessment units shall be required to pay ground water abstraction charges as applicable as per Table 5.3 A.
- v) All infrastructure projects (new/ existing) drawing ground water in over-exploited assessment units shall be liable to pay ground water restoration charges as per Table 5.3 B.

Documents to be submitted with the application

- (a) In cases where dewatering is involved, submission of impact assessment report prepared by an accredited consultant on the ground water situation in the area giving detailed plan of pumping, proposed usage of pumped water and comprehensive impact assessment of the same on the ground water regime shall be mandatory. The report should highlight environmental risks and proposed management strategies to overcome any significant environmental issues such as ground water level decline, land subsidence etc.
- (b) An affidavit on non judicial stamp paper of Rs. 10/- regarding non availability of water from any other source in case water is required for construction in safe and semi critical areas.
- (c) Certificate from a government agency regarding non availability of treated sewage water for construction within 10 km radius of the site in critical and over-exploited areas.
- (d) Certificate of non-availability of water from local government water supply agency in respect of all categories of assessments units for commercial use.
- (e) Proposal for rain water harvesting/ recharge within the premises as per Model Building Bye Laws issued by Ministry of Housing & Urban Affairs.
- (f) Details of water requirement computed as per National Building Code, 2016 (**Annexure I**), taking into account recycling/ reuse of treated water for flushing etc. (in case of completed infrastructure projects for commercial use).
- (g) Completion certificate from the concerned agency for infrastructure projects requiring water for commercial use.

5.0 Ground water abstraction/ restoration charges

All residential apartments/ group housing societies/ Government water supply agencies in urban areas shall be required to pay ground water abstraction charges.

All industries/mining/ infrastructure projects drawing ground water in safe, semi-critical and critical assessment units will have to pay ground water abstraction charges based on quantum of ground water extraction and category of assessment unit as per details given in this guideline.

All existing mining/ infrastructure projects and existing industries including MSME drawing ground water in over-exploited assessment units will have to pay ground water restoration charges based on quantum of ground water extraction. Further, new MSME, new infrastructure and new Mining projects in over exploited areas shall also be required to pay ground water restoration charges.

Existing industries, infrastructure units and mining projects which have installed/constructed artificial recharge structures in compliance of the conditions prescribed in the groundwater guidelines prevailing at the time of grant of No Objection Certificate or its renewal shall be eligible for a rebate of 50% (fifty percent) in the ground water abstraction charges/ground water restoration charges, subject to their satisfactory performance and verification.

The revenue generated from the proposed water abstraction/ restoration charges shall be kept in a separate fund for implementation of site specific suitable demand/ supply side interventions.

5.1 Rates of Ground water abstraction /restoration charges

I. Drinking and domestic use for residential apartments/ group housing societies/ Government water supply agencies in Urban areas

All residential apartments/ Group Housing Societies requiring water only for drinking/domestic use requiring No Objection Certificate would pay ground water abstraction charges as per rates given below in Table 5.1.

Table 5.1 Ground Water Abstraction charges for Drinking & Domestic use.

Quantum of Groundwater withdrawal (m ³ /month)	Rate of ground water abstraction charges (Rs. per m ³)
0-25	No charge
26-50	1.00
>50	2.00

Government water supply agencies and Government infrastructure projects shall pay Ground water abstraction Charges @ Rs. 0.50 per m³.

II. Packaged Drinking Water units

Rates of ground water abstraction charges for packaged drinking water units in safe, semi-critical and critical assessment units are given in Table 5.2 A and those for ground water restoration charges in over-exploited assessment units are given in Table 5.2 B.

Table 5.2 A: Rates of ground water abstraction charges for packaged drinking water units (Rs per m³)

S.No.	Category of area ↓ Ground water use →	Quantum of ground water withdrawal				
		Up to 50m ³ /day	51 to <200 m ³ /day	200 to <1000 m ³ /day	1000 to <5000 m ³ /day	5000 m ³ /day and above
1.	Safe	1.00	3.00	5.00	8.00	10.00
2.	Semi-critical	2.00	5.00	10.00	15.00	20.00
3.	Critical	4.00	10.00	20.00	40.00	60.00

Table 5.2 B: Rates of ground water restoration charges for packaged drinking water units (Rs per m³)

S.No.	Category of area ↓ Ground water use →	Quantum of ground water withdrawal				
		Up to 50 m ³ /day	51 to <200 m ³ /day	200 to <1000 m ³ /day	1000 to <5000 m ³ /day	5000 m ³ /day and above
1.	Over-exploited (existing industries only)	8.00	20.00	40.00	80.00	120.00

III. Other Industries & infrastructure projects

Rates of ground water abstraction charges for other industries and infrastructure projects in safe, semi-critical and critical assessment units are given in Table 5.3 A and those for ground water restoration charges in over-exploited assessment units are given in Table 5.3 B.

Table 5.3 A: Rates of Ground Water abstraction charges for other industries & infrastructure projects (Rs per m³)

S.No.	Category of area ↓ Ground water use →	Quantum of ground water withdrawal			
		< 200 m ³ /day	200 to <1000 m ³ /day	1000 to <5000 m ³ /day	5000 m ³ /day and above
1.	Safe	1.00	2.00	3.00	5.00
2.	Semi-critical	2.00	3.00	5.00	8.00
3.	Critical	4.00	6.00	8.00	10.00

Table 5.3 B: Rates of ground water restoration charges for other industries & infrastructure projects (Rs per m³)

S.No.	Category of area ↓ Ground water use →	Quantum of ground water withdrawal			
		< 200 m ³ /day	200 to <1000 m ³ /day	1000 to <5000 m ³ /day	5000 m ³ /day and above
1.	Over-exploited (existing industries / new Industries as per the present Guidelines)	6.00	10.00	16.00	20.00

IV. Mining projects

Rates of ground water abstraction charges for mining, which are drawing ground water in safe, semi-critical and critical assessment units are given in Table 5.4 A and those for ground water restoration charges in case of projects drawing ground water in over-exploited assessment units are given in Table 5.4 B.

Table 5.4 A: Rates of ground water abstraction charges for mining (Rs. per m³)

S.No.	Category of area ↓ Ground water use →	Quantum of ground water withdrawal			
		< 200 m ³ /day	200 to <1000 m ³ /day	1000 to <5000 m ³ /day	5000 m ³ /day and above
1.	Safe	1.00	2.00	2.50	3.00
2.	Semi-critical	2.00	2.50	3.00	4.00
3.	Critical	3.00	4.00	5.00	6.00

Table 5.4 B: Rates of ground water restoration charges for mining (Rs. per m³)

S.No.	Category of area ↓ Ground water use →	Quantum of ground water withdrawal			
		< 200 m ³ /day	200 to <1000 m ³ /day	1000 to <5000 m ³ /day	5000 m ³ /day and above
1.	Over-exploited	4.00	5.00	6.00	7.00

6.0 Bulk Water Supply

All private tankers abstracting ground water and use it for supply as bulk water suppliers will now mandatorily seek No Objection Certificate for ground water abstraction. The bulk water suppliers through tankers drawing ground water in safe, semi-critical and critical assessment units shall pay groundwater abstraction charges as per the **Table-6.1 A**. The bulk water suppliers drawing ground water in over-exploited assessment units shall pay the groundwater restoration charges as per the **Table-6.1 B**. All tankers will have to install GPS based system for their monitoring of movement/area of operation.

Modalities for issue of No Objection Certificate for bulk/tanker water supplies shall be worked out in consultation with States/Uts and suitable guidelines in this regard will be framed and issued separately for the same.

Table-6.1A: Groundwater abstraction charges for Bulk/Tanker water supplies

Category	Rate per m ³ (in Rs.)
Safe	10
Semi Critical	20
Critical	25

Table-6.1B: Groundwater abstraction charges for Bulk/Tanker water supplies

Category	Rate per m ³ (in Rs.)
Over Exploited	35

7.0 Abstraction of Saline ground water

Abstraction of saline ground water in areas having either saline ground water at all depths or pockets of saline ground water in an otherwise fresh water area for use by industries/ dewatering by infrastructure/ mining projects including those located in over-exploited areas would be encouraged. Such industries shall be exempted from paying ground water abstraction charges.

The list of such assessment units having saline ground water at all depths as per the latest assessment of dynamic ground water resources will be made available by the CGWA in their website. However, due care shall be taken in respect of disposal of effluents by the units so as to protect the water bodies and the aquifers from pollution.

Detailed guidelines in this regard shall be prepared and issued separately.

8.0 Protection of Wetland Areas

The wet land areas in the country are very crucial as they are direct reflection of the presence of ground water in such areas. The protection of the wetland areas is being separately handled by the Wetland Authorities. Since ground water is very crucial for the survival of the wetland area, any excessive ground water development within the zone of wetland area would affect the volume of water in that wetland.

Projects falling within 500 m. from the periphery of demarcated wetland areas shall mandatorily submit a detailed proposal indicating that any ground water abstraction by the project proponent does not affect the protected wetland areas. Furthermore, before seeking permission from CGWA, the projects shall take consent/approval from the appropriate Wetland Authorities to establish their projects in the area.

9.0 General compliance conditions in No Objection Certificate

- i. Installation of digital water flow meter (conforming to BIS/ IS standards) having telemetry system in the abstraction structure(s) shall be mandatory for all users seeking No Objection Certificate and intimation regarding their installation shall be communicated to the CGWA within 30 days of grant of No Objection Certificate through the web-portal.
- ii. Proponents shall mandatorily get water flow meter calibrated on from an authorized agency once in a year.
- iii. Proponents shall install roof top rain water harvesting & recharge systems in the project area.
- iv. Proponents shall pay Ground Water Abstraction/ Restoration Charges based on quantum of ground water extraction as applicable as per the rates given in Section 6.
- v. Construction of purpose-built observation wells (piezometers) for ground water level monitoring shall be mandatory as per Section 15. Water level data shall be made available to CGWA through web portal. Detailed guidelines for construction of piezometers are given in **Annexure-II**.
- vi. Proponents shall monitor quality of ground water from the abstraction structure(s) once in a year. Water samples from bore wells/ tube wells / dug wells shall be collected during April/May every year and analysed in NABL accredited laboratories for basic parameters (cations and anions), heavy metals, pesticides/ organic compounds etc. Water quality data shall be made available to CGWA through the web portal.
- vii. If the existing well becomes defunct due to mechanical failure within the validity period of No Objection Certificate, the user can construct a replacement well under intimation to CGWA on web portal. The defunct well shall be properly sealed (**Refer Annexure VII**). The user will be required to submit documentary proof in this regard. However, if the existing abstraction structures fails to yield water and he proponent desires to drill another tubewell in the same premises, prior permission of the Authority shall be required. If the replacement well is to be drilled in some different place, the proponent shall obtain fresh No Objection Certificate.
- viii. Wherever feasible, requirement of water for greenbelt (horticulture) shall be met from recycled / treated waste water.
- ix. In case of change of ownership, new owner of the industry will have to apply for incorporation of necessary changes in the No Objection Certificate with documentary proof within 60 days of taking over possession of the premises.

10.0 Monitoring of compliance of No Objection Certificate Conditions

To monitor the compliance of No Objection Certificate conditions, Central Ground Water Authority and State/ UT Ground Water Authorities shall take the following steps:

- a. Suitable MIS will be developed for compliance monitoring.
- b. District Collectors/Deputy Commissioners (DCs) /District Magistrates (DMs) are authorized to take enforcement measures like sealing of unauthorized ground water abstraction structures, disconnection of electricity, launching of prosecution against those violating the No Objection Certificate conditions and taking action for imposition of Environmental Compensation.
- c. Technical officers of CGWB/ CGWA and State groundwater organizations are authorized to take actions with respect to monitoring and periodic inspections with the approval of competent authority.
- d. In case of violation of any of the No Objection Certificate conditions, the proponents shall be liable to pay the penalties as per **Section 16**.

11.0 Renewal of No Objection Certificate

No objection certificate shall be renewed periodically, subject to the compliance of the conditions mentioned therein:

- i. The applicant shall apply for renewal of No Objection Certificate at least ninety days prior to expiry of its validity.
- ii. Application for renewal of No Objection Certificate shall be accompanied by the Compliance Report.
- iii. Before granting renewal, Central Ground Water Authority or State/ Ut Authority shall satisfy itself that the conditions of No Objection Certificate have been complied with.
- iv. In case of change in category of the assessment unit, renewals would be granted with conditions as laid down for new category.
- v. No Objection Certificate will be renewed for the terms specified for various uses as follows:

Category	Use	Term of renewal
Critical, Semi-critical and safe	Infrastructure projects for drinking & domestic use and urban Water Supply Agencies	5 years
	Industries	3 years
	Mines	2 years
Over exploited	All users in 'Over-exploited areas'	2 years

- vi. If the application for renewal is submitted in time and the CGWA/ the respective State/ Ut Authority is unable to process the application in time, No Objection Certificate shall be deemed to be extended till the date of renewal of No Objection Certificate.
- vii. If the proponent fails to apply for renewal within 3 months from the date of expiry of No Objection Certificate, the proponent shall be liable to pay Environmental Compensation for the period starting from the date of expiry of No Objection Certificate till No Objection Certificate is renewed by the competent authority.

12.0 Extension of No Objection Certificate

If the proponent is unable to construct the well(s) during the validity period of No Objection Certificate for genuine reasons, the proponent will have to apply for extension of No Objection Certificate. Application for extension should be supported by documents justifying the reasons for delay. Other conditions for grant of extension of No Objection Certificate will be the same as that for fresh No Objection Certificate.

Extension of No Objection Certificate will be granted for a maximum period of two years. No further extension will be granted after the expiry of the extended period. In that case, the applicant will have to apply afresh for grant of No Objection Certificate.

13.0 Delegation of powers against illegal groundwater withdrawal

Central Ground Water Authority has appointed the District Magistrate/ District Collector/ Sub Divisional Magistrates of each Revenue District/Sub division as Authorized Officers, who have been delegated the power to seal illegal wells, disconnect electricity supply to the energised well, launch prosecution against offenders etc. including grievance redressal related to ground water in their respective jurisdictions.

In order to further decentralise and strengthen the monitoring and compliance mechanism as per the guidelines, officials of concerned Departments of Revenue and Industries of the States/Uts shall be appointed as Authorised Officers in consultation with the State/Ut Governments.

A copy of the No Objection Certificate issued by the CGWA in the No Objection Certificate Application Portal (NOCAP) will be forwarded to the respective District Magistrate/ District Collector. In case of any violation of the directions of Central Ground Water Authority and non-fulfilment of the conditions laid

down in the No Objection Certificate, the Authorised Officers will file appropriate Petition/Original Application etc under sections 15 to 21 of the Environment (Protection) Act, 1986 in appropriate Courts.

14.0 Ground Water Level Monitoring

All the project proponents (drawing ground water more than 10 cum/d) have to mandatorily construct Piezometers (observation wells) within their premises for monitoring of the ground water levels. Such a mechanism of compliance conditions has been made to ensure that every month the ground water level in the project area can be monitored and observed. In this regard the necessary criteria for monitoring of water levels through piezometers by the project proponents is given in Table 14.1.

S.No.	Quantum of Ground water withdrawal (cum/d)	No. of piezometer required	Monitoring mechanism		
			Manual	DWLR	DWLR with Telemetry
1	<10	0	0	0	0
2	11-50	1	1	0	0
3	51-500	1	0	1	0
4	>500	2	0	1	1

The piezometer shall be suitably located to ensure that zone of aquifer tapped in the piezometer is the same as that of the pumping well.

15.0 Environmental Compensation

Extraction of ground water for commercial use by industries, infrastructure units and mining projects without a valid No Objection Certificate from appropriate authority shall be considered illegal and such entities shall be liable to pay Environmental Compensation for the quantum of ground water so extracted. The norms prescribed by Central Pollution Control Board (CPCB) shall be utilized for calculating the Environmental compensation as mentioned below:

$$EC_{GW} = \text{Ground water consumption per day} \times \text{Environmental Compensation rate (ECR}_{GW}) \times \text{No. of days} \times \text{Deterrence factor}$$

where ground water consumption is in m³/day and ECR_{GW} in Rs./ cum

15.1 Rates of Environmental Compensation:

Rates of Environmental Compensation (ECR_{GW}) for various types of users in different categories of assessment units are given in Table 15.1 to 15.3.

Table 15.1 : ECR_{GW} for Packaged Drinking Water units

S.No.	Area Category	Water Consumption (cum/day)			
		<200/	200 to <1000	1000 to <5000	5000 & above
		Environmental Compensation Rate (ECR _{GW}) in Rs./m ³			
	Safe	12	18	24	30
2	Semi critical	24	36	48	60
3	Critical	36	48	66	90
4	Over- exploited	48	72	96	120

Note :-Minimum EC_{GW} shall not be less than Rs 1,00,000/-

Table 15.2: ECR_{GW} for Mining/ infrastructure dewatering projects

S.No.	Area Category	Water Consumption (cum/day)			
		<200	200 to <1000	1000 to <5000	5000 & above
		Environmental Compensation Rate (ECR _{GW}) in Rs./m ³			
1	Safe	15	21	30	40
2	Semi critical	30	45	60	75
3	Critical	45	60	85	115
4	Over- exploited	60	90	120	150

Note :-Minimum ECR_{GW} shall not be less than Rs 1,00,000/-

Table 15.3: ECR_{GW} for Industrial units

S.No.	Area Category	Water Consumption (cum/day)			
		<200	200 to <1000	1000 to <5000	5000 & above
		Environmental Compensation Rate (ECR _{GW}) in Rs./m ³			
1	Safe	20	30	40	50
2	Semi critical	40	60	80	100
3	Critical	60	80	110	150
4	Over- exploited	80	120	160	200

Note :-Minimum ECR_{GW} shall not be less than Rs 1,00,000/-

15.2 Deterrent Factors to compensate losses and environmental damage (for packaged drinking water units, mining, industries and infrastructural dewatering projects)

The following deterrent factors based on the duration of illegal ground water extraction shall be levied to compensate for the losses and environmental damages as detailed in Table 15.4.

Table 15.4: Deterrent factor based on quantum of ground water withdrawal and number of years of illegal withdrawal

S.No.	Water Consumption	Deterrence Factor		
		< 2 years	2-5 years	>5 years
1	<1000 KLD	1.00	1.00	1.25
2	1000-5000 KLD	1.00	1.00	1.50
3	>5000 KLD	1.00	1.25	2.00

Note: KLD – Kilolitre per day

16.0 Provision of Penalty

Penalty shall be imposed on the proponents for non-compliance of No Objection Certificate conditions issued by the appropriate authority. Rates of penalty proposed for non-compliance of various conditions of No Objection Certificate are given in Table 16.1. The rates of the penalty shall be reviewed periodically with the approval of competent authority in Ministry of Jal Shakti.

Table 16.1: Penalty provision for non Compliance of No Objection Certificate conditions

S. No.	Items	Charges in Rs.
1	Non installation/faulty Digital water Flow meter with telemetry system.	200000
2	Non disclosure/ construction of additional groundwater abstraction structures a) Non-functional Structures. b) Defunct/Abandoned Note: Given rates are for unit non-functional/defunct/abandoned structures. This shall be multiplied with total such structures to arrive at consolidated penalty.	200000 100000
3	Reporting of fresh water zones as Brackish / Saline zones in application.	200000
4	Non Installation of Piezometer.	200000
5	Non Installation/faulty DWLR/Telemetry system	100000
6	Non Construction/Inadequate capacity of Recharge / Water conservation structures.	500000
7	Non maintenance of Recharge structures.	200000
8	Injection of treated/untreated water into the aquifer system. Note: In addition to penalty, the proponent shall bear the cost of aquifer remediation as per the provisions of Environment (Protection) Act, 1986.	1000000
9	Non Submission of Water level/Water quality Data.	50000
10	Non-maintenance of log book of daily withdrawal/non submission of Groundwater abstraction data.	50000
11	Non submission of photograph of recharge structure(s).	50000
12	Non Submission of Self Compliance report.	100000
13	Construction of groundwater abstraction structures by un authorized/unregistered Drilling Rigs (per structures).	100000
14	Non registration of water supply tankers.	500000
15	Submission of false information/ undertaking.	100000

Charges shall also be payable for correction/modification in the existing issued No Objection Certificate letter. The details of such charges are given in [Table 16.2](#).

Table 16.2: Proposed Charges for correction/Modification in the existing issued No Objection Certificate

S. No.	Items	Charges in Rs.
1	Change in recharge quantum	10000
2	Change in User ID.	5000
3	Change in firm Name	5000
4	Extension of No Objection Certificate	5000
5	Issuance of duplicate No Objection Certificate	5000
6	Issuance of corrigendum to No Objection Certificate	5000
7	Any other items/corrections etc	5000

17.0 Other important Conditions (Applicable to all):

- i. Sale of ground water by a person/ agency not having valid no objection certificate from CGWA/State Ground Water Authority is not permitted.
- ii. In infrastructure projects, paved/parking area must be covered with interlocking/perforated tiles or other suitable measures to ensure groundwater infiltration/harvesting.
- iii. In case of Infrastructure projects, the firm/entity shall ensure implementation of dual water supply system in the projects. Compliance of the same shall be submitted through the web portal.
- iv. Non-compliance of conditions mentioned in the No Objection Certificate may be taken as sufficient reason for cancellation of no objection certificate accorded/ non-renewal of No Objection Certificate.
- v. No application shall be entertained without supporting documents as specified in relevant sections.
- vi. Abstraction structure(s) should be located inside the premises of project property.
- vii. Self compliance of conditions laid down in the no objection certificate shall be reported by the users online in the web portal of Central Ground Water Authority/state Ground Water Authority.
- viii. Processing fee prescribed, if any, from time to time shall be charged for various services.

Note:

1. Guidelines are subject to modification from time to time.
2. In case of any discrepancy between Hindi and English versions of this document including the annexures, the English version shall prevail.

Annexure I**Estimation of Water Requirements for drinking and domestic use****(Source: National Building Code 2016, BIS)**

a) Residential Buildings:

Accommodations	Population
1 Bedroom dwelling unit	4
2 Bedroom dwelling unit	5
3 Bedroom dwelling unit	6
4 Bedroom dwelling unit and above	7

Notes:

- 1) The above figures consider a domestic household including support personnel, wherever applicable.
- 2) For plotted development, the population may be arrived at after due consideration of the expected number and type of domestic household units.
- 3) Dwelling unit under EWS category shall have population requirement of 4 and studio apartment shall have population requirement of 2.

As a general rule the following rates per capita per day may be considered for domestic and non-domestic needs:

a) For communities with populations up to 20,000:

1)	Water supply through stand post:	40 lphd (Min)
2)	Water supply through house service: connection	70 to 100 lphd

- b) For communities with: 100 to 135 lphd
population 20,000 to 100,00 together with
full flushing system
- c) For communities with population: 150 to 200 lphd
above 100,000 together with
full flushing system

Note—The value of water supply given as 150 to 200 litre per head per day may be reduced to 135 litre per head per day for houses for Medium Income Group (MIG) and Low Income Groups (LIG) and Economically Weaker Section of Society (EWS), depending upon prevailing conditions and availability of water.

Out of the 150 to 200 litre per head per day, 45 litre per head per day may be taken for flushing requirements and the remaining quantity for other domestic purposes.

A. Water Requirements for Buildings Other than Residences

Sl No.	Type of Building	Domestic litres per head/ day	Flushing Litres per head/ day	Total Consumption Litres per head/ day
1.	Factories including canteen where bath rooms are required to be provided	30	15	45
2.	Factories including canteen where no bath rooms are required to be provided	20	10	30
3.	Hospital (excluding laundry and kitchen):			
	a) Number of beds not exceeding 100	230	110	340
	b) Number of beds exceeding 100	300	150	450
	c) Out Patient Department (OPD)	10	5	15
4.	Nurses' homes and medical quarters	90	45	135
5.	Hostels	90	45	135
6.	Hotels (up to 3 star) excluding laundry, kitchen, staff and water bodies	120	60	180
7.	Hotels (4 star and above) excluding laundry, kitchen, staff and water bodies	260	60	320
8.	Offices (including canteen)	25	20	45
9.	Restaurants and food court including water requirement for kitchen:			
	a) Restaurants	55 per seat	15 per seat	70 per seat
	b) Food Court	25 per seat	10 per seat	35 per seat
10.	Clubhouse	25	20	45
11.	Stadiums	4	6	10

12.	Cinemas, concert halls and theatres and multiplex	5 per seat	10 per seat	15 per seat
13.	Schools/Educational institutions:			
	a) Without boarding facilities	25	20	45
	b) With boarding facilities	90	45	135
14.	Shopping and retail (mall)			
	a) Staff	25	20	45
	b) Visitors	5	10	15
15.	Traffic Terminal stations			
	a) Airports	40	30	70
	b) Railway stations (Junction) with bathing facility	40	30	70
	c) Railway stations (Junction) without bathing facility	30	15	45
	d) Railway stations (Intermediate) with bathing facility	25	20	45
	e) Railway stations (Intermediate) without bathing facility	15	10	25
	f) Interstate bus terminals	25	20	45
	g) Intrastate Bus Terminals/Metro Stations	10	5	15

Notes:

1. For calculating water demand for visitors, consumption of 15 litre per head per day may be taken.
2. The water demand includes requirement of patients, attendants, visitors and staff. Additional water demand for kitchen, laundry and clinical water shall be computed as per actual requirements.
3. The number of persons shall be determined by average number of passengers handled by stations, with due considerations given to the staff and vendors who are using these facilities.
4. Consideration should be given for seasonal average peak requirements.
5. The hospitals may be categorized as Category A (25 to 50 beds), Category B(51 to 100 beds), Category C (101 to 300 beds), Category D (301 to 500) and Category E (501 to 750 beds).

Annexure II**Guidelines for construction of Piezometers and monitoring of Ground Water Levels and Quality**

Piezometer is a borewell/tubewell used only for measuring the water level by lowering a tape/sounder or automatic / digital water level measuring equipment. It is also used to take water sample for water quality testing whenever needed. General guidelines for installation of piezometers are as follows:

- The piezometer is to be installed/constructed at the minimum distance of 50 m from the pumping well through which ground water is being withdrawn. The diameter of the piezometer should be about four inches to six inches.
- The depth of the piezometer should be the same as that of the pumping well from which ground water is being abstracted. If, more than one pumping wells are constructed tapping aquifers at different depths, more than one piezometers shall be required to be constructed tapping different aquifers as in the pumping wells.

- The measurement of water level in piezometer should be taken, only after the pumping from the surrounding tubewells has been stopped for about four to six hours.
- The ground water quality has to be monitored once in a year during pre-monsoon (April/ May) period by industries and mines drawing ground water. Samples of ground water should be analyzed from NABL accredited laboratory.
- A permanent display board should be installed at Piezometer/ Tubewell site for providing the location, piezometer/ tubewell number, depth and zone tapped of piezometer/tubewell for standard referencing and identification.
- Any other site specific requirement regarding safety and access for measurement may be taken care off.

Annexure III

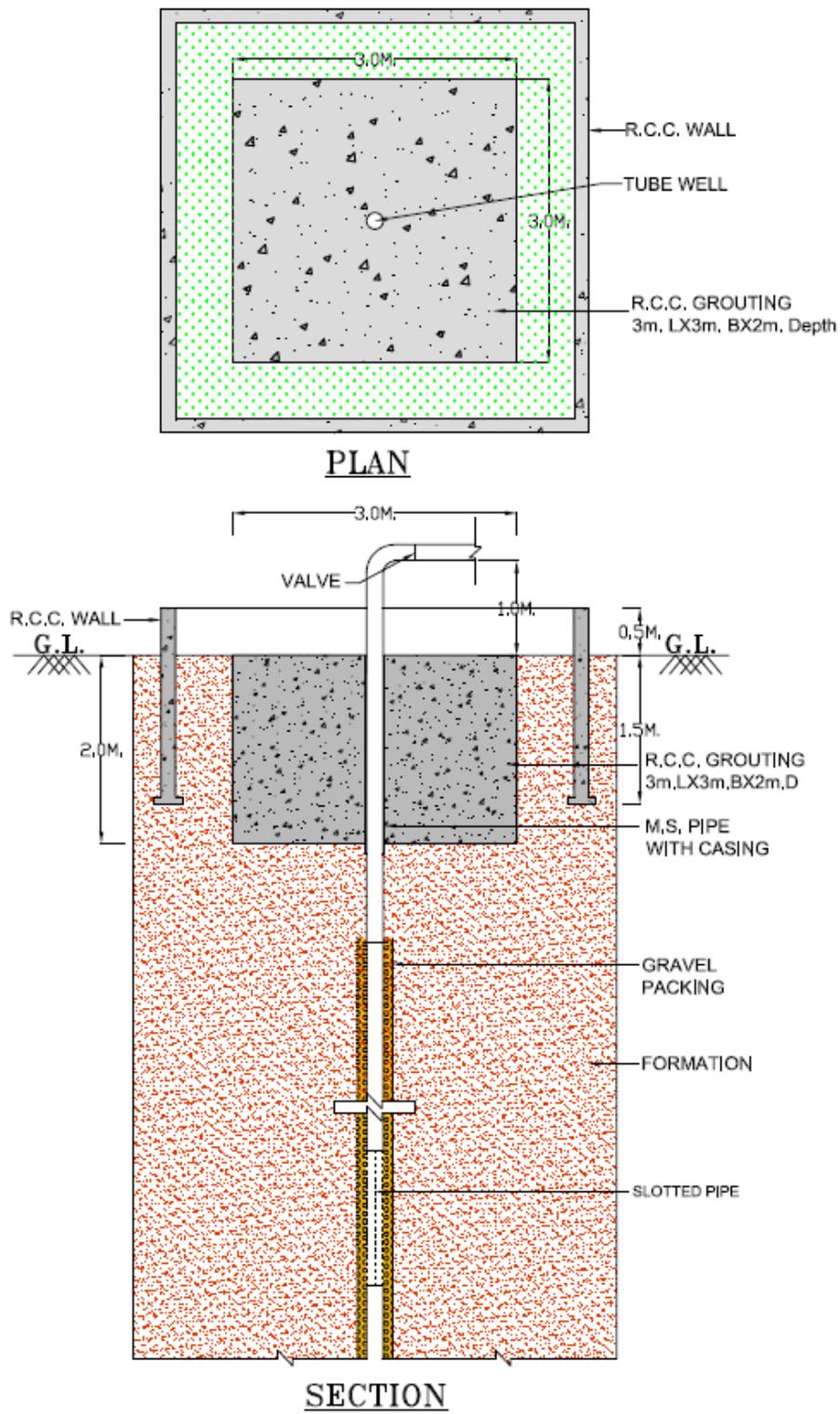
Measures to be adopted to ensure prevention from pollution in the plant premises of polluting industries/ projects

It has been observed that ground water in and around polluting industries like Tannery, Slaughter Houses, Dye, Chemical, Coalwashery, other hazardous units, etc., is polluted. In order to prevent further deterioration of ground water quality, it is essential to take all necessary measures for well head protection. All industries/ projects falling under this category are hereby directed to follow the under mentioned procedure both for existing and new category.

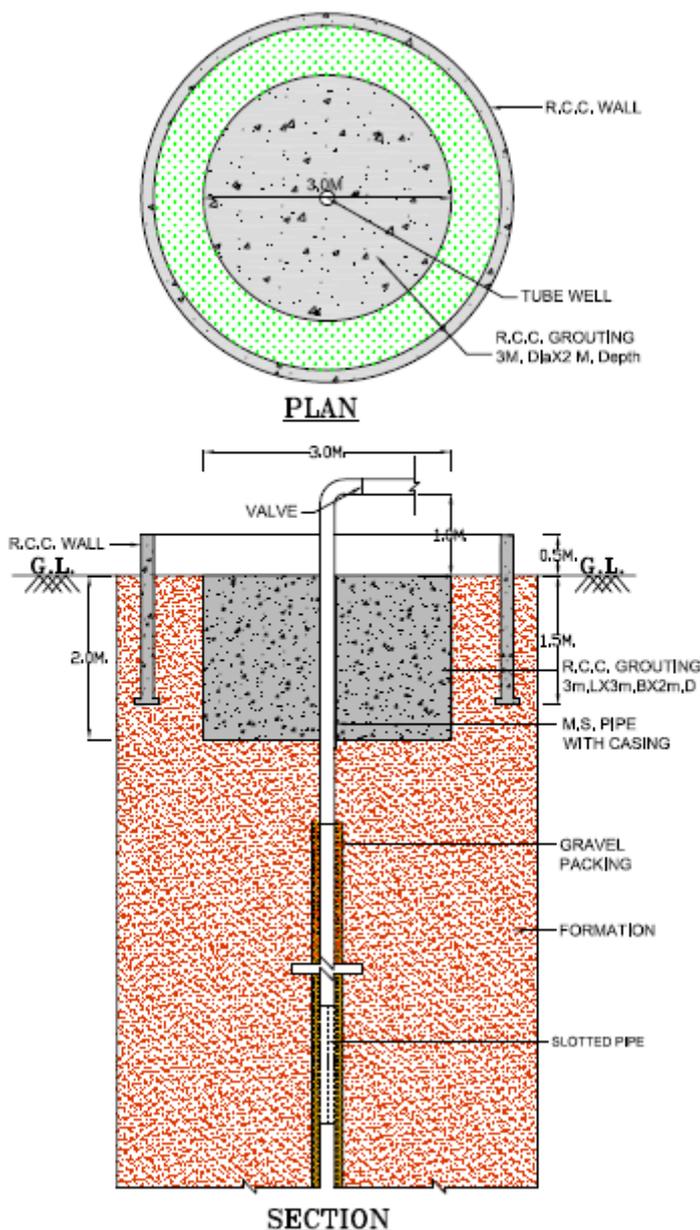
1. No tube well/ bore well / dug well should be constructed in the vicinity of the processing unit. Tube well/ bore well should be constructed at the place which is hygienically maintained.
2. Only Mild Steel pipe should be used for assembly/ casing and PVC (Poly Vinyl Chloride) or similar pipes should not be used. The tube well/ bore well having PVC or similar pipes should be abandoned and filled back.
3. Around the tube well/ bore well, RCC (Reinforced Concrete Cement) grouting of 3 meters (length) x 3 meters (width) x 2 meters (depth) must be provided. The pipe of the tube well/ bore well must be raised 1 meter above ground level (1 magl). The tube well/ bore well must be surrounded by RCC wall of 0.5 meter height and 1.5 meter depth to prevent any surface contamination to enter the constructed tube well/ bore well. Plan/Sectional diagram is enclosed for reference (Appendix 1 and 2).
3. The tube well/ bore well must be fitted with NRV (Non Return Valve) in order to ensure that the constructed tube well/ bore well is exclusively used for abstraction of ground water only.
4. At no point of time there should be any injection of any water or fluid into the constructed tube well/ bore well/ Piezometer.
5. The industries/ projects under this category should not implement any recharge measures within the plant premises.
6. Any tube well/ bore well located/ constructed in the vicinity of STP (Sewage Treatment Plant) or ETP (Effluent Treatment Plant) should be abandoned and filled back.
7. The piezometer to be constructed for monitoring purpose should follow the same procedure as that for tube well/ bore well for such industries/ projects.

Appendix 1

Plan/ Sectional diagram showing well head protection



Plan/ Sectional diagram showing well head protection

**Annexure-IV****Outline of hydro-geological Report for obtaining No Objection Certificate for industries**

1. Brief about the proposed project giving location details, coordinates, google/ toposheet maps, etc. demarcating the project area.
2. Ground water situation in and around the project area including water level and quality data and maps along with quality issues, if any. In case of mines, ground water conditions in both core and buffer zone should be described.
3. Details of the tubewells/ borewells proposed to be constructed. This includes the drilling depth, diameter, tentative lithological log, details of pump to be lowered, H.P. of pump, tentative discharge of tubewells/ borewells, etc. Locations to be marked on the site plan/ map. Location of proposed piezometers.

4. Details of Geophysical studies carried out in and around the project area. Ground water resources computation of the block in which the project falls.
5. Approved Mine plan in case of mines and detailed dewatering plan in case of mine/ infrastructure dewatering projects.
6. Proposed usage of pumped water in case of mining/ infrastructure dewatering projects.
7. Comprehensive assessment of the impact on the ground water regime in and around the project area highlighting the risks and proposed management strategies proposed to overcome any significant environmental issues.
8. Proposed measures for disposal of waste water by industries drawing saline water.
9. Measures to be adopted for water conservation which include recycling, reuse, treatment, etc. This includes the water balance chart being adopted by the firm along with details of water conservation methods to be adopted.
 - Brief write up along with capacity and flow chart of Sewage Treatment Plants / Effluent Treatment Plants / Combined Effluent Treatment Plants existing/ proposed within the project.
 - Details of water conservation measures to be adopted to reduce/ save the ground water.
 - Total water balance chart showing the usage of water for various processes.
10. Any other details pertaining to the project.

Annexure V

Format of the Report on ground water conditions (for mining projects)

Introduction

Project description

Background

Objectives and scope

Regional setting

Location

Landuse

Climate

Topography and drainage

Geology –Regional and Local

General Hydrogeology (aquifer types, aquifer depth, zone tapped etc.)

Groundwater condition (In core and buffer zones)

Spatial and temporal variations in water levels Groundwater quality (Shallow and deep aquifer)

Impact of groundwater extraction on local groundwater

Hydrograph of water level/piezometer in monitoring wells

Trend analysis of historical water levels Flow net analysis (groundwater flow direction)

Year wise/ bench wise mine dewatering computation as per approved mine plan

Conclusions

Annexure VI

Indicative list of Infrastructure projects

Residential townships including commercial buildings
Office building
School
College
University
Special Economic Zone
Metro Station
Railway Station
Bus Depot
Airport
Seaport
Highway infrastructure
Fire station
Warehouse
Business Plaza
Malls & Multiplex
Hospitals
Nursing Homes
Resort
Hotel/ Restaurant/ Food Plaza
Holiday home/Guest house/ Hostels
Banquet Hall/ Marriage Gardens
IT Complex
Logistics & Cargo
Clubs
Trade Centre

Annexure -VII

Supreme Court Order in Civil Writ petition 36 of 2009 regarding measures for prevention of fatal accidents of small children due to their falling into abandoned bore wells and tube wells

In Re: Measures for prevention of fatal accidents of small children due to their falling into abandoned bore wells and tube wells

Union of India and Ors.

Respondents(s)

ORDER

With this Court issuing requisite guidelines vide order dated 11th February, 2010, subject to slight modifications, nothing survives in the present writ petition.

That modification is as follows:

- (i) The owner of the land/ premises, before taking any steps for constructing bore well/ tube well must inform in writing to the concerned authorities in the area, i.e., District Collector/ District Magistrate/ Sarpanch of the Gram Panchayat/ any other Statutory Authority/ concerned officers of the Department of Ground Water/ Public Health/ Municipal Corporation, as the case may be, about the construction of bore well/ tube well.
- (ii) Registration of all the drilling agencies, namely, Government/ Semi Government, Private etc. should be mandatory with the district administration/ Statutory Authority wherever applicable.
- (iii) Erection of signboard at the time of construction near the well with the following details:-
 - (a) Complete address of the drilling agency at the time of construction/ rehabilitation of well.
 - (b) Complete address of the user agency/owner of the well.
- (iv) Erection of barbed wire fencing or any other suitable barrier around the well during construction.
- (v) Construction of cement/ concrete platform measuring 0.50x0.50x0.60 meter (0.30 meter above ground level and 0.30 meter below ground level) around the well casing.
- (vi) Capping of well assembly by welding steel plate or by providing a strong cap to be fixed to the casing pipe with bolts & nuts.
- (vii) In case of pump repair, the tube well should not be left uncovered.
- (viii) Filling of mud pits and channels after completion of works.
- (ix) Filling up abandoned bore wells by clay/sand/boulders/pebbles/drill cuttings etc. from bottom to ground level.
- (x) On completion of the drilling operations at a particular location, the ground conditions are to be restored as before the start of drilling.
- (xi) District Collector should be empowered to verify that the above guidelines are being followed and proper monitoring check about the status of bore holes/ tube wells are being taken care through the concerned state/ Central Government agencies.
- (xii) District/ Block/ Village wise status of bore wells/tube wells drilled viz. No. of wells in use, No. of abandoned bore wells/ tube wells found open, No. of abandoned bore wells/ tube wells properly filled up to ground level and balance number of abandoned bore wells/ tube wells to be filled up to ground level is to be maintained at District Level.

In rural areas, the monitoring of the above is to be done through Village Sarpanch and the Executive from the Agriculture Department.

In case of urban areas, the monitoring of the above is to be done through Junior Engineer and the Executive from the concerned Department of Ground Water/Public Health/ Municipal Corporation etc.

- (xiii) If a bore well/ tube well is 'Abandoned' at any stage, a certificate from the concerned department of Ground Water/ Public Health/ Municipal Corporation/ Private Contractor etc. must be obtained by the aforesaid agencies that the 'Abandoned' bore well/tube well is properly filled upto the ground level. Random inspection of the abandoned wells is also to be done by the Executive of the concerned agency/ department. Information on all such data on the above are to be maintained in the District Collector/ Block Development Office of the State.

We are informed that the last paragraph of the earlier order dated 11th February, 2010, concerning publicity has been duly complied with.

Subject to the above, the writ petition is disposed of.

.....CJL.
[S.H. KAPADIA]

.....J.
[K.S. RADHAKRISHNANA]

.....J.
[SWATANTER KUMAR]

New Delhi,
August 6, 2010

ANNEXURE VIII

List of States/Union territories where ground water extraction is being regulated by Central Ground Water Authority

1. Andaman and Nicobar Islands
2. Assam
3. Arunachal Pradesh
4. Bihar
5. Chhattisgarh
6. Dadra and Nagar Haveli and Daman and Diu
7. Gujarat
8. Haryana
9. Jharkhand
10. Madhya Pradesh
11. Maharashtra
12. Manipur
13. Meghalaya
14. Mizoram
15. Nagaland
16. Odisha
17. Punjab
18. Rajasthan
19. Sikkim
20. Tripura
21. Uttar Pradesh
22. Uttarakhand
23. Andhra Pradesh (only mining projects)
24. Telangana (only mining projects)

Glossary of technical terms used

1. **Safe area:** Area categorized as SAFE from the ground water resources point of view, based on the latest ground water resources assessment carried out jointly by CGWB and State ground water organizations. Details available on the websites of NOCAP and CGWB.
2. **Semi-critical area:** Area categorized as SEMI-CRITICAL from the ground water resources point of view, based on the latest ground water resources assessment carried out jointly by CGWB and State ground water organizations. Details available on the websites of NOCAP and CGWB.
3. **Critical area:** Area categorized as CRITICAL from the ground water resources point of view, based on the latest ground water resources assessment carried out jointly by CGWB and State ground water organisations. Details available on the websites of NOCAP and CGWB.
4. **Over-exploited area:** Area categorized as OVER-EXPLOITED from the ground water resources point of view, based on the latest ground water resources assessment carried out jointly by CGWB and State ground water organisations. Details available on the websites of NOCAP and CGWB.
5. **Aquifer:** Geological formation capable of storing and transmitting ground water.
6. **Deeper Aquifer:** In areas having multiple aquifer system, the aquifer(s) occurring below the uppermost aquifer.
7. **Well:** Any structure used for the extraction of groundwater, including open wells, dug wells, bore wells, dug-cum-bore wells, tube wells, filter points, collector wells, infiltration galleries, recharge wells, or any of their combinations or variations.
8. **Government Agency:** May be Central or State Government body.
9. **Supplier:** Government/ Government approved Water Supply Agency.
10. **Mine:** Area where mining activity is taking place, or area abandoned after mining.
11. **Illegal Ground Water abstraction Structure:** Any energized abstraction structure viz. dugwell, tubewell, borewell which is being used to withdraw ground water without valid No Objection Certificate from Central Ground Water Authority.
12. **Rainwater Harvesting:** The technique or system of collection and storage of rainwater, at micro watershed scale, including roof-top harvesting, for future use or for recharge of groundwater.
13. **Mining Project:** Project which involves mining activity either open cast or underground or both.
14. **Ground Water Draft:** Quantum of ground water withdrawal.
15. **Saline Water:** Water having salinity in excess of 2500 μ siemens/cm at 25⁰C.
16. **Water Table Intersection:** Intersection of the water table on excavation of the overlying material due to mining or other activities.
17. **Drinking and domestic use:** Besides drinking & domestic use of households, this category will cover drinking requirement of industries not requiring water for industrial process; drinking, washing, cleaning use etc. in case of hospitals, hotels, malls & multiplexes, institutions, offices, banquet halls, fire stations, metro stations, railway stations, airports, sea ports, stadia etc.
18. **Recycle/Reuse:** Using treated waste water for various purposes/ putting water to multiple uses.
19. **Government Department:** Either Central Government or State Government.
20. **Municipality:** Municipality, a Municipal Corporation or similar body of local urban governance by any other name.
21. **Groundwater:** Water, which exists below the surface in the zone of saturation and can be extracted through wells or any other means or emerges as springs and base flows in streams and rivers;
22. **Bgl :** Below Ground Level.
23. **BCM :** Billion cubic metres.

24. **Groundwater Abstraction structure:** Structure used to withdraw groundwater like bore well / tube well / dug well/dug cum bore well/tunnel well.
25. **Observation well or Piezometer:** A bore well/tube well used only for measuring the water level/piezometric head and to take water sample periodically but not used for groundwater abstraction.
26. **Water Audit:** A method of quantifying water use in simple or complex systems, with a view to reducing water usage and often saving money on otherwise unnecessary water use.
27. **Ground water pollution:** If concentration of any parameter in ground water exceeds the maximum permissible limit for drinking water prescribed by the Bureau of Indian Standards.
28. **Cooperative Group Housing Societies/ Builder flats:** A Housing Society is a society formed by house owners within a residential complex. The housing society formed must be formally registered with registrar of co-operatives.
29. **KLD – Kilo Litre per day**
30. **EC_{GW}** - Environmental compensation for drawing illegal ground water.
31. **EC_{GWR}** - Environmental compensation rates for drawing illegal ground water.

ANNEXURE X

Annual water audits by the industries (Source – CII)

Water audit is a systematic process of objectively obtaining a water balance by measuring flow of water from the site of water withdrawal or treatment, through the distribution system, and into areas where it is used and finally discharged. Conducting a water audit involves calculating water balance, water use and identifying ways for saving water.

Water audit involves preliminary water survey and detailed water audit. Preliminary water survey is conducted to collect background information regarding plant activities, water consumption and water discharge pattern and water billing, rates and water cess. After the analysis of the secondary data collected from the industry, detailed water audit is conducted, which involves the following steps:

- On site training and discussion with facility manager and personnel
- Water system analysis
- Quantification of baseline water map
- Monitoring and measurements using pressure and flow meters and various other devices
- Quantification of inefficiencies and leaks
- Quantification of water quality loads and discharges
- Quantification of variability in flows and quality parameters
- Strategies for water treatment and reuse or direct use

A detailed water balance is finally developed. Water quality requirement at various user areas is mapped, which helps in developing 'recycle' and 'reuse' opportunities.

The detailed water audit report contains the following:

- Water consumption and wastewater generation pattern
- Specific water use and conservation
- Complete water balance of the facility
- Water saving opportunities
- Method of implementing the proposals
- Full description and figures
- Investment required

Industries can undertake following measures for water conservation:

- Setting up of norms for water budgeting
- Modernization of industrial process to reduce water consumption
- Recycling water with a re-circulating cooling system
- Ozonation cooling water approach which can result in five fold reduction in blow down when compared to traditional chemical treatment
- Reduction in reuse of de-ionized water by eliminating some plenum flushes, converting from a continuous flow to an intermittent flow system and improving control on the use
- Use of waste water for gardening
- Proper processing of effluents to adhere to the norms of disposal.



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NOTIFICATIONS

(87 kb)

Lending to Priority Sector

- Section 1 Classification of Priority Sector Advances
- Section 2 Certain Types of Funds Deployment Eligible as Priority Sector Advances
- Section 3 Targets for Priority Sector Lending by Scheduled Commercial Banks (Excluding Rrbs)
- Section 4 Common guidelines for priority sector advances
- Annexure I
- Annexure II
- Annexure III
- Appendix

RPCD. No. Plan. BC. 42A / 04.09.01/ 2002-2003

11 November 2002

All Scheduled Commercial Banks (excluding RRBs)

Dear Sir,

Master Circular

LENDING TO PRIORITY SECTOR

As you are aware, the Reserve Bank of India has, from time to time, issued a number of guidelines/instructions/directives to banks in regard to matters relating to Priority Sector Lending To enable the banks to have current instructions at one place, a Master Circular incorporating the existing guidelines/instructions/directives on the subject has been prepared and is appended. We advise that this Master Circular consolidates the previous instructions issued by the RBI up to 31 October 2002, which are listed in the *Appendix*, to the extent they deal with the priority sector lending by commercial banks.

Please acknowledge receipt.

Yours faithfully,

(A.V. Sardesai)
Chief General Manager-in-Charge

LENDING TO PRIORITY SECTOR

At a meeting of the National Credit Council held in July 1968, it was emphasised that commercial banks should increase their involvement in the financing of priority sectors, viz., agriculture and small scale industries. The description of the priority sectors was later formalised in 1972 on the basis of the report submitted by the Informal Study Group on Statistics relating to advances to the Priority Sectors constituted by the Reserve Bank in May 1971. On the basis of this report, the Reserve Bank prescribed a modified return for reporting priority sector advances and certain guidelines were issued in this connection indicating the scope of the items to be included under the various categories of priority sectors. Although initially there was no specific targets fixed in respect of priority sector lending, in November 1974 the banks were advised to raise the share of these sectors in their aggregate advances to the level of 33 1/3 percent by March 1979.

At a meeting of the Union Finance Minister with the Chief Executive Officers of public sector banks held in March 1980, it was agreed that banks should aim at raising the proportion of their advances to priority sectors to 40 percent by March 1985. Subsequently, on the basis of the recommendations of the Working Group on the Modalities of Implementation of Priority Sector Lending and the Twenty Point Economic Programme by Banks, all commercial banks were advised to achieve the target of priority sector lending at 40 percent of aggregate bank advances by 1985. Sub-targets were also specified for lending to agriculture and the weaker sections within the priority sector. Since then, there have been several changes in the scope of priority sector lending and the targets and sub-targets applicable to various bank groups.

At present, the priority sector broadly comprises the following :

- i. Agriculture
- ii. Small Scale Industries
- iii. Other activities / borrowers (such as small business, retail trade, small transport operators, professional and self employed persons, housing, education loans, microcredit etc.)

SECTION I

classification of priority sector advances

Detailed classification containing the list of items in different segments of priority sector advances is given below.

1.	AGRICULTURE		
1.1	Direct Finance to Farmers for Agricultural Purposes		
1.1.1	Short-term loans for raising crops i.e. for crop loans. In addition, advances upto Rs. 5 lakh to farmers against pledge/hypothecation of agricultural produce (including warehouse receipts) for a period not exceeding 12 months, where the farmers were given crop loans for raising the produce, provided the borrowers draw credit from one bank.		
1.1.2	Medium and long-term loans (Provided directly to farmers for financing production and development needs).		
	(i)	Purchase of agricultural implements and machinery	
	(a)	Purchase of agricultural implements - Iron ploughs, harrows, hose, land-levellers, bundformers, hand tools, sprayers, dusters, hay-press, sugarcane crushers, thresher machines, etc.	
	(b)	Purchase of farm machinery - Tractors, trailers, power tillers, tractor accessories viz., disc ploughs, etc.	
	(c)	Purchase of trucks, mini-trucks, jeeps, pick-up vans, bullock carts and other transport equipment, etc. to assist the transport of agricultural inputs and farm products.	
	(d)	Transport of agricultural inputs and farm products.	
	(e)	Purchase of plough animals.	
	(ii)	Development of irrigation potential through -	
	(a)	Construction of shallow and deep tube wells, tanks, etc., and purchase of drilling units.	
	(b)	Constructing, deepening clearing of surface wells, boring of wells, electrification of wells, purchase of oil engines and installation of electric motor and pumps.	
	(c)	Purchase and installation of turbine pumps, construction of field channels (open as well as underground), etc.	
	(d)	Construction of lift irrigation project.	
	(e)	Installation of sprinkler irrigation system.	
	(f)	Purchase of generator sets for energisation of pumpsets used for agricultural purposes.	
	(iii)	Reclamation and Land Development Schemes	
		Bunding of farm lands, levelling of land, terracing, conversion of dry paddy lands into wet irrigable paddy lands, wasteland development, development of farm drainage, reclamation of soil lands and prevention of salinisation, reclamation of ravine lands, purchase of bulldozers, etc.	
	(iv)	Construction of farm buildings and structures, etc.	
		Bullock sheds, implement sheds, tractor and truck sheds, farm stores, etc.	
	(v)	Construction and running of storage facilities	
		Construction and running of warehouses, godowns, silos and loans granted to farmer for establishing cold storages used for storing own produce.	
	(vi)	Production and processing of hybrid seeds for crops.	

		(vii)	Payment of irrigation charges, etc.
			Charges for hired water from wells and tube wells, canal water charges, maintenance and upkeep of oil engines and electric motors, payment of labour charges, electricity charges, marketing charges, service charges to Customs Service Units, payment of development cess, etc.
		(viii)	Other types of direct finance to farmers
		(a)	Short-term loans
		(1)	To traditional/non-traditional plantations and horticulture.
		(2)	For allied activities such as dairy, fishery, piggery, poultry, bee-keeping etc.
		(b)	Medium and long term loans
		(1)	Development loans to all plantations, horticulture, forestry and wasteland.
		(2)	Development loans for allied activities
		(3)	Development of dairying and animal husbandry in all its aspects.
		(4)	Development of fisheries in all its aspects from fish catching to stage of export, financing of equipment necessary for deep sea fishing, rehabilitation of tanks (fresh water fishing), fish breeding, etc.
		(5)	Development of poultry piggery, etc., in all its aspects including erection of poultry houses, pig houses, bee-keeping, etc.
		(6)	Development and maintenance of stud farms, sericulture including grainages, etc. However, breeding of race horses cannot be classified here.
		(7)	Bio-gas plants.
		(8)	Financing of small and marginal farmers for purchase of land for agricultural purposes
		(9)	Financing setting up Agriclincs and Agribusiness Centres by agriculture graduates
1.2	Indirect Finance to Agriculture		
1.2.1	(i)	Credit for financing the distribution of fertilisers, pesticides, seeds, etc.	
	(ii)	Loans upto Rs. 25 lakhs granted for financing distribution of inputs for the allied activities such as, cattle feed, poultry feed, etc.	
1.2.2	(i)	Loans to Electricity Boards for reimbursing the expenditure already incurred by them for providing low tension connection from step-down point to individual farmers for energising their wells.	
	(ii)	Loans to SEBs for Systems Improvement Scheme under Special Project Agriculture (SI-SPA).	
1.2.3	Loans to farmers through PACS, FSS and LAMPS.		
1.2.4	Deposits held by the banks in Rural Infrastructure Development Fund (RIDF) maintained with NABARD.		
1.2.5	Subscription to bonds issued by Rural Electrification Corporation (REC) exclusively for financing pump set energisation programme in rural and semi-urban areas and also for financing System Improvement Programme (SI-SPA).		
1.2.6	Subscriptions to bonds issued by NABARD with the objective of financing exclusively agriculture/allied activities.		

1.2.7	Other types of indirect finance such as,
(i)	Finance for hire-purchase schemes for distribution of agricultural machinery and implements.
(ii)	Loans for constructions and running of storage facilities (warehouse, market yards, godowns, silos and cold storages *) in the producing areas.
*	Loans to cold storage units which are mainly used for hiring, provided -
(a)	the cold storage unit is in the rural areas,
(b)	the unit is used for storing mainly agricultural produce, and
(c)	the unit is not registered as a small scale industrial unit. If the cold storage unit is registered as SSI unit, the loans granted to such units may be classified under advances to SSI, provided the investment in plant and machinery is within the stipulated ceiling.
(iii)	Advances to Customs Service Units managed by individuals, institutions or organisations who maintain a fleet of tractors, bulldozers, well-boring equipment, threshers, combines, etc., and undertake work from farmers on contract basis. If these advances are covered by the guarantee of DICGC, they should be classified under SSI advances.
(iv)	Loans to individuals, institutions or organisations who undertake spraying operations.
(v)	Loans to co-operative marketing societies, co-operative banks for re-lending to co-operative marketing societies (provided a certificate from the State Co-operative Bank in favour of such loans is produced) for disposing of the produce of members.
(vi)	Loans to co-operative banks of producers (e.g. Aarey Milk Colony Co-operative Bank, consisting of licensed cattle owners).
(vii)	Financing the farmers indirectly through the co-operative system (otherwise than by subscription to bonds and debenture issues), provided a certificate from the State Co-operative Bank in favour of such loans is produced.
(viii)	Advances to State-sponsored Corporations for onward lending to weaker sections.
(ix)	Finance extended to dealers in drip irrigation/sprinkler irrigation system/agricultural machinery, subject to the following conditions:
(a)	The dealer should be located in the rural/semi-urban areas.
(b)	He should be dealing exclusively in such items or if dealing in other products, should be maintaining separate and distinct records in respect of such items.
(c)	A ceiling of upto Rs. 20 lakhs per dealer should be observed.
(x)	Loans to National Co-operative Development Corporation (NCDC) for on-lending to the co-operative sector for purposes coming under the priority sector.
(xi)	Loans to farmers for purchase of shares in Co-operative Sugar Mills and Sugar Mills set up as Joint Stock Companies and other agro-based processing units. (Maximum 6 shares of Rs 1000 each or 3 shares of Rs 2000 each, i.e., Rs 6000 per eligible borrower irrespective of their land holding)
(xii)	Loans to Arthias (commission agents in rural/semi-urban areas functioning in markets/mandies) for meeting their working capital requirements on account of credit extended to farmers for supply of inputs.
(xiii)	Lending to Non Banking Financial Companies (NBFCs) for on-lending to agriculture.

2	Small Scale Industries
2.1.	Small Scale and Ancillary Industries
	Small scale industrial units are those engaged in the manufacture, processing or preservation of goods and whose investment in plant and machinery (original cost) does not exceed Rs. 1 crore. These would, <i>inter alia</i> , include units engaged in mining or quarrying, servicing and repairing of machinery. In the case of ancillary units, the investment in plant and machinery (original cost) should also not exceed Rs. 1 crore to be classified under small-scale industry.
	The investment limit of Rs.1 crore for classification as SSI has been enhanced to Rs.5 crore in respect of certain specified items under hosiery and hand tools by the Government of India
2.2	Tiny Enterprises
	The status of 'Tiny Enterprises' may be given to all small scale units whose investment in plant & machinery is upto Rs. 25 lakhs, irrespective of the location of the unit.
2.3	Small Scale Service & Business Enterprises (SSSBE's)
2.3.1	Industry related service and business enterprises with investment upto Rs. 10 lakhs in fixed assets, excluding land and building will be given benefits of small scale sector. For computation of value of fixed assets, the original price paid by the original owner will be considered irrespective of the price paid by subsequent owners.
2.3.2	An illustrative list of eligible activities as SSSBE's and the illustrative list of activities that will not qualify as SSSBE is given in <i>Annexures 1 & II</i> respectively
2.4	Indirect finance in the small-scale industrial sector will include credit to:
2.4.1	Agencies involved in assisting the decentralised sector in the supply of inputs and marketing of outputs of artisans, village and cottage industries.
2.4.2	Government sponsored Corporation/organisations providing funds to the weaker sections in the priority sector.
2.4.3	Advances to handloom co-operatives.
2.4.4	Term finance/loans in the form of lines of credit made available to State Industrial Development Corporation/State Financial Corporations for financing SSIs.
2.4.5	Credit provided by banks to KVIC under the scheme for provision of credit to KVIC by consortium of banks for lending to viable Khadi and Village Industrial Units.
2.4.6	Funds provided by banks to SIDBI/SFCs by way of rediscounting of bills of SSI earlier discounted by the SIDBI/SFCs.
2.4.7	Subscription to bonds floated by SIDBI, SFCS, SIDCS and NSIC exclusively for financing SSI units.
2.4.8	Subscription to bonds issued by NABARD with the objective of financing exclusively non-farm sector.
2.4.9	Financing of NBFCs or other intermediaries for on-lending to the tiny sector.
2.4.10	Deposits placed with SIDBI by Foreign Banks in fulfilment of shortfall in attaining priority sector targets.

List of poultry farms visited by the team individually

S. No	Name of Poultry Farm	Name of the official visited	Enclosure
1.	RVS Poultry Farm	Joint Committee	A7
2.	VPS Poultry Farm	Shri. N. Gunasekaran, AE, TNPCB, Namakkal	A8
3.	Dhanaraj Poultry Farm	Dr. V.P. Ponnuvel, RJD, Animal Husbandary, Namakkal	A9
4.	SV Poultry Farm	Sh. R. Ravikumar, DEE, TNPCB, Namakkal	A10
5.	Mahalakshmi Poultry Farm	Sh. S. Karthikeyan, Scientist, CPCB & Sh.M. Kottaikumar, RDO, Namakkal	A11
6.	Abinaya Poultry Farm	Dr. K. Sivaprakasam AD, *PDDL, Namakkal	A12
7.	Sri Krishna Poultry Farm	Dr. P. Periyasamy, VAS, PDDL, Namakkal	A13
8.	K.S. Poultry Farm (Unit I)	DEE, TNPCB, Kumarapalayam	A14
9.	K.S. Poultry Farm (Unit II)		A15
10.	NSR Poultry Farm		A16
11.	PSP Poultry Farm		A17
12.	Thamarai Poultry Farm		A18

*Poultry Diseases & Diagnostics Laboratory

Vaccine schedule

S.No	Days / Week	Name of vaccine	Quantity, ml	Place
1.	On first day	Marek's (HVT + SB ₁)	0.2	Behind neck skin
2.	On 6 th to 8 th day	IB + NDB ₁	-	Eyes
3.	On 9 th to 10 th day	Peak cutting		-
4.	On 14 th day	IBD Plus & ND + IBD killed	- 0.25	Eyes Behind neck skin
5.	On 24 th day	IBD Standard	-	Eyes
6.	On 28 th day	IB + LaSota & Coryza Killed	- 0.5	Eyes Behind neck skin
7.	On 35 th day	Fowl Pox	0.2	Muscle
8.	On 8 th week	LaSota	-	Eyes
9.	On 9 th week	Coryza Killed	0.5	Behind neck skin
10.	On 11 th week	R2B	0.5	Muscle
11.	On 12 th week	Peak cutting		-
12.	On 13 th week	IB Live – H120/Mass	-	Eyes
13.	On 16 th week	IB + LaSota & ND Killed	- 0.5	Eyes Behind neck skin
14.	On 17 th week	IB Killed (Optional)	0.5	Behind neck skin