Before The National Green Tribunal

Principal Bench , New Delhi

In the matter of: OA no.-745 of 2023

Mamta Sharma...Applicant

Versus

Gram Panchayat Arrana and others

Through its Gram Pradhan ......Respondents

Written Submissions by the Applicant

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(MAMTA SHARMA)

Mamta Sharma

Applicant

Date: 09.01.2025

Place : Arrana, Aligarh , UP

Before The National Green Tribunal

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Through its Gram Pradhan .....Respondents

Written Submissions on behalf of the Applicant

I, Mamta Sharma, aged about 54 years, residing at Village and Post: Arrana, Tahsil – Khair, Aligarh-202138, do hereby solemnly affirm and state as under:

1. That I have gone through the Reply submitted by Respondents and having understood the contents thereof in reply thereto I am filing the present written submissions.
2. That from the replies submitted by Respondent No 4 ie Chief Development Officer and Regional Officer, Uttar Pradesh Pollution Control Board, Aligarh, it clearly establishes the fact that the sewage water having various polluting elements much beyond the permissible

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standards by Central Pollution Control Board is being disposed off in the artificially created pond in contravention to Section 24 and 25 of The Water (Prevention and control of Pollution) Act 1974. The fact that the sewer water is contaminated with polluting elements much beyond the permissible limits is based on the testing of the water done by these authorities themselves.

3. That except for one sewer drain that is the subject matter in the present lis, all the other 8 drains in the village flow from the village/human habitation towards the main High Way and empties itself in the two large U-Type drains running alongside the National Highway **(Pls see site photo @ pg 217).** The respondents have not been able to state any exceptional circumstances or distinguishing factors as to why the flow of the sewer drain in issue cannot also be made towards the National Highway like the other 8 drains. The ostensible justification of not doing so **(Report dtd 10/04/2022 of SDM @ page 95)** cannot pass judicial muster. The Engineer-in-Charge of Rural Engineering Department (Khair), Asst Development Officer (Panchayat) and Village Secretary have given a joint Report/advice that the sewage must go towards Highway (**First Report dtd 10.01.2022 and Second report dtd 01.04.2022 @page 220 and 221**). A simple change in alignment of the drain can sort the issue to the satisfaction of all.

4. That the UPPCB has filed its response on 01/10/2024 annexing therein an Inspection Report dated 07/08/2024 **(@ Pg 255).** In this regard it is

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submitted that vide order dated 31/07/2024 the Joint Committee was directed to ensure the presence of the complainant during the site inspection. However, the Applicant was never informed/communicated about the site visit and the entire inspection on 07/08/2024 was carried out in the absence of the Applicant and without hearing her version. Be that as it may, in the facts and circumstances of the case, in case this Hon'ble Tribunal is not inclined to pass orders in terms of Relief No 3 in the OA, then alternatively the respondents herein may be directed to implement the recommendations made by the UPPCB in its aforesaid report dated 07/08/2024 within a fixed period of time.

5. That notwithstanding what has been stated herein above the deponent submits that this Hon'ble Tribunal may call for a comprehensive report covering all aspects of the matter from an independent body without the participation of the Respondent No 1 in as much as that he is an interested party. In this regard it may be noted that the Gram Pradhan has refused to follow any of the recommendation of Joint Committee or Uttar Pradesh Pollution Control Board and separated out only water coming out of toilets to leach pit. Therefore, sewage is still being disposed of in the pond in complete violation of the law. As per section 2(g) of The Water (Pollution and Control of Pollution) Act-1974 "*Sewage effluent means effluent from any sewerage system or sewage disposal work and includes* ***sullage from open drains***".

6. That pursuant to the direction passed by the Hon'ble Tribunal vide its

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order dated 30.04.2019 the existing norms for recycle and reuse of waste water for specific uses given at Table 7.19 of the Manual on Sewerage and Sewage Treatment Systems, 2013, published by the Ministry, has been reviewed by the Expert Committee. The GOI vide its communication dated 18/12/2023 has directed the concerned Departments/ PHED/ Jal Nigams/ Water Boards and Agriculture Department etc. to adopt the amended norms for recycling and reuse of wastewater for specific activities in place of Table 7.19 of the Manual on Sewerage and Sewage Treatment Systems, 2013 by all the States/UTs, Parastatal Agencies, and other stakeholders. In view of this, it is submitted that should the sewage pond continue to remain where it has been illegally constructed, the respondents must ensure that the water stored therein must measure up to the revised norms at all times. And unless the respondents give an undertaking in this regard the sewage pond as well as the alignment of the existing drain has to be necessarily changed. A copy of the letter dated 18/12/2023 along with Table 7.19 Recommended norms of treated sewage quality for specified activities at point of use (Modified) is annexed hereto as **Annexure A1.**

7. ***It is most respectfully submitted That the respondents also admit that the land on which the pond is artificially created, is the reserved land as per Section 77(1) of UP Revenue Code-2006. It is also submitted by respondents that the pond was created by approval of Tahsildar, Khair. As per section 77(2) of Uttar Pradesh Revenue Act-2006, The***

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category of such land cannot be changed and in exceptional circumstances such Authority is embodied in State of Uttar Pradesh after following procedure prescribed.

8. That as the name suggests Grit chamber is used to separate inorganic matter like grits from wastewater and it is not a solution for treating sewage water. In a sewage treatment system, grits are heavier and bigger particles which damages the sewage pumps are separated before processing of sewage. Overlooking the genuine pain and miseries of the habitants the grit chamber is being justified by Respondents for removal of micro level organic and inorganic matter, removal Coliform and treatment of highly polluted sewage water. A document giving details about Grit Chamber by National Programme on Technology Enhanced Learning (A project by IITs and IISC, Bangalore) is annexed hereto as **Annexure A2.**

9. Therefore, it is most respectfully prayed that this Hon'ble Tribunal may be graciously pleased to take a holistic approach for a healthy and clean environment in the village and the plot may be used for its real purpose of taking out Pili Mitti. Consequently, the instant Original Application may be allowed and the reliefs sought for may be granted to the Applicant.

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Solemnly affirmed at Aligarh on this 9th day of January 2025.

mSharma

MAMTA SHARMA

Date: 09.01.2025

Place: Aligarh

Mamta Sharma

(Applicant)

Verification:

Verified at Arrana, Aligarh on this 9th day of January 2025, that the contents of the reply are true to the best of my knowledge and nothing material has been concealed therefrom the Hon'ble Tribunal.

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(MAMTA SHARMA)

Date: 09.01.2025

Place: Aligarh

Mamta Sharma

(Applicant)

Solemnly affirmed before me by Sri... Mamta Sharma

Identified by Shri............ Sandeep Singh

who has been heard the contents and admitted the same to be Correct. before me. S.No.......125.........

10.01.2025

Satyendra Kumar Sharma

NOTARY

Tehsil KHAIR (Aligarh)

Contents of this deed execution read over to executents admitted before me.

संदीप सिंह

NOTARY

SATYENDRA KUMAR SHARMA

TAHSIL-KHAIR (ALIGARH)

Regd No 13(6)65

GOVT. OF UTTAR PRADESH

INDIA NON JUDICIAL

Government of Uttar Pradesh

e-Stamp

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स्टाम्प विक्रेता ला0नं0 13
ACC ID-UP14252204
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Certificate No.	:	IN-UP42491753476149X
Certificate Issued Date	:	10-Jan-2025 11:52 AM
Account Reference	:	NEWIMPACC (SV)/ up14252204/ KHAIR/ UP-ALG
Unique Doc. Reference	:	SUBIN-UPUP14252204819894009721 08X
Purchased by	:	MAMTA SHARMA WIFE OF HUKAM CHAND SHARMA
Description of Document	:	Article 4 Affidavit
Property Description	:	Not Applicable
Consideration Price (Rs.)	:	
First Party	:	MAMTA SHARMA WIFE OF HUKAM CHAND SHARMA
Second Party	:	Not Applicable
Stamp Duty Paid By	:	MAMTA SHARMA WIFE OF HUKAM CHAND SHARMA
Stamp Duty Amount(Rs.)	:	10 (Ten only)

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SATYENDRA KUMAR SHARMA
TAHSIL-KHAIR
(ALIGARH)
Regd No 13[illegible]/85
GOVT. OF UTTAR PRADESH

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MAMTA SHARMA WIFE OF HUKAM CHAND SHARMA MAMTA SHARMA WIFE OF HUKAM CHAND SHARMA MAMTA SHARMA WIFE OF HUKAM CHAND SHARMA MAMTA SHARMA WIFE OF HUKAM CHAND SHARMA

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डॉ॰ तारा, आई.ए.एस.
अपर सचिव
D. Thara, I.A.S
Additional Secretary

ANNEXURE A1

भारत सरकार
आवासन और शहरी कार्य मंत्रालय
GOVERNMENT OF INDIA
MINISTRY OF HOUSING AND URBAN AFFAIRS

D.O Q-12011/9/2023-CPHEEO,

Dated 18.12.2023

Dear Sir/ Madam,

As you are aware, the Hon'ble NGT has given direction vide its order dated 30.04.2019 mandating States/ULBs to adhere to thefollowing effluent standards from new & existing Sewage Treatment Plants (STPs) for all cities & towns in the country.

Industry	Parameters	Standards(Applicabletoallmodeof disposal)
Sewage Treatment Plants (STP)	pH	5.5-9.0
	Bio-Chemical Oxygen Demand (BOD), mg/l	10
	Total Suspended Solids (TSS), mg/l	20
	Chemical Oxygen Demand (COD), mg/l	50
	Nitrogen-Total, mg/l	10
	Phosphorus-Total (For Discharge into Ponds, Lakes), mg/l	1.0
	Fecal Coliform (FC)(Most ProbableNumber per 100 mililiter, MPN/100 ml	Desirable- 100 Permissible-230

2. Keeping in view of the above direction of Hon'ble NGT, the existing norms for recycle and reuse of wastewater for specific uses given at Table 7.19 of the Manual on Sewerage and Sewage Treatment Systems, 2013, published by the Ministry, has been reviewed by the Expert Committee constituted by the Ministry. The norms mentioned in the Manual do not provide the norms for recreational use, an aspect that is crucial in comprehensive recycling & reuse of treated sewage.

3 The norms have been reviewed and amended aligning with the various International standards and norms as per BIS17663 (2021) as the amendment is a proactive step toward providing recycling and reuse of wastewater for non-potable applications such as toilet flushing, fire protection, vehicle exterior washing, recreational use (bathing etc.), non-contact impoundments (tanks, lakes etc.), horticulture, golf course, non-edible crops, crops which are eaten raw and cooked. A copy of the amended norms provided in the Table 7.19 of the Manual on Sewerage and Sewage Treatment Systems, 2013 is enclosed at **Annexure-I**.

I request you to direct the concerned Departments/ PHED/ Jal Nigams/ Water Boards and Agriculture Department etc. to adopt the amended norms for recycling and reuse of wastewater for specific activities in place of Table 7.19 of the Manual on Sewerage and Sewage Treatment Systems, 2013 by all the States/UTs, Parastatal Agencies, and other stakeholders.

With regards,

Yours sincerely,

(D.Thara)

To,

1. Principal Secretary/Secretary (UD/PHED), for kind reference and necessary action.
2. Principal Secretary, Agriculture Department, for kind reference and necessary action.
3. State Mission Director (AMRUT) of all states,for kind reference and necessary action.

Office: 144-C, Nirman Bhawan, New Delhi 110011 Phone: 011 23061444
Email: tharad@ias.nic.in Website: www.mohua.gov.in

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Copy to

1. National Mission Director, National Mission for Clean Ganga(NMCG), for kind reference and necessary action
2. Chairman, Central Pollution Control Board (CPCB), with a request to forward the modified norms for recycle and reuse to all State Pollution Control Board (SPCB).
3. Ms. Roopa Mishra, JS (SBM), MoHUA with a request to forward the modified norms for recycle and reuse to all the State Mission Director (SBM)
4. Shri Franklin L. Khobung, Joint Secretary (NRM/RFS), Department of Agriculture Cooperation and Farmers Welfare with a request to forward the modified norms for recycle and reuse to all the states
4. Joint Secretary, Ministry of Environment, Forest and Climate Change (MoEFCC), for kind reference and necessary action.
5. Joint Secretary, Ministry of Jal Shakti, with a request to forward the modified norms for recycle and reuse to State Water Resource Department.
6. Joint Secretary, Department of Drinking Water and Sanitation (DDWS), with a request to forward the modified norms for recycle and reuse to State PHEDs (Rural).
7. PPS to Secretary,HUA for kind information to Secretary, HUA.

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Regd No 13[illegible]85

Table 7.19 Recommended norms of treated sewage quality for specified activities at point of use (Modified)

S. No.	Parameter	Toilet Flushing	Fire protection	Vehicle Exterior washing	Recreational use (bathing etc.)	Non-contact impoundments (tanks, lakes etc.)	Landscaping, Horticulture & Agriculture			
							Horticulture, Golf course	Non edible crops	Crops	
									Crops which are eaten	
									Raw	Cooked
1	Turbidity (NTU)	<2	<2	<2	<2	<2	AA	AA	AA	AA
2	SS	AA	AA	AA	AA	AA	AA	AA	AA	AA
3	TDS	2100								
4	pH	6.5 to 8.5								
5	Temperature	Ambient								
6	Oil & Grease	10	nil	nil	nil	nil	10	10	nil	nil
7	Total Nitrogen as TN	10	10	10	10	10	AA	AA	AA	AA
8	BOD	≤6	10	≤6	≤6*	10	≤6-10 (≤6 preferred)			
9	COD	AA	AA	AA	AA	AA	AA	AA	AA	AA
10	Total Phosphorous as TP	1	1	1	1	1	AA	AA	AA	AA
11	Minimum Residual Chlorine	1	1	1	≤0.5	0.5	nil	nil	nil	nil
12	Faecal Coliform in 100 ml	nil	nil	nil	≤50	100	nil	100	nil	≤50
13	Helminthic Eggs/ litre	AA	AA	AA	AA	AA	AA	<1	<1	<1
14	Colour (Colour or Hazen units)	Colourless						AA	Colourless	
15	Odour	Aseptic which means not specific and no foul odour								

All values are in mg/l except for Turbidity, pH, Temperature, Faecal Coliform, Helminthic Eggs, Colour and Odour.

AA- as Arising when other parameters are satisfied.

*CPCB prescribes BOD less than 3 mg/l in water body for recreational purpose. Adequate storage shall be maintained in the water body for dilution to maintain 3 mg/l.

Grit Chambers

Grit chambers are basin to remove the inorganic particles to prevent damage to the pumps, and to prevent their accumulation in sludge digestors.

Types of Grit Chambers

Grit chambers are of two types: mechanically cleaned and manually cleaned. In ***mechanically cleaned*** grit chamber, scraper blades collect the grit settled on the floor of the grit chamber. The grit so collected is elevated to the ground level by several mechanisms such as bucket elevators, jet pump and air lift. The grit washing mechanisms are also of several designs most of which are agitation devices using either water or air to produce washing action. ***Manually cleaned*** grit chambers should be cleaned atleast once a week. The simplest method of cleaning is by means of shovel.

Aerated Grit Chamber

An aerated grit chamber consists of a standard spiral flow aeration tank provided with air diffusion tubes placed on one side of the tank. The grit particles tend to settle down to the bottom of the tank at rates dependant upon the particle size and the bottom velocity of roll of the spiral flow, which in turn depends on the rate of air diffusion through diffuser tubes and shape of aeration tank. The heavier particles settle down whereas the lighter organic particles are carried with roll of the spiral motion.

Principle of Working of Grit Chamber

Grit chambers are nothing but like sedimentation tanks, designed to separate the intended heavier inorganic materials (specific gravity about 2.65) and to pass forward the lighter organic materials. Hence, the flow velocity should neither be too low as to cause the settling of lighter organic matter, nor should it be too high as not to cause the settlement of the silt and grit present in the sewage. This velocity is called "differential sedimentation and differential scouring velocity". The scouring velocity determines the optimum ***flow through velocity***. This may be explained by the fact that the critical velocity of flow 'v_c' beyond which particles of a certain size and density once settled, may be again introduced into the stream of flow. It should always be less than the scouring velocity of grit particles. The critical velocity of scour is given by Schield's formula:

$$V = 3 \text{ to } 4.5 \, (g(S_s - 1)d)^{1/2}$$

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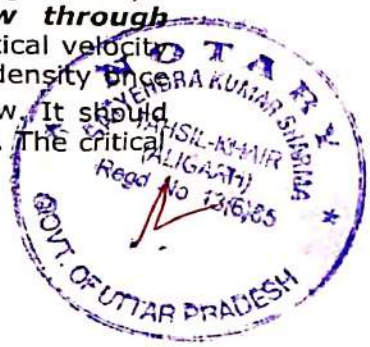

A horizontal velocity of flow of 15 to 30 cm/sec is used at peak flows. This same velocity is to be maintained at all fluctuation of flow to ensure that only organic solids and not the grit is scoured from the bottom.

Types of Velocity Control Devices

1. A sutro weir in a channel of rectangular cross section, with free fall downstream of the channel.
2. A parabolic shaped channel with a rectangular weir.
3. A rectangular shaped channel with a parshall flume at the end which would also help easy flow measurement.

Design of Grit Chambers

Settling Velocity

The settling velocity of discrete particles can be determined using appropriate equation depending upon Reynolds number.

- Stoke's law: $v = \frac{g(S_s-1)d^2}{18\upsilon}$

Stoke's law holds good for Reynolds number, R_e below 1.

$$R_e = \frac{vd}{\upsilon}$$

For grit particles of specific gravity 2.65 and liquid temperature at 10°C, $\upsilon = 1.01 \times 10^{-6} m^2/s$. This corresponds to particles of size less than 0.1 mm.

- Transition law: The design of grit chamber is based on removal of grit particles with minimum size of 0.15 mm and therefore Stoke's law is not applicable to determine the settling velocity of grit particles for design purposes.

$$v^2 = \frac{4g(\rho_p-\rho)d}{3\ C_D\rho}$$

where, C_D= drag coefficient Transition flow conditions hold good for Reynolds number, R_e between 1 and 1000. In this range C_D can be approximated by

$$C_D = \frac{18.5}{R_e^{0.6}} = \frac{18.5}{(vd/\upsilon)^{0.6}}$$

Substituting the value of C_D in settling velocity equation and simplifying, we get

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$$v = [0.707(S_s-1)d^{1.6}\upsilon^{-0.6}]^{0.714}$$

Primary Sedimentation

Primary sedimentation in a municipal wastewater treatment plant is generally plain sedimentation without the use of chemicals. In treating certain industrial wastes chemically aided sedimentation may be involved. In either case, it constitutes ***flocculent settling***, and the particles do not remain discrete as in the case of grit, but tend to agglomerate or coagulate during settling. Thus, their diameter keeps increasing and settlement proceeds at an over increasing velocity. Consequently, they trace a curved profile.

The settling tank design in such cases depends on both ***surface loading*** and ***detention time***.

Long tube settling tests can be performed in order to estimate specific value of surface loading and detention time for desired efficiency of clarification for a given industrial wastewater using recommended methods of testing. Scale-up factors used in this case range from 1.25 to 1.75 for the overflow rate, and from 1.5 to 2.0 for detention time when converting laboratory results to the prototype design.

For primary settling tanks treating municipal or domestic sewage, laboratory tests are generally not necessary, and recommended design values given in table may be used. Using an appropriate value of surface loading from table, the required tank area is computed. Knowing the average depth, the detention time is then computed. Excessively high detention time (longer than 2.5 h) must be avoided especially in warm climates where anaerobicity can be quickly induced.

Design parameters for settling tank

Types of settling	Overflow rate m^3m^2/day		Solids loading kg/m^2/day		Depth	Detention time
	Average	Peak	Average	Peak		
Primary settling only	25-30	50-60	-	-	2.5-3.5	2.0-2.5
Primary settling followed by secondary treatment	35-50	60-120	-	-	2.5-3.5	
Primary settling with activated sludge return	25-35	50-60	-	-	3.5-4.5	-
Secondary settling for trickling filters	15-25	40-50	70-120	190	2.5-3.5	1.5-2.0
Secondary settling for activated sludge (excluding extended aeration)	15-35	40-50	70-140	210	3.5-4.5	-
Secondary settling for extended aeration	8-15	25-35	25-120	170	3.5-4.5	-

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