

Item No. 02

Court No. 1

**BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI**

(By Video Conference)

Original Application No. 206/2023

In re: Article published in Stawa Magazine titled **“Water in Ladakh :
Elixir or Poison?”**

Date of hearing: 06.04.2023

**CORAM: HON’BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON’BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER
HON’BLE DR. A. SENTHIL VEL, EXPERT MEMBER**

Respondent: Mr Raj Kumar Advocate for LPCC and Ladakh Union Territory
Administration

ORDER

1. Proceedings have been initiated *suo motu* in the light of captioned media report about water pollution in Ladakh.

2. In pursuance of advance notice dated 15.03.2023 issued by Registry of this Tribunal to Deputy Commissioner, Leh, Municipal Committee, Leh and Leh Irrigation and Flood Control Department, response has been filed by the Deputy Commissioner, Leh as follows:

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Sl No.	Issues Raised	Response	
		From Leh	From Kargil

1.	What is the status of sewage pipeline connectivity with the toilets?	4 no. of public toilets are connected with sewage pipeline. Presently 48 km sewer network is laid under existing sewerage system which is just 30% of total required sewer network. However, 123 km sewer network is proposed under the development of sewerage system for left out area of Leh town to cater the total sewage demand which is 9 MLD for intermediate stage 2040. The remaining sewage is stored in Septic tank as well as soak pits which is then desludged through suction machines and treated at the existing operational Faecal Sludge Treatment Plant of 12 KLD capacity.	Presently, there is no sewage system in the town. The households are currently using septic tank as well as soak pit for sewage management. Kargil City has a 10 KLD Faecal Sludge Treatment Plant which is operational, and desludging is done for households when the septic tank as well as soak pits are full. The DPR is under progress for development of Sewage system Kargil.
2.	How many houses and commercial establishments are connected with sewage system? Number of those are not connected with sewage system.	Out of 6,820 households (as per Niti Aayog Report, 2021 on “Waste-Wise Cities: Best Practices in municipal solid waste management”), 2,884 households are connected with the sewage system.	No households are connected with sewerage system as there is no sewage system in the town.
3.	Number of STPs have been installed and their capacity to treat.	The city has 3 MLD STP with SBR technology and is located at Agling area.	Currently, there is no existing STP in the town. However, it is proposed to construct 6 STPs. The DPR for STPs are in progress. Awaiting land clearance from the DC, Kargil. Once the land is available for STPs, the administrative approval and Technical Sanction shall be obtained. It is likely that the tender for the works shall be initiated in the present financial year.

4.	Total generation of sewage and its treatment.	Current sewage generation rate is 8.18 MLD (including infiltration) but only 3 MLD STP is functional. Thus, the net demand of treatment for current sewage generation is 5.18 MLD for year 2023.	<p>Approximate current generation is 4.6 MLD. Currently, this generated sewage is not being treated in any STP. Around 10.8 MLD capacity of sewerage system, STP is proposed.</p> <p>The DPR for STPs are in progress. Awaiting land clearance from the DC, Kargil. Once the land is available for STPs, the administrative approval and Technical Sanction shall be obtained. It is likely that the tender for the works shall be initiated in the present financial year.</p>
5.	Gap between the treatment of sewage and untreated sewage. Steps taken to meet out the gap.	3 MLD STP is not sufficient to cater the current demand of sewage treatment. The existing Gap is of 5.18 MLD and to meet the gap, an underground sewerage system for left out areas of Leh town is proposed which was not covered in earlier sewage project. Proposed sewer	<p>Currently, no sewage is being treated in STP. DPR for sewerage scheme along with sewage treatment plant is under preparation. The DPR for STPs are in progress. Awaiting land clearance from the</p>
		<p>network is of 126 km and net demand of sewage treatment is 9 MLD (after deduction of present STP capacity) for the intermediate stage 2040. DPR finalization of project is under process. The project will be tendered out this year as the DPR for the Sewerage system is in finalization stage.</p>	<p>DC, Kargil. Once the land is available for STPs, the administrative approval and Technical Sanction shall be obtained. It is likely that the tender for the works shall be initiated in the present financial year.</p>
6.	Disposal mechanism of treated sewage and reuse of treated water to reduce the fresh water consumption.	<p>Landscaping project is being developed besides the Agling STP where treated water can be Reused for beautification purpose. Strategy for reuse of treated water has been finalised by the department for existing 3 MLD operational STP. The project implementation will be carried out this year.</p>	<p>Currently, DPR for sewerage network is under preparation. The technology proposed for treatment is MBBR (Moving Bed Bio film Reactor) and treated water is proposed to be discharged in the Suru River.</p>

		<p>The major objective of the reuse strategy is to use 100% of treated wastewater generated from STP. This treated wastewater is proposed to be used for irrigation, landscaping and beautification purpose and in surrounding areas by identifying probable bulk users to avoid discharge in Indus River.</p> <p>The major components of network design are as follows:</p> <ul style="list-style-type: none"> i. Treated wastewater Tank with pumping arrangements either at STP area or at Landscape site. ii. Transmission mains and distribution piped network to supply treated wastewater to individual user parcel iii. Tanker feeding point at Tank to supply intermittent and incidental usages like construction, vehicle washing etc. iv. Recharge structures at Landscape site v. Command control centre at STP or landscape site to monitor the supply during summer and winter seasons. 	
7.	Industries those are discharging its untreated water into rivers or drains or other water bodies.	<p>The industrial waste water in the Industrial Estate Leh are dumped into pits and septic tanks being constructed by the entrepreneurs however, periodical checkups are being done by the field officer/officials for proper treated of waste water. As per the new industrial policy 2023 notified on 17/01/2023, Waste water recycling and waste water management will be reimbursed @50% of total expenditure incurred towards the procurement of water waste management technology etc.</p>	Data not available with H&UDD. Industries related data are available with Industries and Commerce department.

8.	<p>How many domestic and commercial establishments are extracting ground water including the defence establishments. Whether they have the permissions to extract the ground water or not?</p>	<p>As per out latest survey as on 31-12-2022 there are 927 borewells in Leh town including defence establishment.</p> <p>As per the notification of UT Administration dated 18th April 2022 all the existing borewell users have been asked to register their borewells with the department and meters will be installed to all registered borewells to regulate the usage.</p> <p>Till date, 13 nos. of borewells registered with the Deptt Leh 76 Nos of applications is under process for Registration of borewells.</p>	<p>Data not available with H&UDD.</p>																				
9.	<p>The action taken against the violators.</p>	<p>Notices have been issued to all the existing users to get their borewells register with the Department for regularization</p>	<p>Data not available with H&UDD. The LPCC or the Municipal corporation may kindly be requested to take action against the violators.</p>																				
10.	<p>Operational status of the STP qua to treatment quality.</p>	<p>The 3 MLD STP is Operational at Agling location, and the Treatment Quality Standards are as follows:</p> <table border="1"> <thead> <tr> <th>Parameters</th> <th>Average Val Results</th> </tr> </thead> <tbody> <tr> <td>Sludge generated per month</td> <td>3000kg/month</td> </tr> <tr> <td>Sludge generated per year</td> <td>36000kg/year</td> </tr> <tr> <td>Bod(inlet)</td> <td>275mg/l</td> </tr> <tr> <td>Bod(outlet)</td> <td>5.6mg/l</td> </tr> <tr> <td>Cod(inlet)</td> <td>577.5mg/l</td> </tr> <tr> <td>Cod(outlet)</td> <td>22.0mg/l</td> </tr> <tr> <td>Conductivity(inlet)</td> <td>754millisim</td> </tr> <tr> <td>Conductivity(outlet)</td> <td>330millisim</td> </tr> <tr> <td>Ph(inlet)</td> <td>6.5</td> </tr> </tbody> </table>	Parameters	Average Val Results	Sludge generated per month	3000kg/month	Sludge generated per year	36000kg/year	Bod(inlet)	275mg/l	Bod(outlet)	5.6mg/l	Cod(inlet)	577.5mg/l	Cod(outlet)	22.0mg/l	Conductivity(inlet)	754millisim	Conductivity(outlet)	330millisim	Ph(inlet)	6.5	<p>No STP is Functional in the city.</p>
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			<i>Ph(outlet)</i>	7	
			<i>Tkn(inlet)</i>	65mg/l	
			<i>Tkn(outlet)</i>	4.6mg/l	
			<i>Total phosphorus (inlet)</i>	3.5mg/l	
			<i>Total phosphorus (outlet)</i>	0.0mg/l	
		9	<i>Fecal coliform (inlet)</i>	40000(mprn/100ml)	
			<i>Fecal coliform (outlet)</i>	42(mprn/100ml)	
		10	<i>Tds(inlet)</i>	200mg/l	
			<i>Tds(outlet)</i>	140mg/l	
		11	<i>Tss(inlet)</i>	150mg/l	
			<i>Tss(outlet)</i>	15mg/l	
		12	<i>Dissolved oxygen (inlet)</i>	0.0mg/l	
			<i>Dissolved oxygen (outlet)</i>	6.0mg/l	
		13	<i>Nitrate nitrogen (inlet)</i>	6.0mg/l	
			<i>Nitrate nitrogen (outlet)</i>	3.0mg/l	
		14	<i>Ammonical nitrogen (inlet)</i>	6.5mg/l	
			<i>Ammonical nitrogen (outlet)</i>	2.5mg/l	
		15	<i>Residual chlorine (inlet)</i>	0.0mg/l	
			<i>Residual chlorine (outlet)</i>	0.6mg/l	
11.	<i>What is status of drains? Whether they carry any industrial waste or not?</i>		<i>The drains of Leh Nallah and Shenam nallah which are the main drains in Leh town are free from any Industrial waste.</i>		<i>Data not Available with H&UD D.</i>

12.	Source of pollution in the water bodies and ground water.	<p>Sample location mentioned in said report shall be tested and verified through govt. Laboratory. Water testing laboratory of PHE Department has been open to public since 3/11/2020 for testing private sample for its potability.</p> <p>Disposal of untreated waste (sewage) directly into Ground (through soak pit) could be the reason for ground water contamination which needs further investigation.</p>	Data not available with H&UD D.
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Response for Leh City	Response for Kargil City
<p>In Leh city 30% of households are connected to the existing sewerage system which is connected to an operational 3 MLD STP located at Agling area. All households in the city have existing twin pit/ Septic tank as well as soak pits in which the daily Sewage generated from households is collected which is then desludged through Suction Machines and taken to 12 KLD FSTP plant for treatment and disposal. No wastewater is discharged into water bodies or on land.</p>	<p>All households in the city have existing twin pit/ Septic tank as well as soak pits in which the daily Sewage generated from households is collected which is then desludged through Suction Machines and taken to 10 KLD FSTP plant for treatment and disposal. No wastewater is discharged into water bodies or on land.</p>

3. We also had interaction with the Chief Secretary, Ladakh in OA No. 606/2018 (In respect of UT Ladakh) which has been dealt with by a separate order today dealing with the issue of scientific management of solid and liquid waste in Ladakh. In the said matter, detailed directions have been issued.

4. In view of above, further remedial measures be taken in the light of order passed today in OA No. 606/2018 separately which include directions for requiring all commercial units in Ladakh to set up their own decentralized STPs and to utilize treated water for gardening and other non-contact purposes.

The application is disposed of.

A copy of this order be forwarded to Deputy Commissioners, Leh by e-mail for compliance.

Adarsh Kumar Goel, CP

Sudhir Agarwal, JM

Dr. A. Senthil Vel, EM

April 6, 2023
Original Application No. 206/2023
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