केन्द्रीय प्रदूषण नियंत्रण बोर्ड
(पर्यावरण वन, एंव जलवायु परिवर्तन मंत्रालय, भारत सरकार)
CENTRAL POLLUTION CONTROL BOARD
(Ministry of Environment, Forests & Climate Change, Government of India)
Eastern Regional Directorate
502, Southend Conclave, 1582, Rajdanga Main Road, Kolkata - 700 107

No. EZO/F-463/NGRBA/2015 1888

Date:27-02-2019

To,

The Member Secretary
Central Pollution Control Board
Parivesh Bhawan, East Arjun Nagar
New Delhi – 110032

Sir,

As desired the Inspection and Monitoring of River Churni was carried out between 7th -8th February, 2019. Report is enclosed for your kind perusal and necessary action please.

With regards

Encl: As above

Yours faithfully

(R.C. Saxena)
Regional Director
ERD,Kolkata

Rita Lahiri

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CENTRAL POLLUTION CONTROL BOARD
Regional Directorate, Kolkata
Monitoring of Churni River

Sl. No.	Details	Status
1	Nature	Churni River Monitoring.
2	Reference	As per the directions of competent authority a reconnaissance survey of river Churni at Nadia district of West Bengal has to be carried out to assess the causes of pollution.
3	Date of Monitoring	7th & 8th February 2019
4	Monitoring Team from ERD, Kolkata	Mr. Asish Kr. Naskar, Scientist 'C' Mr. V Kiran Kumar, RA-III (NGRBA)
5	Detail of Monitoring	

As per the directions of competent authority a reconnaissance survey of river Churni at Nadia district of West Bengal has been carried out on 7th and 8th of February, 2019 to assess the causes of pollution.

Course of River Churni:
Churni River is an offshoot of Ganga-Padma, which flows southwest to join Hooghly River at Sibpur ghat under Anulia gram panchayat. The Churni River flows from Indo-Bangladesh Border at Bijoypur to Govindpur → Majdia → Ranaghat → Shibpur Ghat i.e. before confluence at River Hooghly. The catchment area of Churni River are Hanskali, Birnagar, Aranghata and Ranghat. Its length almost 56 kilometres from Indo-Bangladesh Border to confluence point at river Hooghly.

Demography throughout the Churni River Course:

As per Census by Govt. of India 2011 of the regions where the sampling points are located as follows:

Sl. No.	Area Name	Block	Under Local Bodies	Population(approx)
1	Bijoy Pur	Krishnaganj	Gram Panchayat	1093
2	Govind Pur	Krishnaganj	Gram Panchayat	2111
3	Majdia	Ranaghat - I	Gram Panchayat	2720
4	Ranaghat Town	Ranaghat	Municipality	75365
5	Shibpur Ghat	Ranaghat - I	Anulia Gram Panchayat	256

The Ranaghat is an Urban agglomeration coming under category of Class – I UAs/Towns and having highest population from other Town/Village areas. The average Literacy is 85.79%. This is the only area which has drainage system and drains in to the Churni River. Team surveyed both the banks of river Churni to identify domestic and industrial waste water discharge into river Churni. Except Ranaghat other catchments of river Churni gets surface runoff only during monsoon Season and other seasons the surface runoff accumulates in the nearby low lying area like Ponds/Ditches/ Canal etc.
At Ranaghat Municipality, team identified seven drains, among them four are major, which carry domestic waste water generated from different wards of Ranaghat Municipality. The details are given below:

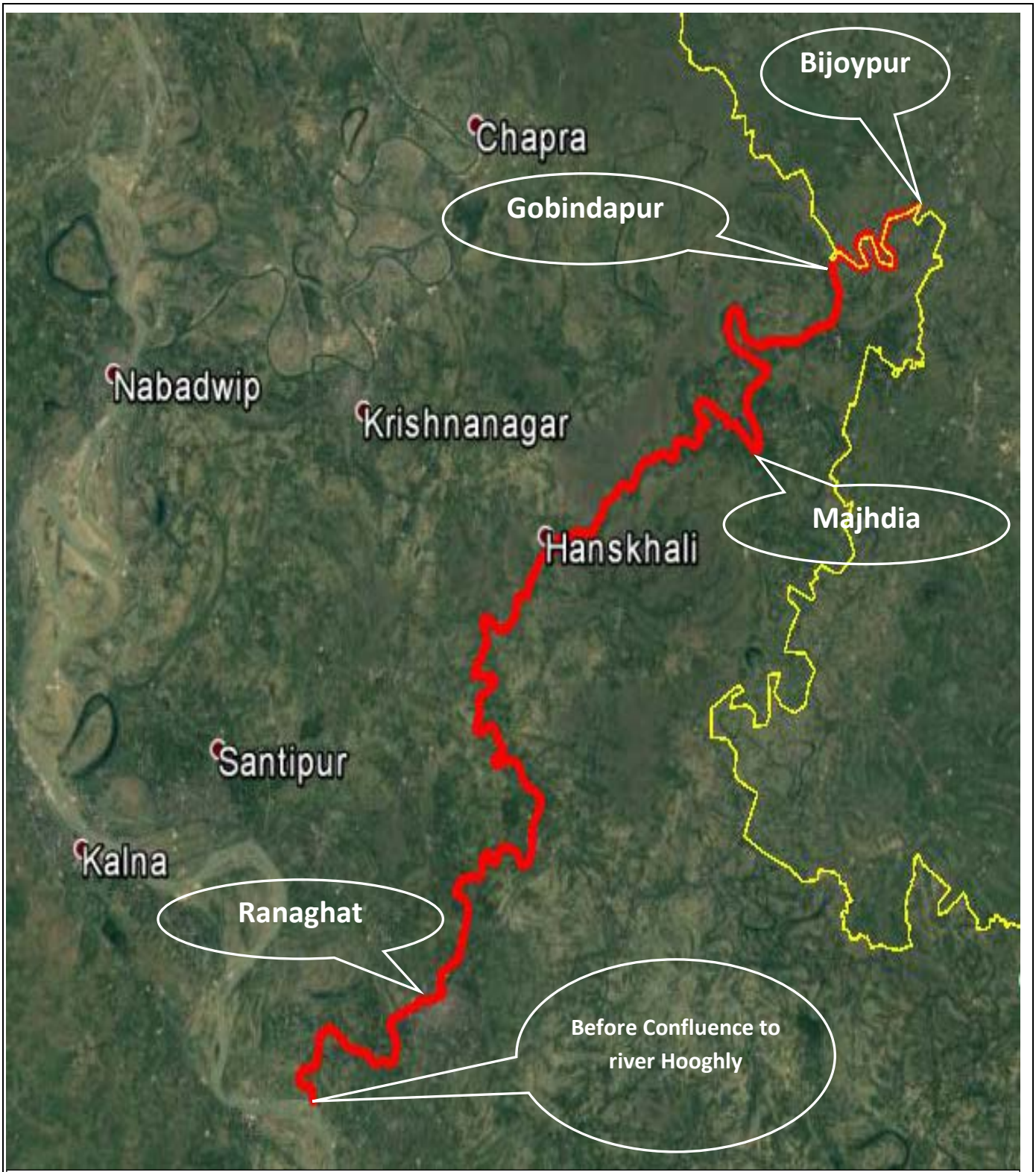
Inventorisation of Drains:

Sl. No.	Name of the Drain	Type	Perennial/Non perennial	Coordinates
1	Drain in front of Palchowdhary School, Ranaghat	Minor	Perennial	N 23^0 10 37.749 E 88^0 33 42.6798
2	Bhanga Ghat Drain at Ranaghat	Major	Perennial	N 23^0 11 06.03 E 88^0 33 52.47
3	Drain at samshan para Swargodwar road, Ranahgat	Minor	Perennial	N 23.1776840 E 88.5581175
4	Samshan ghat road, Ranahgat	Minor	Perennial	N 23.1777040 E 88.5581063
5	Drain at Churipara Ghat, Ranahgat	Major	Perennial	N 23^0 10 42.0654 E 88^0 33 33.72408
6	Bara Bazar ferry ghat drain, Ranahgat	Major	Perennial	N 23^0 11 3.90048 E 88^0 34 5.78028
7	Drain at Sadakpara (at Border of Ranaghat Municipality and Ejuli Gram Panchayat.)	Major	Perennial	N 23^0 10 25.79124 E 88^0 33 34.87284

Sampling locations:

Water samples were collected to assess the water quality of Churni River at four locations which are as follows:

Sl. No.	Location	Cordinates	Description of Location
1	BijoyPur	N 23.48178 E 88.76098	Indo-Bangladesh Border. Both the river Bank comes under Bangladesh and in the Left Bank Near about 200 mtrs. after the Indian land area starts and in this point there is no discharge from India throughout the Year except surface runoff if any and that also during rainy season. The Water quality of the collected sample from this point may be considered as the contribution of Bangladesh entirely.
2	GobindaPur	N 23.4837657 E 88.7332119	This is the Second point of sampling location situated in the downstream of Bijoypur and the distance is 2 to 2.5 Km. and up to this point the Left Bank of the river is under India and Right Bank is under Bangladesh. The area is dominated by cultivation only and the river gets only surface runoff in rainy season. No Drain or any Drainage system observed.
3	Ranaghat	N $23^0$10’47.56’’ E $88^0$33’41.46’’	This is the Third point of sampling location situated in the downstream of Gobinda pur and the distance is 38 to 42 Km. approx. From Gobinda pur to Ranaghat the river flows from the Indian territory only and from here the major source of Churni river water pollution is the sewage generated from the Ranaghat Urban agglomeration under Ranaghat Municipality.
4	Sibpur ghat	N$23^0$08’08.12’’ E$88^0$30’08.76’’	This is the Fourth or last point of sampling location situated in the downstream of Ranaghat and the distance is 10 to 12 Km. approx. In this river stretch some portion comes under Ranaghat Munipality and rest of the portion under Ranaghat Gram Panchayat. River received the untreated Sewage only.



Course of river Mathabhanga-Churni **(RED LINE)** in India. The Indi-Bangladesh Border is presented by the (**YELLOW LINE)**. Sampling locations at Bijoypur, Gobindapur, Ranaghat and before Confluence to Hooghly (Ganga) river are shown.

Analysis Report

The present status of Churni river water quality stated in the table below:

Parameters	BijoyPur	GobindaPur	Ranaghat	Sibpur Ghat
pH	7.4	7.4	7.8	8.1
Conductivity (µs/cm)	658	664	710	613
TSS (mg/l)	8	14	12	26
TDS (mg/l)	406	390	398	312
DO (mg/l)	**1.1**	1.1	0.5	7.4
BOD (mg/l)	**19**	12	4	3
COD (mg/l)	**60**	44	21	15
Alkalinity (mg/l)	350	346	362	314
Chloride (mg/l)	17	18	16	20
T Hardness (mg/l)	320	317	337	285
NO_2^{-N} (mg/l)	0.001	0.001	0.002	0.011
NO_3^{-N} (mg/l)	0.03	0.02	0.26	0.09
NH_3^{-N} (mg/l)	0.06	0.04	0.41	0.18
PO_4^{-P} (mg/l)	0.5	0.11	0.19	0.25
SO_4 (mg/l)	BDL	3.0	8.0	11.0
Sodium (mg/l)	14.56	13.28	17.36	16.72
Potassium (mg/l)	6.48	5.76	6.28	4.96
Fe (mg/l)	2.33	1.74	5.1	1.39
Zn (mg/l)	0.09	0.09	0.2	0.16
Mn (mg/l)	0.24	0.19	0.5	0.23
Co (mg/l)	0.001	0.001	0.001	0.001
As (mg/l)	BDL	BDL	BDL	BDL
Pb (mg/l)	0.011	0.027	0.009	0.020
Ni (mg/l)	0.011	0.007	0.004	0.026
Hg (mg/l)	BDL	BDL	BDL	BDL
TC (MPN/100ml)	**280000**	350000	920000	6800
FC (MPN/100ml)	**14000**	22000	35000	200

BDL= Below detection limit.

6	Reasons for degradation of River water Quality	• The above analytical report of Churni river water indicates that very low DO (Dissolved Oxygen), high BOD (Biochemical Oxygen Demand) and high Bacterial count (TC & FC) is prevailing in the entire stretch of the river. The Churni river at Bijoypur, the international border and entry point of India shows DO 1.1 mg/l very low from criteria value, BOD 19 mg/l very high from criteria value and comes under priority Class III. • Bacterial density in this point is TC 280000 MPN/100 ml and FC 14000 MPN/100 ml which are also very high from the river water criteria value of CPCB. From the entry point itself the river is entering India with very high BOD load with severely contaminated by bacterial

		population and can be interpreted that there is definite discharge of untreated Sewage, open defecation, cattle bathing & other activities which are the regular features. Beside this the Jute rating may be one of the major sources of river water pollution in Bangladesh part during Jute harvesting and processing season. • The Mathabhanga-Churni river when enters in India at Bijoypur where there is no discharge from India throughout the Year except surface runoff during rainy season, as per Test report it is evident that the river water is entering in to Indian part with high pollution load. Certainly it is happening due to discharge of untreated Sewage, garbage and liquid waste of household and Industrial waste contains organic and inorganic pollutants which are degrading the Churni river water quality at Bangladesh part. • The river water quality further degrading and degree of Bacteriological pollution (TC & FC) increased in the downstream of Bangladesh Border i.e. after Bijoypur to downstream of Ranaghat Municipality, near about 34 Km stretch mainly due to discharge of untreated domestic waste water but BOD load is decreased, the reason may be for the dilution by household waste water. • It is also observed that Solid Waste including Plastic etc. dumped in the river bank at Ranaghat municipal area. Photographs annexed. • Beside this there are point source of dyeing and bleaching/handloom cottage units which are also discharging there waste water in to the river through different drains but information gathered from the local people that numbers of such units closed their establishment due to present market constraint. However matter may be verified from WBSPCB.
7	Proposed action	1. One RTWQM may be installed at Gobindapur Point with Camera to take the photograph of the Churni river **water colour** along with Data. As when the discharge taken place from the industries situated at Dharsana, Bangladesh then the colour of the river water changes to Black or Straw Yellow and this may be used as objective evidence to convince the claim of pollution taken place at Bangladesh. Accordingly information may be forwarded to the Bangladesh Authority. 2. In India action to be initiated to stop the discharge of untreated waste water from Domestic and Industrial sources to River Churni. All the drains to be diverted to the suitable place for proper treatment before discharging into the river Churni. 3. It may be recommended for feasibility study for diversion of all drains present in both sides of the river bank and development of treatment facility by expertise from reputed Govt. agencies for the purpose.

27/02/19

Place: Kolkata
Date : 27/2/19

(Asish Kumar Naskar, Sc 'C')
Signature

27/2/19

V. Kiran Kumar, R.A-III
Signature

Rita Saha 27/2/19

	
Indo-Bangladesh Border at Bijoypur	Sampling point at Bijoypur
	
Sampling point at Gobindapur bridge	Sampling point at Ranaghat
	
Sampling point at before confluence point	Drain at Paulchowdhary School, Ranaghat

	
Drain at Bagan Ghat	Drain at Churipara Ghat
	
Drain at sadaak para	Drain at Barabazar ferry ghat
	
Drain at Samshan Ghat	Drain at samshan para road