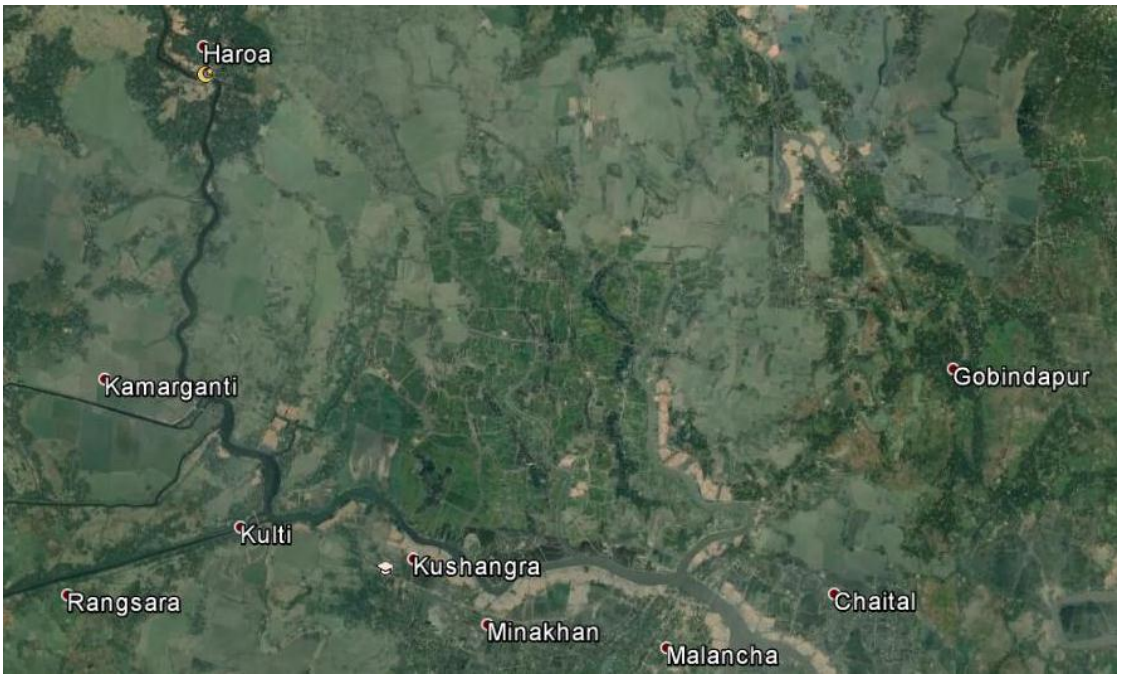

Proposed Action Planfor rejuvenation ofthe polluting stretch of river Vidyadhari

for placement before the Task Team for Scrutiny of Action Plans Submitted for Rejuvenation of Identified Polluted River Stretch (s) (i.e., P-I and P-II) in Compliance to Hon'ble NGT (PB) New Delhi Order dated 20.09.2018 and 19.12.2018 in OA No. 673/2018 in the matter of News Item published in 'The Hindu' titled "More River Stretches are Now Critically Polluted: CPCB"

Dated 12th July 2019
River Resource Committee
West Bengal

Contents

Executive Summary

<table>
<tr><th>Sl.</th><th>DESCRIPTION OF ITEM</th><th colspan="2">Details</th></tr>
<tr><td>1.</td><td>Name of the identified polluted river and its tributaries</td><td>:</td><td>River Name: Vidyadhari
Stretch: HAROA BRIDGE TO MALANCHA BURNING GHAT
Blocks covered: Haroa and Minakhan</td></tr>
<tr><td>2.</td><td>Is river is perennial and total length of the polluted river</td><td>:</td><td>Non perennial, but tidal and in Sundarban Estuarine Zone.
Length Approximately 20 KM</td></tr>
<tr><td>3.</td><td>No of drains contributing to pollution and names of major drains</td><td>:</td><td>Eight (8). Details provided below.</td></tr>
<tr><td colspan="4">
<table>
<tr><th>Drain discharging to river Vidyadhari</th><th>Lean Flow (CUSEC)</th><th>BOD (mg/L)</th><th>FC (MPN/100mL)</th></tr>
<tr><td>1. SWF/DWF discharging to Vidyadhari</td><td>4500</td><td>26.46</td><td>50000</td></tr>
<tr><td>2. Bhangar_Kata Khal discharging to Vidyadhari</td><td>1020</td><td>23.5</td><td>50000</td></tr>
<tr><td>3. Bagjola Khal discharging to Vidyadhari</td><td>1100</td><td>23.93</td><td>30000</td></tr>
<tr><td>4. Nonagong discharging to HaroaGong-KultiGong</td><td>2315</td><td>27.94</td><td>50000</td></tr>
<tr><td>5. Panshila-Naksha Khal discharging to NonaGong</td><td>680</td><td>Data Not Available</td><td>Data Not Available</td></tr>
<tr><td>6. Sutia Khal discharging to HaroaGong</td><td>1330</td><td>24.29</td><td>80000</td></tr>
<tr><td>7. Banikantha Khal discharging to Sutia Khal</td><td>550</td><td>42.00</td><td>300000</td></tr>
<tr><td>8. Paskhali Khal discharging to HaroaGong c</td><td>660</td><td>12.3</td><td>50000</td></tr>
</table>
</td></tr>
<tr><td>4.</td><td>Whether ‘River Rejuvenation Committee (RRC) constituted by the State Govt./UT Administration and If so, Date of constitution of ‘RRC’</td><td>:</td><td>Yes. 07th January 2019</td></tr>
<tr><td>5.</td><td>Major Towns on the banks of the river with population</td><td>:</td><td>The river runs through rural areas and has no town by its side. Major villages on its side are Haroa, Minakhan and Malancha.</td></tr>
<tr><td></td><td>a. Total water consumption and sewage generation in MLD</td><td>:</td><td>Total Sewage generation ____1539.24_____ in MLD</td></tr>
<tr><td></td><td>b. Total no. of existing STPs and the total capacities in MLD</td><td>:</td><td>18; 1276.73 MLD</td></tr>
<tr><td></td><td>c. Gaps in sewage treatment in MLD and no. of towns not having STPs</td><td>:</td><td>262.51 MLD</td></tr>
<tr><td></td><td>d. Total MSW generation in TPA</td><td>:</td><td>MSW___1630822_____in TPA</td></tr>
<tr><td></td><td>e. Existing treatment and disposal facilities and total capacity</td><td>:</td><td>182.5 TPA</td></tr>
<tr><td>6.</td><td>Major industrial estates located with total no. of industries</td><td>:</td><td>
<table>
<tr><th>Industrial Estate</th><th>No. of Industries</th></tr>
<tr><td>Kolkata Leather Complex (CLC)</td><td>337</td></tr>
</table>
</td></tr>
<tr><td></td><td>a. Total water consumption and total industrial effluent generation in MLD</td><td>:</td><td>Consumption - 28.03 MLD
Wastewater Generation – 25.3 MLD</td></tr>
<tr><td></td><td>b. No. of industries having captive ETPs and their</td><td>:</td><td>Total number of industries 70 (other</td></tr>
</table>

	treatment capacity in MLD		than the KLC) Detail survey in respect of treatment is in progress.
	c. No of CETP's and their treatment capacity	:	One, 20 MLD
	d. Gaps in treatment of industrial effluent	:	Detail survey in progress.
	e. Total HW generation in TPA in the catchment area	:	Detail survey in progress.
	f. Existing HW Treatment and Disposal Facilities and total capacity with life span	:	Detail survey in progress.
7.	Action plan includes mainly covering aspect such as: (Appropriate management of sewage, rain water harvesting, measures for regulating ground water use, protection and management of flood plain zone, plantation on both sides of the river, setting up of bio-diversity parks etc., as per Hon'ble NGT Orders dated 20.09.2018 and 19.12.2018)	:	Whichever applicable has been taken into account.
8.	Min. and Max. required time period for implementation of action plans		Min…1.5…….Years, Max…5 years…… _Years
9.	Estimated budget in crores towards implementation of proposed action plans with break-up (e.g. No. of STPs, capacity, total cost; No of CETPs, total capacity, Cost towards interception and diversion of sewage/effluent to STPs/CETPs etc.,)	:	Provided in Annexure-3
10.	Responsible Organization (s) for implementation of proposed action plans (Please enclose details as annexure)	:	Annexure-3
11.	Proposed Mechanism for execution of action plans :		
This action plan implementation is to be monitored by the River Rejuvenation Committee (RRC) through meetings every tri-monthly. District level monitoring committees will be formed under the chairmanship of the respect District Magistrates for monitoring the district level implementation activities and submit reports to the RRC every three month.			
12.	Expected deliverables with respect to achieving goals :		
Considering the impact of this river water to the sensitive ecosystem of the Sundarbans and the livelihood of the fishermen living on both sides of the river, revival of the water quality of this river is extremely important on context of its utility as it is non perennial River. The ultimate goal for beneficial use of rivers will determine the level of actions to be taken for maintaining the water quality. Under the present circumstances, it appears that river Vidyadhari serves the purpose of fishery, wild life propagation, irrigation and, most importantly, the health of the Sundarban ecosystems. For achieving this objective, generated municipal sewage should be treated to meet the required standards of disposal. Also, the trade and other effluents generated within the catchment of river Vidyadhari which are ultimately joining and contributing to the pollution load in the river should be treated to meet the effluent discharge standards stipulated under the GENERAL STANDARDS FOR DISCHARGE OF ENVIRONMENTAL POLLUTANTS PART-A: EFFLUENTS of the Environment (Protection) Rules, 1986. The target for water quality for the stretch is for fishery and			

wild life propagation.
Therefore, the target of the action plan is to deliver quality of water of river Vidyadhari equivalent to that of use class “D” - Fish Culture and Wild life propagation.

Response of the RRC-WB

On

Comments of the Task Team for ensuring compliance to Hon'ble NGT (PB), New Delhi order dated 20.09.2018 and 19.12.2018 in OA No 673/2018 in the Matter of News Item Published in 'THE HINDU' Titled "More river stretches are now critically polluted: CPCB" held during 11.2.2019 to 12.02.2019 n Conference Room, 2nd Floor, Conference Hall CPCB, Delhi.

Comments of Task Team	Corresponding response(s) of RRC_West_Bengal
a) WBPCB proposes water quality goals achievable only for fisheries and wild life development and not possible to meet bathing criteria as no adequate E-Flows.	The river Vidyadhari is a non-perennial one and primarily fed by canals carrying domestic sewage from town area. The action plan has been prepared for maintaining the treatment of the sewages to maintain the discharge to the river complying the prescribed discharge standard. Since the river does not have any fresh water source, especially during the lean months when no surface water flow is available (February to July), it will be impossible to maintain bathing standard for this river at the stretch from Haroa to Malancha. However, since this river is in tidal regime, the water quality shall be much better during the high-tide times. This is the reason the target for this river has been set as "fisheries and wild life development".
b) River Vindyadhari water is used for Fisheries which require minimum BOD of 120mg/l and is then reduced by natural means to around 15-20 mg/l.	A good number of fishermen family live in the villages by the side of the river Vidyadhari. But the natural treatment system for the municipal wastewater for Kolkata City is the wastewater flow through the East Kolkata Wetlands where a good number of sewage fed fisheries exist. These fisheries use the BOD of the wastewater as nutrient source for the fish cultivation. This natural treatment system treats an estimated wastewater of 900 MLD. The point to be mentioned here is that, these sewage fed fisheries exist neither in the case for the river Vidyadhari itself, nor the rest of the canals discharging wastewater to the river. The sewage fed fisheries are there only for dischaeged wastewater from the Kolkata Municipal Area.

The Action Plan

1	Basic information about the stretch
	The river Vidyadhari originates from supply water drained by a number of natural and irrigation canals near village "Telia" in the North 24-Paraganas district and discharges into the Bay of Bengal through the western boundary of the Sundarban National Park. The river is tidal in nature and receives wastewater from the Kolkata city area and it's north-eastern towns. Flow in the river receives enormous amount of discharge of municipal sewage round the year. BOD and Bacteriological count (Faecal Coliform) are the principal pollutants in this river stretch. The sources for this river is presented below. River Vidyadhari has no freshwater up-stream flow. It receives runoff during monsoon and base flow is maintained from ground water pool during lean months. Afforestation, rainwater harvesting and reduction of ground water exploitation from flood plain could ensure the ecological flow in this river including discharge of urban wastewater after appropriate treatment meeting the STP discharge standard for urban cities. At the two locations, i.e., Haroa and Malancha, flow of the river should be measured and record maintained by State Irrigation department.
i)	Polluted river stretch / length
	Polluted stretch of this river has been identified from Haroa to Malancha, which is approximately 20 km.
ii)	Major towns located on the bank between the stretch including population, water consumption details
	No town is there on this stretch. The river, in this stretch flows through rural areas and marshy lands covering Blocks (Taluka) HAROA and MINAKHAN. The prominant villages in on both sides of the river are: Haroa, Atghara, Shankarpur, KhasBalendar, Jhanjha, Ranigachi, Roykhan, Kalinagar, Nawapara, Makhali, Behari, Atpukur, Teghoria, Kulti, Mamanpukuria, Kushangra, Munakhan, Joygram, Taplakushangra, ChakAhammadpur, Malancha.
III)	Identified industrial estates/ areas
	The only industrial estate in this stretch is the Kolkata Leather Complex.
iv)	Stretch of river perennial on or non perennial / flow available / water usage in the stretch
	This river is strictly non-perennial. Since this river stretch is well within the tidal zone, water is available round the year in this stretch. Usage of water in this stretch is mainly for purposes of agriculture and fishing.
2	Water quality of river stretch / drains contributing pollution / ground water

The present status of the river water quality is presented below.

Month - year	Location – Haroa		Location - Malancha	
	BOD (mg/L)	FC (MPN/100mL)	BOD (mg/L)	FC (MPN/100mL)
Jan-17	15.4	80000	9.87	23000
Feb-17	12.85	110000	9.38	13000
Mar-17	9.5	50000	9.12	30000
Apr-17	20.46	13000	6.66	11000
May-17	19.12	30000	17.14	13000
Jun-17	13.39	70000	7.35	17000
Jul-17	15.54	80000	11.19	23000
Aug-17	12.88	1300000	13.25	800000
Sep-17	14.43	130000	8.13	170000
Oct-17	8.8	2400000	6.15	220000
Nov-17	10.38	240000	8.83	280000
Dec-17	6.5	300000	12.68	240000
Jan-18	5	240000	18.13	220000
Feb-18	17.5	300000	12.78	220000
Mar-18	18.44	130000	1.9	23000
Apr-18	24.21	240000	2.7	30000

May-18	22.4	300000	6.2	170000	
Jun-18	13.64	240000	25.83	17000	
Jul-18	8.33	80000	10.42	23000	
Aug-18	10.63	220000	6.4	30000	
Sep-18	23.41	11000	3.75	2000	
Oct-18	5	50000	7.27	8000	
Nov-18	13.75	70000	11.15	13000	
Dec-18	9.82	13000	10.92	8000	

Average BOD for last two years (mg/L)	11.85
Average TC for last two years (MPN/100mL)	193770

i) Drains contributing to pollutions

Following drains contribute to pollution of the mentioned river stretch.

1. SWF (Storm Water Flow) and DWF (Drainage Water Flow) discharging to Vidyadhari carrying wastewater form Kolkata MC area.
2. Bhangar_KataKhal discharging to Vidyadhari carrying wastewater form Kolkataq MC area
3. BagjolaKhal discharging to Vidyadhari carrying wastewater form Kolkata MC, Salt Lake area, Baranagar, South Dumdum and Dumdum Municipal area.
4. Nonagong discharging to HaroaGong-KultiGong carrying waster from Barasat, New_Barrackpore, Sodpure, Ashoknagar-Habra area. to HaroaGong-KultiGong discharges to Vidyadhari at Haroa.
5. Panshila-NakshaKhal discharging to NonaGong carrying wastewater from Garulia-Badu area. Nonagong discharges to Vidyadhari at Telia just before Haroa.
6. SutiaKhal discharging to HaroaGong carrying wastewater of municipal areas from North Dumdum to Bhatpara municipal area.
7. BanikanthaKhal discharging to SutiaKhal carrying wastewater from Madhyamgram and Barasat area.
8. PaskhaliKhal discharging to HaroaGong carrying wastewater from the rural area, east of Rajarhat-NewTown area.

ii) Latest water quality current as per assessment target

Considering the impact of this river water to the sensitive ecosystem of the Sundarvanas and the livelihood of the fishermen living on both sides of the river, revival of the water quality of this river is extremely important on context of its utility as it is non perennial River. The ultimate goal for beneficial use of rivers will determine the level of actions to be taken for maintaining the water quality. Under the present circumstances, it appears that river Vidyadhari serves the purpose of fishery, wild life propagation, irrigation and, most importantly, the health of the Sundarvan ecosystems. For achieving this objective, generated municipal sewage should be treated to meet the required standards for outdoor bathing. Also, the trade and other effluents generated within the catchment of river generated from the catchment of river Vidyadhari which are ultimately joining and contributing to the pollution load in the river should be treated to meet the effluent discharge standards stipulated under the GENERAL STANDARDS FOR DISCHARGE OF ENVIRONMENTAL POLLUTANTS PART-A: EFFLUENTS of the Environment (Protection) Rules, 1986.

The last two years average BOD and Total Coliform for the stretch are tabulated below.

Average BOD for last two years (mg/L)	11.85
Average TC for last two years (MPN/100mL)	193770

The target for water quality for the stretch is for fishery and wild life propagation.

III) Characteristics of river and the major drains

Although the major drains mentioned above are sewage carrying ones, the SWF/DWF system needs a special mention. The DWF carries the municipal wastewater from the Kolkata down to Vidyadhari and during this run of 22 km, the wastewater gets purified naturally and the system is equivalent to a massive wastewater treatment system. This region through which the SWF/DWF run is the East Kolkata Wetlands and has been recognized as the Ramsher site. Sewage fed fisheries exist during this stretch to a great extent who need the sewage to supply sufficient BOD for the fishes to be fed in those fisheries. Thus, the wastewater treatment and fish cultivation as complimentary to each

other has given a unique feature to this east Kolkata wetlands.

The river stretch under consideration is very close to the Bay-of-Bengal and is under strong influence of the tides. Therefore, water is available in this stretch round the year. The water quality status of the river, as influenced by the discharges of the sources mentioned above is monitored on monthly basis at two water quality monitoring stations at Haroa (up-stream) and Malancha (downstream). On the basis of this data the stretch was identified as under priority I. During preparation of the current report, the water quality data of this stretch for last two years was analyzed using the latest "CRITERIAFOR PRIORITISATIONOF POLLUTEDRIVERLOCATION(DRAFT)" circulated by the Central Pollution Control Board (CPCB). Using data of last 24 determinations in two years (January 2017 to December 2019), the river stretch could be identified as Priority III (Moderately Polluted or Fair) with the last two years' average BOD data of 11.8 mg/L and Faecal Coliform value of 194000 MPN/100mL.

iv) Flow details of the polluted river stretch

The river stretch is in tidal zone and therefore the flow reverses twice a day. Flow record generation thus is not possible for this stretch. However, the irrigation department will prepare a storm water discharge record within one month.

v) Charactertics of the major drains contributing to pollution

Water quality characteristics opf the drains as determined in January 2019 is presented below.

Drain discharging to river Vidyadhari	BOD (mg/L)	FC (MPN/100mL)
1. SWF/DWF discharging to Vidyadhari	26.46	50000
2. Bhangar_KataKhal discharging to Vidyadhari	23.5	50000
3. BagjolaKhal discharging to Vidyadhari	23.93	30000
4. Nonagong discharging to HaroaGong-KultiGong	27.94	50000
5. Panshila-Naksha Khal discharging to NonaGong	Data Not Available	Data Not Available
6. SutiaKhal discharging to HaroaGong	24.29	80000
7. BanikanthaKhal discharging to SutiaKhal	42.00	300000
8. Paskhali Khal discharging to HaroaGong c	12.3	500000

vi) Flow details of the major drains contributing to river pollution

The river stretch is in tidal zone and therefore the flow reverses twice a day. Flow record generation thus is not possible for this stretch. However, flow details of the drains related to the river Vidyadhari are provided below.

Drain discharging to river Vidyadhari	Average water flow in dry season (cusec)
1. SWF/DWF discharging to Vidyadhari	4500
2. Bhangar_KataKhal discharging to Vidyadhari	1020
3. BagjolaKhal discharging to Vidyadhari	1100
4. Nonagong discharging to HaroaGong-KultiGong	2315
5. Panshila-NakshaKhal discharging to NonaGong	680
6. SutiaKhal discharging to HaroaGong	1330
7. BanikanthaKhal discharging to SutiaKhal	550
8. PaskhaliKhal discharging to HaroaGong c	660

vii) Ground water quality in the catchment of polluted river stretch

The ground water quality of the catchment area of river Vidyadhari is presented in table at Annexure-1(A). The data shows that some locations of HAROA block has problem of ground water Arsenic contamination. However, treated fresh water supply for the entire region has been instituted through the 66 MLD project of "Surface Water based water supply scheme for Haroa, Rajarhat and Barasat-II Block" by the Public Health Engineering Department of the GoWB.

The West Bengal Pollution Control Board keeps a strict vigil over the metal contamination of the ground water in this region. The ground water data in respect of the heavy metals were screened for the ground water stations of this region for last three years and hardly any presence could be found excepting Zinc. Zinc, however, reported a maximum concentration of 650 microgram per cubic meter. This can easily be ignored as the drinking water standard for Zinc is 5000 microgram per cubic meter. The heavy metal concentrations in the ground water for last three years are provided in Table in Annexure-1(B).

viii) Health status of the public in the catchment of polluted river stretch

The table below summarizes the health status of the habitants of the two blocks surrounding the river stretch.

Sl.	Block	IPD admission	OPD attendance	Live birth	Infant death	Maternal death	Major diseases

	1	Minakhan	5656	123190	1862	36	4	Dengue, Malaria, Fever, Diarrhea
	2	Haroa	4177	92959	1529	27	2	Respiratory Tract Infection

The Gap analysis done by the Health department identified irregularity of collection and disposal of Biomedical Wastes from the primary health centers as the reason for occasional health hazard incidents. As a remedial measure, development of Common Biomedical Waste Treatment Facility within 75 Kilometer of the sources of generation has been proposed.

3	Inventory sources of pollution and gaps identification
	Sources of pollution for this river stretch have been identified and reported at section 2(i) above. The action plans provided below takes care of these sources.
(a)	Municipal sources / sewage management
i)	Sewage generation from towns located on the banks of the polluted river
ii)	Number of sewage treatment plants and treatment capacity. Actual sewage treatment and the gaps in treatment
III)	Number of STPs proposed and capacity
iv)	Interception and diversion of drains / treatment given
(b)	Drainage system / sewage network present / proposed

Response to queries under 3 (a) and 3 (b) are provided below and the actions taken and to be taken are in table form.

Within Kolkata Municipal Corporation Area discharging to SWF/DWF Canal

PRESENT SEWAGE GENERATION ---------- 1272 MLD
EXISTING STPS AND CAPACITY ---------- 1072 MLD
(of this 1072 MLD, 900 MLD is treated by the East Kolkata Wetland System)
PROPOSED STPS WITH CAPACITY BASED ON 2035 PROJECTED POPULATION ---------- 111.36 MLD

Within Kolkata Municipal Corporation Area discharging to Bhangar Kata Khal

PRESENMT SEWAGE GENERATION ---------- 262.24 MLD
EXISTING STPS AND CAPACITY ---------- 204.73 MLD
PROPOSED STPS WITH CAPACITY BASED ON 2035 PROJECTED POPULATION ---------- 296.43 MLD

Other than Kolkata Municipal Corporation Area

Name of Town	Population on 2011	Present Sewage Generation according to Population (MLD)	Existing No. of STP & Capacity	Proposed No. of STP & It's Capacity according to 2035 Population (MLD)	Proposed Sewage Network considered (Km.)	Timeline of completion
Gayeshpur	55,048	6.00	1 No. 8.33 MLD	1 No. 8.33 MLD	71.00	completed
Kalyani	1,00,575	11.00	2 Nos. 21.00 MLD	2 Nos. 21.00 MLD	47.00	completed
Bhatpara	3,83,762	41.50	4 Nos. 61.00 MLD	4 Nos. 61.00 MLD	103.00	completed
Halisahar	1,24,939	13.50	1 No. 6.50 MLD	1 No. 16.00 MLD	227.00	To be completed by March 2020
Barrackpore	1,52,783	16.50	1 No. 1.00 MLD	2 Nos. 24.00 MLD	247.00	To be completed by March 2020
Kamarhati – Baranagar	5,75,426	62.00	1 No. 40.00 MLD	1 No. 60.00 MLD	2.50 (I &D)	To be completed by March 2023
Kanchrapar	1,20,345	13.00	1 No.	1 No.	15.00 (I & D)	To be

	a			6.00 MLD	18.00 MLD		completed by March 2023
	Khardah	1,08,496	12.00	2 Nos. 9.00 MLD (with Part of Titagarh)	1 No. 17.50 MLD	3.70 KM(I&D)	Will be completed within 3years after approval
	Naihati	2,17,900	23.53	2 Nos. 18.00 MLD	1 No. 31.50 MLD	1.10 (I & D)	Will be completed within 3years after approval
	Panihati	3,77,347	41.00	1 No. 12.00 MLD	1 No. 12.00 MLD	10.50 (I & D)	Will be completed within 3years after approval
	Garulia	85,336	9.21	1 No. 7.90 MLD	1 No. 13.10 MLD	2.20 (I & D)	Will be completed within 3years after approval
	Titagarh	1,16,541	13.00	1 No. 14.00 MLD (with Khardah Part)	1 No. 14.00 MLD	4.50 KM(I&D)	Will be completed within 3years after approval
	Kestopur Canal				1 No., 55 MLD		Will be completed within 3years after approval
	Bagjola Canal				1 No., 58 MLD		Will be completed within 3years after approval
	New Town – Rajarhat				1 N0., 25 MLD		September 2019

(c)	Industrial pollution control	
i)	Number of industries – category Red or water polluting / small scale	407
ii)	Industries without consent / authorization	NIL
III)	Number of directions issued to industries	Detailed survey in progress.
iv)	Total water consumption and the waste water generation by the industries	28.02 MLD
v)	Number of industries having captive ETPs and treatment capacity	Detailed survey in progress.
vi)	Number of industries those are members of the CETP	There is only 1 (one) number of CETP in West Bengal, mainly for treating effluent generated from 335 no. of tanneries located at Calcutta Leather Complex at Bantala, south 24 Parganas. Total quantity of effluent generation is approximately 19.9 MLD. Actual effluent quantity varies from 15 MLD to 20 MLD. Present capacity of CETP is 20 MLD.
vii)	Number of CETPs existing in the catchment of polluted river stretch and the treatment capacity	1 (one) with 4 modules of capacity 5MLD each (Total capacity : 20 MLD)
viii)	OCEMS installation status by industries	1 (one) month
ix)	Gaps in treatment of industrial effluent	6 (six) months
x)	Present / proposed CETP capacity / member units	Additional 4 modules of CETP of capacity 5MLD each (i.e. total capacity of 20 MLD) has been proposed within Calcutta Leather Complex at Bantala, South 24 Parganas.
4	Identification of major sources required to be controlled based on pollution load	
a)	Waste management status	
	Biomedical waste management Action Plan:	

Biomedical Waste Generation- 3200 kg/day(approx.)

	Locations of Common Bio-medical Waste Treatment Facility	Present Status
1	Medicare Environmental Management Pvt. Ltd. K-26, Phase – III, Growth Centre, (Behind IOCL LPG Bottling Plant), Kalyani, Nadia	In operation. Treatment capacity of CBWTSDF is 30,000 bed/day i.e. equivalent to 7500 kg/day (on the basis of 250 grams /bed/day)
2	Medicare Environmental Management Pvt. Ltd., Gopalpur, Duttapukur, North 24 Parganas	Under Construction (to cope up the future demand and to have rational distribution of treatment of BMW of this particular Basin

i) Industrial waste management

Industrial waste has two portions. The hazardous waste is managed through the appropriate TSDF site and the vendor lifting and transporting the hazardous wastes to the sites. At present there is no gap in capacity of the Haldia TSDF facility to deal with the hazardous waste generated in the entire Kolkata and North 24-Paraganas district.

ii) Solid waste management

Solid waste generated by Portion of the Kolkata Municipal Corporation and eighteen municipal towns of the North 24-Paragana District have been identified to have contribution to pollution of the river stretch. Total population covered is 89,36,014 and number of municipal wards 704.

District	Name of Urban Local Body	No. of Ward	Population (2011 census)
Kolkata	Kolkata Municipal Corporation	144	4496694
North 24 Parganas	Bidhannagar Municipal Corporation	60	618358
North 24 Parganas	South Dum Dum Municipality	35	403316
North 24 Parganas	Bhatpara Municipality	35	383762
North 24 Parganas	Panihati Municipality	35	377347
North 24 Parganas	Kamarhati Municipality	35	330211
North 24 Parganas	Barasat Municipality	32	278435
North 24 Parganas	North Dum Dum Municipality	31	249142
North 24 Parganas	Baranagar Municipality	34	245213
North 24 Parganas	Naihati Municipality	31	217900
North 24 Parganas	Madhyamgram Municipality	25	196127
North 24 Parganas	Barrackpore Municipality	24	152783
North 24 Parganas	Habra Municipality	24	147221
North 24 Parganas	North Barrackpore Municipality	23	132806
North 24 Parganas	Halisahar Municipality	23	124939
North 24 Parganas	Ashokenagar-Kalyangarh Municipality	22	121592
North 24 Parganas	Kanchrapara Municipality	24	120345
North 24 Parganas	Titagarh Municipality	23	116541
North 24 Parganas	Dum Dum Municipality	22	114786
North 24 Parganas	Khardah Municipality	22	108496
		704	**8936014**

III) Gaps identified in waste management

Although 100 percent door to door collection of solid waste has been achieved for all the towns under consideration, only 4.86 percent of "segregation a source" has been achieved in Kolkata. However, no solid waste of Kolkata Municipal Corporation reach the river Vidyadhari. Rest towns are yet to initiate such programme. The action plan for initiation of such segregation at source activity followed by other processing and disposals are presented, along with timeline, at Annexure-2.

iv) Proposed actions for solid wastes, industrial waste and bio-medical waste management

5 Any other information

i) Remedial plans for control of ground water contamination

Major remedial measures to control ground water contamination has been taken in controlling Open defecation and construction drainage system and soak pits in panchayet (rural) areas

i) Construction of platform, pucca drain and soak pits for Tube-wells and compost/ azolla pit at household and cluster level.

ii) Providing access of twin leach pit safe and sanitary toilets to every eligible rural household thereby arresting the possibility of discharge of domestic black water to the adjacent or nearby water bodies including rivers. Present sanitation coverage in the rural areas of the state stands at **99.61%.**

A detailed account of sanitation project in this area is provided below.

SL	NAME OF THE DISTRICT	NAME OF THE BLOCK	TOTAL HOUSEHOLD TOILET CONSTRUCTED (FROM 2013-14 TILL DATE)
1	NORTH 24 PGS	HAROA	36035
2	NORTH 24 PGS	MINAKHAN	27026

Other major initiative taken and implemented are surface water based water supply schemes and the action plan is t cover the entire area in 5 years. Schemes are provided belos.

Current Status	Action Plan
Surfae water based water supply and distribution schemes. Schemes implemented and under Operation: a) North 24 Pgs Surface Water based Arsenic Area W/S Scheme : 34 MLD	Surfae water based water supply and distribution schemes. On-going Schemes to be commissioned within 05 years : a) Habra-Gaighata Surface Water based water supply scheme : 145 MLD b) Surface Water based water supply scheme for Haroa, Rajarhat and Barasat-II Block : 66 MLD c) Integrated Surface Water based water supply scheme for Basirhat-I, II, Baduria and Swarupnagar Block : 272 MLD d) Surface Water based water supply scheme for Bagda, Bangaon Block and BangaonMunicipality : 115 MLD.
1. As per Dynamic Groundwater Resources Assessment & Categorization HAROA block is in 'SAFE' Category. 2. At present Groundwater monitoring for depth to water level and water quality are done on 10 X 10 Km^2 grid basis for single principal aquifer. 3. SWID have installed Real Time Water level Monitoring system with telemetry for continues monitoring of the depth to water level (4 times in a day) in 522 nos. of locations throughout the state. 4. In respect of MINAKHA block the Upper & Middle Aquifer is brakish in nature, Groundwater withdrawal is restricted. 5. In respect of quality of Groundwater both the blocks are having Arsenic concentration more than permissible limit. 6. Case to case basis application for Industries for withdrawal of groundwater is scrutinized by District Level Authority(DLA). 7. Permission for withdrawal of groundwater is given with the sealing of aquifer where the	• Groundwater Depth to Water Level Monitoring system on 5 X 5 Km^2 grid basis and as well as for multiple aquifer has been proposed. Due to increasing demand of Ground Water in the Corporation and Municipal areas , a Real Time Water level Monitoring system with telemetry for continues monitoring of the depth to water level (4 times in a day has been proposed. The said work plan will be executed within coming 5 years. • Each Gram-panchyet Level Water Quality monitoring will be taken up in the state. The said work plan will be executed within coming 5 years. • Dynamic Groundwater Assessment (2017) according to GEC-2015 methodology is in progress and will be submitted within this year. • Excavation of Ponds proposes for water harvesting in each year according to the availability of fund.

	concentration of Arsenic is more than permissible limit. 8. Pilot Rainwater Harvesting Scheme are taken in the area for awareness of People. 9. Mass-awareness programme on Present Groundwater condition, its proper utilization in different sector and related Groundwater Acts and Water testing camp is going on.	• Groundwater development scheme are being taken up in consultation with State Water Investigation Directorate. • Surface Water Development Schemes are taken up where ever feasible in agriculture.
ii)	Remedial plans for health impacts in the catchment of polluted river stretch	
	The Gap analysis done by the Health department identified irregularity of collection and disposal of Biomedical Wastes from the primary health centers as the reason for occasional health hazard incidents. As a remedial measure, development of Common Biomedical Waste Treatment Facility within 75 Kilometer of the sources of generation has been proposed.	
iii)	Identified organizations responsible for preparation of and execution of action plans, with timeline and budgetary estimate.	Provided in Annexure - III
iv)	Monitoring mechanism proposed for implementation of action plans	
	This action plan is to be monitored by the River Rejuvenation Committee (RRC) every tri-monthly. District level monitoring committees will be formed under the chairmanship of the respect District Magiatrates for monitoring the district level activities and submit reports to the RRC every three month.	
v)	Web-side development for information dissemination	
	A separate web-page have been created and all relevant information in relation to all the polluted river stretches are provided in the site. This can be availed at the web address https://www.wbpcb.gov.in/pages/display/143-river-rejuvenation-committee and the "Present Status of Polluted River Stretches" section specifically narrates the stage and status of progress of implementation of the Action Plan(s) in general and that for Vidyadhari in particular in real time. It means the latest water quality status is presented in the report which can be viewed against the same when the river was identified as "polluted river".	
vi)	Public mass awareness	
	1. Awareness trainings has been initiated by the Health department on Biomedical Waste Management 2. Extensive awareness programme is conducted by the PHE Department on awareness to avoid ground water and use pipeline supply for consumption to avoid arnesic exposure. 3. A comprehensive plan for plantation across the stretch will be developed and implemented by using MGNREGA resources 4. Vetiver grasses will be planted on the river/ canal bank, which will serve twin purpose to absorbing heavy metal and protecting the banks from soil erosion 5. Floats will be made of vetiver and placed inside the canal to attract heavy metal thereby reducing pollution load 6. **In sanitation**, solid waste management will be a priority, along with imposing ban on use of plastic carry bags <50 microns	

Ground water quality of area surrounding river Vidyadhari during 2018

Sample ID	PZ No	Block	Location	Type of Source	Date of Collection	pH	Sp. Conductance at 250C Mhos/cm or µS/cm	Total Dissolved Solid (TDS) in (mg/l)	Carbonate as CO3 in (mg/L)	Bicarbonate as HCO3 in (mg/l)	Chloride as Cl in (mg/L)	Total Hardness as CaCO3 in (mg/l)	Total Iron as Fe in (mg/l)	Total arsenic as As in (mg/l)	Remarks
NWM79	11	Haroa	Dhonpota Bazar, Plot No.-295	Pizometric Tube	27.04.18	7.61	630	404	Nil	270	14	200	0.10	BDL	
NWM80	87	Haroa	Kharuballa Primary School premises		27.04.18	7.68	570	366	Nil	290	14	250	0.03	BDL	
NWM81	88	Haroa	Kharuballa Primary School premises		27.04.18	7.70	560	360	Nil	210	14	220	0.15	BDL	
NWM82	91	Haroa	Radhanagar Masjid F. P. School		27.04.18	7.79	1500	960	Nil	220	355	260	0.51	BDL	
NWM83	92	Haroa	Radhanagar Masjid F. P. School		27.04.18	7.58	1590	1018	Nil	190	355	230	0.49	BDL	
NWM84	85	Haroa	Raikha Primary School Premises, Plot-468		27.04.18	8.01	830	532	Nil	270	57	190	0.07	BDL	
NWM85	86	Haroa	Raikha Primary School Premises, Plot-468		27.04.18	8.04	800	512	Nil	290	50	200	0.03	BDL	
NWM86	79	Haroa	Haroa BDO premises		27.04.18	8.01	970	622	Nil	360	71	200	0.25	BDL	
NWM87	80	Haroa	Haroa BDO premises		27.04.18	8.10	980	628	Nil	350	71	200	0.05	BDL	
NWM88	81	Haroa	Madartola Primary School Premises, plot-128		27.04.18	7.65	790	506	Nil	270	50	180	0.30	BDL	
NWM89	82	Haroa	Madartola Primary School Premises, plot-20		27.04.18	7.68	770	494	Nil	290	57	200	0.39	BDL	
NWM90	83	Haroa	AmtaFokania Madrasa Compound Plot-20		26.04.18	7.92	800	512	Nil	340	43	240	0.07	BDL	
NWM91	84	Haroa	AmtaFokania Madrasa Compound Plot-20		N/A	8.10	810	520	Nil	330	57	230	0.08	BDL	
NWM92	89	Haroa	Ghanarban F. P. School		26.04.18	8.15	860	552	Nil	410	57	100	0.04	0.025	
NWM93	90	Haroa	Ghanarban F. P. School		26.04.18	8.11	870	558	Nil	410	57	100	0.03	0.025	
NWM101	95	Minakhan	BDO office Compound	Pizometric Tube	04.05.18	7.72	840	538	Nil	230	71	180	0.04	BDL	
NWM102	96	Minakhan	BDO office Compound		04.05.18	7.68	770	494	Nil	240	71	170	0.02	BDL	
NWM103	93	Minakhan	BechraMohonpur, plot of Sri D. K. Patra		04.05.18	7.76	760	488	Nil	250	64	150	0.03	BDL	
NWM104	94	Minakhan	BechraMohonpur, Harinhula F.P. School		04.05.18	7.70	990	634	Nil	240	135	200	0.03	BDL	

Concentration of Heavy Metals (in µg/l) in groundwater of Vidyadhari catchment BDL: Below Detectable Limit								
:: Barasat Station ::								
Year	Arsenic	Cadmium	Chromium Total	Copper	Lead	Mercury	Nickel	Zinc
2016	26	BDL	BDL	NT	NT	BDL	NT	58
2017	BDL	BDL	BDL	BDL	BDL	NT	BDL	BDL
2018	22.5	BDL	BDL	6	BDL	NT	BDL	BDL
:: HIDCO Station ::								
	Arsenic	Cadmium	Chromium Total	Copper	Lead	Mercury	Nickel	Zinc
2016	BDL	BDL	BDL	BDL	BDL	BDL	BDL	100
2017	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2018	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
:: Rajarhat Station ::								
	Arsenic	Cadmium	Chromium Total	Copper	Lead	Mercury	Nickel	Zinc
2016	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2017	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2018	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
:: Dhapa Station ::								
	Arsenic	Cadmium	Chromium Total	Copper	Lead	Mercury	Nickel	Zinc
2016	BDL	BDL	BDL	BDL	BDL	BDL	BDL	100
2017	BDL	BDL	BDL	BDL	BDL	BDL	BDL	650
2018	BDL	BDL	BDL	BDL	BDL	BDL	BDL	130
:: Calcutta Leather Complex Station ::								
	Arsenic	Cadmium	Chromium Total	Copper	Lead	Mercury	Nickel	Zinc
2016	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2017	BDL	BDL	BDL	BDL	BDL	BDL	BDL	640
2018	7	BDL	BDL	BDL	BDL	BDL	BDL	BDL
:: Tangra Station ::								
	Arsenic	Cadmium	Chromium Total	Copper	Lead	Mercury	Nickel	Zinc
2016	BDL	BDL	BDL	BDL	BDL	BDL	BDL	220
2017	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2018	BDL	BDL	BDL	BDL	BDL	BDL	BDL	500
:: Topsia Station ::								
	Arsenic	Cadmium	Chromium Total	Copper	Lead	Mercury	Nickel	Zinc
2016	BDL	BDL	BDL	BDL	BDL	BDL	BDL	130
2017	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2018	BDL	BDL	BDL	BDL	BDL	BDL	BDL	100

Proposed Solid Waste Management Plan for Kolkata Municipal Corporation and the municipal towns of North 24-Paraganas																				
District	Sl. No.	Name of Urban Local Body	No. of Ward	Population (2011 census)	Door to door Collection		Segregation at source		Separate Transportation		Public area sweeping		MRF Faciliities		Wet waste processing		Dry waste processing		Activities of bulk waste generators	
					Status	Action Plan	Status	Action Plan	Status	Action Plan	Status	Action Plan	Status	Action Plan	Status	Action Plan	Status	Action Plan	Status	Action Plan
Kolkata	21	Kolkata Municipal Corporation	144	4496694	100%	NA	4.86%	100% to be achieved by Dec, 2022	4.86%	100% to be achieved by Dec, 2022	100%	NA	4.86%	100% to be achieved by Dec, 2022	30%	100% to be achieved by Dec, 2022	4.86%	100% to be achieved by Dec, 2022	0%	Draft byelaw is under preparation. To be implemented by 2022.
North 24 Parganas	28	Bidhannagar Municipal Corporation	60	618358	100%	NA	0%	100% to be achieved by Dec, 2021	0%	100% to be achieved by Dec, 2021	100%	NA	0%	100% to be achieved by Dec, 2021	0%	100% to be achieved by Dec, 2022	0%	100% to be achieved by Dec, 2022	0%	100% to be achieved by Dec, 2022
North 24 Parganas	29	South Dum Dum Municipality	35	403316	100%	NA	0%	100% to be achieved by Dec, 2020	0%	100% to be achieved by Dec, 2020	100%	NA	0%	100% to be achieved by Dec, 2020	0%	100% to be achieved by Dec, 2020	0%	100% to be achieved by Dec, 2020	0%	100% to be achieved by Dec, 2021
North 24	30	Bhatpara Municipal	35	383762	100	NA	0%	100%	0%	100%	100	NA	0%	100%	0%	100%	0%	100%	0%	100% to

Parganas		ity			%			to be achieved by Dec, 2021		to be achieved by Dec, 2021	%			to be achieved by Dec, 2021		to be achieved by Dec, 2021		to be achieved by Dec, 2021		be achieved by Dec, 2021
North 24 Parganas	31	Panihati Municipality	35	377347	100%	NA	0%	100% to be achieved by Dec, 2021	0%	100% to be achieved by Dec, 2021	100%	NA	0%	100% to be achieved by Dec, 2021	0%	100% to be achieved by Dec, 2022	0%	100% to be achieved by Dec, 2022	0%	100% to be achieved by Dec, 2022
North 24 Parganas	32	Kamarhati Municipality	35	330211	100%	NA	0%	100% to be achieved by Dec, 2021	0%	100% to be achieved by Dec, 2021	100%	NA	0%	100% to be achieved by Dec, 2021	0%	100% to be achieved by Dec, 2022	0%	100% to be achieved by Dec, 2022	0%	100% to be achieved by Dec, 2022
North 24 Parganas	33	Barasat Municipality	32	278435	100%	NA	0%	100% to be achieved by Dec, 2021	0%	100% to be achieved by Dec, 2021	100%	NA	0%	100% to be achieved by Dec, 2021	0%	100% to be achieved by Dec, 2022	0%	100% to be achieved by Dec, 2022	0%	100% to be achieved by Dec, 2022
North 24 Parganas	34	North Dum Dum Municipality	31	249142	100%	NA	0%	100% to be achieved by Dec,	0%	100% to be achieved by Dec,	100%	NA	0%	100% to be achieved by Dec,	0%	100% to be achieved by Dec,	0%	100% to be achieved by Dec,	0%	100% to be achieved by Dec, 2021

								2020		2020				2020		2020		2020		
North 24 Parganas	35	Baranagar Municipality	34	245213	100%	NA	0%	100% to be achieved by Dec, 2020	0%	100% to be achieved by Dec, 2020	100%	NA	0%	100% to be achieved by Dec, 2020	0%	100% to be achieved by Dec, 2020	0%	100% to be achieved by Dec, 2020	0%	100% to be achieved by Dec, 2021
North 24 Parganas	36	Naihati Municipality	31	217900	100%	NA	0%	100% to be achieved by Dec, 2021	0%	100% to be achieved by Dec, 2021	100%	NA	0%	100% to be achieved by Dec, 2021	0%	100% to be achieved by Dec, 2021	0%	100% to be achieved by Dec, 2021	0%	100% to be achieved by Dec, 2021
North 24 Parganas	37	Madhyamgram Municipality	25	196127	100%	NA	0%	100% to be achieved by Dec, 2021	0%	100% to be achieved by Dec, 2021	100%	NA	0%	100% to be achieved by Dec, 2021	0%	100% to be achieved by Dec, 2022	0%	100% to be achieved by Dec, 2022	0%	100% to be achieved by Dec, 2022
North 24 Parganas	38	Barrackpore Municipality	24	152783	100%	NA	0%	100% to be achieved by Dec, 2021	0%	100% to be achieved by Dec, 2021	100%	NA	0%	100% to be achieved by Dec, 2021	0%	100% to be achieved by Dec, 2022	0%	100% to be achieved by Dec, 2022	0%	100% to be achieved by Dec, 2022
North 24 Parganas	39	Habra Municipality	24	147221	100%	NA	0%	100% to be achieved	0%	100% to be achieved	100%	NA	0%	100% to be achieved	0%	100% to be achieved	0%	100% to be achieved	0%	100% to be achieved by Dec,

								by Dec, 2021		by Dec, 2021				by Dec, 2021		by Dec, 2021		by Dec, 2021		2021
North 24 Parganas	40	North Barrackpore Municipality	23	132806	100%	NA	0%	100% to be achieved by Dec, 2021	0%	100% to be achieved by Dec, 2021	100%	NA	0%	100% to be achieved by Dec, 2021	0%	100% to be achieved by Dec, 2022	0%	100% to be achieved by Dec, 2022	0%	100% to be achieved by Dec, 2022
North 24 Parganas	42	Halisahar Municipality	23	124939	100%	NA	0%	100% to be achieved by Dec, 2021	0%	100% to be achieved by Dec, 2021	100%	NA	0%	100% to be achieved by Dec, 2021	0%	100% to be achieved by Dec, 2022	0%	100% to be achieved by Dec, 2022	0%	100% to be achieved by Dec, 2022
North 24 Parganas	43	Ashokenagar-Kalyangarh Municipality	22	121592	100%	NA	0%	100% to be achieved by Dec, 2021	0%	100% to be achieved by Dec, 2021	100%	NA	0%	100% to be achieved by Dec, 2021	0%	100% to be achieved by Dec, 2021	0%	100% to be achieved by Dec, 2021	0%	100% to be achieved by Dec, 2021
North 24 Parganas	44	Kanchrapara Municipality	24	120345	100%	NA	0%	100% to be achieved by Dec, 2021	0%	100% to be achieved by Dec, 2021	100%	NA	0%	100% to be achieved by Dec, 2021	0%	100% to be achieved by Dec, 2022	0%	100% to be achieved by Dec, 2022	0%	100% to be achieved by Dec, 2022
North 24	45	Titagarh Municipal	23	116541	100%	NA	0%	100% to be	0%	100% to be	100%	NA	0%	100% to be	0%	100% to be	0%	100% to be	0%	100% to be

Parganas		ity						achieved by Dec, 2021		achieved by Dec, 2021				achieved by Dec, 2021		achieved by Dec, 2022		achieved by Dec, 2022		achieved by Dec, 2022
North 24 Parganas	46	Dum Dum Municipality	22	114786	100%	NA	0%	100% to be achieved by Dec, 2020	0%	100% to be achieved by Dec, 2020	100%	NA	0%	100% to be achieved by Dec, 2020	0%	100% to be achieved by Dec, 2020	0%	100% to be achieved by Dec, 2020	0%	100% to be achieved by Dec, 2021
North 24 Parganas	48	Khardah Municipality	22	108496	100%	NA	0%	100% to be achieved by Dec, 2021	0%	100% to be achieved by Dec, 2021	100%	NA	0%	100% to be achieved by Dec, 2021	0%	100% to be achieved by Dec, 2022	0%	100% to be achieved by Dec, 2022	0%	100% to be achieved by Dec, 2022

Distribution of Organizational Responsibilities ::::: Timelines & Budgetary Estimate			
Departments / Agencies	*Actions to be taken*	*Targeted timeline*	*Budgetary Estimate*
Kolkata Metropolitan Development Authority	1. Action plans for management of municipal wastewater discharge for Vidyadhari. 2. Finalize the GIS-based interactive map preparation by DST. Information to be incorporated: • Town wise consumption – Surface Water • Town wise consumption – Ground Water • Town wise sewage generation • Town wise existing wastewater treatment infrastructure Town wise Gap analysis for wastewater treatment Wastewater management action plan has to mention the treated water discharge point. Best is to use the treated wastewater for agricultural purpose, which is possible for these towns.	Action plan provided at 3(b). Target timelines for the projects are March 2020 to March 2023.	Total estimate: Rs. 2514.83 Crore.
Kolkata Municipal CorporationMC	1. Action plans for management of municipal wastewater discharge for Vidyadhari. 2. Action plan for development of greeneries in KMC area. 3. Action plans for Ground water re-charging /rain water harvesting in KMC area. 4. Action plan for management of plastic waste, Hazardous, Bio-medical and Electrical and Electronic wastes in KMC area. Information to be incorporated: • Town wise consumption – Surface Water • Town wise consumption – Ground Water • Town wise sewage generation • Town wise existing wastewater treatment infrastructure Town wise Gap analysis for wastewater treatment Wastewater management action plan has to mention the treated water discharge point. Best is to use the treated wastewater for agricultural purpose, which is possible for these towns.		
PHED	1. Action plans for management of municipal wastewater discharge for New Town Area.. 2. Action Plans of distribution of treated river water to habitations traditionally use ground water. 3. Action plans for replacement of withdrawal of groundwater in Arsenic affected blocks of the State. Information to be incorporated: • Town wise consumption – Surface Water • Town wise consumption – Ground Water • Town wise sewage generation • Town wise existing wastewater treatment infrastructure Town wise Gap analysis for wastewater treatment	Action Plans provided. Surface water based water supply schemes to prevent ground water abstraction – total 483 MLD	Rs. 1901.85 crore total.
SUDA	Action plans for management of Municipal, Plastic, Hazardous, Bio-medical and Electrical and Electronic wastes the following rivers and towns. Detailed gap analysis w.r.t town-wise water consumption (including ground water consumption), sewage generation, existing infrastructure in the catchment area and the gap analysis. Vidyadhari – Ganga-front towns.	The solid waste management issue is being dealt by the State Level Task Force by Hon'ble NGT in OA No. 606/2018.	The solid waste management issue is being dealt by the State Level Task Force by Hon'ble NGT in OA No. 606/2018.
WBPCB	For all the 17 river stretches under consideration. 1. Inventorization of water polluting industries 2. Categories of industry and effluent quality	Action Plan Provided, Survey in Progress.	No specific requirement.

	3. Treatment of effluents, compliance with standards and mode of disposal of effluents 4. Establishment of regulatory regime.		
Panchayat & Rural Development Department	1. River specific action plans for black and grey liquor management, municipal solid waste management and surface water preservation programmes (e.g., Rainwater harvesting). 2. To coordinate with Forest Department for providing lands for tree plantation and development of biodiversity parks. 3. Watershed management programmes, IHHL activities etc. Special emphasis is required from the PNRD department for the cases of the following rivers as no urban wastewater reaches the rivers.	Action Plan Provided. Will GP level solid waste management units at 11 locations in the Blocks surrounding Vidyadhari . Time line – 2 Years. Plantation progrmmes during 2019 - 2020	Rs. 2.0 Crore. 12.92 Lakh
Water Resources Investigation & Development Department	River specific action plan on the following. (i) Periodic assessment of groundwater resources and regulation of ground water extraction by industries particularly in over exploited and critical zones/blocks. (ii) Ground water re-charging /rain water harvesting (iii) Periodic ground water quality assessment and remedial actions in case of contaminated groundwater tube wells/bore wells or hand pumps. (iv) Assessment of the need for regulating use of ground water for irrigation purposes.	Has provided action plan.	Will be taken care from State Budget Funding.
Agriculture Department	1. Watershed Development in total 219 ha of land. 2. Good agricultural practice (reclamation, re-excavation, irrigation channel, water harvesting, dug well etc..)	2019 – 2020 2019-2020	181.06 Lakhs. 38.31 Lakh.
Forest Department	1. Plantation Work son banks of river 2. Development of Biodiversity Park	2019-2020 2020-2021	29.3 Lakh 4.07 Lakh /ha

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