GOVERNMENT OF INDIA

MINISTRY OF JAL SHAKTI,

DEPARTMENT OF WATER RESOURCES, RIVER DEVELOPMENT & GANGA REJUVENATION

LOK SABHA

UNSTARRED QUESTION NO. 2550

ANSWERED ON 22.12.2022

STORM WATER MANAGEMENT IN DELHI

2550 SHRI PARVESH SAHIB SINGH VERMA

Will the Minister of JAL SHAKTI be pleased to state:-

(a) whether the Government has prepared any plan or project for Storm Water Management in Delhi and if so, the details thereof;

(b) whether the Government has carried out any study about the effect of storm Water management on ground water of Delhi and if so, the details thereof;

(c) whether the Government is aware of sewage entering storm water drains and causing environmental issues and if so, the steps taken by the Government to address this issue; and

(d) whether the Government has directed Delhi Jal Board to deal with the problem of encroachment of storm drains and if so, the details thereof?

ANSWER

THE MINISTER OF STATE FOR JAL SHAKTI

(SHRI PRAHLAD SINGH PATEL)

(a) The Master Plan for Artificial Recharge to Ground Water – 2020 has been prepared by Central Ground Water Board (CGWB) jointly with State Governments including the Government of NCT, Delhi. The master plan is a macro plan, formulated to work out the feasibility of various structures for the different terrain conditions of the country and respective estimated costs, providing a broad outline of the project and expected investments.

The Master Plan inter-alia is meant to manage storm water flows in Delhi. As per the Master Plan, in Delhi, out of 175 Million Cubic Meters of estimated rainfall runoff including storm water, 24 MCM can be utilized for artificial recharge to ground water. To utilise the surplus runoff, 12 nos. of Check Dams, 22,706 nos. of Recharge Shaft/Recharge Trench and 3,04,500 nos. of Roof Top rain water harvesting structures were envisaged. The Implementation has to be done through existing schemes of State Governments and no separate scheme/fund has been envisaged for implementation by Central Government.

(b) CGWB has carried out various demonstrative artificial recharge projects in Delhi under Central Sector Scheme during VIII & IX Plan period. The details are as follows-

i. In JNU and IIT comprising 5 microsheds, 0.46 MCM storm water was utilized for recharge to ground water through the construction of four check dams with a storage capacity of 49,000 cubic meters. The impact of upto 4 m rise in water level in the area has been observed.

ii. The Kushak Nala, Delhi has a catchment of 3.5 sq. km. and about 1,42,000 Cubic meters of unutilized runoff from the Nala has been utilized to recharge the ground water through two gabion bunds and 2 Nala bunds which resulted in 20cm rise in water level in the area.

iii. The Lodhi Garden, Delhi spreads over an area of 36 ha and about 25,000cubic meters of water from the garden and its adjoining area during precipitation have been utilized for recharge through the construction of three lateral shafts and three recharge pits. Due to this rise in ground water level of about 35 cm in the area has been observed.

CGWB also monitors ground water quality in the vicinity of major drains in Delhi. The ground water quality data so generated is attached at **Annexure.**

(c) As informed by Delhi Jal Board, at present 81% of the Delhi is covered under Sewerage system. In the remaining 19% of the area including 1799 unauthorised colonies, network is being extended in a phased manner.

It is possible that in unsewerd areas, sewage would be entering the storm water drains. The steps taken for providing sewer network in 1799 unauthorised colonies is as under:-

I. Sewer network has been extended to 725 unauthorized colonies.

II. Works are in progress for laying sewer network in 572 unauthorized colonies.

III. Works of laying sewer network in 341 unauthorized colonies are being taken up in phased manner depending on availability of land for construction of Sewage Treatment Plants and Sewage Pumping Stations from land owning agencies i.e DDA and Revenue Department, Govt. of Delhi. Matter is being followed up with land owning agencies for early allotment of land parcels.

IV. There are 161 unauthorized colonies where NOC is awaited as these fall under O-zone/under forest area/ ASI area etc.

(d) All the natural drains needs to be kept obstruction free. Ideally, the storm water should flow through its designed natural drainage system. Accordingly, NGT and NMCG has issued directions to keep some drains like Subhash Nagar etc. uncovered, to avoid encroachments on it and to ensure its regular cleaning.

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ANNEXURE

ANNEXURE REFERRED TO IN REPLY TO PART (b) OF UNSTARRED QUESTION NO. 2550 TO BE ANSWERED IN LOK SABHA ON 22.12.2022 REGARDING "STORM WATER MANAGEMENT IN DELHI".

Ground Water Quality 2021																			
S.No.	**Drain Name**	**Location of the PZ**	**Source**	**pH**	**ECin µS/cm at 25^0 C**	**CO_3**	**HCO_3**	**Cl**	**SO_4**	**NO_3**	**F**	**PO_4**	**Ca**	**Mg**	**Na**	**K**	**SiO_2**	**TH as $CaCO_3$**
						mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
1	Barapulla Drain	Sunder Nursery	TW	8.68	619	28	327	35	5	9.9	0.45	<0.01	12	29	105	2.8	19	150
2	Najafgarh Drain	Majnu ka Tila	DW	8.05	2554	0	256	542	238	115.56	0.51	<0.01	80	71	310	120	19	490
3	Drain No.8	Bhalaswa Lake	HP	7.87	4744	0	171	1334	361	1.6	0.71	<0.01	224	168	561	11	21	1251
4	Najafgarh Drain	Najafgarh	TW	8.24	269	0	99	27	62	3.3	0.44	<0.01	32	15	8.87	3.7	17	140
5	Shahdara Drain	Gazipur Crossing	TW	8.43	704	28	212	124	18	6.6	0.42	<0.01	28	34	95	8.8	15	210
6	Drain No.8	Sanjay Gandhi Transport Nagar Pz	Pz	7.42	12780	0	312	3800	870	0.2	0.44	<0.01	629	314	1700	17	22	2812

Ground Water Quality (Heavy metals), 2021															
S.No.	**Drain Name**	**Location of the PZ**	**Source**	**Chromium**	**Manganese**	**Iron**	**Nickel**	**Copper**	**Zink**	**Arsenic**	**Selenium**	**Silver**	**Cadmium**	**Lead**	**Uranium**
				Parts per million (ppm)						**Parts per billion (ppb)**					
1	Najafgarh Drain	Majnu ka Tila	DW	0.003	0.055	0.029	0.005	0.002	0.009	0.641	0.239	BDL	0.042	BDL	9.599
2	Barapulla Drain	Sunder Nursery	TW	BDL	0.061	0.028	BDL	BDL	0.019	0.243	0.083	BDL	0.067	BDL	10.900
3	Drain No.8	Bhalaswa Lake	HP	BDL	0.252	3.392	BDL	BDL	1.575	0.134	0.085	BDL	0.035	BDL	4.543
4	Najafgarh Drain	Najafgarh	TW	BDL	0.006	0.020	BDL	BDL	0.260	1.179	0.034	BDL	0.106	BDL	1.690
5	Shahdara Drain	Gazipur Crossing	TW	BDL	0.074	0.016	BDL	BDL	0.290	0.387	0.012	BDL	0.081	0.227	7.209

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