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Compliance as per "Para-28" of the direction dated 12.12.2019 in Original application No: 200/2014

(Matter : M.C. Mehta Vs Union of India & Orgs)

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SYNOPSIS

In above matter Quarterly Progress Report related to the state of Bihar is as follow:-

S.No	Name of the River	Name of the Towns	
1.	Ganga	1. Patna A.(Phulwarishariff) 2. Maner 3. Danapur 4. Bakhtiyarpur 5. Barh 6. Mokama 7. Munger 8. Sultanganj 9. Bhagalpur 10. Buxar 11. Barahiya	12. Jamalpur 13. Kahalgaon 14. Chhapra 15. Sonepur 16. Hajipur 17. Begusarai 18. Khagaria 19. Naugachhiya 20. Dighwara 21. Teghra 22. Manihari
2.	Punpun (Joins river Ganga at Fatuha)	Fatuha	
3.	Ramrekha	Hari Nagar (Ramnagar)	
4.	Sikrahana	Narkatiaganj	
5.	Sirsa	Raxaul	
6.	Parmar	Jogbani	

1. River Ganga

A. Liquid Waste Management:-

A total 30 sewerage infrastructure projects sanctioned at a cost of **Rs. 5328.61** Crore which are at various stages of implementation in towns namely Patna (11 projects), Begusarai, Munger, Hajipur, Mokama, Sultanganj, Naugachia, Barh, Bhagalpur, Sonepur, Chhapra, Khagaria, Bakhtiyarpur, Maner, Fatuha, Danapur, Phulwarishariff, Buxar, Barahiya and Kahalgaon. These projects will facilitate in treatment of **651.5 MLD** of sewage through creation/rehabilitation of STPs, sewerage network and allied Interception and diversion works.

- **2 projects** are completed Karmalichak and Beur STP in Patna.
- **A Total 23 projects** Patna { 11 projects:- Beur STP, Beur Sewerage Network, Saidpur STP & Adjoining Network, Saidpur Sewerage Network, Karmalichak STP, Karmalichak Sewerage Network, Pahari STP, Pahari Zone-IV A (South), Pahari Zone V, Digha STP and Kankarbagh STP}, Sultanganj, Mokama, Sonepur, Barh, Naugachhiya, Bakhtiyarpur, Maner, Begusarai, Chhapra and (Fatuha, Danapur and Phulwarishariff in one package) are under implementation.
- **07 projects** Munger, Hajipur, Bhagalpur, Khagaria, Buxar, Barahiya and Kahalgaon are under tendering stages.

B. Solid Waste Management (SWM):-

Availability of Land for Processing Activity	Total sites required decentralized or centralized Solid waste processing activity	64
	Site available with ULB for Solid waste processing activity	48
Construction of Compost Pits for Processing of Wet Waste	Nos of sites in which construction of Pit started	27
	Nos of sites in which construction of Pit completed	9
Status of Primary Collection Vehicles and Door to Door Collection	Total Nos of wards	732
	Nos Tricycle/ Pushcart available for Door to Door Collection	1353
	Nos Auto Tippers/ E-rickshaw available for Door to Door Collection	441
	Nos of Wards Door to Door Collection	726

Segregation at Source (Wet & Dry waste)	Distribution of Household bins for segregation of Wet & Dry waste	Yes (except Patna)
	Nos of Wards started segregation at source	228
Composting Activity	Nos of sites (in which composting started)	27
Land Availability for Sanitary Landfill facility	Land Availability	22
	NOC Awaited	1

(Refer Page 115-116)

C. Plastic Waste Management (PWM):-

100% Single use Plastic (Plastic Carry Bags) have been banned in all the Urban Local Bodies in state of Bihar. Penalty provisions have been made for involvement in Production, distribution, trading, storage, sale of plastic carry bags irrespective of its thickness and sizes in the **respective ULB Plastic Waste Management Byelaws, 2018.**

44765 Nos shops or establishment have been raided and fine for Rs 2128095.00 has been collected. 9869.86 Kg of plastic carry bags were also seized.

(Refer Page 114)

D. Open Defecation Free (ODF):-

i. Total Target – 99211 Nos (Individual Household Latrine- 87271 and Community Toilet/Mobile Toilet- 11940). Total 94132 Nos (94.88%) achieved.

ii. ODF declared in 17 towns (Barh, Hajipur, Sonepur, Mokama, Bakhtiyarpur, Teghra, Maner, Barhiya, Manihari, Buxar, Naugachia, Danapur, Dighwara, Jamalpur, Munger, Begusarai and Bhagalpur). Self-Declared in 5 towns (Patna, Chhapra, Sultanganj, Khagariya and Kahalgaon).

(Refer Page 113)

2. River Punpun (Joins the Ganga at Fatuha)

The Punpun originates on the Chota Nagpur Plateau, at an elevation of 300 meters; the river mostly flows in a north-east direction and joins the Ganges at **Fatuha**, 25 kilometers downstream of Patna.

A. Liquid Waste Management:-

There are 7 Nallas in town. All Nallas have been screened. Presently, there is no sewerage system. A scheme comprising Fatuha I&D and STP of 7 MLD capacity has been approved for Rs. 35.49 Cr. AA & ES has been obtained. The scheme will cater all Nallas.

B. Solid Waste Management (SWM):-

Availability of Land for Processing Activity	Total sites required decentralized or centralized Solid waste processing activity	1
	Site available with ULB for Solid waste processing activity	0
Construction of Compost Pits for Processing of Wet Waste	Nos of sites in which construction of Pit started	0
	Nos of sites in which construction of Pit completed	0
Status of Primary Collection Vehicles and Door to Door Collection	Total Nos of wards	27
	Nos Tricycle/ Pushcart available for Door to Door Collection	10
	Nos Auto Tippers/ E-rickshaw available for Door to Door Collection	3
	Nos of Wards Door to Door Collection	27
Segregation at Source (Wet & Dry waste)	Distribution of Household bins for segregation of Wet & Dry waste	Yes
	Nos of Wards started segregation at source	0
Composting Activity	Nos of sites (in which composting started)	0
Land Availability for Sanitary Landfill facility	Land Availability	In Progress

(Refer Page 116)

C. Plastic Waste Management (PWM):-

100% Single use Plastic (Plastic Carry Bags) have been banned in all the Urban Local Bodies in state of Bihar. Penalty provisions have been made for involvement in Production, distribution, trading, storage, sale of plastic carry bags irrespective of its thickness and sizes in the **Fatuha Nagar Parishad Plastic Waste Management Byelaws**, **2018.**

832 Nos shops or establishment have been raided and fine for Rs 42700.00 has been collected. 74 Kg of plastic carry bags were also seized.

(Refer Page 114)

D. Open Defecation Free (ODF):-

i. Total Target – 1440 Nos (Individual Household Latrine- 1290 and Community Toilet/Mobile Toilet- 150). Target 100% achieved.
ii. ODF Declared & QCI have submitted report on 31/07/2018.

(Refer Page 113)

3. River Ramrekha

A. Liquid Waste Management:-

There is no sewage project in this town. To cater all Nallas a DPR for I&D with STP is under preparation. It will be prepared by Dec, 2020 and will be sent to NMCG for approval. After approval of DPR from NMCG the target of the completion of work is as per the revised expected time June, 2022.

B. Solid Waste Management (SWM):-

Availability of Land for Processing Activity	Total sites required decentralized or centralized Solid waste processing activity	2
	Site available with ULB for Solid waste processing activity	2
Construction of Compost Pits for Processing of Wet Waste	Nos of sites in which construction of Pit started	1
	Nos of sites in which construction of Pit completed	0
Status of Primary Collection Vehicles and Door to Door Collection	Total Nos of wards	23
	Nos Tricycle/ Pushcart available for Door to Door Collection	26
	Nos Auto Tippers/ E-rickshaw available for Door to Door Collection	3
	Nos of Wards Door to Door Collection	23
Segregation at Source (Wet & Dry waste)	Distribution of Household bins for segregation of Wet & Dry waste	Yes
	Nos of Wards started segregation at source	0
Composting Activity	Nos of sites (in which composting started)	0
Land Availability for Sanitary Landfill facility	Land Availability	Yes

(Refer Page 117)

C. Plastic Waste Management (PWM):-

100% Single use Plastic (Plastic Carry Bags) have been banned in all the Urban Local Bodies in state of Bihar. Penalty provisions have been made for involvement in Production, distribution, trading, storage, sale of plastic carry bags irrespective of its thickness and sizes in the **Ramnagar Nagar Panchayat Plastic Waste Management Byelaws, 2018.**

478 Nos shops or establishment have been raided and fine for Rs 12800.00 has been collected. 9.6 Kg of plastic carry bags were also seized.

(Refer Page 114)

D. Open Defecation Free (ODF):-

i. Total Target – 4257 Nos (Individual Household Latrine- 4025 and Community Toilet/Mobile Toilet- 232). Total 4095 Nos (96.19%) achieved.
ii. ODF Declared & QCI have submitted report on 18/09/2018.

(Refer Page 113)

4. River Sikrahana

The Burhi Gandak River is a tributary of the Ganges. It is known as Sikrahana in its upper reaches. The Burhi Gandak originates from Chautarwa Chaur near Bisambharpur in the district of West Champaran in Bihar. It initially flows through the East Champaran district. After flowing for a distance of about 56 km, the river takes a southerly turn where two rivers - the Dubhara and the Tour – join it. Thereafter, the river flows in a south-easterly direction through the Muzaffarpur district for about 32 km. The total length of the river is 320 km. The drainage area of the river is 10,150 sq. km.

A. Liquid Waste Management:-

There is no sewage project in this town. To cater all Nallas a DPR for I&D with STP is under preparation. It will be prepared by Dec, 2020 and will be sent to NMCG for sanction. After approval of DPR from NMCG the target of the completion of work is as per the revised expected time June, 2022.

B. Solid Waste Management (SWM):-

Availability of Land for Processing Activity	Total sites required decentralized or centralized Solid waste processing activity	4
	Site available with ULB for Solid waste processing activity	4
Construction of Compost Pits for Processing of Wet Waste	Nos of sites in which construction of Pit started	1
	Nos of sites in which construction of Pit completed	0
Status of Primary Collection Vehicles and Door to Door Collection	Total Nos of wards	25
	Nos Tricycle/ Pushcart available for Door to Door Collection	27
	Nos Auto Tippers/ E-rickshaw available for Door to Door Collection	4
	Nos of Wards Door to Door Collection	25
Segregation at Source (Wet & Dry waste)	Distribution of Household bins for segregation of Wet & Dry waste	Yes
	Nos of Wards started segregation at source	2
Composting Activity	Nos of sites (in which composting started)	0
Land Availability for Sanitary Landfill facility	Land Availability	Yes

(Refer Page 117)

C. Plastic Waste Management (PWM):-

100% Single use Plastic (Plastic Carry Bags) have been banned in all the Urban Local Bodies in state of Bihar. Penalty provisions have been made for involvement in Production, distribution, trading, storage, sale of plastic carry bags irrespective of its thickness and sizes in the **Narkatiaganj Nagar Parishad Plastic Waste Management Byelaws, 2018.**

197 Nos shops or establishment have been raided and fine for Rs 36800.00 has been collected. 36 Kg of plastic carry bags were also seized.

(Refer Page 114)

D. Open Defecation Free (ODF):-

i. Total Target – 1377 Nos (Individual Household Latrine- 945 and Community Toilet/Mobile Toilet- 432). Target 100% achieved.
ii. ODF self-declared.

(Refer Page 113)

5. River Sirsa

A. Liquid Waste Management:-

There is no sewage project in this town. To cater all Nallas a DPR for I&D with STP is under preparation. It will be prepared by Dec, 2020 and will be sent to NMCG for sanction. After approval of from NMCG the target of the completion of work is as per the revised expected time June, 2022.

B. Solid Waste Management (SWM):-

Availability of Land for Processing Activity	Total sites required decentralized or centralized Solid waste processing activity	1
	Site available with ULB for Solid waste processing activity	1
Construction of Compost Pits for Processing of Wet Waste	Nos of sites in which construction of Pit started	1
	Nos of sites in which construction of Pit completed	0
Status of Primary Collection Vehicles and Door to Door Collection	Total Nos of wards	25
	Nos Tricycle/ Pushcart available for Door to Door Collection	50
	Nos Auto Tippers/ E-rickshaw available for Door to Door Collection	5
	Nos of Wards Door to Door Collection	25
Segregation at Source (Wet & Dry waste)	Distribution of Household bins for segregation of Wet & Dry waste	Yes
	Nos of Wards started segregation at source	2
Composting Activity	Nos of sites (in which composting started)	0
Land Availability for Sanitary Landfill facility	Land Availability	Yes

(Refer Page 117)

C. Plastic Waste Management (PWM):-

100% Single use Plastic (Plastic Carry Bags) have been banned in all the Urban Local Bodies in state of Bihar. Penalty provisions have been made for involvement in Production, distribution, trading, storage, sale of plastic carry bags irrespective of its thickness and sizes in the **Raxaul Nagar Parishad Plastic Waste Management Byelaws, 2018.**

695Nos shops or establishment have been raided and fine for Rs 66100.00 has been collected. 774.7 Kg of plastic carry bags were also seized.

(Refer Page 114)

D. Open Defecation Free (ODF):-

i. Total Target – 1197 Nos (Individual Household Latrine- 922 and Community Toilet/Mobile Toilet- 275). Total 1032 Nos (100%) achieved.

ii. ODF Declared & QCI have submitted report on 11/08/2018.

(Refer Page 113)

6. River Parmar

A. Liquid Waste Management:-

There is no sewage project in this town. To cater all Nallas a DPR for I&D with STP is under preparation. It will be prepared by Dec, 2020 and will be sent to NMCG for sanction. After approval of DPR from NMCG the target of the completion of work is as per the revised expected time June, 2022.

B. Solid Waste Management (SWM):-

Availability of Land for Processing Activity	Total sites required decentralized or centralized Solid waste processing activity	2
	Site available with ULB for Solid waste processing activity	1
Construction of Compost Pits for Processing of Wet Waste	Nos of sites in which construction of Pit started	0
	Nos of sites in which construction of Pit completed	0
Status of Primary Collection Vehicles and Door to Door Collection	Total Nos of wards	19
	Nos Tricycle/ Pushcart available for Door to Door Collection	38
	Nos Auto Tippers/ E-rickshaw available for Door to Door Collection	2
	Nos of Wards Door to Door Collection	19
Segregation at Source (Wet & Dry waste)	Distribution of Household bins for segregation of Wet & Dry waste	Yes
	Nos of Wards started segregation at source	19
Composting Activity	Nos of sites (in which composting started)	0
Land Availability for Sanitary Landfill facility	Land Availability	In Progress

(Refer Page 117)

C. Plastic Waste Management (PWM):-

100% Single use Plastic (Plastic Carry Bags) have been banned in all the Urban Local Bodies in state of Bihar. Penalty provisions have been made for involvement in Production, distribution, trading, storage, sale of plastic carry bags irrespective of its thickness and sizes in the **Jogbani Nagar Panchayat Plastic Waste Management Byelaws, 2018.**

258 Nos shops or establishment have been raided and fine for Rs 27300.00 has been collected. 33.7 Kg of plastic carry bags were also seized.

(Refer Page 114)

D. Open Defecation Free (ODF):-

i. Total Target – 1988Nos (Individual Household Latrine- 1550 and Community Toilet/Mobile Toilet- 438). Total 1988Nos (100%) achieved.
ii. ODF Declared & QCI have submitted report on 08/09/2018.

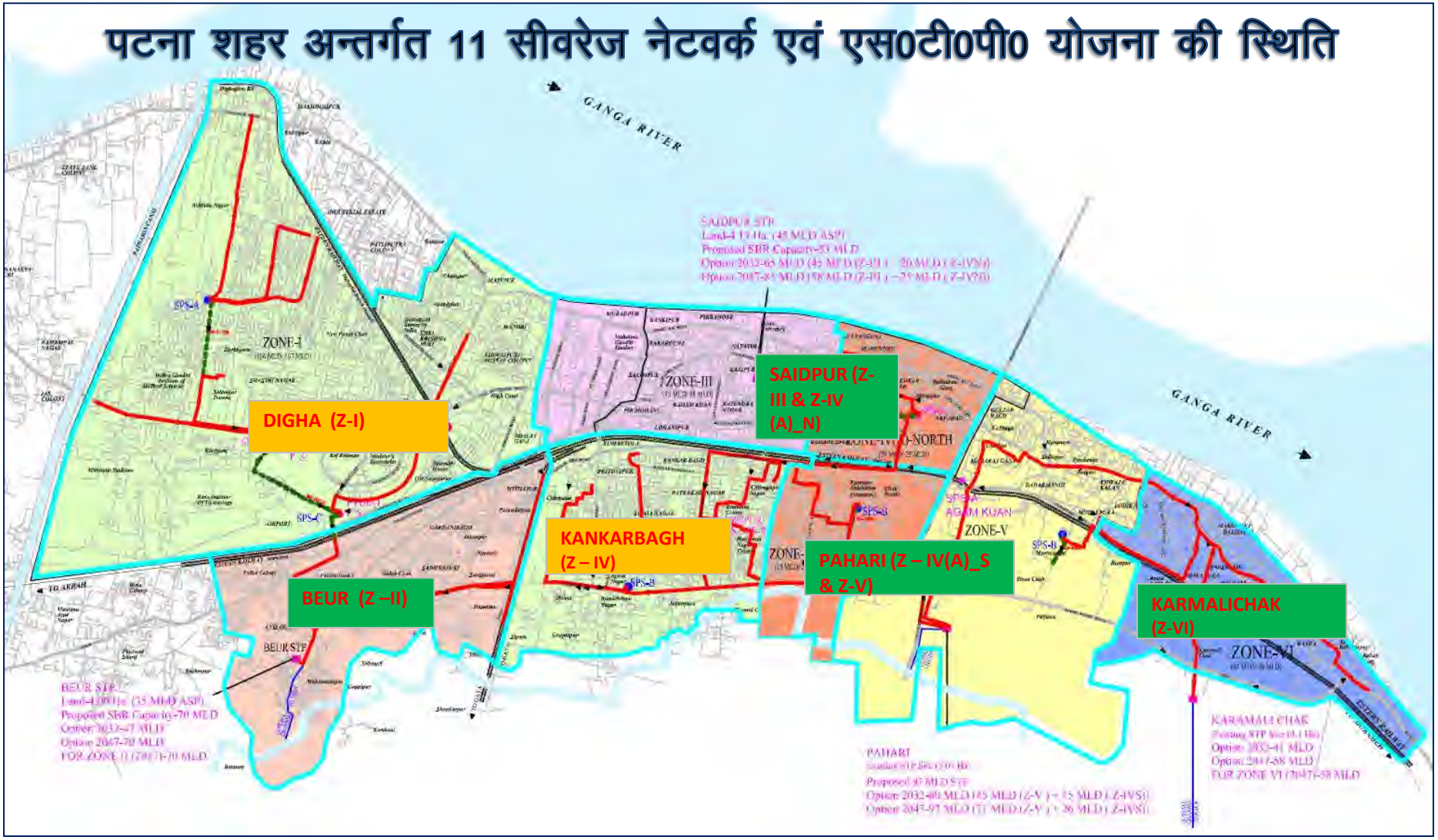
(Refer Page 113)

In addition to above DPR for liquid waste management for 15 towns situated on tributaries of river Ganga are also being prepared. The list is as follows:

S.No	Name of River	Name of Towns
1.	Sone	Dehri, Arwal and Daudnagar
2.	Burhi Gandak	Muzaffarpur, Samastipur and Motihari
3.	Kosi	Supaul, Saharsa and Madhepura
4.	Bagmati	Darbhanga
5.	Gandak	Gopalganj and Bagaha
6.	Mahananda	Kishanganj
7.	Kiul	Lakhisarai and Jamui

बिहार
LEGEND
Maps Showing Ongoing /proposed Sewerage Schemes in
- Towns under Polluted Stretch
&
- Towns on Tributaries
N
पश्चिमी चम्पारण
पूर्वी चंपारण
सीतामढ़ी
मधुबनी
शिवहर
मुजफ्फरपुर
सीवान
गोपालगंज
दरभंगा
सुपौल
अररिया
किशनगंज
मधेपुरा
सहरसा
पूर्णियाँ
कटिहार
समस्तीपुर
बेगूसराय
खगड़िया
भागलपुर
बांका
मुंगेर
लखीसराय
शेखपुरा
नालंदा
पटना
भोजपुर
बक्सर
रोहतास
कैमूर (भभुआ)
औरंगाबाद
गया
अरवल
जहानाबाद
नवादा
जमुई
बेगूसराय
उत्तर प्रदेश
झारखण्ड
पश्चिम बंगाल
Map not to Scale
Copyright © 2018 www.mapsofindia.com

PATNA TOWN DIVIDED INTO SIX ZONES



Report related to Status of STPs in State of Bihar for Hon'ble NGT orders compliance (Status on 30.11.2020)					
S.No	**Name of the Projects**	**Targets to be achieved as per orders dated 10.12.2015,13.07.2017 and 22.08.2019 and the timelines**	**Targets achieved and the reasons for delay in compliance**	**Targets not achieved and the revised timelines proposed**	**Action taken or suggested for violation of timelines or non-achieving of targets**
I	**Ganga River**				
1.	**Patna:**				
(a)	Karmalichak STP	As per agreement date of completion 5/10/2019	**Construction work completed and O&M work is in progress**		
(b)	Beur STP	As per agreement date of completion 5/10/2019	Targets achieved as per revised timeline of May,2020.**Construction work completed and O&M work is in progress**		Secretary, UD&HD is reviewing the project progress on regular basis. Regular review meeting and follow up on micro level has been taken up at MD BUIDCo level. **Now the construction work is completed and O&M is in progress.**
(c)	Pahari STP	As per agreement date of completion 08/11/2020	-	Revised date for completion 31.07.2021	**Overall physical progress is 70% . Milestone penalty is imposed to contractor failing to achieve milestone during construction.**
(d)	Saidpur STP & Adjoining Network	As per agreement date of completion 5/4/2020	Date for completion Jan, 2020	Revised date for completion 31.01.2021	This STP is constructed in existing STP campus where tree cutting permission and demolishing of existing structure with shifting of HT cable was required which slows down the progress.In working season,COVID-19 situation arises which slows down the work and completely stopped from 24th March,2020.**However 95.2% of work and hydrotesting of SBR is completed. However liquidated damage (LD) has been imposed on contractor failing to achieve milestone during construction.**
(e)	Pahari Sewerage Network Zone IV_A(S)	As per agreement date of completion 29/05/2021	Target to complete as per agreement date 29.05.2021		**Overall physical progress is 88.01%. Milestone penalty is imposed to contractor failing to achieve milestone during construction.**
(f)	Pahari Sewerage Network Zone V	As per agreement date of completion 25/04/2021	Target to complete as per agreement date 24.07.2021		**Overall physical progress is 43.75%. Milestone penalty is imposed to contractor failing to achieve milestone during construction.**
(g)	Beur Sewerage Network	As per agreement date of completion 5/4/2020	-	Revised date of completion 05.04.2021	**Overall physical progress is 74%** .Few areas are very conjested and required careful pipelaying which is one of the reason of delay.It also contains trenchless work in traffic area which requires careful and safeguard constructionslows down the progress.Above all election and heavy rainfall in 2019 which submerged most of the Patna area and delayed the work.And now in working season COVID-19 scenario has stopped the work.It is expected to complete the work by Dec2020. **However liquidated damage (LD) has been imposed on contractor failing to achieve milestone during construction.**

(h)	Karmalichak Sewerage Network	As per agreement date of completion 20/05/2021	Target to complete as per agreement date 20.05.2021		**Overall physical progress is 62.62% .Milestone penalty is imposed to contractor failing to achieve milestone during construction.**
(i)	Saidpur Sewerage Network	As per agreement date of completion 29/01/2021	Target to complete by 30.04.2021		**Overall physical progress is 64%.Milestone penalty is imposed to contractor failing to achieve milestone during construction.**
(j)	Digha STP and Sewerage Scheme	As per agreement date of completion 29/07/2022	Target to complete as per agreement date 29.07.2022		Overall physical progress is 0.78%.Survey work completed.Design drawing is approved.3km sewer line is laid in Digha road.
(k)	Kankarbagh STP and Sewerage Scheme	As per agreement date of completion 29/07/2022	Target to complete as per agreement date 29.07.2022		Work is just started.Soil testing and vetting of design & drawing is in progress.
2	Sultanganj I&D and STP	As per agreement date of completion 13/02/2020		Revised date of completion 31.03.2021	Reason for delay includes scarcity of construction materials ,work stoppage due to general election,monsoons,festivals and public hindrances.Now the work is stopped in lockdown.**Overall physical progress is 46%.Regular review of project progress is going on by higher authority for timely completion of project as per NGT order.**
3.	Barh I&D and STP	As per agreement date of completion 22/04/2020		Revised date of completion 30.06.2021	Reason for delay includes scarcity of construction materials ,work stoppage due to general election,monsoons,festivals and public hindrances.Now the work is stopped in lockdown. **Milestone penalty is imposed to contractor failing to achieve milestone during construction.Overall physical progress is 42.43%.Regular review of project progress is going on by higher authority for timely completion of project as per NGT order.**
4.	Naugachhia I&D and STP	As per agreement date of completion 21/04/2020		Revised date of completion 30.06.2021	Reason for delay includes scarcity of construction materials ,work stoppage due to general election,monsoons,festivals and public hindrances.Now the work is stopped in lockdown.**Overall physical progress is 40%.Regular review of project progress is going on by higher authority for timely completion of project as per NGT order.**
5.	Mokama I&D and STP	As per agreement date of completion 14/12/2020	Target to complete by June 2021		Reason for delay includes scarcity of construction materials ,work stoppage due to general election,monsoons,festivals and public hindrances.Now the work is stopped in lockdown.**Overall physical progress is 37%.Regular review of project progress is going on by higher authority for timely completion of project as per NGT order.**
6	Sonepur I&D and STP	As per agreement date of completion 03/12/ 2020	Target to complete by June 2021		Overall physical progress is 38%.Regular review of project progress is going on by higher authority for timely completion of project as per NGT order.
7.	Maner I&D and STP	As per agreement date of completion 26/09/2020	Target to complete by Dec 2021		Work is just started.

8	Bakhtiyarpur I&D and STP	As per agreement date of completion 26/08/2020	Target to complete by Dec 2021		Work is just started.
9	Begusarai STP and Sewer Network	As per agreement date of completion 03/02/ 2022	Target to complete as per agreement date 03.02.2022		Overall physical progress is 17.76%.
10	Chhapra I&D and STP	As per agreement date of completion 19/09/ 2021	Target to complete as per agreement date 03.08.2021		Overall physical progress is 20%.Regular review of project progress is going on by higher authority for timely completion of project as per NGT order.
11	Bhagalpur I&D and STP	Target date of completion Dec, 2021	Target to complete by June, 2022	Bid evaluation under process	
12	Hajipur STP and Sewer Network	Target date of completion Dec, 2021	Target to complete by June, 2022	Tender under process	
13.	Phulwarishariff I&D and STP	Target date of completion June, 2021	Target to complete by June, 2022		Agreement done and work order is issued.
14.	Danapur I&D and STP	Target date of completion June, 2021	Target to complete by June, 2022		Agreement done and work order is issued.
15.	Khagaria I&D and STP	Target date of completion June, 2021	Target to complete by Dec, 2021	Tender under process	
16.	Munger STP and Sewer Network	Target date of completion Dec, 2021	Target to complete by Sep, 2022	Tender under process	
17	Buxar STP and Sewer Network	Target date of completion Dec, 2021	Target to complete by Dec, 2022	Tender to be floated	
18	Barahiya I&D and STP	Target date of completion Dec, 2021	Target to complete by Dec, 2022		Bid evaluation under process
19	Kahalgaon I&D and STP	Target date of completion Dec, 2021	Target to complete by Dec, 2022		Bid evaluation under process
20	Dighwara I&D and STP	Target date of completion Dec, 2021	Target to complete by Dec, 2022	Proposed project	
21	Teghra I&D and STP	Target date of completion Dec, 2021	Target to complete by Dec, 2022	Proposed project	
22	Manihari I&D and STP	Target date of completion Dec, 2021	Target to complete by Dec, 2022	Proposed project	
23	Jamalpur I&D and STP	Target date of completion Dec, 2021	Target to complete by Dec, 2022	Proposed project	
24	Khagaul I&D and STP	Target date of completion Dec, 2021	Target to complete by Dec, 2022	Proposed project	
II	**Punpun River**				
1	Fatuha I&D and STP	Target date of completion June, 2021	Target to complete by June, 2022		Agreement done and work order is issued.
1II	**Ramrekha River**				
1.	Harinagar (Ramnagar) I&D and STP	Target date of completion June, 2021	Target to complete by Dec, 2021	Proposed project	
IV	**Sikrahna River**				
1	Narkatiaganj I&D and STP	Target date of completion June, 2021	Target to complete by Dec, 2021	DPR	

V	**Parmar River**				
1	Jogbani I&D and STP	Target date of completion June, 2021	Target to complete by Dec, 2021	Proposed project	
VI	**Sirsia River**				
1	Raxual I&D and STP	Target date of completion June, 2021	Target to complete by Dec, 2021	Proposed project	
VII	**Sone River**				
1	Dehri I&D and STP	Target date of completion June, 2021	Target to complete by Dec, 2021	Proposed project	
2	Arwal I&D and STP	Target date of completion June, 2021	Target to complete by Dec, 2021	Proposed project	
3	Daudnagar I&D and STP	Target date of completion June, 2021	Target to complete by Dec, 2021	Proposed project	
VIII	**Burhi Gandak River**				
1	Muzaffarpur I&D and STP	Target date of completion June, 2021	Target to complete by Dec, 2021	Proposed project	
2	Samastipur I&D and STP	Target date of completion June, 2021	Target to complete by Dec, 2021	Proposed project	
3	Motihari I&D and STP	Target date of completion June, 2021	Target to complete by Dec, 2021	Proposed project	
IX	**Kosi River**				
1	Supaul I&D and STP	Target date of completion June, 2021	Target to complete by Dec, 2021	Proposed project	
2	Saharsa I&D and STP	Target date of completion June, 2021	Target to complete by Dec, 2021	Proposed project	
3	Madhepur I&D and STP	Target date of completion June, 2021	Target to complete by Dec, 2021	Proposed project	
X	**Baghmati River**				
1	Darbhanga I&D and STP	Target date of completion June, 2021	Target to complete by Dec, 2021	Proposed project	
XI	**Gandak River**				
1	Gopalganj I&D and STP	Target date of completion June, 2021	Target to complete by Dec, 2021	Proposed project	
2	Bagha I&D and STP	Target date of completion June, 2021	~~Target to complete by Dec, 2021~~	Proposed project	
XII	**Mahananda River**				
1	Kishanganj I&D and STP	Target date of completion June, 2021	Target to complete by Dec, 2021	Proposed project	
XIII	**Kiul River**				
1	Lakhisarai I&D and STP	Target date of completion June, 2021	Target to complete by Dec, 2021	Proposed project	
2	Jamui I&D and STP	Target date of completion June, 2021	Target to complete by Dec, 2021	Proposed project	

Town wise revised Action Plan for river Ganga in the State of Bihar

A. Ganga River Main Stem

1. Sewerage Management at Patna

Patna has 11 Schemes related to STP & Network. After completion of these schemes domestic sewage will be trapped at the Household itself and it will reach to STP for treatment through network. So no domestic sewage will flow through the Nallas. All Nallas have been screened. This will control the flow of floating solid waste materials into the river Ganga to a great extent.

Patna Sewerage system has been divided into six (6) different zones around 350 MLD capacities. In all Zones STPs has been sanctioned such as Pahari- 60 MLD, Beur-43 MLD, Karmalichak- 37 MLD, Saidpur-60 MLD, Digha- 100 MLD and Kankarbagh- 50 MLD. After implementation of sewerage scheme of these zones it will cater to the sewerage problems of entire 75 wards of Patna Municipal Corporation area. The sewerage scheme of Beur, Saidpur, Pahari and Karmalichak. Digha & Kankarbagh Present status of the project is as follows:-

Sl. No		Name of Project	Agreement Amount/ Date (Rs. in Cr.)	Capacity of STP (IN MLD)	Network (In Km.)	Remarks	Date of completion
1	ONGOING PROJECTS	Pahari STP	147.65/ 09.05.18	60	-	Work in progress Physical progress- 70.0%, Financial progress – 53.40 Cr.	Target date of completion 31.07.2021
2		Pahari Sewerage Network Zone IV_A(S)	167.84/ 02.04.18	-	87.69	Work in progress. Physical progress- 86.01%, Financial progress -105.45 Cr.	Target date of completion 31.05.2021
3		Pahari Sewerage Network Zone V	364.90/ 02.04.18	-	115.93	Work in progress. Physical Progress- 88.01%, Financial progress – 25.75Cr.	Target date of completion 24.07.2021
4		Beur STP	77.85/ 31.03.17	43	-	Work in progress. Physical Progress- 100.0%, Financial Progress- 108.69 Cr.	Project has completed on 31.05.2021
5		Beur Sewerage Network	398.40/ 30.03.17	-	179.74	Work in progress Physical progress- 74.0%, Financial progress – 69.09 Cr.	Target date of completion 05.04.2021
6		Karmalichak STP	73.61/ 31.03.17	37	-	Work in progress. Physical Progress- 100%, Financial Progress- 114.47 Cr.	Project has completed.
7		Karmalichak Sewerage Network	253.98 /11.05.18	-	96.54	Agreement done, Physical progress- 62.62%, Financial progress – 48.45 Cr.	Target date of completion 28.05.2021
8		Saidpur STP & Adjoining Network	188.18/ 30.03.17	60	55.10	Work in progress Physical progress- 96.95%, Financial progress – 109.22 Cr.	Target date of completion 31.01.2021

9		Saidpur Sewerage Network	431.21/30.01.18	-	172.50	Work in progress Physical progress- 64.0% Financial progress – 64.01 Cr.	Target date of completion 30.07.2022
10		Digha Sewerage	1187.86/19.07.19	100	288	Agreement done, Work in progress Physical progress- 0.78% Financial progress – 40.49 Cr.	Target date of completion 30.07.2022
11		Kankarbagh Sewerage		50	150	Agreement done, Work in progress Financial progress – 0.29 Cr.	

1 (a). Phulwarishariff (Patna): -Presently, there is no STP. A scheme comprising I&D of these Nallas with STP capacity 13 MLD has been approved from NMCG. AA&ES received. Retender has been invited in one package comprising the three works (Fatuha, Danapur and Phulwarishariff). Agreement done and work order issued to successful bidder. The revised date of work completion is June, 2022.

2. Sewerage Management at Maner:

a. Liquid Waste Management:

There are 3 Nallas in town. All the Nallas have been screened. Presently, there is no sewerage system. It has been estimated that drains of Maner has a total flows of 6.5 MLD. Scheme for I&D and STP project has been approved for Rs. 41.36 Cr. Agreement executed on 26.09.2019. Work will be completed as per revised date Dec, 2021.

3. Sewerage Management at Danapur:

There is one Nalla. This has been screened. At present there is no sewerage system and STP. A scheme comprising I&D of these Nallas with 10 MLD STP has been approved from NMCG. AA&ES received. Retender has been invited in one package comprising the three works (Fatuha, Danapur and Phulwarishariff). Agreement done and work order issued to successful bidder. The revised expected work completion time is June, 2022.

4. Sewerage Management at Bakhtiyarpur:

At present, Bakhtiyarpur town has no sewerage system & STP. Mostly, all the sewage have outlet into the drains and ultimately to the low lying area and water bodies, there is one Nalla, this has been screened. There is a proposal to intercept the outfalls and divert into STP site for further treatment. AA & ES for Rs. 38.88 Cr. for I&D and STP projects has been obtained. Agreement executed on 27.08.2019, STP construction work under progress. Financial Progress - 04.98 % and Work will be completed as per revised date Dec, 2021.

5. Sewerage Management at Barh:

At present, Barh town has no sewerage system & STP. Mostly, all the sewage have outlet into the drains and ultimately to the low lying area and water bodies, there are 7 Nallas, all Nallas have been screened. . A scheme amounting Rs. 53.90 Cr. has been approved for construction of STP of 11 MLD with I&D of drains. Agreement done on dated 22-10-2018 with UEM India Pvt Ltd., Boundary wall of STP Site under progress, STP construction work under progress. Financial progress- 53.82 Cr. and Work will be completed as per the revised time is June, 2021.

6. Sewerage Management at Mokama:

At present, Mokama town has no sewerage system & STP. Mostly, all the sewage have

outlet into the drains and ultimately to the low lying area and water bodies, there are 4 Nallas in the town, all have been screened. There is a proposal to intercept the outfalls and divert into STP site for further treatment. A scheme has been approved for construction of STP of 8 MLD with I&D of drains. Agreement executed on 15.06.2019, STP construction work under progress. Financial Progress: 30.68 % and Work will be completed as per the revised time is June, 2021.

7. Sewerage Management at Munger:

At present, there no STP in Munger. Originally an AA&ES was communicated by NMCG. Previous contract has been terminated due to non- performance of the contractor. The contract was terminated. A revise estimate of the scheme amounting Rs. 294.02 has been approved for execution of 30 MLD STP and Network of 143 km. with allied work. Earlier contract terminated (IVRCL) Status of Previous work done (Physical Progress-21%, Financial Progress -3.25 Cr.), Revised AA&ES Rs. 294.02 Cr. Vide NMCG Lt. No. - J-13011/1/2009, Dt. - 05-03-18. The scheme will be completed as per the revised time is Sep, 2022.

8. Sewerage Management at Sultanganj:

There are 7 Nallas. Presently, there is no sewerage system in the town. Mostly, all the sewage outlet into the drain and or untimely to the low lying area and water bodies. A scheme amounting Rs. 63.51 Cr. has been approved for construction of STP of 10 MLD with I&D of drains. Agreement done on dated 14.09.2018, STP construction work under progress. Financial Progress - 39.63 % and work will be completed as per the revised time is March, 2021.

9. Sewerage Management at Bhagalpur:

There are 15 Nallas in the town. All have been screened. A scheme amounting Rs 254.13cr comprises I&D of these Nallas with STP having capacity of 65 MLD has been approved, with a view to treat the sewage flowing through these Nallas. Revised AA&ES received on 10.11.2020 from NMCG. Work will be completed as per the revised expected time is June, 2022.

10. Sewerage Management at Buxar:

Presently the sewage of town flow through Nalla causes pollution of water. There is a scheme to construct Sewerage Treatment Plant 16 MLD & sewerage network of 95 Km length. The cost of project is of Rs. 74.95 Cr. The following work has been executed so far: - Boundary wall of STP has already been completed; pipe laying work of 39.5 km out of 95 km has already been completed. Intermediate Pumping Station (hereinafter referred to as IPS) -1 at ITI ground and 3rd lift wall has been completed. Over all 39% work has been done. Since there is no progress in the work so termination for contract NOC received from NMCG. Revised AA&ES amounting Rs. 164.23 cr. has been received on 31/12/2019 from NMCG. The target of the completion of work is as per the revised expected time Dec, 2022.

11. Sewerage Management at Barhiya:

There are 4 Nallas in the town. All have been screened. There is no sewerage system and STP. Mostly, all the sewage have outlet into the drains and ultimately to the low lying area and water bodies. There is a proposal to intercept the outfalls and divert into STP site for further treatment. A scheme for construction of I&D and STP 6 MLD, the AA&ES amounting Rs. 27.00 cr. has been received on 30/12/2019 from NMCG. After approval from NMCG, the target of the completion of work is as per the revised expected time Dec, 2022.

12. Sewerage Management at Jamalpur:

Presently, there is no STP, there are 4 Nallas and all Nallas have been screened. Project for the construction of I&D and STP, DPR has been submitted to NMCG. As per observations and direction from NMCG received DPR for FSTP is in under preparation, after approval from NMCG, the target of the completion of work is as per the revised expected time Dec, 2022.

13. Sewerage Management at Kahalgaon:

Presently, Kahalgaon Nagar Panchayat is no sewerage system. Mostly, all the sewage outlet into the drain and or untimely to the low lying area and water bodies in the town, there are 6 Nallas in the town have been screened. A scheme for construction of I&D and STP has been submitted. The AA&ES amounting Rs. 25.77 cr. has been received on 30/12/2019 from NMCG, the target of the completion of work is as per the revised expected time Dec, 2022.

14. Sewerage Management at Chhapra:

Presently, there is no proper sewerage system. The sewage goes to low lying area and water bodies, there is 1 Nalla have been screened. A scheme comprising I&D of this Nalla with STP of 32 MLD capacity has been approved for Rs. 236.15 Cr. and with a view to treat the sewage flows through the Nallas. Financial Progress- 15.35 Cr. and the target of the completion of work are as per the revised expected time Aug, 2021.

15. Sewerage Management at Sonepur:

Presently, Total length of existing 11 channel is 9.22Km. Presently, there is no sewerage system. All the discharge outlets go to low lying areas and water bodies, there are 7 Nallas have been screened. A scheme has been approved for construction of STP of 3.5 MLD with I&D of drains. Agreement executed on 04.06.2019 and Financial Progress -21.26 Cr., expected revised date of completion of project is June, 2021.

16. Sewerage Management at Hajipur:

There is one Nalla which will be screened shortly. Originally an AA&ES was communicated by NMCG and its characteristics of raw sewage adopted for design of STP. The scheme has a STP having 22 MLD capacities and network of 139 km. earlier contract terminated (Tritech) due to non-performance of the contractor. Status of Previous work done (Physical Progress- 27%, Financial Progress -33.74 Cr.) Revised AA&ES Rs. 305.19 Cr. Vide NMCG Lt. No.- J- 16011/1/2009, Dt.- 03-05-18. Two bids were received on 07.09.2018. Tender was cancelled on account of non- responsiveness. Re-tender floated on 30.05.2019 & 20.08.2020 and last date of Bid receiving is on 29.12.2020. The work will be completed as per the target of revised expected time June, 2022.

17. Sewerage Management at Begusarai:

There is one Nalla in town. This has been screened. Originally an AA&ES amounting Rs. 65.408 Cr. was communicated by NMCG. The contract was terminated NMCG has communicated revised AA & ES amounting Rs.230.06 Cr. The scheme has a STP having 17 MLD and network of 98 km. Earlier contract terminated (Tritech) due to non-performance of the contractor, Revised AA&ES Rs. 230.06 Cr. Vide NMCG Lt. No.-T-13/2013-14-0283, Dated- 05-03-18. Agreement executed, Financial Progress – 43.51 Cr., the target of the completion of work is as per the contract agreement Feb, 2022.

18. Sewerage Management at Khagaria:

There are two Nallas in the town. All have been screened. Presently, there is no STP. AA & ES for Rs. 21 Cr. for I&D and STP projects has been obtained. Re- Tender has been published on 01.09.2020. No Bid has been received again Re- Tender has been published on 10.12.2020 . Expected date of completion of the scheme is as per the revised time Dec, 2022.

19. Sewerage Management at Naugachia:

There are 15 Nallas in the town. All have been screened. AA & ES of this scheme is Rs. 6.89 Cr. This scheme has proposal STP with 9 MLD capacities. Agreement executed on 22.10.2018, construction of STP Components under progress. Financial progress- 35.96 Cr. and the work will be completed the as per the revised expected time June, 2021.

20. Sewerage Management at Dighwara:

There are 8 Nallas in the town. All have been screened. Presently, there is no sewerage system. A scheme comprising I&D of these Nallas with STP of 5.40 MLD capacity. DPR Sent to NMCG on 06.08.2018. Revised DPR with compliance Report sent to NMCG on 24/08/2018. As per observations & direction from NMCG received DPR for FSTP is sent to NMCG on 26.09.2020, after approval from NMCG, the target of the completion of work is as per the revised expected time Dec, 2022.

21. Sewerage Management at Teghra:

Presently, there is no sewerage system. The waste water is discharged to adjacent area of NH-28. There is one Nalla which have been screened. A scheme comprising I&D and STP revised DPR submitted to NMCG on 17.12.2018 after incorporated all comments suggests in the review meeting by NMCG. Further, as per observations & direction from NMCG received DPR for FSTP is sent to NMCG on 31.08.2020, after approval from NMCG, the target of the completion of work is as per the revised expected time Dec, 2022.

22. Sewerage Management at Manihari:

A scheme comprising I&D and STP, DPR sent to NMCG on 06/08/2018. Compliance Report sent to NMCG on 19.09.2018. There are 3 Nallas have been screened. Further, as per observations & direction from NMCG received DPR for FSTP is sent to NMCG on 31.08.2020, After approval from NMCG, the target of the completion of work is as per the revised expected time Dec, 2022.

B. Punpun River (Joins the Ganges at Fatuha)

23. Sewerage Management at Fatuha:

Presently, there is no sewerage system and STP. A scheme I&D STP of 7 MLD capacity has been approved for Rs. 35.49 Cr. AA & ES obtained. There are 7 Nallas .All have been screened, Retender has been invited in one package comprising the three works (Fatuha, Danapur and Phulwarishariff). Agreement done and work order issued to successful bidder. The expected revised time of completion of the project is June, 2022.

C. Ramrekha River

24. Sewerage Management at Harinagar (Ramnagar):

There is no sewage project in this town. DPR for I&D with STP is under preparation. It will be prepared by Dec, 2020 and will be sent to NMCG for approval. After approval of DPR from NMCG the target of the completion of work is as per the revised expected time June, 2022.

D. Sikrahna River

25. Sewerage Management at Narkatiaganj:

There is no sewage project in this town. DPR for I&D with STP is under preparation. It will be prepared by Dec, 2020 and will be sent to NMCG for sanction. After approval of DPR from NMCG the target of the completion of work is as per the revised expected time June, 2022.

E. Sirsia River

26. Raxaul:

There is no sewage project in this town. DPR for I&D with STP is under preparation. It will be prepared by Dec, 2020 and will be sent to NMCG for sanction. After approval of DPR from NMCG the target of the completion of work is as per the revised expected time June, 2022.

F. Parmar River

27. Sewerage Management at Jogbani:

There is no sewage project in this town. DPR for I&D with STP is under preparation. It will be prepared by Dec, 2020 and will be sent to NMCG for sanction. After approval of DPR from NMCG the target of the completion of work is as per the revised expected time June, 2022.

G: Others: In addition DPR related to Liquid Waste Management are also being prepared for towns situated on the tributaries of river Ganga.

The Timeline is as follows:-

1. **Sone River**

i. **Dehri:** - Presently, there is no sewerage system. There are mainly 2 drains with total length of existing drain is 15 Km which discharge waste water into the Sone river. A scheme comprising I&D for Nala with 21 MLD I&D STP capacity. The DPR prepared and submitted to NMCG for approval on dated 02-10-2018. Revised DPR and compliance report received from BUIDCo. The same has been reviewed and forwarded to NMCG on 02/07/2019. After approval of DPR from NMCG, the target of the completion of work is as per the revised expected time Dec, 2022.

ii. Arwal: There are mainly 7 major drains in the town to cater the drains to carry the domestic sewage, a scheme has been prepared for construction of STP of 3.5 MLD and submitted to NMCG for approval on dated 19-09-2018. After approval of DPR from NMCG, the target of the completion of work is as per the revised expected time Dec, 2022.

iii. Daudnagar: There is no sewage project in this town. DPR for I&D with STP is under preparation. It will be prepared by Dec, 2020 and after approval of DPR from NMCG, the target of the completion of work is as per the revised expected time Dec, 2022.

2. Burhi Gandak River

i. **Muzaffarpur:-**There are mainly 12drains (9) in main town and 3 in extended area. In Muzaffarpur town which discharge wastewater into the Burhi Gandak river/ water bodies. A scheme comprising I&D of these Nallas with 3 STPs having total capacity of 67 MLD have been submitted to NMCG to cater all the drains carrying domestic sewage. The compliance of Third Party Appraisal (TPA) on submitted DPR is being made. After approval of DPR from NMCG, the target of the completion of work is as per the revised expected time Dec, 2022.

ii. **Samastipur:** There are mainly (2) major outfall drains are partly Magardahi Nalla and Paswan chowk Nalla which are directly discharging to River of Bhuri Gandak. A scheme has been under preparation for construction of STP 3.50 MLD. The compliance on observations related to DPR is being made. After approval from NMCG, the target of the completion of work is as per the revised expected time Dec, 2022.

iii. **Motihari:** There is no sewage project in this town. DPR for I&D with STP is under preparation. It will be prepared by Dec, 2020 and after approval of DPR from NMCG, the target of the completion of work is as per the revised expected time Dec, 2022.

3. Kosi River

i. **Supaul:** There are mainly 4 drains. Presently, there is no sewerage system. All the discharge outlets go to low lying areas and Kosi River. A scheme has been prepared for construction of 4 STPs of total 12 MLD with I&D of drains to cater all the drains carrying domestic sewage. Compliance report received from BUIDCo against TPA site visit observation the same has been reviewed and submitted to NMCG & TPA on 11/07/2019. After approval of DPR from NMCG, the target of the completion of work is as per the revised expected time Dec, 2022.

ii. **Saharsa:** There is no sewage project in this town. DPR for I&D with STP is under preparation. It will be prepared by Dec, 2020 and after approval of DPR from NMCG, the target of the completion of work is as per the revised expected time Dec, 2022.

iii. **Madhepura:** There is no sewage project in this town. DPR for I&D with STP is under preparation. It will be prepared by Dec, 2020 and after approval of DPR from NMCG, the target of the completion of work is as per the revised expected time Dec, 2022.

4. Baghmati River

i. **Darbhanga:** There are mainly 9 major outfalls it's discharging into Bagmati & Kamla River through drains. The town also has a network of branch and lateral drains.

A scheme has been prepared for construction of STP of 34.1 MLD to cater all the drains carrying domestic sewage. The DPR prepared and submitted to NMCG for approval on dated 06-12-2018. Revised DPR awaited from BUIDCo. After approval of from NMCG, the target of the completion of work is as per the revised expected time Dec, 2022.

5. Gandak River

i. **Gopalganj:** There are mainly 2 major outfalls. All these drains are discharging the storm water into River Daha/Gandak River. A scheme has been prepared for construction of STP of 11 MLD capacity to cater all the drains carrying domestic

sewage. The DPR prepared and submitted to NMCG for approval on dated 26-09-2018. After approval from NMCG, the target of the completion of work is as per the revised expected time Dec, 2022.

ii. **Bagaha:** There are mainly 9 major outfall drains are partly kutcha and patlypucca drains which are directly discharging to Rivers Gandak, Haraha and also nearby Gagaha Nalla. A scheme has been under preparation for construction of STP is 6.50 MLD to cater all the drains carrying domestic sewage. The DPR will be prepared by Dec, 2020. After approval of DPR from NMCG, the target of the completion of work is as per the revised expected time Dec, 2022.

6. <u>Mahananda River</u>

i. **Kishanganj:** There is no sewage project in this town. DPR for I&D with STP is under preparation. It will be prepared by Dec, 2020 and after approval of from NMCG, the target of the completion of work is as per the revised expected time Dec, 2022.

7. <u>Kiul River</u>

i. **Lakhisarai:** There is no sewage project in this town. DPR for I&D with STP is under preparation. It will be prepared by Dec, 2020 and after approval of DPR from NMCG, the target of the completion of work is as per the revised expected time Dec, 2022.

ii. **Jamui:** There is no sewage project in this town. DPR for I&D with STP is under preparation. It will be prepared by Dec, 2020 and after approval of DPR from NMCG, the target of the completion of work is as per the revised expected time Dec, 2022.

Status of Ongoing/Tendered/Tender to be floated of Schemes under Namami Gange program.

fnukd l& 30-11-2020 rd

Sr. No.	Status	Location	Project Name	STP Capacity (In MLD)	Sewer Network (In Km.)	Santioned Cost (Crore) GoI/GoB	Date of Sanction/ Date of AA&ES issue GoI/GoB	Date of NIT	Contract Price	Signing of Contract Contractors Name/ Date	Date of Completion (As per Agreement/ Projected by BUIDCo)	House Connection	Remarks
1	Ongoing Project	Beur	Sewerage Treatment Plant	43	—	68.16 74.29	15-07-14 05-01-15	7 Aug 15	77.85 Cr. (C Cost- 47.25 Cr. and O&M Cost- 30.59 Cr.)	Voltas & GAA (JV) 31-03-17	05/10/2019 31.12.2019 May'2020	—	Construction work completed. O&M work in progress. Physical Progress - 100%, Financial Progress - 108.69% (51.36 Cr.)
2		Beur	Sewerage Network	—	179.74	225.77 394.89	31-12-14 24-01-17	21 Aug 15	398.40 Cr. (C cost : 371.48 Cr and O &M Cost : 26.92 Cr)	L&T 30-03-17	05/04/2020 31/12/2020	4861/15000	Network- 134.373 Km. Completed. Manhole- 4721 Nos. Completed House Connection Pit - 6671 nos. Completed House Hold Connection – 4861 nos. Completed Road Restoration 132.592 Km. Completed. Physical Progress - 74.00 %, Financial Progress - 69.09 % (256.66 Cr.)
3		Saidpur	Sewerage Treatment Plant & Adjoining Network	60	55.10	184.93 201.57	01-04-15 26-11-14	21 Aug 15	188.186 Cr. (C Cost- 142.34 Cr. and O&M Cost- 45.84 Cr)	UEM & EMS (JV) 30-03-17	05/04/2020 30/06/2020	4461/21360	Laying of pipe 53.803 Km. completed. Construction of Manhole 2457 Nos. completed. HSC PIT 5221 Nos. completed. Road Restoration 53.500 Km. completed, Direct connection to manhole-1223 Nos. completed. House Hold Connection 4461 Nos. Completed STP (60MLD)- SBR Basin casting - Completed,. MPS casting - completed. Gride Chamber casting- completed. Thickener casting - completed. MCC & blower room Casting- completed. CCT Casting - 636.50 M3 completed. Sludge Dewatering Building- completed MCC & blower room casting- completed, Admin Cum lab Building casting - Completed. Staff Quarter - Completed. Physical Progress - 96.95 %, Financial Progress: & 109.22 % (155.467 Cr.)
4		Saidpur	Sewerage Network	—	172.50	268.63 426.71	01-04-15 24-01-17	27 Aug 15	431.21 Cr. (C Cost- 399.55 Cr. And O&M Cost- 31.66 Cr.)	L&T 30-01-18	19/01/2021 31/12/2020	1796/28118	Pipe Laying - 84.2 km Manhole - 2830 Nos, Property Chamber - 1244 Nos Road Restoration - 84.7 Km (including Trenchless & DI pipe) DI Rising Main - 887 m House Connection- 1796 Nos Boundary wall works & Well sinking ongoing for Ambedkar SPS. Well sinking completed, Boundary wall & Staff quarters ongoing at Bazar Samiti SPS. Existing structure demolition & Well Sinking ongoing at SPS Exhibition Road. Physical Progress – 64%, Financial Progress - 64.01 % (255.79 Cr.)
5		Karmalichak	Sewerage Treatment Plant	37	—	77.04 83.97	15-07-14 05-01-15	7 Aug 15	73.61 Cr. (C Cost- 44.11 Cr. and O&M Cost- 29.50 Cr.)	Voltas & GAA(JV) 31-03-17	05/10/2019 31/01/2020	—	Construction work completed. O&M work in progress. Physical Progress-100%, Financial Progress- 114.47 % (50.60 Cr.)
6		Karmalichak	Sewerage Network	—	96.54	277.42	16/03/2017	9 May 17	253.98 Cr. (C Cost- 241.02 Cr. And O&M- 12.96 Cr.)	VA Tech Wabag 11/05/2018	20/5/2021 31/12/2020	9133/38168	Sewer Network- 69.709 km completed Manhole- 2523 nos completed House Connection Pit - 9042 nos completed Road Restoration- 69.896 km completed (Total 69.986 km road is in motorable condition in which 58.596 km roads is restored in all respect & 11.3 km road comes in trenchless in which road restorations is not required) House Connection - 9133 nos completed SPS- 01 No.- NIL. Physical Progress - 62.62%, Financial Progress – 48.45% (116.77 Cr.)
7		Pahari STP	Sewerage Treatment Plant	60	—	191.62	19/05/2017	1 Sep 17	147.65 Cr. (C Cost- 84.20 Cr. And O&M- 63.44 Cr.)	VA Tech Wabag 09/05/2018	08/11/2020 30/06/2020	—	1-Main Pumping Station:10 Lifts completed out 13. Sinking Completed for 10 lifts out 13 completed, Steel cutting in progress for Raft 2- Grit Chamber. Shuttering work in progress. Steel Cutting in Progress. 3-Sludge Dewatering Building Sludge Sump & Parshall Flume 2nd Slab Work in shuttering Progress. 2nd Slab steel cutting in progress. 4-Substation MCC Shuttering work in Progress. 5-SBR, CCT, Equalisation Tank & Was Sump SBR & CCT Walls up to 7mtrs height completed out of 7.5 mtrs.Base. 6- Chlorination Building After second Lift of SBR Wall and Backfilling. 7- Air Blower Room All Column Reainforcement work in progress. 8- Admin Cum Lab Building Electrical & Plumbing work in progress. 9-Staff Quarter Internal Plaster work in progress Electrical & Plumbing work in progress. 10-RCC Pipeline (Length in Running Mtrs) Manufacturing of pipe of 2.4 dia in progress Physical Progress - 70%, Financial Progress - 53.40 % (44.97 Cr.)
8		Pahari-Zone IV A (S)	Sewerage Scheme in Sewerage Zone IV A (South) of Pahari, Patna	—	87.69	184.86	22/05/2017	1 Sep 17	167.84Cr. (C Cost- 144.86 Cr. And O&M- 22.94 Cr.)	EMS Infra & Technocraft Ltd.11/05/2018	29/05/2021 31/12/2020	4350/21300	Construction work completed. O&M work in progress. Physical Progress – 86.01% , Financial Progress - 105.45 % (152.76 Cr.)
9		Pahari Zone-V	Sewerage scheme at Pahari Zone V, Patna	—	115.93	356.37	22/05/2017	1 Sep 17	364.90Cr. (C Cost- 318.18 Cr. And O&M- 46.72 Cr.)	Sapoor Pallonji 25/04/2018	26/04/2021 31/12/2020	4861/22855	Network- 134.373 Km. Completed. Manhole- 4721 Nos. Completed House Connection Pit - 6671 nos. Completed House Hold Connection – 4861 nos. Completed Road Restoration 132.592 Km. Completed Physical Progress - 88.01%, Financial Progress - 25.75 % (81.96 Cr.)

Sr. No.	Status	Location	Project Name	STP Capacity (In MLD)	Sewer Network (In Km.)	Santioned Cost (Crore) GoI/GoB	Date of Sanction/ Date of AA&ES issue GoI/GoB	Date of NIT	Contract Price	Signing of Contract Contractors Name/ Date	Date of Completion (As per Agreement/ Projected by BUIDCo)	House Connection	Remarks
10		Sultanganj	I&D works and STP at Sultanganj	10	—	60.22	08/01/2017	30-12-17	63.51 Cr. (C Cost- 35.066 Cr. And O&M- 28.443 Cr.)	V.C.Project 14/9/2018	30/06/2020 31/12/2020		MBBR-Structure Completed. Walkway work 60% Completed. Construction of Admin Building-Finishine & PHE Work under Progress. Chlorine Contact Tank-Structure Completed, Walkway work completed. Sludge Storage Shed-Brick Work in Progress. Thickner, Filterate Sump-Thickner Work completed. Filtrate Sump under Progress. Return Sludge Sump-Interconnection work in progress. Grit Chamber-- Up to Lintel Level work completed. Rest in progress. Networking (I&D)- work in progress. Approximately 6.5km rising main line laying with road restroration work in progress. 1. Chuja Gali/Vishahri Asthan Nala-Raft and hounch casting completed. Ist lift wall Casting under Progress. 2. Ajgaibinath- Excavation work under progress. Open Drain- 100m length work Completed. Rest in progress. Physical Progress - 46% Financial Progress - 39.63 % (13.90 Cr.)
11	Ongoing Project	Barh	I&D works and STP at Barh	11	—	58.27	08/10/2017	22-06-18	53.90 Cr. (C Cost- 26.57 Cr. And O&M- 27.33 Cr.)	UEM India 22/10/2018	30/06/2020 31/12/2020		1. Boundary wall 95% completed. 2. SBR Tank civil work 93.5% copmleted. 3.GST civil 98% completed . 4. CCT civil work90% completed. 5. HT & HT Meter room civil work 85% completed. 6. Admin,MCC & Security Room civil work 45.53% completed. 7.Transfarmer Foundation 100% completed. 8.DG Foundation 100% completed. 9.Blower Foundation 100% completed. 10. Grit Chamber civil work 58 % completed. 11.Belt filter press building 59.18% completed. Physical Progress - 42.43 % Financial Progress - 53.82 % (14.30 Cr.)
12		Naugachhia	I&D works and STP at Naugachia	9	—	60.79	08/01/2017	22-06-18	61.89 Cr. (C Cost- 35.01 Cr. And O&M- 26.38 Cr.)	UEM India 22/10/2018	30/06/2020 31/12/2020		1. BEP, Design & Drawing Approved on dated18.05.20. Some Structural (STP/IPS) vetted Drawing Submitted to BUIDCO Headquarter on 17.08.2020 for Approval. 2. Boundary Wall-90% Work Completed. Rest in progress. 3. SBR-5th Lift Wall Casting Completed & 6th lift wall casting 60% Completed. Walkway work 50% Completed.Rest in Progress. 4. Fine Screen and Grid Chamber-Roof Casting under Progress. 5. Admin Building, Air Blower Building -1St roof Casted. 6. Sludge Thickner-Excavation work in Progress. 7. Staff Quarter-1st Floor Roof Casting under Progress, rest in progress. 8. HT Pane & Transformer-Footing Casting under progress. 9. IPS Ujani-Excavation Completed, PCC Under Progress. 10. IPS Simra Ghat-Layout under Progress. 11. Rising Main (Pipeline)-Excavation & Laying under Progress. Physical Progress - 40.00 % Financial Progress - 35.96 % (12.59 Cr.)
13		Sonepur	I&D and STP at Sonepur	3.5	3.6	30.93	14/09/2018	11/19	29.35 Cr. (C Cost- 14.20 Cr. And O&M- 15.16 Cr.)	S.G.Const & S.N.Enviro 04/06/2019	31/03/2020 31/12/2020		1. Panel Room Plinth Beam & Column upto 1st Floor completed. 2. 3rd Slab of Admin Building done. 3. RMC Batching Plant started. 4. Agreeegate, Sand, Steel, Cement are in stock at site. 5. Delivery of NP3 Pipe for Sewer line started and pipe laying work and manhole is in progress. 6. I&D work started. Physical Progress - 38 % Financial Progress - 21.26 % (3.02 Cr.)
14		Mokama	I&D works and STP at Mokameh	8	—	53.81/ 60.91(Rvd)	28/07/2017	30-12-17	59.17 Cr. (C Cost- 37.765 Cr. And O&M- 21.407 Cr.)	EMS Singh 15/06/2019	30/06/2020 31/12/2020		Design &Survey -complete SBR work 81% complete& rest in progress. Admin block : 75% complete & rest in progress, Panel Room: 75% work complete & rest in progress. Boundary wall =90% complete, Chlorination Tank: 55% complete & rest in progress, Supply of Electromechanical equip.= i) Decanter System=2 Set ii) Sewage Transfer Pump=3Nos iii) RAS Pumps=2set iv) SAS Pumps=2set v) Centrifuge Feed Pumps=2Nos vi) Chlorinator=1No vii) Air Blower=3Nos,Centrifuge=2Nos Physical Progress-37.00% Financial Progress : 30.68 % (11.59 Cr.)
15		Baktiyarpur	I&D and STP at Bakhtiyarpur	10	—	35.88	24/12/2018	01/19	36.04 Cr. (C Cost- 22.65 Cr. And O&M- 13.40 Cr.)	S.G. Construction & S.N.Enviro 27/08/2019	30/08/2020		Land for STP and I&D is now available vide CO, Bakhtiyarpur Lt.-1450 Dt.-02.12.2020 and Given Order to agency start work immediately vide E.E Patna East Lt.-691 Dt.-03.12.2020 Financial Progress - 04.98 % (1.13 Cr.)
16		Maner	I&D and STP at Maner	6.5	3	41.36	01/02/2019	01/19	40.83 Cr. (C Cost- 18.676 Cr. And O&M- 22.163 Cr.)	SIMA Labs Pvt. Ltd. & A K Contractor (J.V) 27/09/2019	26/09/2020		Currently Land not available for STP. Request letter from BUIDCo has been sent to DM, Patna, CO Maner, Request Letter has also been sent to UD&HD for providing support to get the land for STP. It has been intimated to us that CO has reported that non of any land can be given for construction of STP. Financial Progress- 05.67 % (1.06 Cr.)
17		Digha-Zone	STP & Sewer Network	100	288	824	08/11/2017	15-05-18	1187.86 Cr.	VA Tech Wabag 30/12//2019	29/07/2022		1. Survey completed for sewarge network. Sewarge network design and drawing approved for Digha Network. 2. BEP and other design & drawings for Digha STP has been approved by BUIDCo. 3. Soil testing in Digha STP is in Progress. 4. 3 KM Sewer line has been laid in R-Block Digha road. Physical Progress- 0.78% Financial Progress - 40.49 Cr.
18		Kankarbagh-Zone	STP & Sewer Network	50	150	578.89	08/11/2017	15-05-18		VA Tech Wabag 30/12//2019	29/07/2022		1. Soil testing is in progress, 2. Some vetted Design & Drawings of STP is approval by Technical Committee, BUIDCo on dated - 28.07.2020, 3. Design & Drawings hard copy not submitted yet. Financial Progress - 0.29 Cr.
19		Begusarai	STP & Sewer Network	17	98	230.06	03/05/2018	08/18	236.85 Cr.	Toshiba (JV) 04.02.2020	02/03/2022		1. Sewer Network - 22.638 Km, 2. Manholes - 1095 Nos., 3. House Connections - 2025 Nos. 4. Road Restoration - 20.4 Km. Physical Progress - 17.76 % Financial Progress – 43.51 Cr.
20		Chhapra	I&D and STP	32	18.95	236.15	30/11/2018	04/19	244.39 Cr.	Toshiba (JV) 04.02.2020	19/09/2021		Excavation of SBR Tank is completed up to 100% at STP Site and BEP approved from IIT Roorkee as per NGT. Road Restoration work in Progress.B.F.S. Road 220.00 Rmt And PCC Road 300 Rmt Completed. In SBR Tank 1200 sqm area dressing work is completed for PCC. 210 MT Reinforcment reached at STP site for RCC WORK 12.Dewatering work is in progress Physical Progress - 20.00 % Financial Progrss - 15.35 Cr.

Sr. No.	Status	Location	Project Name	STP Capacity (In MLD)	Sewer Network (In Km.)	Santioned Cost (Crore) GoI/GoB	Date of Sanction/ Date of AA&ES issue GoI/GoB	Date of NIT	Contract Price	Signing of Contract Contractors Name/ Date	Date of Completion (As per Agreement/ Projected by BUIDCo)	House Connection	Remarks
21	Ongoing Project	Fatua	I&D and STP	7	__	35.49	24/12/2018	06/19	__	23.11.2020	22.11.2021		Agreement done. Work order issued.
22		Danapur	I&D and STP	25	__	103.27	02/08/2019	06/19		23.11.2020	22.11.2021		
23		Phulwarisariff	I&D and STP	7+6=13	__	46.25	02/08/2019	06/19		23.11.2020	22.11.2021		
1	Tendered Project	Hajipur	STP & Sewer Network	22	138.9	305.19 Revised	03/05/2018	30-05-19	_				Re- Tender has been published on 20.08.2020, The last date of Bid receiving is on 17.12.2020 (Earlier contract terminated (Tritech) Status of Previous work done. Physical Progress-27%, Financial Progress -33.74 Cr.)
2		Bhagalpur	I&D works and STP at Bhagalpur	65	57.54	254.13	10/12/2017	08/18	_				Revised AA&ES received on 10.11.2020
3	Tendered Project	Khagaria	I&D and STP	4.5	__	21	24/12/2018	07/19	__	__			Re- Tender has been published on 01.09.2020, The last date of Bid receiving is on 07.10.2020. No Bid has been received.
4		Munger	STP & Sewer Network	30	165.73	294.02	03/05/2018	__	__	__			Technical Bid Evaluation report has been sent to NMCG/World Bank for approval. NMCG observation has been submitted. Compliance has been submitted to NMCG on 04.11.2020. (Earlier contract terminated (IVRCL) Status of Previous work done(Physical Progress-21%, Financial Progress -3.25 Cr.),Revised AA&ES Rs. 294.02 Cr. Vide NMCG Lt. No.- J-13011/1/2009, Dt.- 05-03-18.)
5		Barahiya	I&D and STP	6		27	30.12.2019	__	__	__			Re- Tender has been published on 01.09.2020, The last date of Bid receiving is on 07.10.2020, Four bid has been received. Evaluation is in process.
6		Kahalgaon	I&D and STP	6		25.77	30.12.2019	__	__	__			Re- Tender has been published on 01.09.2020, The last date of Bid receiving is on 07.10.2020. One bid has been received. Evaluation is in process.
7		Buxar	Sewerage Treatment Plant & Sewer Network	16	95	74.95 164.23(R)	31/12/2019	__	__	__			Observations of NMCG and World Bank received on 4th Aug 2020, Compliance under progress.compliance of the same has been sent to NMCG on 10th Aug 2020. (Work under previous contractor Tritech. Boundary wall work is completed. Pipe laying 39.5 completed manholes 1331 Nos. out 4015 Nos. completed, IPS-1 at ITI ground 30 % civil work completed, STP - 70% Completed, Work stopped. Physical Progress-39%, Financial progress- 17.29 Cr. Due to no progress, contract has been terminated. NOC for termination is received.)
1	Ongoing Projects	Patna	River Front Development of Patna	20 Ghat	6.6 Km	243.27 336.73 (Revd)	19/6/2013 26/02/2019	_	254.52 Cr.	L&T 24.04.14	23-03-2019 / 20-05-2020 (4th Extension)		16 Ghats completed out of 20 Ghats. 1. Audio Visual Theatre (AVT) Building at Barhawa Ghat completed. 2. ECO Center at Collectrate Ghat- completed. 3. Community Cum Cultural Center at Raja Ghat-completed. Crematorium at Gulvighat - completed. Start cremation by PMC Promenade - 5.5 km completed. All Ghats and Promenade with building and crematoria handed over to PMC, Patna for Operation and Maintenance. Physical Progress-93%, Financial progress- 121.21% (308.52 Cr.)
1	Tendered Project	Muzaffarpur	Development works of Ghats	3 Ghats		10.77	03/07/2019				06.01.2022		Materials is being procured. Financial Progress - 0.05 Cr.
2		Gopalganj	Development works of Ghats	2 Ghats		8.25	03/07/2019			Baban Kr Singh 04.01.20	03.06.2021		Construction work completed. O&M work in progress. Physical Progress - 41 % Financial Progress - 2.11 Cr.
1	Tender to be floated	Gopalganj	Development works of Crematoria	1 Crematoria		3.45	05/06/2020						AA&ES received on 06/05/2020.
Total				651.5MLD 25 Ghat & 1 Crematoria	1747.92 KM	5687.81 6044.71						29462 146801	dy v|ru 0;; %& 1688-53 djkMA

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1	Total Sanctioned cost of Sewerage Project (for Patna) -	3237.69 (GOI) 3594.59 (GOB)	House Connection up to date on 30.11.2020
2	Total Sanctioned cost of Sewerage Project (Excluding Patna) -	2090.92 (GOI) 2090.92 (GOB)	
3	Grand Total (1+2)	5328.61 (GOI) 5685.91 (GOB)	
4	RFD Patna Project	243.27 Cr. 336.73 Cr. (Revised Cost)	
5	Other Ghats & Crematoria	22.47 Cr.	
6	Total Expenditure	1688.53 crore (30.11.2020)	

Status of DPR Preparation:
23 Ganga Towns: All prepared and sent to NMCG. Approval Awaited for Manihari, Dighwara, Teghra & Jamalpur (Total- 4) DPR was submitted to NMCG for I&D and STP Project. Letter has been received from NMCG on 23rd Dec 2019 to consider the project under feacal sludge management. The compliance under progress. Buxar approved on 31.12.2019.

15 Triburities Town: Prepared and sent to NMCG for approval- Arwal (Total- 01). Dehri and supaul towns approval in under progress by NMCG (Total-02). Muzzaffarpur & Gopalganj towns revised DPR and compliance report awaited from BUIDCo. Rest of out of 10 towns 8 from NEERI, 1 (Samastipur) from REPL & 1 (Bagaha) from Dara Shah & PSB the complaince report and revised DPR not received yet from BUIDCo. DPR for 4 towns Raxaul, Jogbani, Narkatiyaganj and harinagar related to Hon'ble NGT are under preparation by NEERI.

Prevention and remediation of the pollution of river Ganga.

(Hon'ble NGT in the matter of QA No.200/2014:M.C Mehta Vs. Union of India &Ors.)

SL	Issue	Matter	Remark
1	Preventing discharge of industrial effluents in Ganga.	Installation of CETPs. In previous meeting Chaired by CS, dated 18/06/20, Industry Department was directed to look into the same and hire consultant/technical team to oversee the entire process from preparation of tender document to setting up of CETPs in all industrial areas of the state.	BIADA invites tender for the 6th time on dated 21.09.2020 for the Construction of CETP conveyance network for the 4 locations i.e. a. Barari Bhagalpur (1MLD) b. Fathua (1.5 MLD Expandable to 2 MLD) c. Hajipur, Vaishali (5 MLD Expandable to 6 MLD) d. Bela Muzaffarpur (4 MLD Expandable to 5 MLD) and the last date of tender submission was 2.12.2020 .On the request of various agencies last date of tender submission was extended upto 23.12.2020. German Development Cooperation (GIZ) giving technical support to BIADA. They had appointed one technical Expert

21/12/2020

Assistant Engineer
Biada, Patna

Executive Engineer
BIADA, Patna

Utilization of Treated sewage water using STP

The construction of STP is being looked by the Urban Development Departments; and usage of treated sewage water from STP will be used by UD&HD; Patna for the towns where STP treated water generation capacity is < 100 MLD and > 100 MLD for the Bulk users e.g. domestic, industrial and irrigation purpose for which DPR is in under preparation through Bihar Urban Infrastructure Development Corporation (BUIDCo), please refer **annexure-2** UD&HD letter for the DPR Preparation at said Ganga towns.

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पत्रांक– BGCMS/2017/AP of SWM & SM for NGT/21 (Part-IV) .....न.वि. एवं आ.वि.

बिहार सरकार
नगर विकास एवं आवास विभाग

बिहार राज्य गंगा नदी संरक्षण एवं कार्यक्रम प्रबंधन सोसाइटी (BGCMS)

प्रेषक,

अरविन्द कुमार झा,
संयुक्त सचिव,
नगर विकास एवं आवास विभाग,
–सह–
नोडल पदाधिकारी,
राज्य परियोजना प्रबंधन समूह, बिहार।

सेवा में,

प्रबन्ध निदेशक,
बुडको, पटना।

पटना, दिनांक– 4/11/2020

विषयः– बुडको द्वारा क्रियान्वित एस.टी.पी. परियोजनाओं से निकलने वाले **Treated Water** के **Utilization** के संबंध में।

प्रसंगः– पत्रांक – BUIDCo/Yo-7409 दिनांक 22.10.2020

महाशय,

उपर्युक्त विषयक प्रासंगिक से सूचित किया गया है कि सचिव, न.वि. एवं आ.वि. की अध्यक्षता में दिनांक 05.10.2020 को बुडको द्वारा क्रियान्वित योजनाओं की समीक्षात्मक बैठक में वर्तमान में चल रही एस.टी.पी. परियोजनाओं में एस.टी.पी. से निकलने वाले Treated Water की उपयोगिता के संबंध में कार्रवाई करने का मार्गदर्शन दिया गया था।

2. O.A No. 593/2017 तथा O.A No. 148/2016 संयोजित मामला में मा0 NGT द्वारा दिनांक 21.05.2020 को पारित आदेश में उपचारित जल का उपयोग कृषि एवं अन्य कार्यों में किये जाने का संसूचन है।

3. उक्त के परिप्रेक्ष्य में निदेशानुसार, अनुरोध है कि बुडको द्वारा क्रियान्वित की जा रही सीवरेज योजनाओं के एस.टी.पी. से निकलने वाले Treated Water के उपयोग हेतु बुडको में चयनित DPR Consultant से DPR तैयार करने के लिए अनुवर्ती कार्रवाई करने की कृपा की जाय।

विश्वासभाजन

संयुक्त सचिव, 4.11.20
नगर विकास एवं आवास विभाग,
–सह–
नोडल पदाधिकारी,
राज्य परियोजना प्रबंधन समूह, बिहार।

Scanned with CamScanner

Septage Management at Towns In & Around River Ganga and its Tributaries

UD&HD, GoB have been provided "In-Situ Treatment of Sludge of septic tanks of Community / Mobile Toilets" and Sewage through Bioremediation for Treatment of the Nallas joining the river Ganga and other polluted rivers in Bihar via vide letter – BGCMS/2019/Bio-remediation/25/**418** is annexed as below:

Letter No: BGCMS/2019/Bio-remediation-25/ 418 /UD&HD

Bihar State Ganga River Conservation and Program Management Society (BGCMS), Patna

under

Government of Bihar

Urban Development & Housing Department

NOTICE TO PROCEED WITH THE WORK

To,

Carron Investment Pvt. Ltd. (Lead Partner) in JV
with Azure Transnational and Shree Nestbuild Infra Pvt. Ltd.,
371, Powai Plaza Building,
Hiranandani Bus Park, AS Marg,
Powai, Mumbai – 400076.

Patna, Date: 24.09.2020

Sub: **Assignment: "In-Situ Treatment of Sludge of septic tanks of Community / Mobile Toilets and Sewage through Bioremediation for Treatment of the Nallas joining the river Ganga in Bihar".**

Ref: (1) Contract No – BGCMS/2019/BIO-REMEDIATION-25/269-01, dated – 21.09.2020.
(2) Your Letter of Acceptance No – Urban/Bih/SPMG/2020-21/09-01, dated – 12.09.2020

Sir,

Pursuant to your furnishing the Bank Guarantee No – 2675-BG-08-2020, Date – 15.09.2020, Bank – Canara Bank, J. B. Nagar, Mumbai, amounting to Rs. **49,28,795/-** (Rs. Forty Nine Lakhs Twenty Eight Thousand Seven Hundred and Ninety Five) for the Assignment "*In-Situ Treatment of Sludge of septic tanks of Community / Mobile Toilets and Sewage through Bioremediation for Treatment of the Nallas joining the river Ganga in Bihar*" (Tender No. – BGCMS/2019/Bio-remediation-25/269, date – 18.06.2020) having contract price of **Rs. 49,28,79,570/-** (Rupees Forty-Nine Crore Twenty-Eight Lakhs Seventy-Nine Thousand Five Hundred and Seventy only, excluding GST), notice to proceed with the work is being issued.

2. You are hereby instructed to proceed with the execution of the said assignment in accordance with the provisions of the contract document starting from 01st October 2020.

Encl: Copy of the Agreement Attached.

Yours faithfully

24.09.20

Joint Secretary,
Urban Development & Housing Department,
-Cum-
Nodal Officer,
State Program Management Group, Bihar

In addition, following towns has been considered for FSTP on river Ganga.

1. **Septage Management at Jamalpur:**

Presently, there is a FSTP has been purposed. As per direction from NMCG received DPR for FSTP is in under preparation, after approval from NMCG, the target of the completion of work is as per the revised expected time
Dec, 2022.

2. **Septage Management at Dighwara:**

Presently, , there is a FSTP has been purposed. As per direction from NMCG received DPR for FSTP is sent to NMCG on 26.09.2020, after approval from NMCG, the target of the completion of work is as per the revised expected time Dec, 2022.

3. **Septage Management at Teghra:**

Presently, , there is a FSTP has been purposed. As per direction from NMCG received DPR for FSTP is sent to NMCG on 31.08.2020, after approval from NMCG, the target of the completion of work is as per the revised expected time Dec, 2022.

4. **Septage Management at Manihari:**

Presently, , there is a FSTP has been purposed. As per direction from NMCG received DPR for FSTP is sent to NMCG on 31.08.2020, after approval from NMCG, the target of the completion of work is as per the revised expected time Dec, 2022.

पत्रांक–यो०मो० 4(विविध) 07–354 / 2019–पार्ट–I- 520

बिहार सरकार

जल संसाधन विभाग

प्रेषक,

अरूण कुमार द्विवेदी,
संयुक्त सचिव (अभियंत्रण)

सेवा मे,

श्री अभय राज
विशेष सचिव
नगर विकास एवं आवास विभाग
विकास भवन, बेली रोड
पटना–800015

पटना, दिनांक– 24/12/2020

विषयः– माननीय NGT, नई दिल्ली में दायर OA No.-200/2014 (एम०सी० मेहता बनाम भारत संघ व अन्य) संबंधी मामले में दिनांक–13.08.2020 को पारित आदेश के अनुपालन के संबंध में।

प्रसंगः– नगर विकास एवं आवास विभाग का पत्रांक–BGCMS/2017/2017/AP of SWM & SM for NGT/21 (Part-2/B)-544 दिनांक–15.12.2020

महाशय,

उपर्युक्त विषयक प्रासंगिक पत्र के आलोक में निदेशानुसार कहना है कि माननीय NGT, नई दिल्ली में दायर OA No.-200/2014 (एम०सी० मेहता बनाम भारत संघ व अन्य) संबंधी मामले में दिनांक–13.08.2020 को पारित आदेश की कंडिका–28(ii) में अंकित कार्यमदों में जल संसाधन विभाग से संबंधित कार्यमदों पर अद्यतन प्रगति प्रतिवेदन पत्र के साथ संलग्न कर आवश्यक कार्यार्थ प्रेषित की जा रही है।

अनु०:–यथोक्त।

विश्वासभाजन

24/12/2020

(अरूण कुमार द्विवेदी)
संयुक्त सचिव (अभि०)

Compliance on the points related to WRD, GoB in the order passed on 12.12.2019 in the matter of OA No. 200/2014

(i) Demarcation of flood plain zones and preventing encroachment there of:- River Rejuvenation Committee (RRC) की दिनांक–31.12.2019 को सम्पन्न पांचवी बैठक में Flood Plain Zoning को बिहार में लागू नही किए जाने निमित अलग Application दायर करने हेतु निदेशित किया गया। उक्त के आलोक में मुख्य सचिव, बिहार द्वारा अनुमोदित तथ्य कथन एवं आवश्यक अभिलेखों को राज्य के तरफ से माननीय NGT के समक्ष राज्य का पक्ष रखने हेतु वचनबद्ध किये गये श्री अनमोल चंदन, अधिवक्ता, उच्चत्तम न्यायालय, नई दिल्ली को उपलब्ध करा दिया गया है। श्री चंदन के सुझाव के आलोक में बिहार राज्य में flood plain zoning को लागू करने में आनेवाली व्यवहारिक कठिनाईयों से River Rejuvenation Committee (RRC) को विभागीय पत्रांक–456 दिनांक–08.12.2020 द्वारा अवगत कराया गया है, जिसकी प्रति दिनांक–10.12.2020 को अधिवक्ता श्री अनमोल चंदन को विभागीय पत्रांक–463 दिनांक–10. 12.2020 द्वारा सभी कागजात के साथ उनसे I.A दायर करने का अनुरोध किया गया है।

उल्लेखनीय है कि उत्तराखण्ड, उत्तरप्रदेश, बिहार, झारखण्ड एवं पश्चिम बंगाल के मुख्य सचिवों की संयुक्त समिति की दिनांक–07.10.2020 को संपन्न प्रथम बैठक की कार्यवाही की कंडिका–7 के अनुसार बिहार राज्य के Flood Plain मुद्दे को देखने के लिए NMCG, MoJS एवं CPCB की संयुक्त समिति का गठन किया जाना है। CWC (MoJS) एवं CPCB द्वारा पदाधिकारियों को नामित किया जा चुका है। समिति की गठन की सूचना अप्राप्त है।

(ii) Maintenance of e-flow:- गंगा नदी में e-flow का निर्धारण जल शक्ति मंत्रालय के gazette अधिसूचना सं०–4009 दिनांक–10.10.2018 द्वारा किया गया है। उक्त अधिसूचना के अनुसार गैर मानसून मौसम (अक्टूबर से मई) में भीमगौड़ा (हरिद्वार) स्थित बैराज के D/S में न्यूनतम 36 Cumec तथा कानपुर स्थित बराज के D/S में न्यूनतम 24 Cumec पानी छोड़ने संबंधी निदेश पारित किए गए है। उल्लेखनीय है कि बिहार राज्य द्वारा भारत–बाग्लादेश संधि 1996 के आलोक में दायित्त्वों की पूर्ति का हवाला देते हुए गंगा के उपरी राज्यों में भी गंगा के जल की मात्रा को जलग्रहण क्षेत्र के अनुसार निर्धारित कर e-flow संबंधी अधिसूचना पर पुनर्विचार हेतु बिहार सरकार द्वारा अनुरोध किया गया है।

(iii) Afforestation and setting up of biodiversity parks:- बाढ़ प्रवण क्षेत्र पर जल संसाधन विभाग का स्वामित्व नही होने के कारण उक्त flood plains को अतिक्रमण मुक्त कराकर जैव विविधता पार्क के स्थापित किये जाने हेतु भूमि पर्यावरण, वन एवं जलवायु परिवर्तन विभाग को उपलब्ध कराने में जल संसाधन विभाग असमर्थ है। उक्त आशय की सूचना विभागीय पत्रांक–यो०मो०–4 (विविध) 07–354/2019– 310 दिनांक–01.07.2020 द्वारा पर्यावरण, वन एवं जलवायु परिवर्तन विभाग को दी गई है।

पत्रांक – यो०मो० 4 (विविध) 07–349 / 2019–पार्ट–I– 456

बिहार सरकार

जल संसाधन विभाग

प्रेषक

राकेश कुमार
संयुक्त सचिव (प्रबंधन)

सेवा में

श्री एस० चन्द्रशेखर (भा०व०से०)
सदस्य सचिव
बिहार राज्य प्रदूषण नियंत्रण पर्षद
–सह– सदस्य संयोजक, River Rejuvenation Committee
परिवेश भवन, पाटलीपुत्र औद्योगिक क्षेत्र, सदाकत आश्रम, पटना – 800010

/पटना, दिनांक– 8/12/2020

विषय बिहार राज्य में Flood Plain Zoning लागू किये जाने में असमर्थता के संबंध में।

महाशय

उपरोक्त विषय के संबंध में निदेशानुसार कहना है कि माननीय NGT, प्रधान बेंच, नई दिल्ली में दायर OA No. 673/2018 संबंधी मामले में समय समय पर पारित आदेशों में राज्य अंतर्गत Flood Plain Zoning लागू किये जाने संबंधी निदेश प्राप्त है। इस क्रम में Bihar River Rejuvenation Committee की दिनांक 31.12.2019 को सम्पन्न पाँचवीं बैठक में Flood Plain Zoning पर माननीय NGT के आदेश के अनुपालन किये जाने में बाधायें एवं व्यवहारिक कठिनाइयों को माननीय NGT के समक्ष अलग IA के माध्यम से रखे जाने का निदेश प्राप्त है।

जल शक्ति मंत्रालय, भारत सरकार द्वारा राष्ट्रीय स्वच्छ गंगा मिशन के गठन संबंधी अधिसूचित राजपत्र SO.3187(E) दिनांक 07.10.2016 (अनुलग्नक–1) में Flood Plain Zone को एक नदी का बाढ़ मैदान का वह क्षेत्र के रूप में परिभाषित किया गया है, जो विशेष रुप से 25, 50 अथवा 100 वर्षो के रिटर्न अवधि में आने वाले उच्चतम बाढ स्तर के कारण जलप्लावित क्षेत्र को दर्शाता है। साथ ही गंगा एवं इसकी सहायक नदियों में किसी प्रकार के स्थायी अथवा अस्थायी निर्माण कार्यो पर भी पाबंदी लगायी गई है।

उल्लेखनीय है कि बिहार एक अत्यधिक बाढ़ प्रवण राज्य है, जहाँ कुल भौगोलिक क्षेत्र का लगभग 73% भाग बाढ़ ग्रसित क्षेत्र अंतर्गत आता है। भारत के कुल बाढ़ प्रभावित क्षेत्रों का लगभग 16.5% भाग बिहार में है, जबकि भारत में बाढ़ प्रभावित आबादी का 22.1% बिहार में रहता है। वर्ष 1991 की जनगणना आँकड़ों के अनुसार बिहार की जनसंख्या घनत्व वर्ष 1991 में 685 था जो वर्ष 2001 में बढ़कर 880 प्रतिवर्ग कि०मी० हो गया है। वर्ष 2000 में बिहार राज्य के विभाजन और झारखण्ड के नए राज्य के रुप में निर्माण के फलस्वरुप बिहार राज्य का घनत्व काफी बढ़ गया है, क्योंकि बिहार में जनसंख्या के आकार के अनुपात में तुलनात्मक रुप से कम भौगोलिक क्षेत्र है, इस कारण बिहार राज्य के जनसंख्या घनत्व में एकाएक वृद्धि देखी गयी है।

वर्ष 2011 के जनगणना आँकड़ों के अनुसार बिहार का जनसंख्या 1106 व्यक्ति प्रति वर्ग कि०मी० है। देश भर में बिहार राज्य सबसे घनी आबादी वाला राज्य है, जो कि देशभर के औसत जनसंख्या घनत्व 382 व्यक्ति प्रति वर्ग कि०मी० से काफी ज्यादा है। यहाँ पर उल्लेखनीय है कि वर्ष 1991 की जनगणना के अनुसार उत्तरी बिहार का जनसंख्या घनत्व, गंडक से कमला बलान बेसिन में 863 से 839 व्यक्ति प्रति वर्ग कि०मी०, कोशी बेसिन में 583 व्यक्ति प्रति वर्ग कि०मी०, महानन्दा बेसिन में 598 व्यक्ति प्रति वर्ग कि०मी० एवं गंगा बेसिन में 896 व्यक्ति प्रति वर्ग कि०मी० है (अनुलग्नक–2)।

कई महत्वपूर्ण शहर यथा बक्सर, आरा, छपरा, पटना, हाजीपुर बाढ़, मोकामा, बेगुसराय, मुँगेर, सुल्तानगंज, भागलपुर और कहलगाँव आदि राज्य की प्रमुख नदी गंगा नदी के तट पर स्थित है। गंगा नदी के मैदानी इलाकों में रह रहे बड़ी आबादी की संख्या को समझने हेतु उदाहरण के तौर पर मनेर से पण्डुहा (लगभग 50 KM) के छोटे हिस्से को चिन्हित किया गया है जिसके आँकड़ों के अवलोकन से

स्पष्ट होता है कि इस छोटे से खण्ड में 328 गाँव Flood Plains में स्थित हैं जिनमें 10,43,713 लोगों की घनी आबादी बसी है (अनुलग्नक–3)। इन क्षेत्रों को सामान्य भाषा में दियारा कहा जाता है। यह कहना अतिशयोक्ति नहीं होगी कि इतने बड़े आबादी को विस्थापित कर पुनः बसाना संभव नहीं है। वर्ष 2016 में आये बाढ़ के कारण जलप्लावित क्षेत्र (मनेर से फतुहा, 50 कि०मी०) का सेटेलाइट चित्रण सुलभ प्रसंग हेतु संलग्न किया जा रहा है (अनुलग्नक–4)।

इन आँकड़ों से स्पष्ट है कि Flood Plains में निवास करने वाले जनसंख्या घनत्व लगभग बिहार राज्य के औसत जनसंख्या घनत्व के बराबर है । अतएव Flood Plain Zoning लागू किये जाने हेतु इस तरह की विशाल आबादी के उचित पुनर्वास की व्यवस्था की आवश्यकता होगी। Non Flood Plains में जनसंख्या घनत्व के कारण भूमि की उपलब्धता बहुत सीमित है, अतएव राज्य में उपलब्ध भूमि संसाधन Flood Plain Zoning लागू करने के लिये वास्तविक भूमि आवश्यकता की पूर्ति हेतु पर्याप्त नहीं है।

उल्लेखनीय है कि बाढ़ की विभीषिका से बचाव हेतु राज्य की प्रमुख नदियों पर 3790 कि०मी० तटबंध का निर्माण किया गया है एवं आगे भी जारी है। चूँकि बिहार की प्रमुख नदियाँ तटबंधित हैं, तटबंध के बाहर का क्षेत्र नियमित बाढ़ से मुक्त हो गया है तथा किसी भी विनियमन के लागू किए जाने से इस क्षेत्र के विकास कार्य बाधित होंगे। हालात यह है कि तटबंध और नदी के किनारों के भीतर कई ग्राम स्थित हैं। इन ग्रामीणों के पास पक्के मकान, खेती योग्य भूमि उपलब्ध हैं साथ ही बुनियादी ढांचे भी मौजूद हैं बाढ़ की स्थिति में ये निवासी सुरक्षित स्थानों पर चले जाते हैं तथा पानी घटने पर पुनः लौट जाते हैं। सभी ग्रामों के स्थानान्तरण हेतु तटबंध के बाहर शायद ही कोई भूमि उपलब्ध है।

अतः Flood Plain Zoning राज्य के हित में नहीं है। उक्त से भारत सरकार को वर्ष 2004, 2012 एवं 2013 में संसूचित किया गया है (अनुलग्नक–5)।

बिहार राज्य में उपरोक्त परिदृश्य के तहत, अत्यधिक कुशल प्रारंभिक बाढ़ चेतावनी प्रणाली के विकास एवं स्थापना की आवश्यकता प्रतीत होती है। जल संसाधन विभाग, बिहार ने बाढ़ पूर्वानुमान और प्रारंभिक चेतावनी प्रणाली के लिए पहले से ही विशेषज्ञ केन्द्र, बाढ़ प्रबंधन सुधार सहायता केन्द्र (FMISC) की स्थापना की है। चूँकि बिहार की अधिकांश नदियाँ या तो अंतर्राज्यीय या अंतर्राष्ट्रीय है, इसलिए प्रारंभिक बाढ़ पूर्वानुमान/प्रारंभिक बाढ़ चेतावनी प्रणाली को केन्द्रीय सरकार द्वारा स्थापित एवं विकसित किए जाने की आवश्यकता है।

इन तथ्यों एवं बिहार राज्य की अनूठी एवं विशिष्ट भौगोलिक स्थिति के कारण भारत सरकार द्वारा अधिसूचित राजपत्र संख्या–3187 (E) दिनांक–07.10.2016 की धारा 3 की उपधारा 1(L) एवं धारा 6 की उपधारा (3) में परिभाषित Flood Plain Zone को राज्य के लिए विशेष प्रावधानों को सन्निहित करते हुए संशोधन किए जाने की आवश्यकता है। इस संदर्भ में भारत सरकार से विभागीय पत्रांक 222 दिनांक–04.05.2020 द्वारा अनुरोध किया गया है (अनुलग्नक–6)। इस पर भारत सरकार की प्रतिक्रिया अबतक अप्राप्त है। इस संबंध में भारत सरकार से विभागीय पत्रांक–441 दिनांक–09.10.2020 द्वारा पुनः स्मारित किया गया है (अनुलग्नक–7)।

दिनांक–31.12.2019 को संपन्न River Rejuvenation Committee की पाँचवी बैठक में दिए गए निर्देश के आलोक में माननीय NGT, नई दिल्ली के समक्ष दायर किए जाने वाले IA हेतु तैयार तथ्य कथन (SoF) पर विधि विभाग एवं मुख्य सचिव का अनुमोदन प्राप्त है।

अतः माननीय राष्ट्रीय हरित न्यायाधिकरण के समक्ष राज्य का पक्ष रखने हेतु वचनवद्ध किए गए श्री अनमोल चंदना, अधिवक्ता, उच्चतम न्यायालय, नई दिल्ली द्वारा दिए गए सुझाव के आलोक में अनुरोध है कि माननीय NGT के आदेश के अनुपालन किए जाने पर राज्य सरकार के समक्ष आने वाली बाधायें एवं व्यवहारिक कठिनाईयों के मद्देनजर इस पर पुनर्विचार किये जाने की आवश्यकता है।

अनु०:–यथोक्त।

विश्वासभाजन

Kumar 05/12/2020

(राकेश कुमार)
संयुक्त सचिव (प्रबंधन)

Annexure-1

रजिस्ट्री सं० डी० एल०-33004/99 REGD. NO. D. L.-33004/99

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जल संसाधन, नदी विकास और गंगा संरक्षण मंत्रालय

अधिसूचना

नई दिल्ली, 7 अक्तूबर, 2016

का.आ. 3187(अ).—गंगा नदी में पर्यावरणीय प्रदूषण की रोकथाम, नियंत्रण एवं उपशमन और जल का सतत पर्याप्त प्रवाह सुनिश्चित करने के उपाय करने तथा इससे संबंधित अथवा प्रासंगिक मामलों हेतु केन्द्र, राज्य और जिला स्तर पर प्राधिकरणों का गठन करना जरूरी है, जिससे गंगा नदी का पुनरुद्धार करके इसे इसकी प्राकृतिक एवं मूल स्थिति में लाया जा सके।

जहां, गंगा नदी भौगोलिक, ऐतिहासिक, सामाजिक-सांस्कृतिक एवं आर्थिक कारणों से अद्वितीय महत्व की है जो इसे राष्ट्रीय नदी का दर्जा देता है;

और जहां, गंगा नदी तेजी से हो रहे शहरीकरण एवं औद्योगिकीकरण के कारण सीवेज, औद्योगिक बहिस्राव एवं अन्य प्रदूषकों के बढ़ने के कारण गंभीर स्थिति में है;

और जहां, प्रतिस्पर्धी मांग को पूरा करने की आवश्यकता को ध्यान में रखते हुए जनसंख्या, शहरीकरण, औद्योगिकीकरण, अवसंरचना विकास में वृद्धि के कारण सिंचाई, पेयजल आपूर्ति, औद्योगिक उपयोग एवं जल विद्युत के लिए गंगा नदी के जल की मांग बढ़ रही है;

और जहां, अविलंब निम्नलिखित कार्रवाई किए जाने की आवश्यकता है----------

(ए) व्यापक आयोजना एवं प्रबंधन के लिए इस अंतर्राज्यीय एवं अंतर्क्षेत्रीय समन्वय को प्रोत्साहित करने के लिए नदी बेसिन दृष्टिकोण अपनाकर गंगा नदी में प्रदूषण में प्रभावी कमी तथा नदी का संरक्षण सुनिश्चित करना;

(बी) नदी की पूरी लंबाई के क्षेत्र में सतत प्रवाह सुनिश्चित करने के उद्देश्य से गंगा नदी में पारिस्थितिकीय प्रवाह बनाए रखना जिससे इसकी पारिस्थितिकीय समग्रता को पुनः स्थापित किया जा सके और यह स्वयं अपना पुनरुद्धार करने में सक्षम हो सके;

(सी) गंगा नदी के आस-पास के क्षेत्रों में प्रतिबंध लगाना जहां उद्योग, प्रचालन अथवा प्रक्रियांए अथवा उद्योगों का वर्ग, प्रचालन अथवा प्रक्रियांए नहीं की जाएंगी अथवा कुछ सुरक्षा उपायों के साथ की जाएंगी;

(डी) किसी भवन, संयंत्र, उपकरणों, मशीनों, निर्माण अथवा अन्य प्रक्रियाओं, सामग्री अथवा पदार्थों के निरीक्षण का प्रावधान करना और ऐसे प्राधिकरणों, अधिकारियों तथा व्यक्तियों को गंगा नदी में पर्यावरणीय प्रदूषण की रोकथाम, नियंत्रण एवं कमी लाने के लिए कदम उठाने के निर्देश देना जैसा कि यह आवश्यक समझे।

(ई) गंगा नदी में पर्यावरणीय प्रदूषण की समस्या से संबंधित अन्वेषण एवं अनुसंधान करना एवं प्रायोजित करना और पर्यावरणीय प्रदूषण फैलाने वाली संभावित निर्माण प्रक्रियाओं, सामग्री तथा पदार्थों की जांच करना;

(एफ) गंगा नदी में पर्यावरणीय प्रदूषण से संबंधित मामलों के संदर्भ में सूचना एकत्रित एवं प्रसारित करना और पर्यावरणीय प्रदूषण की रोकथाम, नियंत्रण एवं कमी लाने के संबंध में मैनुअल, कोड अथवा गाइड तैयार करना;

और जहां, गंगा के पुनरुद्धार के लिए समान रूप से उत्तरदायी होने के कारण संबंधित राज्य सरकारों को राज्य स्तर पर नदी संरक्षण क्रियाकलापों का समन्वय एवं कार्यान्वयन करना होगा और उनके राज्य में गंगा नदी के व्यापक प्रबंधन के लिए कदम उठाने होंगे;

और जहां, गंगा नदी में प्रदूषण को समाप्त करने और संरक्षण, सुरक्षा और प्रबंधन के लिए इस आदेश के अंतर्गत केंद्र सरकार और राज्य सरकारों तथा प्राधिकरणों के सामूहिक प्रयासों को सुदृढ़ करने के लिए आयोजना, वित्त पोषण, निगरानी और समन्वय की आवश्यकता होगी।

अब, इसलिए, पर्यावरण (संरक्षण) अधिनियम, 1986 (1986 का 29) (इसके बाद उक्त अधिनियम कहा गया है) की धारा 3 तथा 4, 5, 9,10, 11,19, 20 और 23 की उपधारा (2) तथा (3) के अनुच्छेद (i), (ii), (v), (vi), (vii), (viii), (ix), (x), (xii) तथा (xiii) के साथ उपधारा (1) द्वारा दी गई शक्तियों का प्रयोग करते हुए और पूर्ववर्ती पर्यावरण एवं वन मंत्रालय में भारत सरकार की 30 सितंबर 2009 की अधिसूचना संख्या का.आ. 1111(अ), 30 सितंबर 2009 की अधिसूचना संख्या का.आ. 2539(अ), 30 सितंबर 2009 की अधिसूचना संख्या का.आ. 2493(अ), 30 सितंबर 2009 की अधिसूचना संख्या का.आ. 2494(अ), 30 सितंबर 2009 की अधिसूचना संख्या का.आ. 2495(अ) और 8 फरवरी 2010 की का.आ. 287(अ) और जल संसाधन, नदी विकास और गंगा संरक्षण में 29 सितंबर 2014 की का.आ. संख्या 2539(अ) का अधिक्रमण करते हुए, ऐसे अधिक्रमण से पहले किए गए अथवा छोड़े गए कार्यों को छोड़कर, केन्द्र सरकार एतद्वारा-

(i) ऐसी शक्तियों तथा कार्यों को करने के उद्देश्य से इस आदेश में उल्लिखित नामों से प्राधिकरण गठित करती है (उक्त अधिनियम की धारा 5 के तहत निर्देश जारी करने की शक्ति के साथ और इस आदेश में उल्लिखित मामलों के संदर्भ में उपाय करने के लिए) ;

(ii) केन्द्र सरकार के पर्यवेक्षण एवं नियंत्रण और इस आदेश के प्रावधानों के शर्ताधीन इस आदेश में विनिर्दिष्ट प्राधिकारी अथवा प्राधिकारियों को निर्देश देती है कि वे इस आदेश में उल्लिखित शक्तियों का प्रयोग अथवा कार्यों का निष्पादन अथवा उपाय करेंगे जैसे कि इन प्राधिकारियों को उक्त अधिनियम द्वारा इन शक्तियों का प्रयोग करने, इन कार्यों का निष्पादन करने अथवा ऐसे उपाय करने का अधिकार दिया गया है;

(iii) यह निर्देश देती है कि उक्त अधिनियम के किसी प्रावधान के तहत गंगा नदी और उससे जुड़े मामलों के संबंध में इसकी सभी शक्तियों एवं कार्यों (धारा 3 की उपधारा (3) के तहत किसी प्राधिकरण के गठन की शक्ति और उक्त अधिनियम की धारा 6 और 25 के तहत नियम बनाने को छोड़कर) का प्रयोग इस आदेश में विनिर्दिष्ट शर्तों एवं सीमाओं के शर्ताधीन इस आदेश द्वारा गठित प्राधिकरणों और इस आदेश में विनिर्दिष्ट अधिकारियों द्वारा भी किया जा सकेगा।

1. **लघु शीर्षक एवं प्रारंभ-** (1) इस आदेश को गंगा नदी (संरक्षण, सुरक्षा एवं प्रबंधन) प्राधिकरण आदेश, 2016 कहा जाए।

(2) यह सरकारी राजपत्र में प्रकाशन की तारीख से लागू होगा।

2. **आदेश को लागू करने का क्षेत्र-** यह आदेश गंगा नदी में प्रदूषण की प्रभावी कमी तथा संरक्षण, सुरक्षा एवं प्रबंधन के उद्देश्य से गंगा नदी बेसिन वाले राज्यों अर्थात हिमाचल प्रदेश, उत्तराखंड, उत्तर प्रदेश, मध्य प्रदेश, छत्तीसगढ़, बिहार, झारखंड,

हरियाणा, राजस्थान, पश्चिम बंगाल और राष्ट्रीय राजधानी क्षेत्र दिल्ली और ऐसे अन्य राज्य जिनमें गंगा नदी की प्रमुख उपनदियां स्थित हैं, पर लागू होगा, जैसा कि गंगा नदी के संरक्षण, सुरक्षा तथा प्रबंधन के लिए राष्ट्रीय परिषद निर्णय ले।

3. **परिभाषाएं,** यदि संदर्भ में अन्य रूप में अपेक्षित न हो-

(ए) "अधिनियम" का अर्थ पर्यावरण (संरक्षण) अधिनियम, 1986 (1986 का 29) होगा।

(बी) "बेसिन" का अर्थ क्षेत्र में मृदा, जल, वनस्पति तथा अन्य प्राकृतिक संसाधन सहित जल निकाय अथवा जल मार्ग के संपूर्ण आवाह क्षेत्र से है और इसमें आवाह आधार पर भूमि, जल, वनस्पति एवं अन्य प्राकृतिक संसाधन शामिल है।

(सी) "बफर क्षेत्र" का अर्थ उस क्षेत्र से है जो नदी के बाढ़ मैदान से आगे है।

(डी) "आवाह" अथवा "आवाह क्षेत्र" में वह संपूर्ण भूमि क्षेत्र शामिल है जिसमें वर्षा, हिम अथवा वर्फ का अपवाह जल मार्ग के गंगा नदी अथवा इसकी उपनदियों में मिलने अथवा गंगा नदी अथवा इसकी उपनदियों में जल छोड़ने से पहले एक जल निकाय अथवा जल मार्ग में गिरता है।

(ई) "व्यावसायिक मछली पालन" का अर्थ गंगा नदी अथवा इसकी उपनदियों में नेट, जहर अथवा अन्य आधुनिक फिशिंग गेयर अथवा पद्धतियों द्वारा व्यावसायिक प्रयोजन से बड़े पैमाने पर मछली पालन से है।

(एफ) "सक्षम प्राधिकारी" का अर्थ केन्द्र सरकार से है।

(जी) "वनकटाव" का अर्थ विशेष रूप से गंगा नदी के आवाह क्षेत्र में वन क्षेत्र में कमी, विशेषतौर पर मानवजनित क्रियाकलापों द्वारा अथवा वन के वैज्ञानिक प्रबंधन के लिए नियोजित रूप से इस हटाने को छोड़कर वन में पेड़ों अथवा वनस्पति को हटाने से है।

(एच) "अवक्रमित वन" का अर्थ गंगा नदी अथवा इसकी उपनदियों के आस-पास आवाह क्षेत्र में मूल वन क्षेत्र अथवा वनस्पति घनत्व में कमी वाले वन से है।

(आई) "निर्देश" का अर्थ अधिनियम की धारा 5 के तहत जारी निर्देश से है और "निर्देश देने" का अर्थ इसी के अनुसार होगा।

(जे) "जिला गंगा समिति" का आशय, पैराग्राफ 53 में उल्लिखित जिला गंगा सुरक्षा समिति से है।

(के) "इंजीनियर्ड डायवर्जन" का अर्थ गंगा नदी अथवा इसकी उपनदियों के जल को नहरों अथवा अन्य इंजीनियरिंग संरचनाओं में अंतरित करने के लिए बनाई गई अथवा संस्थापित संरचना अथवा यंत्र से है।

(एल) "बाढ़ मैदान" का अर्थ गंगा नदी अथवा इसकी उपनदियों के ऐसे क्षेत्र से है जो इसके अधिकतम प्रवाह के संगत बाढ़ अथवा 100 वर्ष में एक बार आने वाली बाढ़ के समान बाढ़ के कारण दोनों ओर जल के अंदर आ जाता है।

(एम) "घाट" का अर्थ गंगा अथवा इसकी उपनदियों के तट पर ढलान वाले भाग से है जिसमें कृत्रिम रूप से निर्मित सीढ़ियां और गंगा नदी अथवा इसकी उपनदियों के जल तक मानव की सरल पहुंच के लिए प्रयुक्त भूमि के ढलान वाले क्षेत्र शामिल है और धार्मिक अथवा अन्य संबंधित प्रयोजन से ऐसे भागों का प्रयोग शामिल है।

(एन) "स्थानीय प्राधिकरण" में पंचायती राज संस्थाएं, नगरपालिकाएं, जिला बोर्ड, छावनी बोर्ड, नगर नियोजन प्राधिकरण अथवा जिला परिषद अथवा अन्य कोई निकाय अथवा प्राधिकरण, जिस भी नाम से जाना जाता हो, जिसे एक विशिष्ट स्थानीय क्षेत्र में आवश्यक सेवाएं देने हेतु अथवा नागरिक सेवाओं के नियंत्रण एवं प्रबंधन के लिए कानून द्वारा मान्यता दी गई हो।

(ओ) "राष्ट्रीय स्वच्छ गंगा मिशन" का अर्थ पैराग्राफ 31 में उल्लिखित प्राधिकरण है।

(पी) "अधिसूचना" का अर्थ सरकारी राजपत्र में प्रकाशित अधिसूचना से है और "अधिसूचित करने" का अर्थ इसी के अनुसार होगा।

(क्यू) "प्रदूषित पदार्थ" में ठोस अपशिष्ट शामिल होगा जिसमें पशुओं के शव, रसोई अथवा अस्तबल का अपशिष्ट, गोबर, कचरा, सड़ी हुई अथवा दुर्गंधयुक्त सामग्री और किसी भी प्रकार की गंदगी शामिल है जो सीवेज में नहीं आती।

(आर) "व्यक्ति" में निम्नलिखित शामिल है-

(i) एक व्यक्ति अथवा समूह अथवा व्यक्तियों का संघ शामिल किया गया हो अथवा नहीं;

(ii) कंपनी अधिनियम, 2013 (2013 का 18) के तहत स्थापित कंपनी;

(iii) किसी केन्द्रीय अथवा राज्य अधिनियम द्वारा स्थापित कोई निगम;

(iv) एक स्थानीय प्राधिकरण;

(V) उपर्युक्त उपखंडों में से किसी में भी न आने वाला प्रत्येक न्यायिक व्यक्ति।

(एस) "नदी तल" का अर्थ गंगा नदी अथवा इसकी उपनदियों के क्षेत्र के सूखे हिस्से से है और इसमें वह स्थान शामिल है जहां गंगा नदी अथवा इसकी उपनदियां बहती हैं जब वे जल से भर जाती हैं और गंगा नदी अथवा इसकी उपनदियों के किनारे स्थित भूमि शामिल है जो जल का सर्वाधिक प्रवाह होने पर अपने प्राकृतिक चैनल में जल को बनाए रखती है।

(टी) "नदी तल खेती" में जल के कम प्रवाह के समय गंगा नदी अथवा इसकी उपनदियों के नदी तल पर मौसमी कृषि अथवा खेती से है।

(यू) "गंगा नदी" धारा का अर्थ उत्तराखंड राज्य में 6 प्रमुख धाराओं की संपूर्ण लंबाई अर्थात अलकनंदा, धौलीगंगा, नंदाकिनी, पिंडर, मंदाकिनी और भागीरथी से है जो अपने मूल ग्लेशियर से विष्णु प्रयाग, नंद प्रयाग, कर्ण प्रयाग, रूद्र प्रयाग और देव प्रयाग में उनके संबंधित संगम तक है और नदी की मुख्य धारा भी इसमें शामिल है और उसके बाद प्रयागराज सहित गंगा सागर तक और इसकी सभी उपनदियां शामिल हैं।

(वी) "कूड़ा करकट" का अर्थ राख, टूटी हुई ईंटों, गारे, टूटे हुए कांच, धूल अथवा किसी प्रकार के अपशिष्ट और गंदगी से है।

(डब्ल्यू) "मिट्टी के खनन" का अर्थ सूखे चैनल बेल्ट, बाढ़ मैदान अथवा गंगा नदी अथवा इसकी उपनदियों के भाग से नदी में बड़े पैमाने पर मिट्टी को हटाने से है।

(एक्स) "सीवेज अपशिष्ट" का अर्थ किसी सीवरेज प्रणाली अथवा सीवेज निपटान कार्य के बहिस्राव से है और इसमें खुले नालों का सीवेज शामिल है।

(वाई) "सीवरेज स्कीम" का अर्थ ऐसी स्कीम से है जो एक स्थानीय प्राधिकरण भूमिगत बंद सीवर के माध्यम से जल को फ्लश करके सीवेज हटाने की प्रक्रिया शुरू करें।

(जेड) "अनुसूची" का अर्थ इस आदेश के साथ संलग्न अनुसूची है।

(जेडए) "विनिर्दिष्ट जिले" का अर्थ हिमाचल प्रदेश, उत्तराखंड, उत्तर प्रदेश, मध्य प्रदेश, छत्तीसगढ़, बिहार, झारखंड, हरियाणा, राजस्थान, पश्चिम बंगाल और राष्ट्रीय राजधानी क्षेत्र दिल्ली और ऐसे अन्य राज्य जिनमें इस आदेश में उल्लिखित गंगा नदी की प्रमुख उपनदियां स्थित हैं, में गंगा नदी अथवा इसकी उपनदियों के 15 किमी. के क्षेत्र में गंगा नदी के आस-पास स्थित प्रत्येक जिले के क्षेत्र से है।

(जेडबी) "राज्य गंगा समिति" का अर्थ पैरा 2 में उल्लिखित राज्यों में से प्रत्येक राज्य के लिए इस आदेश के तहत गठित राज्य गंगा सरक्षण, सुरक्षा एवं प्रबंधन समिति से है।

(जेडसी) राज्य गंगा नदी संरक्षण प्राधिकरण का अर्थ प्रत्येक राज्य में अधिनियम के तहत पूर्व गठित प्राधिकरण से है अर्थातः-

(i) पर्यावरण एवं वन मंत्रालय में दिनांक 8 फरवरी, 2010 की भारत सरकार की अधिसूचना संख्या का.आ. 287(अ) द्वारा गठित बिहार राज्य गंगा नदी संरक्षण प्राधिकरण।

(ii) पर्यावरण एवं वन मंत्रालय में दिनांक 30 सितंबर, 2009 की भारत सरकार की अधिसूचना संख्या का.आ. 2495(अ) द्वारा गठित झारखंड राज्य गंगा नदी संरक्षण प्राधिकरण।

(iii) पर्यावरण एवं वन मंत्रालय में दिनांक 30 सितंबर, 2009 की भारत सरकार की अधिसूचना संख्या का.आ. 1111(अ) द्वारा गठित उत्तराखंड राज्य गंगा नदी संरक्षण प्राधिकरण।

(iv) पर्यावरण एवं वन मंत्रालय में दिनांक 30 सितंबर, 2009 की भारत सरकार की अधिसूचना संख्या का.आ. 2493(अ) द्वारा गठित उत्तर प्रदेश राज्य गंगा नदी संरक्षण प्राधिकरण।

(v) पर्यावरण एवं वन मंत्रालय में दिनांक 30 सितंबर, 2009 की भारत सरकार की अधिसूचना संख्या का.आ. 2494(अ) द्वारा गठित पश्चिम बंगाल राज्य गंगा नदी संरक्षण प्राधिकरण।

(जेडडी) "धारा" में नदी, जल मार्ग (प्रवाहित हो रहे हों अथवा कुछ समय के लिए सूखे हों), अंतर्देशीय जल (प्राकृतिक अथवा कृत्रिम) और उपक्षेत्र जल शामिल है।

(जेडई) "गंगा नदी की उपनदियों" का अर्थ उन नदियों अथवा धाराओं से है जो गंगा नदी में प्रवाहित होती हैं और इनमें यमुना नदी, सोन नदी, महानंदा नदी, कोसी नदी, गंडक नदी, घाघरा नदी और महाकाली नदी तथा उनकी उपनदियां अथवा ऐसी अन्य नदियां जिन्हें राष्ट्रीय गंगा नदी संरक्षण, सुरक्षा एवं प्रबंधन परिषद इस आदेश के उद्देश्य से विनिर्दिष्ट करे, शामिल हैं।

2. इस आदेश में प्रयुक्त किए गए तथा परिभाषित नहीं किए गए शब्दों एवं पदों का अर्थ यदि पर्यावरण (सुरक्षा) अधिनियम, 1986 (1986 का 29) में परिभाषित किया गया है तो उनका अर्थ वही समझा जाएगा जो उक्त अधिनियम में दिया गया है।

4. गंगा नदी की सुरक्षा, प्रबंधन एवं संरक्षण के लिए उपाय करने हेतु अपनाए जाने वाले सिद्धांत- (1) गंगा नदी के संरक्षण, सुरक्षा एवं प्रबंधन के लिए उपाय करने हेतु निम्निलिखित सिद्धांत अपनाए जाएंगे अर्थात:-

(i) गंगा नदी को एक एकल प्रणाली के रूप में प्रबंधित किया जाएगा;

(ii) गंगा नदी के जल की रासायनिक, भौतिक एवं जीव विज्ञानीय गुणवत्ता को पुनःस्थापित करने एवं इस बनाए रखने का कार्य समयबद्ध ढंग से किया जाएगा;

(iii) गंगा नदी को पारिस्थितिकीय ढंग से सतत पद्धति में प्रबंधित किया जाएगा;

(iv) गंगा नदी में प्राकृतिक मौसमी विविधता में परिवर्तन किए बिना नदी में प्रवाह बनाए रखा जाएगा;

(v) गंगा नदी के देशान्तरीय, लेटरल तथा ऊर्ध्वाधर आयाम (कनेक्टिविटी) नदी प्रबंधन प्रक्रियाओं तथा पद्धतियों में शामिल किए जाएंगे;

(vi) सतही प्रवाह तथा उपसतही जल (भूजल) के बीच समग्र संबंध को पुनःस्थापित किया जाएगा एवं बनाए रखा जाएगा;

(vii) आवाह क्षेत्र में खोई प्राकृतिक वनस्पति को पुनः सृजित किया जाएगा एव बनाए रखा जाएगा;

(viii) गंगा नदी बेसिन में जलीय एवं तटीय जैव-विविधता को पुनः सृजित एवं संरक्षित किया जाएगा;

(ix) प्रदूषण के स्रोत, दबाव को कम करने और इसके प्राकृतिक भूजल पुनर्भरण विशेषताओं को बनाए रखने के लिए गंगा नदी के तट और इसके बाढ़ मैदान को निर्माण मुक्त जोन बनाया जाएगा;

(x) संरक्षण, सुरक्षा एवं प्रबंधन में जनता की भागीदारी, किसी विनियम, मानक में संशोधन करना एवं लागू करने, संरक्षण, सुरक्षा एवं प्रबंधन के लिए बहिस्राव न्यूनीकरण योजना अथवा कार्यक्रम को प्रोत्साहन दिया जाए और गंगा नदी के संरक्षण, सुरक्षा एवं प्रबंधन की प्रक्रियाओं एवं पद्धतियों का अभिन्न हिस्सा बनाया जाएगा;

(2) राष्ट्रीय स्वच्छ गंगा मिशन देश के लोगों की आवश्यकताओं, प्रौद्योगिकी में उन्नयन तथा लोगों की सामाजिक-आर्थिक स्थिति को ध्यान में रखते हुए और राष्ट्रीय संयुक्त संस्तुति की समृद्ध विरासत के संरक्षण के लिए उपपैरा (1) के तहत विनिर्दिष्ट सिद्धांतों के अतिरिक्त सिद्धांत विनिर्दिष्ट कर सकता है।

5. गंगा नदी में जल का पारिस्थितिकीय प्रवाह बनाए रखा जाए- (1) प्रत्येक राज्य सरकार, यह सुनिश्चित करने का प्रयास करेगी कि पैरा के उप पैरा (iv) में दिए गए अनुसार गंगा नदी में हर समय जल का अवाधित प्रवाह बनाए रखा जाए।

(2) प्रत्येक राज्य सरकार भी गंगा नदी में इसकी पारिस्थितिकीय समग्रता को बनाए रखने के लिए विभिन्न मौसम में जल का पर्याप्त प्रवाह बनाए रखने के प्रयास करेगी और इस लक्ष्य को प्राप्त करने के लिए सभी संबंधित प्राधिकरण समयबद्ध ढंग से उचित कार्रवाई करेंगे।

(3) इस पैरा के प्रयोजन से जल के औसत प्रवाह का निर्धारण राष्ट्रीय स्वच्छ गंगा मिशन द्वारा गंगा नदी पर विनिर्दिष्ट बिन्दुओं पर विनिर्दिष्ट जल वैज्ञानिक प्रेक्षण केन्द्रों द्वारा किया जाएगा।

बशर्ते कि राष्ट्रीय स्वच्छ गंगा मिशन द्वारा पारिस्थितिकी को ध्यान में रखते हुए गंगा नदी पर विभिन्न बिन्दुओं के लिए नदी में जल का औसत प्रवाह निर्धारित किया जाए।

6. गंगा नदी और उसकी उप नदियों में पर्यावरणीय प्रदूषण की रोकथाम, नियंत्रण एवं कमी लाना

(1) कोई व्यक्ति गंगा नदी अथवा इसकी उपनदियों अथवा इसके तटों पर प्रत्यक्ष रूप से अथवा अप्रत्यक्ष रूप से अशोधित अथवा शोधित सीवेज अथवा सीवेज कीचड़ नहीं डालेगा;

बशर्ते कि जहां किसी स्थानीय प्राधिकरण के पास इस आदेश के लागू होने की तारीख को सीवेज अथवा कीचड़ के एकत्रण, भंडारण, ले जाने और निपटान के लिए सीवरेज स्कीम अथवा अवसंरचना नहीं है अथवा गंगा नदी अथवा इसकी उपनदियों के आस-पास के क्षेत्र में उपर्युक्त तारीख तक ऐसी अवसंरचना प्रचालन में न हों, ऐसा प्रत्येक स्थानीय प्राधिकरण इस आदेश के लागू होने की तारीख से राष्ट्रीय स्वच्छ गंगा मिशन द्वारा विनिर्दिष्ट अवधि में स्थानीय प्राधिकरण के क्षेत्र में सीवेज के एकत्रण, भंडारण, ले जाने एवं निपटान के लिए ऐसी अवसंरचना विकसित करेगा अथवा ऐसी अवसंरचना प्रचालन में लाएगा।

(2) कोई व्यक्ति प्रत्यक्ष रूप से अप्रत्यक्ष रूप से गंगा नदी अथवा इसकी उपनदियों अथवा इनके तटों पर अशोधित अथवा शोधित व्यावसायिक वहिस्राव, औद्योगिक अपशिष्ट नहीं छोड़ेगा;

बशर्ते यह भी कि जहां किसी उद्योग अथवा औद्योगिक क्षेत्र प्रबंधन के पास इस आदेश के लागू होने की तारीख को औद्योगिक वहिस्राव शोधन स्कीम अथवा अवसंरचना न हो अथवा गंगा नदी अथवा इसकी उपनदियों के आस-पास के क्षेत्र में उपर्युक्त तारीख को ऐसी अवसंरचना प्रचालन में न हो, ऐसा प्रत्येक उद्योग अथवा औद्योगिक क्षेत्र प्रबंधन उद्योग अथवा औद्योगिक क्षेत्र प्रबंधन के कार्यक्षेत्र में इस आदेश के लागू होने की तारीख से राष्ट्रीय स्वच्छ गंगा मिशन द्वारा विनिर्दिष्ट अवधि में व्यावसायिक वहिस्राव, औद्योगिक अपशिष्ट के एकत्रण, भंडारण, ले जाने एवं निपटान के लिए अवसंरचना विकसित करेगा अथवा ऐसी अवसंरचना प्रचालन में लाएगा।

(3) कोई व्यक्ति गंगा नदी में अथवा गंगा नदी या इसकी उपनदियों के तट अथवा इनके सक्रिय बाढ़ मैदानी क्षेत्र में आवासीय अथवा वाणिज्यिक अथवा औद्योगिक अथवा अन्य किसी प्रयोजन से स्थायी अथवा अस्थायी संरचना का निर्माण नहीं करेगा;

बशर्ते कि, अपवाद की स्थितियों जैसे प्राकृतिक आपदा अथवा पारंपरिक स्थलों पर धार्मिक आयोजनों के लिए राज्य गंगा समिति और जिला गंगा समिति के माध्यम से राष्ट्रीय स्वच्छ गंगा मिशन की पूर्व अनुमति से अस्थायी संरचनाएं बनायी जा सकती है;

बशर्ते यह भी कि इस आदेश के लागू होने से पहले गंगा नदी अथवा इसकी उपनदियों के तट अथवा सक्रिय बाढ़ मैदान में यदि कोई ऐसी संरचना बनाई गई है तो राष्ट्रीय स्वच्छ गंगा मिशन ऐसी संरचनाओं की समीक्षा करेगा ताकि यह जांच की जा सके कि ऐसी संरचनाएं गंगा नदी अथवा इसकी उपनदियों में जल के सतत प्रवाह को बाधित नहीं कर रही अथवा नदी में प्रदूषण नहीं फैला रही और यदि ऐसा है तो यह उन्हें हटाने की कार्रवाई कर सकता है।

(4) कोई व्यक्ति ऐसा कोई क्रियाकलाप अथवा किसी परियोजना अथवा प्रक्रिया अथवा क्रियाकलाप नहीं करेगा अथवा जारी रखेगा। जिससे गंगा नदी में प्रदूषण हो, चाहे यह क्रियाकलाप इस आदेश में उल्लिखित हो या न हो।

(5) राष्ट्रीय स्वच्छ गंगा मिशन का यह कर्तव्य होगा कि प्रत्येक विनिर्दिष्ट राज्य गंगा समिति अथवा विनिर्दिष्ट जिला गंगा संरक्षण समिति, स्थानीय प्राधिकरण और सभी अन्य प्राधिकरण तथा व्यक्ति गंगा नदी और इसकी उपनदियों के आस-पास के प्रत्येक गांव/नगर, शहर तथा अन्य क्षेत्रों में स्थानीय भाषा में रिपोर्टों में दी गई सूचना तथा उपर्युक्त उपायों का विभिन्न माध्यमों से व्यापक प्रचार करेंगे तथा जनता के ध्यान में लाएंगे।

7. गंगा नदी और इसकी सहायक नदियों के प्रदूषण के मामले में आपातकालीन उपाय- किसी दुर्घटना अथवा अनदेखे कार्य अथवा घटना के कारण गंगा नदी में कोई भी विषैला हानिकारक अथवा प्रदूषक कारक पाया जाता है अथवा प्रवेश किया है, और तत्काल कार्रवाई करने की आवश्यकता होती है, तो ऐसे कार्यों को करने के लिए तत्काल कार्रवाई शुरू करनी होगी अथवा

विनिर्दिष्ट राज्य गंगा समिति अथवा विनिर्दिष्ट जिला गंगा समिति अथवा स्थानीय प्राधिकरण अथवा कोई अन्य प्राधिकरण अथवा बोर्ड अथवा निगम द्वारा ऐसे कार्यों को करने हेतु निर्देश दिया जाएगा, चूंकि इसे निम्नलिखित सभी अथवा किसी उद्देश्य के लिए आवश्यक समझा जाए। अर्थात्

(क) प्रदूषक की उपस्थिति के कारण किसी प्रदूषण के उपशमन अथवा निपटान के लिए इस ढंग से जैसा कि विनिर्दिष्ट किया गया है, गंगा नदी से प्रदूषक सामग्री को हटाने की पद्धति और निपटाना के साथ साथ ऐसे कार्यों को करने के लिए यथा उपयुक्त समझा जाता है।

(ख) गंगा नदी में किसी भी विषैले, हानिकारक अथवा प्रदूषक सामग्री को छोड़ने से किसी व्यक्ति अथवा स्थानीय प्राधिकरण अथवा संबंधित अन्य प्राधिकरण अथवा बोर्ड अथवा निगम को नियंत्रित करने अथवा निषेध करने संबंधी निर्देश जारी करना।

(ग) इस प्रकार की आपातकालीन समस्या के समाधान के लिए कोई अतिरिक्त कार्य अथवा कार्य पद्धति शुरू करना जैसा भी आवश्यक हो।

8. **निर्देश जारी करने की शक्ति-** राष्ट्रीय स्वच्छ गंगा मिशन, इस आदेश के तहत अपनी शक्तियों और निष्पादन अथवा अपने कार्य पद्धतियों का प्रयोग कर सकता है, जिसे प्रदूषण का निवारण और गंगा नदी के संरक्षण, संरक्षा एवं प्रबंधन के लिए आवश्यक समझा जाए। संबंधित प्राधिकरण अथवा स्थानीय प्राधिकरण अथवा अन्य प्राधिकरणों अथवा बोर्ड अथवा निगम अथवा व्यक्ति को लिखित में अधिनियम के तहत ऐसे निर्देश जारी करना और वे ऐसे निर्देशों का पालन करने के लिए बाध्य होंगे।

व्याख्या- संदेह के निवारण के लिए एतद द्वारा घोषित किया जाता है कि इस धारा के तहत निर्देश जारी करने की शक्ति शामिल की जाती है लेकिन निर्देश देने की शक्ति को सीमित नहीं किया जाता है-

(क) किसी उद्योग, प्रचालन अथवा प्रक्रिया को बंद करना, निषेध अथवा विनियमन; अथवा

(ख) विद्युत अथवा जल की आपूर्ति अथवा अन्य किसी सेवा को रोकना अथवा विनियमन

(ग) इस आदेश अथवा उल्लिखित अधिनियम अथवा बनाए गए नियम अथवा इसके तहत जारी निर्देशों के विरोधी किसी कार्य को रोकना अथवा बंद करना।

(घ) इस आदेश अथवा उल्लिखित अधिनियम में विनिनिर्देष्ट उपायों का प्रभावी कार्यान्वयन

9. **गंगा सुरक्षा लेखा परीक्षा-** प्रत्येक विनिर्दिष्ट जिला गंगा समिति वार्षिक समय ढांचा के भीतर और ऐसे जिला के लिए गंगा नदी के क्षेत्र हेतु राष्ट्रीय स्वच्छ गंगा मिशन द्वारा विनिर्दिष्ट किए जाने वाले प्रोटोकॉल के अनुसार गंगा सुरक्षा लेखा परीक्षकों द्वारा गंगा सुरक्षा लेखा परीक्षा करवाई जाएगी और विनिर्दिष्ट राज्य गंगा समिति तथा राष्ट्रीय स्वच्छ गंगा मिशन को इस संबंध में शुरू की गई सुधारात्मक कार्रवाई सहित इस सुरक्षा लेखा परीक्षा की रिपोर्ट की प्रति अग्रेषित करेगी, जिस पर उपयुक्त कार्रवाई की जाएगी, यदि आवश्यक हो।

10. **गंगा नदी तथा इसकी सहायक नदियों में प्रदूषण की निगरानी किया जाना-** (1) गंगा नदी तथा इसकी सहायक नदियों में प्रदूषण की निगरानी राष्ट्रीय स्वच्छ गंगा मिशन द्वारा स्वयं अथवा उपग्रह के चित्रों तथा अन्य दूरसंवेदी प्रौद्योगिकियों के उपयोग द्वारा विभिन्न राज्य और केन्द्र सरकारी अभिकरणों के साथ-साथ इसके द्वारा विनिर्दिष्ट किए जाने वाले आवधिक आधार पर वास्तविक केन्द्रों, ऑनलाइन निगरानी और स्वतंत्र अभिकरणों के माध्यम से निर्देशों द्वारा की जाएगी।

(2) उप-पैराग्राफ के प्रावधानों के बावजूद (1) केन्द्र सरकार गंगा तथा इसकी सहायक नदियों में ऊपर उल्लिखित प्रदूषण की निगरानी के लिए किसी अन्य तकनीक अथवा पद्धति, जिसे निर्देशों में विनिर्दिष्ट किया जा सके, को अपनाकर गंगा तथा इसकी सहायक नदियों में प्रदूषण की निगरानी के कार्य को किसी अन्य अभिकरण अथवा निकाय अथवा सीधे, प्रौद्योगिकी को अद्यतन करने के उद्देश्य से, सौंप सकती है।

11. **गंगा नदी के संरक्षण, सुरक्षा और प्रबंधन संबंधी राष्ट्रीय परिषद का गठन -** इस आदेश को लागू करने की तिथि से अधिनियम के उद्देश्यों तथा इस आदेश और उल्लिखित अधिनियम के तहत यथा विनिर्दिष्ट शक्तियों का उपयोग करने तथा कार्यों को करने के लिए गंगा नदी के संरक्षण, संरक्षा, प्रबंधन संबंधी राष्ट्रीय परिषद के नाम से (जिसे इस आदेश में इसके पश्चात् राष्ट्रीय गंगा परिषद कहा जाएगा) एक प्राधिकरण का गठन किया जाएगा।

12. राष्ट्रीय गंगा परिषद की संरचना- राष्ट्रीय गंगा परिषद में निम्नलिखित सदस्य शामिल होंगे, नामत:-	
(क) प्रधानमंत्री	अध्यक्ष, पदेन
(ख) केन्द्रीय जल संसाधन, नदी विकास और गंगा संरक्षण मंत्री	उपाध्यक्ष, पदेन
(ग) केन्द्रीय पर्यावरण वन एवं जलवायु परिवर्तन मंत्री	सदस्य, पदेन
(घ) केन्द्रीय वित्त मंत्री	सदस्य, पदेन
(ङ) केन्द्रीय शहरी विकास मंत्री	सदस्य, पदेन
(च) केन्द्रीय विद्युत मंत्री	सदस्य, पदेन
(छ) केन्द्रीय विज्ञान एवं प्रौद्योगिकी मंत्री	सदस्य, पदेन
(ज) केन्द्रीय ग्रामीण विकास मंत्री	सदस्य, पदेन
(झ) केन्द्रीय पेयजल एवं स्वच्छता मंत्री	सदस्य, पदेन
(ञ) केन्द्रीय पोत परिवहन मंत्री	सदस्य, पदेन
(ट) केन्द्रीय पर्यटन राज्य मंत्री	सदस्य, पदेन
(ठ) उपाध्यक्ष, नीति आयोग	सदस्य, पदेन
(ड) मुख्यमंत्री, बिहार	सदस्य, पदेन
(ढ) मुख्यमंत्री, झारखंड	सदस्य, पदेन
(ण) मुख्यमंत्री, उत्तराखंड	सदस्य, पदेन
(त) मुख्यमंत्री, उत्तर प्रदेश	सदस्य, पदेन
(थ) मुख्यमंत्री, पश्चिम बंगाल	सदस्य, पदेन
(द) सचिव, जल संसाधन, नदी विकास और गंगा संरक्षण मंत्रालय-	सदस्य, पदेन
(ध) महानिदेशक, राष्ट्रीय स्वच्छ गंगा मिशन	सदस्य-सचिव, पदेन

(2) राष्ट्रीय गंगा परिषद सदस्य के रूप में राष्ट्रीय गंगा परिषद में प्रतिनिधित्व नहीं करने वाले ऐसे राज्य के एक अथवा एक से अधिक मुख्यमंत्रियों को शामिल कर सकती है जहां गंगा नदी की प्रमुख सहायक नदियां है, जिससे गंगा नदी के जल की गुणवत्ता प्रभावित होने की संभावना है।

(3) राष्ट्रीय गंगा परिषद यदि आवश्यक समझे तो एक अथवा अधिक केन्द्रीय मंत्रियों को भी शामिल कर सकती है।

(4) राष्ट्रीय गंगा परिषद नदी संरक्षण, नदी पारिस्थितिकी और नदी प्रबंधन, जल विज्ञान, पर्यावरण अभियांत्रिकी, सामाजिक जागरूकता के क्षेत्र में तथा अन्य संबंधित क्षेत्रों के विशेषज्ञों तथा विशेषज्ञ संगठनों अथवा संस्थानों के साथ परामर्श कर सकती है।

(5) राष्ट्रीय गंगा परिषद का मुख्यालय नई दिल्ली में अथवा ऐसे किसी अन्य स्थान पर होगा, जैसा निर्धारित किया जाए।

(6) राष्ट्रीय गंगा परिषद का सचिवालय राष्ट्रीय स्वच्छ गंगा मिशन में होगा।

(7) केन्द्र सरकार में जल संसाधन, नदी विकास और गंगा संरक्षण मंत्रालय नोडल मंत्रालय के रूप में कार्य करेगा।

13. **राष्ट्रीय गंगा नदी बेसिन प्राधिकरण का विघटन-** (1) पैराग्राफ 11 में राष्ट्रीय गंगा परिषद के गठन की तिथि को और से, जल संसाधन, नदी विकास और गंगा संरक्षण मंत्रालय, नई दिल्ली की अधिसूचना का.आ. 2539(अ), दिनांक 29 सितम्बर, 2014 के द्वारा गठित राष्ट्रीय गंगा नदी बेसिन प्राधिकरण को विघटित माना जाएगा।

(2) विघटन से पहले राष्ट्रीय गंगा नदी बेसिन प्राधिकरण द्वारा किए गए अथवा छोड़े गए सभी कार्य अथवा शुरू की गई कार्रवाई अथवा खर्च की गई अथवा खर्च किए जाने हेतु प्राधिकृत किसी राशि को इस आदेश के समान प्रावधानों के तहत किया हुआ अथवा शुरू किया जाना माना जाएगा।

14. **गंगा नदी के पर्यवेक्षण, निर्देशन और नियंत्रण का कार्य राष्ट्रीय गंगा परिषद को सौंपना-** गंगा नदी के पर्यवेक्षण, निर्देशन, विकास और नियंत्रण तथा गंगा नदी में पर्यावरण प्रदूषण के संरक्षण, रोकथाम, नियंत्रण और निवारण के लिए संपूर्ण नदी बेसिन (वित्तीय एवं प्रशासनिक मामलों सहित) तथा इसकी प्राकृतिक और मूल स्थिति का संरक्षण नदी में जल के पर्याप्त बहाव की निरंतरता और इसके साथ जुड़े मामलों के लिए राष्ट्रीय गंगा परिषद, इस आदेश में अंतर्विष्ट किसी भी बात के बावजूद, संपूर्ण रूप से जिम्मेवार मानी जाएगी।

15. **राष्ट्रीय गंगा परिषद का क्षेत्राधिकार-** गंगा नदी के संरक्षण, संरक्षा और प्रबंधन संबंधी राष्ट्रीय परिषद का क्षेत्राधिकार पैराग्राफ 2 में दिए गए क्षेत्र तक होगा।

16. **गंगा नदी के संरक्षण, संरक्षा और प्रबंधन संबंधी राष्ट्रीय परिषद की बैठक-**

(1) राष्ट्रीय गंगा परिषद अपनी बैठकों सहित अपने कार्य को करने के लिए अपनी स्वयं की प्रक्रिया का विनियमन कर सकती है।

(2) राष्ट्रीय गंगा परिषद के अध्यक्ष बैठक की अध्यक्षता करेंगे और उनकी अनुपस्थिति में राष्ट्रीय गंगा परिषद की बैठकों की अध्यक्षता उपाध्यक्ष करेंगे और इसके कार्यव्यवहार को आगे बढ़ाएंगे।

(3) उपाध्यक्ष के पास अगली बैठक में संपुष्टि के शर्ताधीन परिषद की दो बैठकों के आयोजन के बीच में परिषद के उद्देश्य को प्राप्त करने हेतु राष्ट्रीय गंगा परिषद के लिए आवश्यक निर्णय लेने की शक्ति होगी।

(4) राष्ट्रीय गंगा परिषद अपने विवेक से प्रत्येक वर्ष कम से कम एक अथवा अधिक बैठकें आयोजित कर सकती है।

17. **प्राधिकरण के रूप में गंगा नदी संबंधी अधिकार प्राप्त कार्यबल का गठन-** (1) इस आदेश को जारी करने की तिथि से अधिनियम के उद्देश्यों तथा इस आदेश और उल्लिखित अधिनियम के तहत यथा विनिर्दिष्ट शक्तियों का उपयोग करने तथा कार्यों को करने के लिए गंगा नदी संबंधी अधिकार प्राप्त कार्यबल के नाम से एक प्राधिकरण का गठन किया जाएगा।

2 गंगा नदी संबंधी अधिकार प्राप्त कार्यबल में निम्नलिखित शामिल हैं, नामत:-	
(क) केन्द्रीय जल संसाधन, नदी विकास और गंगा संरक्षण मंत्री	अध्यक्ष, पदेन
(ख) केन्द्रीय जल संसाधन, नदी विकास और गंगा संरक्षण राज्य मंत्री	उपाध्यक्ष, पदेन
(ग) सचिव, जल संसाधन, नदी विकास और गंगा संरक्षण	सदस्य, पदेन
(घ) सचिव, वित्त मंत्रालय (व्यय विभाग)	सदस्य, पदेन
(ङ) सीईओ, नीति आयोग	सदस्य, पदेन
(च) मुख्य सचिव, उत्तराखंड राज्य	सदस्य, पदेन
(छ) मुख्य सचिव, उत्तर प्रदेश राज्य	सदस्य, पदेन
(ज) मुख्य सचिव, बिहार राज्य	सदस्य, पदेन
(झ) मुख्य सचिव, झारखंड राज्य	सदस्य, पदेन
(ञ) मुख्य सचिव, पश्चिम बंगाल राज्य	सदस्य, पदेन
(ट) महानिदेशक, राष्ट्रीय स्वच्छ गंगा मिशन	सदस्य, सचिव

(3) गंगा नदी संबंधी अधिकार प्राप्त कार्यबल, एक अथवा एक से अधिक केन्द्रीय मंत्रालयों के सचिवों अथवा संबंधित अन्य किसी राज्य के मुख्य सचिव को सदस्य के रूप में शामिल कर सकती है, यदि आवश्यक समझा जाए।

(4) गंगा नदी संबंधी अधिकार प्राप्त कार्यबल अपने विवेकानुसार कम से कम प्रत्येक तीन महीने में एक अथवा इससे अधिक बैठकें आयोजित करेगा।

(5) केन्द्र सरकार, जल संसाधन, नदी विकास और गंगा संरक्षण मंत्रालय में गंगा संबंधी अधिकार प्राप्त कार्यबल को प्रशासनिक और तकनीकी सहायता उपलब्ध कराएगी और यह मंत्रालय ऐसी प्रशासनिक और तकनीकी सहायता देने के उद्देश्य हेतु नोडल मंत्रालय होगा।

(18) गंगा नदी संबंधी अधिकार प्राप्त कार्यबल के कार्य और शक्तियां-

(1) गंगा नदी संबंधी अधिकार प्राप्त कार्यबल गंगा नदी और इसकी सहायक नदियों के संरक्षण, संरक्षा और प्रबंधन से संबंधित सभी मामलों में समन्वय करेगा और सलाह देगा।

(2) खासकर और उप-पैराग्राफ (1) के प्रावधानों के पूर्वाहग्रह के बिना गंगा नदी संबंधी अधिकार प्राप्त कार्यबल के कार्य और शक्तियों में गंगा नदी के संरक्षण, सुरक्षा और प्रबंधन से संबंधित निम्नलिखित मामलों में से सभी अथवा किसी एक के संबंध में उपायों को शामिल किया जा सकता है। अर्थात्-

(क) यह सुनिश्चित करना कि संबंधित मंत्रालय, विभागों और राज्य सरकारों के पास-

(i) गंगा नदी के संरक्षण और परिरक्षण के उद्देश्य को प्राप्त करने के लिए खास गतिविधियों, उद्देश्यों और समयबद्धता सहित एक कार्य योजना है

(ii) इसकी कार्य योजनाओं के कार्यान्वयन की निगरानी हेतु एक तंत्र है

(ख) समयबद्ध आधार पर इसकी कार्य योजनाओं के कार्यान्वयन के लिए संबंधित मंत्रालयों, विभागों और राज्य सरकारों के वीच समन्वय।

(ग) कार्यान्वयन प्रक्रिया की निगरानी, बाधाओं को को दूर करना, शीघ्र कार्यान्वयन सुनिश्चित करने के लिए आवश्यक सुझाव और निर्णय लेना।

(घ) घरेलू और विदेशी सहायता के माध्यम से वित्त पोषित परियोजनाओं सहित नमामि गंगे

(ङ) गंगा नदी के संरक्षण और संरक्षा तथा प्रबंधन के उद्देश्य को प्राप्त करने के लिए यथा आवश्यक समझे गए ऐसे अन्य कार्यों को करना अथवा यथा आवश्यक समझी गई शक्तियों का प्रयोग करना अथवा केन्द्र सरकार द्वारा सौंपा गया हो अथवा राष्ट्रीय गंगा परिषद द्वारा विनिर्दिष्ट कार्यों को करना।

19. एक हजार करोड़ रूपए के मूल्य से अधिक की परियोजनाओं के लिए अनुमोदन

(1) गंगा नदी संबंधी अधिकार प्राप्त कार्यबल, एक हजार करोड़ रूपए के मूल्य से अधिक की प्रत्येक परियोजना के अनुमोदन हेतु जिम्मेवार होगा, समय-समय पर यथा संशोधित।

(2). गंगा नदी संवंधी अधिकार प्राप्त कार्यबल उप-पैराग्राफ (1) के उद्देश्य हेतु इनके सदस्यों के वीच एक अधिकारियों की उप-समिति गठन कर सकता है।

20. विनिर्दिष्ट राज्य गंगा संरक्षण संरक्षा एवं प्रबंधन समितियों का प्राधिकरणों के रूप में गठन तथा इनका संघठन- इस आदेश के लागू होने की तारीख से पैरा 2 में दिए गए अनुसार प्रत्येक राज्य में राज्य गंगा संरक्षण, संरक्षा एवं प्रबंधन समिति नामक एक प्राधिकरण गठित किया जाएगा। जिसमें इस आदेश तथा अधिनियम विनिर्दिष्ट शक्तियों का प्रयोग करने तथा कार्यों का निष्पादन करने के लिए अनुसूची में विनिर्दिष्ट किए गए अनुसार एक अध्यक्ष और सदस्य शामिल होंगे।

21. राज्य गंगा समिति की बैठकें– (1) प्रत्येक विनिर्दिष्ट राज्य गंगा समिति अपनी बैठकों सहित अपने कार्यों को करने के लिए अपनी स्वयं की प्रक्रिया का विनियमन कर सकती है।

(2) प्रत्येक राज्य गंगा समिति 3 महीने की अवधि में कम से कम अपनी एक बैठक करेगी।

(3) विनिर्दिष्ट राज्य गंगा समिति के अध्यक्ष इसकी बैठकों की अध्यक्षता करेंगे और उनकी अनुपस्थिति में उल्लिखित समिति अपना उपाध्यक्ष का चुनाव करेंगे, जो विनिर्दिष्ट राज्य गंगा समिति की वैठकों की अध्यक्षता करेंगे और इसके कार्य व्यवहार को आगे बढ़ाएंगे।

22. समिति का अधीक्षण, निर्देशन एवं नियंत्रण- गंगा नदी और इसकी सहायक नदियों में संरक्षण, संरक्षा पर्यावरणीय प्रदूषण की रोकथाम, नियंत्रण एवं कमी लाने के उद्देश्य से इस आदेश में किए गए किसीभी प्रावधान के बावजूद जिला गंगा समितियों का अधीक्षण निर्देशन एवं नियंत्रण राज्य गंगा समिति के पास होगा जिससे गंगा नदी प्राकृतिक एवं मूल स्थिति का संरक्षण किया जा सके और संबंधित राज्यों में गंगा नदी के सरक्षण एव प्रबधन के लिए गंगानदी में जल का सतत एव पर्याप्त प्रवाह सुनिश्चित किया जा सके।

23. राज्य समिति के निर्णय बाध्यकारी होंगे--- विनिर्दिष्ट राज्य गंगा समिति की बैठकों में लिए गए निर्णय इस आदेश में निहित किसी भी मामले के वावजूद प्रत्येक जिला गंगा समिति और प्रत्येक स्थानीय प्राधिकरण अथवा अन्य प्राधिकरण अथवा वोर्ड अथवा ऐसे निर्णय में संदर्भित व्यक्ति पर लागू होंगे और वे राज्य गंगा समिति के निर्णयों का अनुपालन करेंगे।

24. राज्य गंगा समितियों के अधिकार, कर्तव्य और कार्य- (1) प्रत्येक राज्य गंगा समिति को इस अधिनियम के प्रावधानों तथा उसके तहत बनाए गए नियमों अथवा उसके तहत जारी निर्देशों तथा इस आदेश के प्रावधानों में निर्धारित नियमों के शर्ताधीन पैरा 6, 7 और 8 में उल्लिखित उपायों सहित ऐसे सभी उपायों जो वह गंगा नदी में प्रभावी प्रदूषण निवारण और नदी के संरक्षण हेतु तथा राष्ट्रीय गंगा परिषद तथा राष्ट्रीय स्वच्छ गंगा मिशन के निर्णयों को लागू करने हेतु आवश्यक अथवा अनिवार्य समझे, को करने का अधिकार होगा।

(2) राज्य गंगा समिति राष्ट्रीय गंगा परिषद और राष्ट्रीय स्वच्छ गंगा मिशन द्वारा विभिन्न कार्यक्रम और परियोजनाएं कार्यान्वित करेगी।

(3) विशेषकर और उप-पैरा (1) और (2) के प्रावधानों की सामान्यता के पूर्वाग्रह के बिना इन उपायों में निम्नलिखित सभी अथवा इनमें से कोई मामला शामिल किया जा सकता है अर्थात्:-

(क) सीवरेज अवसंरचना के संवर्धन, आवाह क्षेत्र सुधार, बाढ़ मैदानों की सुरक्षा, जन जागरूकता फैलाने तथा राज्य स्तरीय अन्य उपायों और गंगा नदी में उसकी जल गुणवत्ता बरकरार करने के लिए उसमें प्रदूषण निवारण, नियंत्रण और कम करने सहित गंगा नदी के संरक्षण संबंधी कार्यों का समन्वय और कार्यान्वयन, तथा नदी इकोलॉजी और संबंधित राज्य में प्रबंधन संबंधी अन्य उपाय करना;

(ख) संबंधित राज्य में नदी बेसिन प्रबंधन योजना का कार्यान्वयन

(ग) संबंधित राज्य में गंगा नदी में न्यूनतम इकोलॉजी प्रवाह को बरकरार रखना और तत्संबंधी कार्य।

(घ) इस आदेश के तहत अपने अधिकारों के प्रयोग और कार्यों के निष्पादन हेतु अधिनियम की धारा 10 के अंतर्गत प्रवेश एवं निरीक्षण तथा धारा 11 के अंतर्गत नमूना लेने का अधिकार;

(4) राज्य गंगा समिति को पैरा 7 में रेखांकित मुद्दों पर निर्देश देने का अधिकार होगा।

(5) राज्य गंगा समिति को पैरा समिति को अधिनियम की धारा 5 के तहत निर्देश देने का अधिकार होगा।

(6) राज्य गंगा समिति के अधिकार और कार्य अधिनियम, के प्रावधानों के अनुरूप न होते पर, किसी केन्द्रीय अथवा राज्य अधिनियम के तहत राज्य सरकार को सौंपे गए किसी अधिकार के पूर्वाग्रह से मुक्त होंगे।

25. जिला गंगा समितियों की योजनाओं और कार्यक्रमों के निष्पादन की निगरानी- प्रत्येक विनिर्दिष्ट राज्य गंगा समिति अपनी सभी जिला गंगा सुरक्षा समितियों तथा अन्य प्राधिकारियों की योजनाओं, कार्यक्रमों और परियोजनाओं के निष्पादन की निगरानी करेगी और तत्संबंधी प्रगति रिपोर्ट राष्ट्रीय स्वच्छ गंगा मिशन को सौंपेगी।

26. सभी जिला गंगा समितियों की समेकित रिपोर्टें तैयार करना और तत्संबंधी सुधारात्मक उपाय करना--- (i) प्रत्येक राज्य गंगा समिति सभी जिला गंगा सुरक्षा समितियों, स्थानीय प्राधिकरणें अथवा अन्य प्राधिकरणों अथवा बोर्ड अथवा निगम अथवा व्यक्ति द्वारा प्रस्तुत प्रत्येक तिमाही की समेकित रिपोर्ट तैयार करेगी जिसमें गंगा नदी और उसकी सहायक नदियों की सीमा में आने वाले प्रत्येक विनिर्दिष्ट जिले का उल्लेख होगा।

(क) उनके द्वारा कार्यान्वित की जा रही योजनाओं की स्थिति और उनके द्वारा किए गए उपाय तथा गंगा नदी और उसकी सहायक नदियों की दशा के निपटन में कोई अन्य कार्य;

(ख) प्रत्येक विनिर्दिष्ट जिले में गंगा नदी और उसकी सहायक नदियों में जल गुणवत्ता तथा तत्संबंधी सुधारात्मक कार्रवाई;

(ग) प्रत्येक विनिर्दिष्ट जिले में गंगा नदी में प्रवाह में कोई अवरोध तथा तत्संबंधी कारण;

(घ) जिला गंगा समिति अथवा स्थानीय प्राधिकरणों अथवा अन्य प्राधिकारियों को की गई शिकायतों के समाधान के लिए किए गए उपाय;

(ङ) प्रत्येक विनिर्दिष्ट जिले में गंगा सुरक्षा लेखापरीक्षा द्वारा की गई कोई प्रतिकूल रिपोर्ट;

(च) गंगा नदी उसकी सहायक नदियों की दशा के संबंध में कोई अन्य सूचना।

(2) उप-पैरा (1) में उल्लिखित रिपोर्ट तत्संबंधी सुधारात्मक उपायों सहित वर्ष की समाप्ति के एक माह के भीतर राष्ट्रीय स्वच्छ गंगा मिशन को सौंपी जाएगी।

27. गंगा सुरक्षा लेखा परीक्षा का आयोजन और राज्य समितियों द्वारा ऐसी लेखा परीक्षा रिपोर्ट प्रस्तुत करना--- (1) राज्य गंगा समितियों का यह कर्तव्य होगा कि वे जिला गंगा सुरक्षा समितियों द्वारा गंगा लेखा परीक्षा की रिपोर्ट तत्संबंधी की गई सुधारात्मक कार्रवाई सहित राष्ट्रीय स्वच्छ गंगा मिशन को प्रस्तुत करें तथा उसे सार्वजनिक क्षेत्र में उपलब्ध भी कराएं और अपनी वेबसाइट पर भी दर्शाएं।

(2) गंगा सुरक्षा लेखा परीक्षा में ये विवरण शामिल किए जाएंगे और राष्ट्रीय स्वच्छ गंगा मिशन द्वारा जारी अधिसूचना के अनुसार विनिर्दिष्ट अंतरालों (इस आदेश में उल्लिखित अन्यथा सुरक्षित) पर यथा निर्धारित ढंग से लेखा परीक्षा की जाएगी।

28. राज्य गंगा समिति का नोडल अभिकरण होना--- राज्य गंगा समिति, राज्य में इस आदेश के प्रावधानों के कार्यान्वयन तथा गंगा नदी और उसकी सहायक नदियों में प्रदूषण के प्रभावी निवारण तथा नदी का संरक्षण, सुरक्षा एवं प्रबंधन के लिए राज्य व्यापी नोडल अभिकरण होगी।

29. राष्ट्रीय गंगा परिषद तथा राष्ट्रीय स्वच्छ गंगा मिशन के निर्देश राज्य गंगा समिति पर बाध्यकारी होंगे---- प्रत्येक राज्य गंगा समिति इस आदेश के प्रावधानों को अनदेखा करने के पूर्वाग्रह के बिना इस आदेश के तहत अपने अधिकारों का प्रयोग अथवा कार्यों का निष्पादन करते समय वह ऐसे निर्णयों अथवा निर्देशों (तकनीकी और प्रशासनिक मामलों से संबंधित होने वाले निर्देशों सहित) जो राष्ट्रीय परिषद तथा राष्ट्रीय स्वच्छ गंगा मिशन समय-समय पर गंगा नदी में प्रदूषण निवारण तथा उसके संरक्षण, सुरक्षा एवं प्रबंधन के लिए उसे लिखित में दिए जाएं, का पालन करेगी।

30. राज्य गंगा नदी संरक्षण प्राधिकरणों और राज्य कार्यकारी समितियों का विघटन— (1) राज्य गंगा समितियों के गठन की तारीख से, इस आदेश के लागू होने से पहले गठित संबंधित गठित संबंधित राज्य गंगा नदी संरक्षण प्राधिकरणों के साथ-साथ राज्य कार्यकारी समितियों को विघटित हो गया माना जाएगा।

(2) ऐसे विघटन से पहले, उप-पैराग्राफ (1) के अंतर्गत प्राधिकरणों और समितियों द्वारा किए गए अथवा हटा दिए जाने वाले सभी कार्यों अथवा की गई कार्रवाई अथवा खर्च की गई राशि अथवा खर्च के लिए प्राधिकृत राशि को निष्पादन कर लिया माना जाएगा अथवा इस आदेश के संगत प्रापधानों के तहत ले लिया गया माना जाएगा।

31. एक प्राधिकरण के रूप में राष्ट्रीय स्वच्छ गंगा मिशन का गठन- (1) इस आदेश के लागू होने के तारीखसे सोसाइटी पंजीकरण अधिनियम, 1860 (1860 का 21) के अंतर्गत पंजीकृत एक सोसाइटी राष्ट्रीय स्वच्छ गंगा मिशन अधिनियम के उद्देश्य से और इस आदेश तथा अधिनियम और इसके तहत बनाए गए नियमों अथवा जारी किए गए निर्देशों के अंतर्गत विनिर्दिष्ट किए गए अनुसार शक्तियों का प्रयोग करने तथा कार्यो का निष्पादन के करने के लिए इस अधिनियम के अंतर्गत इसी नाम से गठित एक प्राधिकरण होगा।

(2) राष्ट्रीय स्वच्छ गंगा मिशन का संघटन पैरा 35 में दिए गए अनुसार होगा।

32. **राष्ट्रीय स्वच्छ गंगा मिशन के प्रचालन का क्षेत्र-** राष्ट्रीय स्वच्छ गंगा मिशन के प्रचालन का क्षेत्र पैराग्राफ 2 में रूपरेखा दिया गया क्षेत्र होगा ।

33. **राष्ट्रीय स्वच्छ गंगा मिशन नोडल एजेंसी होगा ---** इस आदेश के प्रावधानों के राष्ट्र व्यापी कार्यान्वयन तथा प्रदूषण के प्रभावी उपशमन और गंगा नदी तथा उसकी उप-नदियों के पुनरूद्धार, संरक्षण और प्रबंधन के लिए राष्ट्रीय स्वच्छ गंगा मिशन एक नोडल एजेंसी होगा ।

34. एक अधिकार प्राप्त संगठन के रूप में राष्ट्रीय स्वच्छ गंगा मिशन- राष्ट्रीय स्वच्छ गंगा मिशन दो स्तरीय प्रबंधन के साथ एक अधिकार प्राप्त संगठन होगा जिसके पास इस आदेश में विनिर्दिष्ट किए गए अनुसार प्रशासनिक, मूल्यांकन एवं अनुमोदन की शक्तियां होंगी और कर्तव्य कार्य तथा शक्तियां होगी।

35. **राष्ट्रीय स्वच्छ गंगा मिशन का संघटन:-** राष्ट्रीय स्वच्छ गंगा मिशन टू-टीयर निगरानी संरचना होगी और इसमें गर्वनिंग परिषद और कार्यकारी समितियां शामिल होंगी

(1) गवर्निंग परिषद में निम्नलिखित सदस्य शामिल होंगे नामत:

(क)	राष्ट्रीय स्वच्छ गंगा मिशन के महा निदेशक	अध्यक्ष पदेन
(ख)	संयुक्त सचिव, जल संसाधन, नदी विकास और गंगा संरक्षण मंत्रालय	सदस्य पदेन
(ग)	संयुक्त सचिव, शहरी विकास मंत्रालय	सदस्य पदेन
(घ)	संयुक्त सचिव, पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय	सदस्य पदेन
(ङ)	संयुक्त सचिव, व्यय विभाग	सदस्य पदेन
(च)	नीति आयोग के प्रतिनिधि (संयुक्त सचिव के स्तर से कम कम न हो)	सदस्य पदेन
(छ)	अध्यक्ष, केन्द्रीय प्रदूषण नियंत्रण बोर्ड	सदस्य पदेन
(ज)	प्रधान सचिव, शहरी विकास, बिहार सरकार	सदस्य पदेन
(झ)	प्रधान सचिव, शहरी विकास, झारखंड सरकार	सदस्य पदेन
(ञ)	प्रधान सचिव, शहरी विकास, उत्तर प्रदेश सरकार	सदस्य पदेन
(ट)	प्रधान सचिव, पेयजल, उत्तराखंड सरकार	सदस्य पदेन
(ठ)	प्रधान सचिव, शहरी विकास, पश्चिम बंगाल सरकार	सदस्य पदेन
(ड)	ऐक्जीक्यूटिव ऑफिसर (डिप्टी डीजी), राष्ट्रीय स्वच्छ गंगा मिशन	सदस्य पदेन
(ढ)	ऐक्जीक्यूटिव डायरेक्टर (तकनीकी), राष्ट्रीय स्वच्छ गंगा मिशन	सदस्य पदेन
(ण)	ऐक्जीक्यूटिव डायरेक्टर (वित्त), राष्ट्रीय स्वच्छ गंगा मिशन	सदस्य पदेन
(त)	ऐक्जीक्यूटिव डायरेक्टर (परियोजना), राष्ट्रीय स्वच्छ गंगा मिशन	सदस्य पदेन
(थ)	ऐक्जीक्यूटिव डायरेक्टर (प्रशासन), राष्ट्रीय स्वच्छ गंगा मिशन	सदस्य-सचिव

(2) गर्वनिंग परिषद में से गठित की गई कार्यकारिणी समिति में निम्नलिखित सदस्य शामिल होंगे नामत:-

(क) महानिदेशक, राष्ट्रीय स्वच्छ गंगा मिशन-अध्यक्ष पदेन

(ख) संयुक्त सचिव, व्यय विभाग-सदस्य पदेन

(ग) नीति आयोग के प्रतिनिधि (संयुक्त सचिव के स्तर का) -सदस्य पदेन

(घ) संबंधित राज्य (राज्यों) के प्रधान सचिव-सदस्य पदेन

(ङ) ऐक्जीक्यूटिव अधिकारी (डिप्टी डीजी), राष्ट्रीय स्वच्छ गंगा मिशन - सदस्य पदेन

(च) ऐक्जीक्यूटिव डायरेक्टर (वित्त) -सदस्य पदेन

(छ) ऐक्जीक्यूटिव डायरेक्टर (तकनीकी) -सदस्य पदेन

(ज) ऐक्जीक्यूटिव डायरेक्टर (परियोजनाएं) -सदस्य पदेन

(3) महानिदेशक, राष्ट्रीय स्वच्छ गंगा मिशन यदि आवश्यक समझते हैं तो कार्यकारी समिति, गर्वनिंग परिषद के अन्य कोई सदस्य के साथ काम कर सकते है।

(4) गर्वनिंग परिषद अपने सदस्यों में से एक उप-समिति का गठन कर सकती है और परियोजना के मूल्यांकन हेतु कुछ तकनीकी विशेषज्ञों के साथ भी कार्य कर सकते हैं।

(5) संबंधित राज्यों के प्रतिनिधि उप-समिति के सदस्य होंगे।

(6) गवर्निंग काउंसिल के पास आधे सदस्यों का कोरम होना चाहिए ।

36. (1) 1000 करोड़ रूपये तक के सभी अनुमोदन ईसी में निहित होंगे । इसके बदले में ईसी तीन महीने में कम से कम एक बार जीसी को रिपोर्ट करेंगे ।

(2) तकनीकी विशेषज्ञों/या मान्यता प्राप्त संस्थाना या भारतीय तकनीकी संस्थानों के कंसॉर्टियम द्वारा परियोजना के तृतीय पक्ष मूल्यांकन के पूर्ण होने के पश्चात जीसी की उप समिति परियोजना का मूल्यांकन करेगी ।

(3) तृतीय पक्ष, तकनीकी मूल्यांकन उनके मूल्य को ध्यान में न रखते हुए सभी परियोजनाओं के लिए होगा ।

37. राष्ट्रीय स्वच्छ गंगा मिशन के महानिदेशक और कार्यकारी निदेशक की नियुक्ति

(1) राष्ट्रीय स्वच्छ गंगा मिशन के महानिदेशक की नियुक्ति केन्द्र सरकार द्वारा की जाएगी। महानिदेशक का पद भारत सरकार के अपर सचिव अथवा सचिव के समकक्ष होगा। नियुक्ति की शर्तें केन्द्र सरकार द्वारा निर्धारित की जाएंगी।

(2) कार्यकारी निदेशक, वित्त की नियुक्ति निर्धारित भर्ती नियमों के अनुसार प्रतिनियुक्ति के आधार पर केन्द्र सरकार की संगठित लेखा सेवाओं के अधिकारियों में से की जाएगी जिसका पद भारत सरकार के संयुक्त सचिव के समकक्ष होगा।

(3) राष्ट्रीय स्वच्छ गंगा मिशन में प्रशासन और परियोजनाओं के लिए अलग-अलग कार्यकारी निदेशक का कम से कम एक पद होगा जिसका ओहदा भारत सरकार के संयुक्त सचिव के समकक्ष।

(4) कार्यकारी निदेशको में से एक को राष्ट्रीय स्वच्छ गंगा मिशन को उप महानिदेशक के रूप में पदनामित किया जाएगा, जिसकी नियुक्ति केन्द्र सरकार द्वारा की जाएगी।

(5) कार्यकारी समिति को कोई भी मनोनीत सदस्य का स्तर भारत सरकार के संयुक्त सचिव की श्रेणी से कम नहीं होगा।

38. (1) राष्ट्रीय स्वच्छ गंगा मिशन के कर्त्तव्य : राष्ट्रीय स्वच्छ गंगा मिशन के निम्नलिखित कर्त्तव्य होंगे-

(i) इस आदेश के पैराग्राफ 5 में दिए गए सिद्धांतों और उसमें दिए गए प्रावधानों का अनुसरण करना,

(ii) राष्ट्रीय गंगा परिषद के निर्णयों और निदेशों का अनुपालन करना और इसके द्वारा अनुमोदित गंगा बेसिन प्रबंधन योजना का राष्ट्रीय गंगा परिषद के निर्देशानुसार कार्यान्वयन करना,

(iii) समयबद्ध तरीके से नदी गंगा परिषद के पुनरूद्धार और संरक्षण के लिए सभी कार्यकलापों को समन्वित करना ।

(iv) सभी अन्य कार्य करना अथवा कुछ कार्यों को नहीं करना जो गंगा नदी और इसकी उप नदियों के पुनरूद्धार और संरक्षण के लिए आवश्यक हों ।

39. राष्ट्रीय स्वच्छ गंगा मिशन के कार्य..... (1) इस आदेश के प्रावधानों के पूर्वाग्रह के बिना राष्ट्रीय स्वच्छ गंगा मिशन निम्नलिखित की पहचान करेगी अथवा पहचान का कारण बनेगी ।

(क) सीवरेज और औद्योगिक अपशिष्ट, शवों को जलाने और गाड़ने तथा पशुओं के अवशेषों के निपटान और वाणिज्यिक, मनोरंजन और धार्मिक कार्यकलापों से खतरे सहित गंगा और उसकी उप नदियों के पास जिले के प्रत्येक गांव और कस्बे में गंगा नदी के लिए विशिष्ट खतरे ।

(ख) गंगा नदी और इसकी उप-नदियों के पास ऐसे सभी जिलों के प्रत्येक गांव और कस्बे में प्रत्येक गांव में ऐसे खतरों का सामना करने के लिए अपेक्षित उपायों के प्रकार ।

(ग) वे विशिष्ट क्षेत्र जहां गंगा नदी और इसकी उप-नदियों के संरक्षण और संरक्षा के लिए ऐसे उपचारात्मक कार्रवाई की जानी अपेक्षित है ।

(घ) वे उपाय, जो शोधित जल के पुन: उपयोग के लिए आवश्यक होंगे तथा केन्द्र सरकार के मंत्रालयों जैसे रेलवे, पॉवर और पेट्रोलियम, प्राकृतिक गैस आदि राज्य सरकारों, केन्द्र और राज्य सरकार के स्वायत्त निकायों, मान्यता प्राप्त संस्थानों और सभी अन्य संगठनों के साथ समझौता ज्ञापन करना, जो राष्ट्रीय स्वच्छ गंगा मिशन सही समझे ।

(2) राष्ट्रीय स्वच्छ गंगा मिशन, गंगा नदी और इसकी उप-नदियों के पास ऐसे विनिर्दिष्ट जिलों के प्रत्येक गांव और कस्बे में गंगा नदी और इसकी उप-नदियों के संरक्षण और संरक्षा के लिए अन्य वस्तुओं में लागत, समयबद्धता और उत्तरदायित्वों के आवंटन के साथ गंगा नदी बेसिन प्रबंधन योजना बनाएगा अथवा बनाने का कारण, बनेगा और इसके लिए परियोजनाओं का कार्यान्वयन करेगा।

(3) राष्ट्रीय स्वच्छ गंगा मिशन निम्नलिखित कार्य करेगा :-

(क) जल गुणवत्ता सुनिश्चित करने तथा पर्यावरण रूप से स्थायी संरक्षण, गंगा नदी और उसकी उप-नदियों का संरक्षण और प्रबंधन और इसे अधिसूचित करना तथा पर्याप्त पारिस्थितिकीय प्रवाह को बनाए रखने के लिए आवश्यक सभी उपायों को लेने अथवा निर्देशित करने के लिए सभी समयों पर विभिन्न क्षेत्रों में विभिन्न बिंदुओं पर रखे जाने के लिए अपेक्षित गंगा नदी और उसकी उप-नदियों में पारिस्थितिकीय प्रवाह और परिणाम के निर्धारण का कारण बनेगा ।

(ख) ऐसे स्थानों को पहचानने का कारण बनना; जहां गंगा नदी के जल के पर्यावरणीय प्रवाह को आशोधित किया गया है तथा इसके सुधार के लिए उपाय करना ताकि गंगा नदी और इसकी उप-नदियों के संरक्षण, संरक्षा और प्रबंधन के लिए जल के सतत प्रवाह को बनाए रखा जा सके ।

(ग) जल के इंजीनियर्ड डाइवर्जन अथवा जल के भंडारण अथवा किसी अन्य साधन के कारण गंगा नदी और इसकी उप-नदियों में जल के अंतराल के स्थान पहचानना और इनके संबंध में योजनाएं लागू करना अथवा इसके लिए उपचारात्मक कार्रवाई करना ।

(घ) गंगा नदी और इसकी उप-नदियों में जल के प्रवाह और प्रदूषण के स्तर की लगातार निगरानी करने के लिए एक प्रणाली तैयार करना ।

(ड.) ऐसे सभी उपाय करना, जो राष्ट्रीय गंगा परिषद के निर्णय को लागू करने के लिए आवश्यक हों ताकि गंगा नदी और इसकी उप-नदियों में पर्याप्त पारिस्थितिकीय प्रवाह बनाये रखा जा सके ।

(च) राज्य सरकारों, विशिष्ट राज्य गंगा समितियों, विनिर्दिष्ट जिला गंगा समितियों अथवा स्थानीय प्राधिकारियों अथवा किसी व्यक्ति अथवा निकाय, किसी प्राधिकरण, बोर्ड या निगम को प्रदूषण के उपशमन और संरक्षण गंगा नदी और इसकी उप-नदियों के संरक्षण और प्रबंधन के लिए विस्तृत परियोजना रिपोर्ट तैयार करने अथवा परियोजनाओं के कार्यान्वयन के लिए किसी एजेंसी द्वारा सहायता प्रदान करना अथवा सहायता का कारण बनना ।

(छ) प्रदूषण के उपशमन तथा गंगा नदी और इसकी उप-नदियों के संरक्षण, संरक्षा और प्रबंधन के संबंध में ज्ञान आधार तथा विश्लेषणात्मक उपकरणों के शोध, विकास और प्रसार के लिए एक या अधिक मौजूदा केंद्रों की स्थापना करना या स्थापना को सुकर बनाना अथवा नामोद्दिष्ट और निर्देशित करना ।

(ज) कोई अन्य उपाय करना, जो जल के सतत प्रवाह और गंगा और इसकी उप-नदियों में प्रदूषण के उपशमन के लिए आवश्यक हो ।

(4) राष्ट्रीय स्वच्छ गंगा मिशन पैराग्राफ 7 में बनाए गए सभी ऐसे अन्य आपात उपाय करेगा ।

40. गंगा नदी और इसकी उप-नदियों के किनारे किसी उपयुक्त स्थान पर गंगा नदी मॉनीटरिंग केन्द्र की स्थापना------ राष्ट्रीय स्वच्छ गंगा मिशन गंगा नदी बेसिन से स्थानों को पहचानेगा अथवा ऐसे स्थानों पर स्थापना करेगा अथवा किसी मौजूदा प्रयोगशाला अथवा केन्द्र अथवा संस्थान को केन्द्र के रूप में नामोद्दिष्ट करेगा जिसे 'रिवर गंगा मॉनीटरिंग सेंटर' कहा जाएगा, जो अन्य बातों में इस आदेश के अंतर्गत यथापेक्षित जल के लगातार प्रवाह और प्रदूषण के स्तर को मॉनीटर करेंगे और वहां उपचारात्मक कार्रवाई करने के लिए राष्ट्रीय स्वच्छ गंगा मिशन को तुरंत रिपोर्ट करेंगे ।

41. राष्ट्रीय स्वच्छ गंगा मिशन की शक्तियां-------- (1) राष्ट्रीय गंगा परिषद के पर्यवेक्षण और निदेश के अंतर्गत गंगा नदी और उसकी उप-नदियों के संरक्षण, संरक्षा और प्रबंधन के कार्य को सुकर बनाने की भूमिका, उत्तरदायित्व और शक्तियों से युक्त राष्ट्रीय एजेंसी होने के कारण राष्ट्रीय स्वच्छ गंगा मिशन गंगा नदी के संरक्षण, संरक्षा और प्रबंधन के लिए राष्ट्रीय परिषद अथवा केन्द्र सरकार को सिफारिश करेगा अथवा स्वयं ही राज्य गंगा समितियों अथवा जिला गंगा समितियों अथवा स्थानीय प्राधिकरण अथवा किसी अन्य प्राधिकरण अथवा किसी व्यक्ति संस्था, समूह अथवा एजेंसी को अपने निर्णयानुसार निदेश जारी करेगा तथा इसके पास ऐसे सभी उपाय करने और कार्य करने की शक्तियां होंगी, जो यह गंगा नदी तथा इसकी उप-नदियों में पर्यावरणीय प्रदूषण के निषेध, नियंत्रण और उपशमन के लिए आवश्यक अथवा उचित समझे, जिनसे गंगा नदी को इसकी प्राकृतिक तथा पुरातन स्थिति तक संरक्षित किया जा सके तथा गंगा नदी तथा इससे संबंधित मामलों के संरक्षण और प्रबंधन के लिए गंगा नदी में जल के सतत तथा पर्याप्त प्रवाह को सुनिश्चित किया जा सके ।

2. विशेष रूप से तथा उप-पैराग्राफ 1 के प्रावधानों की सामान्यतया के पूर्वाग्रह के बिना तथा इस आदेश में यथा अन्यथा उपबंधित ऐसे निदेश गंगा नदी के प्रबंधन के सभी अथवा किसी मामले को शामिल कर सकती है, नामत:-

(क) पैराग्राफ 4 में दिए गए सिद्धांतों के अनुसार में इस आदेश के पैराग्राफ 55 में उल्लिखित कार्यों को पूरा करना;

(ख) केन्द्र सरकार के अनुमोदन से प्रदूषण के उपशमन तथा गंगा नदी के संरक्षण, संरक्षा और प्रबंधन के लिए राष्ट्रीय नीति बनाना ।

(ग) गंगा नदी और इसकी उप-नदियों में संरक्षण, संरक्षा, प्रदूषण के निषेध, नियंत्रण और उपशमन के लिए गंगा बेसिन प्रबंधन योजना के प्रभावी कार्यान्वयन के लिए केन्द्र सरकार के अनुमोदन से किसी देश अथवा विदेशी एजेंसी के साथ समझौता ज्ञापन करना ।

(घ) आशोधनों के साथ अथवा उसके बिना नदी गंगा बेसिन प्रबंधन योजना को अनुमोदित करना और सीधे संशोधन, यदि कोई हो, उस पर करना;

(ड.) प्रगति रिपोर्ट का पर्यवेक्षण करना, समीक्षा करना और राज्य गंगा समितियों, जिला गंगा संरक्षण समितियों अथवा स्थानीय प्राधिकरणों और अन्य प्राधिकरणों को बुनियादी प्रबंधन योजना और गंगा नदी और इसकी उप-नदियों के मामलों से संबंधित किसी अन्य मामले पर निर्देश जारी करना ।

(च) सीवरेज के बढ़ने और बहिस्राव शोधन अवसंरचना, आवाह क्षेत्र उपचार, बाढ़ मैदानों के संरक्षण, जन-जागरूकता सृजन करना, जलीय और राइपेरियन जीवन और जैव विविधता के संरक्षण और पर्यावरणीय रूप से स्थायी नदी संरक्षण के संवर्धन के लिए ऐसे अन्य उपायों सहित गंगा नदी में प्रदूषण के उपशमन के लिए कार्यक्रमों की योजना बनाना, वित्तपोषण और कार्यान्वयन अनुमोदित करना ।

(छ) प्रदूषण के निषेध, नियंत्रण और उपशमन तथा गंगा नदी और इसकी उप-नदियों के संरक्षण और प्रबंधन के लिए आरंभ किए गए विभिन्न कार्यक्रमों अथवा कार्यकलापों के कार्यान्वयन का समन्वय, मॉनीटरिंग और समीक्षा करना ।

(ज) नदी की पारिस्थितिकी को पुन: बहाल करने और नदी गंगा बेसिन राज्यों के प्रबंधन से संगत उपायों को करने के लिए किसी व्यक्ति अथवा प्राधिकरण को निर्देश देना ।

(झ) स्पेशल पर्पज वेहिकल के सृजन के लिए केन्द्र सरकार को सिफारिश करना (चाहे कंपनी अधिनियम, 2013 (2013 का 18) अथवा सोसाइटी पंजीकरण अधिनियम, 1860 (1860 का 21) के अंतर्गत एक कंपनी के रूप में अथवा भारतीय न्यास अधिनियम, 1882 (1882 का 2) के अधीन एक न्यास के रूप में) जैसाकि इस आदेश अथवा उक्त आदेश के प्रयोजन के कार्यान्वयन के लिए उपयुक्त हो ।

(ञ) प्रदूषण के प्रभावी निषेध, नियंत्रण और उपशमन, गंगा नदी और इसकी उप-नदियों में संरक्षण और संरक्षा और प्रबंधन को सुनिश्चित करने के लिए नीति और कार्य के बेहतर समन्वय के लिए ऐसे उपाय करना, जिसे आवश्यक समझा जाए ।

(ट) परियोजनाओं के उपयुक्त तथा शीघ्र कार्यान्वयन के लिए किसी संगत व्यक्ति अथवा प्राधिकारी को ऐसे निदेश जारी करना अथवा ऐसी परियोजनाओं को निरस्त करना अथवा निधियों के जारी रखने को रोकना अथवा पहले से जारी की गई धनराशि को सीधे रिफंड करना और किसी अन्य व्यक्ति अथवा बोर्ड अथवा कॉरपोरेशन को इसे शीघ्र कार्यान्वयन हेतु सौंपना ।

(ठ) पहले से जारी किसी भी कानून के प्रति पूर्वाग्रह रखे बिना लेखों या अन्य दस्तावेजों के रख-रखाव से किसी संबंधित या प्राधिकरण को निर्देश देना जैसा कि राष्ट्रीय स्वच्छ गंगा मिशन द्वारा विनिर्दिष्ट किया जाए;

(ड) ऐसे अन्य उपाय करना जो कि गंगा नदी और उसकी सहायक नदियों में प्रदूषण के बचाव, नियंत्रण और उपशमन की उपलब्धि, संरक्षण और निवारण और प्रबंधन के लिए आवश्यक है;

(3) राष्ट्रीय स्वच्छ गंगा मिशन को मुद्दों पर निर्देशों को जारी करने की शक्ति होगी जोकि अधिनियम की धारा 5 में निर्धारित किए गए हैं।

(4) राष्ट्रीय स्वच्छ गंगा मिशन अपने निर्णयों के कार्यान्वयन हेतु तथा राष्ट्रीय गंगा परिषद के निर्णयों के लिए उपयुक्त प्रणाली तैयार करे।

(42) कतिपय मामलों में पूर्व अनुमोदन देना---- प्रत्येक व्यक्ति राज्य गंगा समितियां, जिला गंगा संरक्षण समितियां और स्थानीय प्राधिकरण तथा अन्य प्राधिकारी गंगा नदी से संबंधित तथा गंगा नदी या इसकी सहायक नदियों के दायरे में आने वाले क्षेत्र से संबंधित निम्नलिखित मामलों पर, यदि राष्ट्रीय गंगा नदी के निर्णयों को कार्यान्वित करना अपेक्षित है, तो राष्ट्रीय स्वच्छ गंगा मिशन का पूर्व अनुमोदन प्राप्त करना होगा। नामत:-

(क) गंगा नदी के डाउन स्ट्रीम जल के प्रवाह को प्रभावित किए बिना गंगा नदी में जल के भण्डारण के डाइवर्जन की प्रणाली;

(ख) गंगा नदी या नदी के तट पर या इसके बाढ़ योजना क्षेत्रों पर पुलों और सहायक सड़कों तथा तटों का निर्माण;

(ग) घाटों का निर्माण अथवा किसी भी मौजूदा घाट का विस्तार;

(घ) घाटों का निर्माण;

(ड.) जल के संग्रह अथवा डाइवर्जन या नियंत्रण के लिए स्थायी जलीय संरचनाओं का निर्माण अथवा गंगा नदी अथवा इसकी सहायक नदियों का चैनलीकरण;

(च) पहाड़ी ढलानों और अधिसूचित वन तथा अन्य पर्यावरणीय दृष्टि से संवेदी क्षेत्रों का वन कटाव;

(छ) कोई अन्य कार्यकलाप जो कि पैराग्राफ 4 में सिद्धांतों के विपरीत निर्धारित किए गए हैं उन्हें राष्ट्रीय स्वच्छ गंगा मिशन द्वारा विनिर्दिष्ट किया जाए।

43. वित्तीय ढांचा ---- (1) राष्ट्रीय स्वच्छ गंगा मिशन द्वारा बजटीय आवंटन अपने कार्यों, लक्ष्यों और उद्देश्यों को पूरा करने से संबंधित व्यय तथा स्थापना व्यय को वहन करने हेतु उपयोग किया जाएगा। इसके लिए शर्त यह है कि अनुदान, ऋण और उधार के रूप में प्राप्त धन उन्हीं में विनिर्दिष्ट उद्देश्यों के लिए वहन किया जाएगा जिनके लिए यह अनुदान, ऋण और उधार प्राप्त हुआ है।

(2) राष्ट्रीय स्वच्छ गंगा मिशन लेखों तथा अन्य संबद्ध रिकार्डों का उपयुक्त रूप से रख-रखाव रखेगा और वार्षिक व्यय विवरण तैयार करेगा।

(3) राष्ट्रीय स्वच्छ गंगा मिशन के लेखों की सांविधिक लेखा परीक्षा भारत के नियंत्रक और महालेखा परीक्षक द्वारा की जाएगी और वार्षिक लेखा परीक्षा पूरी होने के पश्चात लेखा परीक्षा एजेंसी वार्षिक लेखा परीक्षा प्रमाण पत्र भेजेगी।

(4) राष्ट्रीय स्वच्छ गंगा मिशन के कार्य केन्द्रीय सतर्कता आयोग के नियंत्रण में हैं और सतर्कता संबंधी मामलों की देख रेख के लिए एक सतर्कता अधिकारी होगा।

(5) लेखा परीक्षा रिपोर्ट के साथ वार्षिक व्यय विवरण प्रति वर्ष अधिकार प्राप्त कार्यबल को भेजा जायेगा और केन्द्र सरकार इसे संसद के दोनों सदनों में प्रस्तुत करेगी।

44. कानून विशेषज्ञों को कार्य पर लगाना राष्ट्रीय स्वच्छ गंगा मिशन के पास एक उपयुक्त विधायी व्यवस्था होगी जिसके लिए राष्ट्रीय स्वच्छ गंगा मिशन कानूनी विशेषज्ञ परामर्शदाता और विधायी फर्म की सेवाएं लेगी जो कि राष्ट्रीय स्वच्छ गंगा मिशन को विधायी मामलों पर सलाह देने के लिए तथा अपने कर्तव्यों का निर्वाह करने के लिए राष्ट्रीय स्वच्छ गंगा मिशन को सहयोग प्रदान करने के लिए आवश्यक है।

45. रिपोर्टों की समीक्षा इसके कार्यकलापों से संबंधित सभी रिपोर्टें तथा राज्य गंगा समिति, जिला गंगा समिति या स्थानीय प्राधिकरण या बोर्ड या निगम या किसी अन्य व्यक्ति से प्राप्त रिपोर्टों की राष्ट्रीय स्वच्छ गंगा मिशन द्वारा समीक्षा की जायेगी और इन रिपोर्टों में बताए गए मामलों पर अपने विचारों के साथ यह रिपोर्ट राष्ट्रीय गंगा परिषद के सम्मुख दिशा-निर्देश हेतु प्रस्तुत की जायेगी, यदि ऐसा आवश्यक है।

46. गंगा सुरक्षा लेखा परीक्षा रिपोर्टों का समेकन ------ राष्ट्रीय स्वच्छ गंगा मिशन गंगा नदी की गंगा सुरक्षा लेखा परीक्षा की समेकित रिपोर्ट तैयार करेगा तथा उसे राष्ट्रीय गंगा परिषद को उन पर उपचारात्मक कार्रवाई के साथ प्रस्तुत करेगा तथा इसे सार्वजनिक क्षेत्र में भी उपलब्ध कराया जायेगा और इसे वेवसाइट पर दर्शाया जायेगा।

47. सूचना, निरीक्षण आयोजित करने , रिपोर्टें प्रकाशित करने इत्यादि के संबंध में राष्ट्रीय स्वच्छ गंगा मिशन की शक्तियां ---- (1) जहां राष्ट्रीय स्वच्छ गंगा मिशन अधिनियम की धारा 5 के तहत इसे आवश्यक समझें उसे वह लिखित में आदेश देकर यह कह सकता है-----

(ए) किसी भी राज्य गंगा समितियों, जिला गंगा संरक्षण समितियों या स्थानीय प्राधिकरण या अन्य प्राधिकरण या बोर्ड या निगम या व्यक्ति जिसे भी किसी भी परियोजना के कार्यनिष्पादन या ऐसी परियोजना से संबंधित कोई कार्य सौंपा गया है या किसी भी समय निधियों के उपयोग के बारे में सूचना या परियोजना के कार्य निष्पादन के लिए आवंटित ऐसी परियोजना से संबंधित स्पष्टीकरण या कार्यनिष्पादन या आवंटित निधि के उपयोग के बारे में सूचना को लिखित में या सार्वजनिक रूप से प्रचार-प्रसार करने हेतु पूछा जा सकता है जैसा भी राष्ट्रीय स्वच्छ गंगा मिशन अपेक्षित समझे; अथवा

(बी) एक या एक से अधिक व्यक्ति या किसी प्राधिकरण को नियुक्त करना जो कार्य करने अथवा कार्यनिष्पादन के लिए आवंटित परियोजना तथा आवंटित निधि के उपयोग के संबंध में पूछताछ कर सके।

(सी) अपने किसी भी अधिकारी या कर्मचारी अथवा केन्द्र सरकार या राज्य सरकार अथवा किसी अन्य प्राधिकरण के अधिकारियों और कर्मचारियों को किसी भी आवंटित परियोजना के कार्यकरण अथवा कार्यनिष्पादन अथवा निधि के उपयोग के संबंध में राज्य गंगा समितियों, जिला गंगा संरक्षण समितियों अथवा अन्य प्राधिकरण अथवा बोर्ड अथवा निगम अथवा संबंधित व्यक्ति से उनके लेखों और अन्य दस्तावेजों के निरीक्षण हेतु निर्देश देना।

(डी) ऐसा कोई व्यक्ति, अधिकारी, राज्य सरकार या प्राधिकरण अपेक्षित है जो इसे संबंधित किसी भी प्रकार की रिपोर्ट, रिटर्न, सांख्यिकी और अन्य सूचना भेजे और ऐसा व्यक्ति, अधिकारी, राज्य सरकार अथवा अन्य प्राधिकरण को यह कार्य करना वाध्य होगा।

48. वित्त पोषण और कार्यान्वयन मॉडल – (1) राष्ट्रीय स्वच्छ गंगा मिशन का विकास होगा और यह निरंतर अपने वित्तीय मॉडलों को संशोधित करेगा जिससे परियोजनाओं के कार्यनिष्पादन और सततता में सुधार होगा और जिसे प्रदूषण के उपशमन और गंगा नदी के पुनरुद्धार और संरक्षण तथा प्रबंधन के लिए राज्य गंगा समितियों, जिला गंगा संरक्षण समितियों अथवा अन्य प्राधिकरण अथवा व्यक्ति द्वारा अपनाया जा सकता है।

49. समेकित रिपोर्टों को तैयार करना --- (1) राष्ट्रीय स्वच्छ गंगा मिशन विनिर्दिष्ट राज्य गंगा समितियों, विनिर्दिष्ट जिला गंगा समितियों, स्थानीय प्राधिकरणों, अन्य प्राधिकरण, बोर्ड, निगम अथवा व्यक्ति द्वारा भेजी गयी रिपोर्टों और अन्य सूचना के आधार पर एक समेकित रिपोर्ट तैयार करेगा जिसमें प्रत्येक जिले के द्वारा गंगा नदी और उसकी सहायक नदियों के आस-पास के क्षेत्रों के संबंध में सूचना दी जायेगी।

(ए) उनके द्वारा कार्यनिष्पादित की जा रही योजनाओं की स्थिति और उनके द्वारा किए गए उपाय तथा गंगा नदी और उसकी सहायक नदियों की स्थिति से संबंधित अन्य कार्यकलाप की स्थिति;

(बी) गंगा नदी और उसकी सहायक नदियों में जल की गुणवत्ता और इस संबंध में उपचारात्मक कार्रवाई;

(सी) गंगा नदी में जल की किसी भी रूप में रूकावट और उसके कारण;

(डी) विनिर्दिष्ट जिले में नदी तट और वाढ़ मैदान और आवास की स्थिति;

(अ) जिला गंगा समिति या स्थानीय प्राधिकरणों द्वारा जनता से प्राप्त शिकायतों पर किए गए उपचारात्मक उपाय;

(एफ) प्रस्तावित उपचारात्मक कार्रवाई के साथ आने वाले शेष बाधाओं का पता लगाना;

(जी) रिपोर्ट यदि कोई है, जैसा कि गंगा सुरक्षा लेखा परीक्षकों द्वारा सूचित किया गया है;

(एच) गंगा नदी और उसकी सहायक नदियों की दशा के बारे में संबंधित अन्य सभी सूचना;

(2) राष्ट्रीय स्वच्छ गंगा मिशन उपपैराग्राफ -1 में उल्लिखित समेकित रिपोर्ट की समीक्षा करने के पश्चात कार्यबल को उपचारात्मक कार्रवाई के साथ उसे प्रस्तुत करेगा ।

50. वार्षिक रिपोर्ट------ (1) राष्ट्रीय स्वच्छ गंगा मिशन अगले वर्ष से तुरंत पहले अपने द्वारा और गंगा नदी के संबंध में अधिकार प्राप्त कार्यबल, विनिर्दिष्ट राज्य गंगा समितियों, विनिर्दिष्ट जिला गंगा संरक्षण समितियों, संबंधित स्थानीय प्राधिकरणों अथवा अन्य प्राधिकरण अथवा बोर्ड अथवा निगम अथवा व्यक्तियों द्वारा किए गए सभी कार्यों की समेकित वार्षिक रिपोर्ट प्रत्येक वर्ष के अंत के 3 माह में तैयार करेगा।

(2) राष्ट्रीय स्वच्छ गंगा मिशन अपने द्वारा किए गए तथा गंगा नदी संबंधी अधिकार प्राप्त कार्यबल, राज्य सरकारों, विनिर्दिष्ट राज्य गंगा समितियों, विनिर्दिष्ट जिला गंगा संरक्षण समितियों, संबंधित स्थानीय प्राधिकरणों अथवा अन्य प्राधिकरण अथवा बोर्ड अथवा निगम अथवा व्यक्तियों द्वारा किए गए सभी कार्यों उपपैरा-1 में उल्लिखित इसकी समेकित वार्षिक रिपोर्ट में अलग-अलग भागों के तहत शामिल करेगी और इस समेकित वार्षिक रिपोर्ट को राष्ट्रीय गंगा परिषद और केन्द्रीय सरकार को प्रेषित करेगी तथा इसे सार्वजनिक क्षेत्र में भी उपलब्ध कराया जायेगा। इसे वेबसाइट पर भी दर्शाया जायेगा।

51. समितियों का गठन – राष्ट्रीय स्वच्छ गंगा मिशन अपने सदस्यों में से एक या ज्यादा गंगा नदी प्रबंधन समितियां बनाना' और नदियों अथवा जल के क्षेत्र में ऐसे विशेषज्ञ इस आदेश के तहत अपने कार्यों के कुशल निर्वहन के लिए उपयुक्त कदम उठाए।

52. मार्गदर्शन प्राप्त करना- राष्ट्रीय गंगा परिषद के निर्णयों अथवा इस आदेश के प्रावधानों के कार्यान्वयन में यदि कोई समस्या उत्पन्न होती है, तो यह राष्ट्रीय स्वच्छ गंगा मिशन का कर्तव्य होगा कि राष्ट्रीय गंगा परिषद का मार्ग दर्शन प्राप्त करें और तदनुसार उपयुक्त कार्रवाई करें।

53. जिला गंगा संरक्षण समितियों का गठन ---(1) केन्द्र सरकार गंगा नदी में पर्यावरणीय प्रदूषण को रोकने, नियंत्रित करने और समाप्त करने के लिए इस आदेश के प्रारम्भ से एक निश्चित समय के भीतर अधिसूचना द्वारा विनिर्दिष्ट राज्य गंगा समिति के परामर्श से हिमाचल प्रदेश, उत्तराखंड, उत्तर प्रदेश, मध्य प्रदेश, छत्तीसगढ़, बिहार, झारखंड, हरियाणा, राजस्थान, पश्चिम बंगाल और राष्ट्रीय राजधानी क्षेत्र दिल्ली तथा ऐसे अन्य राज्यों में , जहां गंगा नदी की प्रमुख सहायक नदियां हैं, प्रत्येक जिले में (इस आदेश में इसके बाद विनिर्दिष्ट जिला कहा गया है) उक्त अधिनियम की धारा 23 की उपधारा(3) के अंतर्गत " जिला गंगा संरक्षण समितियों" के नाम से एक प्राधिकरण का गठन करेगी।

(2) प्रत्येक विनिर्दिष्ट गंगा जिले में प्रत्येक जिला गंगा समिति में निम्नलिखित सदस्य होंगे, नामत: --
(ए) विनिर्दिष्ट जिले में जिला कलेक्टर। अध्यक्ष, पदेन
(बी) विनिर्दिष्ट जिले नगर पालिकाओं और ग्राम पंचायतों से राज्य सरकार द्वारा नामित दो से अधिक प्रतिनिधि सदस्य
(सी) राष्ट्रीय नदी गंगा के साथ लगने वाले विनिर्दिष्ट जिले में कार्यरत लोक निर्माण, सिंचाई, जन स्वास्थ्य, इंजीनियरिंग और ग्रामीण पेयजल विभाग, और राज्य प्रदूषण नियंत्रण बोर्ड प्रत्येक का एक प्रतिनिधि जो जिला कलेक्टर द्वारा नामित किया जाएगा। सदस्य, पदेन
(डी) विनिर्दिष्ट जिले में जिला कलेक्टर द्वारा नामित गंगा संरक्षण कार्यकलापों से संबद्ध दो पर्यावरणविद और स्थानीय उद्योग संघ का एक प्रतिनिधि। सदस्य
(ई) विनिर्दिष्ट जिले का एक डिविजनल वन अधिकारी । सदस्य, पदेन
(एफ) एक जिला अधिकारी जिसे जिला कलेक्टर लिए नामित करे। सदस्य

(2) जिला कलेक्टर जिला गंगा समिति के अध्यक्ष होंगे और डिवीजनल वन अधिकारी जिला गंगा समिति के संयोजक होंगे।

(3) जिला गंगा समितियों की बैठक का समय और स्थान का निर्धारण उस समिति के अध्यक्ष करेंगे और इस आदेश के तहत प्रदत्त की गई शक्तियों और कार्यों का प्रयोग करेंगे।

बशर्ते कि जिला गंगा समिति की कम से कम एक बैठक प्रत्येक तीन माह में आयाजित की जाएगी।

(4) कोई गैर पदेन सदस्य सरकार को अथवा संबंधित जिला कलेक्टर के, जैसा भी मामला हो, लिखित नोटिस देते हुए अपने पद से त्यागपत्र दे सकता है और सरकार द्वारा अथवा जिला कलेक्टर द्वारा , जैसा भी मामला हो, उसका त्यागपत्र स्वीकार किए जाने के बाद सदस्य नहीं रहेगा।

54. जिला गंगा संरक्षण समिति का अधीक्षण, निर्देशन और नियंत्रण – जिला गंगा संरक्षण समिति के प्रबंधन (वित्तीय और प्रशासनिक मामलों सहित) प्रबंधन का अधीक्षण निर्देशन और नियंत्रण इस आदेश में किसी बात के होते हुए राष्ट्रीय स्वच्छ गंगा मिशन में विहित होगा, जो इसके द्वारा प्रत्यक्ष रूप से अथवा विनिर्दिष्ट राज्य गंगा समिति अथवा इसके किसी अधिकारी अथवा इसके द्वारा विनिर्दिष्ट अन्य किसी प्राधिकारी के माध्यम से प्रयोग किया जाएगा।

55. जिला समितियों के कार्य और शक्तियां- (1) प्रत्येक जिला गंगा समिति पैराग्राफ चार में बताए गए सिद्धांतों के अनुसार पैराग्राफ छः और सात में विनिर्दिष्ट किए गए अनुसार प्रत्येक विनिर्दिष्ट जिले में गंगा नदी और इसकी सहायक नदियों के पुनरुद्धार, संरक्षण, मरम्मत और पुनर्वासन के लिए कार्यों का निर्वहन और शक्तियों का प्रयोग करेगी।

(2) विशेष रूप से गंगा नदी और इसकी सहायक नदियों के साथ लगने वाले डिग्रेडेड क्षेत्रों के पुनरुद्धार, संरक्षण, मरम्मत और पुनर्वासन के लिए उप-पैराग्राफ 1 के सामान्य प्रावधानों के अलावा और इस आदेश और अधिनियम के अन्य प्रावधानों तथा इनके अंतर्गत बनाए गए निगमों के अधीन प्रत्येक गंगा समिति को विनिर्दिष्ट जिले में गंगा नदी और इसकी सहायक नदियों के संबंध में निम्नलिखित शक्तियां और अधिकार प्राप्त होंगे नामत :-

(ए) गंगा नदी अथवा इसकी सहायक नदियों अथवा रिवर बेड के संरक्षण के लिए गंगा नदी के साथ लगने वाले विनिर्दिष्ट जिले के क्षेत्रों में संभावित खतरों की पहचान करना और उसके संबंध में सुधारात्मक कार्रवाई की योजना बनाना और कार्रवाई करना।

(बी) विनिर्दिष्ट जिले में गंगा नदी और इसकी सहायक नदियों अथवा इसके रीवर बेड के संरक्षण के लिए अपनी ओर से सुधारात्मक कार्रवाई करना (इस आदेश के प्रावधानों को छोड़कर)।

(सी) उपचारात्मक कार्रवाई करने की स्थिति में सक्षम न होने पर राष्ट्रीय स्वच्छ गंगा मिशन और संबंधित राज्य सरकार, गंगा राज्य समिति, जैसा भी मामला हो, को गंगा नदी के बचाव के लिए निर्देश जारी करने हेतु रिर्पोटिंग (इलैक्ट्रोनिक और लिखित में हार्ड कापी भेजकर) और उपयुक्त प्रबंधन अथवा उपचारात्मक कार्रवाई तैयार करना।

(डी) इस आदेश के प्रावधानों को प्रभावी बनाने के लिए उपयुक्त प्रशासनिक और अन्य उपाय करना ताकि इस आदेश के प्रावधानों से अलग न होते हुए या किसी भी कानून को कुछ समय के लिए लागू करने की बजाए गंगा नदी और इसकी सहायक नदियों में पर्यावरणीय प्रदूषण को रोका जा सके।

(3) यदि जिला गंगा संरक्षण समिति का यह मत है कि इस अधिनियम के तहत विसंगतियां की गयी हैं या कोई अन्य कानून कुछ समय के लिए लागू किया जा रहा है या इस आदेश के प्रावधानों से अलग है तो इसे कुछ समय के लिए कानून के अनुरूप करके उपयुक्त कार्रवाई करेगी।

(4) जिला गंगा संरक्षण समिति पैराग्राफ 7 में विनिर्दिष्ट ऐसे सभी आपातकालीन उपाय करेगी।

56. नोडल अधिकारी का पदनाम----- (1) प्रत्येक जिला गंगा समिति निम्नलिखित को नोडल अधिकारी के रूप में नामित करेगी--

(ए) गंगा नदी और इसकी सहायक नदियों के आसपास के क्षेत्रों में प्रत्येक गांव के ग्राम सभा के सरपंच

(बी) ऐसे मामले में जो गांव गंगा नदी से सटे हुए नहीं हैं, नगरपालिका योजना समिति या महानगर योजना समिति के अध्यक्ष या किसी स्थानीय प्राधिकरण के अध्यक्ष को इस आदेश के प्रयोजनों हेतु, जिला गंगा संरक्षण समिति के अध्यक्ष के रूप में मनोनीत किया जा सकता है।

(2) प्रत्येक नोडल अधिकारी जो उप-पैराग्राफ के तहत मनोनीत हुआ है (1) गंगा नदी की और उसकी सहायिकाओं में प्रदूषण को रोकने हेतु कदम उठा सकते और स्वयं गंगा नदी और उसकी सहायिकाओं के संरक्षण हेतु उपचारात्मक उपाय कर सकते या उनके नदी तटों जो ऐसे गांवों के साथ सटे हुए हैं या अन्य क्षेत्र, जैसा भी मामला हो, जिसके लिए वह नोडल अधिकारी है और यदि वह ऐसा नहीं कर पाते हैं तो वे इस आदेश की अवहेलना को उपचारात्मक कार्रवाई हेतु जिला गंगा समिति के अध्यक्ष के ध्यान में ला सकते हैं।

(3) उप-पैराग्राफ (2) के तहत रिपोर्ट की प्राप्ति के पश्चात जिला गंगा समिति का अध्यक्ष गंगा नदी या इसके नदी तटों से सटे विनिर्दिष्ट जिलों के संरक्षण हेतु उपचारात्मक कदम उठा सकते हैं।

57. योजनाओं की तैयारी--- (1) प्रत्येक जिला गंगा संरक्षण समिति गंगा नदी और उसकी सहायिकाओं और उनके नदी तटों से सटे विनिर्दिष्ट जिलों के संरक्षण हेतु अपनी आयोजना की तैयारी करेगा और उक्त को उसके बाद एवं राष्ट्रीय स्वच्छ गंगा मिशन के अनुमोदन के लिए प्रस्तुत करेगा।

(2) उप-पैराग्राफ (1) के तहत योजना में विनिर्दिष्ट जिला गंगा संरक्षण समिति द्वारा गंगा नदी और उसकी सहायिकाओं और उनके नदी तटों से सटे विनिर्दिष्ट जिलों से पर्यावरणीय प्रदूषण से संरक्षण, नियंत्रण और उसे हटाने हेतु उठाए गए कार्यकलाप शामिल होंगे, जिसे राज्य सरकार, राज्य गंगा समितियों या राष्ट्रीय स्वच्छ गंगा मिशन या कोई अन्य प्राधिकरण या बोर्ड और ऐसी योजना हेतु शामिल व्यय संस्तुत किया जा सकता है और समय जिसमें ऐसे कार्यकलापों को पूर्ण किया जाएगा।

(58) बजट की तैयारी और लेखों का रखरखाव---- प्रत्येक जिला गंगा संरक्षण समिति प्रत्येक वित्त वर्ष में अपेक्षित फंडों को और उन उद्देश्यों जिसके लिए फंड खर्च किया जाएगा, और समय सीमा जिसके भीतर बजट में उल्लेख किए गए कार्यकलाप को पूरा किया जाएगा को दर्शाते हुए अपने बजट को तैयार करेगी और संबंधित राष्ट्रीय स्वच्छ गंगा मिशन को सूचना देते हुए संबंधित राज्य गंगा समिति को प्रस्तुत करेगी और यह समिति, भारत सरकार के नियंत्रक एवं महालेखा परीक्षक (सीएजी) द्वारा अथवा सीएजी द्वारा नियुक्त किसी अन्य अभिकरण द्वारा लेखा परीक्षा के लिए, राष्ट्रीय स्वच्छ गंगा मिशन द्वारा निर्धारित लेखों का उपयुक्त रखरखाव सुनिश्चित करेगी और यह लेखे राष्ट्रीय गंगा परिषद, राष्ट्रीय स्वच्छ गंगा मिशन राज्य गंगा समिति अथवा उनके द्वारा नियुक्त किसी संस्था द्वारा निरीक्षण के शर्ताधीन होंगे।

(59) मासिक और वार्षिक रिपोर्टे--- (1) प्रत्येक गंगा संरक्षण समिति, राष्ट्रीय स्वच्छ गंगा मिशन और राज्य समितियां जैसा कि राष्ट्रीय स्वच्छ गंगा मिशन द्वारा विनिर्दिष्ट समय सीमा के भीतर निर्धारित किया गया है, राष्ट्रीय गंगा परिषद को मासिक और वार्षिक रिपोर्टें प्रस्तुत करेगी।

(2) उप पैरा (1) में उल्लेख की गई वार्षिक रिपोर्ट के अतिरिक्त जिला गंगा संरक्षण समिति राष्ट्रीय स्वच्छ गंगा मिशन को ऐसे समय और ऐसे फोर्म और तरीके से रिपोर्ट प्रस्तुत करेगी जिससे विनिर्दिष्ट जिले में उसके आसपास के क्षेत्र में गंगा नदी बेसिन योजना हेतु अन्य रिटर्न, विवरण और कोई प्रस्तावित या मौजूदा कार्यक्रम के संबंध में अन्य ब्यौरे हेतु निर्देश दें।

60. बजट आवंटन---- राष्ट्रीय स्वच्छ गंगा मिशन बजट आवश्यकता को समेकित और तैयार कर सकता है और उक्त जल संसाधन मंत्रालय, नदी विकास और गंगा संरक्षण मंत्रालय को प्रस्तुत कर सकता है।

61. केंद्रीय सरकार द्वारा निर्देश--- इस आदेश में दी गई किसी भी बात के बावजूद, केंद्रीय सरकार के लिए यह विधिपूर्ण हो कि वे मंत्रालय या भारत सरकार के विभागों या राज्य सरकारों तथा राज्य गंगा समितियों, राष्ट्रीय स्वच्छ गंगा मिशन या जिला गंगा समितियों या स्थानीय प्राधिकरण या अन्य प्राधिकरण तथा सांविधिक निकायों या उनके अधिकारी या कर्मचारी, जैसा भी मामला हो लिखित में निर्देश जारी करे जिससे वे गंगा नदी और उसके सहायिकाओं के पुनरुद्धार, संरक्षण और प्रबंधन में सहायता प्रदान कर सके और ऐसा मंत्रालय या विभाग या प्राधिकरण या मिशन या बोर्ड या सरकार और सांविधिक निकाय, अधिकारी या कर्मचारी ऐसे निर्देशों के अनुपालन हेतु बाध्य होंगे।

62. अधिनियम की धारा 19 के तहत शिकायत करना--- इस आदेश के तहत गठित सभी प्राधिकरण या ऐसे प्राधिकरणों द्वारा प्राधिकृत किए गए उनके अधिकारी कोर्ट के समक्ष उक्त धारा के अंतर्गत किसी उल्लंघन को संज्ञान में रखते हुए उक्त अधिनियम की धारा 19 के तहत शिकायत कर सकते हैं।

63. अन्य दायित्वों के अतिरिक्त आदेश—इस आदेश के प्रावधान किसी स्थानीय प्राधिकरण या अन्य प्राधिकरण या बोर्ड या कॉरपोरेशन या किसी व्यक्ति द्वारा गंगा नदी में कुशल प्रदूषण नियंत्रण और पुनरुद्धार के प्रयोजन से उपाय करने हेतु अपने कार्यों के निर्वाह में और उसके संरक्षण और प्रबंधन और अभी लागू कोई अन्य कानून में अपने कार्यों के बिना किसी पक्षपात के है।

अनुसूची

(पैराग्राफ 20 देखें)

राज्य और प्रबंधन समितियों की संरचना

क्र.सं.	विनिर्दिष्ट राज्य गंगा संरक्षण और प्रबंधन का नाम	राज्य गंगा संरक्षण और प्रबंधन समितियों की संरचना
(1)	(2)	(3)
1.	(नाम) राज्य गंगा संरक्षण और प्रबंधन समिति	(क) मुख्य सचिव, राज्य सरकार (नाम) पदेन सदस्य
		(ख) प्रधान सचिव, वित्त विभाग राज्य सरकार (नाम) सदस्य, पदेन
		(ग) प्रधान सचिव, शहरी विकास और आवास विभाग, (नाम) सरकार- सदस्य, पदेन
		(घ) प्रधान सचिव, पर्यावरण एवं वन विभाग, राज्य सरकार (नाम)- सदस्य, पदेन
		(ङ) प्रधान सचिव, जल संसाधन विभाग, राज्य सरकार (नाम)- सदस्य, पदेन

		(च) प्रधान सचिव, सार्वजनिक स्वास्थ्य इंजीनियरिंग विभाग, राज्य सरकार (नाम) सदस्य, पदेन
		(छ) अध्यक्ष (नाम) राज्य प्रदूषण नियंत्रण बोर्ड -सदस्य, पदेन
		(झ) (नाम) राज्य में कार्यान्वयन एजेंसी के चीफ ऐक्जीक्यूटिव अधिकारी- सदस्य, पदेन
		(ञ) वनों के प्रधान मुख्य संरक्षक, राज्य सरकार (नाम) -सदस्य, पदेन
		(ट) सरकार (नाम) द्वारा संबंधित क्षेत्रों से पांच विशेषज्ञों से अधिक मनोनीत नहीं किए जाएंगे।-सदस्य

[फा. सं. स्था.-01/2016-17/111/एनएमसीजी]

संजय कुंडू, संयुक्त सचिव

MINISTRY OF WATER RESOURCES, RIVER DEVELOPMENT, AND GANGA REJUVENATION

NOTIFICATION

New Delhi, the 7th October, 2016

S.O. 3187(E).—Whereas it is necessary to constitute authorities at Central, State and District levels to take measures for prevention, control and abatement of environmental pollution in River Ganga and to ensure continuous adequate flow of water so as to rejuvenate the River Ganga to its natural and pristine condition and for matters connected therewith or incidental thereto;

And whereas the River Ganga is of unique importance ascribed to reasons that are geographical, historical, socio-cultural and economic giving it the status of a National River;

And whereas the River Ganga has been facing serious threat due to discharge of increasing quantities of sewage, trade effluents and other pollutants on account of rapid urbanisation and industrialisation;

And whereas, the demand for water of River Ganga is growing for irrigation, drinking water supplies, industrial use and hydro-power due to increase in population, urbanisation, industrialisation, infrastructural development and taking into account the need to meet competing demands;

And whereas there is an urgent need-

(a) to ensure effective abatement of pollution and rejuvenation of the River Ganga by adopting a river basin approach to promote inter-State and inter-sectoral co-ordination for comprehensive planning and management;

(b) to maintain ecological flows in the River Ganga with the aim of ensuring continuous flows throughout its length so as to restore its ecological integrity that enables it to self rejuvenate;

(c) for imposing restrictions in areas abutting the River Ganga in which industries, operations or processes, or class of industries, operations or processes shall not be carried out or shall be carried out subject to certain safeguards;

(d) to make provision for inspection of any premises, plants, equipment, machineries, manufacturing or other processes, materials or substances and giving direction to the authorities, officers and persons as may be necessary to take steps, for prevention, control and abatement of environmental pollution in the River Ganga;

(e) for carrying out and sponsoring investigations and research relating to problems of environmental pollution in the River Ganga and examination of such manufacturing processes, material and substance as are likely to cause environmental pollution;

(f) for collection and dissemination of information in respect of matters relating to environmental pollution in the River Ganga and preparation of manual, codes or guide relating to the prevention, control and abatement of environmental pollution;

And whereas the State Governments concerned, being equally responsible for Ganga rejuvenation, are required to co-ordinate and implement the river conservation activities at the State level, and to take steps for comprehensive management of the River Ganga in their States;

And whereas it is required to have planning, financing, monitoring and coordinating authorities for strengthening the collective efforts of the Central Government and the State Governments and authorities under this Order for effective abatement of pollution and rejuvenation, protection and management of the River Ganga;

Now, therefore, in exercise of the powers conferred by sub-section (1), read with clauses (i), (ii), (v), (vi), (vii), (viii), (ix), (x), (xii) and (xiii) of sub-section (2) and (3) of section 3 and sections 4,5,9,10,11, 19, 20 and 23 of the Environment (Protection) Act, 1986 (29 of 1986) (hereinafter referred to as the Act) and in supersession of the notifications of the Government of India in the erstwhile Ministry of Environment and Forests numbers S.O.1111(E), dated the 30th September, 2009, S.O. 2493 (E), dated the 30th September, 2009, S.O. 2494 (E), dated the 30th September 2009, S.O. 2495 (E), dated the 30th September 2009, S.O. 287 (E) dated the 8th February, 2010 and in the Ministry of Water Resources, River Development and Ganga Rejuvenation No. S.O. 2539 (E), dated the 29th September 2014, except as respects things done or omitted to be done before such supersession, the Central Government hereby------

(i)constitutes the authorities by the names mentioned in this Order for the purpose of exercising and performing such of the powers and functions (including the power to issue directions under section 5 of the Act and for taking measures with respect to the matters as mentioned in this Order;

(ii))directs, subject to the supervision and control of the Central Government and the provisions of this Order, such authority or authorities as specified in this Order that shall exercise the powers or perform the functions or take the measures so mentioned in this Order as if such authorities had been empowered by the Act to exercise those powers, perform those functions, or take such measures;

(iii)directs that all its powers and functions (except the power to constitute any authority under sub-section (3) of section 3 and to make rules under the sections 6 and 25 of the Act) under any provision of the Act shall, in relation to River Ganga and matters connected therewith, be exercisable and discharged also by the authorities constituted by this Order and by the officers specified in this Order, subject to such conditions and limitations and to the extent as specified in this Order.

1.Short title and commencement. – (1) This Order may be called the River Ganga (Rejuvenation, Protection and Management) Authorities Order, 2016.

(2) It shall come into force on the date of its publication in the Official Gazette.

2. Applicability.- This Order shall apply to the States comprising River Ganga Basin, namely, Himanchal Pradesh, Uttarakhand, Uttar Pradesh, Madhya Pradesh, Chhattisgarh, Bihar, Jharkhand, Haryana, Rajasthan, West Bengal and the National Capital Territory of Delhi and such other States, having major tributaries of the River Ganga as the National Council for Rejuvenation, Protection and Management of River Ganga may decide for the purpose of effective abatement of pollution and rejuvenation, protection and management of the River Ganga.

3.Definitions.- (1) In this Order, unless the context otherwise requires, -

(a) "Act" means the Environment (Protection) Act, 1986 (29 of 1986);

(b)"Basin" means the entire catchment of a water body or water course including the soil, water, vegetation and other natural resources in the area and includes land, water, vegetation and other natural resources on a catchment basis;

(c)"Buffer Area" means an area which extends beyond the flood plain of a stream;

(d)"catchment" or ""catchment area "includes the entire land area whose runoff from rain, snow or ice drains into a water body or a water course, before the water course joins River Ganga or its tributaries or discharges water into River Ganga or its tributaries;

(e)"commercial fishing" means large scale fishing for commercial purposes by nets, poisoning, or other modern fishing gear or methods in River Ganga or its tributaries;

(f) Competent authority means "Central Government"

(g)"deforestation" means removal or reduction of forest cover, especially when caused by anthropogenic activities or removal of trees and other vegetation of a forest excluding a planned clearance for scientific management of forest in particular in the catchment area of River Ganga;

(h)"degraded forest" means a forest having loss or reduction of native forest cover or vegetation density in the catchment area abutting River Ganga or its tributaries;

(i)"direction" shall mean direction issued under section 5 of the Act and the expression "direct" shall be construed accordingly;

(j) "District Ganga Committee" means the District Ganga Protection Committee mentioned in paragraph 53;

(k)"engineered diversion" means a structure or device constructed or installed to transfer the water of River Ganga or its tributaries into canals or other engineering structures;

(l)"flood plain" means such area of River Ganga or its tributaries which comes under water on either side of it due to floods corresponding to its greatest flow or with a flood of frequency once in hundred years;

(m)"Ghat" means sloping part at Bank of River Ganga or its tributaries with artificially constructed steps or sloping piece of land used for providing easy human access to water of River Ganga or its tributaries and includes usage of such parts for religious or other related purposes;

(n)"local authority" includes Panchayati raj institutions, municipalities, a district board, cantonment board, town planning authority or Zila Parishad or any other body or authority, by whatever name called, for the time being invested by law, for rendering essential services or with the control and management of civic services, within a specified local area;

(o)"National Mission for Clean Ganga" means the authority mentioned in paragraph 31.

(p) "notification" means a notification published in the Official Gazette and the expression 'notifying' shall be construed accordingly;

(q)"offensive matter" consists of solid waste which includes animal carcasses, kitchen or stable refuse, dung, dirt, putrid or putrefying substances and filth of any kind which is not included in the sewage;

(r)"person" include ----

(i)an individual or group or association of individuals whether incorporated or not;

(ii)a company established under the Companies Act, 2013 (18 of 2013);

(iii)any corporation established by or under any Central or State Act;

(iv)a local authority;

(v) every juridical person not falling within any of the preceding sub-clauses;

(s)"River Bed" means the dried portion of the area of River Ganga or its tributaries and includes the place where the River Ganga or its tributaries run its course when it fills with water and includes the land by the side of River Ganga or its tributaries which retains the water in its natural channel, when there is the greatest flow of water;

(t) "River Bed Farming" includes seasonal agriculture or farming on the River Bed of River Ganga or its tributaries during low flows of water;

(u)"River Ganga" means the entire length of six head-streams in the State of Uttarakhand namely, Rivers Alakananda, Dhauli Ganga, Nandakini, Pinder, Mandakini and Bhagirathi starting from their originating glaciers up to their respective confluences at Vishnu Prayag, Nand Prayag, Karn Prayag, Rudra Prayag, and Dev Prayag as also the main stem of the river thereafter up to Ganga Sagar including Prayag Raj and includes all its tributaries;

(v) "rubbish" means ashes, broken brick, mortar, broken glass, dust or refuse of any kind and includes filth;

(w) "sand mining" means large scale removal of river sand from the dried channel belt, flood plain or a part of River Ganga or its tributaries;

(x) "sewage effluent" means effluent from any sewerage system or sewage disposal works and includes sewage from open drains;

(y) "sewerage scheme" means any scheme which a local authority may introduce for removal of sewage by flushing with water through underground closed sewers;

(z) "Schedule" means Schedule appended to this Order;

(za) "specified District" means an area of every District abutting the River Ganga, being within a radius of fifteen kilometers of the Ganga River Bank or its tributaries in the States of Himachal Pradesh, Uttarakhand, Uttar Pradesh, Madhya Pradesh, Chhattisgarh, Bihar, Jharkhand, Haryana, Rajasthan, West Bengal and the National Capital Territory of Delhi and such other States, having major tributaries of the River Ganga as referred to in this Order;

(zb) "State Ganga Committee" means the State Ganga Rejuvenation, Protection and Management Committee constituted under this Order for each of the States mentioned in paragraph 2.

(zc) State Ganga River Conservation Authority means an authority earlier constituted in each State under the Act as follows, namely:-

(i) the Bihar State Ganga River Conservation Authority constituted by the notification of the Government of India in the Ministry of Environment and Forests number S.O287 (E), dated 8th February 2010;

(ii) the Jharkhand State Ganga River Conservation Authority constituted by the notification of the Government of India in the Ministry of Environment and Forests number S.O2495(E), dated 30th September 2009;

(iii) the Uttarakhand State Ganga River Conservation Authority constituted by the notification of the Government of India in the Ministry of Environment and Forests number S.O 1111 (E), dated 30th September 2009;

(iv) the Uttar Pradesh State Ganga River Conservation Authority constituted by the notification of the Government of India in the Ministry of Environment and Forests number S.O2493 (E), dated 30th September 2009; and

(v) the West Bengal State Ganga River Conservation Authority constituted by the notification of the Government of India in the Ministry of Environment and Forests number S.O2494 (E), dated 30th September 2009.

(zd) "stream" includes river, water course (whether flowing or for the time being dry), inland water (whether natural or artificial) and sub-terrain waters;

(ze) "tributaries of River Ganga" means those rivers or streams which flow into River Ganga and includes Yamuna River, Son River, Mahananda River, Kosi River, Gandak River, Ghaghara River and Mahakali River and their tributaries or such other rivers which National Council for Rejuvenation Protection and Management of River Ganga may, by notification, specify for the purposes of this Order.

2. The words and expressions used herein and not defined but defined in the Environment (Protection) Act, 1986 (29 of 1986) shall have the meanings respectively assigned to them in the Act.

4. Principles to be followed for rejuvenation, protection and management of River Ganga. – (1) The following principles shall be followed in taking measures for the rejuvenation, protection and management of River Ganga, namely:-

(i) the River Ganga shall be managed as a single system;

(ii) the restoration and maintenance of the chemical, physical, and biological quality of the waters of River Ganga shall be achieved in a time bound manner;

(iii) the River Ganga shall be managed in an ecologically sustainable manner;

(iv) the continuity of flow in the River Ganga shall be maintained without altering the natural seasonal variations;

(v) the longitudinal, lateral and vertical dimensions (connectivities) of River Ganga shall be incorporated into river management processes and practices;

(vi) the integral relationship between the surface flow and sub-surface water (ground water) shall be restored and maintained;

(vii) the lost natural vegetation in catchment area shall be regenerated and maintained;

(viii) the aquatic and riparian biodiversity in River Ganga Basin shall be regenerated and conserved;

(ix) the bank of River Ganga and its flood plain shall be construction free Zone to reduce pollution sources, pressures and to maintain its natural ground water recharge functions;

(x) the public participation in rejuvenation, protection and management,revision and enforcement of any regulation, standard, effluent limitation plan, or programme for rejuvenation, protection and management shallbe encouraged and made an integral part of processes and practices of

River Ganga rejuvenation, protection and management.

(2)National Mission for Clean Ganga may, having regard to the needs of the people of the country, advances in technology and socio economic conditions of the people and to preserve the rich heritage of national composite culture, specify additional principles in addition to the principles specified under sub-paragraph (1).

5.Ecological flow of water in River Ganga to be maintained. – (1) Every State Government, shall endeavor to ensure that uninterrupted flows of water are maintained at all times in River Ganga as required under clause (iv) of paragraph (4).

(2) Every State Government shall also endeavor to maintain adequate flow of water in River Ganga in different seasons to enable River Ganga to sustain its ecological integrity and to achieve the goal, all concerned authorities shall take suitable actions in a time bound manner.

(3) For the purposes of this paragraph, the average flow of water shall be determined by such Hydrology Observation Stations at such points of the River Ganga, as may be specified by the National Mission for Clean Ganga:

Provided that the average flow of water in River Ganga may, having regard to ecology, be determined by the National Mission for Clean Ganga for different points of River Ganga.

6. Prevention, control and abatement of environmental pollution in River Ganga and its tributaries.- (1) No person shall discharge, directly or indirectly, any untreated or treated sewage or sewage sludge into the River Ganga or its tributaries or its banks:

Provided that where a local authority does not have, on the date of commencement of this Order, sewerage scheme or infrastructure for collection, storage, transportation and disposal of sewage or sewage sludge or such infrastructure is not functional on the said date in an area abutting the River Ganga or its tributaries, every such local authority shall, within a period, specified by National Mission for Clean Ganga from the date of commencement of this Order, develop such infrastructure or make such infrastructure functional, as the case may be, for collection, storage, transportation and disposal of sewage in the territorial area of the local authority.

(2) No person shall discharge, directly or indirectly, any untreated or treated trade effluent and industrial waste, bio-medical waste, or other hazardous substance into the River Ganga or its tributaries or on their banks:

Provided further that where an industry or industrial area management does not have, on the date of commencement of this Order, industrial effluent treatment scheme or infrastructure for collection, storage, transportation and disposal of trade effluents industrial waste, bio-medical waste, or other hazardous substance, etc. or such infrastructure is not functional on the said date in an area abutting the River Ganga or its tributaries, every such industry or industrial area management shall, within a period so specified by the National Mission for Clean Ganga from the date of commencement of this Order, develop such infrastructure or make such infrastructure functional, as the case may be, for collection, storage, transportation and disposal of trade effluent and industrial waste, bio-medical waste, or other hazardous substance in the jurisdiction of the industry or industrial area management.

(3) No person shall construct any structure, whether permanent or temporary for residential or commercial or industrial or any other purposes in the River Ganga, Bank of River Ganga or its tributaries or active flood plain area of River Ganga or its tributaries:

Provided that in exceptional circumstances like natural calamities or religious events at traditional locations, temporary structures can be raised after prior permission of the National Mission for Clean Ganga acting through the State Ganga Committee and the District Ganga Committee:

Provided further that in case any such construction has been completed, before the commencement of this Order, in the River Bank of River Ganga or its tributaries or active flood plain area of River Ganga or its tributaries, the National Mission for Clean Ganga shall review such constructions so as to examine as to whether such constructions are causing interruption in the continuous flow of water or pollution in River Ganga or its tributaries, and if that be so, it shall cause for removing them.

(4) No person shall do any act or carry on any project or process or activity which, notwithstanding whether such act has been mentioned in this Order or not, has the effect of causing pollution in the River Ganga.

(5) It shall be the duty of the National Mission for Clean Ganga, every Specified State Ganga Committee or specified District Ganga Protection Committee, local authority and all other authorities and persons to disseminate widely and bring to public notice, using various means, information captured in reports and the aforesaid measures in the local language in every village, town, city and other areas abutting River Ganga and its tributaries.

7. Emergency measures in case of pollution of River Ganga or its tributaries --- If any poisonous, noxious or polluting matter is present or has entered into the River Ganga due to any accident or other unforeseen act or event, and it is necessary or expedient to take immediate action, the National Mission for Clean Ganga shall take immediate action for carrying out such operations or direct for carrying out such operations by the specified State Ganga Committee or specified District Ganga Committee or local authority or any other authority or Board or Corporation, as it may consider necessary for all or any of the following purposes, namely; -

(a)the manner of removing the matter from River Ganga and disposing it off in such a manner as it may specify, as also, for carrying out such operations as is considered appropriate for mitigation or removal of any pollution caused by such matter;

(b) issuing directions restraining or prohibiting any person concerned from discharging any poisonous, noxious or polluting matter in the River Ganga;

(c) undertaking any additional work or functions as may be necessary to address such emergency.

8. Power to issue directions. - The National Mission for Clean Ganga shall, in the exercise of its powers and performance or its functions under this Order, issue such directions in writing as it may consider necessary for abatement of pollution and rejuvenation, protection and management of the River Ganga to the concerned authority or local authority or other authorities or Board or Corporation or person and they shall be bound to comply with such directions.

9. Ganga safety audit.- Every District Ganga Committee shall cause the Ganga safety audit to be carried out by such Ganga Safety Auditors within such time frame and in accordance with such protocols as may be specified by the

National Mission for Clean Ganga for the area of the River Ganga abutting such district and forward the copy of the report of such safety audit along with remedial action taken thereon to the concerned State Ganga Committee and the National Mission for Clean Ganga, which shall take appropriate action thereon, if required.

10. Pollution in River Ganga and its tributaries to be monitored.- (1) The pollution in River Ganga and its tributaries shall be monitored by the National Mission for Clean Ganga on its own or by directions through various State and Central Government agencies by use of satellite imagery and other remote sensing technologies as well as physical stations, online monitoring and independent agencies at a periodicity to be specified by it.

(2) Notwithstanding the provisions of sub-paragraph (1), the Central Government may assign the function of monitoring of pollution in River Ganga and its tributaries to any other agency or body or direct, having regard to advances in technology, to monitor the aforesaid pollution in River Ganga and its tributaries by adopting any other technique or method, as may be specified in the direction.

11. Constitution of National Council for Rejuvenation, Protection and Management of River Ganga. - With effect from the date of commencement of this Order, there shall be constituted an authority by the name to be called the National Council for Rejuvenation, Protection and Management of River Ganga, (hereinafter in this Order called as the National Ganga Council) for the purposes of the Act and to exercise powers and discharge functions as specified in this Order and the Act.

12.Composition of National Ganga Council.-The National Ganga Council shall consist of the following members, namely:-	
(a)Prime Minister	-*Chairperson ,ex-officio*
(b) Union Minister for Water Resources, River Development and Ganga Rejuvenation	- *Vice-Chairperson, ex-officio*
(c)Union Minister for Environment, Forests and Climate Change	- *Member, ex-officio,*
(d)Union Minister for Finance	- *Member, ex-officio;*
(e)Union Minister for Urban Development	- *Member, ex-officio;*
(f) Union Minister for Power	- Member, *ex-officio;*
(g)Union Minister for Science and Technology	- Member, *ex-officio;*
(h)Union Minister for Rural Development	- Member, *ex-officio;*
(i)Union Minister for Drinking Water and Sanitation	- Member, *ex-officio;*
(j) Union Minister for Shipping	- Member, *ex-officio;*
(k) Union Minister of State for Tourism	- Member, *ex-officio;*
(l) Vice Chairman, NITI Aayog	- Member, *ex-officio;*
(m)Chief Minister, Bihar	- Member, *ex-officio,*
(n) Chief Minister, Jharkhand	- Member, *ex-officio;*
(o) Chief Minister, Uttarakhand	- Member, *ex-officio;*
(p) Chief Minister, Uttar Pradesh	- Member, *ex-officio;*
(q) Chief Minister, West Bengal	- Member, *ex-officio;*
(r) Secretary, Ministry of Water Resources, River Development and Ganga Rejuvenation	- Member, *ex-officio;*
(s)Director General, National Mission for Clean Ganga	– Member Secretary, *ex-officio.*

(2) The National Ganga Council may co-opt one or more Chief Ministers from the States not represented in the National Ganga Council having major tributaries of River Ganga, which are likely to affect the water quality in the River Ganga, as Member.

(3) The National Ganga Council may also co-opt one or more Union Ministers, if it considers necessary, as Member.

(4) The National Ganga Council may consult experts and expert organisations or institutions in the field of river rejuvenation, river ecology and river management, hydrology, environmental engineering, social mobilisation and other relevant fields.

(5) The Headquarter of the National Ganga Council shall be at New Delhi or at such other place as it may decide.

(6) The National Ganga Council shall have its Secretariat in the National Mission for Clean Ganga.

(7) The Central Government in the Ministry of Water Resources, River Development and Ganga Rejuvenation shall serve as the nodal Ministry.

13. Dissolution of National Ganga River Basin Authority --- (1) On and from the date of constitution of the National Ganga Council in paragraph 11, the National Ganga River Basin Authority constituted by Notification of the Ministry of Water Resources, River Development and Ganga Rejuvenation, number S.O 2539 (E), dated the 29th September 2014 shall stand dissolved.

(2) All things done or omitted to be done or actions taken or any money spent or authorised to be spent by the National Ganga River Basin Authority before such dissolution shall be deemed to have been done or taken under the corresponding provisions of this Order.

14.Superintendence, direction and control of management of River Ganga to vest in National Ganga Council.- The National Ganga Council shall, notwithstanding anything contained in this Order, be overall responsible for the superintendence, direction, development and control of River Ganga and the entire River Basin (including financial and administrative matters) for the protection, prevention, control and abatement of environmental pollution in River Ganga and its rejuvenation to its natural and pristine condition and to ensure continuous adequate flow of water in the River Ganga and for matters connected therewith.

15. Jurisdiction of National Ganga Council.- The jurisdiction of the National Ganga Council shall extend to the areas mentioned in paragraph 2.

16. Meetings of National Ganga Council.- (1) National Ganga Council may regulate its own procedure for transacting its business including its meetings.

(2) The Chairperson of the National Ganga Council shall preside over its meetings and in his absence, its Vice-Chairperson shall, preside over the meetings of the National Ganga Council and conduct its business.

(3) The Vice-Chairperson shall have the power to take decisions necessary for the National Ganga Council to achieve its objectives, in between the conduct of the two meetings of the Council subject to ratification in the next meeting.

(4) The National Ganga Council shall meet at least once every year or more as it may deem necessary.

17. Constitution of Empowered Task Force on River Ganga as authority.- (1) With effect from the date of commencement of this Order, there shall be constituted an authority by the name to be called the Empowered Task Force on River Ganga for the purposes of the Act and to exercise powers and discharge functions as specified in this Order and the Act.

(2) The Empowered Task Force on River Ganga shall consist of the following members, namely:-
(a)Union Minister for Water Resources, River Development and Ganga Rejuvenation – Chairperson, *ex-officio*;
(b) Union Minister of State for Water Resources, River Development and Ganga Rejuvenation - Vice-Chairperson, *ex-officio*;
(c)Secretary in the Ministry of Water Resources, River Development and Ganga Rejuvenation - Member, *ex-officio*
(d) Secretary in the Ministry of Finance (Department of Expenditure) - Member, ex-officio;
(e) Chief Executive Officer, Niti Ayog - Member, ex-officio;
(f) Chief Secretary, State of Uttrakhand – Member, ex-officio;
(g) Chief Secretary, State of Uttar Pradesh - Member, ex-officio;
(h)Chief Secretary, State of Bihar – Member, ex-officio;
(i) Chief Secretary, State of Jharkhand – Member, ex-officio;
(j) Chief Secretary, State of West Bengal – Member, ex-officio.
(k) Director General , National Mission for Clean Ganga - Member-Secretary

(3) The Empowered Task Force on River Ganga may also co-opt one or more Secretary in the Union Ministries or the Chief Secretary of any other State concerned, if it considers necessary, as member

(4) The Empowered Task Force on River Ganga shall meet at least once every three months or more as it may deem necessary.

(6) The National Ganga Council shall have its Secretariat in the National Mission for Clean Ganga.

(7) The Central Government in the Ministry of Water Resources, River Development and Ganga Rejuvenation shall serve as the nodal Ministry.

13. Dissolution of National Ganga River Basin Authority --- (1) On and from the date of constitution of the National Ganga Council in paragraph 11, the National Ganga River Basin Authority constituted by Notification of the Ministry of Water Resources, River Development and Ganga Rejuvenation, number S.O 2539 (E), dated the 29th September 2014 shall stand dissolved.

(2) All things done or omitted to be done or actions taken or any money spent or authorised to be spent by the National Ganga River Basin Authority before such dissolution shall be deemed to have been done or taken under the corresponding provisions of this Order.

14.Superintendence, direction and control of management of River Ganga to vest in National Ganga Council.- The National Ganga Council shall, notwithstanding anything contained in this Order, be overall responsible for the superintendence, direction, development and control of River Ganga and the entire River Basin (including financial and administrative matters) for the protection, prevention, control and abatement of environmental pollution in River Ganga and its rejuvenation to its natural and pristine condition and to ensure continuous adequate flow of water in the River Ganga and for matters connected therewith.

15. Jurisdiction of National Ganga Council.- The jurisdiction of the National Ganga Council shall extend to the areas mentioned in paragraph 2.

16. Meetings of National Ganga Council.- (1) National Ganga Council may regulate its own procedure for transacting its business including its meetings.

(2) The Chairperson of the National Ganga Council shall preside over its meetings and in his absence, its Vice-Chairperson shall, preside over the meetings of the National Ganga Council and conduct its business.

(3) The Vice-Chairperson shall have the power to take decisions necessary for the National Ganga Council to achieve its objectives, in between the conduct of the two meetings of the Council subject to ratification in the next meeting.

(4) The National Ganga Council shall meet at least once every year or more as it may deem necessary.

17. Constitution of Empowered Task Force on River Ganga as authority.- (1) With effect from the date of commencement of this Order, there shall be constituted an authority by the name to be called the Empowered Task Force on River Ganga for the purposes of the Act and to exercise powers and discharge functions as specified in this Order and the Act.

(2) The Empowered Task Force on River Ganga shall consist of the following members, namely:-
(a)Union Minister for Water Resources, River Development and Ganga Rejuvenation – Chairperson, *ex-officio*;
(b) Union Minister of State for Water Resources, River Development and Ganga Rejuvenation - Vice-Chairperson, *ex-officio*;
(c)Secretary in the Ministry of Water Resources, River Development and Ganga Rejuvenation – Member, *ex-officio*
(d) Secretary in the Ministry of Finance (Department of Expenditure) - Member, ex-officio;
(e) Chief Executive Officer, Niti Ayog – Member, ex-officio;
(f) Chief Secretary, State of Uttrakhand - Member, ex-officio;
(g) Chief Secretary, State of Uttar Pradesh – Member, ex-officio;
(h)Chief Secretary, State of Bihar – Member, ex-officio
(i) Chief Secretary, State of Jharkhand – Member, ex-officio;
(j) Chief Secretary, State of West Bengal - Member, ex-officio;
(k) Director General , National Mission for Clean Ganga - Member-Secretary

(3) The Empowered Task Force on River Ganga may also co-opt one or more Secretary in the Union Ministries or the Chief Secretary of any other State concerned, if it considers necessary, as member

(4) The Empowered Task Force on River Ganga shall meet at least once every three months or more as it may deem necessary.

(5) The administrative and technical support to the Empowered Task Force on River Ganga shall be provided by the Central Government in the Ministry of Water Resources, River Development and Ganga Rejuvenation which shall be the nodal Ministry for the purposes of such administrative and technical support.

18. Functions and powers of Empowered Task Force on River Ganga. –

(1) The Empowered Task Force on River Ganga shall co-ordinate and advise on matters relating to rejuvenation, protection and management of River Ganga and its tributaries.

(2) In particular and without prejudice to the generality of the provisions of sub-paragraph (1), the functions and powers of the Empowered Task Force on River Ganga may include measures with respect to all or any of the following matters in rejuvenation, protection and management of River Ganga, namely -

(a) ensuring that the Ministries, Departments and State Governments concerned have -

(i) an action plan with specific activities, milestones, and timelines for achievement of the objective of rejuvenation and protection of River Ganga;

(ii) a mechanism for monitoring implementation of its action plans;

(b) co-ordination amongst the Ministries and Departments and State Governments concerned for implementation of its action plans in a time bound manner;

(c) to monitor the implementation process, address bottlenecks, suggest and take such decisions as may be necessary to ensure speedy implementation;

(d) all projects under the ambit of Namami Gange including ongoing projects funded domestically and through external assistance;

(e) discharge of such other functions or exercise of such powers as may be considered necessary for achievement of the objective of rejuvenation, protection and management of River Ganga or as may be assigned to it by the Central Government or specified by the National Ganga Council;

19. Approval for projects exceeding value of rupees one thousand crore.-

(1) The Empowered Task Force on River Ganga shall be responsible for the approval of every project exceeding a value of rupees one thousand crore, as amended from time to time.

(2) The Empowered Task Force on River Ganga may constitute a sub-committee of officials amongst its members for the purpose of sub-paragraph (1)

20. Constitution and Composition of Specified State Ganga Rejuvenation, Protection and Management Committees as authorities.– With effect from the date of commencement of this Order, these shall be constituted, in each State as specified in paragraph 2, an authority to be called the State Ganga Rejuvenation, Protection and Management Committee, which shall consist of a Chairperson and other members as specified in the Schedule to exercise powers and discharge functions as specified in this Order and the Act.

21. Meetings of State Ganga Committee. – (1) Every State Ganga Committee may regulate its own procedure for transacting its business including its meetings.

(2)Every State Ganga Committee shall convene its meetings at least once in every three months' time.

(3) The Chairperson of the State Ganga Committee shall preside over its meetings and in his absence, the said Committee shall elect its Vice-Chairperson who shall, preside over the meetings of the State Ganga Committee and conduct its business.

22. Superintendence, direction and control over Committee.- The superintendence, direction and control of the District Ganga Committees shall, notwithstanding anything contained in this Order, vest in the State Ganga Committee, for the purposes of rejuvenation, protection, prevention, control and abatement of environmental pollution in River Ganga and its tributaries so as to rejuvenate the River Ganga to its natural and pristine condition and ensure continuous and adequate flow of water in River Ganga and for protection and management of River Ganga in the States concerned.

23. Decisions of State Ganga Committee to be binding.- The decision taken at the meetings of the State Ganga Committee shall, notwithstanding anything contained in this Order, be binding upon every District Ganga Committee and every local authority or other authority or Board or person referred to in such decision and they shall comply with the decisions of the State Ganga Committee.

24. Powers, duties and functions of State Ganga Committees.– (1) Every State Ganga Committee shall, subject to the provisions of the Act and rules made or directions issued thereunder, have the power to take all such measures, including those in paragraphs 6, 7 and 8, as it deems necessary or expedient for effective abatement of pollution and conservation

of the River Ganga and for implementing the decisions or directions of the National Ganga Council and National Mission for Clean Ganga.

(2) The State Ganga Committee shall implement various programmes and projects of the National Ganga Council and National Mission for Clean Ganga.

(3) In particular and without prejudice to the generality of the provisions of sub-paragraphs (1) and (2), such measures may include all or any of the following matters, namely:-

(a) coordination and implementation of the conservation activities relating to River Ganga including augmentation of sewerage infrastructure, catchment area treatment, protection of flood plains, creating public awareness and such other measures at the State level and regulation of activities aimed at the prevention, control and abatement of pollution in the River Ganga to maintain its water quality, and to take such other measures relevant to river ecology and management in the State concerned;

(b) implementation of the river basin management plan in the concerned State;

(c) maintenance of minimum ecological flows in the River Ganga in the concerned State and actions thereon;

(d) entry and inspection under section 10 and power to take sample under section 11 of the Act for the purpose of exercising and performing its functions under this Order.

(4) The State Ganga Committee shall undertake all the emergency measures mentioned in paragraph 7.

(5) The State Ganga Committee shall have the powers to issue directions under section 5 of the Act.

(6) The powers and functions of the State Ganga Committee shall be without prejudice to any of the powers conferred upon the State Government under any Central or State Act, being not inconsistent with the provisions of the Act.

25. Monitoring execution of plans and programmes of District Ganga Committees.- Every State Ganga Committee shall monitor the execution of plans, programmes, and projects of all their District Ganga Protection Committees and those of other authorities and submit progress in respect thereof to the National Mission for Clean Ganga.

26. Preparation of consolidated reports of all District Ganga Committees and taking remedial measures in respect thereof.- (1) Every State Ganga Committee shall prepare a consolidated report of all District Ganga Protection Committees, local authorities or other authorities or Board or Corporation or person for every quarter indicating therein in respect of each specified District abutting River Ganga and its tributaries. ----

(a) the status of the plans being executed and measures taken by them and any other activity relating to the health of River Ganga and its tributaries;

(b) the quality of water in River Ganga and its tributaries in each specified District and remedial action in respect thereof;

(c) any interruption of flow in the River Ganga in each specified District and reasons therefor;

(d) remedial measures taken on the complaints made to the District Ganga Committee or local authorities or other authorities;

(e) adverse report as reported by Ganga safety auditors in each specified District;

(f) any other information relevant to the health of River Ganga and its tributaries.

(2) The report referred to in sub-paragraph (1) shall be submitted within one month at the end of each year to the State Ganga Committee and National Mission for Clean Ganga along with remedial action thereof.

27. Conducting of Ganga safety audit and submission of such audit reports by State Ganga Committees.- (1) It shall be the duty of the State Ganga Committees to conduct or causes to be conducted, through the District Ganga Committees, the Ganga safety audit and submit report of the Ganga safety audit to the National Mission for Clean Ganga along with the remedial action taken thereon and also make available the same in public domain and exhibit the same at its website.

(2) The Ganga safety audit shall include such particulars and be done at such intervals (save as otherwise provided in this Order) and in such manner as may be specified, by notification, by the National Mission for Clean Ganga.

28. State Ganga Committee to be nodal agency.- The State Ganga Committee shall be the State-wide nodal agency in the State for the implementation of the provisions of this Order and for effective abatement of pollution and rejuvenation, protection and management of the River Ganga and its tributaries.

29. State Ganga Committees to be bound by direction of National Ganga Council and National Mission for Clean Ganga.- Every State Ganga Committee, without prejudice to the foregoing provisions of this Order, shall, in exercise of its powers or the performance of its functions under this Order, be bound by the decisions or such directions (including those relating to technical and administrative matters) as the National Ganga Council and the National Mission for Clean

Ganga may give in writing to it from time to time for abatement of pollution and rejuvenation, protection and management of the River Ganga.

30. Dissolution of State Ganga River Conservation Authorities and State Executive Committees.- (1) With effect from the date of constitution of the State Ganga Committees, the respective State Ganga River Conservation Authorities and the respective State Executive Committees constituted before the commencement of this Order shall stand dissolved.

(2)All things done or omitted to be done or actions taken or any money spent or authorised to be spent by the authorities and committees under sub-paragraph (1) before such dissolution shall be deemed to have been done or taken under the corresponding provisions of this Order.

31. Constitution of National Mission for Clean Ganga as an authority.- (1) With effect from the date of commencement of this Order, the National Mission for Clean Ganga, a society registered under the Societies Registration Act, 1860 (21 of 1860), shall be an authority constituted under the Act, by the same name for the purposes of the Act and to exercise powers and discharge functions as specified under this Order and the Act and the rules made or directions issued thereunder.

(2) The composition of the National Mission for Clean Ganga shall be as specified in paragraph 35.

32. Area of operation of National Mission for Clean Ganga.- The area of operation of the National Mission for Clean Ganga shall be the areas mentioned in paragraph 2.

33. National Mission for Clean Ganga to be nodal agency.- The National Mission for Clean Ganga shall be the nodal agency for the nationwide implementation of the provisions of this Order and for effective abatement of pollution and rejuvenation, protection and management of the River Ganga and its tributaries.

34. National Mission for Clean Ganga to be an empowered organization.- The National Mission for Clean Ganga shall be an empowered organisation with two tier management having administrative, appraisal and approval powers and duties, functions and powers as specified in this Order.

35. Composition of National Mission for Clean Ganga.- The National Mission for Clean Ganga shall have a two-tier management structure and it shall comprise of the Governing Council and the Executive Committee.

(1) The Governing Council shall consist of the following members, namely:-

(a)	Director General of National Mission for Clean Ganga	Chairman, ex-officio
(b)	Joint Secretary, Ministry of Water Resources, River Development and Ganga Rejuvenation	Member, *ex-officio*
(c)	Joint Secretary, Ministry of Urban Development	Member, *ex-officio*
(d)	Joint Secretary, Ministry of Environment, Forests and Climate Change	Member, *ex-officio*
(e)	Joint Secretary, Department of Expenditure	Member, *ex-officio*
(f)	Representative of NITI Aayog (not below Joint Secretary)	Member, *ex-officio*
(g)	Chairman, Central Pollution Control Board	Member, *ex-officio*
(h)	Principal Secretary, Urban Development, Government of Bihar	Member, *ex-officio*
(i)	Principal Secretary, Urban Development, Government of Jharkhand	Member, *ex-officio*
(j)	Principal Secretary, Urban Development, Government of Uttar Pradesh	Member, *ex-officio*
(k)	Principal Secretary, Peyjal, Government of Uttarakhand	Member, *ex-officio*
(l)	Principal Secretary, Urban Development, Government of West Bengal	Member, *ex-officio*
(m)	Executive Director(Deputy Director General), National Mission for Clean Ganga	Member, *ex-officio*
(n)	Executive Director (Technical),National Mission for Clean Ganga	Member, *ex-officio*

(o)	Executive Director (Finance), National Mission for Clean Ganga	Member, *ex-officio*
(p)	Executive Director (Projects), National Mission for Clean Ganga	Member, *ex-officio*
(q)	Executive Director(Administration), National Mission for Clean Ganga	Member- Secretary

(2) The Executive Committee constituted out of the Governing Council, shall consist of the following members, namely:-

(a) Director General, National Mission for Clean Ganga – Chairperson, ex-officio;
(b) Joint Secretary, Department of Expenditure – Member, ex-officio;
(c) Representative of NITI Aayog (not below Joint Secretary) – Member, ex-officio;
(d) Principal Secretary of the State concerned – Member, ex-officio;
(e) Executive Director (Deputy Director General)
National Mission for Clean Ganga – Member, ex-officio;
(f) Executive Director (Finance)
National Mission for Clean Ganga – Member, ex-officio;
(g) Executive Director (Technical)
National Mission for Clean Ganga – Member, ex-officio;
(h) Executive Director (Projects)
National Mission for Clean Ganga – Member, ex-officio;
(i) Executive Director (Administration)
National Mission for Clean Ganga – Member, ex-officio;

(3) The Director General, National Mission for Clean Ganga may, if he considers necessary, may associate with the Executive Committee, any other member from the Governing Council.

(4) The Governing Council may constitute a sub-committee from out of its members and also by associating some technical experts for appraisal of the projects.

(5) The representative of the State concerned shall also be one of the members of sub-committee.

(6) Half of the members of the Governing Council shall form the quorum.

36. (1) All approvals up to one thousand crores rupees shall be granted by the Executive Committee and it shall report to the Governing Council at least once in three months.

(2) The Sub-Committee of the Governing Council shall appraise the project only after completion of Third Party Appraisal of the project by technical experts or consortium of recognized institutes or Indian Institutes of Technology, as the case may be.

(3) The Third Party Appraisal shall be for all projects irrespective of their value.

37. Appointment of Director General and Executive Directors of National Mission for Clean Ganga.-

(1) Director General, National Mission for Clean Ganga shall be appointed by the Central Government who shall be equivalent to the rank of Additional Secretary or Secretary to the Government of India and his terms and conditions of services shall be determined by Central Government.

(2) The Executive Director (Finance) shall be appointed on deputation from any of the organised accounts services in the Central Government in the rank equivalent to Joint Secretary to Government of India in accordance with the recruitment rules of the said services.

(3) National Mission for Clean Ganga shall have at least one position for each of the Executive Directors in the rank of Joint Secretary to Government of India.

(4) One of the Executive Directors shall be designated as Deputy Director General of the National Mission for Clean Ganga and he shall be appointed by the Central Government.

(5) None of the nominated members of the Executive Committee shall be below the rank of Joint Secretary in Government of India.

38. Duty of National Mission for Clean Ganga.- It shall be the duty of the National Mission for Clean Ganga to -

(i) follow the principles laid down in paragraph 4

(ii) comply with the decisions and directions of the National Ganga Council and implement the Ganga Basin Management Plan approved by it;

(iii) co-ordinate all activities for rejuvenation and protection of River Ganga in a time bound manner as directed by the National Ganga Council;

(iv) do all other acts or abstain from doing certain act which may be necessary for rejuvenation and protection of River Ganga and its tributaries.

39. Functions of National Mission for Clean Ganga.- (1) Without prejudice to the provisions of this Order, the National Mission for Clean Ganga shall identify or cause to be identified –

(a) the specific threats to the River Ganga in areas in each village and town of such specified District abutting River Ganga and its tributaries, including sewerage and industrial waste, cremation and burial of corpses and disposal of animal carcasses, and threats from commercial, recreational and religious activities;

(b) the type of measures required to address such threat in each village and town of all districts abutting River Ganga and its tributaries;

(c) the specific areas where such remedial actions are required to be taken for rejuvenation and protection of River Ganga and its tributaries.

(d) the measures which may be necessary for reuse of treated water and enter in to Memorandum of Understanding in this regard with the Ministries of the Central Government like Railways, Power, Petroleum and Natural Gas etc., State Governments, autonomous bodies at the Central and State level, recognized Institutes and organizations which the National Mission for Clean Ganga may deem fit.

(2) The National Mission for Clean Ganga shall make or cause to make the River Ganga Basin Management Plan along with cost, timelines and allocation of responsibilities, among other things, for rejuvenation and protection of River Ganga and its tributaries in each village and town of specified District abutting River Ganga and its tributaries and execute projects there for.

(3) The National Mission for Clean Ganga shall -----

(a) cause to be determined the magnitude of ecological flows in the River Ganga and its tributaries required to be maintained at different points in different areas at all times with the aim of ensuring water quality and environmentally sustainable rejuvenation, protection and management of River Ganga and its tributaries and notifying the same and take or direct all such measures necessary to maintain adequate ecological flows;

(b) cause to be identified places where the environmental flow of water of River Ganga has been modified and take measures for correction thereof to maintain the continuous flow of water for rejuvenation, protection and management of River Ganga and its tributaries;

(c) identify places of discontinuity of water in River Ganga and its tributaries due to engineered diversion of water or storage of water or by any other means and execute plans in respect thereof or take remedial action therefor;

(d) devise a system to be put in place for continuous monitoring of flow of water and pollution levels in River Ganga and its tributaries;

(e) take all such measures which may be necessary to give effect to the decisions of the National Ganga Council so as to maintain adequate ecological flows in the River Ganga and tributaries;

(f) render assistance or cause them to be rendered by any agency for preparation of detailed project reports or execution of projects for abatement of pollution and rejuvenation, protection and management of the River Ganga and its tributaries to the State Governments, the State Ganga Committees, District Ganga Committees or local authorities or any person or body, any authority, Board or Corporation;

(g) set up or facilitate setting up or designate and direct one or more existing centers to research, develop and disseminate knowledge base and analytical tools on abatement of pollution and rejuvenation, protection and management of River Ganga and its tributaries;

(h) take any other measures which may be necessary for continuous flow of water and abatement of pollution in River Ganga and its tributaries

(4)The National Mission for Clean Ganga shall take all such other emergency measures as outlined in paragraph 7.

40. Establishment of River Ganga Monitoring Centres at suitable locations along River Ganga and its tributaries.- The National Mission for Clean Ganga may identify the places in the River Ganga Basin and establish at such places or designate any existing laboratory or station or institute as Centres to be called the "River Ganga

Monitoring Centre" for monitoring amongst other things, continuous flow of water and pollution levels as required under this Order and such Centre shall report immediately to the National Mission for Clean Ganga for taking remedial action therefor.

41. Powers of National Mission for Clean Ganga.- (1) The National Mission for Clean Ganga being the national agency charged with the role, responsibility and powers to facilitate the task of rejuvenation, protection and management of River Ganga and its tributaries, under the supervision and direction of the National Ganga Council, shall recommend to the National Ganga Council or Central Government for issuing directions or issue directions itself, to the State Ganga Committees or District Ganga Committees or local authority or any other authority or any person, institution, consortium or agency, as it may decide, for the rejuvenation, protection and management of River Ganga and have the power to take all such measures and discharge such functions as it may deem necessary or expedient for prevention, control and abatement of environmental pollution in River Ganga and its tributaries so as to rejuvenate the River Ganga to its natural and pristine condition and ensure continuous and adequate flow of water in River Ganga and for protection and management of River Ganga and for matters connected therewith.

(2) In particular and without prejudice to the generality of the provisions of sub-paragraph (1), and save as otherwise provided in this Order, such directions may include all or any of the following matters in the management of River Ganga, namely:-

(a) fulfillment of the functions mentioned in paragraph 55 in accordance with the principles in paragraph 4;

(b) formulate, with the approval of the Central Government, the National policy for effective abatement of pollution and rejuvenation, protection and management of River Ganga;

(c) enter into memorandum of understanding, with the approval of the Central Government, with any country or foreign agency for effective implementation of the River Ganga Basin Management Plan for rejuvenation, protection, prevention, control and abatement of pollution in the River Ganga and its tributaries;

(d) approve, with or without modifications, the River Ganga Basin Management Plan and direct amendments, if any, to be made therein;

(e) supervise and review the progress reports, and issue directions to the State Ganga Committees, District Ganga Committees or local authorities and other authorities in the implementation of the River Ganga Basin Management Plan and any other matter connected with affairs of the River Ganga and its tributaries;

(f) approve the planning, financing and execution of programmes for abatement of pollution in the River Ganga including augmentation of sewerage and effluent treatment infrastructure, catchment area treatment, protection of flood plains, creating public awareness, conservation of aquatic and riparian life and biodiversity and such other measures for promoting environmentally sustainable river rejuvenation;

(g) coordination, monitoring and review of the implementation of various programmes or activities taken up for prevention, control and abatement of pollution and protection and management in the River Ganga and its tributaries;

(h) direct any person or authority to take measures for restoration of river ecology and management in the River Ganga Basin States;

(i) recommend to the Central Government, for creation of special purpose vehicles (whether as a company under the companies Act, 2013(18 of 2013) or Societies Registration Act, 1860 (21 of 1860) or a Trust under the Indian Trust Act, 1882 (2 of 1882)), as may be considered appropriate, for implementation of this Order and for the purposes of the Act;

(j) take such measures as may be necessary for the better co-ordination of policy and action to ensure effective prevention, control and abatement of pollution, rejuvenation and protection and management in the River Ganga and its tributaries;

(k) issue such directions to any person or authority, as it may consider necessary, for proper or prompt execution of the projects or cancel such projects or stop release of funds or direct refund of amount already released and assign the same to any other person or authority or Board or Corporation for prompt execution thereof;

(l) direct any person or authority to maintain such books of account or other documents, without prejudice to any law for the time being in force, as may be specified by the National Mission for Clean Ganga;

(m) take such other measures which may be necessary for achievement of prevention, control and abatement of pollution, rejuvenation and protection and management in the River Ganga and its tributaries;

(3)The National Mission for Clean Ganga shall have the power to issue directions mentioned under section 5 of the Act.

(4)The National Mission for Clean Ganga may evolve an appropriate mechanism for implementation of its decisions and the decisions of the National Ganga Council.

42. Giving of prior approval in certain matters.- Every person, the State Ganga Committees, District Ganga Protection Committees, local authorities and other authorities shall obtain prior approval of the National Mission for Clean Ganga, on the following matters, relating to River Ganga and any area abutting River Ganga or its tributaries, if required to implement the decisions of the National Ganga Council, namely:-

(a) engineered diversion and storage of water in River Ganga without affecting the flow of water downstream of the River Ganga;

(b) construction of bridges and associated roads and embankments over the River Ganga or at its River Bank or its flood plain area;

(c) construction of Ghats or extension of any existing Ghat;

(d) construction of jetties;

(e) construction of permanent hydraulic structures for storage or diversion or control of waters or channelisation of River Ganga or its tributaries;

(f) deforestation of hill slopes and notified forest and other eco-sensitive areas;

(g) any other activity which contravenes the principles laid out in paragraph 4 which the National Mission for Clean Ganga may specify.

43. Financial framework.- (1) The budgetary allocation shall be utilised by the National Mission for Clean Ganga for meeting expenses in connection with the discharge of its functions, objects and purposes and establishment expenditure: Provided that the money received by way of grants, loans and borrowings shall be expended for the specific purpose for which such grants, loans and borrowings have been received.

(2) The National Mission for Clean Ganga shall maintain proper accounts and other relevant records and prepare an annual expenditure statement.

(3)The audit of National Mission for Clean Ganga accounts shall be done by the Comptroller and Auditor-General of India and after completion of annual audit, the audit agency shall furnish annual audit certificate.

(4)The affairs of National Mission for Clean Ganga shall be subject to the control of Central Vigilance Commission and there shall be a Vigilance Officer to look after vigilance related matters.

(5) The annual expenditure statement with the audit report shall be forwarded annually to the Empowered Task Force, and the Central Government for being laid before each House of Parliament.

44. Engagement of legal experts.- The National Mission for Clean Ganga shall have proper legal set up for which it may engage legal experts, consultants and legal firms as may be necessary for advising it on legal matters and providing support for discharging its duties.

45. Scrutiny of reports.- All the reports relating to its activities and reports received from the State Ganga Committees, District Ganga Committees, local authority, Board, Corporation or any person shall be scrutinised by the National Mission for Clean Ganga and placed by it along with its views on the matters mentioned in such report before the National Ganga Council for soliciting its guidance thereon, if required.

46. Consolidated report of Ganga Safety audit.- The National Mission for Clean Ganga shall prepare and submit a consolidated report of the Ganga safety audits of River Ganga to the National Ganga Council along with the remedial action taken thereon and also make available the same in public domain and exhibit the same at its website.

47. Powers of National Mission for Clean Ganga to call for information, conduct inspection, publish reports, etc.- (1) Where the National Mission for Clean Ganga considers it expedient so to do under section 5 of the Act, it may, by order in writing.-

(a) call upon any State Ganga Committees, District Ganga Protection Committees, local authority, other authority, Board, Corporation or person, who has been allotted any project for execution or connected with such project or utilisation of funds, at any time, to furnish in writing or make public for dissemination such information or explanation relating to such project allotted for execution or executed or utilisation of fund allotted as the National Mission for Clean Ganga may require; or

(b)appoint one or more persons or any authority to make an inquiry in relation to project allotted for execution or executed or utilisation of fund allotted; or

(c) direct any of its officers or employees or the officers or employees of the Central Government or State Government or any other authority to inspect the books of account or other documents of the State Ganga Committees, District Ganga

Committees, local authority, other authority, Board, Corporation or person related to any project allotted for execution or executed or utilisation of funds; or

(d) require any person, officer, State Government or authority to furnish to it any reports, returns, statistics, accounts and other information and such person, officer, State Government or other authority shall be bound to do so.

48. Financing and implementation model.– The National Mission for Clean Ganga shall develop and constantly refine financial models that would improve the performance and sustainability of projects, and which can be adopted by the State Ganga Committees, District Ganga Committees, local authority, other authority or person for abatement of pollution and rejuvenation, protection and management of the River Ganga.

49. Preparation of consolidated reports.- (1) The National Mission for Clean Ganga shall, on the basis of the reports and other information forwarded by the State Ganga Committees, District Ganga Committees, local authorities, other authorities, Board, Corporation or person, prepare a consolidated report every year indicating therein in respect of each specified District abutting River Ganga and its tributaries.-

(a) the status of the plans being executed and measures taken by them and any other activity relating to the health of River Ganga and its tributaries;

(b) the quality of water in River Ganga and its tributaries and remedial action in respect thereof;

(c) any interruption of water in the River Ganga and reasons therefor;

(d) condition of River Bed and flood plains and habitat in the specified District;

(e) remedial measures taken on the complaints received from public by the District Ganga Committee or local authorities:

(f) threats remaining to be addressed by then with remedial action proposed therefor;

(g) report if any as reported by Ganga safety auditors;

(h) all other information relevant about the health of River Ganga and its tributaries.

(2) The National Mission for Clean Ganga shall submit a consolidated report referred to in sub-paragraph (1) after review thereof to the Empowered Task Force along with remedial action thereof.

50. Annual report.- (1) The National Mission for Clean Ganga shall, within three months of the end of every year, prepare an annual report of all work undertaken by it and by the Empowered Task Force on River Ganga, the State Ganga Committees, District Ganga Committees, concerned local authorities, other authorities, Board, Corporation or persons during the immediately preceding year.

(2) The National Mission for Clean Ganga shall include under separate parts in its annual report referred to in sub-paragraph (1), all works undertaken by it and the Empowered Task Force on River Ganga, the State Governments, the State Ganga Committees, District Ganga Committees, concerned local authorities, other authorities, Board, Corporation or person, and forward the said annual report to the National Ganga Council and the Central Government and also make available in public domain and exhibit at its website.

51. Constitution of Committees.- The National Mission for Clean Ganga may, constitute one or more River Ganga Management Committees from amongst its members and such experts in the field of rivers or water as it may consider appropriate for the efficient discharge of its functions under this Order.

52. Soliciting guidance.- In case any difficulty arises in implementing decisions of the National Ganga Council or the provisions of this Order, it shall be duty of the National Mission for Clean Ganga to solicit the guidance of the National Ganga Council and take appropriate action accordingly.

53. Constitution of District Ganga Protection Committees.- (1) The Central Government shall immediately after the commencement of this Order, in consultation with concerned State Ganga Committee, by notification constitute, in every specified District abutting River Ganga and its tributaries in the States mentioned in paragraph 2, the "District Ganga Committees" for the prevention, control and abatement of environmental pollution in the River Ganga.

(2) Every District Ganga Committee in each specified District shall consist of the following members, namely:-
(a) the District Collector in the specified District; - Chairperson, ex-officio;
(b) not more than two nominated representatives from Municipalities and Gram Panchayats of the specified District nominated by the State Government. - Members;

(c) one representative each of the Public Works, Irrigation, Public Health Engineering, and Rural Drinking Water Departments, and State Pollution Control Board working in the specified District abutting River Ganga to be nominated by the District Collector - Member, ex-officio;
(d) two environmentalists associated with River Ganga protection activities and one representative of local industry association in the specified District to be nominated by the District Collector - Members,;
(e) one Divisional Forest Officer of the specified District - Member, ex-officio
(f) one District official to be nominated by the District Collector. - Member;

(2) The District Collector shall be the Chairperson of the District Ganga Committee and the Divisional Forest Officer shall be the Convener of the District Ganga Committee.

(3) The District Ganga Committees shall meet at such times and at such places as the Chairperson of that Committee may decide and exercise such powers and functions as may be conferred under this Order:

Provided that at least one meeting of the District Ganga Committee shall be held every three months.

(4) A non ex-officio member may resign his office by giving notice in writing thereof to the Central Government or to the District Collector concerned, as the case may be, and shall cease to be a member on his resignation being accepted by the Government or the District Collector concerned, as the case may be.

54. Superintendence, direction and control of District Ganga Committee.- The superintendence, direction and control of the management of the District Ganga Committee (including financial and administrative matters) shall, notwithstanding anything contained in this Order, vest in the National Mission for Clean Ganga which may be exercised by it either directly or through the State Ganga Committee or any of its officer or any other authority specified by it.

55. Functions and powers of District Ganga Committees.- (1) Every District Ganga Committee shall discharge functions and exercise powers for rejuvenation, protection, restoration and rehabilitation of River Ganga and its tributaries in each specified District as laid out in paragraph 6 and 7 as per the principles specified in paragraph 4.

(2) In particular, and without prejudice to the generality of the provisions of sub-paragraph (1) for rejuvenation and protection and restoration or rehabilitation of degraded areas abutting River Ganga and its tributaries and subject to other provisions of this Order and rules made thereunder, every District Ganga Committee shall have the following powers and functions in relation to River Ganga and its tributaries abutting in the area in specified District, namely:-

(a) identifying activities which may be threats in the area of specified District abutting the River Ganga for protection of River Ganga and its tributaries or its River bed and making a plan for remedial action and take remedial action in respect thereof;

(b) taking remedial action at its own end for protection of River Ganga and its tributaries or its River bed abutting in the specified District (excluding enforcement of the provisions of this Order)

(c) in the event of its inability to take remedial action, reporting (electronically as well as by sending written communication in hard copy) to the National Mission for Clean Ganga and concerned State Government, the State Ganga Committee, as the case may be, for issue of direction for protection of River Ganga and to formulate appropriate management or remedial actions.

(d) taking suitable administrative and other measures, to give effect to the provisions of this Order so as to prevent the environmental pollution in the River Ganga and its tributaries, not being inconsistent with the provisions of this Order, or any law for the time being in force.

(3) In case, the District Ganga Committee is of the opinion that any contravention has been made of any other law for the time being in force or in respect of provisions of this Order, it shall take appropriate action in accordance with the law for the time being in force.

(4) The District Ganga Committee shall take all such emergency measures as specified in paragraph 7.

56. Designation of Nodal Officer.- (1) Every District Ganga Committee shall nominate as Nodal Officer for the purposes of this Order -

(a) the Sarpanch of Gram Sabha of every village in the areas abutting the River Ganga and its tributaries;

(b) in case of an area, not being village abutting the River Ganga, the Chairperson of Municipality Planning Committee or Metropolitan Planning Committee or Chairperson of any local authority, as the Chairperson of the District Ganga Committee.

(2) Every Nodal Officer nominated under sub-paragraph (1) shall take measures to prevent the pollution of River Ganga and its tributaries and take remedial action for protection of River Ganga and its tributaries or their River bed abutting in such village or other area, as the case may be, of which he is the Nodal Officer and in case of his failure to do so, he shall report the violation of this Order to the Chairperson of the District Ganga Committee for remedial action.

(3) After receipt of the report under sub-paragraph (2), the Chairperson of the District Ganga Committee shall take remedial action for protection of River Ganga or its River bed abutting the specified District.

57. Preparation of plans.- (1) Every District Ganga Committee shall prepare its plan for protection of River Ganga and its tributaries and their River bed abutting the specified District and submit the same to the National Mission for Clean Ganga for its approval.

(2) The plan under sub-paragraph (1) shall include the activities to be undertaken by the District Ganga Committee for protection, control and abatement of environmental pollution in River Ganga and its tributaries and their River Bed area abutting the specified District which may be recommended by the State Government, State Ganga Committees, the National Mission for Clean Ganga, any other authority or Board and the expenditure involved for such plan and time within which such activities shall be completed.

58. Preparation of budget and maintenance of accounts.- Every District Ganga Committee shall prepare its budget for every financial year indicating therein the funds required and purposes for which such funds shall be spent and the time limit within which the activity mentioned in the budget shall be completed and submit to concerned State Ganga Committee under intimation to National Mission for Clean Ganga and such Committee shall ensure proper maintenance of accounts as directed by National Mission for Clean Ganga, for audit by the Comptroller and Auditor-General of India or any other agency appointed by the Comptroller and Auditor-General of India and such accounts shall be subject to inspection by National Ganga Council, National Mission for Clean Ganga, State Ganga Committee or any of their appointed entities.

59. Monthly and annual reports.- (1) Every District Ganga Committee shall, submit monthly and annual reports to the National Ganga Council, National Mission for Clean Ganga and State Ganga Committee as directed by National Mission for Clean Ganga within specified timelines.

(2) In addition to the annual report referred to in sub-paragraph (1), the District Ganga Committee shall furnish to the National Mission for Clean Ganga at such time and in such form and manner it may direct to furnish such other returns, statements and other particulars in regard to any proposed or existing programme for the River Ganga Basin Plan for the abutting area in the specified District.

60. Budget allocation.- The National Mission for Clean Ganga shall consolidate and prepare the budget requirement and submit the same to the Ministry of Water Resources, River Development and Ganga Rejuvenation.

61. Direction by Central Government.- Notwithstanding anything contained in this Order, it shall be lawful for the Central Government to issue directions in writing to the Ministries or Departments of the Government of India, or the State Government or the State Ganga Committees, the National Mission for Clean Ganga or District Ganga Committees, or local authority or other authority or statutory bodies or any of its officers or employees, as the case may be, to facilitate or assist in the rejuvenation, protection and management of River Ganga and its tributaries in such manner as it may direct, and such Ministry or Department or Authority or Mission or Board, Committee or Government or statutory body, officer or employee shall be bound to comply with such directions.

62. Making of complaint under section 19 of the Act.- All the authorities constituted under this Order or their officers authorised by such authorities may make complaint before the court under section 19 of the Act for taking cognizance of any offence under the said section.

63. Order to be in addition to other laws.- The provisions of this Order are without prejudice to the discharge of functions by any local authority or other authority or Board or corporation or any person for taking measures for the purposes of effective abatement of pollution and rejuvenation of the River Ganga and its protection and management and any other law for the time being in force.

SCHEDULE

[See paragraph 20]

COMPOSITION OF STATE GANGA COMMITTEES

Serial No.	Name of the State Ganga Committee	Composition of the State Ganga Committees
(1)	(2)	(3)
1.	(Name) State Ganga Protection and Management Committee	(a)Chief Secretary, Government of State of (Name) - Chairperson, ex-officio;
		(b) Principal Secretary, Department of Finance, Government of State of (Name) - Member, ex-officio;
		(c) Principal Secretary, Department of Urban Development and Housing, Government of (Name) - Member, ex-officio;
		(d Principal Secretary, Department of Environment and Forests, Government of State of (Name) - Member, ex-officio
		(e)Principal Secretary, Department of Water Resources, Government of State of (Name) - Member, ex-officio;
		(f) Principal Secretary, Department of Public Health Engineering, Government of State of (Name) - Member, ex-officio
		(g) Chairman, (Name) State Pollution Control Board - Member, ex-officio;
		(h)Chief Executive Officer of executing agency in the State of (Name) - Member, ex-officio;
		(i)Principal Chief Conservator of Forests, Government of State of (Name) – Member, ex-officio;
		(j) not more than five experts from relevant fields to be nominated by the Government of (Name) - Members

[F. No. Estt-01/2016-17/111/NMCG]

SANJAY KUNDU, Jt. Secy.

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भारत का राजपत्र
The Gazette of India

असाधारण
EXTRAORDINARY
भाग II—खण्ड 3—उप-खण्ड (ii)
PART II—Section 3—Sub-section (ii)
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No. 1601] NEW DELHI, WEDNESDAY, MAY 22, 2019/JYAISTHA 1, 1941

जल संसाधन, नदी विकास और गंगा संरक्षण मंत्रालय

(राष्ट्रीय स्वच्छ गंगा मिशन)

आदेश

नई दिल्ली, 21 मई, 2019

का.आ. 1793(अ).—केंद्र सरकार पर्यावरण (संरक्षण) अधिनियम, 1986 (1986 का 29) की धारा 3 की उप-धाराओं (2) और (3) द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए एतद्द्वारा गंगा नदी (संरक्षण, सुरक्षा और प्रबंधन) प्राधिकरण आदेश, 2016 को संशोधित करने के लिए निम्नलिखित आदेश देती है:-

1. (1) इस आदेश को गंगा नदी (संरक्षण, सुरक्षा और प्रबंधन) प्राधिकरण (संशोधन) आदेश, 2019 कहा जाएगा।
(2) यह आधिकारिक राजपत्र में प्रकाशन की तारीख से लागू होगा।

2. गंगा नदी (संरक्षण, सुरक्षा और प्रबंधन) आदेश, 2016 के अनुच्छेद 56, उप अनुच्छेद (1) के खंड (बी) में लिखे शब्दों "किसी भी स्थानीय प्राधिकारी, जिला गंगा समिति के अध्यक्ष के रूप में" के स्थान पर शब्दों "किसी भी स्थानीय प्राधिकारी" को प्रतिस्थापित किया जाएगा।

[फा. सं. स्था. 01/2016-17/111/एन एम सी जी (खंड-III)]
राजीव किशोर, कार्यकारी निदेशक (प्रशासन)

नोट: प्रमुख आदेश भारत के राजपत्र, असाधारण, भाग II, खंड 3, उप-खंड (ii), का.आ. 3187 (अ), दिनांक 7 अक्टूबर, 2016 को प्रकाशित किया गया था।

MINISTRY OF WATER RESOURCES, RIVER DEVELOPMENT AND GANGA REJUVENATION

(National Mission for clean Ganga)

ORDER

New Delhi, the 21st May, 2019

S.O.1793(E). — In exercise of the powers conferred by sub-sections (2) and (3) of section 3 of the Environment (Protection) Act, 1986 (29 of 1986), the Central Government hereby makes the following Order to amend the River Ganga (Rejuvenation, Protection and Management) Authorities Order, 2016, namely: —

1. (1) This Order may be called the River Ganga (Rejuvenation, Protection and Management) Authorities (Amendment) Order, 2019.
   (2) It shall come into force on the date of its publication in the Official Gazette.

2. In the River Ganga (Rejuvenation, Protection and Management) Authorities Order, 2016, in paragraph 56, in sub-paragraph (1), in clause (b), for the words "any local authority, as the Chairperson of the District Ganga Committee", the words "any local authority" shall be substituted.

[F. No. Estt.01/2016-17/111/NMCG-Vol-III]

RAJIV KISHORE, Executive Director (Admin.)

Note: The principal Order was published in the Gazette of India, Extraordinary, Part II, Section 3, Sub-section (ii), *vide* number S.O. 3187 (E), dated the 7th October, 2016.

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रजिस्ट्री सं० डी० एल०-33004/99 REGD. NO. D. L.-33004/99

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प्राधिकार से प्रकाशित
PUBLISHED BY AUTHORITY

सं. 2896] नई दिल्ली, सोमवार, सितम्बर 2, 2019/भाद्र 11, 1941
No. 2896] NEW DELHI, MONDAY, SEPTEMBER 2, 2019/BHADRA 11, 1941

जल शक्ति मंत्रालय

(जल संसाधन, नदी विकास और गंगा संरक्षण विभाग)

(राष्ट्रीय स्वच्छ गंगा मिशन)

आदेश

नई दिल्ली, 2 सितम्बर, 2019

का.आ. 3163(अ).—केंद्रीय सरकार, गंगा नदी में पर्यावरण, प्रदूषण की रोकथाम, नियंत्रण और उपशमन के लिए उपाय करने का और निरंतर पर्याप्त जल प्रवाह को सुनिश्चित करने का आशय रखती है जिससे गंगा नदी का पुनरुद्धार करके इसे इसकी प्राकृतिक और पुरातन अवस्था में लाया जा सके;

और, जबकि उपरोक्त लक्ष्य को प्राप्त करने के लिए केंद्रीय सरकार ने केंद्रीय, राज्य और जिला स्तरों पर विभिन्न प्राधिकरणों के गठन करने का विनिश्चय किया है।

और, जबकि केंद्रीय सरकार के तत्कालीन जल संशधन नदी विकास और गंगा संरक्षण मंत्रालय ने भारत के राजपत्र, भाग-2, खंड 3, उप-खंड (ii), तारीख 7 अक्तूबर, 2016 में प्रकाशित अधिसूचना सं. का. आ. 3187 (अ) तारीख 7 अक्तूबर, 2016 द्वारा गंगा नदी (संरक्षण, सुरक्षा और प्रबंधन) प्राधिकरण आदेश, 2016 किया था ;

जबकि राष्ट्रपति ने संविधान के अनुच्छेद 77 के खंड (3) द्वारा प्रदत्त शक्तियों को प्रयोग करते हुए भारत सरकार (कार्य का आवंटन) तीन सौ और पचासवां संशोधन नियम, 2019 बनाया और एक नया मंत्रालय अर्थात " जल शक्ति मंत्रालय सृजित किया जिसको अन्य बातों के साथ-साथ, जल संसाधन, नदी विकास और गंगा संरक्षण से संबंधित उन विषयों का आवंटन किया जिन्हे उक्त मंत्रालय द्वारा प्रशासित किया जाए ;

और जबकि, जल शक्ति मंत्रालय के सृजन के परिणामस्वरूप, केंद्रीय सरकार द्वारा उक्त अधिसूचना में और उसमें अंतर्विष्ट गंगा नदी (संरक्षण, सुरक्षा और प्रबंधन) प्राधिकरण आदेश, 2016 में आवश्यक परिणामी संशोधन करने का विनिश्चय लिया गया है ;

अतः, अब, पर्यावरण (संरक्षण) अधिनियम, 1986 (1986 के 29) की धारा 3 की उप-धारा (2) और उपधारा (3) द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए केंद्रीय सरकार उक्त अधिसूचना में निम्नलिखित संशोधन करती है और उसमें अंतर्विष्ट गंगा नदी (सरक्षण, सुरक्षा और प्रबधन) प्राधिकरण के आदेश, 2016 का और संशोधन करती है, अर्थात ;

1. संक्षिप्त नाम और प्रारंभ — (1) इस आदेश का संक्षिप्त नाम गंगा नदी (संरक्षण, सुरक्षा और प्रबधन) प्राधिकरण (दूसरा संशोधन) आदेश, 2019 है ।

   (2) यह, राजपत्र में, इसके प्रकाशन की तारीख को प्रवृत्त होगा।

2. उक्त अधिसूचना में, "जल संसाधन, नदी विकास और गंगा संरक्षण मंत्रालय" शीर्षक के स्थान पर "जल शक्ति मंत्रालय" शीर्षक रखा जाएगा।

3. गंगा नदी (संरक्षण, सुरक्षा और प्रबंधन) प्राधिकरण आदेश, 2016 में (जिसे इसमे इसके पश्चात उक्त आदेश कहा गया है), प्रस्तावना के अब, पर्यावरण (संरक्षण) अधिनियम, 1986 (1986 का 29) (इसके बाद उक्त अधिनियम कहा गया है) की धारा 3 तथा 4,5,9, 10, 11,19,20 और 23 की उपधारा (2) तथा (3) के अनुच्छेद (i), (ii), (v), (vii), (viii), (ix), (x), (xii) तथा (xiii) के साथ उपधारा (i) द्वारा दी गयी शक्तियों के प्रयोग करते हुए शब्दों के साथ प्रारम्भ होने वाले है तथा "केंद्रीय सरकार एतदद्वारा" शब्दों के साथ समाप्त होने वाले पैरा में "जल संसाधन मंत्रालय" शब्दों के स्थान पर , "तत्कालीन जल संसाधन मंत्रालय" शब्द रखे जाएंगे।

4. उक्त आदेश के पैरा 12 में,

   (क) उप-पैरा (1) के स्थान पर निम्नलिखित रखा जाएगा:

   (1) राष्ट्रीय गंगा परिषद में निम्नलिखित सदस्य होंगे :

क)	प्रधान मंत्री	-अध्यक्ष, पदेन;
ख)	केंद्रीय जल शक्ति मंत्री	-उपाध्यक्ष, पदेन;
ग)	केंद्रीय पर्यावरण, वन एवं जलवायु परिवर्तन मंत्री	-सदस्य, पदेन
घ)	केंद्रीय वित्त मंत्री	-सदस्य, पदेन
ङ)	केंद्रीय आवास और शहरी कार्य मंत्री	-सदस्य, पदेन
च)	केंद्रीय विद्युत मंत्री	-सदस्य, पदेन
छ)	केंद्रीय विज्ञान एवं प्रोद्योगिकी मंत्री	-सदस्य, पदेन
ज)	केंद्रीय ग्रामीण विकास मंत्री	-सदस्य, पदेन
झ)	केंद्रीय पोत परिवहन मंत्री	-सदस्य, पदेन
ञ)	केंद्रीय पर्यटन राज्य मंत्री	-सदस्य, पदेन
ट)	उपाध्यक्ष नीति आयोग	-सदस्य, पदेन
ठ)	मुख्य मंत्री, बिहार	-सदस्य, पदेन
ड)	मुख्य मंत्री, झारखंड	-सदस्य, पदेन
ढ)	मुख्य मंत्री, उत्तराखंड	-सदस्य, पदेन
ण)	मुख्य मंत्री, उत्तर प्रदेश	-सदस्य, पदेन
त)	मुख्य मंत्री, पश्चिमी बंगाल	-सदस्य, पदेन
थ)	सचिव, जल संसाधन, नदी विकास और गंगा संरक्षण विभाग	-सदस्य, पदेन
द)	सचिव, पेय जल एवं स्वच्छता विभाग	-सदस्य, पदेन
ध)	सचिव, आवास और शहरी कार्य	-सदस्य, पदेन
न)	सचिव, कृषि एवं किसान कल्याण विभाग	-सदस्य, पदेन
प)	महानिदेशक, राष्ट्रीय स्वच्छ गंगा मिशन	-सदस्य सचिव, पदेन

(ख) उप-पैरा (7) में, "जल संसाधन, नदी विकास और गंगा संरक्षण मंत्रालय" शब्दों के स्थान पर , "जल शक्ति मंत्रालय" शब्द रखे जाएंगे।

5. उक्त आदेश के पैरा 17 में —

(ख) उप-पैरा (2) में, मद (क), (ख) और (ग) और उससे संबंधित प्रविष्टियों के स्थान पर निम्नलिखित रखा जाएगा, अर्थात;

(क) केंद्रीय जल शक्ति मंत्री	-अध्यक्ष, पदेन;
(ख) केंद्रीय जल शक्ति राज्य मंत्री	-उपाध्यक्ष, पदेन;
(ग) सचिव, जल संसाधन, नदी विकास और गंगा संरक्षण विभाग	सदस्य, पदेन;";

(ख) उप-पैरा (5) में, "जल संसाधन, नदी विकास और गंगा संरक्षण मंत्रालय" शब्दों के स्थान पर "जल शक्ति मंत्रालय (जल संसाधन, नदी विकास और गंगा संरक्षण विभाग)" शब्द और कोष्ठक रखे जाएंगे।

6. उक्त आदेश के पैरा 35 के उप-पैरा (1) में, मद (ख) और मद (ग) और उससे संबंधित प्रविष्टियां के स्थान पर निम्नलिखित रखा जाएगा, अर्थात;

(ख) संयुक्त सचिव, जल संसाधन, नदी विकास और गंगा संरक्षण विभाग	-सदस्य, पदेन;
(ग) संयुक्त सचिव, आवास और शहरी कार्य विभाग	-सदस्य, पदेन;

7. उक्त आदेश के पैरा 60 में, "जल संसाधन, नदी विकास और गंगा संरक्षण मंत्रालय" शब्दों के स्थान पर "जल संसाधन, नदी विकास और गंगा संरक्षण विभाग" शब्द रखे जाएंगे।

[फा. सं. स्था. 01/2016-17/0111/एनएमसीजी-खंड-तृतीय]

राजीव किशोर, कार्यकारी निदेशक (प्रशासन)

टिप्पण : मूल आदेश, भारत के राजपत्र, असाधारण, भाग 2, खंड 3, उप-खंड (ii) में अधिसूचना संख्या का.आ. 3187 (अ), तारीख 7 अक्तूबर, 2016 और अंतिम बार अधिसूचना संख्या का.आ. 1793 (अ), तारीख 21 मई, 2019 द्वारा संशोधित किया गया था, द्वारा प्रकाशित किया गया था ।

MINISTRY OF JAL SHAKTI

(Department of Water Resources, River Development and Ganga Rejuvenation)

(NATIONAL MISSION FOR CLEAN GANGA)

ORDER

New Delhi, the 2nd September, 2019

S.O. 3163(E).—Whereas, the Central Government intends to take measures for prevention, control and abatement of environmental pollution in river Ganga and to ensure continuous adequate flow of water so as to rejuvenate the river Ganga to its natural and pristine condition;

And whereas, to achieve the aforesaid objective, the Central Governmentdecided to constitute various authorities at Central, State and District levels;

And whereas, *vide* notification number S.O. 3187 (E), dated the 7th October, 2016 published in the Gazette of India, Part II, Section 3, Sub-section (ii), dated the 7th October, 2016, the Government of India in the erstwhile Ministry of Water Resources, River Development and Ganga Rejuvenation made the River Ganga (Rejuvenation, Protection and Management) Authorities Order, 2016;

And whereas, in exercise of the Powers conferred by clause (3) of article 77 of the Constitution, the President made the Government of India (Allocation of Business) Three Hundred and Fiftieth Amendment Rules, 2019 and created a new Ministry, namely "Ministry of Jal Shakti (Jal Shakti (Mantralaya), *inter alia,*

allocating the subject matters relating to water resources, river development and Ganga rejuvenation to be administered by the said Ministry;

And whereas, consequent upon the creation of the Ministry of Jal Shakti, it has been decided by the Central Government to make necessary consequential amendments in the said notification and in the River Ganga (Rejuvenation, Protection and Management) Authorities Order, 2016contained therein;

Now, therefore, in exercise of the powers conferred by sub-sections (2) and (3) of section 3 of the Environment (Protection) Act, 1986 (29 of 1986), the Central Government hereby makes the following amendments in the said notification and furtheramendments in the River Ganga (Rejuvenation, Protection and Management) Authorities Order, 2016 contained therein, namely:—

1. Short title and commencement.—(1) This Order may be called the River Ganga (Rejuvenation, Protection and Management) Authorities (Second Amendment) Order, 2019.

(2) It shall come into force on the date of its publication in the Official Gazette.

2. In the said notification, for the heading "MINISTRY OF WATER RESOUCES, RIVER DEVELOPMENT, AND GANGA REJUVENATION", the heading "THE MINISTRY OF JAL SHAKTI" shall be substituted.

3. In the River Ganga (Rejuvenation, Protection and Management) Authorities Order, 2016 (hereinafter referred to as the said Order), in the preamble, in the paragraph beginning with the words "Now, therefore, in exercise of the powers" and ending with the words "the Central Government hereby", for the words "Ministry of Water Resources", the words "erstwhile Ministry of Water Resource" shall be substituted.

4. In the said Order, in paragraph 12,—

(a) for sub-paragraph (1), the following shall be substituted, namely: —

"(1) The National Ganga Council shall consist of the following members, namely:—

(a)	Prime Minister	Chairperson, ex-officio;
(b)	Union Minister for Jal Shakti	-Vice-Chairperson, ex-officio;
(c)	Union Minister for Environment, Forests and Climate Change	-Member, ex-officio;
(d)	Union Minister for Finance	-Member, ex-officio;
(e)	Union Minister for Housing and Urban Affairs	-Member, ex-officio;
(f)	Union Minister for Power	-Member, ex-officio;
(g)	Union Minister for Science and Technology	-Member, ex-officio;
(h)	Union Minister for Rural Development	-Member, ex-officio;
(i)	Union Minister for Shipping	-Member, ex-officio;
(j)	Union Minister of State for Tourism	-Member, ex-officio;
(k)	Vice Chairman, NITI Aayog	-Member, ex-officio;
(l)	Chief Minister, Bihar	-Member, ex-officio;
(m)	Chief Minister, Jharkhand	-Member, ex-officio;
(n)	Chief Minister, Uttarakhand	-Member, ex-officio;
(o)	Chief Minister, Uttar Pradesh	-Member, ex-officio;
(p)	Chief Minister, West Bengal	-Member, ex-officio;
(q)	Secretary, Department of Water Resources, River Development and Ganga Rejuvenation	-Member ,ex-officio;
(r)	Secretary, Department of Drinking Water & Sanitation	-Member, ex-officio;

(s)	Secretary, Ministry of Housing and Urban Affairs	-Member,ex-officio;
(t)	Secretary, Department of Agriculture and Farmers' Welfare	-Member,ex-officio;
(u)	Director General, National Mission for Clean Ganga	-Member Secretary, ex-officio.".

(b) in sub-paragraph (7), for the words "the Ministry of Water Resources, River Development and Ganga Rejuvenation", the words "the Ministry of Jal Shakti" shall be substituted.

5. In the said Order, in paragraph 17,—

(a) in sub-paragraph (2), for items (a), (b) and (c) and the entries relating thereto, the following shall be substituted, namely:—

"(a) Union Minister for Jal Shakti	-Chairperson, *ex-officio*;
(b) Union Minister of State for Jal Shakti	-Vice-Chairperson, *ex-officio*
(c) Secretary, Department of Water Resources, River Development and Ganga Rejuvenation	-Member, *ex-officio*;";

(b) in sub-paragraph (5), for the words "the Ministry of Water Resources, River Development and Ganga Rejuvenation", the words and brackets "the Ministry of Jal Shakti (Department of Water Resources, River Development and Ganga Rejuvenation)" shall be substituted.

6. In the said Order, in paragraph 35, in sub-paragraph (1), for items (b) and (c) and the entries relating thereto, the following shall be substituted, namely—

"(b) Joint Secretary, Department of Water Resources, River Development and Ganga Rejuvenation	-Member, ex-officio
(c) Joint Secretary, Ministry of Housing and Urban Affairs	-Member, ex-officio".

7. In the said Order, in paragraph 60, for the words "the Ministry of Water Resources, River Development and Ganga Rejuvenation", the words "the Department of Water Resources, River Development and Ganga Rejuvenation" shall be substituted.

[F. No. Estt.01/2016-17/0111/NMCG-Vol-III]

RAJIV KISHORE, Executive Director (Admin.)

Note : The Principal Order was published in the Gazette of India, Extraordinary, Part II, Section 3, Sub-section (ii), vide notification number S.O. 3187 (E), dated the 7th October, 2016 and last amended vide notification number S.O. 1793(E), dated the 21st May, 2019.

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रजिस्ट्री सं० डी० एल०-33004/99 REGD. NO. D. L.-33004/99

भारत का राजपत्र
The Gazette of India

असाधारण
EXTRAORDINARY
भाग II—खण्ड 3—उप-खण्ड (ii)
PART II—Section 3—Sub-section (ii)
प्राधिकार से प्रकाशित
PUBLISHED BY AUTHORITY

सं. 3007] नई दिल्ली, शनिवार, सितम्बर 14, 2019/भाद्र 23, 1941
No. 3007] NEW DELHI, SATURDAY, SEPTEMBER 14, 2019/BHADRA 23, 1941

जल शक्ति मंत्रालय

(जल संसाधन, नदी विकास और गंगा संरक्षण विभाग)

(राष्ट्रीय स्वच्छ गंगा मिशन)

शुद्धिपत्र

नई दिल्ली, 14 सितम्बर, 2019

का.आ. 3287(अ).—भारत सरकार के जल शक्ति मंत्रालय (जल संसाधन, नदी विकास और गंगा संरक्षण विभाग) के का. आ 3163 (अ) तारीख 2 सितंबर 2019 की अधिसूचना में भारत के राजपत्र में प्रकाशित, असाधारण, भाग II, खंड 3, उपखंड (ii) पृष्ठ 2 पर 21 लाइन के पश्चात सन्निविष्ट करें -

"(घ,क)	केंद्रीय कृषि और किसान कल्याण मंत्री	-सदस्य, पदेन;"

[फा. सं. स्था. 01/2016-17/0111/एनएमसीजी-खंड-III]

राजीव किशोर, कार्यकारी निदेशक (प्रशासन)

MINISTRY OF JAL SHAKTI

(Department of Water Resources, River Development and Ganga Rejuvenation)

(NATIONAL MISSION FOR CLEAN GANGA)

CORRIGENDUM

New Delhi, the 14th September, 2019

S.O. 3287(E).—In the notification of the Government of India, in the Ministry of Jal Shakti (Department of Water Resources, River Development and Ganga Rejuvenation), number S.O. 3163(E) dated the 2nd September, 2019, published in the Gazette of India, Extraordinary, Part-II, Section 3, Sub-section (ii), at page 4, after line 28, *insert*—

"(da)	Union Minister for Agriculture and Farmers Welfare	-Member, ex-officio;"

[F. No. Estt. 01/2016-17/0111/NMCG-Vol-III]

RAJIV KISHORE, Executive Director (Admn.)

4762 GI/2019

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MANOJ KUMAR VERMA
Date: 2019.09.14 15:15:43 +05'30'

Annexure 02
(V2)

जनांकिकी Demography

3.1 (A) जनसंख्या 2011 Census 2011

जनसंख्या 2011 Census 2011		Bihar	भारत India
		1040099452	1210569573
		54278157	623121843
		49821295	587447730
Sex Ratio		918	943
Literacy Rate		61.8	73
		71.2	80.9
		51.5	64.6
		25.42	17.64

		Total	पुरुष Male	स्त्री Female
		9887239	9246725
		8971671	8412030
		915568	834695
		Total	पुरुष Male	स्त्री Female
		31608023	20896530
		27241830	17570322
		4366193	3326208

3.1 (B) Population(0-6 आयु समूह/Age group)

	बिहार Bihar	भारत India
a Total	19134	163820
b Male	9887	84999
c Female	9247	78820

बिहार एक झलक 2017

3.1 (C) उम्र के अनुसार आबादी का वर्गीकरण (2011 जनगणना), बिहार
Age wise classification of Population (2011 Census) Bihar

आयु समूह Age Group	कुल Total			ग्रामीण Rural			शहरी Urban		
	व्यक्ति Persons	पुरुष Males	स्त्री Females	व्यक्ति Persons	पुरुष Males	स्त्री Females	व्यक्ति Persons	पुरुष Males	स्त्री Females
1	2	3	4	5	6		8	9	10
	12265029	6576871	6188158	11600238	5909825	5690413	664791	667046	497745
	15016277	7736359	7279918	13830801	7067063	6763738	1185476	669296	516180
10-14	13919882	7323831	6596051	12472947	6563027	5909920	1446935	760804	686131
15-19	9372695	5290581	4382114	8243729	4622198		1128966	668383	460583
	8064735	4210585	3854150	7011053	3644529		1053682	566056	487626
	7031705	3823687	3843018	6722688	3682526		309017	141161	167856
	2055737	1510596	1545141	6203044	3074405	3128638	552693	436191	116502
35-39	6457261	3308161	3149100	5671251	2902365	2768886	786010	405796	380214
40-44	5165692	2756809	2408883	4510864	2404526	2106292	654828	352283	302591
45-49	4270374	2269994	2000380	3721533	1918799	1802734	548841	351195	197646
50-54	3332740	1808425	1524315	2885694	1535257	1350437	447046	273168	173878
55-59	2796678	1330356	1466322	2450329	1153512	1296817	346349	176844	169505
60-64	3008008	1559925	1448083	2672437	1385714	1286723	335571	174211	161360
65-69	2089779	1103718	986061	1870640	986570	884070	219139	117148	101991
70-74	1379531	784383	595148	1211828	701151	510677	167703	83232	84471
75-79	950479	297973	252506	486894	263161	223733	63585	34812	28773
80-84	369654	197997	171057	328616	177246	151370	41038	20751	19687
85-89	129508	69258	60250	112971	60571	52400	16537	8687	7850
90-94	94768	48853	45915	83943	43592	40351	10825	5261	5564
	86018	44486	41532	75857	39446	36411	10161	5040	5121
आयु नहीं बताई Age Not Stated	401562	220309	181253	356025	196047	159978	45537	24262	21275
कुल योग Total	104099452	54278157	49821295	92341136	48073850	44267286	11758316	6204307	5553789

बिहार एक झलक 2017

TABLE 5

STATEMENT SHOWING BASINWISE PRESENT POPULATION, INTENSITY OF POPULATION, FOODGRAIN PRODUCTION AND FOODGRAIN REQUIREMENT

Sl no	NAME OF BASIN	Population(1991 census) in Lakh	Density of population in No of persons/per Sq Km	Total food production 1990-91 in Lakh MT **	Requirement of foodgrains for population during 1991 in Lakh MT
1	GHAGHRA, GANDAK, BURHI GANDAK, MAHI & BAYA	187.13	839.00	27.58	41.22
2	BAGMATI-ADHWARA	55.30	851.00	6.72	12.11
3	KAMLA-BALAN	38.72	863.00	4.11	8.50
4	KOSI	66.55	583.00	9.27	14.97
5	MAHANANDA	36.79	598.00	4.73	8.05
6	KARMNASA	17.44	415.00	7.41	3.82
7	SONE-KANHAR & KAO-GANGI	51.25	411.00	11.30	11.22
8	NORTH KOEL	18.99	180.00	1.66	4.16
9	PUNPUN	49.94	553.00	8.46	10.94
10	KIUL-HAROHAR	81.48	473.00	14.10	17.85
11	BADUA-BELHARNA	10.78	487.00	1.41	2.36
12	BILASI-CHANDAN-CHIR	21.90	535.00	2.17	4.80
13	GANGA STEM	49.09	896.00	5.62	10.75
14	GUMANI & KOA-BHENA	13.82	319.00	1.64	3.03
15	MAYURAKSHI AND OTHERS	15.72	275.00	2.10	3.44
16	SMALL STREAMS DRAINING INDEPENDENTLY OUTSIDE THE STATE	3.28	195.00	0.61	0.72
17	AJAY	11.67	328.00	1.40	2.56
18	SANKH	4.57	114.00	1.05	1.00
19	SOUTH KOEL	16.33	154.00	2.53	3.58
20	DAMODAR-BARAKAR	72.53	428.00	3.44	15.97
21	SUBERNAREKHA-KHARKAI	40.46	358.00	3.86	9.53
	TOTAL	863.74	497.00	121.17	188.81

** Based on districtwise data on foodgrain production made available by State Agriculture Department

The growth rate of the population in the State during the decade 1981-91 has been 23.54 per cent per decade. There is decreasing trend in the growth rate of population and with more education and better family planning the growth rate is likely to decrease further. However, as the data for the projected population by 2025 AD is not available, the foodgrain requirement is being computed for the projected population worked out with the present growth rate of population. With this rate the population of the State is likely to increase to 1780 Lakh by 2025 AD.

list of Inundated villages from Maner to Fatuha (aproax. 50 km length) near Ganga river in flood 2016

Sl No	Dist	Block	Village	Innudated Area (In Sq KM)	No of Household	Population
	Patna	Dinapur Cum Khagaul	Birbhan Chak	0.244004271	0	
1			Bishunpur	0.543003707	322	2144
2			Dalip Chak	9.15144948	0	
3			Dinapur Nizamat (NP)	0.459011787		
4			Ganghara	11.77901785	1197	8205
5			Habaspur	0.072179185	580	4[illegible]
6			Harsham Chak	1.191824914	436	[illegible]
7			Hetanpur	1.960349063	702	[illegible]
8			Jafarpur	0.048676369	130	[illegible]
9			Kasim Chak	1.957700234	253	[illegible]
10			Kedalpura	0.709496974	245	[illegible]
11			Madhopur	0.457797977	431	[illegible]
12			Panapur	13.30433072	3871	[illegible]
13			Shankarpatti	7.260783241	56	[illegible]
14			Shankarpur Khas	0.090577375	289	[illegible]
15			Taufir Mangar Pal	2.196256266	0	0
15			Sub total	51.42645941	8512	59914
1		Fatwah	Diara Gobindpur	0.211696003	0	
2			Fatwah (NP)	1.901182391		
3			Jethuli	1.215537053	2044	[illegible]
4			Khizirpur	0.211173443	203	[illegible]
5			Maujipur	1.039485729	433	[illegible]
6			Rajpura	0.594249598	539	[illegible]
6			Sub total	5.173324218	3215	[illegible]
1		Maner	Baghi	1.740791222	0	[illegible]
2			Beapur	0.314620201	2220	[illegible]
3			Chhitnawan	0.919537496	1548	[illegible]
4			Darashikohipur Jazira	1.070094049	0	[illegible]
5			Darweshpur Diara	5.200601941	356	[illegible]
6			Darweshpur Uparwar	0.309723729	3311	[illegible]
7			Haldi Chhapra	5.460674612	0	[illegible]
8			Khaspur	0.247916538	1389	[illegible]
9			Kita Chauhattar	23.68850136	5231	[illegible]
10			Lalpewa Jazira	9.69910907	0	
11			Lodipur	0.024640785	270	[illegible]
12			Maner (NP)	4.995990745	2547	[illegible]
13			Mangarpal	30.82474671	598	[illegible]
14			Rambad	1.875462125	453	[illegible]
15			Rampur Diara	3.67784978	619	[illegible]
16			Rampur Diara Taufir	1.410850699	1082	[illegible]
17			Rampur Jazira	2.100759471	0	[illegible]
18			Sadiqpur	0.270804009	1308	[illegible]
19			Sherpur	0.595885083	4704	[illegible]
20			Sikandarpur	0.133269582	141	[illegible]
21			Suarnarwa	2.377481676	1216	[illegible]
21			Sub total	96.93931588	26993	178225
1		Patna Rural	Digha Diara	1.670025996	5	[illegible]
2			Dujra Diara	3.966571455	0	[illegible]

Sl No	Dist	Block	Village	Innudated Area (In Sq KM)	No of Household	Population
3			Khas Mahal Digha Diara	1.67984073	19	118
4			Mainpur Diara	1.550366654	42	242
5			Mainpura Digha Diara	1.580690241	2	9
6			Mohammadpur	1.283227495	19	111
7			Panapur Taufir	0.592689411	1180	7324
8			Patna (M)	1.605058535		
9			Sabalpur	1.176187969	3147	19183
10			**Sub total**	**15.10465849**	**4414**	**27013**
1	Saran	Chapra	Badalpura	0.182825713	383	1668
2			Badalpura Diara	0.552158531	0	0
3			Balua	0.36171396	0	0
4			Barhara Mahazi	7.986105064	517	3455
5			Bhairopur Aima	0.599772958	258	1424
6			Bichla Telpa	1.821037489	314	1751
7			Bishunpura	1.946768987	1059	7388
8			Chak Haji	0.024927307	0	0
9			Chak Jamali	0.165434948	0	0
10			Chapra (NP)	1.419376917		
11			Chirand	0.024208407	520	2971
12			Daftarpur	0.420386474	196	1232
13			Dariyawganj	1.146029542	188	1461
14			Dharampura	1.149311102	285	1819
15			Dhusaria	3.99295204	0	0
16			Diara Singahi	5.893649136	57	359
17			Dumri	5.039981905	1679	8410
18			Ekauna	3.762168031	0	0
19			Gheghta	1.233633463	691	4514
20			Gopalpur	0.527294027	338	1905
21			Ismailpur	0.047677973	133	881
22			Jagdishpur	0.031446136	64	339
23			Jalalpur	0.272644102	848	5302
24			Jatia Bajidpur	0.092694482	177	1102
25			Kans Diar	2.323337333	598	4511
26			Khalpura Bala	1.048706119	526	3238
27			Khalpura Kamala	1.427649383	383	2232
28			Khawaspur	0.174594862	169	984
29			Khawaspur Khurd	0.049915827	148	800
30			Kotwapatti Rampur	6.403989137	1757	11438
31			Lodipur Diara	1.247926449	0	0
32			Madanipatti	0.144799029	270	1644
33			Mahaji Dharhara	0.826863883	0	0
34			Mahaji Khalpura Bala	0.12011857	0	0
35			Mahaji Khalpura Kamala	0.729819169	0	0
36			Maharajganj	0.849007338	1025	6149
37			Makhdumganj	2.117862906	484	3085
38			Manupur Jahangir	2.178859065	409	2702
39			Manupur Manjhan	1.009408518	172	1228
40			Mehrauli	0.154891817	307	1879
41			Mohaddipur	0.026076621	286	1751

Sl No	Dist	Block	Village	Innudated Area (In Sq KM)	No of Household	Population
42			Musepur	0.393003722	559	3431
43			Phul Chak	0.114735884	236	1592
44			Purbari Telpa	0.947693899	575	3522
45			Qazipur	0.270270479	695	4484
46			Raipur Bingawan	14.17575589	1089	7299
47			Rasalpura	0.293405266	316	2397
48			Semaria Mahazi	0.705116099	63	3
49			Shankarpur	6.351639395	0	0
50			Sherpur	1.127451335	666	4
51			Singahi	0.312058135	906	1474
52			Taufir Maharajganj	1.415226105	0	0
53			Todarpur	1.120727379	0	0
53			**Sub total**	**86.75510931**	**19367**	120412
1		Dighwara	Ahiman Patti	0.215001539	191	1293
2			Akilpur	0.453119547	547	3347
3			Ami	0.178178238	513	2932
4			Anu Chak	0.250916636	0	0
5			Babhangawan	1.423497509	252	1921
6			Baguraha	0.613515248	0	0
7			Baqarpur	0.259229523	155	1
8			Barua	0.940484486	1056	5
9			Basti Jalal	0.025914218	1089	7
10			Batrauli	0.630270411	274	1
11			Bishunpur	0.027921228	53	3
12			Bishunpur Mohan	0.072316387	0	0
13			Bodha Chhapra	1.185536402	477	2920
14			Chatra	0.14118812	0	0
15			Dighwara (NP)	9.298745681		
16			Dudhia	0.057736381	373	2
17			Fakuli	0.163544577	321	1
18			Goraipur	1.854800897	66	
19			Haraji	1.220047278	906	5
20			Ismaila	1.479756863	0	0
21			Jaitipur	2.39441104	0	
22			Jhaua	0.455121227	1556	
23			Kakaria	2.160559874	0	
24			Kanakpur	1.315100463	535	
25			Kesarpur	0.066088419	247	
26			Kuraia	0.966649178	667	
27			Malkha Chak	1.084135642	574	
28			Manupur	1.659005611	1040	
29			Mathurapur	0.075430645	24	
30			Milki	0.283336192	0	0
31			Pakauliya	0.616837725	218	
32			Parsotimpur	0.460520341	148	
33			Pharhada	0.981891625	0	0
34			Pipra Salehpur	1.189569356	0	
35			Ramdas Chak	2.318887639	145	8
36			Rampur Ami	0.897123781	465	
37			Salhadi	1.096887499	129	8
38			Sobarna	11.67169423	0	

Sl No	Dist	Block	Village	Innudated Area (In Sq KM)	No of Household	Population
39			Tilok Chak	0.140502977	465	2727
40			Una Chak	0.024338213	222	1598
41			Yusufpur	0.659578063	384	2702
42			**Sub total**	**51.00939091**	**13092**	**82154**
1		Garkha	Bajraha	0.303153214	0	0
2			Banwari Basant	0.026222678	389	2401
3			Barbakpur	0.655359113	266	1867
4			Bhagwani Chhapra	0.490310392	248	1624
5			Bhainsmara	0.43554062	401	2638
6			Bhuiganw	0.017617142	496	3504
7			Bishamharpur	0.577904197	265	1791
8			Chanda	3.871088062	0	0
9			Chhot Jhaua	0.729675453		
10			Deuria	0.985837284	195	1102
11			Dhanaura	0.071685546	334	2173
12			Fatanpur	1.098718483	180	1226
13			Filkabad	3.133239369	442	3605
14			Gajauwa	0.602587824	0	0
15			Garkha	0.075863445	1465	9319
16			Gopalpur	0.69384139	190	1222
17			Goraipur	0.630345246	0	0
18			Hakma	0.201526975	417	2809
19			Haqiuatpur	0.210065858	104	690
20			Hasanpur	0.181215662	0	0
21			Hasanpura	0.657266174	425	2853
22			Hasanpura Dakhli Chirand	0.415628743	0	0
23			Hasanpura Dakhli Khalpura	0.29711082	0	0
24			Ismailpur	0.090934731	297	2048
25			Jalal Basant	0.110148155	720	4726
26			Jigna	1.367272171	134	1029
27			Jogaulia	0.178767651	0	0
28			Kalyan	0.423217111	0	0
29			Khadaha	0.953558812	237	1274
30			Kothia	11.52068732	2663	17463
31			Kuchah	0.659897138	227	1712
32			Kudar Bandha	0 73530953	333	1971
33			Maddupur	0.306637169	218	1378
34			Mahamda	0.044188421	1313	8570
35			Mahammadpur	0.282139576	1259	7881
36			Mainpuri	0.2012486	43	307
37			Majlispur	0.87858741	75	682
38			Minapur	2.012190079	327	2354
39			Mirpurjuara	1.073507188	445	2724
40			Mirzapur	2.326425763	528	3246
41			Moazampur	0 169980994	702	4326
42			Mobarakpur	0 944340979	339	2502
43			Mura	1 308810288	320	2332
44			Muraudpur	0.686013626	299	1841
45			Narawn	5.106627937	1225	8080

Sl No	Dist	Block	Village	Innudated Area (In Sq KM)	No of Household	Population
46			Pach Patra	0.555822852	0	
47			Pachbhiria	0.477660483	163	
48			Panapur	0.761102038	0	
49			Panchpatia	1.530749513	455	2771
50			Parsa	0.621076403	357	
51			Pindari	1.367064867	346	
52			Piran	1.816736015	274	
53			Pirauna	0.574354899	1025	
54			Pohian	0 133510747	387	
55			Ram Kola	0.167506537	0	
56			Ramgarha	0.371304097	1254	
57			Rampur	0.439611148	1344	
58			Rustampur	0.053766675	55	
59			Salaha	0.791373994	349	
60			Santha	0.537611179	521	
61			Sarwadih	0.056241665	121	
62			Tal Kechuli	0.482611633	0	
62			**Sub total**	**58.48039908**	**24172**	
1		Sonepur	Abdul Hai	1.196318733	0	
2			Babhanganwan	0.317990054	164	
3			Badurahi	0.517724332	708	
4			Banwari Chak	0.905214707	5	
5			Bariar Chak	0.517573483	208	
6			Bharanpura	0 421016207	1128	
7			Chak Chhitar	0.358304314	0	
8			Chak Jujhari	0.331813481	0	
9			Chakdaria	0 153877184	229	
10			Chaturpur	0.148941279	735	
11			Chausia	0.165736122	616	
12			Chhitar Chak	1.391845942	387	
13			Chhittu Pakar	0.244065881	225	
14			Dumari Buzurg	0.172126265	1199	
15			Gangajal	4.610022324	530	
16			Garibpatti	1 299276246	185	
17			Gopalpur	0.323624556	1009	
18			Hasanpur	0 041724968	655	
19			Hasilpur	0 692679766	394	
20			Jan Mohammad	0 6903514	0	
21			Karam Chak	1 286202551	0	
22			Kasaiya	2 580602716	1019	
23			Kharika	0 087881929	1409	
24			Khuntaha	2.892117894	0	
25			Ladanpur	1 406701082	0	
26			Lawang Patti	0 130380994	0	
27			Lodipur	1.116109439	0	
28			Makra	0 279029583	363	
29			Mirzapur	0 457500496	507	
30			Mohabbatpur	1 296034311	0	
31			Mohammadpur	1.385105963	61	
32			Murgia Chak	0 257972929	0	
33			Murthan	0 091864954	535	3442

Sl No	Dist	Block	Village	Innudated Area (In Sq KM)	No of Household	Population
34			Mustafa Chak	0.271605288	0	0
35			Naudiha	2.786422344	0	0
			Nawada	0.016930119	189	1059
			Naya Ganw	0.346342845	1286	8575
			Nazarmira	0.530099749	1158	7720
			Pahleza	6.129868975	32	117
			Parmanandpur	0.206193832	930	6029
			Parvezabad	0.058481653	247	1583
			[illegible]	[illegible]	[illegible]	[illegible]
41			Raipur Hasanpur	6.783249227	323	2126
42			Ramsapur	1.366023391	182	1288
			Rasen Chak	0.778918718	0	0
			Rasulpur	0.527195563	822	4999
47			Sabalpur	39.95890767	4345	27262
48			Saidpur	0.015349451	1278	7757
49			Salehpur	1.657068621	0	0
50			Shahpur	0.817162762	2213	13547
51			Sighinpur	0.461318489	66	504
52			Sobhepur	0.473747113	542	3205
53			Sonepur (NP)	0.310072891		
53			**Sub total**	**91.39271891**	**26267**	**163505**
1	Vaishali	Raghopur	Ashpatpur Singhia Urf Bariarpur	4.417912136	0	0
2			Ashpatpur Singhia Urf Latiahi	5.205931178	644	3448
3			Bahrampur	2.874243396	1086	6588
4			Bhawani Prasad Urf Madho	0.894651244	597	3641
5			Birpur	15.48632453	2661	16218
6			Bishunpur Maniari	0.960422457	0	0
7			Chak Basant	0.614310399	0	0
8			Chak Chand	2.000697632	209	1032
9			Chak Khetal	1.077848447	0	0
10			Chak Mahabal	0.363730521	189	1026
11			Chak Narayan	2.833789384	0	0
12			Chak Singar Barari	3.544149082	853	4629
13			Chak Singar Karari	3.200878951	0	0
14			Chak Thakru	0.883875669	0	0
15			Chandpur Idark	2.009776599	1504	8203
16			Chaunkia	1.385355976	961	5043
17			Dwarkapur	0.325919675	141	606
18			Etwarpur	1.200324774	0	0
19			Fatehpur Shahbaz	3.880575236	2047	11363
20			Gobardhanpur	0.399901508	12	49
21			Gorari	1.727309686	8	47
22			Haibatpur Barari	0.058373407	51	201
23			Haibatpur Karari	0.260912744	175	1099
24			Hajpurwa	0.875374845	241	1774
25			Himatpur Diara	2.419719488	167	940
26			Ibrahimabad	0.22431029	322	1933
27			Ismailpur	1.121417784	76	527

Sl No	Dist	Block	Village	Innudated Area (In Sq KM)	No of Household	Population
28			Jafrabad Dih	0.688121824	422	2407
29			Jafrabadtok-Arazibeshinaobarar	5.457920276	281	1957
30			Jagdishpur Idrakarai Barari	0.188501278	407	2474
31			Jahangirpur Phuli	1.317481481	0	0
32			Jahangirpur Pirthi	4.973163815	732	3920
33			Jamalpur Chak Shankerganga Pra	1.127852633	55	261
34			Jethuli	0.628034556	46	261
35			Juramanpur Barari	7.504352078	1529	7999
36			Juramanpur Karari	6.42803243	2904	14807
37			Juramanpur Taufir	8.7151159	84	368
38			Karmupur	3.423975424	184	1153
39			Maheshpur	0.553025387	0	0
40			Malikpur	0.54624099	1318	7459
41			Mirampur Alakh Deori	1.438992654	267	1192
42			Mirzapur Lachhu	0.775995234	0	0
43			Mohanpur	0.449648539	1588	9386
44			Mokrampur	0.922316475	0	0
45			Nagargawan	0.592232446	499	3596
46			Paharpur	7.879880539	2867	16[illegible]
47			Panapur Pakauli	1.50858551	0	3
48			Paroha	1.595703519	213	1251
49			Parsotimpur	1.110534648	64	429
50			Parsotimpur Barari	0.012564368	164	1145
51			Pirmohammadpur	1.483593142	23	130
52			Raghopur	18.37033548	3815	24367
53			Ramdauli Barari	0.986968805	0	0
54			Rampur Karari Barari	5.242250335	374	1922
55			Rampur Shamchand	3.68653689	205	1[illegible]
56			Rustampur	6.275847385	2478	14211
57			Saidabad	0.275198491	1299	6[illegible]
58			Saidpur Deochand	0.459087563	203	1[illegible]
59			Saidpur Hulas	0.677445713	66	4[illegible]
60			Saidpur Singhia	0.933375536	0	
61			Saifabad	0.384816591	36	2[illegible]
62			Shaistapur	0.184064644	233	1[illegible]
63			Shiuprasad Mofaluke Gobindpur	0.578213527	0	
64			Sirirampur	1.028813783	459	5[illegible]
65			Sorabpur Urf Saraepur	3.350818524	197	1[illegible]
66			Sukwarpur	12.26025426	628	3[illegible]
67			Terahrasia	3.828524378	2654	15[illegible]
68			Wahidpur	0.224323157	63	3[illegible]
68			**Sub total**	**178.3167772**	**38301**	**232340**
328	**Total**			**634.5981535**	**164337**	**1043713**

Annexure - 5

No. 1130 /

Government of Bihar
Water Resources Department

Er. D. Rajak
Engineer-in-Chief
Water Resources Department
Sinchai Bhawan, Patna

To

Sri N. J. Singh,
Director,
Flood Management Planning Directorate,
Central Water Commission,
Room No. 802(N), Sewa Bhawan,
R .K. Puram, New Delhi-110066
Ph. No. 011-26168258, Fax: 011-26102935.

Patna, dated 4.12.04

Sub: **Enactment of Legislation for Flood Plain Zoning.**

Sir,

Kindly refer to your letter No.3/14/2001/FPZ/FMP/2023 dated 19.12.2003 addressed to the Chief Secretary, Bihar, wherein the action taken report on the implementation of the enactment of Flood Plain Zoning has been sought. In this connection, I am directed to inform that after due study of the implications of enforcement of the Flood Plain Zoning Act in the State, it is felt that the Act would not be practicable in the extremely plain terrains of Bihar and would only hinder the already slow pace of development in the State. As such, it is not considered practicable to enforce it in the State.

Yours faithfully,

(D. Rajak) 4/12/2004
Engineer-in-Chief

My doc \ Letter w. So SN Singh .1

9p/c

Annexure-5

Letter No Barh (Mon) Sin.-09/2005(Part-III)

Government of Bihar,
Water Resources Department

From

Rajeshwar Dayal,
Engineer-in-Chief (N)

To,

The Commissioner(Ganga),
Ministry of Water Resources,Govt. of India.
8th Floor,Block-II,CGO Complex,Lodhi Road,
New Delhi-110003

Patna, Dated-

Sub:- **Enactment of legislation on Flood Plain Zoning Bill- Regarding.**

Ref:- **D.O letter no- 05/03/2012-Ganga/2446 dt 28.6.2012.**

Sir,

I would like to draw your attention towards the above referred letter wherein enactment of flood plain zoning bill has been sought for mitigation of flood fury. In general , its importance as a non-structural tool towards minimising the flood losses cannot be denied. But this may not be a suitable concept for the extremely plain terrains of Bihar which is densely inhabited and where almost all the major rivers are embanked. This has already been conveyed through WRD, GOB letter no 1186 dt 04.12.04 (copy enclosed for ready reference). It is again reiterated that enactment of flood plain zoning bill is neither practicable nor implementable in Bihar. Instead, the MOWR,GOI should mull over the implementation of flood forecasting programme with sufficient lead time and flood proofing in the flood prone districts of Bihar.

Encl:- As above

Yours faithfully
Sd/-
(Rajeshwar Dayal)
Engineer-in-Chief (N)

Letter No Barh (Mon) Sin. -09/2005(Part-III) 2155 Dated 13/8/12

Copy to Chairman, Ganga Flood Control Commission, Ministry of Water Resources, GOI, Sinchai Bhawan,Patna for information and necessary action

Dayal
9/8/12
(Rajeshwar Dayal)
Engineer-in-Chief (N)

Annexure - 8

Letter No Vols-Ll- 18-87/95 Part III [illegible]
Government of Bihar
Water Resources Department

Sumir Kumar Chatterjee
Joint Secretary (Engineering)

To

The Commissioner (Ganga)
Ministry of Water Resources (Ganga Wing)
11th Block, 8th floor, CGO Complex
Lodi Road, New Delhi – 110 003
Fax No.011-24362780.

/Patna, dated 26/8/13

Sub Implementation of Flood Plain Zoning Bill reg
Ref Letter no. Barh(Mon)Sin-09/2005(Part-III)-2155 dated 13-08-2012 and MoWR Letter No 8/4/2013-Ganga/P-I/1420-61 dated 10-04-2013

Sir

I am directed to communicate regarding above mentioned MoWR letter wherein comments /views on proposed Model Bill on Flood Plain Zoning has been sought for mitigation of flood fury. The stand of Water Resources Departmenty, Govt. of Bihar has been communicated through WRD, GOB Letter under reference (Copy enlcosed) earlier. It is again reiterated that National Flood Plain Zoning Bill is not implementable and acceptable in the State of Bihar. Instead, concrete steps should be taken for finding permanent solutions of recurring floods and provision of special central assistance fund for taking structural measures like construction of reservoirs, intra-linking of rivers for eliminating flood hazards, effective and efficient silt management technology Non structural measures such as flood forecasting programme with sulficient lead time and flood proofing schemes like construction of raised platform in the flood prone districts of Bihar should be implemented immediately.

Encl: As mentioned above.

Yours faithfully

26/8/2013

(Sumir Kumar Chatterjee)
Joint Secretary (Engg.)

Memo No. 519 /Patna, dated - 26/8/13.

Copy to the Chairman, Ganga Flood Control Commission, MoWR, GOI, Sinchai Bhawan, Patna for information and necessary action

Annexure-6

जो०गो०-04(विविध)07-378 / 2020- 222
Government of Bihar
Water Resources Department

From,

Sanjeev Hans
Secretary

To,

The Secretary
Ministry of Jal Shakti
Dept. of Water Resources, RD & GR
Sharam Shakti Bhawan,
Rafi Ahmed Kidwai Marg, New Delhi

/Patna, dated- 04/5/2020

Sub: - Regarding revisit of Gazette Notification S.O. 3187(E) dated-07.10.2016 of MoWR, RD & GR

Ref: - Notification No. S.O. 3187(E), dated-07.10.2016 of MoWR, RD & GR

Sir,

Please refer the sub section (1) (l) of section 3(Definition) of Gazette notification No. S.O.3187(E) dated 07-10-2016 MoWR, RD & GR, regarding the "River Ganga rejuvenation, Protection and Management Authorities Order 2016", wherein *Flood Plains* have been defined as *"Such area of River Ganga or its tributaries which comes under water on either side of it due to floods corresponding to its greatest flow or with a flood of frequency once in hundred years."* Further in subsection (3) of section 6(Prevention control and abatement of environmental pollution in River Ganga and its tributaries), it has been mentioned that *"No person shall construct any structure, whether permanent or temporary for residential or commercial or industrial or any other purpose in the River Ganga, Bank of River Ganga or its tributaries or active flood plain area of River Ganga or its tributaries:*

Provided that in exceptional circumstances like natural calamities or religious events at traditional locations, temporary structures can be raised after prior permission of the National Mission for Clean Ganga acting through the State Ganga Committee and the District Ganga Committee:

Provided further that in case any such construction has been completed, before the commencement of this Order, in the River Bank of River Ganga or its tributaries or active flood plain area of River Ganga or its tributaries, the National Mission for Clean Ganga shall review

such constructions so as to examine as to whether such constructions are causing interruption in the continuous flow of water or pollution in River Ganga or its tributaries, and if that be so, it shall cause for removing them."

In this context, it is to convey that *Flood plains* as defined in the notification has been found not in accordance with the ground situation of Bihar state, major portion of which gets inundated every year due to high discharge/floods in the rivers coming either from other country like Nepal or other states like Jharkhand, MP, UP and W. Bengal.

As per definition of *flood plains* mentioned in Gazette Notification under reference, *flood plain* areas are thickly populated in Bihar as there are several villages situated within the embankments and river edges.

Actually Bihar has a unique geographical situation. Bihar suffers from flood every year due to the rivers flowing into the state from Nepal such as Gandak, Bagmati, Kamla, Kosi etc. Bihar also suffers from flood due to rivers coming from other states such as Sone River flowing in from Madhya Pradesh, Punpun, Phalgu etc from Jharkhand and Mahananda river from West Bengal.

Bihar suffers from the rainfall in the catchment of other state/country. Whenever heavy rainfall occurs in the Himalayan terrain, it causes inundation in the vast surrounding areas. Flood water resides for a certain period, considering it as *flood plains,* maximum area of the state will come under *flood plain.* Almost 68,800 sq. km area out of total geographical area of 94160 sq. km is prone to flood, which works out to nearly 73% of total geographical area of the state. Prohibition of activities viz construction and other development works in such *flood plains* will adversely affect the development of the state.

As per the Primary Census Abstract 2011, Bihar is the most thickly populated state which has a population density of 1,106 people per sq km. It way above the national average density of 382 persons per sq km. It will be relevant to mention here that as per 1991 census, in the river basin of Ganga and its tributaries, the population density of North Bihar varies from 863 persons per Sq Km to 839 persons per Sq Km in Gandak to Kamala-Balan reach, 583 in Kosi basin, 598 in Mahananda basin, and 896 persons per Sq Km in Ganga Stem (***Annexure-1***).

For understanding the above situation of Bihar, a small stretch of river Ganga from Maner to Fatuha (approx 50 KM) near Patna is being hereby illustrated for which a detail

description of population in vicinity of river Ganga i.e *Flood Plain* of Ganga river is being enclosed as ***Annexure -2***. It will be evident from the perusal of this description that only in this small stretch taken just for illustration, 328 villages are situated in this *flood plain* zone in which 10,43,713 people are residing as per census of 2011.

Apart from this, 12 districts are situated on the banks of river Ganga wherein a large number of population is settled long time back. It even finds mention in the earliest revenue record dating back to 18th century. It will be relevant to mention here that this population has further grown up in the recent years the determination of which will be possible only after the census 2021. It will not be an exaggeration to say that displacement of such a vast habitation /population and their rehabilitation does not seem practically possible. Satellite imagery showing inundation in 2016 due to flood for the illustrated stretch of river Ganga (Maner to Fatuha) is being enclosed as ***Annexure-3.***

It is clearly visible from the data shown in Annex-2&3 for the illustrated stretch that the population density residing in the inundated area is nearly equal to the average population density of the state of Bihar. For enactment of flood plain zoning regulation, there will be a requirement for proper resettlement and rehabilitation of such a vast population. Owing to high population density even in non flood plain areas, the availability of surplus land is very limited and hence land resources available in the state is not sufficient to cater the actual need.

Many important historical towns/cities namely Buxar, Ara, Chhapra, Patna (Patliputra/Patna city), Hajipur, Barh, Mokama, Begusarai, Munger, Sultanganj, Bhagalpur (Vikramshila), Kahalgaon etc. are situated on the banks of Ganga river and its tributaries comprising a vast habitation of people in the *flood plains*. Apart from this ancient structures of historical importance like Bikramshila at Bhagalpur, Fort at Munger, several similar monuments are situated on the bank of river Ganga. As these are very old structures/monuments of historical importance and relate to the sentiments of people of Bihar, the regular upkeep and maintenance are required at frequent interval along with its reconstruction/redevelopment from time to time. In the above context, bringing these areas having these structure/monuments in flood plains will not be practical and it will be against the interest of state of Bihar.

It is obvious from the facts mentioned above that the enactment of flood plain zoning bill is not feasible and practically possible in Bihar in the form defined in Gazette Notification under reference. In this regard, the views regarding enactment of flood plain zoning bill in Bihar have been communicated vide letter no. 1186 dated 04.12.2004, 2155 dated 13.08.2012 and 519 dated 26.08.2013. (***Annexure-4***).

Under the above scenario particularly in Bihar state, development and installation of highly efficient early flood warning system seems very necessary and of utmost importance. Water resources department has already set up a specialized centre, Flood Management Improvement Support Centre (FMISC) for flood forecasting and early flood warning system. Since most of rivers of Bihar are either interstate or international, hence early flood forecasting/early flood warning system needs to be developed and established at the Govt. of India level also.

In the light of above mentioned facts and circumstances, The situation and ground reality of Bihar being a unique and specific, the above said provision of Flood Plain Zoning in subsection (1) (I) of section 3and subsection (3) of section 6 of the Gazette Notification under subject is required to be amended and there is a need for special provisions for Bihar.

In view of the above, there is a requirement to revisit the provisions of *Flood Plain Zoning* illustrated in the subsection (1) (I) of section 3 and subsection (3) of section 6 of Ministry of Jal Shakti, NMCG Gazette Notification S.O 3187(E), dated 07 October, 2016 by MoWR, RD & GR, Govt. of India and needful action is required to be done at the part of MoWR, RD & GR, Govt of India for having special provisions for Bihar, where Flood Plain Zoning Bill is not feasible and practically possible as well as for adoption /provision of suitable alternative measures for Bihar state

Enclosure: as above

Yours faithfully

4/5/20

(Sanjeev Hans)

Secretary

Annexure-7

YoMo-04(Vividh) 07-378/2020- 441
Government of Bihar
Water Resources Department

From

Sanjeev Hans
Secretary

To

The Secretary
Ministry of Jal Shakti
Department of Water Resources RD & GR
Shram Shakti Bhawan, Rafi Marg
New Delhi - 110 001.

/Patna, dated 09-10-2020

Sub Regarding revisit of Gazette Notification S.O. 3187(E) dated 07-10-2016 of MoWR, RD & GR.

Ref WRD Bihar Letter No. योमो 04 (विविध) 07-378/2020-222 dated 04.05.2020

Sir

With reference to the above mentioned subject, it is to state that Bihar has a unique and specific situation in terms of flood plains as defined in the subsection 1(l) of section 3 and sub-section (3) of section 6 of the mentioned Gazette Notification S.O. 3187(E) dated 07-10-2016 issued by Ministry of Jal Shakti. A request to revisit the provisions of Flood Plan Zoning, need of special provisions and suitable alternative for Bihar State has been made earlier.

It is again requested to kindly reconsider the matter and take needful action regarding modification in the definition of Flood Plain as described in the gazette notification above along with granting special provision / suitable alternative for Bihar, where flood plain zoning bill is not feasible nor practically possible.

Yours sincerely

9/10/20

(Sanjeev Hans)
Secretary

पत्रांक–यो०मो०–4(विविध) 07–372 / 2020– 463
बिहार सरकार
जल संसाधन विभाग

प्रेषक,

नन्द कुमार झा
मुख्य अभियंता,
योजना एवं मोनिटरिंग, पटना।

सेवा में,

श्री अनमोल चंदन
अधिवक्ता, उच्चतम न्यायालय, नई दिल्ली
मकान सं०–27, रोड न०–1A
शिवपुरी, पटना–800024
ई–मेलः–advocate.anmol@gmail.com
दूरभाषः–08375015983

/पटना, दिनांकः– 10/12/2020

विषयः– O.A No.-673/2018 में पारित आदेश के आलोक में बिहार राज्य में Flood Plain Zoning लागू नही किए जाने से संबंधित माननीय राष्ट्रीय हरित न्यायाधिकरण, नई दिल्ली के समक्ष राज्य का पक्ष रखने के संबंध में।

प्रसंगः– आपका ई–मेल दिनांक–23.11.2020

महाशय,

उपर्युक्त विषयक प्रासंगिक ई–मेल द्वारा दिये गये सुझाव के आलोक में बिहार राज्य द्वारा Flood Plain Zoning को लागू किये जाने में आ रही व्यवहारिक बाधाओं, अवरोध एवं इससे संबंधित मुद्दों को River Rejuvenation Committee (RRC) को संसूचित कर दिया गया है, जिसकी प्रति आपको अनुलग्न की जा रही है।

अनुरोध है कि विषयांकित मामले में माननीय NGT में I.A. दायर करने हेतु यथाशीघ्र अग्रेत्तर कार्रवाई करना सुनिश्चित किया जाय।

अनु०:–यथोक्त।

विश्वासभाजन
10/12/2020
(नन्द कुमार झा)
मुख्य अभियंता

Proceeding of the meeting of the River Rejuvenation Committee held on 31.12.2019.

A meeting was convened in light of the Hon'ble NGT order dated 06.12.2019 under the Chairmanship of Principal Secretary, Environment, Forest & Climate Change, Govt. of Bihar . Attendance: enclosed

Hon'ble NGT has directed revised Action Plan to be submitted taking into account various points of compliances. Member-Secretary, Pollution Control Board briefed the committee regarding those points. After detailed discussions following decisions were taken:

1. As per the orders of the Hon'ble Tribunal 100% treatment of sewage has to be ensured at least to the extent of in-situ remediation. If this is not done, the local bodies and the concerned department shall be liable for compensation. Urban department shall take steps towards meeting the deadline. The representative of urban department was directed to submit current status of compliances, as well as the plan for meeting the stipulated timeframe with regard to 28 towns.
2. DPRs relating to Solid Waste Management and STP for the polluted river stretches towns have been under preparation since long. If they are not soon approved and work started the State may have to pay compensation. Urban department shall also inform the new timeline within which tender and work shall be completed.
3. Hon'ble NGT has directed separate Action Plan for 6 polluted river stretches, as such Urban Department shall make available following information:-
    (i) Municipal limits of all 28 towns on map with detailed drainage lines. (23 Ganga frontline towns and 5 towns located on other polluted river stretches).
    (ii) Reduced timeline for setting up of STP and its network in these towns.
    (iii) Plan for use of treated STP water in terms of the order passed by Hon'ble NGT in Mahesh Chandra Sexena case.
    (iv) Solid waste management including legacy waste, plastic waste, construction and demolition waste in these 28 towns with detailed figures of generation, treatment and disposal.
    (v) Status of capping of all drains in these 28 towns within two weeks.
4. PHED was directed to submit the water sample analysis report for the polluted river stretches.
5. Water Resources Department had been asked in the previous meetings to comply with the flood plain zonation as per requirement of the Hon'ble NGT order, but there is no development so far. The reasons given for non-compliance should be taken up with Hon'ble NGT, through separate application.
6. BIADA shall make available detailed geo-referenced maps for industrial clusters in these 28 towns, both existing and proposed.

(454)

7. Industry department shall direct DIC to carry out inventorisation of industries in these 28 towns.
8. Forest Department shall make available the details of the plantation scheme with implementation status for these polluted river stretches.
9. All departments shall submit organisational chart responsible for implementation of action plan in the department alongwith budgetary requirement and availability of funds. The timeline in the action plan must be adhered to .
10. All departments shall submit compliance report by 6th of Jan., 2020. A meeting for this purpose will be convened by Member-Secretary, Pollution Control Board.

The meeting ended with thanks to all.

16/1/2020

(Dipak Kumar Singh)
Principal Secretary
Environment, Forest & Climate Change
Govt. of Bihar

Memo No...30...../ Date17.01.20 Director, Central

Copy to : The Managing Director, BIADA/ The Secretary, PHED/ The Secretary, Industries/ The Secretary, Water Resources/ The Secretary, UD&HD/ The Principal Chief Conservator of Forest (HoFF) for information and necessary action.

16/1/2020

(Dipak Kumar Singh)
Principal Secretary
Environment, Forest & Climate Change
Govt. of Bihar

1357

Letter No.-Yojana Ayojan (CWC) 08-4/2018-Part-I 208
Government of Bihar
Water Resources Department

From

Arun Kumar Singh
Additional Chief Secretary

To

The Secretary
Ministry of Ministry of Water Resources, RD & GR
Govt. of India
Shram Shakti Bhawan,
Rafi Ahmed Kidwai Marg, New Delhi.

Patna, dated- 24/4/19

Sub: - NMCG, MOWR, GOI Gazette notification dated 10th October, 2018 regarding release of e-flow in Ganga.

Ref: MOWR GOI Gazette notification no 4009 dated 10 October, 2018, Govt. of Bihar D.O. Letter No. 4610128 dated 26.05.2017

Sir,

In reference to the above letters, It is to state that earlier, Hon'ble Chief Minister Govt. of Bihar, vide D.O. Letter No. 4610128 dated 26.05.2017 has highlighted the important concern of Bihar on River Ganga, especially issue of e-flow and distribution of responsibility to upstream Co-basin States for sharing the burden of international commitment to Bangladesh to ensure 1500 cumecs of water at Farakka barrage, instead of burdening Bihar alone. WRD, Bihar has also forwarded the outcome of two Conferences held on "Incessant Ganga" at Patna (25-26 February, 2017) and "Sedimentation, a Colossal Impediment to Incessant flow of River Ganga - Problem and Solution" at New Delhi (18-19 May, 2017) to take appropriate action.

Perhaps, MOWR has taken initiative in the light of above request and published Gazette notification regarding release of e-flow in Ganga. However, it is to point out that GOI has considered the issue of e-flows in Ganga Stem only that too in Upper Ganga portion only upto Kanpur, although it was desirable to notify e-flow for entire reach of Ganga as well as its important tributaries. While deciding the e-flows in Ganga, MoWR should have also taken into consideration the special needs like requirement of flows required for fulfilling the international obligation of Indo-Bangladesh Treaty, 1996. Although there exists a clause 2(III)(viii) in the Gazzette which mandates MoWR to recommend additional discharge for special needs.

It transpires from the above e-flow notification that MOWR has allowed utilization of a part of 36 Cumecs e-flow released from Bhimgoda (Haridwar) Barrage for consumptive use before Bijnor as it has recommended 24 Cumecs only in the d/s of Bijnor, meaning thereby upstream utilization of 12 Cumecs out of 36 Cumec in between Bijnor & Kanpur. Although, it was desirable that the recommended e-flow release at Bijnor should have been more than 36 cumecs, which was released at Haridwar.

You are aware that there exists an Indo-Bangladesh Treaty, 1976 & 1996 (revised) in which sharing formula of water available at Farraka Barrage has been agreed. Sharing of Ganga water between West Bengal (India) and Bangladesh, especially during lean season, is of utmost importance

as it is impacting Bihar's development as well. Your kind attention is drawn towards the fact that MOWR, GOI has put a blanket ban on utilization of Ganga water in Bihar during lean season, as it would be evident from the fact that MOWR, GOI has not sanctioned any new projects of Bihar to utilize Ganga water even for meager water requirement for developing Thermal / Nuclear Power in the state of Bihar. GOI has allowed Bihar Govt. to draw / lift water from Ganga for Thermal Power (Barauni) / Nuclear Power (Rajauli, Nawadah Distt) on the condition that Bihar is required to make available the equivalent quantum of water in Ganga through saving / cutting the planned utilisation in sanctioned projects on the tributaries citing the reasons of honouring the Indo-Bangladesh Treaty. This is clearly a contradictory standard as GOI is allowing upper riparian to utilise Ganga water, even meant for e-flow requirement and denying Bihar to utilise meagre Ganga water.

As per Comprehensive Plan of Ganga Basin prepared by MoWR, GoI and Bihar State Second Irrigation Commission report, 41 Cumecs of water in month of February, 44 Cumecs in March, and 53 Cumecs in April is required to be made available in Main Ganga before the confluence of Ramganga river (about 100 KM upstream of Kanpur) to fulfill the obligation of Bangladesh at Farraka, whereas the MOWR gazette notification provides for 24 cumecs only below Kanpur,.

As informed earlier, Bihar was not consulted before signing the Indo-Bangladesh Treaty in December, 1996 and Govt of Bihar has even lodged protest before GOI on the issue. The implication of this Treaty was conveyed and even requested to fix the quantum of water to be made available at different terminal points by the upper Riparian States. Water sharing arrangement in Indo-Bangladesh Treaty, 1996 is based on average data of water availability, whereas 1977 Treaty was on 75 % dependability data. The average data at Farakka as shown in the Treaty, is higher than the assessment made by Bihar State Second Irrigation Commission (BSSIC). As per assessment, about 400 Cumec water enters in Bihar at Buxar and Bihar is required to make available 1100 Cumec so as to meet the requirement of 1500 Cumecs at Farraka to fulfill the requirement of Bangladesh & West Bengal (India), although, very large tributary like Ramganga, Yamuna, Gomti, Ghaghra, Tones having catchment spread over Nine States meets Ganga before Bihar and these tributaries should contribute more based on prorata proportion of catchment area. This issue has been raised earlier umpteen times before MOWR/GOI.

In view of the above, MOWR, GOI is requested to invoke the provision of Clause 2(III)(viii) of MOWR, NMCG Gazette Notification no 4009 dated 10 October, 2018 and fix the quantum of water to be made available on prorata basis of catchment at important terminal points of the tributaries of Ganga and direct the upper riparian States accordingly to release water as special need to fulfill the obligation of Indo-Bangladesh Treaty, 1996; and make some Ganga water available for Bihar's use. I am looking forward for favorable action at your end.

With warm regards,

Yours Sincerely

(Arun Kumar Singh)
Addl. Chief Secretary

रजिस्ट्री सं० डी० एल०-33004/99 REGD. NO. D. L.-33004/99

भारत का राजपत्र
The Gazette of India

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जल संसाधन, नदी विकास और गंगा संरक्षण मंत्रालय

(राष्ट्रीय स्वच्छ गंगा मिशन)

आदेश

नई दिल्ली, 9 अक्तूबर, 2018

का.आ. 5195(अ).—गंगा नदी अत्यधिक पवित्र और इस देश के लोगों द्वारा अत्यंत पूज्यनीय है तथा गंगा नदी बेसिन जल ग्रहण क्षेत्र के निबंधनानुसार भारत में वृहत्तम नदी बेसिन है, जिसमें संपूर्ण देश की छब्बीस प्रतिशत भूमि सम्मिलित है तथा जो लगभग पचास करोड़ जनसंख्या के लिए पोषणीय है;

और गंगा नदी विशेष गुणों, विशिष्टताओं तथा महत्व के रूप में अद्वीतीय है जिसका महत्वपूर्ण लौकिक और स्थानिक प्रभाव भिन्नता के साथ जल-विज्ञान, भू-आकृतिविज्ञान, ऐतिहासिक, सामाजिक-सांस्कृतिक और आर्थिक कारण हैं;

और गंगा नदी को राष्ट्रीय नदी का दर्जा दिया गया है तथा नदी-प्रणाली में सिंचाई, घरेलू, औद्योगिक और अन्य प्रयोजनों के लिए बेसिन में सदैव पानी की बढ़ती मांग के साथ घरेलू अपशिष्ट और आद्योगिक अपशिष्ट सहित विभिन्न स्रोतों से प्रदूषण प्रवेश कर रहा है, जो नदी के स्वास्थ्य को लंबे समय से प्रभावित कर रहा है;

और भारत सरकार समुचित पर्यावरण प्रवाह तथा साथ ही नदी में प्रदूषण के प्रवेश के निवारण को सुनिश्चित करने के लिए नदियों की पौष्टिकता की बहाली करने और उसे बनाए रखने के लिए वचनबद्ध है;

और यह सुनिश्चित करना आवश्यक है कि गंगा नदी में हर समय पानी के निर्बाध प्रवाह को पूरी तरह से बनाए रखा जाए, जिससे मौसमी भिन्नताओं को बदले बिना नदी में प्रवाह की निरंतरता सुनिश्चित हो सके;

केंद्रीय सरकार ने पर्यावरण (संरक्षण) अधिनियम, 1986 (1986 का 29) के अधीन अधिसूचना का.आ. 3187 (अ), तारीख 7 अक्तूबर, 2016 द्वारा गंगा नदी जलक्षेत्र के संरक्षण, संरक्षा और प्रबंध तथा निम्नलिखित प्रयोजनों के लिए एक प्राधिकरण अर्थात् राष्ट्रीय स्वच्छ गंगा मिशन का गठन किया था, अर्थात्:-

(क) गंगा नदी और उसकी सहायक नदियों के जल की गुणवत्ता और पर्यावरणीय वहनीय संरक्षण, संरक्षा और प्रबंध को सुनिश्चित करने के उद्देश्य से सतैव विभिन् क्षेत्रों में विभिन्न बिंदुओं पर बनाए रखने के लिए अपेक्षित गंगा नदी और उसकी सहायक नदियों में पारिस्थितिक

प्रवाह के परिमाण को अवधारित करवाने तथा उसे अधिसूचित करवाने और पर्याप्त पारिस्थितिक प्रवाह को बनाए रखने के लिए ऐसे सभी आवश्यक कदम उठाना या निदेशित करना;

(ख) गंगा नदी के जलीय प्रेक्षण स्टेशनों के माध्यम से विनिर्दिष्ट बिंदुओं पर पानी के औसत प्रवाह को विनिर्दिष्ट करना;

(ग) गंगा नदी तथा उसकी सहायक नदियों में जल के प्रवाह की निरंतर मानीटरी के लिए तंत्र विकसित करना;

और केंद्रीय सरकार ने गंगा नदी और उसकी सहायक नदियों में कतिपय प्रवाहों को निर्धारित करने का विनिश्चय किया है।

2. अतः केंद्रीय सरकार, गंगा नदी (संरक्षण, सुरक्षा एंव प्रबंधन) प्राधिकरण आदेश, 2016 के पैरा 39 के उपपैरा (3) और पैरा 41 के उपपैरा (2) की मद (ज) के साथ पठित पर्यावरण संरक्षण अधिनियम, 1986 की धारा 3 की उपधारा (3) द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए, सिंचाई, जल विद्युत्, घरेलू और औद्योगिक प्रयोजनों तथा अन्य अपेक्षाओं के लिए नदी प्रवाह को परिवर्तित करने के लिए संरचनाओं या परियोजनाओं के निम्न प्रवाह अवस्थानों पर न्यूनतम पर्यावरणीय प्रवाहों को बनाए रखने के लिए अधिसूचित करती है, अर्थात्:-

I. देवप्रयाग से हरिद्वार तक अंत में मिलने वाले क्रमवर्तीय सम्मिलनों के माध्यम से और उद्भव वाले ग्लेशियरों से आरंभ होने वाला **उपरी गंगा नदी बेसिन विस्तार**:

क्रम सं.	ऋतु	मास	*प्रत्येक पूर्ववर्ती 10 दैनिक अवधि के दौरान प्रेक्षित मासिक औसत प्रवाह का प्रतिशत(%)*
1.	शुष्क	नवंबर से मार्च	*20*
2.	क्षीण	अक्तूबर, अप्रैल और मई	*25*
3.	*उच्च प्रवाह ऋतु*	*जून से सितंबर*	*30*#*

*#उच्च प्रवाह ऋतु के मासिक प्रवाह का 30%

II. **हरिद्वार, उत्तराखंड से उन्नाव, उत्तर प्रदेश तक गंगा नदी के मुख्य मार्ग का विस्तार**:

क्रम सं.	बैराज की अवस्थिति	बैराजों के सन्निकट निम्न धारा को निर्मुक्त करने वाला न्यूनतम प्रवाह **(क्यूमैक्स में) (अक्तूबर से मई)**	*बैराजों के सन्निकट निम्न धारा को निर्मुक्त करने वाला न्यूनतम प्रवाह* ***(क्यूमैक में) (जून से सितंबर)***
(1)	भीमगौड़ा (हरिद्वार)	36	*57*
(2)	बिजनौर	24	*48*
(3)	*नरौरा*	24	*48*
(4)	*कानपुर*	*24*	*48*

क्यूमैक-घनमीटर प्रतिसेकंड।

III. उपरोक्त उक्त पारिस्थितिकी प्रवाह निम्न के अध्यधीन हैं, अर्थात्:-

(i) न्यूनतम पर्यावरणीय प्रवाह का अनुपालन सभी विद्यमान, निर्माणाधीन और भविष्य की परियोजनाओं को लागू होता है;

(ii) विद्यमान परियोजनाएं जो वर्तमान में इन पर्यावरणीय प्रवाहों के मानदंडों के अनुरूप नहीं हैं, इनका पालन करेंगी और यह सुनिश्चित करेंगी कि वांछित पर्यावरणीय प्रवाह मानदंडों का पालन इस अधिसूचना के जारी करने की तारीख से तीन वर्ष की अवधि के भीतर किया जाए;

(iii) परियोजना जो सन्निर्माण की विभिन्न प्रक्रम पर हैं, जहां जमीनी भौतिक प्रगति आरंभ हो चुकी है और समुचित प्राधिकारी को रिपोर्ट की गई है, परियोजना को आरंभ करने के पूर्व और उसके पश्चात् अनुबद्ध पर्यावरणीय प्रवाह को बनाए रखने के लिए भी आवश्यक उपबंध करेगी;

(iv) लघु और सूक्ष्म परियोजनाएं जो सारवान रूप से नदी या धारा की प्रवाही विशेषताओं को परिवर्तित नहीं करती हैं, इन परियावरणीय प्रवाहों से छूट प्राप्त हैं;

(v) परियावरणीय प्रवाहों को बनाए रखने के लिए जल की वांछनीय मात्राओं की निर्मुक्ति को सुनिश्चित करने के लिए, इन नदी आगमों में प्रवाह की दशाएं समय-समय पर कालिक अंतरालों पर मानीटर की जाएंगी;

(vi) केंद्रीय जल आयोग अभिहित प्राधिकारी तथा डाटा का संरक्षक होगा तथा प्रवाहों के पर्यवेक्षण, मानीटरिंग, विनियमन तथा जब कभी अपेक्षित हो, समुचित प्राधिकारी को आवश्यक जानकारी रिपोर्ट करने के लिए उत्तरदायी होगा । यह किसी आपात स्थिति की दशा में जल भंडारण मानदंडों के बारे में तत्काल निर्णय लेने के लिए भी प्राधिकृत है । केंद्रीय जल आयोग त्रैमासिक आधार पर राष्ट्रीय स्वच्छ गंगा मिशन को प्रवाह मानीटरी-सह-अनुपालन रिपोर्ट प्रस्तुत करेगा;

(vii) संबंधित परियोजना विकासकर्ता या प्राधिकारी इस अधिसूचना की तारीख से छह मास के भीतर केंद्रीय जल आयोग विनिर्दिष्ट उचित अवस्थानों पर परियोजना स्थलों पर स्वचालित डाटा अर्जन और डाटा प्रेषण प्रसुविधाएं या अपेक्षित आवश्यक अवसंरचना लगाएगा । प्रवाह मानीटरी प्रसुविधा को लगाने, अंशांकन करने, उसे बनाए रखने का उत्तरदायित्व परियोजना विकासकर्ताओं या प्राधिकारियों का होगा और वे समय-समय पर केंद्रीय जल आयोग को डाटा प्रस्तुत करेंगे;

(viii) केंद्रीय सरकार, राष्ट्रीय स्वच्छ गंगा मिशन के माध्यम से, जब कभी अपेक्षित हो, गंगा नदी में विशेष मांग को पूरा करने के लिए अतिरिक्त जल को निर्मुक्त करने का निदेश दे सकेगी ।

IV. संबंधित केंद्रीय और राज्य प्राधिकरण, सिंचाई का प्रभावी ढंग, जल का पुनः उपयोग और पुनः चक्रण, जिसके अंतर्गत विभिन्न प्रयोजनों के लिए भूजल निकालने की मानीटरिंग और विनियमन भी है, जैसे अच्छे और वैज्ञानिक व्यवहारों को अपना कर गंगा नदी के जल निकालने में कमी करने के लिए मांग पक्ष प्रबंध योजना कार्यान्वित करेंगे ।

3. यह आदेश इसके राजपत्र में प्रकाशन की तारीख से प्रवृत्त होगा ।

4. यह आदेश उद्भव वाले ग्लेशियरों से आरंभ होने वाले उपरी गंगा नदी बेसिन तथा देवप्रयाग से हरिद्वार तक और उत्तर प्रदेश के उन्नाव जिले तक गंगा नदी की मुख्य धारा को तथा अंत में मिलने वाली इसकी मुख्य सहायक नदियों के क्रमवर्ती सम्मिलनों पर लागू होगा ।

[फा. सं. - Estt.01/2016-17/111/NMCG (Vol III)]

राजीव किशोर, कार्यकारी निदेशक (प्रशा.)

MINISTRY OF WATER RESOURCES, RIVER DEVELOPMENT AND GANGA REJUVENATION

(NATIONAL MISSION FOR CLEAN GANGA)

ORDER

New Delhi, the 9th October, 2018

S.O.5195(E).—Whereas, the River Ganga is the most sacred and deeply revered by the people of this country and the Ganga river basin is the largest river basin in India in terms of catchment area, constituting twenty six per cent of the country's land mass and supporting about half a billion population;

And whereas, River Ganga is unique as having special properties, features and importance, holding reasons that are hydrological, geomorphological, historical, socio-cultural and economical with significant temporal and spatial flow variation;

And whereas, River Ganga has been given status of a National river and the ever increasing demand for water in the basin for irrigation, domestic, industrial and other purposes coupled with pollution ingress from different sources including domestic waste, industrial waste, into river system is affecting the health of the said river for long;

And whereas, the Central Government is committed to restore and maintain the wholesomeness of the rivers ensuring appropriate environment flows and simultaneously preventing the pollution ingress into the said river;

And whereas, it is considered necessary to ensure that uninterrupted flows of water are maintained throughout its length at all times in River Ganga to ensure continuity of flows in the river without altering the seasonal variations;

And whereas the Central Government *vide* notification S.O. 3187(E), dated the 7th October, 2016 under the Environment (Protection) Act, 1986 (29 of 1986) has constituted an authority, namely, the National Mission for Clean Ganga for Rejuvenation, Protection and Management of River Ganga basin for the following purposes, namely:-

(a) to determine the magnitude of ecological flow in the River Ganga and its tributaries required to be maintained at different points in different areas at all times with the aim of ensuring water quality and environmentally

sustainable rejuvenation, protection and management of River Ganga and its tributaries and notifying the same and take or direct all such measures necessary to maintain adequate ecological flows;

(b) to specify the average flow of water at specified points through Hydrological Observation Stations of the River Ganga;

(c) to devise a system for continuous monitoring of flow of water in the River Ganga and its tributaries;

And whereas the Central Government has decided to determine certain flows in the River Ganga and its tributaries;

2. Now, therefore, in exercise of the powers conferred by sub-section (3) of section 3 of the Environment (Protection) Act 1986 and read with sub paragraph (3) of paragraph 39 and item(h) of sub-paragraph(2) of paragraph 41 of the River Ganga (Rejuvenation, Protection and Management) Authorities Order, 2016, the Central Government hereby notifies the following minimum environmental flows to be maintained at locations downstream of structures or projects meant for diversion of river flows for purposes like irrigation, hydropower, domestic and industrial and other requirements, namely:-

I. **Upper Ganga River Basin Stretch** starting from originating glaciers and through respective confluences finally meeting at Devaprayag up to Haridwar:

Sl. No.	Season	Months	(%) Percentage of Monthly Average Flow observed during each of preceding 10-daily period
1	Dry	November to March	20
2	Lean	October, April and May	25
3	High Flow season	June to September	30*#

*# 30% of monthly flow of High flow season.

II. **Stretch of main stem of River Ganga from Haridwar, Uttrakhand to Unnao, Uttar Pradesh**

S. No.	Location of Barrage	Minimum flow releases immediately downstream of barrages ***(In Cumecs)*** **Non-Monsoon (October to May)**	Minimum flow releases immediately downstream of barrages ***(In Cumecs)*** **Monsoon (June to September)**
(1)	Bhimgoda (Haridwar)	36	57
(2)	Bijnor	24	48
(3)	Narora	24	48
(4)	Kanpur	24	48

Cumec – Cubic Meter per second.

III. The above said ecological flows are subject to the following, namely:-

(i) the compliance of minimum environmental flow is applicable to all existing, under-construction and future projects;

(ii) the existing projects, which currently do not meet the norms of these environmental flows, shall comply and ensure that the desired environmental flow norms are complied within a period of three years from the date of issue of this order;

(iii) the project which is at different stages of construction, where physical progress on ground has been initiated and made and reported to appropriate authority shall also make necessary provisions to maintain the stipulated environmental flow before and after commissioning of the project;

(iv) the mini and micro projects which do not alter the flow characteristics of the river or stream significantly are exempted from these environmental flows;

(v) to ensure the release of desired quantities of water to maintain environmental flows, flow conditions in these river reaches shall be monitored at hourly intervals from time to time;

(vi) the Central Water Commission shall be the designated authority and the custodian of the data and shall be responsible for supervision, monitoring, regulation of flows and reporting of necessary information to the appropriate authority as and when required and also authorised to take emergent decisions about the water storage norms in case of any emergency. The Central Water Commission shall submit flow monitoring-cum-compliance report on quarterly basis to National Mission for Clean Ganga;

(vii) the concerned project developers or authorities shall install automatic data acquisition and data transmission facilities or required necessary infrastructure at project sites at appropriate locations specified by the Central Water Commission within six months from the date of this order. The installation, calibration, maintenance of flow monitoring facility shall be the responsibility of the project developers or authorities and they shall submit the data to the Central Water Commission from time to time;

(viii) the Central Government through National Mission for Clean Ganga may direct release of additional water in the River Ganga to meet special demand as and when required.

IV. The concerned Central and State authorities shall implement demand side management plans to reduce water withdrawal from River Ganga by adopting good and scientific practices such as efficient method of irrigation, reuse and recycle of water including monitoring and regulation of ground water withdrawals for various purposes.

3. This Order shall come into force on the date of its publication in the Official Gazette.

4. This Order shall apply to the upper Ganga River Basin starting from originating glaciers and through respective confluences of its head tributaries finally meeting at Devaprayag up to Haridwar and the main stem of River Ganga up to Unnao district of Uttar Pradesh

[F. No.- Estt.01/2016-17/111/NMCG(Vol III)]

RAJIV KISHORE, Executive Director(Admn)

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SARVESH KUMAR SRIVASTAVA
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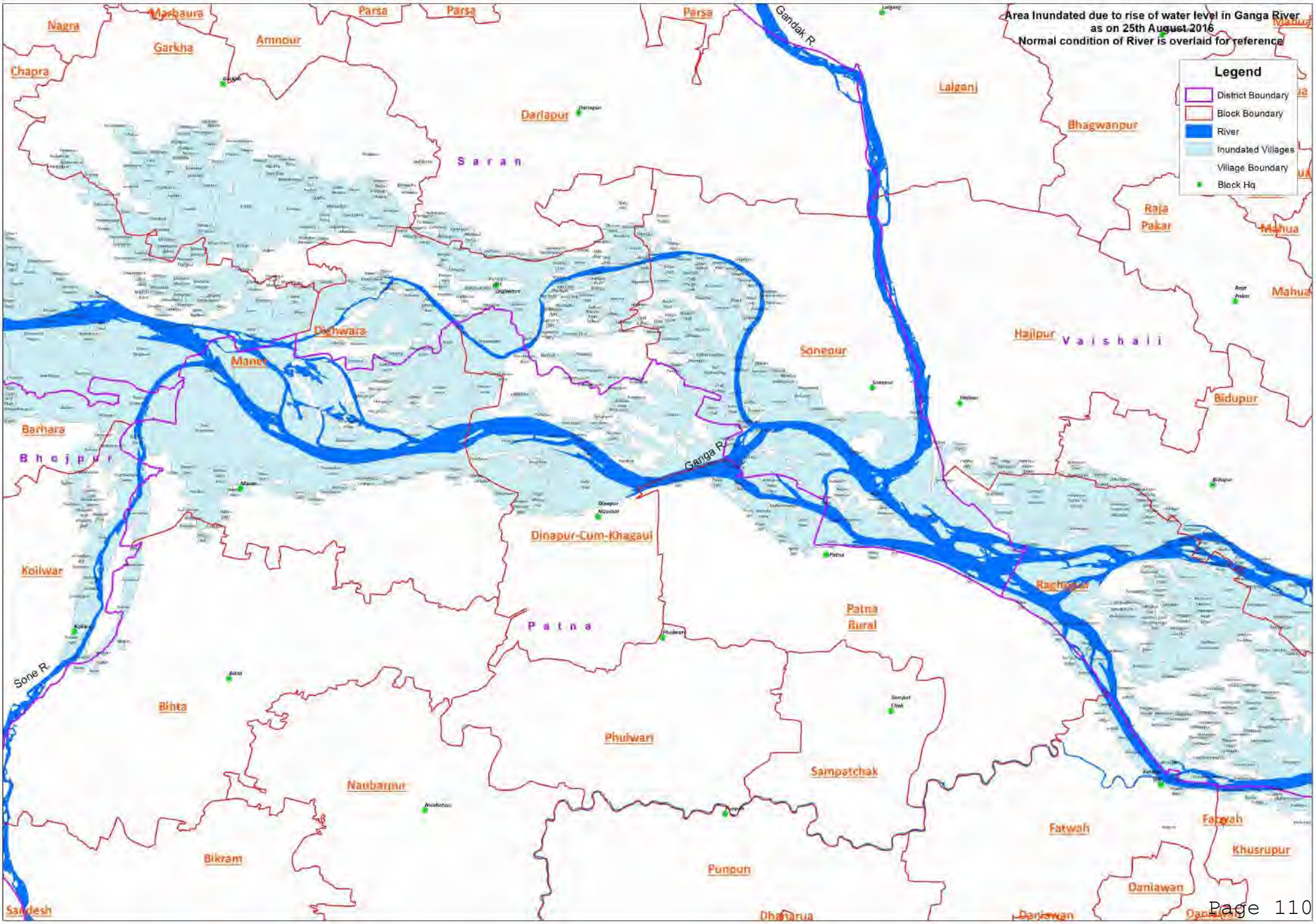
Area Inundated due to rise of water level in Ganga River
as on 25th August 2016
Normal condition of River is overlaid for reference
Legend
District Boundary
Block Boundary
River
Inundated Villages
Village Boundary
Block Hq
Nagra
Marhaura
Parsa
Parsa
Parsa
Gandak R
Garkha
Amnour
Chapra
Lalganj
Darlapur
Bhagwanpur
Saran
Raja Pakar
Mahua
Mahua
Dighwara
Hajipur
Vaishali
Sonepur
Maner
Biduipur
Barhara
Bhojpur
Ganga R
Dinapur-Cum-Khagaul
Koilwar
Patna
Patna Rural
Sone R.
Bihta
Phulwari
Sampatchak
Naubarpur
Fatwah
Khusrupur
Bikram
Punpun
Daniawan
Sandesh
Dhanarua
Daniawan

Action Plans for Solid Waste Management

Sl. No	Name of the ULB	Total Project Cost (Rs. in Lakh)	Remarks
1. (RAXAUL)- Sirsia River			
1.	Raxaul Nagar Parishad	532.93	DPR submitted to MoHUA, Govt. of India dated 19.11.2018. Project Execution to be completed by December, 2020.
2. (NARKATIYAGANJ) –Sikrahna River			
1.	Narkatiaganj Nagar Parishad	482.04	DPR submitted to MoHUA, Govt. of India dated 19.11.2018. Project Execution to be completed by December, 2020.
3. JOGBANI- Parmar River			
1.	Jogbani Nagar Panchayat		SWM DPR will be prepared by January, 2021 and Project Execution to be completed by April, 2021.
4. HARINAGAR (RAMNAGAR)- Ramrekha River			
1	Harinagar (Ram Nagar) Nagar Panchayat		SWM DPR will be prepared by January, 2021 and Project Execution to be completed by April, 2021.
5.	**BUXAR TO BHAGALPUR- Ganga River**		
1	Patna Municipal Corporation	19908.67	SWM DPR has been approved from MoHUA, Govt. of India and 50% Central/State share fund also has been released vide letter no 377 on dated 29/06/2019. Project Execution to be completed by December, 2020.
2	Chhapra Municipal Corporation	1937.5	
3	Munger Municipal Corporation	1953.69	
4	Begusarai Municipal Corporation	3142.57	
5	Barh Municipal Council	643.73	
6	Hajipur Municipal Council	1363.7	
7	Mokama Municipal Council	583.27	
8	Bakhtiyarpur Municipal Council	509.55	
9	Buxar Municipal Council	1130.16	
10	Khagariya Municipal Council	496.5	
11	Jamalpur Municipal Council	1094.86	
12	Sultanganj Municipal Council	535.71	
13	Teghra Nagar Panchayat	527.23	
14	Maner Nagar Panchayat	400.17	
15	Barahiya Nagar Panchayat	431.07	
16	Manihari Nagar Panchayat	274.47	SWM DPR has been approved from MoHUA, Govt. of India and 50% central share fund also has been released on dated 11th April, 2019. Project Execution to be completed by December, 2020.
17	Sonepur Nagar Panchayat	389.17	
18	Naugachia Nagar Panchayat	479.31	
19	Danapur Nagar Parishad	1877.76	
20	Kahalgaon Nagar Panchayat	365.39	
21	Dighwara Nagar Panchayat	299.97	
22	Bhagalpur Municipal Corporation	3862.36	

6.	**GAURICHAK TO FATUHA- Punpun River**		
1.	Fatuha Municipal Council	483.42	➢ SWM DPR has been approved from MoHUA, Govt. of India and 50% central share fund also has been released on dated 11th April, 2019. ➢ Project Execution to be completed December, 2020.

Status of Land for Waste Processing

- Land has been identified for Waste Processing in **18 Towns** (Patna, Bhagalpur, Munger, Chhapra, Hajipur, Bakhtiyarpur, Barh, Danapur, Jamalpur, Sultanganj, Barahiya Manihari, Naugachia, Kahalgaon, Dighwara. Begusarai, Teghra, Sonepur
- **Maner :** NOC received, but outer part of the land is encroached, District Administration has given notice to remove encroachment on dated 21.06.19. Presently an order by High Court to maintain status Quo for four weeks has been issued. There after EOI has been sent to IPRD for availability of land on lease.
- **Mokama :** Identified 2 Locations with 3000 Sq. ft each. Disputed Land and NOC awaited. 2- D.M. has instructed to C.O. to resolve the land dispute. 3- At landfill site 3000 Sq. ft land identified and construction of pits start
- **Fatuha :** EOI Published and two lands selected for processing activity at 1-Raipura- 6000 Sq. ft 2-Sanoraha-6000 Sq.
- **Khagariya** EOI issued.
- Land has been identified in **Buxar** and proposal submitted to Dept. for Land acquisition.

Status of Construction of composting pits for Waste Processing

- Constructions have been started in **16 Towns as** Danapur**,** Bhagalpur, Munger, Chhapra, Hajipur, Barh, Mokama, Barahiya, Manihari, Sultanganj, Naugachia, Kahalgaon, Dighwara, Buxar, Sonepur, Begusarai
- Construction of composting pit has completed in **8 towns** as Munger, Sultanganj, Buxar, Barahiya, Chhapra, Begusarai, Naugachhiya and Dighwara.

Status and Action Plan of ODF

Sr. No.	Name of City	Status of ODF Declared	Date of QCI Certificate	Remarks
1. RUXOL TO KOIREA TOLA (RAXAUL)- Sirsia River				
1	Raxaul Nagar Parishad	ODF	11/8/2018	One_time_certified_ODF_18Feb
2. ALONG JOGBANI- Parmar River				
1	Jogbani Nagar Panchayat	ODF	8/9/2018	
3. BUXAR TO BHAGALPUR- Ganga River				
1	Patna Municipal Corporation	ODF	Self declaration	
2	Chhapra Municipal Corporation	ODF	Self declaration	
3	Munger Municipal Corporation	ODF	18/09/2018	
4	Begusarai Municipal Corporation	ODF	13/09/2018	
5	Barh Municipal Council	ODF	14/08/2018	
6	Hajipur Municipal Council	ODF	09/08/2018	
7	Mokama Municipal Council	ODF	06/09/2019	
8	Bakhtiyarpur Municipal Council	ODF	02/08/2018	
9	Buxar Municipal Council	ODF	08/09/2018	
10	Khagariya Municipal Council	ODF	Self declaration	
11	Jamalpur Municipal Council	ODF	06/09/2018	
12	Sultanganj Municipal Council	ODF	20/09/2018	
13	Teghra Nagar Panchayat	ODF	13/09/2018	
14	Maner Nagar Panchayat	ODF	08/09/2018	
15	Barahiya Nagar Panchayat	ODF	08/09/2018	
16	Manihari Nagar Panchayat	ODF	13/09/2018	
17	Sonepur Nagar Panchayat	ODF	11/08/2018	
18	Naugachhiya Nagar Panchayat	ODF	04/08/2018	
19	Danapur Nagar Parishad	ODF	06/09/2018	
20	Kahalgaon Nagar Panchayat	ODF	Self declaration	
21	Dighwara Nagar Panchayat	ODF	18/09/2018	
22	Bhagalpur Municipal Corporation	ODF	20/09/2018	
4. GAURICHAK TO FATUHA- Punpun River				
1	Fatuha Municipal Council	ODF	31/07/2018	
5. HARINAGAR TO RAMNAGAR- Ramrekha River				
1	Narkatiyaganj Nagar Parisad	ODF	Self declaration	
6. ALONG NARKATIAGANJ- Sikrahna River				
1	Harinagar/Ramnagar Nagar Panchayat	ODF	18/09/2018	

Plastic Waste Management

- 100% Single use Plastic (Plastic Carry Bags) have been banned in all the Urban Local Bodies of State Bihar
- Penalty provisions have been made in the Plastic Waste Management Byelaws, 2018, if anyone is involved in Production, distribution, trading, storage, sale of plastic carry bags irrespective of its thickness and sizes.
- Gazette notification on Plastic ban ULB wise have also been notified by UD&HD, Government of Bihar. Details of gazette notification are as follows.

Govt. of Bihar

Urban Development & Housing Department

Report of Plastic Carry Bags raid since coming into effect of Plastic Waste Management Byelaws (23/12/2018) till March, 2020

Name of District	Name of ULB	Total Shops/ Establishments raided	Total Fine Collection (in Rs.)	Total seizure of Plastic Carry Bags (in kg)
1	2	3	4	5
Patna	Patna Nagar Nigam	25146	1394880	6609.84
	Danapur Nagar Parishad	1079	27600	34
	Phulwarishariff Nagar Parishad	986	32600	44
	Barh Nagar Parishad	1722	15950	19.55
	Mokama Nagar Parishad	147	27100	46
	Khagaul Nagar Parishad	2067	43500	4.66
	Bakhtiyarpur Nagar Parishad	587	30100	64
	Fatuha Nagar Parishad	832	42700	74
	Maner Nagar Panchayat	469	13000	19.8
Buxar	Buxar Nagar Parishad	1490	63900	1484.3
Vaishali	Hajipur Nagar Parishad	2294	51100	105
Begusarai	Begusarai Nagar Nigam	2079	75500	1628
	Teghra Nagar Panchayat	319	40300	55.9
Munger	Munger Nagar Nigam	575	69600	115.4
	Jamalpur Nagar Parishad	447	51000	99.25
Lakhisarai	Barahiya Nagar Panchayat	760	11000	75
Khagariya	Khagariya Nagar Parishad	1087	91200	889.2
Katihar	Manihari Nagar Panchayat	268	11000	39.65
Saran	Chhapra Nagar Nigam	1734	97900	435
	Sonepur Nagar Panchayat	283	38540	37
	Dighwara Nagar Panchayat	300	8425	7.5
Bhagalpur	Bhagalpur Nagar Nigam	304	94000	139.12
	Sultanganj Nagar Parishad	299	43900	19.9
	Naugachia Nagar Panchayat	772	52000	58.05
	Kahalgaon Nagar Panchayat	250	15700	11.78
Purvi-Champaran	Raxaul Nagar Parishad	695	66100	874.7
Paschimi-Champaran	Narkatiaganj Nagar Parishad	197	36800	36
	Ramnagar Nagar Panchayat	478	12800	9.6
Total of 23 Ganga Towns and Tributaries Towns		**47666**	**2558195**	**13036.2**

Solid Waste Management Status Report in Ganga Towns

Date:-31.03.2020

Sl. No	Name of the ULB	Whether ULB will be Planning for Decentralized or Centralized Processing of Solid Waste	Availability of Land for Processing activity				Construction of Compost Pits for Processing of Wet Waste					Total No. of Wards	No. of Wards with Door to Door Collection	Gap Door to Door Collection	Segregation at Source (Wet & Dry Distribution of		No. of Wards started Segregation at source	Gap in Segregation at source	Composting Activity			Landfill			
			Total Sites required for Decentralized/Centralized Solid Waste Processing Activity	Sites available with ULB for Solid Waste Processing activity	Gap in Required Vs Available at site	Remarks	No. of sites in which construction of pits started	Gap (sites available Vs sites in which construction of pits started	No. of sites in which construction of pits completed	Gap (pits started Vs pit completed)	Remarks				Target	Achievement			No. of Sites in which Composting Started	Gap in Composting activity as compare to sites in which construction of pit completed	Remarks	Identification of Sanitary Landfill site (NOC Awaited)	Availability of Sanitary Landfill sites	Site not identified or ULB in process to acquire/purchase land	Remarks
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1	Patna Nagar Nigam	Centralised	1	1	0	72 Acre of land available with ULB on Patna Gaya rpute Ramchak Bariya	0	1	0	0	Centralised Waste Processing	75	75	0	57000	0	0	75	0	0		0	1	0	72 Acre of land available with ULB on Patna Gaya rpute Ramchak Bariya
2	Maner Nagar Panchayat	Centralised	1	0	1	NOC received, but outer part of the land is encroqched, District Administration has given notice to remove encrochment on dated 21.06.19. Presently an order by High Court to maintain status Quo for four weeks has been issued. There qfter EOI has been sent to IPRD for availability of land on lease	0	0	0	0	Identification of Land for Solid Waste processing activity is in Progress	19	19	0	20832	10000	Target Date 15-09-2019	19	0	0	Not started	0	1	0	
3	Danapur Nagar Parishad	Centralised	1	1	0	One land of 63 Kattha available, but out of 63 Kattha, will use 5 Kathha for processing.	1	0	0	1	Construction started in one location	40	40	0	63864	55000	0	40	0	0	Not started	0	0	1	land for landfill site is not identified. It is in Progre
4	Bakhtiyarpur Nagar Parishad	Decentralised	4	4	0	Land is made available by C O at 4 places (15000sq feet) for Decentralised Processing	0	4	0	0	Construction started soon in one location	27	27	0	24906	15000	0	27	0	0	Not started	1	0	0	Landfill site identified and will be acquired near Dhoya river
5	Barh Nagar Parishad	Decentralised	4	1	3	Land made available at the trenching ground for processing activity.	1	0	0	1	Construction started	27	27	0	20560	20560	0	27	0	0	Not started	0	0	1	land for landfill site is identified. It is in Progress
6	Mokama Nagar Parishad	Decentralised	4	1	3	1- Identified 2 Locations with 3000 Sq. ft each. Disputed Land and NOC Awaited. 2- D.M. has instructed to C.O. to resolve the land dispute. 3- At landfill site 3000 Sq. ft land identified and construction of pits start	1	0	0	1	In 3000 Sq. ft land construction of pits (12 pits) started.	28	28	0	30354	6800	0	28	0	0	Pit Composting & MRF	1	0	0	5 acre land identified for sanitary landfill facility. NOC Awaited
7	Munger Nagar Nigam	Centralised	1	1	0	1. Own land available for processing activity. 2. Bio-composter installed in 10 wards. 3. Proposed to installed Bio-Composter in another 10 wards.	1	0	1	0	Pit Construction started in One location.	45	45	0	65782	40000	30	15	1	0	Through Windrow and Bio-Composter (in 10 wards)	0	1	0	11 Acre of land available with ULB for sanitary landfill activity in Churamba place.
8	Sultanganj Nagar Parishad	Decentralised	4	4	0	Construction Completed	2	2	1	1	1 pit completed and other pit Construction started.	25	25	0	24620	20000	25	0	2	0	Pit Composting & MRF	0	1	0	Land identified of 5 Acre at Rasidpur Mouja
9	Bhagalpur Nagar Nigam	Decentralised	5	5	0	5 No. of lands available with ULB 1. Ward no-45 2. Ward no-50 3. Ward no-27 4. Ward no-11 5. Ward no-20	2	3	0	2	Work started in ward 3 & 28	51	51	0	**150000**	**100000**	42	9	0	0	Pit Composting & MRF	0	1	0	1- 'Land of 4 Acre 61 Decimal available with ULB. 2- Letter has been sent to DM Bhagalpur to provide remaining land for landfill site.
10	Buxar Nagar Parishad	Decentralised	3	3	0	3 land identified for Processing activity.	2	1	1	0	1- One Place construction of pits completed . 2-In another 2 place water logged due to which construction work not start	34	34	0	15420	13768	34	0	1	1	Pit Composting & MRF	1	0	0	5 acre land identified cquisition in Nadaon Mauza Buxar. Application pending at UDHD for fund (DM Buxar letter no 3-0007 dated 08-06-2019)
11	Barahiya Nagar Panchayat	Decentralised	2	2	0	Land identified for processing activity	2	0	2	0	2 Nos. of Composting machine each with 4 tonn capacity has been purchased by the ULB and trial run completed.	24	24	0	18918	18500	0	24	2	0	Through Mechanical Composting Machine	0	0	1	Land identification for sanitary landfill facility is in progress. EOI published
12	Jamalpur Nagar Parishad	Centralised	1	1	0	One land of 7879.12 sq. feet is available with ULB for processing activity.	0	1	0	0	Construction of compost pits started in one location.	36	36	0	40222	30000	10	26	0	0	Construction of Pit & Composting work will start soon	0	1	0	Land available for sanitary landfill site with ULB of 3.5 Acre in Mungraura Mauza.
13	Kahalgaon Nagar Panchayat	Centralised	1	1	0	One land of 10 Kattha is available for processing activity.	1	0	0	1	construccttion started	17	17	0	17524	Green bin :6000 Blue : Nill	2	15	0	0	Not started	0	1	0	2.5 Acre land available at Purab Tala Ganga Nagar with ULB for landfill site.

Sl. No	Name of the ULB	Whether ULB will be Planning for Decentralized or Centralized Processing of Solid Waste	Availability of Land for Processing activity				Construction of Compost Pits for Processing of Wet Waste					Total No. of Wards	No. of Wards with Door to Door Collection	Gap Door to Door Collection	Segregation at Source (Wet & Dry				Composting Activity			Landfill			
			Total Sites required for Decentralized/Centralized Solid Waste Processing Activity	Sites available with ULB for Solid Waste Processing activity	Gap in Required Vs Available at site	Remarks	No. of sites in which construction of pits started	Gap (sites available Vs sites in which construction of pits started	No. of sites in which construction of pits completed	Gap (pits started Vs pit completed)	Remarks				Distribution of		No. of Wards started Segregation at source	Gap in Segregation at source	No. of Sites in which Composting Started	Gap in Composting activity as compare to sites in which construction of pit completed	Remarks	Identification of Sanitary Landfill site (NOC Awaited)	Availability of Sanitary Landfill sites	Site not identified or ULB in process to acquire/purchase land	Remarks
															Target	Achievement									
1	2	3	4	5	6	7	8		9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
14	Chhapra Nagar Nigam	Decentralised	2	2	0	Shyam Chhak Baraihiya & Ward-44, Railway Dhala	2	0	1	1	Construction of pits completed	45	45	0	41652	49600	0	45	1	0	Pit Composting & MRF	0	0	1	EOI published for purchase of land for sanitary landfill site.
15	Sonpur Nagar Panchayat	Decentralised	3	3	0	Land available with ULB for processing in ward no-21, 18, 3 &1 each of 4 kattha approx.	2	1	0	2	Construction of Pits Started in Ward No-21 & 19	21	21	0	13254	13000	21	0	0	0	Pit Composting & MRF	0	0	1	Land identification is in progress.
16	Hajipur Nagar Parishad	Decentralised	4	2	2	2 land (7 Kattha & 5 Kattha)available with ULB and 2 land identification is in process	2	0	0	2	1- Construction of pits completed in one site but shed work is in progress.	39	39	0	58798	10000	1	38	0	0	Pit Composting & MRF	0	0	1	Identification of land for landfill facility is in progress.EOI published and proposal received from 2 parties.
17	Begusarai Nagar Nigam	Decentralised	10	6	4	6 land available with ULB for processing activity	2	4	1	1	Construction started in 3 sites. Construction of pits completed at one location at Ward No-11 (sweepers colony). Composting at this site will be started soon	45	45	0	103000	50202	10	35	1	0	Pit Composting & MRF	0	1	0	land available in (Kyath Mouza Area 7 acre),
18	Khagaria Nagar Parishad	Centralised	1	0	1	1- Land identified but Status Quo by High Court on the identified land for one month. 2- EOI also published by the ULB but proposal not received. 3- ULB again published. An Offer of land is received after the publication of the EOI. Action is being taken.	0	0	0	0	Construction of pits not started	26	26	0	25692	10000	20	6	0	0	Not started	0	0	1	Land identification not done. EOI published but no proposal received.
19	Naugachiya Nagar Panchayat	Decentralised	3	2	1	2 land available with ULB each of 3000sqfeet. 1. Makkha takiya-3000sqfeet 2.Nawada-3000sqfeet.For one land EOI is published	2	0	1	1	1- Construction work completed at Makha Takiya Ward No-15. 2- Work started on another processing site.	23	23	0	19290	19290	10	13	0	1	Pit Composting & MRF	0	1	0	2.5 Acre land available at Jamunia More with ULB for landfill site.
20	Dighwara Nagar Panchayat	Decentralised	3	3	0	Land in Ward No-17 (Basatpur-3000 Sq. ft), Ward No-5 (3000 Sq. Ft) and Ward No-12 (3000 Sq. ft) is available for processing.	3	0	1	0	1- Layout carried out in 2 Place and in Ward No-17 (20 pits constructed) 2- Order Placed in GeM portal for purchase of Mechanical Composting Machine (4 Nos.)	18	18	0	16526	16506	18	0	1	0	Through Mechanical Composting Machine	0	1	0	EOI published to purchase land for landfill site. Parsa Bazar and Dighwara will combinely go for sanitary landfill facility.
21	Teghra Nagar Panchayat	Decentralised	2	2	0	2 lands identified for Processing activity (3000 Sq. ft each)	0	2	0	0	1- Layout carried out in 2 Place in Ward No-14, due to object by local people work stoped. 2- Order Placed in GeM portal for purchase of hand trolly (50 Nos), E-Riksha (25 Nos.)	25	12	13	21204	21500	0	25	0	0	not started	0	1	0	The same land of Bihat available for sanitary landfill facility will also be used by Teghra to develop Sanitary Landfill facility.
22	Manihari Nagar Panchayat	Decentralised	2	1	1	7 Decimal of land available with ULB at Mouza-Manihari.	1	0	0	1	Work order given to start construction	15	15	0	13848	15094	5	10	0	0	Pit Composting & MRF	0	0	1	Land is not available for landfill facility. EOI published and proposal received from 3 party and after verification of land file submitted to D.M.
23	Fatuha Nagar Parishad	Decentralised	2	2	0	EOI Published and two lands selected for processing activity at 1-Raipura-6000 Sq. ft 2-Sanoraha-6000 Sq.	0	2	0	0	Started	27	27	0	16408	20000	0	27	0	0	Pit Composting & MRF	0	0	1	Landfill site identified. EOI published document verification is in progress.
Total			64	48			27		9			732	719				228		9						

Solid Waste Management Status in ULBs

Sl. No	Name of District	Name of the ULB	Whether ULB will be Planning for Decentralized or Centralized Processing of Solid Waste	Total Sites required for Decentralised/Centralised Solid Waste Processing Activity	Sites available with ULB for Solid Waste Processing activity	Gap in Required Site Vs Available site	Remarks	No. of sites in which construction of pits started	Gap (Sites available Vs Sites in which construction of pits started	No. of sites in which construction of pits completed	Gap (Pits started Vs pits Completed)	Remarks	Total No. of Wards	No. of Wards with Door to Door Collection	Gap in Door to Door Collection	Distribution of Household bins for Segregation at Source	No. of Wards started Segregation at source	Gap in Segregation at Source	No. of Sites in which Composting Started	Gap in composting activity as compare to sites in which construction of pit completed	Remarks	Identification of Sanitary Landfill site (NOC Awaited)	Availability of Sanitary landfill sites	Site Not identified or ULBs in process to acquire/purchase land for sanitary landfill through EOI	Remarks
1	2	3	4	5	8	10 (5-8)	11	12	13 (8-12)	14	15 (12-14)	16	17	18	19	22	23	24 (17-23)	25	26 (14-25)	27	28	29	30	31
1		Jogbani Nagar Panchayat	Decentralised	2	1	1	one land of 14 decimal available in ward no-1.	0	1	0	0	Tender sent to IPRD for publication	19	19	0	16,000 household bins distributed	19	0	0	0	Not Started	0	1	0	Land identified at Mouza Jogbani- Area 0.10 Acre
Sub Total				**2**	**1**	**1**		**0**	**1**	**0**	**0**		**19**	**19**	**0**		**19**	**0**	**0**	**0**		**0**	**1**	**0**	
2		Raxaul Nagar Parishad	Centralised	1	1	0	20 Decimal land identified at Kodihar.	0	1	0	0	1- Earth filling work done. Water logged in the construction sites and work stop for some time. 2- Again work start but due to objection by local community work stopped.	25	25	0	10000 household bins distributed. In 24 wards	0	25	0	0	Not started	0	1	0	1-57 decimal land available with ULB. 2- For rest land EOI will be published.
Sub Total				**1**	**1**	**0**		**0**	**1**	**0**	**0**		**25**	**25**	**0**		**0**	**25**	**0**	**0**		**0**	**1**	**0**	
3		Narkatiyaganj Nagar Parishad	Decentralised	4	4	0	4 lands available with ULB for processing activity. 1. Sugar mill 2. Nandpur Khori 3. Dhoomnagar 4. Railway Colony.	1	3	1	0	Construction of pits completed at one location (Railway Colony).	25	25	0	5000 household bins distributed	2	23	0	1	Not started, at railway Colony processing will be started by 10th Sep, 2019	0	1	0	5 Acre of land available for sanitary landfill site in Jal Mangalapur.
4		Ramnagar Nagar Panchayat	Decentralised	2	2	0	Land available in Ward No-13 & 7	2	0	0	2	1- in one location construction of pits started (20 pits) and in another location water logged.	23	23	0	7000 household bins distributed. Another 13000 household bins to be purchased from GeM Portal.	0	23	0	0	Not started	0	1	0	Tighri Bohari -2.5 acre land available.
Sub Total				**6**	**6**	**0**		**3**	**3**	**1**	**2**		**48**	**48**	**0**		**2**	**46**	**0**	**1**		**0**	**2**	**0**	

Status of different components of SWM and allied work at Ghats

Date-30.11.2020

	River Ganga							
Sl.No.	**ULBs Name**	**Ghats**	**Garbage Dump site**	**Garbage Vulnerable Points(GVPs)**	**Cleanliness condition of Ghats**	**Anti -littering Msg Board**	**Litter bins**	**Remarks**
1	Patna Municipal corporation	20	0	Cleaned	Cleaning continues on regular basis	Completed	Completed	
1 (a)	Phulwarisariff		_	_	_	_	_	
2	Maner Nagar Panchayat	1	0	Cleaned	Cleaning continues on regular basis	Completed	Completed	
3	Danapur Nagar Parishad	10	0	Cleaned	Cleaning continues on regular basis	Completed	Completed	
4	Bakhtiyarpur Municipal Council	3	0	Cleaned	Cleaning continues on regular basis	Completed	Completed	
5	Barh Municipal Council	6	0	Cleaned	Cleaning continues on regular basis	Completed	Completed	
6	Mokama Municipal Council	16	0	Cleaned	Cleaning continues on regular basis	Completed	Completed	
7	Munger Municipal Council	3	0	Cleaned	Cleaning continues on regular basis	Completed	Completed	
8	Sultanganj Municipal Council	2	0	Cleaned	Cleaning continues on regular basis	Completed	Completed	
9	Bhagalpur Municipal Corporation	7	0	Cleaned	Cleaning continues on regular basis	Completed	Completed	
10	Buxar Municipal Council	7	1	Cleaned	Cleaning continues on regular basis	Completed	Completed	Land for dump site will be available by 30.0.2019
11	Barahiya Nagar Panchayat	2	0	Cleaned	Cleaning continues on regular basis	Completed	Completed	
12	Jamalpur Municipal Council	0	0	_	_	_	_	
13	Kahalgaon Nagar Panchayat	3	0	Cleaned	Cleaning continues on regular basis	Completed	Completed	
14	Chhapra Municipal Council	1	0	Cleaned	Cleaning continues on regular basis	Completed	Completed	

15	Sonepur Nagar Panchayat	6	0	Cleaned	Cleaning continues on regular basis	Completed	Completed	
16	Hajipur Municipal Council	8	0	Cleaned	Cleaning continues on regular basis	Completed	Completed	
17	Begusarai Municipal Council	1	0	Cleaned	Cleaning continues on regular basis	Completed	Completed	
18	Khagariya Municipal Council	2	0	Cleaned	Cleaning continues on regular basis	Completed	Completed	
19	Naugachiya Nagar Panchayat	1	0	Cleaned	Cleaning continues on regular basis	Completed	Completed	
20	Dighwara Nagar Panchayat	1	0	Cleaned	Cleaning continues on regular basis	Completed	Completed	
21	Teghra Nagar Panchayat	2	0	Cleaned	Cleaning continues on regular basis	Completed	Completed	
22	Manihari Nagar Panchayat	1	0	Cleaned	Cleaning continues on regular basis	Completed	Completed	
	River Punpun							
23	Fatuha Municipal Council	4	0	Cleaned	Cleaning continues on regular basis	Completed	Completed	
	River Ramrekha							
24	Harinagar (Ramnagar) Nagar Panchayat	—	—	—	—	—	—	
	River Sikrahna							
25	Narkatiyaganj Nagar Parishad	—	—	—	—	—	—	
	River Sirsia							
26	Raxaul Nagar Parishad	—	—	—	—	—	—	
	River Parmar							
27	Jogbani Nagar Panchayat	—	—	—	—	—	—	
	Total	**73**	**1**					

Cleaning old legacy waste dump sites. Dumpsite & GVPs removal Status in Bihar

I. Dumpsites along the Ganga (within 1 km of banks)

Dumpsites are the accumulated garbage dumped by the ULBs themselves along the river, contrary to the SWM Rules 2016. These dumps need to be removed, shifted or remedied in order that no waste material or leachate flows into the Ganga.

S No	Ganga Town	No. of Towns with Open Dumps near the River Ganga	Current Status of Dumps
1.	Bihar	1 (Buxar)	E.O.I published on January 2000. Single tender has received & forwarded to department for further appropriate necessary action.

II. Garbage Vulnerable Points (GVPs):

GVPs are the garbage heaps found due to littering by the local citizens. These needs to be checked and removed immediately with warning to the citizens, otherwise the GVPs may become mini dumpsites.

S No	Ganga Town	No. of Towns having GVPs	Current Status of GVPs
1.	Bihar	0	-

बिहार सरकार
खान एवं भूतत्व विभाग

संख्या- 2 एम0एम0(नि0)-05/19-[illegible]/एम0, पटना, दिनांक- 17/11/2020

प्रेषक,

राजेश कुमार,
अपर निदेशक।

सेवा में,

विशेष सचिव,
नगर विकास एवं आवास विभाग,
बिहार राज्य गंगा नदी संरक्षण कार्यक्रम,
प्रबंधन सोसाईटी (BGCMS)।

3046
17.11.2020

विषयः- माननीय NGT, नई दिल्ली द्वारा O.A संख्या-200/2014 एम.सी.मेहता बनाम् भारत संघ व अन्य के दिनांक-13.08.2020 को पारित आदेश के अनुपालन के संबंध में।

प्रसंगः- भवदीय पत्रांक-394, दिनांक--15.09.2020 तथा विभागीय पत्रांक-2749/एम0, दिनांक-24.09.2020

महोदय,

उपर्युक्त विषयक प्रासंगिक पत्र के संबंध में निर्देशानुसार कहना है कि माननीय NGT द्वारा O.A संख्या-200/2014 एम.सी.मेहता बनाम् भारत संघ व अन्य के दिनांक-13.08.2020 को पारित आदेश के अनुपालन के क्रम में वर्ष 2016, 2017, 2018, 2019 तथा 2020 के लिए जिलान्तर्गत बालूघाट सदोबस्तधारियों द्वारा समर्पित नदी बालूघाटों का Replenishment Study से संबंधित प्रतिवेदन पत्र के साथ संलग्न कर भेजा जा रहा है।

कृपया सूचनार्थ।

अनुलग्नक:-यथोक्त।

17/11/2020

अपर निदेशक

REPLENISHMENT STUDY REPORT OF JEHANABAD DISTRICT, BIHAR

MAJOR RIVER NAMES: FALGU, DHAB, MOHANA, MORHAR AND DHARDHA
2019

Lessee
M/S. BANSIDHAR CONSTRUCTION PVT. LTD.

Prepared by
Joydeep Banerjee
Geologist & Mine Planner
RQP & MAusIMM
RQP Regn No.: RQP/KOL/375/2012/A
Valid till: 11.11.2022

CONSULTANT

UNITED EXPLORATION INDIA PVT LTD

UNITED EXPLORATION INDIA PRIVATE LIMITED

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REPLENISHMENT STUDY REPORT

OF

KAIMUR (BHABUA) DISTRICT, BIHAR

MAJOR RIVER NAMES: KUDRA, DURGAWATI AND KARAMNASHA

2016

Lessee

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OF

KAIMUR (BHABUA) DISTRICT, BIHAR

MAJOR RIVER NAMES: KUDRA, DURGAWATI AND KARAMNASHA

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PREMONSOON DATA ACQUISITION FOR REPLENISHMENT STUDY

OF

KAIMUR (BHABUA) DISTRICT, BIHAR

MAJOR RIVER NAMES: KUDRA, DURGAWATI AND KARAMNASHA

2019

(CUT OFF DATE MAY 2019)

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REPLENISHMENT STUDY REPORT OF KAIMUR (BHABUA) DISTRICT, BIHAR

MAJOR RIVER NAMES: KUDRA, DURGAWATI AND KARAMNASHA

2019

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REPLENISHMENT STUDY REPORT

OF

PATNA DISTRICT, BIHAR

MAJOR RIVER NAMES: SONE, PUNPUN, DHARDHA, GANGA &DHANAI

2016

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REPLENISHMENT STUDY REPORT

OF

PATNA DISTRICT, BIHAR

MAJOR RIVER NAMES: SONE, PUNPUN, DHARDHA, GANGA &DHANAI

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PATNA DISTRICT, BIHAR

MAJOR RIVER NAMES: SONE, PUNPUN, DHARDHA, GANGA & DHANAI

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Executive Summary

As an integral process of replenishment study, both pre and post monsoon data collection are required. Field data collection for the pre monsoon period has started from May, 2019 and completed in June, 2019. As directed by the District Mining office vide their letter no. 1468/M. Patna Dated 27/05/2019 a pre monsoon database is being collected and furnished herewith.

A detail replenishment study report along with the analysis will be provided after collection of the post monsoon onsite information.

REPLENISHMENT STUDY REPORT OF PATNA DISTRICT, BIHAR

MAJOR RIVER NAMES: SONE, PUNPUN, DHARDHA, GANGA & DHANAI

2019

Lessee

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REPLENISHMENT STUDY REPORT

OF

ARWAL DISTRICT, BIHAR

MAJOR RIVER NAMES: PUNPUN & SONE
2018

Lessee
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REPLENISHMENT STUDY REPORT
OF
AURANGABAD DISTRICT, BIHAR

MAJOR RIVER NAMES: SONE, BATANE, PUNPUN, MADAR & AADRI
2018

Lessee

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PREMONSOON DATA ACQUISITION FOR REPLENISHMENT STUDY

OF

ARWAL DISTRICT, BIHAR

MAJOR RIVER NAMES: PUNPUN & SONE

2019

(CUT OFF DATE MAY 2019)

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REPLENISHMENT STUDY REPORT OF ARWAL DISTRICT, BIHAR

MAJOR RIVER NAMES: PUNPUN & SONE

2019

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PREMONSOON DATA ACQUISITION FOR REPLENISHMENT STUDY

OF

AURANGABAD DISTRICT, BIHAR

MAJOR RIVER NAMES: SONE, BATANE, PUNPUN, MADAR & AADRI

2019

(CUT OFF DATE MAY 2019)

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REPLENISHMENT STUDY REPORT OF AURANGABAD DISTRICT, BIHAR

MAJOR RIVER NAMES: SONE, BATANE, PUNPUN, MADAR & AADRI

2019

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PREMONSOON DATA ACQUISITION FOR REPLENISHMENT STUDY

OF

BHOJPUR DISTRICT, BIHAR

MAJOR RIVER NAMES: GANGA & SONE

2019

(CUT OFF DATE MAY 2019)

Lessee

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REPLENISHMENT STUDY REPORT OF BHOJPUR DISTRICT, BIHAR

MAJOR RIVER NAMES: GANGA & SONE

2019

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REPLENISHMENT STUDY REPORT
OF
JAHANABAD
DISTRICT, BIHAR

MAJOR RIVER NAMES: FALGU, DHAB, MOHANA, MORHAR AND DHARDHA
2016

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REPLENISHMENT STUDY REPORT
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MAJOR RIVER NAMES: FALGU, DHAB, MOHANA, MORHAR AND DHARDHA

2017

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JAHANABAD DISTRICT, BIHAR

MAJOR RIVER NAMES: FALGU, DHAB, MOHANA, LOKAIN, MORHAR AND DHARDHA

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PREMONSOON DATA ACQUISITION FOR REPLENISHMENT STUDY

OF

ROHTAS DISTRICT, BIHAR

MAJOR RIVER NAMES: SONE, KOW & THORA

2019

(CUT OFF DATE MAY 2019)

Lessee

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REPLENISHMENT STUDY REPORT OF ROHTAS DISTRICT, BIHAR

MAJOR RIVER NAMES: SONE, KOW & THORA

2019

Lessee

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REPLENISHMENT STUDY REPORT

OF

SARAN DISTRICT, BIHAR

MAJOR RIVER NAMES: GHAGRA, GANGA &GANDAK

2016

Lessee

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REPLENISHMENT STUDY REPORT

OF

SARAN DISTRICT, BIHAR

MAJOR RIVER NAMES: GHAGRA, GANGA &GANDAK

2017

Lessee

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REPLENISHMENT STUDY REPORT
OF
BHOJPUR DISTRICT, BIHAR

MAJOR RIVER NAMES: GANGA & SONE
2018

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REPLENISHMENT STUDY REPORT
OF
JAHANABAD
DISTRICT, BIHAR

MAJOR RIVER NAMES: FALGU, DHAB, MOHANA, MORHAR AND DHARDHA
2018

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OF

KAIMUR (BHABUA) DISTRICT, BIHAR

MAJOR RIVER NAMES: KUDRA, DURGAWATI AND KARAMNASHA

2018

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REPLENISHMENT STUDY REPORT

OF

ARWAL DISTRICT, BIHAR

MAJOR RIVER NAMES: PUNPUN& SONE

2016

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REPLENISHMENT STUDY REPORT

OF

ARWAL DISTRICT, BIHAR

MAJOR RIVER NAMES: PUNPUN& SONE

2017

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REPLENISHMENT STUDY REPORT

OF

AURANGABAD DISTRICT, BIHAR

MAJOR RIVER NAMES: SONE, BATANE, PUNPUN, MADAR & AADRI

2016

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REPLENISHMENT STUDY REPORT

OF

AURANGABAD DISTRICT, BIHAR

MAJOR RIVER NAMES: SONE, BATANE, PUNPUN, MADAR & AADRI

2017

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OF
BHOJPUR DISTRICT, BIHAR

MAJOR RIVER NAMES: GANGA & SONE
2016

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OF

ROHTAS DISTRICT, BIHAR

MAJOR RIVER NAMES: SONE, KOW & THORA

2016

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OF

ROHTAS DISTRICT, BIHAR

MAJOR RIVER NAMES: SONE, KOW&THORA

2017

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OF

PATNA DISTRICT, BIHAR

MAJOR RIVER NAMES: SONE, PUNPUN, DHARDHA, GANGA & DHANAI

2018

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OF

ROHTAS DISTRICT, BIHAR

MAJOR RIVER NAMES: SONE, KOW & THORA

2018

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OF

SARAN DISTRICT, BIHAR

MAJOR RIVER NAMES: GHAGRA, GANGA & GANDAK

2018

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REPLENISHMENT STUDY REPORT
OF
VAISHALI DISTRICT, BIHAR

MAJOR RIVER NAMES: GANGA & GANDAK
2018

Lessee
M/S. BANSIDHAR CONSTRUCTION PVT. LTD.

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REPLENISHMENT STUDY REPORT
OF
WEST CHAMPARAN DISTRICT, BIHAR

MAJOR RIVER NAMES: GANDAK, BANSI, BHURAHA, HARBORA, MASAN, JHIKRAULI, KOSHIL, HARHA, DWARDA, KATHAN AND PANDEI

2018

Lessee

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OF

SARAN DISTRICT, BIHAR

MAJOR RIVER NAMES: GHAGRA, GANGA & GANDAK

2019

(CUT OFF DATE MAY 2019)

Lessee

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REPLENISHMENT STUDY REPORT OF SARAN DISTRICT, BIHAR

MAJOR RIVER NAMES: GHAGRA, GANGA & GANDAK

2019

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REPLENISHMENT STUDY REPORT
OF
VAISHALI DISTRICT, BIHAR

MAJOR RIVER NAMES: GANGA & GANDAK
2016

Lessee
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VAISHALI DISTRICT, BIHAR

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PREMONSOON DATA ACQUISITION FOR REPLENISHMENT STUDY

OF

VAISHALI DISTRICT, BIHAR

MAJOR RIVER NAMES: GANGA & GANDAK

2019

(CUT OFF DATE MAY 2019)

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REPLENISHMENT STUDY REPORT OF VAISHALI DISTRICT, BIHAR

MAJOR RIVER NAMES: GANGA & GANDAK

2019

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OF
WEST CHAMPARAN DISTRICT, BIHAR

MAJOR RIVER NAMES: GANDAK, BANSI, BHURAHA, HARBORA, MASAN, JHIKRAULI, KOSHIL, HARHA, DWARDA, KATHAN AND PANDEI

2016

Lessee

M/S. SINGH AND GIRI INFRASTRUCTURE PRIVATE LIMITED

Prepared by

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RQP Regn No.: RQP/KOL/375/2012/A

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MAJOR RIVER NAMES: GANDAK, BANSI, BHURAHA, HARBORA, MASAN, JHIKRAULI, KOSHIL, HARHA, DWARDA, KATHAN AND PANDEI

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(CUT OFF DATE MAY 2019)

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Figure No 31	Cross section of Dwar-da River in post monsoon
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Figure No 33	Cross section of Harbora River in post monsoon
Figure No 34	Longitudinal section of Harbora River in post monsoon
Figure No 35	Cross section of Masan River in post monsoon
Figure No 36	Longitudinal section of Masan River in post monsoon
Figure No 37	Cross section of Pandai River in post monsoon
Figure No 38	Longitudinal section of Pandai River in post monsoon

GROUND WATER STATUS OF BIHAR

Government of Bihar has initiated drives for recharging of ground water by providing roof top rain water harvesting structures and construction of soak pits/ recharge pits near public well, hand pump, tubewell and other water bodies under Jal-Jeevan-Hariyali Abhiyan, report is annexed as **Annexure- 4.**

No. CGWB/MER/NGT/OA-200/

Government of India,
Central Ground Water Board,
Mid-Eastern Region, 6-7th Floor,
Lok Nayak Jaiprakash Bhawan,
Dak Bungalow, Patna-800001

Dated: 16.12.2020

To
The Special Secretary
Urban Development & Housing Department
Government of Bihar
Patna

Sub.: Compliance to Instruction of Hon'ble NGT New Delhi vide OA 200/2014 dated 13/08/2020 regarding

Ref.: Your Letter No. BGCMS/2017/AP of SWM & SM for NGT/21(Part-2/B)=544 dated 14/12/2020 received by e-mail dated 15/12/2020

Sir

This is to bring to your kind notice that vide your letter referred above, CGWA has been assigned with compliance regarding "Steps for conservation of groundwater particularly with reference to critical, semi-critical and over exploited areas. Groundwater regulation". In this regard, following points are highlighted for your kind perusal.

a) CGWB, MER, Patna in collaboration with MWRD assesses dynamic groundwater resources of the State of Bihar. Latest estimation was carried out in 2017 following GOI GEC-2015 methodology. Reassessment for the year 2020 is on the way where entire process is automated and at present being carried out by IIT Hyderabad with data inputs from State and CGWB.

b) In compliance with Hon'ble NGT directives regarding sustainable groundwater management and issuance of 'No Objection Certificates' to commercial establishments, CGWA vide Gazette notification S.O. 3289(E) dated 24 Aug 2020 issued a new guideline for the entire process. Under aegis of this new guideline, previously submitted applications are reassessed and new applications are being processed. Present status of the same is tabulated below.

Block Category	Total Applications Received	NOC Issued	Exemption	Rejection	In Process
Safe	55	23	25	6	47
Semi-Critical	71	16	19	3	20
Critical	16	13	9	1	20
Over- Exploited	99	3	18	6	12
TOTAL	241	58	43	39	101

This is for your kind information please.

Thanking you

Yours faithfully

(A. K. Agrawal)
Regional Director

16/12/20

प्रपत्र - IV
बिहार सरकार
नगर विकास एवं आवास विभाग
जल जीवन हरियाली अभियान संबंधी प्रगति प्रतिवेदन :-

प्रतिवेदन की तिथि 02.09.2020

क्र0सं०	नगर निकाय का नाम	वार्ड संख्या	कुआँ की संख्या- सरकारी/ सार्वजनिक	अतिक्रमित /अतिक्रमणमुक्त कुँओ की विवरणी				उड़ाही कराये जा रहे कुँओ की संख्या	उड़ाही करा लिये गये कुओं की संख्या	कुँओ के पास निर्मित /निर्माणाधीन रेन वाटर हार्वेस्टिंग पिट की संख्या		अभियुक्ति
				पूर्व से अतिक्रमणमुक्त कुओं की सख्या	वर्तमान में अतिक्रमित कुँओ की संख्या	इस सप्ताह कराए गये अतिक्रमणमुक्त कुँओ की सख्या	शेष अतिक्रमित कुँओ की संख्या			निर्माणाधीन रेन वाटर हार्वेस्टिंग पिट की संख्या	निर्मित रेन वाटर हार्वेस्टिंग पिट की संख्या	
1	2	3	4	5	6	7	8	9	10	11	12	13
1	Samastipur											
	Total:-	61	79	79	0	0	0	10	10	1	15	
2	Bhagalpur											
	Total:-	116	66	66	0	0	0	18	18	17	18	
3	Begusarai											
	Total:-	144	636	617	19	0	19	186	53	52	3	
4	Khagaria											
	Total:-	46	38	38	0	0	0	14	7	4	6	
5	Munger											
	Total:-	99	95	48	0	0	0	27	31	27	31	
6	Lakhisarai											
	Total:-	57	134	134	0	0	0	36	19	39	19	
7	Katihar											
	Total:-	77	37	32	5	0	5	3	30	2	22	
8	Vaishali											
	Total:-	101	53	6.9	0	0	0	29	32	63	233	
9	Saran											
	Total:-	162	435	335	0	0	0	50	39	31	20	
10	Patna											
	Total:-	363	447	199	86	0	10	26	16	47	59	
11	Bhojpur											
	Total:-	119	207	95	138	1	138	3	2	5	0	
12	Buxar											
	Total:-	60	128	127	1	0	1	17	15	0	0	
	Grand Total:-	1405	2355	1776.9	249	1	173	419	272	288	426	

STATUS OF RESTORATION OF WATER BODIES IN BIHAR

Government of Bihar has initiated drives for recharging water bodies and recharging of ground water by providing roof top rain water harvesting structures and construction of soak pits/ recharge pits near public well, hand pump, tubewell and other water bodies under Jal-Jeevan-Hariyali Abhiyan, report is annexed as **Annexure- 5.**

प्रपत्र - III
बिहार सरकार
नगर विकास एवं आवास विभाग
जल जीवन हरियाली अभियान संबंधी प्रगति प्रतिवेदन :-

प्रतिवेदन की तिथि 02.09.2020

क्र0सं०	नगर निकाय का नाम	वार्ड न०	Open Ground 25000 sqft एवं उससे अधिक क्षेत्रफल वाले मैदान की स्थिति यथा-पार्क/खेल के मैदान/अन्य सार्वजनिक खुले मैदान			तालाब/पोखर की संख्या (सरकारी)	अतिक्रमित /अतिक्रमणमुक्त तालाबों/पोखरों की विवरणी				उड़ाही कराये जा रहे तालाबों की संख्या	उड़ाही करा लिये गये तालाबों की संख्या	अभियुक्ति
			चिन्हित मैदानों की संख्या	निर्माणाधीन रेन वाटर हार्वेस्टिंग पिट की संख्या	निर्मित रेन वाटर हार्वेस्टिंग पिट की संख्या		पूर्व से अतिक्रमणमुक्त तालाबों/पोखरों की संख्या	वर्तमान में अतिक्रमित तालाबों /पोखरों की संख्या	इस सप्ताह कराए गये अतिक्रमणमुक्त तालाबों /पोखरों की संख्या	शेष अतिक्रमित तालाबों /पोखरों की संख्या			
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	**Samastipur**												
	Total:-	61	4	0	0	5	3	2	0	2	1	0	
2	**Bhagalpur**												
	Total:-	116	27	5	4	21	18	3	0	3	2	1	
3	**Begusarai**												
	Total:-	144	2	0	0	36	36	0	0	0	3	0	
4	**Khagaria**												
	Total:-	46	1	0	0	2	2	0	0	0	1	0	
5	**Munger**												
	Total:-	99	3	0	1	2	2	0	0	0	0	2	
6	**Lakhisarai**												
	Total:-	57	4	1	1	28	5	23	0	23	1	2	
7	**Katihar**												
	Total:-	77	1	0	0	3	3	0	0	0	0	3	
8	**Vaishali**												
	Total:-	101	1	0	0	9	1	1	0	1	1	0	
9	**Saran**												
	Total:-	162	9	1	0	32	20	12	0	16	3	1	
10	**Patna**												
	Total:-	363	16	1	2	58	30	27	0	27	3	0	
11	**Bhojpur**												
	Total:-	119	9	1	0	27	14	12	0	12	4	0	
12	**Buxar**												
	Total:-	60	2	1	0	25	9	16	0	15	3	1	
	Grand Total:-	**1405**	**79**	**10**	**8**	**248**	**143**	**96**	**0**	**99**	**22**	**10**	

BIHAR STATE POLLUTION CONTROL BOARD

Parivesh Bhawan, Patliputra Industrial Area, P.O.-Sadakat Ashram, Patna–800010

EPABX-0612-2261250/2262265, Fax-0612-2261050

Ref. No. 1664 Patna, dated- 17.12.2020

From,

S. Chandrasekar, IFS,
Member Secretary.

To,

The Secretary,
Urban Development & Housing Department,
Govt. of Bihar.

Sub:-**Compliance report of the 5th meeting of State Ganga Committee under chairmanship of the Chief Secretary, Govt. of Bihar.**

Ref: Your e-mail dated-02.12.2020.

Sir,

Please find enclosed herewith compliance report of the 5th meeting of State Ganga Committee under chairmanship of the Chief Secretary, Govt. of Bihar.

Yours faithfully,

17/12/20

(S.Chandrasekar)
Member Secretary.

Encl: As above.

Compliance report of the 5th meeting of State Ganga Committee under chairmanship of the Chief Secretary, Govt. of Bihar.

Assignment of Bihar State Pollution Control Board, Patna

SN	Issues	Compliance
1.	Prohibit dumping of bio-medical waste.	• Board is ensuring management of bio-medical waste in accordance with the provisions of the Bio-Medical Waste Management Rules, 2016. • There are four Common Bio-Medical Waste Treatment Facilities and three captive treatment facilities with a total capacity of 33600 kg/day under operation in the State. A total of 6016 HCFs are tied up with these CBWTFs. In addition to these two more common facilities are proposed to be established at Bhojpur and Madhepura. • Total Bio-medical generation: 34812 Kg/day (24769 from bedded hospital and 10043 from non bedded hospital). • No. of Hospitals and Health Care Facilities: 24996 (including 10964 clinical establishment). • Status of Treatment Facility/ CBMWTF: 04 CBWTF (33600 Kg/day) • An Action Plan for management of bio-medical waste has been prepared and necessary instructions are being passed to ensure its implementation within stipulated time to the concerned agencies. • Administrative approval has been granted to Bihar Medical Services Infrastructure Corporation Limited (BMSICL) to construct Effluent Treatment Plant in 27 District Hospitals, 66 Referral Hospitals and 46 Sub-divisional Hospitals. Also, 10 District Hospitals are being developed as Model Hospitals which will be equipped with Effluent Treatment Plant. • Tender for installation of ETPs at 25 district hospitals and 45 sub-divisional hospitals have been invited by BMSICL. • Annual report has been submitted to CPCB by the Board. • Board has levied environmental compensation of Rs. 1.75 lakh & Rs. 12.56 lakh from CBWTF, Gaya and IGIMS, Patna respectively for non-compliance of the provisions of the BMW Rules, 2016.
2.	Prohibit all industrial polluting activity in Ganga Basin and securing compliance from industries in the catchment of the drains.	• Board is ensuring the compliance of discharge standards & guidelines for implementation of Zero Liquid Discharge (ZLD). • Board has identified a total of 219 Wastewater generating units, which includes a total of 53 Grossly Polluting Industries (GPIs) in the basin of Ganga and its tributaries. • In the State of Bihar total number of water polluting

		industries are 219, among them 212 industries having functional ETP, 01 industry non comply effluent standard and for rest 07 units which do not have ETP, Board had issued show cause notice/direction for 06 industries & filed legal case in the court for other one. • The State is contemplating to have CETPs for the industrial areas: Fatuha (02 MLD) in Patna; Barari (01 MLD) in Bhagalpur; Hajipur (06 MLD) in Vaishali and Bela (05 MLD) in Muzaffarpur). Environmental Clearance (EC) has been accorded by SEIAA for aforesaid proposed CETPs in Bihar. Industries Department is trying for early setting up of aforesaid CETPs in Bihar. Details is enclosed as **annexure - 1**. • The Chief Secretary expressed strong displeasure as BIADA has not been able to even finalize tender and award work. BIADA/Industry Department was directed to complete the installation/ commissioning of CETP in the State of Bihar. Since, responsive tenders have not been received after expediting tender notice 06 times, Industry department was instructed to take appropriate decision including to start construction of CETPs by their own resources departmentally in meeting held on 28.09.2020 under chairmanship of the Chief Secretary, Bihar to review compliances of the direction of the Hon'ble NGT in O.A. no.- 200/2014. Proceeding of meeting enclosed as **annexure – 2.**
3.	Closing of hotels, dharmshalas and ashrams, being run without STP and without CTO.	• In compliance with the order of the Hon'ble NGT, Principal Bench, Delhi in the matter of M.C. Mehta Vs Union of India & Ors (O.A. No. 200/2014), dated-10.12.2015, 13.07.2017 & 14.05.2019, this Board has issued public notice in daily news paper on 04.07.2019 and 12.07.2019 for setting up of STP for treatment of sewage/domestic waste water and to obtain consent under the provision of section25 of the Water (Prevention and Control of Pollution) Act, 1974. Copy of the same is attached. • 209 Hotels & Dharmshalas have obtain CTE/CTO from BSPCB. List enclosed as **annexure - 3.**
4.	To place the status of water quality in the respective States on websites and update the same on monthly basis indicating fitness of water at various places for drinking/ bathing purposes.	Complied. • Water quality of the rivers are uploaded on the Bihar State Pollution Control Board website: http://bspcb.bih.nic.in. (Environmental Monitoring Data)

5.	Ensuring that water quality at every point meets the standards and if there is a violation, the violators (including defaulting industries, hotels and even households) are proceeded against in accordance with law by way of prosecution, closure of polluting activities and payment of compensation for the damage to the environment and using the funds for environmental restoration.	Industrial units have submitted Bank Guarantee of Rs. 140 lakh to ensure the compliance of direction. Bihar State Pollution Control Board has forfeited Bank Guarantee of Rs. 40 lakh (M/s Majhaulia Sugar Industry Ltd., Majhaulia and M/s HPCL Bio-Fules, Lauriya, West Champaran) under the "Polluter Pays" Principle. Industrial units (M/s HPCL Bio-Fules, Lauriya, West Champaran, M/s HPCL Bio-Fules, Sugauli, East Champaran & M/s Sonasati Organics Pvt. Ltd., Gopalganj) have submitted have submitted Bank Guarantee of Rs. 140 lakh to ensure the compliance of direction in financial year 2020-21.
6.	The furnish list of industries having potential for causing pollution of river Ganga.	• Board has identified a total of 53 Grossly Polluting Industries (GPIs) in the basin of Ganga and its tributaries. The latest status of GPIs is **enclosed as annexure - 4**.
7.	Special cells to be created in the States to monitor the actions.	• State Level Advisory Committee constituted vide Department of Environment, Forest & Climate Change, Govt. of Bihar vide notification no. 689 (E), dated-12.06.2019 under the chairmanship of the Chief Secretary, Bihar for implementation of environmental laws and monitoring of the program related with pollution control and environmental conservation.
8.	Action plan of UD&HD, Agriculture Department, Water Resources Department and Central Ground Water Board was submitted to NMCG. Industry Department, Rural Development Department, Panchayati Raj Department, Minor Water Resources Department, Environment, Forest & Climate Change Department, Mines Department and State Pollution Control Board did not submit action plan.	• Action plan has been formulated by River Rejuvenation Committee for rejuvenation of identified polluted river viz. Ganga, Sirsiya, Harbaura, Ramrekha, Parmar & Punpun and submitted to Cental Pollution Control Board, New Delhi for needful action. • Latest status of water quality report for the year 2019-20 are **enclosed as annexure - 5**.

17/12/20

Member Secretary
Bihar State Pollution Control Board,
Patna

Annexure - 2(a) - 1

Compliance Status of Effluent Treatment Plants

Add For Next Month | (edit_effluent_next.php?id=551)

S NO	Name of SPCBs/PCCs	Month	Total No. of Industries which require ETP	No. of industries having functional ETP	No. of industries operating without ETP	Action taken against industries operating without ETP				Details of Industries having functional ETP		Action taken against industries having ETP but Non-complying with the Effluent Standards				No. of Industries inspected during the month
						No. of industries against which show cause notice/directions issued	No. of industries against which closure directions issued	No. of industries against which legal cases filed in the court (s)	No. of industries against which action is under process	No. of industries complying with Effluent Standards	No. of industries Non-complying with Effluent Standards	No. of industries against which show cause notice/directions issued under the Env. Acts	No. of industries against which closure directions issued under the Env Acts	No. of industries against which legal cases filed in the court (s)	No. of industries against which action is under process / any other (prescribed)	
1	Bihar	Nov-2020	219	212	7	6	0	1	0	211	1	1	0	0	0	5
2	Bihar	Oct-2020	219	211	8	6	1	1	0	210	1	1	0	0	0	4
3	Bihar	Sep-2020	219	211	8	6	1	1	0	210	1	1	0	0	0	6
4	Bihar	Aug-2020	219	211	8	6	1	1	0	210	1	1	0	0	0	10
5	Bihar	Jul-2020	213	211	2	0	1	1	0	210	1	1	0	0	0	01
6	Bihar	Jun-2020	213	211	2	0	1	1	0	210	1	1	0	0	0	13

List of Non complying Industries

S.No.	Name and Address of the Industry	Sector	Action Taken
1	M/s Tirhut Dugdh Utpadak Sahkari Sangh Ltd , (Unit Milk Chilling Centre_Motihari Dairy), At-Amar Chhatauni, Motihari, E. Champaran	Dairy Unit	Show cause issued

Compliance Status of Sewage Treatment Plants

Add For Next Month (edit_sewage_data_next.php?id=538)

Note: Other than Municipal STPs includes STPs of Hotels, Hospitals, industry, Resedential Socities, Industrial Townships etc.

S. NO.	Name of SPCBs/PCCs	Month	Category	Total No. of STPs in the state	No. of STPs complying	No. of STPs Non-complying	Action taken against STPs Non-complying				No. of Under Construction/Proposed STPs	No. of STPs inspected during the month	Remarks
							No. of STPs against which show cause notice/directions issued	No. of STPs against which closure directions issued	No. of STPs against which legal cases filed in the court (s)	No. of STPs against which action is under process			
1	Bihar	Nov-2020	Municipal STPs	2	2	0 Add No. of Industries View Details	0	0	0	0	48 Add No. of industries View Details	0	Edit (edit_sewage_data.php?id=554) Final Submit
			Other Than Municipal STPs	11	11	0 Add No. of Industries View Details	0	0	0	0	0 Add No. of Industries View Details		
2	Bihar	Oct-2020	Municipal STPs	0	0	0	0	0	0	0	33	0	Edit
			Other Than Municipal STPs	11	11	0	0	0	0	0	0		
3	Bihar	Sep-2020	Municipal STPs	0	0	0	0	0	0	0	33	0	Edit
			Other Than Municipal STPs	11	11	0	0	0	0	0	0		

(B)

Name and Address of STPs	Designed Capacity (MLD)	Stage (Construction/proposal)	Target date of completion
M/s Sewerage Treatment Plant, & Adojoining Network, At-Saidpur, Patna	60	Construction	31-Dec-2020
M/s Sewerage Treatment Plant, At-Pahari, Patna	60	Construction	31-Dec-2020
M/s Sewerage Treatment Plant & Sewer Network, At-Buxar, Buxar	16	Proposal	30-Jun-2020
M/s I & D Works and STP, At-Sultanganj, Bhagalpur	10	Proposal	31-Dec-2020
M/s I & D Works and STP, At-Mokama, Patna	8	Proposal	30-Jun-2020
M/s Sewerage Treatment Plant & Sewer Network, At-Hajipur, Hajipur	22	Construction	31-Dec-2020
M/s I & D Works and STP, At-Barh, Patna	11	Proposal	30-Jun-2020
M/s I & D Works and STP, At-Naugachhia, Bhagalpur	9	Proposal	31-Jan-2020
M/s Sewerage Treatment Plant & Sewer Network, At-Digha Zone, Patna	100	Proposal	31-Dec-2021
M/s Sewerage Treatment Plant & Sewer Network, At-Kankarbag zone, Patna	50	Proposal	31-Dec-2021
M/s I & D Works and STP, At-Bhagalpur	65	Proposal	31-Dec-2020
M/s Sewerage Treatment Plant & Sewer Network, At-Begusarai	17	Construction	31-Dec-2020
M/s Sewerage Treatment Plant & Sewer Network, At-Munger	30	Proposal	30-Aug-2020
M/s Sewerage Treatment Plant & Sewer Network, At-Sonepur	3.5	Proposal	30-Apr-2020
M/s I & D Works and STP, At-Chhapra, Saran	32	Proposal	31-Dec-2020
M/s I & D Works and STP, At-Maner, Patna	6.5	Proposal	31-Dec-2020
M/s I & D Works and STP, At-Fatuha, Patna	7	Proposal	31-Dec-2020
M/s I & D Works and STP, At-Danapur, Patna	10	Proposal	31-Dec-2020
M/s I & D Works and STP, At-Dighwara, Saran	5.40	Proposal	31-Dec-2020
M/s I & D Works and STP, At-Dehri, Rohtas	6	Proposal	30-Jun-2021
M/s I & D Works and STP, At-Arwal, Arwal	3.5	Proposal	30-Jun-2021
M/s I & D Works and STP, At-Muzaffarpur	100	Proposal	30-Jun-2021
M/s I & D Works and STP, At-Samastipur	3.50	Proposal	30-Jun-2021
M/s I & D Works and STP, At-Supaul	11.5	Proposal	30-Jun-2021

(4)

M/s I & D Works and STP, At-Darbhanga	34.1	Proposal	30-Jun-2021
M/s I & D Works and STP, At-Gopalganj	11	Proposal	30-Jun-2021
M/s I & D Works and STP, At-Bagaha	6.50	Proposal	30-Sep-2021
M/s I & D Works and STP, At-Phulwari Sharif, Patna	13	Proposal	31-Dec-2020
M/s I & D Works and STP, At-Barahaiya, Lakhisarai	5.4	Proposal	31-Dec-2020
M/s Sewerage Treatment Plant & Sewer Network, At-Bakhtiyarpur, Patna	4	Proposal	31-Dec-2020
M/s Sewerage Treatment Plant & Sewer Network, At-Khagaria	32	Proposal	30-Jun-2021
M/s I & D Works and STP, At-Kahalgaon, Bhagalpur	6	Proposal	30-Jun-2022
M/s I & D Works and STP, At-Fatuha, Patna	7	Proposal	31-Dec-2021
M/s I & D Works and STP, At-Teghra,	-	Proposal	31-Dec-2021
M/s I & D Works and STP, At-Manihari	-	Proposal	31-Dec-2021
M/s I & D Works and STP, At-Jamalpur	-	Proposal	31-Dec-2021
M/s I & D Works and STP, At-Khagaul,	-	Proposal	31-Dec-2021
M/s I & D Works and STP, Harinagar (Ramnagar)	-	Proposal	31-Dec-2021
M/s I & D Works and STP, At-Narkatiaganj	-	Proposal	31-Dec-2021
M/s I & D Works and STP, Jogbani	-	Proposal	31-Dec-2021
M/s I & D Works and STP, At-Raxual	-	Proposal	31-Dec-2021
M/s I & D Works and STP, At-Daudnagar	-	Proposal	31-Dec-2021
M/s I & D Works and STP, At- Motihari	-	Proposal	31-Dec-2021
M/s I & D Works and STP, At-Saharsa	-	Proposal	31-Dec-2021
M/s I & D Works and STP, Madhepura	-	Proposal	31-Dec-2021
M/s I & D Works and STP, Kishanganj	-	Proposal	31-Dec-2021
M/s I & D Works and STP, At-Lakhisarai	-	Proposal	31-Dec-2021
M/s I & D Works and STP, At-Jamui	-	Proposal	31-Dec-2021

ɔmpliance Status of Common Effluent Treatment Plants

Add For Next Month (edit_common_effluent_treatment_plants_next.php?id=526)

S. NO.	Name of SPCBs/PCCs	Month	Total No. of CETPs in the state	No. of CETPs complying	No. of CETPs Non-complying	Action taken against CETPs Non-complying				No. of Under Construction/Proposed CETPs	No. of CETPs inspected during the month	Remarks
						No. of CETPs against which show cause notice/directions issued	No. of CETPs against which closure directions issued under	No. of CETPs against which legal cases filed in the court (s)	No. of CETPs against which action is under process			
1	Bihar	Nov-2020	0	0	0 Add No. of Industries View Details	0	0	0	0	5 Add No. of Industries View Details	0	Remarks Edit (edit_common_effluent_treatment_plants.php?id=541) Final Submit
2	Bihar	Oct-2020	0	0	0 View Details	0	0	0	0	5 View Details	0	Remarks
3	Bihar	Sep-2020	0	0	0 View Details	0	0	0	0	5 View Details	0	Remarks
4	Bihar	Aug-2020	0	0	0 View Details	0	0	0	0	5 View Details	0	Remarks
5	Bihar	Jul-2020	0	0	0 View Details	0	0	0	0	5 View Details	0	Remarks
6	Bihar	Jun-2020	0	0	0 View Details	0	0	0	0	5 View Details	0	Remarks
7	Bihar	May-2020	0	0	0 View Details	0	0	0	0	5 View Details	0	Remarks
8	Bihar	Apr-2020	0	0	0 View Details	0	0	0	0	5 View Details	0	Remarks

(6)

List of Under Construction/Proposed CETPs

S.No.	Name and Address of CETP	Designed Capacity (MLD)	Stage (Construction/proposal)	Target date of completion
1	M/s Bela Industrial Area, Masahri, Muzaffarpur	5	Proposal	01-Jan-2021
2	M/s Fatuha Industrial Area, Fatuha, Patna	2	Proposal	01-Jan-2021
3	M/s Industrial Area, Hajipur, Vaishali	2	Proposal	01-Jan-2021
4	M/s Barari Industrial Area, Barari, Bhagalpur	1	Proposal	01-Jan-2021
5	M/s Patliputra Industrial Area, Patna Rural, Patna	2	Proposal	01-Jan-2021

17/12/20

Member Secretary
Bihar State Pollution Control Board,
Patna

(7)

Minutes of the meeting held on 28.09.2020 under the chairmanship of the Chief Secretary, Bihar to review compliances of the directions of the Hon'ble National Green Tribunal, Principal Bench, New Delhi in O.A. No. 200/2014.

A meeting was held on 28.09.2020 under the chairmanship of the Chief Secretary, Bihar through video conferencing to review compliances of the directions of the Hon'ble National Green Tribunal, Principal Bench, New Delhi in O.A. No. 200/2014.**(Attendance Sheet enclosed)**

1. Principal Secretary, Department of Environment, Forest & Climate Change, GoB informed that earlier the Hon'ble Supreme Court of India was monitoring the issue related with prevention and rejuvenation of river Ganga in the matter M.C. Mehta Vs Union of India & Ors. in Writ Petition (Civil) No. 3727/1985. The Hon'ble Supreme Court transferred this case to the Hon'ble National Green Tribunal vide its order dated 29.10.2014 (2015) 12 SCC 764 to look into all relevant aspects and to pass appropriate direction against all those found to be violating the law.

   The Hon'ble Supreme Court also transferred Writ Petition (Civil) No. 200 of 2013to the Hon'ble NGT vide its order dated 24.01.2017. Since then the Hon'ble NGT is monitoring the issue related with prevention and rejuvenation of river Ganga & its tributaries.

   The Hon'ble NGT in O.A. No. 200/2014 in the matter M.C. Mehta Vs Union of India & Ors. has expressed its displeasure on the setting up of STPs and sewerage network in the State of Bihar.

2. It was also informed that the Hon'ble NGT has directed to ensure 100% treatment of sewage by **31.03.2020** at least to extent of in-situ remediation and before the said date, commencement of setting up of STPs and work of connecting all the drains and other sources of generation of sewage to the STP must be ensured. In-situ remediation as interim measure was to be started from 01.11.2019. If this is not done local bodies and concerned department of the State will be liable to pay compensation at the rate Rs. 05 Lakh per month per drain.

Timeline for completing all steps of action plan including completion of setting up STPs and their commissioning has been fixed **31.03.2021**. For delay in setting up of STPs and sewerage network beyond prescribed timelines State may be liable to pay compensation at the rate of Rs. 10 Lakh per month per STP and its network.

Due to COVID-19 problem, timeline for levy of compensation has been revised from 01.04.2020 to 01.07.2020 and 01.04.2021 to 01.07.2021 giving extension for 03 months. The State not being in position to meet the timeline for completion of STPs, had moved to the Hon'ble NGT filing I.A. No. 290/2020 in O.A. No. 200/2014 seeking extension of time. The prayer was rejected by the order dated 16.09.2020, on the pretext that the timelines have been laid down by the Hon'ble Supreme Court of India and that three months extension due to COVID has been given. The timelines for levy of compensation has been revised from 01.04.2020 to 01.07.2020.

3. The Chief Secretary, Bihar reviewed compliances of the directions of the Hon'ble National Green Tribunal, Principal Bench, New Delhi in O.A. No. 200/2014 and after detailed discussions, following decisions were taken:-

a. UD & HD, Govt. of Bihar was directed to:-

(i) issue work orders with regard to in-situ remediation of sewage of all the drains discharging to river Ganga and its tributaries.

(ii) Start the STP works immediately where it has not started and expedite completion of ongoing projects, to monitor the establishing of STPs intensively.

(iii) take up the matter with NEERI for getting DPR related with polluted river stretches towns.

(iv) approach the Hon'ble SCI for extension of the time with detailed justification and also making NMCG a party to it, after taking appropriate legal advice.

(v) convene the meeting of "State Ganga Committee" on regular basis.

(vi) direct District Magistrate for convening the "District Ganga Committee" meeting on regular basis.

(vii) prepare policy frame work to promote/support establishment of solid waste processing/recycling facilities in the 18 industrial areas identified by BIADA and to work in unison with industry department and BIADA to set up waste processing/recycling facilities. UD&HD, GoB shall also move a proposal for including waste processing as a priority sector in State Investment Promotion Board (SIPB) within one week.

(viii) ensure completion of electric crematoria at the Ganga Front Towns.

(ix) ensure disposal of legacy waste (old solid waste) available in the State in accordance with the CPCB guidelines including Buxar.

(x) submit the progress report on solid waste management ULBs wise for preparation of consolidated report by the State in compliance of the order of the Hon'ble NGT in O.A. No. 606/2018.

b. The Chief Secretary expressed strong displeasure as BIADA has not been able to even finalise tender and award work. BIADA/Industry Department was directed to complete the installation/ commissioning of CETP in the State of Bihar. Since, responsive tenders have not been received after expediting tender notice 06 times, Industry department was instructed to take appropriate decision including to start construction of CETPs by their own resources departmentally.

c. All the concerned departments are also directed to submit the status report concerning with their department for preparation of consolidated report by the State in compliance of the order of the Hon'ble NGT in O.A. No. 606/2018.

sd/-
(Dipak Kumar Singh)
Principal Secretary
DoEF & CC, GoB.

sd/-
(Deepak Kumar)
Chief Secretary
Government of Bihar.

Memo No. 425 **Patna, dated** 05-10-2020

Copy to : The Principal Secretary, Department of Industries/Secretary, Urban Development & Housing Department/Managing Director, BIADA, Patna/Managing Director, BUIDCo/Member Secretary, Bihar State Pollution Control Board, Patna for kind information & necessary action.

(Santosh Tewari)
Additional Chief Conservator of Forest,
Environment, Climate Change & Wetland,
Government of Bihar.

Annexure - 3

S	Consent Id	Application Date	Industry Name	Industry Type	Address	District	Block	Pin Code	Category	Application For	Status	Applicant Name	Application Type
1	36287	05-08-2015	Bihar Hotels Limited (Hotel Maurya Patna))	Hotel having more than 100 bed capacity & all hotels located adjoining water bodies	Bihar Hotels Limited (Hotel Maurya Patna) South Gandhi Maidan	PATNA	PATNA SADAR	800001	RED	both	approved	Aditya P Sinha	CTO
2	42694	16-09-2015	INDO HOKKE HOTLES PVT. LTD.	Hotel having more than 100 bed capacity & all hotels located adjoining water bodies	RAJGIR, NALANDA, BIHAR	NALANDA	RAJGIR	803116	RED	both	approved	KAILASH NATH JHA	CTO
3	36292	28-09-2015	Bihar Hotels Limited (Hotel Maurya Patna))	Hotel having more than 100 bed capacity & all hotels located adjoining water bodies	Bihar Hotels Limited (Hotel Maurya Patna) South Gandhi Maidan	PATNA	PATNA SADAR	800001	RED	both	approved	Aditya P Sinha	CTO
4	213921	22-01-2016	HOTEL ANAND RESORT	Hotel having more than 100 bed capacity & all hotels located adjoining water bodies	Bihat, Zero mile Barauni	BEGUSARAI	BARAUNI	851135	RED	both	approved	Shree Rahul Anand	CTE
5	334663	06-04-2016	HOTEL WINDSOR	Hotel having more than 100 bed capacity & all hotels located adjoining water bodies	EXHIBITION ROAD	PATNA	PATNA SADAR	800001	RED	both	approved	MR. NARENDRA KUMAR	CTO
6	417857	29-06-2016	Hotel Amalfi Grand	Hotel having more than 100 bed capacity & all hotels located adjoining water bodies	Sadikpur	PATNA	PATNA SADAR	800014	RED	both	approved	Shri Rakesh Kumar Singh	CTE
7	519917	28-10-2016	VINAYAK INTERNATIONAL	2038-Hotels (< 3 star) (or) hotels having > 20 rooms and less than 100 rooms (or) having waste water	Jamal Road	PATNA	PATNA SADAR	800001	ORANGE	both	approved	Sri Binay Kumar Yadav	CTE
8	626757	13-01-2017	Mahabodhi Hotel (unit of Yatri Vihar Hospitality Pvt Ltd)	2038-Hotels (< 3 star) (or) hotels having > 20 rooms and less than 100 rooms (or) having waste water	Via Tekuna Farm, Near BMP Camp-3, Bodhgaya, District - Gaya, Bihar	GAYA	BODH GAYA	824231	ORANGE	both	approved	Yatri Vihar Hospitality Pvt Limited	CTE
9	876375	29-05-2017	KUMAR INFRATRADE ENTERPRISES PVT LTD	1031-Hotels having overall waste-water generation @ 100 KLD and more (or) having rooms 100 and	EXHIBITION ROAD	PATNA	PATNA SADAR	800001	RED	both	approved	MANISH KUMAR	CTO
10	727909	19-06-2017	HOTEL PATLIPUTRA ASHOK	2038-Hotels (< 3 star) (or) hotels having > 20 rooms and less than 100 rooms (or) having waste water	Beer Chand Patel Path	PATNA	PATNA SADAR	800001	ORANGE	both	approved	Abhishek	CTO
11	884739	19-06-2017	M/S HOTEL AMALFI GRAND	2038-Hotels (< 3 star) (or) hotels having > 20 rooms and less than 100 rooms (or) having waste water	Sadikpur	PATNA	PATNA SADAR	800001	ORANGE	both	approved	SRI RAKESH KUMAR SINGH	CTO
12	916012	08-07-2017	PHULAR HEALTH AND HOSPITALITY PVT LTD (UNIT NAME: THE ROYAL PHULAR)	2038-Hotels (< 3 star) (or) hotels having > 20 rooms and less than 100 rooms (or) having waste water	MARIPUR CHOWK, MARIPUR MAIN ROAD, MUZAFFARPUR	MUZAFFARPUR	MUSHAHARI	842001	ORANGE	both	approved	PRANAV KUMAR	CTE
13	947613	09-08-2017	M/S HOTEL TAISONS	2038-Hotels (< 3 star) (or) hotels having > 20 rooms and less than 100 rooms (or) having waste water	Exhibition Road	PATNA	PATNA SADAR	800001	ORANGE	both	approved	SRI SANJAY KUMAR	CTE
14	1077618	20-10-2017	M/S GAYATRI PROJECTS LTD.	2038-Hotels (< 3 star) (or) hotels having > 20 rooms and less than 100 rooms (or) having waste water	AT-DAYALI BIGHA, P.O-KOSHILA, P.S-HISUA, DAYALIBIGHA, P.O-	NAWADA	NARDIGANJ	805103	ORANGE	both	approved	E. PRASAD RAO	CTO
15	1187491	05-12-2017	AMRAPALI RESIDENCY A UNIT OF AMRAPALI BQT PVT LTD	2038-Hotels (< 3 star) (or) hotels having > 20 rooms and less than 100 rooms (or) having waste water	46, SRI KRISHNA NAGAR, P.O-KIDWAIPURI, P.S-KOTWALI	PATNA	PATNA SADAR	800001	ORANGE	both	approved	JITENDRA NATH GUPTA	CTE
16	1170445	14-03-2018	PHULAR HEALTH AND HOSPITALITY PVT LTD (UNIT NAME: THE ROYAL PHULAR)	2038-Hotels (< 3 star) (or) hotels having > 20 rooms and less than 100 rooms (or) having waste water	MARIPUR CHOWK, MARIPUR MAIN ROAD, MUZAFFARPUR	MUZAFFARPUR	MUSHAHARI	842001	ORANGE	both	approved	PRANAV KUMAR	CTO
17	1702614	20-09-2018	INDO HOKKE HOTLES PVT. LTD.	Hotel having more than 100 bed capacity & all hotels located adjoining water bodies	RAJGIR, NALANDA, BIHAR	NALANDA	RAJGIR	803116	RED	both	approved	KAILASH NATH JHA	CTO
18	1651552	19-09-2018	Hotel Maurya	2038-Hotels (< 3 star) (or) hotels having > 20 rooms and less than 100 rooms (or) having waste water	South Gandhi Maidan, Patna	PATNA	PATNA SADAR	800001	ORANGE	both	approved	Aditya P Sinha	CTO
19	1984710	29-11-2018	H S MARRIAGE HALL	2038-Hotels (< 3 star) (or) hotels having > 20 rooms and less than 100 rooms (or) having waste water	JAMLA ROAD NEAR CHANDIMAISTHAN NH 28 MOTIHARI	EAST CHAMPARAN	MOTIHARI	845401	ORANGE	both	approved	SHANKAR PRASAD GUPTA	CTE
20	2074646	14-12-2018	MARWARI AWAS GRIHA	2038-Hotels (< 3 star) (or) hotels having > 20 rooms and less than 100 rooms (or) having waste water	FRAZER ROAD ,PATNA	PATNA	PATNA SADAR	800001	ORANGE	both	approved	ABHAY KRISHNA KANORIA	CTO
21	2034208	05-12-2018	S S ENTERPRISES (SAVERA HOTEL)	2038-Hotels (< 3 star) (or) hotels having > 20 rooms and less than 100 rooms (or) having waste water	S S ENTERPRISES, CEAT COMPOUND, EXHIBITION ROAD, PATNA	PATNA	PATNA SADAR	800001	ORANGE	both	approved	SUSHIL KUMAR KANODIA	CTO

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22	2041358	17-12-2018	Hotel Daftari Palace, Daftari Developers Pvt. Ltd.	2038-Hotels (< 3 star) (or) hotels having > 20 rooms and less than 100 rooms (or) having waste water	Paschimpali	KISHANGANJ	KISHANGANJ	855107	ORANGE	both	approved	HOTEL DAFTARI PALACE, DAFTARI	CTE
23	1973341	16-01-2019	BLUE DIAMOND RESORT (UNIT OF MATA VAISHNAVI MULTIPROJECTS PVT.	2038-Hotels (< 3 star) (or) hotels having > 20 rooms and less than 100 rooms (or) having waste water	NH-57 GARHAN, DARBHANGA ROAD MUZAFFARPUR-843103	MUZAFFARPUR	BOCHAHAN	843103	ORANGE	both	approved	VIKASH KUMAR	CTE
24	1597221	03-04-2019	M/s Atithi (Hotel)	2038-Hotels (< 3 star) (or) hotels having > 20 rooms and less than 100 rooms (or) having waste water	At-Near Maiang Asthan Mandir, Ram Dayalu Nagar, Muzaffarpur	MUZAFFARPUR	MUSHAHARI	842002	ORANGE	both	approved	Sri Sanjeev Kumar	CTO
25	2695605	18-06-2019	M/S WESTEND HOTEL(A unit of Swastna Developers Pvt. Ltd.)	2038-Hotels (< 3 star) (or) hotels having > 20 rooms and less than 100 rooms (or) having waste water	Saguna Bhagaul Road	PATNA	PATNA SADAR	801503	ORANGE	both	pending	SRI SACHIN CHANDRA	CTO
26	2891755	07-08-2019	M/S HOTEL RAIN INTERNATIONAL	2038-Hotels (< 3 star) (or) hotels having > 20 rooms and less than 100 rooms (or) having waste water	AT-BABU BAZAR,PO-NAWADA ARA,PS-TOWN ARA,DIST-BHOJPUR	BHOJPUR	ARA SADAR	802301	ORANGE	both	pending	RANA RANVIR SINGH	CTE
27	2927316	24-08-2019	GENX BRII (A UNIT OF BRII AND COMPANY)	2038-Hotels (< 3 star) (or) hotels having > 20 rooms and less than 100 rooms (or) having waste water	AT- STATION ROAD, SIRCHAND NAWADA, DIST - JAMUI 811307	JAMUI	JAMUI	811307	ORANGE	both	approved	MANOJ KUMAR SINGH	CTE
28	2917344	18-08-2019	HOTEL VIJAY SHREE DELUXE (A UNIT OF SWAYAM SIDHI HOLDINGS PVT. LTD.)	2038-Hotels (< 3 star) (or) hotels having > 20 rooms and less than 100 rooms (or) having waste water	HOLDING NO.- 43A (OLD), 803 (NEW), WARD NO.- 37, EXHIBITION ROAD,	PATNA	PATNA SADAR	800001	ORANGE	both	approved	GAURAV JHUNJHUNWALA	CTE
29	3011674	22-09-2019	VINAYAK INTERNATIONAL	2038-Hotels (< 3 star) (or) hotels having > 20 rooms and less than 100 rooms (or) having waste water	Jamal Road	PATNA	PATNA SADAR	800001	ORANGE	both	pending	Sri Binay Kumar Yadav	CTO
30	2947140	18-09-2019	HOTEL CENTRE POINT (A Unit of KALI CONSTRUCTION PRIVATELIMITED)	2038-Hotels (< 3 star) (or) hotels having > 20 rooms and less than 100 rooms (or) having waste water	CHOUDHARY MARKET, BHATTHA BAZAR, PURNEA-854301	PURNEA	PURNIA	854301	ORANGE	both	approved	DURGANAND CHOUDHARY	CTE
31	2945986	18-09-2019	HOTEL CENTRE POINT (A Unit of KALI CONSTRUCTION PRIVATELIMITED)	2038-Hotels (< 3 star) (or) hotels having > 20 rooms and less than 100 rooms (or) having waste water	CHOUDHARY MARKET, BHATTHA BAZAR, PURNEA-854301	PURNEA	PURNIA	854301	ORANGE	both	approved	DURGANAND CHOUDHARY	CTO
32	3071630	19-10-2019	Hotel S.S. Place	1031-Hotels having overall waste-water generation @ 100 KLD and more (or) having rooms 100 and	Near Railway Station, At-Bengali Tola, P.O+P.S.- Samastipur	SAMASTIPUR	SAMASTIPUR		RED	both	approved	Vachaspati Narayan Singh	CTE
33	3109157	31-10-2019	BHAVYA THE BOUTIQUE	2038-Hotels (< 3 star) (or) hotels having > 20 rooms and less than 100 rooms (or) having waste water	Vishwani Nagar, Nh 28, Dalsingsarai	SAMASTIPUR	DALSINGSARAI	848114	ORANGE	both	approved	JAYANT KUMAR CHOUDHARY	CTE
34	2895621	15-11-2019	ASHOK SAHA AND SONS	2038-Hotels (< 3 star) (or) hotels having > 20 rooms and less than 100 rooms (or) having waste water	PATAL BABU ROAD	BHAGALPUR	JAGDISHPUR	812002	ORANGE	both	approved	ANIKET ANISH	CTE
35	3120651	06-11-2019	HOTEL SHIVA KRISHNA UNIT OF NANDAN UDYAM PRIVATE LIMITED	2038-Hotels (< 3 star) (or) hotels having > 20 rooms and less than 100 rooms (or) having waste water	SHEKHAR SADAN, FRASER ROAD	PATNA	PATNA SADAR	800001	ORANGE	both	approved	SACHINDRA DEO SINGH	CTE
36	3131973	13-11-2019	Saurav Nursing Home	1031-Hotels having overall waste-water generation @ 100 KLD and more (or) having rooms 100 and	N.H. 31, Line Bazar, Purnea	PURNEA	PURNIA		RED	both	approved	Dr Shiv Shankar Prasad	CTE
37	3139714	13-11-2019	Saurav Nursing Home	1031-Hotels having overall waste-water generation @ 100 KLD and more (or) having rooms 100 and	N.H. 31, Line Bazar, Purnea	PURNEA	PURNIA		RED	both	approved	Dr Shiv Shankar Prasad	CTO
38	3159190	19-11-2019	M/s Hotel Kanson	2038-Hotels (< 3 star) (or) hotels having > 20 rooms and less than 100 rooms (or) having waste water	At+P.O.-Sukhd Nagar, Dist- Begusarai	BEGUSARAI	BEGUSARAI	851101	ORANGE	both	approved	Sri Kameshwar Pd Sinha	CTE
39	3136231	26-11-2019	Hotel Daftari Palace, Daftari Developers Pvt. Ltd.	2038-Hotels (< 3 star) (or) hotels having > 20 rooms and less than 100 rooms (or) having waste water	Paschimpali	KISHANGANJ	KISHANGANJ	855107	ORANGE	both	approved	HOTEL DAFTARI PALACE, DAFTARI	CTO
40	3090946	29-11-2019	Asha Realty Developers Pvt. Ltd.	2038-Hotels (< 3 star) (or) hotels having > 20 rooms and less than 100 rooms (or) having waste water	OLD DEEPAK CINEMA CAMPUS, SAHU ROAD, MUZAFFARPUR	MUZAFFARPUR	MUSHAHARI		ORANGE	both	approved	ASHA REALTY DEVELOPERS PRIVATE LIMITED	CTE
41	3141329	28-11-2019	M/s Sandhya deluxe	2038-Hotels (< 3 star) (or) hotels having > 20 rooms and less than 100 rooms (or) having waste water	At-Gola Road, P.O.+Dist-Samastipur	SAMASTIPUR	SAMASTIPUR	848101	ORANGE	both	approved	Sri Jiwachh Mahto	CTE
42	3159108	19-11-2019	M/s Kailash Hotel	2038-Hotels (< 3 star) (or) hotels having > 20 rooms and less than 100 rooms (or) having waste water	At-Station Road, Ward No.-17, P.O.+Dist-Samastipur	SAMASTIPUR	SAMASTIPUR	848101	ORANGE	both	approved	Smt Kailash Devi	CTE
43	2952352	04-12-2019	Hotel Srivash Regency e unit of Jiwansagar Towers Private Ltd.	2038-Hotels (< 3 star) (or) hotels having > 20 rooms and less than 100 rooms (or) having waste water	D N SINGH ROAD	BHAGALPUR	JAGDISHPUR	812002	ORANGE	both	pending	Vikash Kishorepuria	CTO

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44	3231893	10-12-2019	SWEET BASANT HOSPITALITY LLP	2038-Hotels (< 3 star) (or) hotels having > 20 rooms and less than 100 rooms (or) having waste water	BHAGWANPUR CHOWK	MUZAFFARPUR	MUSHAHARI	842001	ORANGE	both	pending	sheet basant hospitality	CTE
45	3205934	09-12-2019	HOTEL SWARG EXOTICA	2038-Hotels (< 3 star) (or) hotels having > 20 rooms and less than 100 rooms (or) having waste water	SNEHLATA TRADE CENTER, MAGARDIH GHAT,SAMASTIPUR	SAMASTIPUR	BIBHUTIPUR	848101	ORANGE	both	approved	ALOK KUMAR	CTE
46	3209761	09-12-2019	HOTEL MANISH AND MONU FAMILY RESTAURANT	2038-Hotels (< 3 star) (or) hotels having > 20 rooms and less than 100 rooms (or) having waste water	AT-RAJENDRA PATTI BABUNIA MORE SIWAN P O-SIWAN P S-SIWAN ANCHAL	SIWAN	SIWAN	841226	ORANGE	both	approved	BHUPENDRA KUMAR	CTE
47	3271656	20-12-2019	M/s Devi Darbar	2038-Hotels (< 3 star) (or) hotels having > 20 rooms and less than 100 rooms (or) having waste water	At-Zeromile, P.O-Bihat, Dist-Bagusarai	BEGUSARAI	BARAUNI	851135	ORANGE	both	approved	Sri Manoj Kumar	CTE
48	3383793	13-01-2020	Hotel Nihar	2038-Hotels (< 3 star) (or) hotels having > 20 rooms and less than 100 rooms (or) having waste water	Kachahari Chowk	BHAGALPUR	JAGDISHPUR	812001	ORANGE	water	pending	HOTEL NIHAR	CTO
49	3225348	20-01-2020	HOTEL DOUBLE TREE DELUXE	2038-Hotels (< 3 star) (or) hotels having > 20 rooms and less than 100 rooms (or) having waste water	Old Post Office Road	SAMASTIPUR	SAMASTIPUR	848101	ORANGE	both	approved	Bishwa Nath Sah	CTE
50	3358115	07-02-2020	MARASA HOSPITALITY PRIVATE LIMITED	2038-Hotels (< 3 star) (or) hotels having > 20 rooms and less than 100 rooms (or) having waste water	Ward No. 5, Newtapur	GAYA	TEKARI	824231	ORANGE	both	pending	MARASA HOSPITALITY PRIVATE LIMITED	CTO
51	3538537	18-02-2020	M/s M S Hotel Pvt Ltd	2038-Hotels (< 3 star) (or) hotels having > 20 rooms and less than 100 rooms (or) having waste water	At-Nath Nagar Road, P.O.-katarpur, Dist-Bhagalpur	BHAGALPUR	JAGDISHPUR	812005	ORANGE	both	approved	Md Siddique	CTE
52	3522071	26-02-2020	M/s Hotel J P Grand	2038-Hotels (< 3 star) (or) hotels having > 20 rooms and less than 100 rooms (or) having waste water	STATION ROAD, NEW TOLA BIHARI P.O. JAMUI, P.S.- JAMUI, JAMUI - 811307	JAMUI	JAMUI		ORANGE	both	approved	Dr Jawahar Prasad Singh	CTE
53	3606477	13-03-2020	M/s Hotel Nirmala Inn	2038-Hotels (< 3 star) (or) hotels having > 20 rooms and less than 100 rooms (or) having waste water	At-Mahisouri by pass road, P.O.+Dist-Jamui	JAMUI	JAMUI	811307	ORANGE	both	approved	Sri Randhir Kumar Singh	CTE
54	3604570	19-03-2020	Hotel Srivesh Regency a unit of Jiwansagar Towers Private Ltd.	2038-Hotels (< 3 star) (or) hotels having > 20 rooms and less than 100 rooms (or) having waste water	D N SINGH ROAD	BHAGALPUR	JAGDISHPUR	812002	ORANGE	both	pending	Vikash Kishorepuria	CTE
55	3805706	01-07-2020	AMRAPALI RESIDENCY A UNIT OF AMRAPALI BQT PVT LTD	2038-Hotels (< 3 star) (or) hotels having > 20 rooms and less than 100 rooms (or) having waste water	46, SRI KRISHNA NAGAR, P O-KIDWAIPURI, P.S-KOTWALI	PATNA	PATNA SADAR	800001	ORANGE	both	pending	JITENDRA NATH GUPTA	CTE
56	3892606	27-08-2020	MARASA HOSPITALITY PRIVATE LIMITED	2038-Hotels (< 3 star) (or) hotels having > 20 rooms and less than 100 rooms (or) having waste water	Ward No. 5, Newtapur	GAYA	TEKARI	824231	ORANGE	both	pending	MARASA HOSPITALITY PRIVATE LIMITED	CTE
57	3631167	23-09-2020	Takshila Regency Pvt. Ltd. (Hotel Rajhans International)	2038-Hotels (< 3 star) (or) hotels having > 20 rooms and less than 100 rooms (or) having waste water	Ward No. 5, Kachari Chowk, MG Road, Bhagalpur	BHAGALPUR	JAGDISHPUR	812001	ORANGE	both	pending	Rajesh Kumar	CTE
58	3998710	30-09-2020	HOTEL PRATAP PARK PETAL	2038-Hotels (< 3 star) (or) hotels having > 20 rooms and less than 100 rooms (or) having waste water	Mathorapur, Samastipur, Bihar	SAMASTIPUR	SAMASTIPUR	848101	ORANGE	both	pending	THE CONNECT	CTE
59	4013583	10-05-2020	M/S HOTEL R.K. RESIDENCY	2038-Hotels (< 3 star) (or) hotels having > 20 rooms and less than 100 rooms (or) having waste water	MAGGI IN FRONT OF RAILWAY STATION, ZILA PARISHAD MARKET, STATION	MUZAFFARPUR	MUSHAHARI	842001	ORANGE	both	pending	SRI UJJAWAL KUMAR	CTE
60	4076065	22-10-2020	ASHOK SAHA AND SONS	2038-Hotels (< 3 star) (or) hotels having > 20 rooms and less than 100 rooms (or) having waste water	PATAL BABU ROAD	BHAGALPUR	JAGDISHPUR	812002	ORANGE	both	pending	ANIKET ANISH	CTO
61	4037592	11-06-2020	Hotel Nihar	2038-Hotels (< 3 star) (or) hotels having > 20 rooms and less than 100 rooms (or) having waste water	Kachahari Chowk	BHAGALPUR	JAGDISHPUR	812001	ORANGE	both	pending	HOTEL NIHAR	CTE
62	4106835	12-04-2020	HOTEL SWARG EXOTICA	2038-Hotels (< 3 star) (or) hotels having > 20 rooms and less than 100 rooms (or) having waste water	SNEHLATA TRADE CENTER, MAGARDIH GHAT,SAMASTIPUR	SAMASTIPUR	BIBHUTIPUR	848101	ORANGE	both	pending	ALOK KUMAR	CTO
63	32230	04-04-2015	REPUBLIC HOTEL	other	Dunda Sahi Complex , Bakar Gali , Patna-13	PATNA	PATNA SADAR	800013	OTHER	both	approved	Rajeev Kumar	CTO
64	32288	20-04-2015	HOTEL PATLIPUTRA CONTINENTAL	Other	ALI NAGAR	PATNA	PHULWARI SHARIF	800002	GREEN	both	approved	ASHFAQUE RAHMAN	CTE
65	36570	17-08-2015	MANOKAAMNA INFRARESOURCES LLP	other	PITAMBARPUR FATUHA	PATNA	FATUHA	803201	OTHER	both	approved	PRASHANT BANKA	CTE

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66	52823	30-09-2015	M/S HOTEL RAJASTHAN	Other	FRASER ROAD PATNA	PATNA	PATNA SADAR	800001	GREEN	both	approved	SHRI ASHOK KUMAR UPADHYAY	CTO
67	62588	12-10-2015	M/S PUNJ LLOYD LTD	other	AT-JHAJHWA,P.O-MANJHA,DIST-GOPALGANJ,BIHAR,841428	GOPALGANJ	BAIKUNTHPUR	841428	ORANGE	both	approved	ANIL KUMAR SHEORAN	CTE
68	62638	12-10-2015	M/S PUNJ LLOYD LTD	other	AT-BELWA MATHIYA PANDEY,P.O-KUCHAYKOT,DIST-GOPALGANJ,BIHAR-	GOPALGANJ	BAIKUNTHPUR	841428	ORANGE	both	approved	ANIL KUMAR SHEORAN	CTE
69	72406	28-10-2015	VIVE EFFORTS and HOSPITALITY PVT LTD	Other	HOLDING NO-871/4823,WARD NO-28,CIRCLE NO.9,MAUZA-	PATNA	PATNA SADAR	800001	GREEN	both	approved	SRI PRABHAT KUMAR	CTO
70	68222	16-10-2015	THE WESTEND HOTEL (A UNIT OF SWADHA DEVLOPERS PVT. LTD.)	Other	SAGUNA KHAGAUL ROAD,NEAR-CANRA BANK,SAGUNA MORE PATNA	PATNA	DANAPUR	800001	GREEN	both	approved	MR SACHIN CHANDRA	CTE
71	118742	07-12-2015	SWARNABHOOMI INTERNATIONAL PRIVATE LIMITED	Other	262, 263, 264 MOUZA KUDARI DIST. KAIMUR	KAIMUR	DURGAWATI		GREEN	both	approved	NAVEEN AGRAWAL	CTO
72	160131	17-12-2015	HOTEL SAMRAT INTERNATIONAL	other	FRASER ROAD	PATNA	PATNA SADAR	800001	ORANGE	both	approved	AJAY KUMAR SINGH	CTO
73	167195	18-12-2015	M/S Yoi China, Aditya Consumer Marketing Pvt ltd	Other	Nutan Plaza,Bandar Bagicha,Patna	PATNA	PATNA SADAR		GREEN	both	approved	Meena Sharma	CTE
74	208690	14-01-2016	M/S SAVITRI HORTICULTURE PVT LTD	Other	DONAR INDUSTRIAL AREA, DARBHANGA	DARBHANGA	DARBHANGA	846009	GREEN	both	approved	SRI RAJESH KUMAR AGRAWAL	CTO
75	236567	01-02-2016	J B L HOTELS	Other	NEAR LNT COLLEGE,AGHORIA CHOWK,MUZAFFARPUR,842001	MUZAFFARPUR	MUSHAHARI	842001	GREEN	both	approved	SRI BASANT KUMAR SINGH	CTE
76	240683	04-02-2016	M/S DAVDAS RESTAURANT	other	AT-CHANUTI KUNA, SHAHID BHAGAT SINGH CHOWK, P.O+P.S-PHULWARI	PATNA	PHULWARI SHARIF	8000	OTHER	both	approved	SRI RAVI BHUSHAN KUMAR	CTE
77	268239	22-02-2016	HOTEL RAJ	Other	BANK ROAD MOTIHARI EAST CHAMPARAN 845401	EAST CHAMPARAN	MOTIHARI	845401	GREEN	air	approved	SRI ANIL KUMAR	CTO
78	287871	27-02-2016	HOTEL WELHOME	Other	BHAWANIPUR ZERAT N H 28A CHHATAUNI MOTIHARI EAST CHAMPARAN 845401	EAST CHAMPARAN	MOTIHARI	845401	GREEN	both	approved	SHREE PRAKASH CHOWDHARY	CTE
79	270197	23-02-2016	HOTEL PUJA	Other	BANK ROAD MOTIHARI EAST CHAMPARAN 845401	EAST CHAMPARAN	MOTIHARI	845401	GREEN	air	approved	SRI SAURABH KUMAR	CTO
80	284795	26-02-2016	HOTEL ARTI	Other	IN FRONT OF PANI TANKI MAIN ROAD MOTIHARI EAST CHAMPARAN 845401	EAST CHAMPARAN	MOTIHARI	8454001	GREEN	air	approved	SRI SOHAN PRASAD	CTO
81	268486	22-02-2016	HOTEL ADARSH MARRAIGE CUM CONFERENCE HALL	Other	BHAWANIPUR ZERAT MOTIHARI EAST CHAMPARAN 845401	EAST CHAMPARAN	MOTIHARI	845401	GREEN	air	approved	MOHAN PRASAD	CTO
82	270077	23-02-2016	HOTEL SURYA	Other	BANK ROAD MADHUWAN CHAWANI CHOWK MOTIHARI EAST	EAST CHAMPARAN	MOTIHARI	845401	GREEN	air	approved	SRI HARESHWAR PRASAD	CTO
83	260638	17-02-2016	Madhubala Resturant	other	New Jagampura	PATNA	PATNA SADAR	800035	OTHER	both	approved	Sri Dharmendra Kumar	CTE
84	282626	07-03-2016	HOTEL ASTOR (A UNIT OF ASHIANA HERITAGE HOTELS PVT LTD)	other	FRAZER ROAD, NEAR AAJ PRESS, PATNA	PATNA	PATNA SADAR	800001	OTHER	both	approved	INDRAJEET SINGH	CTO
85	294103	02-03-2016	THE FOUNTAIN EATS AND SWEETS	other	ROAD NO 3, CHAITANYA NAGAR, BHAGAWAT NAGAR (90 FEET ROAD)	PATNA	PATNA SADAR	800026	OTHER	both	approved	SULOCHANA FOODS PRIVATE LIMITED	CTO
86	329044	31-03-2016	HOTEL AASHIRWAD INTERNATIONAL	other	CHANDMARI CHOWK MOTIHARI EAST CHAMPARAN 845401 BIHAR	EAST CHAMPARAN	MOTIHARI	845401	ORANGE	both	approved	SMT SUDHA RANI SRIVASTAVA AND SRI	CTE
87	330034	31-03-2016	HOTEL SRIRAM	Other	KRISHNA VILLA,HOTEL LANE, FRASER ROAD, PATNA	PATNA	PATNA SADAR	800001	GREEN	both	approved	RAJENDRA SHARMA	CTO

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88	327654	31-03-2016	HOTEL SRIKRISHNA	Other	KRISHNA MARKET, FRASER ROAD,PATNA	PATNA	PATNA SADAR	800001	GREEN	both	approved	VINAY KUMAR	CTO
89	330050	31-03-2016	AGRAWAL HOTEL	Other	FRASER ROAD, PATNA	PATNA	PATNA SADAR	800001	GREEN	both	approved	SUNIL AGRAWAL	CTO
90	319475	06-04-2016	M/S ABA INTERNATIONAL	Other	VILL- PROFESSORS COLONY,PO-BIHAR SHARIF DIST - NALANDA	NALANDA	BIHARSARIF	803101	GREEN	both	approved	ABHISHEK ANJAN	CTE
91	394605	31-05-2016	HOTEL WELHOME	other	AT-BHAWANIPUR ZIRAT N H 28A CHHATAUNI MOTIHARI DIST-EAST	EAST CHAMPARAN	MOTIHARI	845401	ORANGE	both	approved	SHREE PRAKASH CHOWDHARY	CTE
92	381289	18-05-2016	HOTEL PATLIPUTRA CONTINENTAL LLP	Other	ALINAGAR	PATNA	ATHMALGOLA	800002	GREEN	both	approved	ASHFAQUE RAHMAN	CTO
93	308604	04-05-2016	Hotel Chanakya a unit of Sujata Hotel Pvt. Ltd	Other	Beerchand Patel Path	PATNA	PATNA SADAR	800001	GREEN	both	approved	VINAY KOCHHAR	CTO
94	393341	30-05-2016	M/S New Basant Vihar	Other	Mauryalok Complex,New Dak Bunglow Road,Patna	PATNA	PATNA SADAR	800001	GREEN	both	approved	Harish Raj	CTO
95	393536	30-05-2016	M/S Bansi Vihar Resturent	Other	Frazar road,Patna	PATNA	PATNA SADAR	800001	GREEN	both	approved	Suman Gupta	CTO
96	394883	31-05-2016	M/S BIRYANI MAHAL	Other	ASHIYANA MORE ,ASHIYANA DIGHA ROAD,RAJABAZAR	PATNA	DANAPUR	800014	GREEN	both	approved	MD BABER KHAN	CTE
97	393629	30-05-2016	M/S Shree Basant Vihar Restaurant	Other	Shop No-52,53,54 Block-B, Ground Floor,Mauryalok Complex,Dak	PATNA	PATNA SADAR	800001	GREEN	both	approved	Upasana Raj	CTO
98	223283	12-05-2016	SUNNY STAR HOTELS PRIVATE LIMITED	Other	West of Ram Gulam Chowk, South Gandhi Maidan, Patna	PATNA	PATNA SADAR	800001	GREEN	both	approved	Priyesh Kumar	CTO
99	407516	13-06-2016	HOTEL SHEETAL REGENCY	Other	AT-NH28A CHHATAUNI CHOWK MOTIHARI DISTT-EAST CHAMPARAN	EAST CHAMPARAN	MOTIHARI	845401	GREEN	water	approved	SRI CHANDRIKA PRASAD JAISWAL	CTO
100	395340	01-06-2016	VISHNU KAMAL GARDEN HOTEL AND MARRIAGE HALL	other	AT-BANJARIYA PANDAL CHOWK MOTIHARI DIST-EAST CHAMPARAN BIHAR	EAST CHAMPARAN	MOTIHARI	845401	ORANGE	both	approved	SANJAY KUMAR JAISWAL	CTE
101	407453	13-06-2016	HOTEL SHEETAL REGENCY	Other	AT-NH28A CHHATAUNI CHOWK MOTIHARI DISTT-EAST CHAMPARAN	EAST CHAMPARAN	MOTIHARI	845401	GREEN	air	approved	SRI CHANDRIKA PRASAD JAISWAL	CTO
102	407261	13-06-2016	HOTEL ADARSH MARRAIGE CUM CONFERENCE HALL	Other	AT-BHAWANIPUR ZIRAT P O-MOTIHARI DIST-EAST CHAMPARAN BIHAR	EAST CHAMPARAN	ADAPUR	845401	GREEN	air	approved	INDU DEVI	CTO
103	407373	13-06-2016	HOTEL ADARSH MARRAIGE CUM CONFERENCE HALL	Other	AT-BHAWANIPUR ZIRAT P O-MOTIHARI DIST-EAST CHAMPARAN BIHAR	EAST CHAMPARAN	MOTIHARI	845401	GREEN	water	approved	MOHAN PRASAD	CTO
104	404711	13-06-2016	HOTEL RAJ	Other	AT- BANK ROAD MOTIHARI DISTT. EAST CHAMPARAN 845401	EAST CHAMPARAN	MOTIHARI	845401	GREEN	water	approved	SRI ANIL KUMAR	CTO
105	404211	13-06-2016	HOTEL RAJ	Other	AT- BANK ROAD MOTIHARI DISTT-EAST CHAMPARAN 845401	EAST CHAMPARAN	MOTIHARI	845401	GREEN	air	approved	SRI ANIL KUMAR	CTO
106	386500	23-06-2016	M/S HOTEL TULSI PVT LTD	Other	ASHOK RAJ PATH, OPP BANKIPUR POST OFFICE, MURADPUR, PATNA	PATNA	PATNA SADAR	800004	GREEN	both	approved	SRI ANAND GUPTA	CTO
107	422663	05-07-2016	HOTEL ARTI AND MARRIAGE HALL	other	AT-MAIN ROAD,NEKA PANI TANKI P O+P S- MOTIHARI DIST-EAST	EAST CHAMPARAN	MOTIHARI	845401	ORANGE	both	approved	SRI SOHAN PRASAD	CTE
108	437902	28-07-2016	PUNJ LLOYD LTD	other	AT-JHAJHWA P O-MANJHA DIST-GOPALGANJ 841427 BIHAR	GOPALGANJ	BAIKUNTHPUR	841427	ORANGE	both	approved	ANIL KUMAR SHEORAN	CTO
109	436867	27-07-2016	PUNJ LLOYD LTD	other	AT-BELWA MATHIYA PANDEY P O KUCHAYKOT DIST-GOPALGANJ 841505	GOPALGANJ	KUCHAIKOT	841505	ORANGE	both	approved	ANIL KUMAR SHEORAN	CTO

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110	460198	29-08-2016	Sangita (A Unit of Sangita Food Asia Pvt Ltd.)	other	Budh Marg, Opp. Patna Museum, GPO, Patna	PATNA	PATNA SADAR	800001	OTHER	air	approved	Basant Kumar	CTO
111	448555	09-08-2016	M/S RAJ RASOI	Other	4	PATNA	PATNA SADAR	800001	GREEN	both	approved	BHASKAR RAI	CTO
112	469951	14-09-2016	HOTEL MARINA	2999-Miscellaneous (Orange)	HOTEL GALI	PATNA	PATNA SADAR	800001	ORANGE	both	approved	NIRJA	CTO
113	486195	22-09-2016	SAMARPAN NESH INN (A Unit of Tirupati Homes Ltd.	Other	PLOT NO 19,20 KIDWAIPURI	PATNA	PATNA SADAR	800001	GREEN	both	approved	SHASHI BHUSHAN SINHA	CTO
114	664108	23-01-2017	PUNJ LLOYD LIMITED	3999-Miscellaneous (Green)	VILL - SHAHPUR, NEAR SHIKHA PETROLE	BEGUSARAI	BEGUSARAI	851129	GREEN	both	approved	VIRENDER SINGH CHAUHAN	CTE
115	832375	21-04-2017	Hotel OTL	other	IN Front of Mithapur Bus Stand, Ward No.-30	PATNA	PATNA SADAR	800001	OTHER	both	approved	Surendra Sharma	CTE
116	856858	10-05-2017	M/S HOTEL VINAYAK	3999-Miscellaneous (Green)	VILL-BHEMA NAHIKA,PO-KATIHAR,PS KATIHAR,DIST-	KATIHAR	KATIHAR	854105	GREEN	both	approved	GOVIND KUMAR	CTE
117	867342	20-05-2017	M/S JURAN JALPAAN	2999-Miscellaneous (Orange)	AT-JURAN CHAPRA ROAD NO-1 NEAR KEJRIWAL HOSPITAL P O-HPO P S-	MUZAFFARPUR	MUSHAHARI	842001	ORANGE	both	approved	GOVIND KUMAR	CTE
118	848823	02-05-2017	M/S SUDDH PUNJABI FOOD PRODUCTION PVT LTD	3999-Miscellaneous (Green)	INDUSTRIAL GROWTH CENTRE MARANGA P(1)	PURNEA	PURNIA	854301	GREEN	both	approved	RUPESH KUMAR SINGH	CTE
119	933528	24-07-2017	HOTEL WELHOME	other	AT-BHAWANIPUR ZIRAT N H 28A CHHATAUNI MOTIHARI DIST-EAST	EAST CHAMPARAN	MOTIHARI	845401	ORANGE	air	approved	SHREE PRAKASH CHOWDHARY	CTO
120	932936	24-07-2017	Suman Guest House	3999-Miscellaneous (Green)	Main Road Wazirganj	GAYA	WAZIRGANJ	805131	GREEN	both	approved	Suman Kumar	CTE
121	479359	05-07-2017	Manokaamna Infraresources LLP	3999-Miscellaneous (Green)	Pitambarpur Fathua Patna	PATNA	FATUHA	803201	GREEN	air	approved	Prashant Banka	CTO
122	881489	06-07-2017	SEA VIHAR FUN FAIR PVT. LTD.	3999-Miscellaneous (Green)	203, Hitech Arched, Rajendra Path, Patna	PATNA	PATNA SADAR	803201	GREEN	both	approved	Avinash Kumar	CTE
123	923300	15-07-2017	M/S ALCAJARS INN	3999-Miscellaneous (Green)	VILL-KANKARBAGH,PO-LOHIA NAGAR,PS-KANKARBAGH,DIST-	PATNA	PATNA SADAR	800020	GREEN	both	approved	KUMAR SANJEEV	CTE
124	921826	13-07-2017	M/S ANKUR RESTAURANT	3999-Miscellaneous (Green)	ANKUR RESTAURANT, 1st FLOOR, SHAKTI COMPLEX, BORING	PATNA	PATNA SADAR	800001	GREEN	both	approved	SARITA NARAYAN	CTE
125	981319	29-08-2017	PIZZA HUT a unit of M/S DEVYANI INTERNATIONAL LTD	3999-Miscellaneous (Green)	P.M. INFRASTRUCTURE LTD, SHOP NO.- T - 16 & T - 17, 3RD FLOOR,	PATNA	PATNA SADAR	800023	GREEN	both	approved	BIPIN KUMAR MISHRA	CTO
126	975343	22-08-2017	Sweet Garden	3999-Miscellaneous (Green)	Khajpura, PO-BV College, PO-Shashtri Nagar, Patna	PATNA	PATNA SADAR	800023	GREEN	both	approved	PREM CHANDRA DULWANI	CTE
127	975192	25-08-2017	KFC a unit of M/S DEVYANI INTERNATION LTD	3999-Miscellaneous (Green)	GROUND FLOOR, VASUNDHARA METRO MALL, P.O BUDHA COLONY,	PATNA	PATNA SADAR	80001	GREEN	both	approved	BIPIN KUMAR MISHRA	CTO
128	981972	27-08-2017	M/S CHATKARA FAMILY RESTAURANT	3999-Miscellaneous (Green)	VILL- MAIN ROAD MASAURAHI,PO-MASAURHI,PS-MASAURHI,DIST-	PATNA	MASAURHI	804452	GREEN	both	approved	VINDO KUMAR	CTE
129	981666	28-08-2017	PIZZA HUT a unit of M/S DEVYANI INTERNATIONAL LTD	3999-Miscellaneous (Green)	PIZZA HUT a unit of M/S DEVYANI INTERNATIONAL LTD , SRI RAM ENCLVE	PATNA	PATNA SADAR	800003	GREEN	both	approved	PIZZA HUT a unit of M/S DEVYANI INTERNATION	CTO
130	982948	29-08-2017	KFC a unit of M/S DEVYANI INTERNATIONAL LTD	3999-Miscellaneous (Green)	KFC a unit of M/S DEVYANI INTERNATIONAL LTD, REGENT THEATRE	PATNA	PATNA SADAR	800004	GREEN	both	approved	KFC a unit of M/S DEVYANI INTERNATIONAL LTD	CTO
131	1033679	26-09-2017	M/s. AMRAPALI RESORTS PVT LTD	other	SONE BHAWAN, R-BLOCK, PATNA-800001	PATNA	PATNA SADAR	800001	GREEN	both	approved	SAMEER KUMAR MAHASETH	CTO

132	1050169	07-10-2017	M/s. RELIABLE INFOCOM	1999-Miscellaneous (Green)	At- Keshu Nagar, P.O.+P.S.- Kanti, Dist.- Muzafferpur	MUZAFFARPUR	KANTI	843109	GREEN	both	approved	RAJ VERMA	CTE
133	1001645	11-10-2017	M/S KICHEN KING	3999-Miscellaneous (Green)	AT- TRILOK NAGAR, P.O.- AGAM KUAN, P.S - AGAM KUAN, DISTT- PATNA	PATNA	PATNA SADAR	800007	GREEN	air	approved	VIKAS KUMAR BOHRA	CTO
134	1066593	15-10-2017	M/S YRBM AND SONS	1999-Miscellaneous (Green)	VILL - RAMBAGH,PO-PURNEA,PS-PURNEA SADAR,DIST-PURNEA	PURNEA	PURNIA	854301	GREEN	both	approved	Abhishek Kumar Singh	CTE
135	1096654	14-11-2017	PUNJ LLOYD LTD	1999-Miscellaneous (Red)	At- Shahpur, Lakho, Dist - Begusarai, Bihar	BEGUSARAI	BEGUSARAI	851129	RED	both	approved	VIRENDER SINGH CHAUHAN	CTO
136	1156125	22-11-2017	ZAIKA RESTAURANT	3999-Miscellaneous (Green)	MALHI PAKARI, 90 FIT ROAD, KAILASHPURI KANKARBAGH, DISTT	PATNA	PATNA SADAR	800020	GREEN	both	approved	SUDHIR KUMAR	CTE
137	1169634	06-12-2017	PIZZAHUT a unit of DEVYANI INTERNATIONAL LIMITED	3999-Miscellaneous (Green)	PIZZAHUT a unit of DEVYANI INTERNATIONAL LIMITED, YAMUNA	MUZAFFARPUR	MUSHAHARI	842002	GREEN	both	approved	DEVYANI INTERNATIONAL LTD	CTO
138	1183359	07-12-2017	M/S ORANGEBELLY FOOD AND BEVERAGES PVT LTD	3999-Miscellaneous (Green)	AT-7TH FLOOR PALZAE ,BANDAR BAGICHA,PO-G P O PS-KOTWALI DIST-	PATNA	PATNA SADAR	800001	GREEN	both	approved	VAIBHAV RAJ	CTE
139	1230055	20-12-2017	S S ROY HOTEL MARRIAGE HALL AND RESIDENTIAL	other	VILL-AGARWA NEAR C L JHA CLINIC P.O.+P S-MOTIHARI EAST CHAMPARAN 845401	EAST CHAMPARAN	MOTIHARI	845401	ORANGE	both	approved	SHANKER RAY	CTE
140	1304700	24-01-2018	SEA VIHAR FUN FAIR PRIVATE LIMITED	3999-Miscellaneous (Green)	203, EIGHTEEN ARCADE, RAJENDRA PATH, KADAMKUAN, PATNA	PATNA	FATUHA	803201	GREEN	both	approved	AVINASH KUMAR	CTE
141	1353731	16-02-2018	M/S ANKUR RESTAURANT	3999-Miscellaneous (Green)	ANKUR RESTAURANT, 1st FLOOR, SHAKTI COMPLEX, BEHIND	PATNA	PATNA SADAR	800001	GREEN	both	approved	SARITA NARAYAN	CTO
142	1362810	21-02-2018	LOUNGE BEFORE WICKET	3999-Miscellaneous (Green)	OM NANDA RAJENDRA PATH, GANDHI MAIDAN PATNA	PATNA	PATNA SADAR	800001	GREEN	both	approved	AAKASHDEEP	CTE
143	1356679	15-03-2018	PUNJ LLOYD LTD	3999-Miscellaneous (Green)	AT + POST SHAHPUR, PS LAKHO, DIST - BEGUSARAI	BEGUSARAI	BARAUNI	851129	GREEN	both	approved	VIRENDRA SINGH CHAUHAN	CTE
144	1357252	15-03-2018	PUNJ LLOYD LTD	3999-Miscellaneous (Green)	VILL - SIMARIA, POST - BTPS, DIST - BEGUSARAI	BEGUSARAI	BARAUNI	851116	GREEN	both	approved	virender singh chauhan	CTE
145	1428623	02-04-2018	KFC a unit of DEVYANI INTERNATIONAL LTD	3999-Miscellaneous (Green)	KFC a unit of DEVYANI INTERNATIONAL LTD, N.G. COMPLEX,	PATNA	PATNA SADAR	800014	GREEN	both	approved	KFC a unit of DEVYANI INTERNATIONAL LTD	CTO
146	1428761	02-04-2018	PIZZA HUT a unit of DEVYANI INTERNATIONAL LTD	3999-Miscellaneous (Green)	PIZZA HUT a unit of M/s DEVYANI INTERNATIONAL LTD, at Ashiyana Digha	PATNA	PATNA SADAR	800025	GREEN	both	approved	M/S DEVYANI INTERNATIONAL LTD	CTO
147	1450108	04-05-2018	PUNJ LLOYD LTD	3999-Miscellaneous (Green)	AT + POST SHAHPUR, PS - LAKHO, DIST BEGUSARAI	BEGUSARAI	BEGUSARAI	851129	GREEN	both	approved	VIRENDRA SINGH CHAUHAN	CTO
148	1469406	04-05-2018	PUNJ LLOYD LTD	3999-Miscellaneous (Green)	VILL - SIMARIA, POST - BTPS, DIST BEGUSARAI	BEGUSARAI	BEGUSARAI	851116	GREEN	both	approved	VIRENDRA SINGH CHAUHAN	CTO
149	1493778	23-05-2018	M/S HOTEL ADITYA INN	3999-Miscellaneous (Green)	SOUTH OF RAMANA MAIDAN, P.O- STATION ROAD, ARRAH, DIST	BHOJPUR	ARA SADAR	82301	GREEN	both	approved	KUMAR ARVIND	CTO
150	1518359	15-05-2018	KFC a unit of DEVYANI INTERNATIONAL LTD.	3999-Miscellaneous (Green)	KFC a unit of DEVYANI INTERNATIONAL LTD, RADHEY SHREE	PATNA	PATNA SADAR	801503	GREEN	both	approved	KFC a unit of DEVYANI INTERNATIONAL LTD.(BIPIN	CTO
151	1558013	09-07-2018	HOTEL MAYUR PVT. LTD (SUJATA FAMILY RESTURANT)	3999-Miscellaneous (Green)	VILL-FRASER ROAD, P.O.G.P.O. P.S-KOTWALI, DISTRICT-PATNA	PATNA	PATNA SADAR	800001	GREEN	both	approved	BHAJU RAM SHARMA	CTO
152	1638340	13-08-2018	FORESTO PARADISE THE JUNGLE MULITICUISINE RESTAURANT	2999-Miscellaneous (Orange)	8TH FLOOR PATNA ONE MALL ,OAK BUNGLOW CHAURAHA,PATNA-	- PATNA	PATNA SADAR	800001	ORANGE	both	approved	Anurag	CTE
153	1702755	31-08-2018	THE ROYAL RESIDENCY (A UNIT OF INPAC HOTELS AND RESORTS PVT LTD.)	3999-Miscellaneous (Green)	AT-BODH GAYA, GAYA	GAYA	AMAS	824231	GREEN	both	approved	BIRENDRA SINGH	CTO

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154	1731987	11-09-2018	HOTEL SHREE VINAYAK	3999-Miscellaneous (Green)	HOTEL LANE, FRASER ROAD, PATNA	PATNA	PATNA SADAR	0	GREEN	both	approved	VINAY KUMAR	CTO
155	1734743	25-09-2018	HOTEL SATKAR PVT. LTD	3999-Miscellaneous (Green)	HOTEL SATKAR FRASER ROAD PATNA 800001	PATNA	PATNA SADAR	800001	GREEN	both	approved	SANJAY PRASAD SINGH	CTE
156	1759472	20-09-2018	HOTEL CORPORATE INN	3999-Miscellaneous (Green)	OPPOSITE PARAS HOSPITAL RAJA BAZAR, PATNA	PATNA	PATNA SADAR	800014	GREEN	both	approved	MD ZIAULLAH KHAN	CTE
157	1976322	26-11-2018	HOTEL SURYA VIHAR AURANGABAD, HOTEL GARGEE GRAND, A UNIT OF GANDIV	3999-Miscellaneous (Green)	SURYA VIHAR AURANGABAD	AURANGABAD	AURANGABAD	843001	GREEN	both	approved	ARVIND KUMAR	CTE
158	1930332	30-11-2018	M/S SAVITRI HORTICULTURE PVT LTD	Other	DONAR INDUSTRIAL AREA, DARBHANGA	DARBHANGA	DARBHANGA	846009	GREEN	both	approved	SRI RAJESH KUMAR AGRAWAL	CTO
159	2046582	07-12-2018	HOTEL ANAND SAGAR	3999-Miscellaneous (Green)	RADHEY GOBIND COMPLEX, NEAR OVERBRIDGE, KANKARBAGH MAIN	PATNA	PATNA SADAR	800020	GREEN	both	approved	BIDYA SAGAR MISHRA	CTE
160	1955525	11-12-2018	BARBEQUE NATION HOSPITALITY LTD	3999-Miscellaneous (Green)	8TH FLOOR, PATNA ONE MALL, OAK BANGLOW CHOWK	PATNA	PATNA SADAR	800001	GREEN	both	approved	Suman Mukherjee	CTE
161	2062981	18-12-2018	Suman Guest House	3999-Miscellaneous (Green)	Main Road Wazirganj	GAYA	WAZIRGANJ	805131	GREEN	both	approved	Suman Kumar	CTO
162	1456495	28-12-2018	UNIQUE FOODS (A UNIT OF R K AGRI BIZ LLP)	2999-Miscellaneous (Orange)	REWA ROAD, AT+P.O-PATAHI, P.S-MUSHAHARI	MUZAFFARPUR	MUSHAHARI	843113	ORANGE	both	approved	Sri Alok Kumar Kedia	CTO
163	2117688	28-12-2018	HOTEL HARISONS UNDER HARISON CONTINENTAL PVT. LTD	3999-Miscellaneous (Green)	AT-DANK BANGLA CHOWK, PATNA	PATNA	PATNA SADAR	800001	GREEN	both	approved	RUPAM PRAKASH	CTO
164	2348564	29-01-2019	M/S AANGAN	2999-Miscellaneous (Orange)	AT- NEAR UNIVERSAL ENGINEERING WORKS, BIBIGANJ, MUZAFFARPUR,	MUZAFFARPUR	MUSHAHARI	842001	ORANGE	both	approved	MR. ABHINAY KUMAR	CTE
165	2410544	15-02-2019	SWADIST BIRYANI N THALI HOUSE	2999-Miscellaneous (Orange)	At-Sai Vatika bank of Baroda Bhagwanpur Muzaffarpur	MUZAFFARPUR	MUSHAHARI	842001	ORANGE	both	approved	MANOJ KUMAR SINGH	CTE
166	2362378	02-02-2019	KRISHNASHREE FOODS (FRANCHISE OF HALDIRAM BHUJIAWALA)	3999-Miscellaneous (Green)	RAJESHWAR COMMERCIAL COMPLEX, KANKARBAGH MAIN	PATNA	PATNA SADAR	800020	GREEN	both	approved	SANJAY KUMAR SINGH	CTO
167	2452771	27-02-2019	HEAVENS GARDEN	3999-Miscellaneous (Green)	LDB BULDING, NEAR LAHASA MARKET BUDDHA MARG PATNA	PATNA	PATNA SADAR	800001	GREEN	both	approved	PREM KUMAR	CTE
168	2604058	20-04-2019	M/S CAKE HOME	3999-Miscellaneous (Green)	MAUZA-HATHSARGANJ, AT-HATHSARGANJ, P.O-HAJIPUR, P.S-	VAISHALI	HAJIPUR	844103	GREEN	both	approved	SRI ANIL KUMAR SHRIVASTAVA	CTE
169	2702818	29-05-2019	HOTEL SATKAR PVT. LTD	3999-Miscellaneous (Green)	HOTEL SATKAR FRASER ROAD PATNA 800001	PATNA	PATNA SADAR	800001	GREEN	both	approved	SANJAY PRASAD SINGH	CTO
170	2687325	23-05-2019	KISHAN PALACE	3999-Miscellaneous (Green)	BAILY ROAD, VILL-JALALPUR, PS-RUPASPUR, DIST-PATNA	PATNA	DANAPUR	801503	GREEN	both	pending	MD BELAL	CTE
171	2724804	04-06-2019	RS STAR FAMILY RESTAURANT AND BANQUETS	3999-Miscellaneous (Green)	AT-SR BAZAR, 4 FLOOR, NEAR PETROL PUMP, KHOJAIMLI	PATNA	PHULWARI SHARIF	801505	GREEN	both	pending	DHIRAJ KUMAR	CTE
172	2757477	18-06-2019	Cook Book (A Unit of Files Hospitality)	3999-Miscellaneous (Green)	UNO Business Centre, UNO Centre,UNO Digital Pvt Ltd, 168,	PATNA	PATNA SADAR	800013	GREEN	both	approved	Ritesh Kumar Chaudhary	CTE
173	2740759	03-07-2019	M/S HOTEL ANAND SAGAR a unit of BIDYA SAGAR MISHRA (HUF)	3999-Miscellaneous (Green)	RADHEY GOBIND COMPLEX, NEAR OVERBRIDGE, KANKARBAGH MAIN	PATNA	PATNA SADAR	800020	GREEN	both	pending	BIDYA SAGAR MISHRA	CTO
174	2870422	31-07-2019	M/S HOTEL REPUBLIC	3999-Miscellaneous (Green)	EXHIBITION ROAD ,PATNA 800001	PATNA	PATNA SADAR	800001	GREEN	both	approved	RAJEEV KUMAR	CTE
175	2872447	09-08-2019	M/S DHABA AND KABAB WALA	3999-Miscellaneous (Green)	AT-NORTH LANE ,GAI GHAT,PATNA	PATNA	PATNA SADAR	0	GREEN	both	pending	SHAMBHU GHOSH	CTE

176	2980187	05-09-2019	KFC a unit of DEVYANI INTERNATIONAL LTD	3999-Miscellaneous (Green)	KFC a unit of DEVYANI INTERNATIONAL LTD D.S. BUSINESS PARK,	PATNA	PATNA SADAR	801503	GREEN	both	approved	KFC a unit of DEVYANI INTERNATIONAL LTD.(BIPIN	CTE
177	2990993	10-09-2019	GRAND ORCHID	3999-Miscellaneous (Green)	KELA BAGAN PHULWARI SHARIF	PATNA	PHULWARI SHARIF	801505	GREEN	both	approved	RANBIR KUMAR SINHA	CTE
178	3145979	15-11-2019	M/s Mahadeo Vivah Utsav	2999-Miscellaneous (Orange)	At-Miyachak Marbari Mohalla, Dist. Begusarai	BEGUSARAI	BEGUSARAI	851101	ORANGE	both	approved	Sri Mahadeo Prasad	CTE
179	3135385	12-11-2019	M/S AMIT HOTEL	3999-Miscellaneous (Green)	NEW BYPASS ROAD ANISABAD PATNA	PATNA	PATNA SADAR	800002	GREEN	both	approved	PRAMOD KUMAR	CTE
180	3128159	11-11-2019	M/S CAFE THE DHABA	3999-Miscellaneous (Green)	SADHNA SADAN PANI TANKI MORE PATLIPUTRA BORING ROAD PATNA	PATNA	PATNA SADAR	800013	GREEN	both	approved	KUMAR ANSHU, MANORAMA DEVI	CTE
181	3094975	08-11-2019	REPUBLIC HOTEL	other	Durga Sah Complex , Bakar Ganj , Patna-13	PATNA	PATNA SADAR	800013	OTHER	both	pending	Rajeev Kumar	CTO
182	3193171	30-11-2019	Hotel Natraj	3999-Miscellaneous (Green)	Pratap Market, Kachahari Road, Begusarai	BEGUSARAI	BEGUSARAI	851101	GREEN	both	approved	Amarnath Narayan Singh	CTE
183	3163989	20-11-2019	Swayamvar Vatika	3999-Miscellaneous (Green)	Khajpura, Ashokpuri Chouraha, B.V. College, Patna	PATNA	PATNA SADAR	800014	GREEN	both	approved	Gautam Kumar Singh	CTE
184	3232990	14-12-2019	Hotel Royal Heritage	3999-Miscellaneous (Green)	Harihar Mahadeo Chowk, Begusarai	BEGUSARAI	BEGUSARAI	851101	GREEN	both	approved	Ashok Kumar Singh	CTE
185	3017608	09-12-2019	THE GREEN TREE RESTAURANT A UNIT OF FUTURECALIBER SERVICES PRIVATE	3999-Miscellaneous (Green)	JAGDEO PATH,BAILEY ROAD,NEAR BATA SHOW ROOM	NALANDA	SARMERA	800014	GREEN	both	pending	MR SASHIKANT KUMAR	CTE
186	3168857	06-12-2019	FOOD PLANET A FAMILY RESTAURANT	3999-Miscellaneous (Green)	OPPOSITE SHIVAJI PARK D7 FIRST FLOOR P C COLONY KANKARBAGH	PATNA	PATNA SADAR	800020	GREEN	both	approved	ABHA DEVI	CTE
187	3277971	21-12-2019	Hotel Mukesh Residency	3999-Miscellaneous (Green)	Ward No. 9, Tilkamanjhi NEAR SAHAYAK THANA DIST. BHAGALPUR –	BHAGALPUR	PIRPAINTY	812001	GREEN	both	approved	Dilip Kumar Yadav	CTE
188	3278068	21-12-2019	Hotel Nirmala	3999-Miscellaneous (Green)	Sultaganj, TILAK BABU HAAT LOHA PATTY P.S. KOTWALI DIST. BHAGALPUR	BHAGALPUR	JAGDISHPUR	812002	GREEN	both	approved	Bimal Kumar Mandal	CTE
189	3297018	25-12-2019	M/S BALLOONS RESTAURANT AND LOUNGE	3999-Miscellaneous (Green)	AT-NEW PUNAI CHAK,BORING CANAL ROAD,INDIRA AND PANT BHAWAN,PO-	PATNA	PATNA SADAR	800023	GREEN	both	pending	RAKESH KUMAR SINGH	CTE
190	3302354	09-01-2020	DEVI BRIQUETTE	2999-Miscellaneous (Orange)	VILL-SOWAN, P.O SOWAN, P.S- KRISHNAGRAHI, DISTT-BUXAR	BUXAR	BUXAR	802111	ORANGE	both	approved	BINOD KUMAR SINGH	CTO
191	3205471	10-01-2020	GRAND ORCHID	3999-Miscellaneous (Green)	KELA BAGAN PHULWARI SHARIF	PATNA	PHULWARI SHARIF	801505	GREEN	both	approved	RANBIR KUMAR SINHA	CTO
192	3456727	30-01-2020	M/S AMIT ENTERPRISES	3999-Miscellaneous (Green)	AT-JAKRIYARPUR BY PASS ,ZERO MILE,PO- BAIRIYA,PS- GOPALPUR,DIST	PATNA	DANAPUR	800007	GREEN	both	pending	AMIT KUMAR	CTE
193	3423188	24-01-2020	RED VELVET HOTELS AND HOSPITALITY LLP	3999-Miscellaneous (Green)	NEAR RANJAN PATH MORE GOLA ROAD DIGHA PATNA	PATNA	PATNA SADAR	801503	GREEN	both	approved	ROHIT KUMAR	CTE
194	3398605	25-01-2020	BARBEQUE NATION HOSPITALITY LTD	3999-Miscellaneous (Green)	8TH FLOOR, PATNA ONE MALL, DAK BANGLOW CHOWK	PATNA	PATNA SADAR	800001	GREEN	both	pending	Suman Mukherjee	CTO
195	3478908	04-02-2020	M/S NEW BIRYANI DARBAR	3999-Miscellaneous (Green)	AT-1 st FLOOR VERMA COMPLEX CLUB ROAD MITHANPURA P.O-	MUZAFFARPUR	MUSHAHARI	842002	GREEN	both	pending	RAMBHA KUMARI	CTE
196	3487223	09-02-2020	M/S AMIT HOTEL	3999-Miscellaneous (Green)	NEW BYPASS ROAD ANISABAD PATNA	PATNA	PATNA SADAR	800002	GREEN	both	pending	PRAMOD KUMAR	CTO
197	3501260	26-02-2020	KFC a unit of DEVYANI INTERNATIONAL LTD.	3999-Miscellaneous (Green)	KFC a unit of DEVYANI INTERNATIONAL LTD. D.S. BUSINESS PARK,	PATNA	PATNA SADAR	801503	GREEN	both	approved	KFC a unit of DEVYANI INTERNATIONAL LTD.(BIPIN	CTO

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198	3595336	07-03-2020	M/S MEERA RESORT	3999-Miscellaneous (Green)	AT-PANCHSIL NAGAR,PO-DANPUR CANTTONMENT,PS-DANAPUR	PATNA	DANAPUR	805103	GREEN	both	approved	SATENDRA PRASAD SINGH	CTE
199	3615751	17-03-2020	M/S HOTEL PARK VIEW CLARK INN	3999-Miscellaneous (Green)	AT-NEAR SAHEED BHAWAN EAST RAMANA ROAD,PO-NAWADA,PS-TOWN	BHOJPUR	ARA SADAR	802301	GREEN	both	approved	JANARDAN SINGH	CTE
200	3593805	16-03-2020	M/S BLOOM KITCHEN	3999-Miscellaneous (Green)	END OF SANJAY GANDHI NAGR ROAD HANUMAN NAGAR KANKARBAGH	PATNA	PATNA SADAR	800020	GREEN	both	pending	MANOJ KUMAR SINGH	CTE
201	3636364	18-06-2020	M/S D LAWN CAFE (A UNIT OF ELLIPSOID SPORTS AND FITNESS AND PVT LTD.)	3999-Miscellaneous (Green)	LANE NO 10 ARYA SAMAJ MANDIR ROAD NO 10 S K PURAM PATNA	PATNA	DANAPUR		GREEN	both	pending	RAVI PARASHAR	CTE
202	3814743	06-07-2020	M/S NAVRATAN AGARBATTI	3999-Miscellaneous (Green)	AT-NAVRATANPUR(SANJAY NAGAR),PO-GPO,PS-	PATNA	PATNA SADAR	800020	GREEN	both	pending	BHOLA KUMAR	CTE
203	3851548	17-08-2020	THINK GAS BEGUSARAI PRIVATE LIMITED	3999-Miscellaneous (Green)	Barauni, Begusarai	BEGUSARAI	BARAUNI	851112	GREEN	both	pending	Vijay kant Tiwari	CTE
204	3880341	28-08-2020	M/s MADHULATA DEVI	2999-Miscellaneous (Orange)	Vill- Sarochiya	PURNEA	KASBA		ORANGE	both	pending	MADHULATA DEVI	CTE
205	3994509	30-09-2020	HOTEL SURYA VIHAR AURANGABAD, HOTEL GARGEE GRAND, A UNIT OF GANDIV	3999-Miscellaneous (Green)	SURYA VIHAR AURANGABAD	AURANGABAD	AURANGABAD	843001	GREEN	both	pending	ARVIND KUMAR	CTO
206	4013175	10-05-2020	M/S HOTEL PARK VIEW CLARK INN	3999-Miscellaneous (Green)	AT-NEAR SAHEED BHAWAN EAST RAMANA ROAD,PO-NAWADA,PS-TOWN	BHOJPUR	ARA SADAR	802301	GREEN	both	approved	JANARDAN SINGH	CTO
207	4026684	24-10-2020	M/S CURRY N KEBAB (A UNIT OF INSTYLE VENTURE)	3999-Miscellaneous (Green)	1838 S K PURI SARDEO MAHTO MARG OPP-CHILDREN PARK	PATNA	PATNA SADAR	800001	GREEN	both	pending	PRAMOD KUMAR	CTE
208	4177350	28-11-2020	M/S ZEBA PRAWEEN	2999-Miscellaneous (Orange)	Vill- Baisa	PURNEA	BAISA		ORANGE	both	pending	ZEBA PRAWEEN	CTE
209	4074388	12-05-2020	HungryBihari	3999-Miscellaneous (Green)	B-38, Biscomaun Colony	PATNA	PATNA SADAR	800007	GREEN	both	pending	Babita Kumari	CTE

17/12/20

Member Secretary
Bihar State Pollution Control Board,
Patna

Annexure-5

BIHAR STATE POLLUTION CONTROL BOARD

Privesh Bhawan, NSB-2, Patliputra Industrial Area
Patliputra, Patna – 800 010

Water Quality Status of River Ganga and its Tributaries during the Year (2019-2020)
Excluding Rainy Season (August to October)

Sl. No.	Sampling Point		pH	D.O. mg/L	B.O.D. mg/L	T.C. MPN/100ml	F.C. MPN/100ml	Designated best use
1	Ganga at Chausa karmnasa D/S Confluence , Buxar	Minimum	7.91	7.0	1.4	6300	450	Class-D
		Maximum	9.03	10.2	208	54000	28000	
		Average	8.47	8.98	1.7	25325	12706	
3	Ganga at Ramrekha ghat, Buxar. Dist.- Buxar	Minimum	7.70	6.0	1.4	9400	1100	Class-D
		Maximum	8.77	9.3	2.6	92000	35000	
		Average	8.20	8.1	1.98	32425	13912	
3	Ganga River at Jail Ghat, Buxar	Minimum	7.82	6.0	1.4	9300	2100	Class-D
		Maximum	8.42	9.5	2.7	43000	28000	
		Average	8.16	7.65	1.9	26712	9787	
4	Ganga at D/S Buxar near Road Bridge. Dist. - Buxar	Minimum	7.89	6.3	1.6	11000	1400	Class-D
		Maximum	8.81	9.2	2.7	160000	35000	
		Average	8.27	7.9	2.1	42875	10725	
5	Ganga at Danapur near Pipapul. Dist. - Patna	Minimum	8.18	7.7	1.6	3100	780	Class-D
		Maximum	8.50	8.7	2.4	11000	3600	
		Average	8.31	8.3	1.96	5980	2156	
6	Ganga at U/S Patna, Kurji.Dist. - Patna	Minimum	8.0	7.5	1.4	5500	2100	Class-D
		Maximum	8.54	10.0	2.0	54000		
		Average	8.23	8.6	1.76	21625	5475	
7	Ganga at Gandhighat, NIT, Patna	Minimum	7.90	6.5	1.7	11000	1400	Class-D
		Maximum	8.30	9.7	2.9	54000	28000	
		Average	8.08	7.82	2.07	25625	11837	
8	Ganga River at Gulabi Ghat, Patna	Minimum	7.43	6.0	1.5	6800	1400	Class-D
		Maximum	8.41	9.8	2.8	160000	160000	
		Average	8.03	7.51	2.17	45137	30075	
9	Ganga at D/S Patna, Gaighat Dist. Patna.	Minimum	7.9	6.3	1.6	13000	1100	Class-D
		Maximum	8.61	9.5	2.6	160000	28000	
		Average	8.12	7.76	2.05	42500	13412	
10	Ganga at Malsalami, Patna City Dist. - Patna	Minimum	7.8	7.2	1.5	4000	1100	Class-D
		Maximum	8.54	9.8	2.6	22000	11000	
		Average	8.18	8.23	1.87	14075	6075	
11	Ganga Before Confluence of Punpun River at Triveni Ghat Fatuha, Patna Dist. - Patna.	Minimum	7.82	6.8	1.4	3900	1400	Class-D
		Maximum	8.45	9.8	2.7	35000	17000	
		Average	8.19	7.88	2.1	18487	7087	
12	Ganga at Kewala ghat, Fatuha Dist.- Patna	Minimum	7.6	6.2	1.8	3800	1100	Class-D
		Maximum	8.2	8.5	2.9	92000	35000	
		Average	7.88	6.92	2.4	41800	11550	

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13	Ganga at Kachchi Dargah-Bidupur Road Bridge, Dist-Patna	Minimum	7.90	7.2	1.4	5500	1100	Class-D
		Maximum	8.55	9.6	2.1	43000	17000	
		Average	8.28	8.7	1.7	18037	8300	
14	Ganga at Bakhtiyarpur-Tajpur Road Bridge near Athamalgola, Dist-Patna	Minimum	7.5	5.8	1.2	3100	1700	Class-D
		Maximum	8.68	9.7	2.0	35000	7000	
		Average	8.07	8.04	1.57	16442	5528	
15	Ganga at U/S Mokama, Mahadeo Asthan Dist - Patna	Minimum	7.9	6.1	1.1	1700	1100	Class-D
		Maximum	8.80	9.8	2.6	43000	7000	
		Average	8.19	8.12	1.54	14157	2957	
16	Ganga at D/S Mokama near Rajendra Bridge, Simaria Ghat Patna	Minimum	6.82	6.4	1.5	11000	680	Class-D
		Maximum	8.51	9.8	2.6	35000	17000	
		Average	7.92	7.8	1.84	26142	9168	
17	Ganga at Barh Dist.- Patna	Minimum	7.8	6.1	1.2	11000	1300	Class-D
		Maximum	9.9	9.7	1.9	160000	22000	
		Average	8.45	8.05	1.5	41142	8428	
18	Ganga U/S of NTPC Water intake Point, Barh Dist.- Patna	Minimum	7.6	6.0	1.1	3900	1400	Class-D
		Maximum	8.9	9.8	2.1	35000	7000	
		Average	8.21	8.15	1.58	20985	2928	
19	Ganga D/S of NTPC Water intake Point, Barh Dist.- Patna	Minimum	7.8	7.3	1.3	14000	1700	Class-D
		Maximum	8.67	9.6	2.2	35000	11000	
		Average	8.20	8.4	1.65	26333	4916	
20	Ganga at Barahiya, Nepal Tola, Maranchi Dist. - Lakhisarai	Minimum	7.6	6.1	1.1	14000	1100	Class-D
		Maximum	8.79	9.8	2.3	28000	14000	
		Average	8.26	8.55	1.45	18285	6185	
21	Ganga at U/S Munger near Kasth haranighat. Dist - Munger	Minimum	7.85	6.0	1.1	21000	1100	Class-D
		Maximum	8.67	9.8	2.3	35000	17000	
		Average	8.17	7.85	1.61	27285	8728	
22	Ganga at D/S Munger near Crematorium Ghat Dist - Munger	Minimum	7.6	5.8	1.3	22000	1100	Class-D
		Maximum	8.58	9.7	2.5	92000	22000	
		Average	8.17	7.74	1.8	39285	10628	
23	Ganga at U/S Sultanganj, Ajgaibi Nath Dist.- Bhagalpur	Minimum	7.8	6.1	1.3	14000	1700	Class-D
		Maximum	8.7	9.6	2.3	28000	14000	
		Average	8.15	8.18	1.78	23428	9285	
24	Ganga at D/S Sultanganj at Cremation ghat Dist.- Bhagalpur	Minimum	7.9	6.2	1.3	3900	780	Class-D
		Maximum	8.68	9.6	2.6	35000	17000	
		Average	8.13	7.92	1.68	24271	8854	
25	Ganga at D/S Bhagalpur near Bararighat. Dist.- Bhagalpur	Minimum	7.6	6.0	1.5	17000	930	Class-D
		Maximum	8.67	9.8	2.4	35000	17000	
		Average	8.03	7.62	2.07	30571	8104	
26	U/S Ganga at Bhagalpur kuppa ghat Dist.- Bhagalpur	Minimum	7.8	6.1	1.4	22000	780	Class-D
		Maximum	8.37	9.8	2.5	35000	17000	
		Average	8.08	8.34	1.67	29142	10725	

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27	Ganga River at Champa Nagar, Bhagalpur. Dist.- Bhagalpur	Minimum	7.0	6.8	1.4	2700	200	Class-D
		Maximum	8.63	9.5	2.6	160000	22000	
		Average	8.00	7.98	1.8	41950	6416	
28	Ganga at Water intake point, Bhagalpur	Minimum	7.57	6.1	1.3	4700	1200	Class-D
		Maximum	9.15	9.8	2.8	160000	28000	
		Average	8.15	7.94	1.75	59671	14000	
29	Ganga at Kahalgaon near Jahajghat. Dist.- Bhagalpur	Minimum	7.8	6.1	1.1	14000	200	Class-D
		Maximum	8.64	9.8	2.3	28000	17000	
		Average	8.10	8.35	1.7	24285	10042	
30	Ganga D/S at Kahalgaon near Cremation Ghat.	Minimum	7.5	5.9	1.2	28000	1400	Class-D
		Maximum	8.59	9.8	2.6	160000	17000	
		Average	8.03	7.97	1.8	71000	10342	
31	Ganga River near maa Ambika Sthan, Aami, Dist-Saran	Minimum	7.22	8.0	1.4	22000	450	Class-D
		Maximum	8.4	9.5	2.0	35000	17000	
		Average	7.68	8.6	1.7	30500	9208	
32	Ganga River at water intake point Mauzampur Block, Barhara, Dist-Bhojpur	Minimum	8.11	6.1	1.4	4000	450	Class-D
		Maximum	8.57	9.8	2.1	160000	35000	
		Average	8.35	8.7	1.7	56757	14164	
33	Ganga at Ara - Chhapra Near Road Bridge , Koelwar-Babura Road, Bhojpur	Minimum	7.4	5.7	1.4	3300	1100	Class-D
		Maximum	8.47	9.8	2.3	92000	28000	
		Average	8.02	8.12	1.8	20642	5657	
34	Ganga at the Confluece of Sone River at Doriganj, Chapra Dist. - Saran	Minimum	7.21	7.4	1.4	2600	1400	Class-D
		Maximum	8.5	9.8	2.5	35000	17000	
		Average	7.82	8.40	1.75	18983	6366	
35	Gangi River at D/S, Arah	Minimum	7.31	0.0	2.7	21000	7000	Class-D
		Maximum	7.74	5.7	8.0	2800000	1700000	
		Average	7.57	2.6	4.92	434428	256300	
36	Ghaghara at Chapra near Ribilganj.near Manjhi Dist.- Saran	Minimum	7.3	7.3	1.1	1100	200	Class-D
		Maximum	8.5	10.0	1.6	28000	17000	
		Average	7.8	8.6	1.48	17183	7950	
37	Sone at Koelwar near Mandir. Dist.- Bhojpur	Minimum	7.88	7.0	1.4	11000	930	Class-D
		Maximum	8.71	8.7	2.4	28000	17000	
		Average	8.23	7.98	1.77	20142	6247	
38	Sone River at Bahiyara.Dist.- Bhojpur	Minimum	7.61	7.0	1.1	5500	1100	Class-D
		Maximum	8.61	8.7	2.6	28000	17000	
		Average	8.13	8.15	1.94	16400	4928	
39	Sone at Nasiriganj Dam. Dist.- Rohtas	Minimum	7.42	7.1	1.4	2600	400	Class-D
		Maximum	8.19	8.7	2.4	28000	2200	
		Average	7.90	8.06	1.71	12583	1196	
40	Sone at Indrapuri Dam, Dehri-on-Sone. Dist.- Rohtas	Minimum	7.54	7.5	1.4	2700	680	Class-D
		Maximum	8.35	9.0	1.9	28000	2600	
		Average	7.95	8.44	1.68	9900	1452	

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41	Sone River at Banzari near Sun Temple. Dist.- Rohtas	Minimum	7.62	7.8	1.4	1100	610	Class-D
		Maximum	8.39	9.2	1.6	28000	17000	
		Average	7.97	8.48	1.46	14300	6542	
42	Sone River at Dehri-on-Sone Bridge, Dist- Rohtas.	Minimum	7.50	7.3	1.7	11000	1400	Class-D
		Maximum	8.20	8.6	2.3	92000	11000	
		Average	7.85	8.0	1.94	35400	8860	
43	Sone River at Arwal	Minimum	7.27	7.6	1.4	3300	780	Class-D
		Maximum	8.0	9.0	2.3	28000	3900	
		Average	7.64	8.2	1.76	15660	1836	
44	Sone River Near Water Intake Point, BRBCL, Navinagar, Aurangabad	Minimum	7.74	7.7	1.4	200	200	Class-D
		Maximum	8.29	8.8	1.8	43000	28000	
		Average	7.93	8.28	1.6	21620	8360	
45	Gandak River at Sonepur near Harihar nath Temple. Dist.- Saran	Minimum	7.41	7.0	1.4	7900	1700	Class-D
		Maximum	8.05	9.7	2.4	160000	35000	
		Average	7.75	8.45	1.7	44983	12816	
46	Konhara Ghat at Hajipur,D/S Gandak River. Dist. – Vaishali.	Minimum	7.20	7.4	1.4	17000	3300	Class-D
		Maximum	8.38	9.5	2.1	160000	35000	
		Average	7.81	8.5	1.7	47000	9650	
47	Road Bridge on Gandak River at Hajipur U/S Gandak River. Dist. –Vaishali.	Minimum	7.42	7.6	1.4	11000	200	Class-D
		Maximum	8.50	9.9	1.8	33000	7400	
		Average	7.77	8.9	1.6	18166	3016	
48	Gandak River at Rewaghat, near Road Bridge, Dist - Muzaffarpur	Minimum	7.28	7.8	1.4	7000	1300	Class-D
		Maximum	8.30	8.9	1.8	28000	8400	
		Average	7.79	8.45	1.6	14666	3266	
49	Gandak at Dumaria ghat, Gopalganj-Pipra Kothi Road Bridge. Dist.- Gopalganj	Minimum	7.35	7.9	1.1	12000	2600	Class-D
		Maximum	8.70	9.0	1.9	43000	9400	
		Average	7.82	8.36	1.5	25500	4216	
50	Budhi Gandak at Lalbagia, Motihari-Dhaka Road, Dist- East Champaran.	Minimum	7.26	4.2	1.5	5500	1700	Class-D
		Maximum	8.35	8.4	2.8	54000	35000	
		Average	7.80	6.21	2.2	22542	10885	
51	Budhi Gandak at Barachakia, East Champaran	Minimum	7.40	3.5	1.6	1400	1300	Class-D
		Maximum	7.92	8.2	2.9	17000	7000	
		Average	7.68	6.98	2.0	6014	3057	
52	Burhi Gandak at Akharaghat near Road Bridge, Dist. - Muzaffarpur.	Minimum	6.8	6.0	1.6	5500	3100	Class-D
		Maximum	8.25	9.5	2.6	160000	35000	
		Average	7.84	7.52	2.17	50642	13957	
53	U/S Burhi Gandak at NH-Road Bridge near Zero mile , Dist.- Muzaffarpur.	Minimum	6.78	6.9	1.4	5500	400	Class-D
		Maximum	8.29	9.9	2.6	160000	28000	
		Average	7.88	8.13	1.95	43100	9437	
54	Burhi Gandak at Samastipur NH Road Bridge near Magardahi ghat Dist.- Samastipur	Minimum	7.15	7.5	1.6	3300	680	Class-D
		Maximum	8.70	8.5	2.5	92000	28000	
		Average	8.09	7.98	2.0	35650	10196	

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55	Budhi Gandak at Khagaria Road Bridge, Dist- Khagaria.	Minimum	7.02	6.1	1.7	3300	400	Class-D
		Maximum	8.36	8.7	2.8	92000	14000	
		Average	7.98	7.27	2.1	25512	6887	
56	Punpun River at Patna-Fatuha Road Bridge, Fatuha Dist - Patna	Minimum	7.26	1.5	2.8	11000	2200	Class-D
		Maximum	7.92	9.2	10.0	160000	160000	
		Average	7.58	4.35	4.17	89125	67837	
57	Punpun River at Punpun near Rail Bridge Dist.- Patna	Minimum	6.27	6.6	1.6	9400	1700	Class-D
		Maximum	8.43	8.2	2.8	92000	22000	
		Average	7.70	7.54	2.04	37080	6360	
58	Punpun River at Kinzer near Road Bridge Dist.- Jehanabad	Minimum	6.98	7.7	1.6	1100	360	Class-D
		Maximum	8.53	8.6	2.6	92000	54000	
		Average	7.91	8.18	1.86	24940	11492	
59	Punpun River at Obra Aurngabad	Minimum	7.65	7.2	1.4	28000	1100	Class-D
		Maximum	8.4	9.6	2.8	160000	35000	
		Average	7.93	8.36	1.7	84833	14500	
60	Koshi River at Kurshela Bridge, Katihar Dist.- Katihar	Minimum	7.07	6.4	1.6	3300	2200	Class-D
		Maximum	8.3	9.3	2.6	28000	17000	
		Average	7.9	7.7	1.9	10500	5350	
61	Koshi River at Gumatipur, Madhepura Dist.- Madhepura	Minimum	7.62	5.9	1.8	1400	180	Class-D
		Maximum	8.22	8.1	2.8	28000	17000	
		Average	7.74	6.95	2.3	10300	4701	
62	Koshi River at Beerpur Dist.- Supaul	Minimum	7.41	7.6	1.4	1300	780	Class-D
		Maximum	8.45	9.6	1.8	17000	11000	
		Average	7.90	8.15	1.6	5387	2950	
63	Kamala River at Gausa ghat, Dist.- Darbhanga.	Minimum	7.53	0.4	2.1	13000	1500	Class-D
		Maximum	7.94	6.8	4.0	160000	35000	
		Average	7.69	4.8	2.5	54166	15400	
64	Kamla River at Jeewach ghat Dist.- Darbhanga.	Minimum	7.1	4.2	2.0	14000	2600	Class-D
		Maximum	7.91	7.2	2.7	92000	11000	
		Average	7.58	5.96	2.25	32833	9633	
65	Kamala River at Benipatti, Madhubani Dist - Madhubani	Minimum	7.4	5.5	1.4	5500	1700	Class-D
		Maximum	8.10	9.5	2.8	92000	54000	
		Average	7.75	7.4	1.8	45916	22900	
66	Kamala River at Kamala ghat, Jaynagar Dist.- Madhubani	Minimum	7.25	6.6	1.4	24000	2000	Class-D
		Maximum	8.62	9.7	2.4	160000	160000	
		Average	8.00	8.02	1.8	92800	45520	
67	Bagmati River at Muzaffarpur, Sitamarhi Road Bridge near Janar Bedor Dist.- Sitamarhi	Minimum	7.50	7.6	1.4	3300	2200	Class-D
		Maximum	8.50	9.5	1.8	28000	11000	
		Average	7.92	8.65	1.6	13766	5466	
68	Bagmati River at Darbhanga-Samastipur Road Bridge, near Hanuman Nagar. Dist.- Darbhanga	Minimum	7.22	7.0	1.5	6300	2400	Class-D
		Maximum	8.83	9.5	2.6	28000	11000	
		Average	8.09	8.5	2.1	16216	5366	

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69	Bagmati River (2nd Stream) U/S Darbhanga Dist.- Darbhanga	Minimum	7.40	5.0	2.0	4000	980	Class-D
		Maximum	8.06	7.4	2.7	92000	22000	
		Average	7.76	6.51	2.2	32428	9182	
70	Bagmati River (2nd Stream) D/S Darbhanga Dist.- Darbhanga	Minimum	7.55	2.9	1.8	28000	4000	Class-D
		Maximum	8.07	7.2	4.2	92000	35000	
		Average	7.81	5.8	2.6	42142	16242	
71	Sikrahana River at Chanpatia Road Bridge, West Champaran	Minimum	7.16	0.0	1.6	3900	1300	Class-D
		Maximum	7.60	7.5	7.0	160000	35000	
		Average	7.41	3.84	3.61	32500	10028	
72	Sikrahana River at Lalparsa near Sugauli-Raxaul Road Bridge, East Champaran	Minimum	7.42	0.0.	1.4	6800	1100	Class-D
		Maximum	8.15	8.5	4.0	28000	13000	
		Average	7.72	5.51	2.5	15400	7057	
73	Sikrahna River at Lauriya- Hari nagar Road Bridge Dist.- west Champaran	Minimum	7.54	6.2	1.7	9400	1100	Class-D
		Maximum	8.10	8.5	2.5	28000	14000	
		Average	7.82	7.6	2.05	19066	7966	
74	Sikrahna River at Lauriya - Narkatiaganj Road Bridge West Champaran.	Minimum	6.98	0.0	2.0	11000	780	Class-D
		Maximum	7.60	8.0	10.0	160000	160000	
		Average	7.43	2.67	5.3	67857	36397	
75	Daha River at Rajendra Road Bridge, Siwan Dist.- Siwan	Minimum	7.2	0.0	2.1	14000	680	Class-D
		Maximum	8.1	9.0	6.0	160000	22000	
		Average	7.54	5.21	3.2	53333	16941	
76	Daha River D/S Rajendra Road Bridge, Siwan	Minimum	7.22	0.0	2.3	2700	930	Class-D
		Maximum	8.15	9.5	10.0	160000	43000	
		Average	7.54	5.15	3.96	45950	16138	
77	Daha River at Itwa Bridge Meerganj-Gopalganj Road, Gopalganj	Minimum	7.38	1.7	1.4	17000	13000	Class-D
		Maximum	8.5	8.3	3.5	160000	160000	
		Average	7.71	6.4	2.04	65600	44800	
78	Daha River at Badar jimi Bazar, Meerganj Dist.- Siwan	Minimum	7.29	6.2	1.6	11000	2200	Class-D
		Maximum	8.3	9.0	2.4	160000	160000	
		Average	7.74	7.94	1.8	64000	42780	
79	Daha River at D/S Sasamusa after Sugar Mill near Road Bridge. Dist.- Gopalganj.	Minimum	7.0	5.2	2.0	17000	7000	Class-D
		Maximum	8.25	7.0	3.0	28000	11000	
		Average	7.60	6.1	2.3	20200	8780	
80	Daha River at U/S Sasamusa, before Sugar Mill, Dist- Gopalganj	Minimum	7.28	5.4	1.9	7000	1700	Class-D
		Maximum	8.3	7.9	2.4	21000	11000	
		Average	7.09	6.86	2.08	12600	4900	
81	Harbaura River U/S at Nakatiaganj befor Sugar Mill, West Champaran	Minimum	7.39	5.1	1.4	4900	450	Class-D
		Maximum	7.99	9.8	2.1	35000	17000	
		Average	7.64	7.9	1.8	13842	7064	
82	Harbaura River D/S at Nakatiaganj after Sugar Mill, West Champaran	Minimum	7.16	3.2	1.6	7900	2200	Class-D
		Maximum	7.85	8.5	4.0	92000	17000	
		Average	7.49	6.35	2.4	29557	11028	

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83	Ramrekha River U/S at Harinagar(before Sugar Mill) West Champaran.	Minimum	6.75	0.0	2.2	9300	1700	Class-D
		Maximum	7.6	5.8	5.3	160000	160000	
		Average	7.10	3.42	3.78	62328	51485	
84	Ramrekha River D/S at Harinagar (after Sugar Mill) West Champarasn	Minimum	6.23	0.0	2.4	23000	1400	Class-D
		Maximum	7.24	5.6	9.0	160000	160000	
		Average	6.88	3.02	4.57	67714	55200	
85	U/S Manusmar River at Bakhari, Riga Dist.- Sitamarhi	Minimum	7.41	5.2	1.5	11000	780	Class-D
		Maximum	8.05	8.7	2.7	160000	160000	
		Average	7.85	7.5	1.95	52000	30697	
86	D/S Manusmar River at Uphraulia, Riga. Dist.- Sitamarhi	Minimum	6.53	0.0	1.4	14000	450	Class-D
		Maximum	8.20	8.0	6.0	160000	160000	
		Average	7.66	6.3	2.6	63000	34664	
87	Manusmar Rivar at Parshurampur, Riga-Belsund Road, Dist-Sitamarhi	Minimum	7.05	0.0	1.8	7900	930	Class-D
		Maximum	7.88	7.2	4.4	160000	160000	
		Average	7.56	4.8	2.9	47985	28747	
88	Lakhandei River U/S, Sitamarhi, Dist-Sitamarhi	Minimum	7.48	6.8	1.8	11000	2100	Class-D
		Maximum	8.04	8.5	3.1	160000	35000	
		Average	7.94	7.6	2.3	64333	15000	
89	Lakhandei River D/S, Sitamarhi, Dist-Sitamarhi	Minimum	7.18	1.1	2.5	14000	11000	Class-D
		Maximum	7.52	4.7	3.2	160000	160000	
		Average	7.39	3.02	2.92	50400	43600	
90	U/S Kohra River at Rajghat, Manjholia Dist.- West Champaran.	Minimum	7.3	4.5	1.7	7900	2100	Class-D
		Maximum	8.32	7.6	2.4	28000	22000	
		Average	7.80	6.3	2.08	14916	7642	
91	D/S Kohra River at Rajghat, Manjholia Dist.- West Champaran.	Minimum	6.58	0.0	2.2	13000	180	Class-D
		Maximum	7.53	5.9	92	92000	54000	
		Average	7.22	3.9	15.72	32428	16668	
92	Sirsia River near Raxaul-Beerganj Check Post, Road Bridge, Raxaul Dist.- East Champaran	Minimum	6.80	0.0	3.6	22000	1700	Class-D
		Maximum	7.60	0.0	10.0	160000	160000	
		Average	7.23	0.0	6.1	117500	70116	
93	D/S Sirsia River at Koriatola, near Temple, Raxaul Dist.- East Champaran	Minimum	6.92	0.0	4.0	35000	1400	Class-D
		Maximum	7.32	0.0	6.8	160000	160000	
		Average	7.13	0.0	5.61	118333	70066	
94	Dhos River at (Sahar ghat) Dist. -Madhubani	Minimum	7.06	4.5	1.5	14000	4100	Class-D
		Maximum	8.02	8.2	5.2	160000	28000	
		Average	7.59	6.7	2.75	50000	14850	
95	Dhos River at Madhuvapur Dist. -Madhubani	Minimum	7.2	4.8	1.7	17000	1700	Class-D
		Maximum	8.02	8.5	5.6	92000	28000	
		Average	7.70	6.3	2.75	38166	13900	
96	Mahananda River at Thakurganj-Kishanganj Road Bridge Dist.- Kishanganj.	Minimum	6.98	6.8	1.4	5500	180	Class-D
		Maximum	8.7	10.3	2.2	28000	17000	
		Average	7.77	8.06	1.7	18850	6522	

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97	Parmar River at Jogbani Dist.- Araria	Minimum	7.20	6.0	1.5	5500	360	Class-D
		Maximum	8.15	8.7	2.8	160000	28000	
		Average	7.62	731	2.2	31475	7832	
98	Harha River at Bagha-Lauriya Bridge, Dist-West Champaran	Minimum	7.42	3.7	1.7	7000	1100	Class-D
		Maximum	8.0	8.0	2.3	54000	54000	
		Average	7.77	6.9	2.08	22000	13983	
99	Kawar Lake at Manghoul, Begusarai Dist.- Begusarai	Minimum	-	-	-	-	-	
		Maximum	-	-	-	-	-	
		Average	-	-	-	-	-	
100	Motijheel Lake at Motihari near Gyatri Mandir, Dist-East Champarna	Minimum	7.64	9.5	1.4	1200	180	Class-D
		Maximum	9.73	11.3	10.0	54000	22000	
		Average	8.37	10.1	4.0	16616	5896	
101	Dighi Talab at Gaya near Kachhari Dist.- Gaya	Minimum	7.66	7.8	2.6	1100	2100	Class-D
		Maximum	7.92	13.0	4.5	160000	28000	
		Average	7.81	9.36	3.24	47420	10100	
102	Suraj Kund Talab at Gaya near Vishnupad, Temple Dist.- Gaya	Minimum	7.81	7.8	2.6	3300	930	Class-D
		Maximum	8.09	11.5	4.1	35000	11000	
		Average	7.93	9.7	3.34	22060	3746	
103	Sikandarpur Lake, Dist.- Muzaffarpur.	Minimum	7.23	7.0	1.9	11000	1400	Class-D
		Maximum	9.50	10.5	8.8	160000	35000	
		Average	8.44	8.45	6.96	42833	9533	

17/12/20

Member Secretary
Bihar State Pollution Control Board,
Patna

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Primary Water Quality Criteria for Various Uses

Quality Class (Use Class) Designated best use		Parameter			
		pH	Dissolved Oxygen (D.O.) mg/L Min.	Bio-Chemical Oxygen Demand (B.O.D.) mg/L Max.	Total Coliform MPN/100ml Max.
A	Drinking water source without conventional treatment but after disinfections	6.5-8.5	6	2	50
B	Outdoor bathing organized	6.5-8.5	5	3	500
C	Drinking water source with conventional (treatment followed by disinfections)	6.0-9.0	4	3	5000
D	Propagation of Wild life, fisheries	6.5-8.5	4	-	-
E	Irrigation, Industrial Cooling, Controlled Waste Disposal	6.5-8.5	-	-	-

Primary Water Quality Criteria for bathing

pH	6.5 to 8.5
Dissolved Oxygen (DO) mg/L	5 or more
Biochemical Oxygen Demand (BOD) mg/L	3 or less
Fecal Coliform (FC) MPN/100mL	500 (desirable) 2500 (Maximum Permissible)

Annexure -4

Status of Grossly Polluting Industries (GPIs) in Bihar

Sl. No.	Name & Address of the unit	Name of District	Regional Office	Sector	Whether connected to CETP: if yes, name	Basin (name of river/ tributary/ sub-tributary)	Product and Production Capacity	Tentative Quantity of effluent generation in KLD (Potential)	Details of Discharge Consent		Effluent Treatment System	ZLD / Recipient Drain	Operational status (Operational/ close)
									Issued on	Valid up to			
1	M/s Harinagar Sugar Mills Ltd (Distillery Division), Harinagar, Dist-West Champarna	West Champaran	Muzaffarpur	Distillery	No	Sikrahna/Burhi Gandak	Ethanol 120 KLD	1000	13.12.2018	12.12.2023	Bio-methanation, Multi Effect Evaporation (MEE), followed by Bio-composting. The unit has developed facility for maintaining zero liquid discharge.	Zero Liquid Discharge system	Operational
2	M/s New Swadeshi Sugar Mills, (Distillery Division), Narkatiaganj, Dist-West Champarn	West Champaran	Muzaffarpur	Distillery	No	Sikrahna/Burhi Gandak	Ethanol, 60 KLD	600	24.12.2018	31.12.2023	Bio-methanation, MEE, RO, followed by Bio-composting. The unit has developed facility for maintaining zero liquid discharge.	Zero Liquid Discharge system	Operational
3	M/s Riga Sugar Co. Ltd. (Distillery Division) Riga, Dist-Sitamarhi	Sitamarhi	Muzaffarpur	Distillery	No	Bagmati/Burhi Gandak	Ethanol, 50 KLD	500	24.12.2018	31.12.2023	Bio-methanation, MEE, RO, followed by Bio-composting. The unit has developed facility for maintaining zero liquid discharge.	Zero Liquid Discharge system	Operational
4	M/s Sonasati Organics Pvt Ltd., Rajapatti Kothi, Dist.-Gopalganj	Gopalganj	Muzaffarpur	Distillery	No	Gandak	Ethanol 75 KLD	675	22.05.2019	21.05.2024	MEE followed by incineration through incineration boiler and ETP for condensate treatment and reuse. The unit has developed facility for maintaining zero liquid discharge.	Zero Liquid Discharge system	Operational
5	M/s Bihar Distillery & Bottlers (P) Ltd., Unit-II (Bottling Division), Devri, Arra, Dist-Bhojpur	Bhojpur	Patna	Distillery (grain based)	No	Sone	Ethanol 120 KLD	960	21.04.2016	20.04.2021	This is a grain based distillery. It has deveoped facility for ZLD which consists of Decanters, MEE and ETP for treatment of other waste water.	Zero Liquid Discharge system	Operational
6	M/s Globus Spirits Limited, Dhandua, Jandaha, Hajipur, Dist-Vaishali	Vaishali	Patna	Distillery (grain based)	No	Ganga	Ethanol 120 KLD	960	03.09.2019	30.06.2024	Unit has decantors, drier, MEE and CPU for treatment, diposal and use of waste water.	Zero Liquid Discharge system	Operational
7	M/s Manjhaulia Sugar Industries Pvt Ltd (Jai Shree Sugar Mills) Manjhautia, Dist-West Champaran.	West Champaran	Muzaffarpur	Distillery	No	Sikrahna/Burhi Gandak	Ethanol 45 KLD	360	06.05.2019	05.05.2024	MEE followed by incineration through incineration boiler and ETP for condensate treatment and reuse. The unit has developed facility for maintaining zero liquid discharge.	Zero Liquid Discharge system	Operational
8	M/s HPCL Bio-Fuels Ltd., Lauria, Dist.-West Champaran.	West Champaran	Muzaffarpur	Sugar	No	Sikrahna/Burhi Gandak	Sugar Crushing Cap. 3500 TCD	350	29.11.2018	30.09.2023	Activated Sludge Process (ASP) for sugar mill	Land for irrigation	Operational
9	M/s HPCL Bio Fuels Ltd., Lauria, Dist - West Champaran.	West Champaran	Muzaffarpur	Distillery	No	Sikrahna/Burhi Gandak	Alcohol 60 KLD	600	29.11.2018	30.09.2023	Bio-methanation, MEE followed by Bio-composting for distillery.	Zero Liquid Discharge system	Operational
10	M/s HPCL Bio-Fuels Ltd., Sugauli, Dist - East Champaran.	East Champarna	Muzaffarpur	Sugar	No	Sikrahna/Burhi Gandak	Sugar Crushing Cap. 3500 TCD	350	23.11.2018	30.09.2023	Activated Sludge Process (ASP) for sugar mill	Land for irrigation	Operational
11	M/s HPCL Bio Fuels Ltd., Sugauli, Dist - East Champaran.	East Champarna	Muzaffarpur	Distillery	No	Sikrahna/Burhi Gandak	Alcohol 60 KLD	600	23.11.2018	30.09.2023	Bio-methanation, MEE followed by Bio-composting for distillery.	Zero Liquid Discharge system	Operational

(1)

12	M/s Tirupati Sugar Mills, Bagha, Dist - West Champaran	West Champaran	Muzaffarpur	Sugar	No	Gandak	Sugar. Crushing Cap 7000 TCD	700	11.12.2018	31.12.2023	ETP based on Activated Sludge Process (ASP) up to tertiary level with impervious lagoon for utilizing treated effluent for irrigation	Land for irrigation	Operational
13	M/s Harinagar Sugar Mills Ltd , Harinagar, Dist - West Champaran.	West Champaran	Muzaffarpur	Sugar	No	Sikrahna/Burhi Gandak	Sugar. Crushing Cap 11500 TCD	1150	15.02.2019	14.02.2024	ETP based on Activated Sludge Process (ASP) up to tertiary level with impervious lagoon for utilizing treated effluent for irrigation.	Reused in plant and land for irrigation.	Operational
14	M/s New Swadeshi Sugar Mills, Narkatiaganj, Dist - West Champaran	West Champaran	Muzaffarpur	Sugar	No	Sikrahna/Burhi Gandak	Sugar. Crushing Cap 7500 TCD	750	24.12.2018	31.12.2023	ETP based on Activated Sludge Process (ASP) up to tertiary level with impervious lagoon for utilizing treated effluent for irrigation.	Reused in plant and land for irrigation.	Operational
15	M/s Manjhaulia Sugar Industries Pvt Ltd (Jai Shree Sugar Mills) Manjhaulia, Dist - West Champaran	West Champaran	Muzaffarpur	Sugar	No	Sikrahna/Burhi Gandak	Sugar. Crushing Cap. 5000 TCD	700	03.12.2018	30.09.2023	ETP based on Activated Sludge Process (ASP) up to tertiary level with Sand & carbon filtration	Reused in plant and land for irrigation	Operational
16	M/s Riga Sugar Co. Ltd , Riga, Dist - Sitamarhi	Sitmarhi	Muzaffarpur	Sugar	No	Bagmati/Burhi Gandak	Sugar. Crushing Cap 5000 TCD	500	24.12.2018	31.12.2023	ETP based on Activated Sludge Process (ASP) up to tertiary level with impervious lagoon for utilizing treated effluent for irrigation	Reused in plant and land for irrigation.	Operational
17	M/s Hassanpur Sugar Mills, (Old Name New India Sugar Mills) Hassanpur, Dist - Samastipur	Samastipur	Begusarai	Sugar	No	Burhi Gandak	Sugar. Crushing Cap 5000 TCD	500	25.01.2019	30.09.2023	ETP based on Activated Sludge Process (ASP). The treated water is reused in the wet scrubbers and for irrigation.	Reused in plant and land for irrigation.	Operational
18	M/s Vishnu Sugar Mills, Dist.-Gopalganj	Gopalganj	Muzaffarpur	Sugar	No	Gandak	Sugar. Crushing Cap. 4900 TCD	490	23.11.2018	30.06.2023	ETP based on Activated Sludge Process (ASP) up to tertiary level with impervious lagoon for utilizing treated effluent for irrigation. The treated water is reused in the plant in wet scrubbers and horticulture.	Reused in plant and land for irrigation.	Operational
19	M/s Bharat Sugar Mills, Sidhwalia, Dist - Gopalganj	Gopalganj	Muzaffarpur	Sugar	No	Gandak	Sugar. Crushing Cap 5000 TCD	500	07.12.2018	30.09.2023	ETP based on Activated Sludge Process (ASP) up to tertiary level with impervious lagoon for utilizing treated effluent for irrigation	Land for irrigation	Operational
20	M/s Sasamusa Sugar Mills, Sasamusa, Dist - Gopalganj	Gopalganj	Muzaffarpur	Sugar	No	Ghaghara	Sugar. Crushing Cap 2450 TCD	245	13.12.2018	12.12.2023	ETP based on anaerobic followed Activated Sludge Process (ASP)	Land for irrigation	Operational
21	M/s Green Leather Industries, Industrial Area, Bela, Dist - Muzaffarpur	Muzaffapur	Muzaffarpur	Tannery	No	Burhi Gandak	Wet blue/ semi-finished leather-2.4 MTD	10	16.07.2018	15.07.2023	ETP installed	Land Discharge into industrial area drain/low lying area	Operational
22	M/s Satia Tennery, Bela Industrial area, Bela, Dist.-Muzaffarpur.	Muzaffapur	Muzaffarpur	Tannery	No	Burhi Gandak	Wet blue/ semi-finished leather-2.4 MTD	10	24.04.2020	23.04.2025	ETP installed	Land Discharge into industrial area drain/low lying area	Closure Direction issued from CPCB Unit is closed
23	M/s Shanta Mani Hand Made Paper Industry Doia, Soh-Sarai, Bihar Sharif, Dist-Nalanda	Nalanda	Patna	Pulp and Paper	No	Ganga	Craft paper 10 TPD	100	07.09.2017	31.05.2021	ETP consist of equalization tank, primary clarifier, aeration tank, holding lagoon, secondary clarifier, Sludge drying beds, ACF & MGF	Zero Liquid Discharge system	Operational

(2)

24	M/s Smirity Paper Mills Pvt. Ltd., Mahuli Road, Chitauna, Kolhia, Patna City, Dist.- Patna	Patna	Patna	Pulp and Paper	No	Punpun/Ganga	White paper 50 TPD	500		30.06.2022	ETP consist of equalization tank, primary clarifier, aeration tank, holding lagoon, secondary clarifier, Sludge drying beds, ACF &	Zero Liquid Discharge system	Operational
25	M/s Shree Vishnu Vishal Paper Mills Pvt. Ltd., Gidha, Dist.- Bhojpur	Bhojpur	Patna	Pulp and Paper	No	Sone	Craft Paper 100 TPD, captive power 3 MW and MS ingot 3 Tone/B	1000		30.06.2021	ETP consist of equalization tank, primary clarifier, aeration tank, holding lagoon, secondary clarifier, Sludge drying beds, ACF & MGF	Zero Liquid Discharge system	Operational
26	M/s Indira Paper Mill Pvt. Ltd., Mohuli Road, Mathpar, Begumpur, Didarganj, Patna	Patna	Patna	Pulp and Paper	No	Punpun/Ganga	White Paper 25 TPD	250	07.09.2017	31.03.2022	ETP consist of equalization tank, primary clarifier, aeration tank, holding lagoon, secondary clarifier, Sludge drying beds, ACF & MGF	Zero Liquid Discharge system	Operational
27	M/s Mateshwari Paper Mills Pvt. Ltd., Mahauli Road, Karmalichak, Didarganj, Patna	Patna	Patna	Pulp and Paper	No	Punpun/Ganga	White Paper 35 TPD	350	15.03.2018	31.12.2022	ETP consist of equalization tank, primary clarifier, aeration tank, holding lagoon, secondary clarifier, Sludge drying beds, ACF & MGF	Zero Liquid Discharge system	Operational
28	M/s J.J. Exporters Ltd., Panna Mills Compound, Baunsi Road, Dist - Bhagalpur	Bhagalpur	Purnea	Yarn/textile processing involving bleaching, dyeing, printing and scouring etc	No	Ganga	Yarn, cloths, fabric dying 6608 Meter/M	3	01.02.2018	31.12.2021	ETP consist of collection chamber, coagulation with alum, settling tank, aeration, sludge drying beds, ACF & SF.	Treated effluent is discharged to municipal drain leading to low lying area. Low lying area	Operational
29	M/s Bhalotia Fabtek Pvt. Ltd. B-6 & 7, Industrial Area, BIADA, Barari, Bhagalpur	Bhagalpur	Purnea	Yarn/textile processing involving bleaching, dyeing, printing and scouring etc	No	Ganga	Yarn, cloths, fabric dying 900 Meter/M	18	04.01.2018	30.06.2022	ETP installed. Treated water is discharged in low lying land of industrial area.	Treated effluent is discharged to industrial area drain-low lying land of industrial area. Low lying area	Operational
30	M/s Wonder Crafts, E Part, Large Industrial Estate, Barari, Bhagalpur	Bhagalpur	Purnea	Yarn/textile processing involving bleaching, dyeing, printing and scouring etc	No	Ganga	Yarn, cloths, fabric dying 12500 Meter/M	2.5	11.06.2018	30.06.2022	ETP installed with collection tank, aerobic tank, coagulation and settling tank.	Treated effluent is discharged to industrial area drain-low lying land of industrial area. Low lying area	Operational
31	M/s Vaishal Patliputra Dugdh Utpadak Sahkari Sangh Ltd. Patna Dairy Project Phulwari Sharif, Patna	Patna	Patna	Milk Processing and Dairy plants	No	Ganga	Milk processing Cap. 250 KLD (2.5 Lakh Liter) and Milk products	500	14.12.2018	31.12.2023	ETP based on activated sludge process consisting, collection sump, aeration tank with diffusers (2nos.), clarifier & sludge drying beds Treated effluent is discharged to public sewer connected with STP Beur, Patna.	Municipal drain connected with STP. Municipal drain	Operational
32	M/s Bihar State Milk Co-operative Federation Ltd (Unit-Nalanda Dairy Biharsharif, Dairy Project	Nalanda	Patna	Milk Processing and Dairy plants	No	Ganga	Milk processing Cap. 4.5 Lakh liter	900	02.05.2017	28.02.2022	ETP consisting of fat removable system, equalization tank, anaerobic system, aeration tank, clarifier, holding tank. Treated effluent is used for gardening inside the plant.	On land inside the plant for gardening. Low lying area	Operational
33	M/s Mithila Dugdh Utpadak Sahkari Sangh Ltd (Samastipur Dairy), Industrial Area, Harpur Alouth, P.O. & Dist-Samastipur	Samastipur		Milk Processing and Dairy plants	No	Burhi Gandak	Milk processing Cap. 2.5 Lakh liter	500	21.04.2018	31.03.2023	ETP based on activated sludge process.	Presently, Treated effluent is reused for construction activities within the premises. Low lying area.	Operational

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34	M/s Desh Ratna Dr Rajendra Prasad Dugdh Utpadak Sahkari Sangh Ltd , Barauni Dairy, , Makhanshala Road, Barauni, Begusarai	Begusarai	Begusarai	Milk Processing and Dairy plants	No	Ganga	Milk processing Cap 445 KLD	900	26.08.2019	31.03.2024	ETP installed Treated effluent is stored in kachcha lagoon outside the premises	On land/ kachcha-lagoon Low lying area	Operational
35	M/s Ganga Dairy Ltd, Ramjanpur, Begusarai	Begusarai	Begusarai	Milk Processing and Dairy plants	No	Ganga	Milk processing Cap 96 KLD	200	12.03.2019	31.03.2023	ETP installed	On land in kachcha pond outside the premises	
36	M/s Tribhuti Dugdh Utapadak Sangh Ltd Muz Dairy, Kolhua Paigambarpur, Muz.-842108	Muzaffapur	Muzaffarpur	Milk Processing and Dairy plants	No	Burhi Gandak	Milk processing Cap 100KLD	200	20.09.2018	31.03.2023	ETP installed based on anaerobic followed by aerobic system	Discharge on land inside premises	Operational
37	M/s Amul Dairy Pvt Ltd Ind. area, Hajipur, Vaishali	Vaishali	Vaishali	Milk Processing and Dairy plants	No	Ganga	Milk processing Cap 100 KLD and Milk products	200	27.12.2018	31.12.2023	ETP installed based on anaerobic followed by aerobic system and activated carbon filter	Discharge into industrial area drain Low lying area	Operational
38	M/s VPDUSS Ltd, Unit- Milk Chilling Centre, Industrial Area, Hajipur, Vaishali	Vaishali	Vaishali	Milk Processing and Dairy plants	No	Ganga	Milk Chilling & pesteurization-250 KLD	500	14.08.2017	31.12.2020	ETP comprises fat removal tank, aeration tank and settling tank	Discharge into industrial area drain Low lying area	Operational
39	M/s ITC Ltd Dairy Plant, Sitakund Industrial Area, Nandlalpur, Benigir, Basudeopur, Munger-811202	Munger	Begusarai	Milk Processing and Dairy plants	No	Ganga	Milk processing Cap 200 KLD	400	30.07.2018	31.12.2022	ETP installed. Consisting of equalization tank, Primary clarifier, up flow anaerobic sludge blanket reactor (UASBR), aeration tank, secondary clarifier, ACF and SF	Treated effluent is used for gardening purposes. Land	Operational
40	M/s Barauni Oil Refinery, IOC Ltd Barauni, Dist.- Begusarai	Begusarai	Begusarai	Oil Refinery (Mineral oil or Petrol Refineries)	No	Ganga	Petroleum refined oil 6 MMTPA	16000	01.02.2019	31.12.2023	The unit has an ETP for separation of oil followed by Biological Treatment in BTP The treated effluent is reused in fire-fighting, coke cutting etc maintaining Zero Liquid Discharge.	ZLD & Borrow Pit	Operational
41	M/s Hindustan Coca-Cola Beverages Pvt Ltd., E-1, Industrial Area Patliputra, Dist - Patna - 13	Patna	Patna	Food & Beverages (Alchoholic and non-alchoholic)	No	Gagna	Beverages-400 Bottle/min, 200ml-300ml, bottle/24h 220 days of operation in a year	100	18.08.2018	30.06.2023	ETP based on activated sludge process followed by activated carbon filtration Treated effluent is discharged into industrial area drain	Industrial Area Drain	Operational
42	M/s Lumbni Beverages Pvt Ltd , Ind Area, Hajipur, Vaishali	Vaishali	Vaishali	Food & Beverages (Alchoholic and non-alchoholic)	No	Ganga	Soft drink 600BPM and packaged drinking water 60BMP	1000	30.10.2017	30.06.2021	ETP installed	Low lying area	Not operational
43	M/s Regaal Resources Private Limited, at-Bhalgaon, PS-Galgalia, Block-Thakurganj Dist Kishanganj	Kishanganj	Purnea	Food processing	No	Mahananda	Starch from maize	370	23.05.2018	30.04.2023	ETP installed consisting of USB, aeration tank, RO, MEE, centrifuge	ZLD	Operational
44	M/s ITC Ltd. (Tobacco Division), Basudeopur, Munger-811202	Munger	Begusarai	Others (Tobacco Product)	No	Ganga	Cigarette	10	09.03.2019	31.12.2023	ETP based on activated sludge process	Zero Liquid discharge (ZLD) ITC drain dry	Operational
45	M/s A.L. Sameer Export Pvt Ltd., Simraha, Forbisganj, Araria	Araria	Purnea	Slaughter Houses and meat processing industries	No	Mahananda	Frozen Buffalo Meat 100 MT/d	250	30.12.2016	31.12.2021	ETP installed . It consists of screens, oil & grease trap, primary settling tank, dissovel air flotation, UASB, aeration tanks(1&2), clarifier(1&2) polishing tank, SDBs, dicantor & driyer	Used for irrigation purpose.	Operational

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46	M/s Zakariya Agro Pvt Ltd , GopiPothiya, NH-57, Simraha,Forbesganj, Araria	Araria	Purnea	Slaughter Houses and meat processing industries	No	Mahananda	Frozen Buffalo Meat 70MT/d	250	30 12 2016	31.12.2021	ETP installed. It consists of screens, oil & grease trap, primary setting tank, dissovel air flotation, aeration tanks(1&2), clarifier(1&2) polishing tank, [illegible]	Used for irrigation purpose.	Operational
47	M/s Marbaha Forgen Foods, Simraha, Forbesganj, Araria	Araria	Purnea	Slaughter Houses and meat processing industries	No	Mahananda	Frozen Buffalo Meat 180MT/d	300	26 04 2018	31.03.2023	ETP installed. It consists of screens, oil & grease trap, primary setting tank, dissovel air flotation, aeration tanks(1&2), clarifier(1&2) polishing tank, SDBs, digestor & mixer.	Used for irrigation purpose.	Operational
48	M/s Mash Agro Foods Ltd , At-Chilhamari, P O -Pothia, Dist-Kishangan	Kishanganj	Purnea	do	No	Mahananda	Frozen Buffalo Meat 180MT/d	300	09 05 2018	30.04.2023	ETP installed. It consists of screens, oil & grease trap, primary setting tank, dissovel air flotation (DAF), aeration tanks(1&2), clarifier (1&2), polishing tank,	Used for irrigation purpose.	Operational
49	M/s Vikramshila Dugdh Utpadak Sahakari Sangh Ltd , Mayaganj, Hospital Road, Bhagalpur-812001	Bhagalpur	Begusarai	Milk Processing and Dairy plants	No	Ganga	Milk processing Cap 25 KLD	50	14 11 2019	31 12 2021	ETP installed but not adequate.	Effluent is discharged in municipal drain	Operational
50	M/s Mithila Dugdh Utpadan Sahkari Sangh ltd , Laxmi Sadar, Darbhanga	Darbhanga	Muzaffarpur	-Do-	No	Kamla Balan/ Koshi	Milk processing Cap. 40 KLD	80	26 10 2018	25 10 2023	ETP installed	Discharge outside the premises through pipe line- Kamala river	Operational
51	M/s Aasma Food & Beverages (P) Ltd , Industrial Area, Hajipur Vaishali	Vaishali	Vaishali	-Do-	No	Ganga	Milk processing Cap 150 KLD	50	05 02 2018	30 06 2021	ETP consisting of equalization tank, anaerobic tank, clarifiers followed by ACF and sand filter	Industrial area drain	Operational
52	M/s Mother Dairy Fruit & Vegetable Pvt Ltd , A-Bathnna, P O-Piprakothi, Motihar, Dist-East Champarna	East Champarna	Muzaffarpur	-Do-	No	Gandak	Pasteurized Milk 100 KL/day	80	17 01 2019	16.01.2024	ETP consits of screens, oil & grease and DF removal tanks, equalization tank, aeration tank, clarifier & MGF & ACF	Reused in toilet flushing, makeup water in cooling tower & in gardening	Operational
53	M/s Patna Paper Mill Pvt. Ltd , Mahauli, Kothiya, Patna	Patna	Patna	Pulp and Paper	No	Punpun/Ganga	White paper 40 TPD	50	30 04 2019	25 02 2024	ETP consist of equalization tank, primary clarifier, aeration tank holding fagocn, secondary clarifier, Sludge drying beds, ACF & MGF	Zero Liquid Discharge system	Operational

17/12/20

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बिहार सरकार
पर्यावरण, वन एवं जलवायु परिवर्तन विभाग,
अधिसूचना

पटना–15, दिनांक–12.06.2019

संख्याः–पर्या० / वन(मु०)–09 / 2019–**689 (ई०)** / प०व०, बिहार राज्य में पर्यावरण संरक्षण तथा प्रदूषण नियंत्रण कार्यक्रमों के सफल निष्पादन तथा पर्यावरण संबंधी नियमों के प्रवर्तन एवं विभिन्न विभागों / संस्थाओं के मध्य समन्वय हेतु राज्य स्तरीय सलाहकार समिति का गठन निम्नवत् किया जाता है :–

1	मुख्य सचिव, बिहार	अध्यक्ष
2	विकास आयुक्त, बिहार	उपाध्यक्ष
3	अपर मुख्य सचिव / प्रधान सचिव, उद्योग विभाग	सदस्य
4	प्रधान सचिव, नगर विकास एवं आवास विभाग	सदस्य
5	प्रधान सचिव, पथ निर्माण विभाग	सदस्य
6	प्रधान सचिव, स्वास्थ्य विभाग	सदस्य
7	प्रधान सचिव, भवन निर्माण विभाग	सदस्य
8	प्रधान सचिव, कृषि विभाग	सदस्य
9	प्रधान सचिव / सचिव, ग्रामीण विकास विभाग	सदस्य
10	प्रधान सचिव, पर्यावरण, वन एवं जलवायु परिवर्तन विभाग	सदस्य
11	प्रधान सचिव, खान एवं भूतत्व विभाग	सदस्य
12	प्रधान सचिव / सचिव, परिवहन विभाग	सदस्य
13	सचिव, पशुपालन एवं मत्स्य संसाधन विभाग	सदस्य
14	प्रधान मुख्य वन संरक्षक	सदस्य
15	अपर सचिव, पर्यावरण, वन एवं जलवायु परिवर्तन विभाग	सदस्य सचिव
16	सदस्य सचिव, बिहार राज्य प्रदूषण नियंत्रण पर्षद्	सदस्य

राज्य स्तरीय सलाहकार समिति का कर्तव्य निम्नांकित होगा :–

1. पर्यावरण संरक्षण एवं प्रदूषण नियंत्रण हेतु सहनयोग्य विकास के लिए निर्धारित सिद्धांतों के आधार पर नीति निर्धारण तथा आवश्यक सलाह एवं दिशा–निदेश देना।

2. पर्यावरण संरक्षण एवं प्रदूषण नियंत्रण हेतु जारी निदेशों के प्रभावी कार्यान्वयन हेतु विभिन्न विभागों, प्रतिष्ठानों, संगठनों / संस्थानों के बीच समन्वय स्थापित करना।

3. जल, वायु एवं ध्वनि प्रदूषण के निवारण एवं नियंत्रण तथा राज्य में विभिन्न प्रकार के अपशिष्टों के बेहतर प्रबंधन को सुनिश्चित करने हेतु वर्त्तमान अधिनियमों / नियमावलियों के कार्यान्वयन में उत्पन्न कठिनाईयों का निराकरण करना तथा आवश्यकतानुसार अन्य नियमों / नियमावलियों के तैयार करने हेतु मार्गदर्शन देना।

बिहार राज्यपाल के आदेश से
ह० / –
(दीपक कुमार सिंह)
सरकार के प्रधान सचिव

ज्ञापांक :–पर्या०/वन(मु०)–09/2019...../प०व०ज०प०, पटना–15, दिनांक.....

प्रतिलिपिः–अवर सचिव, ई० गजट कोषांग, वित्त विभाग, बिहार को (सी०डी० एवं हार्ड कॉपी सहित) बिहार राजपत्र के अगामी असाधारण अंक में सर्वसाधारण की जानकारी हेतु प्रकाशनार्थ।

2. इसकी 500 (पाँच सौ) मुद्रित प्रतियों पर्यावरण, वन एवं जलवायु परिवर्तन विभाग को उपलब्ध करायी जाय।

ह०/–

(कमलजीत सिंह)

वन संरक्षक–सह–अपर सचिव

ज्ञापांक :–पर्या०/वन(मु०)–09/2019...../प०व०ज०प०, पटना–15, दिनांक.....

प्रतिलिपिः–महामहिम राज्यपाल के सचिव/माननीय मुख्यमंत्री के प्रधान सचिव/महाधिवक्ता, बिहार, पटना/मुख्य सचिव, बिहार/विकास आयुक्त, बिहार/समिति के अध्यक्ष एवं सभी सदस्यों/सभी विभागीय अपर मुख्य सचिव/प्रधान सचिव/सभी सचिव/सभी विभागाध्यक्ष/सभी प्रमंडलीय आयुक्त/सभी जिलाधिकारी/अध्यक्ष, बिहार राज्य प्रदूषण नियंत्रण पर्षद्/सदस्य सचिव, बिहार राज्य प्रदूषण नियंत्रण पर्षद्/माननीय उप मुख्य (पर्यावरण, वन एवं जलवायु परिवर्तन) मंत्री के आप्त सचिव/प्रधान सचिव के आप्त सचिव, पर्यावरण, वन एवं जलवायु परिवर्तन विभाग/विभाग के सभी पदाधिकारी को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

ह०/–

(कमलजीत सिंह)

वन संरक्षक–सह–अपर सचिव

ज्ञापांक :– पर्या०/वन(मु०)–09/2019-6891(5)/प०व०ज०प०, पटना–15, दिनांक 12/06/19

प्रतिलिपिः–आई०टी० मैनेजर, पर्यावरण, वन एवं जलवायु परिवर्तन विभाग को विभागीय बेवसाईट पर अविलम्ब अपलोड करने हेतु प्रेषित।

(कमलजीत सिंह)

वन संरक्षक–सह–अपर सचिव

बिहार सरकार

पर्यावरण वन एवं जलवायु परिवर्तन विभाग

"हरियाली मिशन"

कार्यालय : मुख्य वन संरक्षक-सह-निदेशक, हरियाली मिशन, बिहार।
तृतीय तल, अरण्य भवन, राईडिंग रोड, शेखपुरा, पटना–800014 E-mail: ccfhm-bih@gov.in Web: http://www.forest.bih.nic.in

पत्रांक : 548 , पटना, दिनांक: 22/12/2020

प्रेषक,

संजय कुमार सिन्हा, भा.व.से.
मुख्य वन संरक्षक–सह–निदेशक,
हरियाली मिशन, बिहार, पटना।

सेवा में,

विशेष सचिव,
नगर विकास एवं आवास विभाग,
बिहार, पटना।

विषय : **माननीय NGT नई दिल्ली, में दायर O.A. No. 200/2014 एम.सी. मेहता बनाम भारत संघ एवं अन्य के सम्बन्ध में दिनांक–13.08.2019 को पारित आदेश के अनुपालन के सम्बन्ध में।**

प्रसंग : नगर विकास एवं आवास विभाग का पत्रांक–BGCMS/2017/AP of SWM & SM for NGT/21 (part-2B) 544/न.वि. एवं आ.वि., दिनांक–15.12.2020

महाशय,

उपर्युक्त विषयक प्रासंगिक पत्र के क्रम में "Forestry Interventions for Ganga" योजनान्तर्गत वित्तीय वर्ष 2020–21 का पौधारोपण (Afforestation) सम्बन्धित उपलब्ध भौतिक एवं वित्तीय प्रतिवेदन संलग्न कर समर्पित किया जा रहा है। अद्यतन प्रतिवेदन उपलब्ध कराने हेतु सम्बन्धित वन प्रमंडल पदाधिकारियों को निदेशित किया गया है। वन प्रमंडलों से अद्यतन प्रतिवेदन प्राप्त होने के उपरांत संकलित कर उपलब्ध कराया जाएगा।

कृपया प्राप्ति स्वीकार करें।

अनु0– **यथोक्त।**

विश्वासभाजन,

(संजय कुमार सिन्हा)
मुख्य वन संरक्षक–सह–निदेशक,
हरियाली मिशन, बिहार, पटना।

ज्ञापांक : 548 **दिनांक** : 22/12/2020

प्रतिलिपि : प्रधान सचिव, पर्यावरण, वन एवं जलवायु परिवर्तन विभाग, बिहार एवं अपर प्रधान मुख्य वन संरक्षक, पर्यावरण, जलवायु परिवर्तन एवं आर्द्र भूमि, बिहार को अनुलग्नक की प्रति के साथ सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

22/12/2020

(संजय कुमार सिन्हा)
मुख्य वन संरक्षक–सह–निदेशक,
हरियाली मिशन, बिहार, पटना।

D.D/Sharwan/2020-21/Directro/P. No -480

"FORESTRY INTERVENTIONS FOR GANGA" IN BIHAR (2020-21)

SI. NO.	Forest Division	Physical Target		Financial Target			Physical Achievement		Financial Achievement (Fund Transferred to DFO's)
				2020-21 Work	Committed Work	Total			
		Area/No	No. of Plants	Rs. In Lakh			Area/No	No. of Plants	Rs. In Lakh
1	AURANGABAD	26.67	4000	17.62	1.80	19.42	0.00	0	9.71
2	BEGUSARAI	53.33	8000	22.62	42.33	64.95	53.33	8000	32.47
3	BETTIAH	40.00	8000	79.66	4.57	84.23	40.00	8000	42.12
4	BHAGALPUR	126.92	30075	365.02	295.61	660.63	30.67	8100	330.32
5	BHOJPUR	64.00	20000	77.33	32.80	110.13	57.00	16501	55.07
6	GOPALGANJ	54.33	15500	69.05	13.26	82.30	0.00	0	41.15
7	MITHILA	51.67	9500	74.41	2.80	77.21	1.33	200	38.60
8	MOTIHARI	132.33	53500	248.16	3.00	251.16	0.00	0	125.58
9	MUNGER	66.67	12000	84.66	58.50	143.16	66.67	12000	71.58
10	PATNA	75.00	14500	123.43	20.83	144.27	21.67	6500	72.13
11	PURNEA	40.00	6000	20.12	5.84	25.95	40.00	6000	12.98
12	ROHTAS	53.00	8950	52.32	2.56	54.87	0.00	0	27.44
13	SAHARSA	44.00	14100	79.79	1.14	80.93	30.00	12000	40.47
14	SAMASTIPUR	70.00	16000	189.49	2.54	192.04	8.33	2000	96.02
15	SARAN	148.00	58200	339.64	29.26	368.89	148.00	58200	184.45
16	SUPAUL	95.00	21500	270.07	28.09	298.15	61.67	16500	149.08
17	TIRHUT	43.33	8000	65.40	2.34	67.75	0.00	0	33.87
18	VAISHALI	60.00	10000	53.63	15.91	69.54	60.00	10000	34.77
Hariyali Mission-CB & AP				55.00	0.00	55.00			27.20
Total		**1244**	**317825**	**2287.42**	**563.16**	**2850.58**	**619**	**164001**	**1425**

Compliance report in terms of setting up biodiversity parks along with river Ganga.

Regarding setting up biodiversity parks along with river Ganga, kindly refer **Page no. 30.**

Public awareness and involvement for prevention and control of pollution of Ganga

Time to time various Public awareness campaign are conducted under the government of Bihar to ensure prevention and control of pollution of Ganga through Events such as awareness rallies, Ghats Cleanliness drives, Shramdaan, Rafting Expedition, Swachhta Hi Seva Campaign, Ganga Aarti, Plantation drives, Nukaad-natak, Online/Offline Quiz Competition, Essay and Painting Competition, media, messaging during the regular visit of Ganga Towns. Also, numerous IEC activities through mediums such as TV/Radio, Print media advertisements, advertorials were also publish to make a strong pitch for public outreach & community participation in the program.

Regulating activities on and around river Ganga including Ghats and other establishments

The regulating activities being conducted under the government of Bihar on and around river Ganga including Ghats is as follows- The Garbage Vulnerable points are clean, Immersion of idols is prohibited around river Ganga and the Ghats are getting cleaned on a regular basis where Anti –littering board and Litter bins have been installed at all Ganga towns.

The following report is attached hereby for the entire 23 Ganga Towns:

Sl.No.	ULBs Name	Ghats	Garbage Vulnerable Points(GVPs)	Cleanliness condition of Ghats	Anti - littering Message Board	Litter bins
1	Patna Municipal corporation	20	Cleaned	Cleaning continues on regular basis	Completed	Completed
1 (a)	Phulwarishariff		_	_	_	_
2	Maner Nagar Panchayat	1	Cleaned	Cleaning continues on regular basis	Completed	Completed
3	Danapur Nagar Parishad	10	Cleaned	Cleaning continues on regular basis	Completed	Completed
4	Bakhtiyarpur Municipal Council	3	Cleaned	Cleaning continues on regular basis	Completed	Completed
5	Barh Municipal Council	6	Cleaned	Cleaning continues on regular basis	Completed	Completed
6	Mokama Municipal Council	16	Cleaned	Cleaning continues on regular basis	Completed	Completed
7	Munger Municipal Council	3	Cleaned	Cleaning continues on regular basis	Completed	Completed
8	Sultanganj Municipal Council	2	Cleaned	Cleaning continues on regular basis	Completed	Completed
9	Bhagalpur Municipal Corporation	7	Cleaned	Cleaning continues on regular basis	Completed	Completed

10	Buxar Municipal Council	7	Cleaned	Cleaning continues on regular basis	1 Installed and rest to be completed	Completed
11	Barahiya Nagar Panchayat	2	Cleaned	Cleaning continues on regular basis	Completed	Completed
12	Jamalpur Municipal Council	0	_	_	_	_
13	Kahalgaon Nagar Panchayat	3	Cleaned	Cleaning continues on regular basis	Completed	Completed
14	Chhapra Municipal Council	1	Cleaned	Cleaning continues on regular basis	Completed	Completed
15	Sonepur Nagar Panchayat	6	Cleaned	Cleaning continues on regular basis	Completed	Completed
16	Hajipur Municipal Council	8	Cleaned	Cleaning continues on regular basis	Completed	Completed
17	Begusarai Municipal Council	1	Cleaned	Cleaning continues on regular basis	Completed	Completed
18	Khagariya Municipal Council	2	Cleaned	Cleaning continues on regular basis	Completed	Completed
19	Naugachia Nagar Panchayat	1	Cleaned	Cleaning continues on regular basis	Completed	Completed
20	Dighwara Nagar Panchayat	1	Cleaned	Cleaning continues on regular basis	Completed	Completed
21	Teghra Nagar Panchayat	2	Cleaned	Cleaning continues on regular basis	Completed	Completed
22	Manihari Nagar Panchayat	1	Cleaned	Cleaning continues on regular basis	Completed	Completed

बिहार राज्य जैव विविधता पर्षद

(जैव विविधता अधिनियम–2002 के अंतर्गत गठित सरकार का एक स्वायत्त सांविधिक निकाय)

पत्रांक :– बी०–327, दिनांक :– 28.10.2020

प्रेषक,

संजय कुमार सिन्हा, भा० व० से०,
सचिव,
बिहार राज्य जैव विविधता पर्षद्, पटना।

सेवा में,

1. श्री संतोष तिवारी, भा०व०से०
अपर प्रधान मुख्य वन संरक्षक,
पर्यावरण जलवायु परिवर्तन एवं आर्द्रभूमि, बिहार।
e-mail:-apccf.cc@gmail.com

2. श्री संजय दयाल,
विशेष सचिव,
नगर विकास एवं आवास विभाग।
e-mail:-spmgbihar@gmail.com

विषय : (क) गंगा नदी की जैव विविधता का आकलन।

(ख) माननीय राष्ट्रीय हरित अधिकरण (NGT) प्रधान बेंच, नई दिल्ली में दायर O.A. No-200/2014: एम० सी० मेहता बनाम भारत संघ व अन्य के दिनांक 13.08.2020 को पारित आदेश के अनुपालन के संबंध में।

प्रसंग : (1) अपर प्रधान मुख्य वन संरक्षक, पर्यावरण जलवायु परिवर्तन एवं आर्द्रभूमि, बिहार, का पत्रांक–396, दिनांक–23.09.2020

(2) नगर विकास एवं आवास विभाग का पत्रांक–BGCMS/2017/AP of SWM & SM for NGT/21(Part-2/B-394/न०वि० एवं आ०वि०, पटना, दिनांक–15.09.2020

महाशय,

उपर्युक्त विषयक एवं प्रसंगाधीन पत्रों के द्वारा दिये गये निर्देश के आलोक में माननीय राष्ट्रीय हरित अधिकरण (NGT) के आदेशो के अनुपालन में गंगा नदी की जैव विविधता का आकलन किया जाना है।

ज्ञातव्य है कि गंगा नदी के पूरे विस्तार जिसमे बिहार राज्य में पड़ने वाले Stretch भी सम्मिलित है, का जैव विविधता सर्वेक्षण भारतीय वन्य प्राणी संस्थान (WII), देहरादून द्वारा किया जा चुका है। जिसे भारतीय वन्य प्राणी संस्थान (WII) ने निम्न प्रतिवेदनों में प्रकाशित किया है।

(क) Biodiversity conservation and Ganga rejuvenation Bihar Interim report, 2019 PP.-52: Wildlife Institute of India.

(ख) Ganga river state of biodiversity at a glance 2018. PP.-69: Wildlife Institute of India.

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(ग) Macrofauna of the Ganga river : Status and conservation of selected species. May 2018 PP.-176: Wildlife Institute of India.

(घ) Trees of Ganga, 2018. PP.-100: Wildlife Institute of India.

(ङ) Wings of Ganga: River and wetland birds of Ganga river Part-1, 2017 PP.-76: Wildlife Institute of India.

(च) Wings of Ganga: River and wetland birds of Ganga river Part-II, 2018 PP.-88.

(छ) Wings of Ganga : River and wetland birds of Ganga river Part-III, 2019 PP.-76.

सभी रिपोर्ट की PDF Copy इस पत्र के साथ संलग्न की जा रही है।

मेरे विचार से यह सर्वेक्षण व्यापक है, वैज्ञानिक है, तथा पर्याप्त है। इस जैव विविधता सर्वेक्षण में भारतीय वन्य प्राणी संस्थान (WII) के वैज्ञानिकों के साथ गंगा प्रहरी (बिहार में कुल संख्या–415) जिन्हें भारतीय वन्य प्राणी संस्थान (WII) द्वारा विशेष रूप से जैव विविधता सर्वेक्षण के लिए प्रशिक्षित किया है, को सम्मिलित किया गया है। भारतीय वन्य प्राणी संस्थान (WII) द्वारा अभी भी गंगा नदी की जैव विविधता सर्वेक्षण किया जा रहा है, जिसकी रिपोर्ट भी प्रकाशन के अंतिम चरण में है।

भारतीय वन्य प्राणी संस्थान (WII) द्वारा किये गये सर्वेक्षण के अतिरिक्त यदि बिहार में गंगा नदी के जैव विविधता में किसी बिन्दु विशेष के सर्वेक्षण की आवयश्कता है, तो उसे सूचित करने की कृपा की जाये ताकि बिहार राज्य जैव विविधता पर्षद् द्वारा उसके लिए एक अतिरिक्त योजना तैयार की जाये।

आपका विश्वासी

अनु०–यथोक्त।

28/10/2020

(संजय कुमार सिन्हा)
सचिव,
बिहार राज्य जैव विविधता पर्षद्, पटना।

ज्ञापांकः– 870- 327 दिनांकः– 28.10.2020

प्रतिलिपिः– प्रधान सचिव, पर्यावरण, वन एवं जलवायु परिवर्तन विभाग, बिहार सरकार/सचिव, नगर विकास एवं आवास विभाग, बिहार सरकार, पटना को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

28/10/2020

(संजय कुमार सिन्हा)
सचिव,
बिहार राज्य जैव विविधता पर्षद्, पटना।

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नमामि गंगे

INTERIM REPORT

BIODIVERSITY CONSERVATION AND GANGA REJUVENATION

बिहार सरकार

भारतीय वन्यजीव संस्थान
Wildlife Institute of India

BIH

INTERIM REPORT

BIODIVERSITY CONSERVATION AND GANGA REJUVENATION

Cover Photo: Shaikh Rahim Rashid

Wildlife Institute of India,
Chandrabani
Dehradun - 248001,
Uttarakhand India

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http://wii.gov.in/nmcg/news_events
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ACKNOWLEDGMENTS

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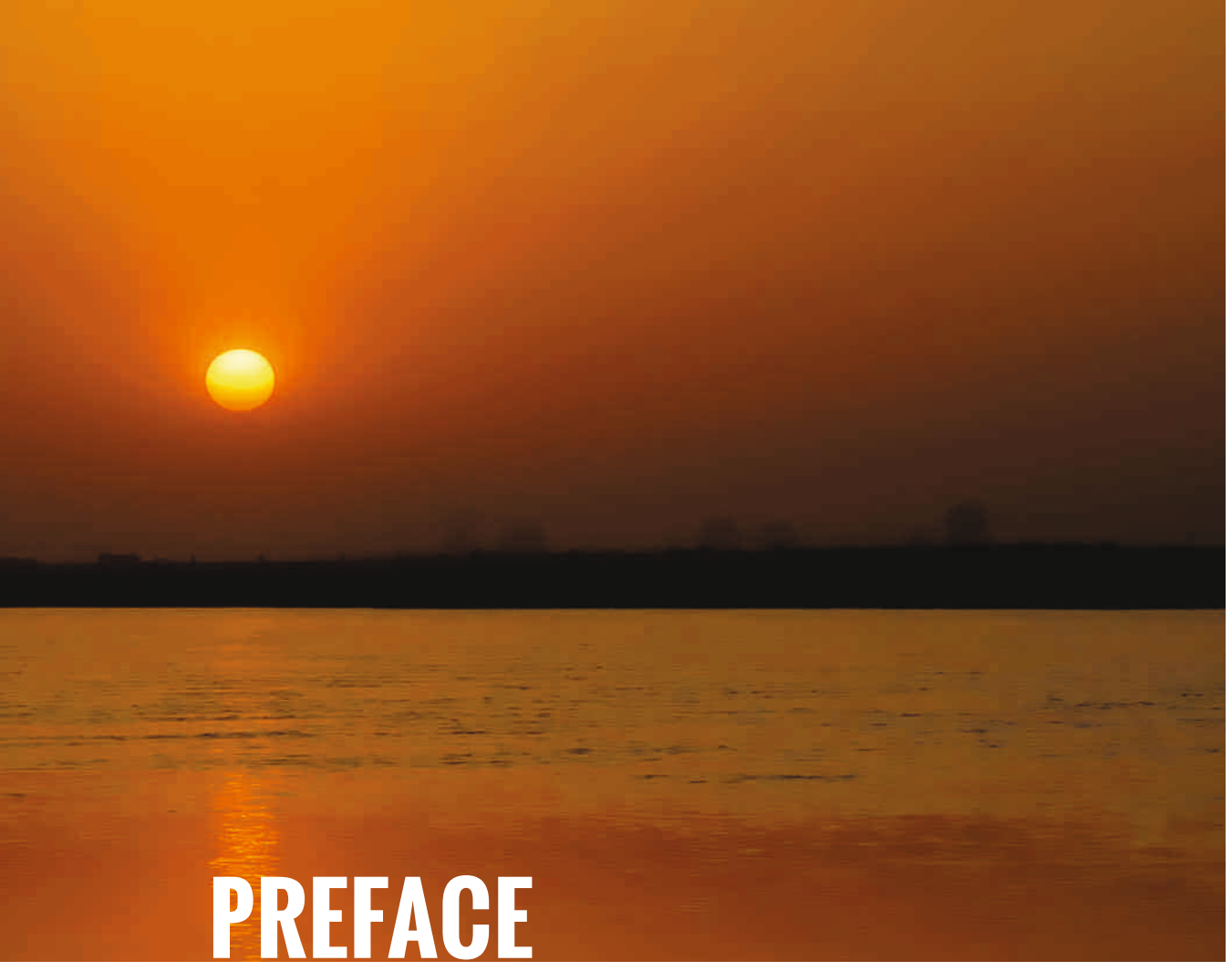
We acknowledge the active participation of local governing bodies, non-government organizations, especially Mandar Natura Club, enforcement agencies, educational institutions, civil society groups associated with National Rural Livelihoods Mission and State Rural Livelihood Mission, local communities and media in our endeavor.



PREFACE

The restoration of the Ganga River and its biodiversity is undoubtedly a challenging task. In addition to the complexities of river ecosystem conservation, the high resource dependence of the local communities residing along the river banks has also to be factored in. In view of this, the Wildlife Institute of India has taken up the 'Biodiversity Conservation and Ganga Rejuvenation' project in collaboration with the National Mission for Clean Ganga (NMCG). A comprehensive strategy to restore the biodiversity values of the Ganga River is being implemented under the project.

The pursuance of the goal of the project 'Science-based species restoration of the Ganga River through the involvement of multiple stakeholders' entails not only robust research and monitoring but also liaisoning with the multitude of stakeholders at the village, districts, state and national levels.

The Ganga Aqualife Conservation Monitoring Centre (GACMC) established at the Wildlife Institute of India (WII) campus in Dehra Dun, aims to be a dynamic centre of excellence for Ganga aqualife conservation and spearhead the conservation planning process through active synchronization with the various field teams working on different aspects of the project.

Under the project, various activites have been conducted in the state of Bihar. Rapid biodiversity assessments and survey of intensive monitoring sites in the state of Bihar confirm the rich and diverse aqualife retained by the Ganga River in the face of multiple stressors including reduced flows, pollution and unsustainable resource use.

Spearhead team comprising 13 officials of the Bihar Forest Department, has been constituted and members of the spearhead team are coordinating local level workshops and training activities. Several stakeholders' including Forest officials, Veterinarians, representatives from local governing bodies, local communities and students have been provided trainings on the various aspects of aqualife conservation.

A cadre of motivated and trained youth known as *Ganga Prahari* has been created throughout the five Ganga River states, including Bihar. These Guardians of Ganga are torchbearers of conservation initiatives in Bihar and are carrying forward the conservation activities.

This report summarizes the activities done under the project in the state of Bihar.

Indian National River, the Ganga, is lifeline to millions of inhabitants along its course and it is deeply embedded in the religious and cultural milieu of Indian civilization since ancient times. The River is one of the largest living river systems in the world and nurtures a vast array of floral and faunal species. The Ganga River originating from Gaumukh of the Gangotri glacier in Uttarakhand, flows through 5 states and become one with the Bay of Bengal at Gangasagar in West Bengal. The mainstem, as Padma, enters Bangladesh at the border near Farakka in West Bengal. The Ganga River basin expands over 11 states, nourishes over 500 million people and supports unique assemblage of biodiversity in three distinct biogeographic zones, *viz*. Himalayan, Gangetic Plain and Coastal Zone.

GANGA
THE LIFELINE OF MILLIONS

The state of Bihar is a part of the Gangetic Plain. The total stretch of the Ganga River in Bihar is 445 km, of which approximately 100 km is shared between Uttar Pradesh and Bihar. The active floodplain of the Ganga River is 535 km in Bihar state. As the river passes through the vast alluvium in Bihar, it is joined by the Ghagra River, at Revalganj and Son River, near Patna. Later Gandak River joins at Hazipur. A combined stream of Punpun, Morhan and Dorha rivers, meets the Ganga River at Fatuah. Small tributaries such as Harohar, Dhanayan, Mohani, Dharhara Nadi, Burhi Gandak, Man Nadi, and Jumania nadia join near Bhagalpur. At Kursela, downstream of Bhagalpur, it receives the Kosi River, one of the major contributor of flow to the Ganga, joins at Kursela at downstream Bhagalpur.

Course of Ganga River in Bihar

The Ganga Basin is home to about 25000 floral and faunal species. The aquatic faunal diversity of Ganga River is represented by the Gangetic river dolphin (*Platanista gangetica*), three species of otter, three crocodilian species including the critically endangered Gharial (*Gavialis gangeticus*), and at least 12 species of freshwater turtles including critically endangered *Batagur kachuga* and several fish species such as critically endangered Ganges shark (*Glyphis gangeticus*), Ganges stingray (*Himantura fluviatilis*), Mahseers (*Tor* spp.), Hilsa (*Tenualosa ilisha*) and several species of endemic freshwater crabs. In addition to these species, obligate aquatic species like waterbirds and island nesting birds are important component of the biodiversity.

AVIRAL AND NIRMAL DHARA NMCG PILLARS

The differential resource use by various stakeholders has resulted in conflicting resource use scenario in the Ganga River and the river ecosystem and its biodiversity are thus facing unprecedented habitat alterations and coping with a perilous amalgam of anthropogenic stressors.

To address this issue, the Ministry of Water Resources, River Development and Ganga Rejuvenation (MoWR,RD&GR), Government of India established the National Mission for Clean Ganga (NMCG) and initiated Namami Gange Programme with a comprehensive approach through 8 pillars of river restoration, viz. Sewerage Treatment Infrastructure, River-Surface Cleaning, Afforestation, Industrial Effluent Monitoring, River-Front Development, Public Awareness, Ganga Gram and most importantly, Biodiversity Conservation. NMCG identified Wildlife Institute of India (WII) as a lead partner institution for biodiversity conservation and aquatic species restoration in Ganga River through a collaborative project "Biodiversity Conservation and Ganga Rejuvenation". This project aims to prepare a science-based aquatic species restoration plan for Ganga River by involving multiple stakeholders.

Biodiversity Conservation: A systematic approach

The NMCG-WII project "Biodiversity Conservation and Ganga Rejuvenation" has six components.

1

Establish Ganga Aqualife Conservation Monitoring Centre at WII Dehra Dun for science based conservation planning and dissemination of information.

2

Prepare biodiversity profile of Ganga River and develop pilot species restoration plans for select stretches and species.

3

Develop capacity of Forest Department and other stakeholders of the Ganga River States in monitoring of identified species of conservation significance.

4

Assist NMCG in establishing the rescue and rehabilitation centres for endangered fauna of the Ganga at select sites by developing human resources and infrastructure with support from the Forest and Veterinary departments.

5

Elicit participation of local communities in NMCG initiatives by providing platforms through Panchayati Raj System, capacity development and payment for ecosystem services.

6

Develop and implement conservation education programmes for the river side communities of the Ganga River.

The project is being implemented in the five Ganga River States. This report provides information on project activities undertaken in the state of Bihar.

THE BEGINNING OF COMMITMENT TOWARDS 'MOTHER GANGA'

National level project launch at Haridwar, Uttarakhand

National Level Project Launch

The project was launched at National Level on 7th July 2016 at Haridwar. The occasion was graced by Sushri Uma Bharti, Hon'ble Union Minister for Drinking Water and Sanitation, Shri Nitin Gadkari, Hon'ble Union Minister of Water Resources, River Development and Gang a Rejuvenation and Hon'ble Union Minister of Road Transport, Highways and Shipping of India and Dr. Mahesh Sharma, Hon'ble Minister of Tourism and Culture.

The project was simultaneously launched at Bhagalpur in Bihar.

Launch of the project at Bhagalpur, Bihar

ENSURING COLLABORATION AND SUPPORT

Liaison with partners in conservation

The Forest Department of Bihar is partner in WII's effort of Ganga aqualife conservation and is lending it's support through patronage, coordination and active involvement.

Cooperation and collaboration have been ensured for carrying out ecological assessment of the Ganga River and other field related activities.

Stakeholder Consultation Workshop in Bihar

'Stakeholder Consultation Workshop' was organized on 5th October 2017, to apprise the Bihar Forest Department personnel about the aims, objectives and importance of the Wildlife Institute of India's projects titled "Biodiversity Conservation and Ganga Rejuvenation" and the CAMPA funded "Development of Conservation Action Plan for River Dolphins" to develop a partnership with the Bihar Forest Department.

Stakeholder Consultation Workshop in Bihar

During this workshop, the participants were divided into three groups and they discussed on

Thematic groups	Deliberations
Group 1: Major issues affecting river biodiversity conservation in Bihar	Following issues were identified: numbers of large vessels, unsustainable fishing through dolphin oil baiting and mosquito nets, poaching of aquatic wildlife, disruption in river-bed morphology by dredging and release of heavy metals like arsenic, sand mining and loss of nesting and basking habitats, weak enforcement in regulations in fishing practices (season, net size), wastewater inflow, loss of flood plain wetlands, riverbed agriculture, floodplain landuse change
Group 2: Existing participatory mechanisms at National and State levels to be used for Biodiversity Conservation in aquatic ecosystems and livelihood security of local communities. Eliciting participation of local people and building their capacities for conservation.	Need of conducting a zonal and regional mapping of resources and capital in order to develop site specific strategies emerged during the discussion. Skill development via training of local communities, should be undertaken to reduce the anthropogenic pressure with respect to livelihood on the river. Year round awareness activities and an advertisement campaign to promote or market a healthy river must be undertaken. The consequences of activities detrimental to the river must be illustrated in a threatening manner in order to convince the people.
Group 3: Exploring Collaborative Engagements : Role of different organizations/agencies in conservation of River dolphin and aquatic biodiversity. Synergistic partnerships and platforms for collaborations. Preparing future generations for aquatic species conservation and monitoring.	At national level policy and decision making should be based on the information provided by state and regional level partners and agencies. Forest department should involve universities and NGOs in monitoring, protection, conservation, awareness activities. Irrigation department should maintain the flow and depth of the Ganga River, based on ecological flow principles. Inland Waterways Authority should consider aquatic species activities pattern and water requirement to minimize the impacts. Educational institute should generate information through regular research and monitoring, and prepare future generation for regular monitoring and assessment of the Ganga River. Local bodies and civil societies should implement projects related to conservation of biodiversity and develop alternative livelihoods for dependent communities.

THE DIVINE TOUCH: THRIVING AQUALIFE OF THE GANGA RIVER

A journey with Ganga

GATHERING INFORMATION THROUGH LITERATURE AND BIODIVERSITY ASSESSMENTS

Extensive literature review was carried out to derive the historical distribution of the priority species of the Ganga River and its tributaries. The distribution maps of these species were prepared to identify changes in their range from historical to present day.

Researchers carrying out survey in Ganga River

Rapid Biodiversity Assessments of the Ganga River between Devprayag to Farraka Barrage covering a total distance of 2025 km were undertaken during 2017 and 2018. The survey strengthened the information on the status and distribution of the priority species in the Ganga River. Apart from undertaking rapid survey of the Ganga River, five intensive monitoring sites were also surveyed along the Ganga River in the state of Bihar.

Intensive Monitoring Sites in Bihar

The rapid biodiversity assessments revealed that Gangetic river dolphins are present throughout the length of the Ganga River in Bihar, from Buxar to Kahalgaon. Large congregations were observed in deep water pools (>3 m). Optimal habitats were present in the surveyed stretch, however dissolved oxygen, channel depth, fishing and disturbance due to human activities governed occurrence of Gangetic river dolphins.

The Gangetic river dolphins are getting increasingly rare in small tributaries due to reduced flow and are now restricted to large tributaries of Ganga River and in deeper pools within the Ganga River.

Distribution of Gangetic river dolphin in Ganga River, Bihar

Gangetic River Dolphin

A group of Smooth-coated otter near Vikaramshilla Gangetic River Dolphin Sanctuary, Bihar

Distribution of Smooth-coated otter in Ganga River, Bihar

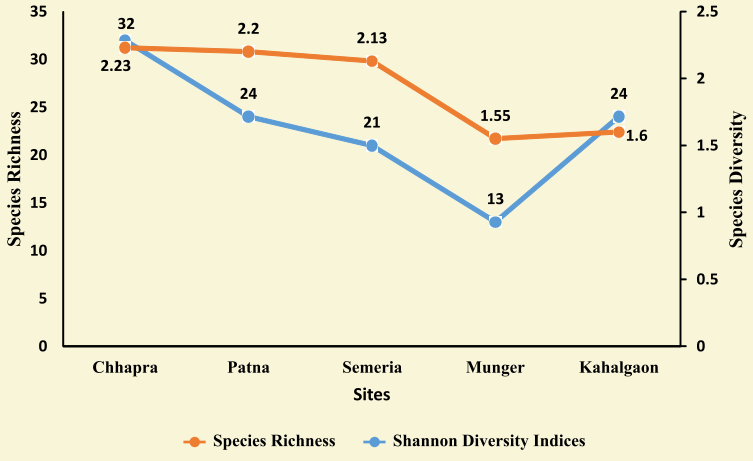
Otters once distributed in upper mountainous reaches of Ganga River, lower Gangetic plain and coasts, are now restricted to Protected Areas and undisturbed areas along Ganga River.

During the rapid biodiversity assessments indirect and direct signs of otter presence were found at Vikramshilla Gangetic Dolphin Sanctuary.

A flock of Bar-headed geese

The habitat variability in Ganga River and its wetlands provided suitable wintering grounds for migratory waterbirds and also sustain resident breeding birds.

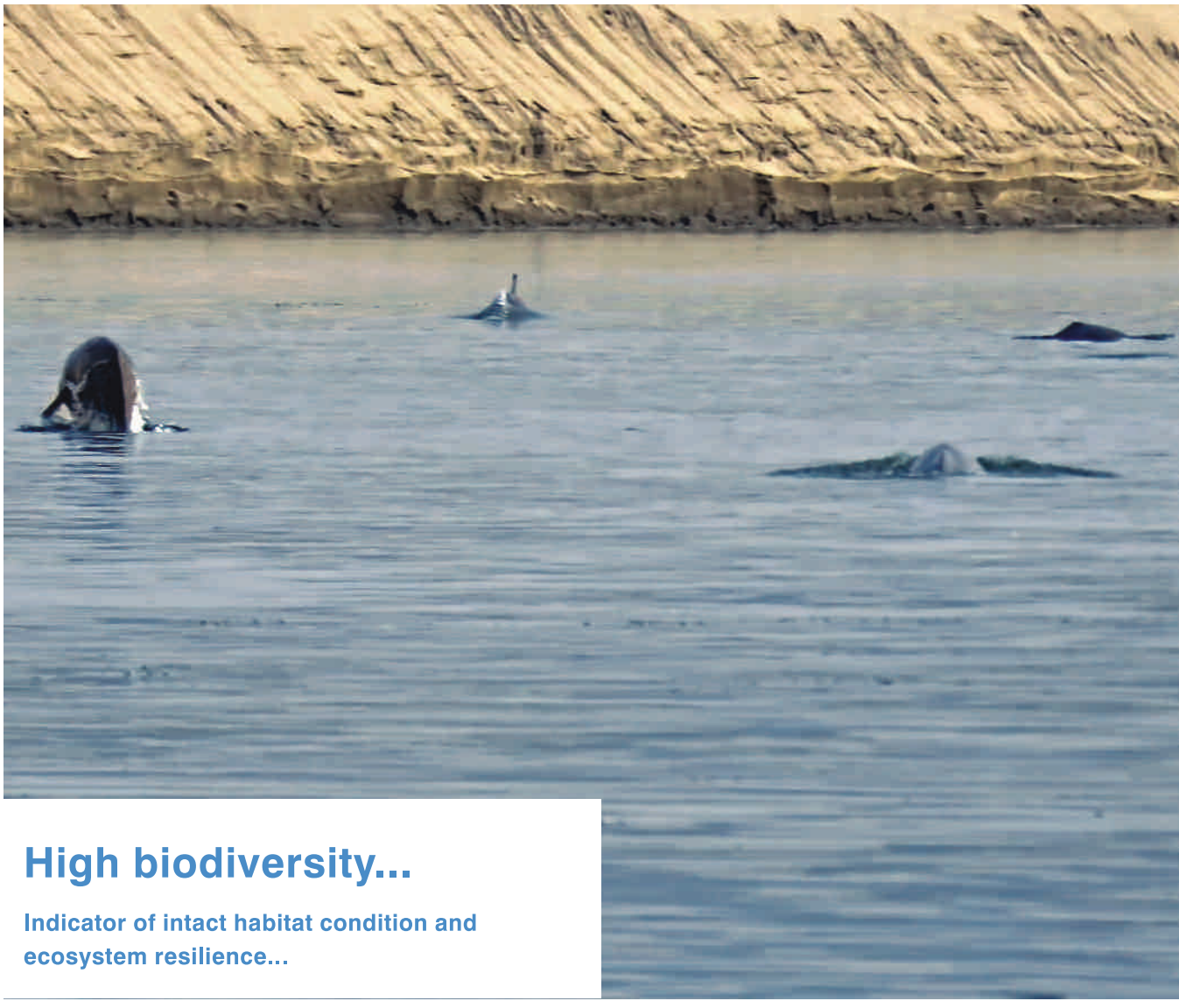
During survey of the intensive monitoring sites, a total of 45 species of waterbirds belonging to 18 families were recorded.



Waterbird species diversity and richness in the five intensive monitoring sites, Bihar

The 13 species of turtles, reported from Ganga River are distributed throughout the mainstem according to their habitat requirements. Once abundant, populations of most larger species have now declined or locally extirpated due to hunting, illegal trade, habitat loss and entanglement in fishing gears. Various in-situ and ex-situ efforts to restore populations of these species are ongoing.

Pangshura smithii individuals basking



High biodiversity...

Indicator of intact habitat condition and ecosystem resilience...

During survey of the intensive monitoring sites 23 species of odonates were recorded along the Ganga River in Bihar, of which 14 species were of dragonflies and 9 species were of damselflies. Six species of herpetofauna (amphibians and squamata reptile) belonging to three families were recorded. 25 fish species belonging to 12 families were also recorded from the intensive monitoring sites.

FIRST STEP TOWARDS DERIVING RELATIONSHIPS BETWEEN RIVER CONDITIONS AND OCCURRENCE OF MAJOR SPECIES

Status of habitat defining parameters such as water depth, river bank characteristics, and anthropogenic activities were observed along the Ganga River.

DEPTH PROFILE OF GANGA RIVER IN BIHAR

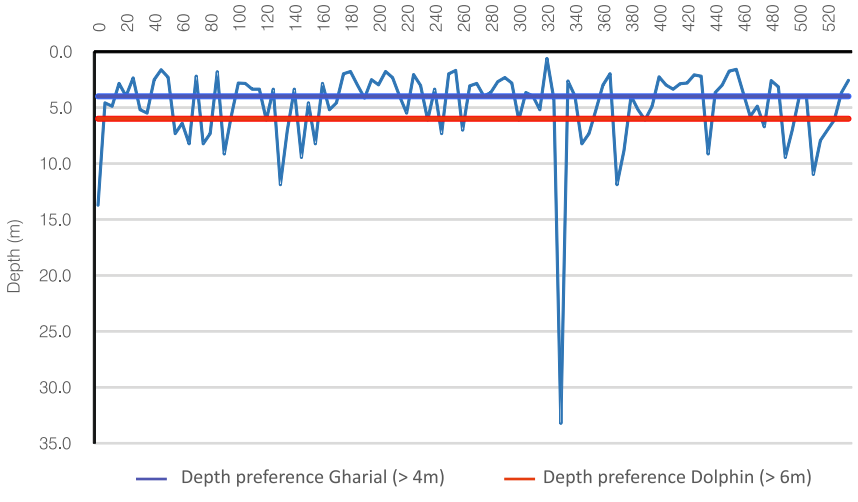
10% of the river is shallow with water depth < 2 m

46.5% of the river is 2-4 m deep

15.5% of the river is 4-6 m deep

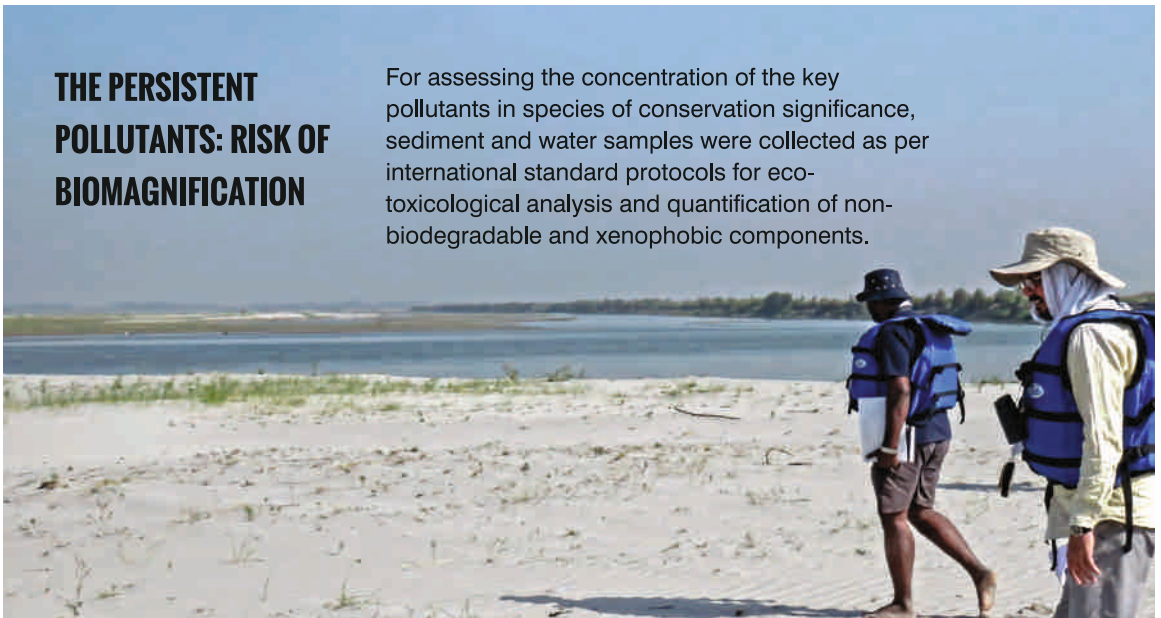
28% of the river pools are > 6 m in depth

Depth profile of Ganga River from Buxar to Kahalgaon in Bihar



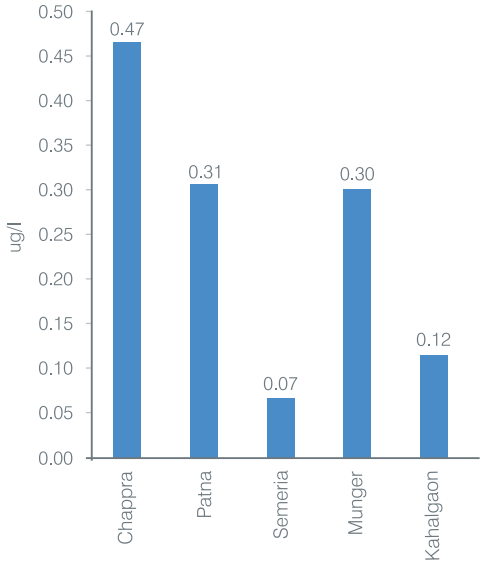
THE PERSISTENT POLLUTANTS: RISK OF BIOMAGNIFICATION

For assessing the concentration of the key pollutants in species of conservation significance, sediment and water samples were collected as per international standard protocols for eco-toxicological analysis and quantification of non-biodegradable and xenophobic components.

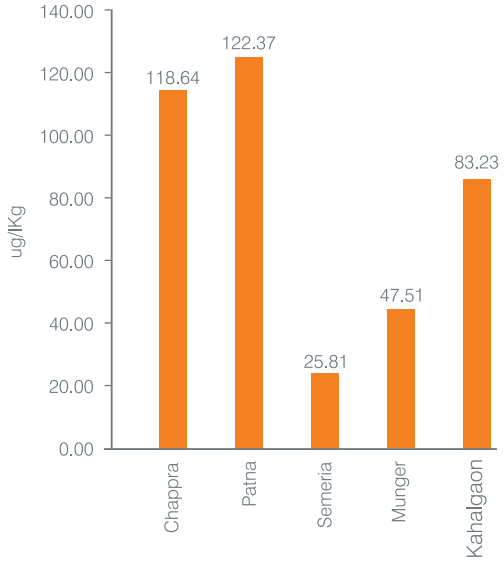


PESTICIDE CONCENTRATION IN THE GANGA RIVER

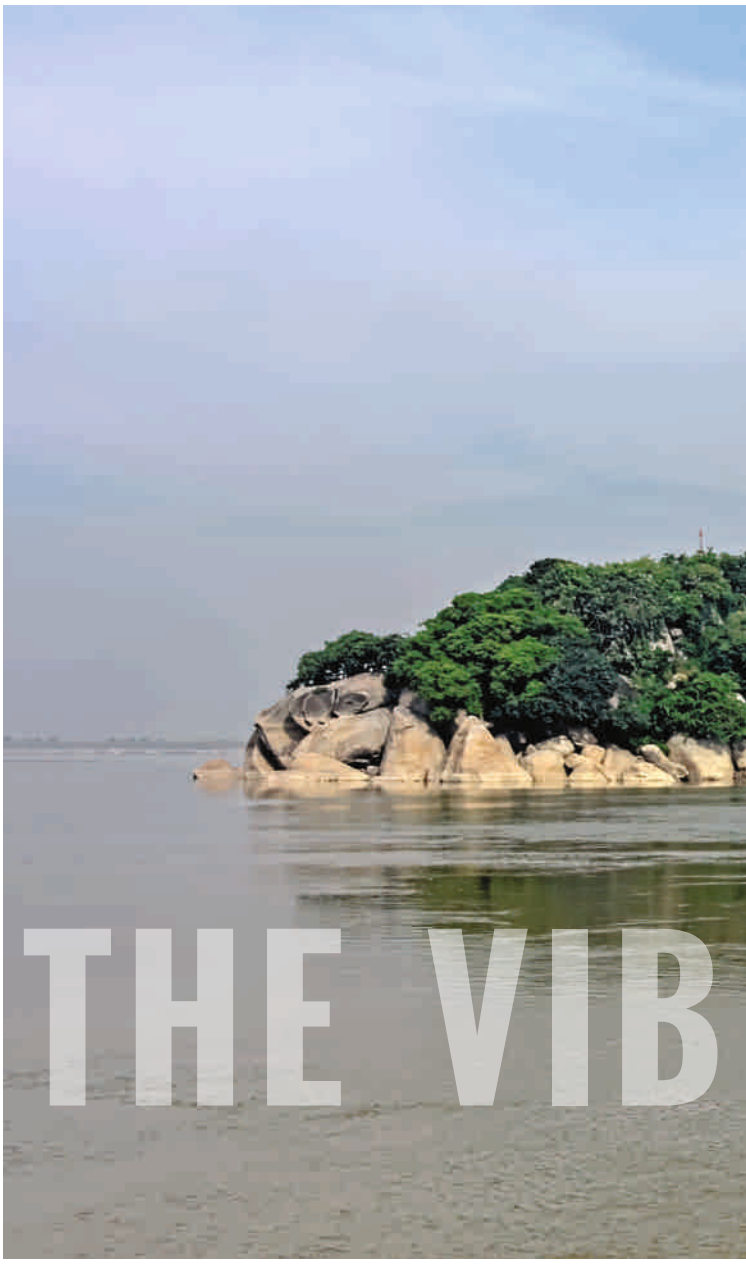
Highest pesticide concentration in water and sediments was found for Chappra and for Patna respectively.



Pesticide concentration in water samples collected from five intensive monitoring sites in Bihar



Pesticide concentration in sediment at five intensive monitoring sites in Bihar



IN SEARCH OF CONSERVATION PRIORITY AREAS IN BIHAR

The 296 km stretch from Chhapra, Saran District, to Kahalgaon, Bhagalpur District, has been identified as a high biodiversity stretch in the state of Bihar. Falling within the Lower Gangetic Plain (7B), the Ganga River in this stretch is very wide, highly braided and meandering and passes through an extensive alluvial plain. The flow regime of this stretch is enhanced by substantial inflows from the Ghaghra and Son rivers near Chhapra and from the Gandak River at Patna.

RANT GANGA

Landscape near the identified high biodiversity stretch in Bihar

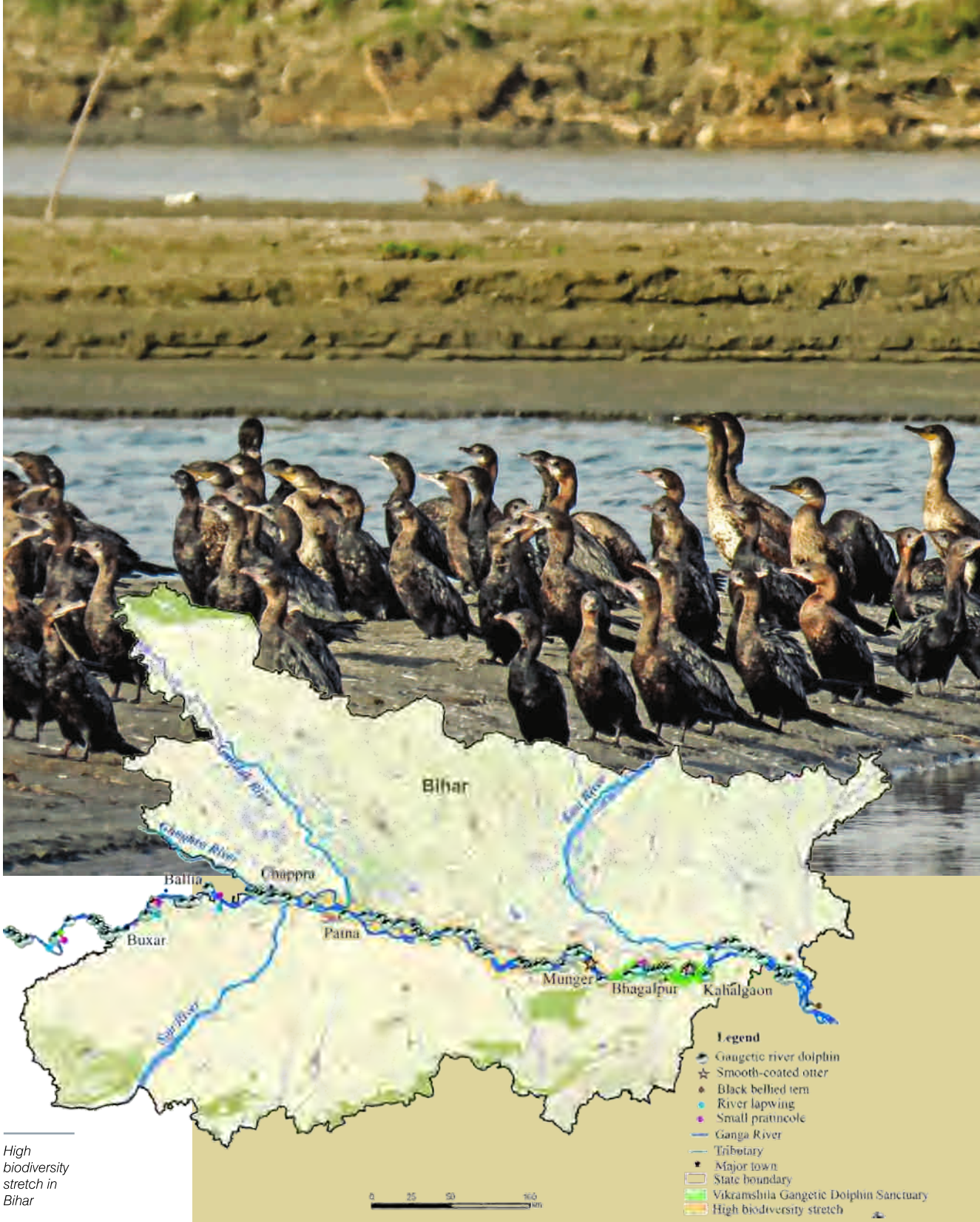
There are major human settlements at Chhapra, Patna, Munger and Bhagalpur. The urban population and rural communities in this region are dependent on the Ganga River for their daily ablutions, drinking water, irrigation, fishing, municipal and industrial water, sand mining and daily commute.

BIODIVERSITY VALUE AND ECOLOGICAL SIGNIFICANCE

a. Gangetic river dolphins, smooth-coated otters, 45 waterbird species, 61 fish species and 23 odonoate species were encountered during the survey.

b. About 65 km of this stretch from Sultanganj to Kahalgaon, is protected as Vikramshila Gangetic Dolphin Sanctuary.

c. Large, stable islands, meanders and ox-bow lakes within this stretch provide a mosaic of habitats for the aquatic fauna.



High biodiversity stretch in Bihar

THREATS

1

The floodplains and the natural vegetation of this stretch of the river have been extensively replaced by croplands.

2

Unsustainable biological resource extraction is widespread in this stretch of the river.

3

Bank feature alteration due to land-use changes such as agriculture, construction activities and sand mining has disrupted the lateral connectivity of the river in the floodplain.

4

Sandbar cultivation has rendered the habitat unsuitable for use as nesting sites by turtles.

5

The nitrate level was found to be higher than 10mg/L at Revelganj, Munger, and Kahalgaon along the Ganga River.

Spatial distribution of threats to the biodiversity of Ganga River, Bihar

CAPACITY BUILDING OF FOREST DEPARTMENT AND OTHER STAKEHOLDERS

With the objective of developing capacity of the State Forest Departments, and other stakeholders for monitoring of identified species of conservation significance, management planning of wetlands and aquatic habitat, participatory management and conservation education, various training programmes have been conducted by WII. The trained human resource will carry forward the science-based species conservation and biodiversity restoration activities along the Ganga River.

First national level spearhead team training, Dehra Dun

THE LEGACY CONTINUES...

Spearhead Team: The Flagbearers

The spearhead team for the state of Bihar has been established, which comprises 13 forest officials. The spearhead team was trained during the first National level training workshop on 'Biodiversity conservation and monitoring of aquatic species of Ganga' held during 6th to 12th November, 2017 at Wildlife Institute of India, Dehra Dun, Uttarakhand. Subsequently, a field visit was organized from 10th to 12th November, 2017 at the National Chambal Sanctuary, Morena, Madhya Pradesh.

Training cum sensitization workshops

Two training and five sensitization workshops were conducted, in which 14 participants were trained and 512 were sensitized. These workshops were attended by the representative from the Bihar State Forest Department, Professors, College and school students, media personnel, Panchayai Raj Institutions and local communities.

Training workshop in progress, Dehra Dun

Activity	Name	Place	Number of participants
Training workshops	Biodiversity conservation and monitoring of aquatic species of Ganga	Dehra Dun, Uttarakhand	13
	Ecodevelopment planning for biodiversity conservation	Dehra Dun, Uttarakhand	1
Sensitization workshops	Biodiversity conservation and Ganga rejuvenation	Nalanda University, Nalanda, Bihar	35
	Biodiversity conservation and Ganga rejuvenation	Moiuddin Nagar, Samastipur, Bihar	211
	Biodiversity conservation and Ganga rejuvenation	Bhagalpur, Bihar	184
	Beat Plastic Pollution	Bhagalpur, Bihar	51
	Beat Plastic Pollution	Kahalgaon, Bihar	31

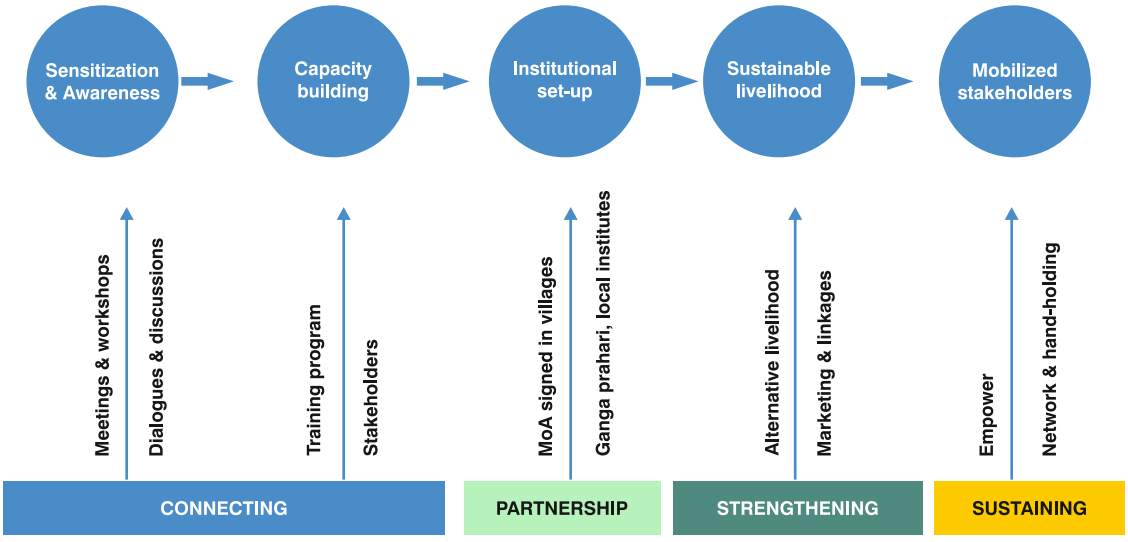
OUR RIVER, OUR RESPONSIBILITY

TRUST, LIVELIHOOD, CONSERVATION

The Ganga flows through a landscape with diverse ecological, social and economic conditions resulting in an array of stakeholders, who value this river and its associated ecosystems for a myriad of reasons. WII is addressing those overlapping and interacting mechanisms by which participation is expected to enhance river basin management by providing space for deliberation and consensus building for better quality decisions, mobilizing and developing human and social capital for better quality decisions and their implementation, and by raising the legitimacy of decisions to facilitate their implementation.

Reaching out to the stakeholders

Approach to community mobilization



DEVELOP LINKAGES BY REVIVING EXISTING INSTITUTIONS AND FORMING NEW ONES WITH THE SUPPORT OF PANCHAYATI RAJ INSTITUTIONS

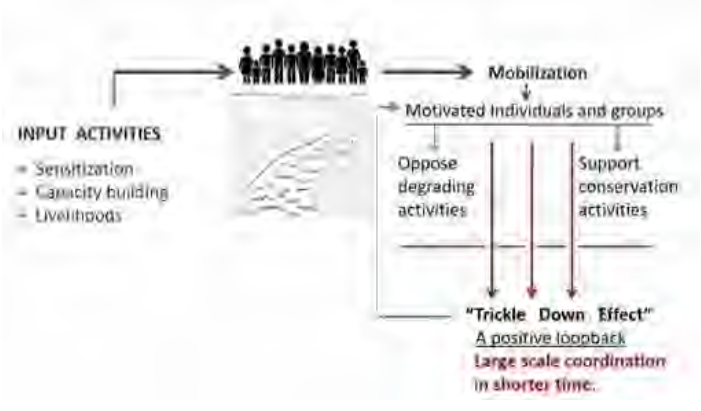
Meetings and workshops were conducted at various levels

1	2	14	100	19
District	Block	Village Panchayat	Household survey	Consultation meetings and workshops

During these meetings and workshops, 326 stakeholders were sensitized about the status of biodiversity of the Ganga River and the role of local communities in conservation.

PATHWAY TO COMMUNITY MOBILIZATION

Activities conducted in form of meetings, workshops, livelihood interventions, mobilized the participants to take initiatives and volunteer the conservation efforts. Engagement with villagers resulted in a trickle-down effect within their respective communities and motivated individuals became Ganga Praharis. These motivated individuals are conducting various conservation related activities on their own, within their community.

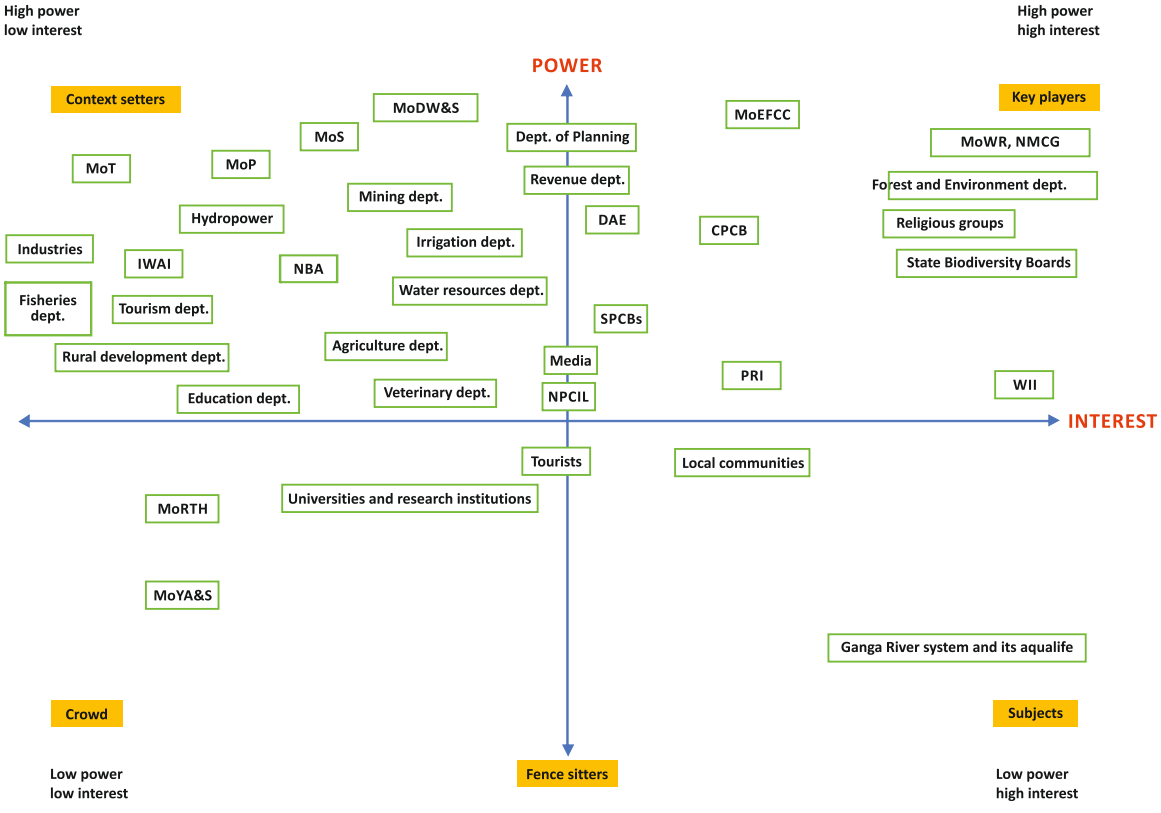


BUILDING TRUST, BUILDING BRIDGES

Stakeholder's participation in Ganga aqualife conservation

Stakeholder consultation meetings were carried out with the State Forest Departments, local governing bodies, educational institutions such as Patna University, Nalanda University, Tilka Manjhi Bhagalpur University, College of Agriculture Engineering - PUSA and local NGOs with the view to identify the stakeholders and bring all on a common platform for conservation and restoration of biodiversity of Ganga River.

Identifying Stakeholders: the game of power



Consultation with stakeholders of the Ganga River

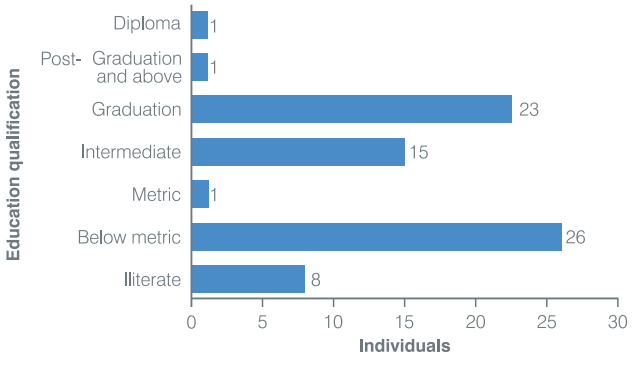
The stakeholders can be categorized into five broad categories, based on the type and level of power they hold and their interest in Ganga restoration:

- **Key players** are the change makers, those who are actively involved in either planning or execution of the river conservation plan. They have both the interest and power to acquire information, funds and manpower to carry out the conservation activities with ease. Key players include Forest and Environment dept., Water Resources dept. etc.
- **Context setters** have high levels of power but low interest for the cause. This may be attributed to the different priorities and goals of these stakeholder groups. Context setters of the Ganga River include Agriculture dept., Irrigation dept. etc.
- **Subjects** are the victims, with high levels of interest due to the dependence on the Ganga River for their survival and livelihood but have low power. The Ganga River, its aqualife and the local people living on its banks are the subjects.
- **Crowd** includes the bystanders, i.e., the ones with neither the power nor the interest for the cause.
- **Fence sitters** are neutral. They have high power but no commitment, hence their interests are flexible according to the situation and if persuaded can be great supporters of conservation issues.

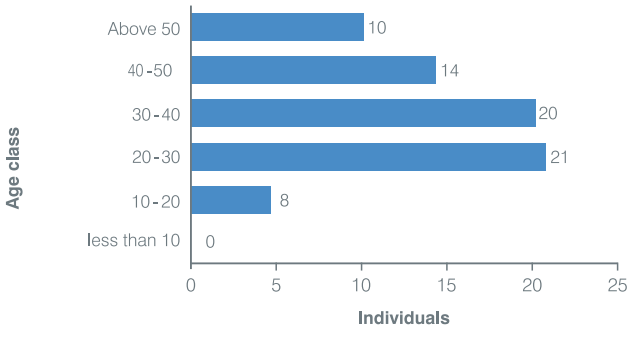
GUARDIANS OF GANGA: THE *GANGA PRAHARIS*

Map depicting presence of Ganga Praharis in Bihar

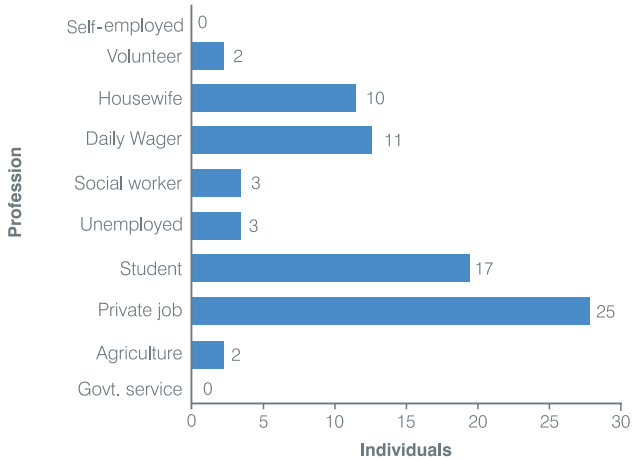
The primary criterion for identification of a *Ganga Prahari* was the passion and zeal to work towards conservation of Ganga River and its biodiversity. People with different educational qualification, age groups and profession have joined this cadre. To ensure a fair and just representation of women from these districts, women folk were also approached individually.



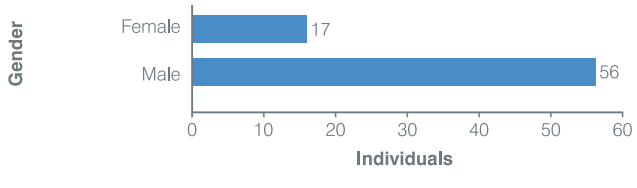
Educational qualification of Ganga Praharis of Bihar



Age class representation of Ganga Praharis of Bihar



Profession of Ganga Praharis of Bihar



Gender representation of Ganga Praharis of Bihar

IDENTIFICATION OF *GANGA PRAHARIS*

A total of 75 *Ganga Praharis* have been identified through series of site level consultative meetings, sensitization programmes, conducted in Bhagalpur, Samastipur, Kathiar, Purnea, Supaul districts of Bihar. Other agencies such as Bihar State Forest Department, Panchayati Raj Institutions, were also approached to facilitate the *Ganga Prahari* identification process.

Meetings and workshops conducted among the local communities mobilized the participants to take initiatives for the conservation efforts. These motivated individuals were identified and were trained to conserve the ecological integrity of the Ganga River. These guardians of the river known as *Ganga Praharis*, a cadre of motivated and trained volunteers from among the local communities are supporting local level institutions and actively participating in the activities carried out under the project.

LEARN, ADAPT, IMPLEMENT AND THRIVE

Ganga Praharis learning

Ganga Praharis were trained during the "First National level workshop for *Ganga Praharis* of five Ganga states" held at Rishikesh, Uttarakhand, in the month of March 2018. Additionally they have been trained in various aspects of ecological monitoring of the Ganga River and its biodiversity, tree plantation techniques, cleanliness drive, conduction of awareness programmes. *Ganga Praharis* are also being trained for alternate livelihood activities as per their interest and will be linked to various local environmental authorities, non-governmental organizations and other national academic and research institutions for sustainability of the programme.

Cleanliness drive organized by Ganga Praharis

Awareness programme conducted for Ganga Praharis in Naugachia, Bihar

Ganga Praharis adapting and implementing

Trained and motivated *Ganga Praharis* are contributing to conservation of Ganga aqualife, and are creating history at their respective sites. Since, their inception and training they have carried out about 60 activities:

Plantation drive during Ganga Vrikshroopan Saptah

Awareness programmes at various schools and colleges

Weekly cleanliness drives at Kahalgaon, Bhagalpur district

Activities conducted by Ganga Prahari in Bihar

S.No.	Type of Output Activity	Number	Total No. of Participants	Percentage of Female Participants
1	Awareness Programme	11	95	20
2	Cleanliness Drive	13	244	55
3	Ecological Survey	1	10	0
4	Plantation Drive	18	316	0
5	Rescue and Rehabilitation	6	41	0

Distribution of awareness material to school children at Navgachhia, Bhagalpur

Ganga Praharis have installed water dustbins and inflated tubes along the ghats. Duties have been assigned to each member on rotational bases to monitor the visitors so that they don't litter the ghat during peak rush hours in the morning and evening.

Water Dustbin installed by Ganga Praharis of Village Kahalgaon, Bhagalpur, Bihar

Catch them young: *Bal Ganga Prahari*

Interactive awareness workshops are being organized for school students with the support of the *Ganga Praharis*. As part of this activity WII aims to adopt schools established along the Ganga River and sensitize the students about the biodiversity of Ganga River and importance of conservation.

Interaction with School children at Govt. Secondary school, Samastipur

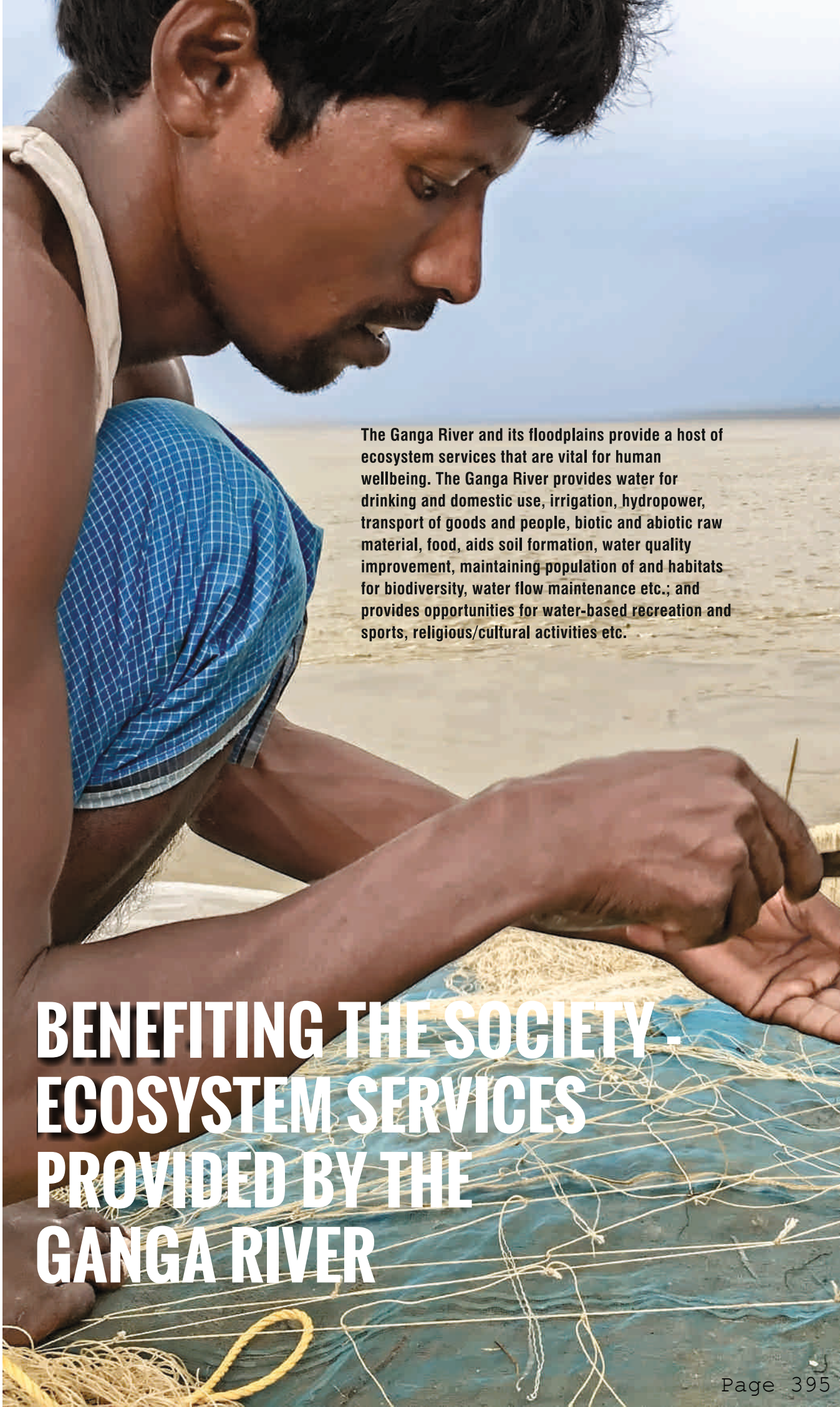
SUCCESS STORIES OF *GANGA PRAHARIS* FROM BIHAR

- Post sensitization, the *Ganga Praharis* of Bhagalpur are organizing regular cleanliness drives, plantation drives and awareness programmes. At Rajghat, Kahalgaon, the local angler community organizes the cleanliness drives and awareness programme regularly, which has resulted in visible improvement at Ghat. Women of this community actively participates in all the activities, which successfully sets an example of strengthened role of women in Ganga restoration.
- The *Ganga Praharis* of Navgachhia have joined hands to reduce plastic consumption and its disposal in Ganga River. They organized awareness programmes and talks in their communities and convinced the members of the local communities to replace plastic plates by eco-friendly plates (*Pattals*) in functions and ceremonies.
- Six incidences of priority species in distress have been reported by *Ganga Praharis* from Navgachhia and Bhagalpur. They also reported the incidences of accidental killing of the Gangetic river dolphin and recorded the morphometric details.

Weekly cleanliness drive at Rajghat, village Kahalgaon, Bhagalpur, Bihar

Ganga Praharis conducting awareness programme for school student at Navgachhia, Bhagalpur

Ganga Prahari taking morphometric details of dead Gangetic river dolphin



The Ganga River and its floodplains provide a host of ecosystem services that are vital for human wellbeing. The Ganga River provides water for drinking and domestic use, irrigation, hydropower, transport of goods and people, biotic and abiotic raw material, food, aids soil formation, water quality improvement, maintaining population of and habitats for biodiversity, water flow maintenance etc.; and provides opportunities for water-based recreation and sports, religious/cultural activities etc.

BENEFITING THE SOCIETY - ECOSYSTEM SERVICES PROVIDED BY THE GANGA RIVER

Reflecting the variations in geology, geomorphology, soil type, climate, flora and fauna, and social and economic issues, the main stem of the Ganga River can be divided into three stretches i.e. Upper Ganga (Gaumukh to Haridwar), Middle Ganga (Haridwar to Varanasi) and Lower Ganga (Varanasi to Ganga Sagar). The Lower Ganga stretch flows through the Indian states of Uttar Pradesh, Bihar, Jharkhand and West Bengal, and traverses two biogeographic zones, viz. Gangetic Plains and Coasts, harbouring a unique assemblage of floral and faunal diversity, and a population density of 1360.43 persons per km^2.

Description of the Lower Ganga Stretch

	LOWER GANGA Varanasi to Ganga Sagar ~ 1134 Km
Geology & Geomorphology	Gangetic plain region Distributary-delta system south and east of Farakka Craton margin & valley interfluve landscape A partly confined and confined floodplain Sinuous, braided channels and anabranches
Soil Types	Mainly alluvial soil - high erodibility; red soil - highly erodible; red and yellow soils and mixed red-and-black soil - moderately erodible; deep black, medium black and shallow black soils and lateritic soils - low erodibility
Climate	Gangetic Plain Annual rainfall: 60-160cm Avg annual temp: 5°C - 25°C in winter and 20°C - >40°C in summer Sundarban Delta High temperature & humidity (>80%) throughout the year Annual rainfall: 166.1 cm Daily min. temp in winter varies between 2°C and 4°C and rises to a max. of ~43°C in March.
Biogeography	Gangetic Plains (Lower Gangetic Plain - 7B) Coasts (East Coast - 8B)
Flora	Gangetic Plain Tropical Dry deciduous forest *(Dalbergia sissoo, Acacia nilotica, Madhuca indica)* Tropical Moist deciduous forest *(Shorea robusta, Tectona grandis, Terminalia arjuna)* (most of the original vegetation has been converted to cropland) Sundarban Delta Swamp-and-littoral-forest type vegetation *(Heritiera fomes, Nypa fruticans, Rhizophora apiculata)*
Fauna	Gangetic Plain Representative terrestrial fauna: Chital, Sambar Representative aquatic fauna: Gangetic river dolphin, Smooth-coated otter, Gharial, Mugger Avifauna: Sarus crane, Indian Skimmer Sundarban Delta Representative terrestrial fauna: Royal Bengal tiger, Barking deer, Leopard cat, Fishing cat Representative aquatic fauna: Northern river terrapin, Estuarine crocodile, Indian flapshell turtle, Indian soft-shelled turtle Avifauna: Lesser adjutant stork
Demography[1]	Population: 9,43,57,799 Population Density:1360.43 persons per km^2 Major cities: Ballia, Patna, Bhagalpur, Sahibganj, Farakka, Berhampur, Serampore, Howrah, Kolkata
Land use Pattern	Farraka barrage The 'Jal Marg Vikas Project' (JMVP) on the National Waterway (NW) 1 (from Allahabad to Haldia~1620 km) Agricultural activities Construction Sand mining Biological resource extraction
Water Quality[2]	pH: 7.3 to 8.8 (7.4-8.5) DO: increasing trend, from 7.2 to 7.5 mg/L (6.2± 0.1 mg/L) BOD: decreasing trend, from 2.4 to 2.8 mg/L Nitrate concentration: 4.3 ± 0.5 mg/L

[1]estimates based upon the population of the districts along the Ganga River using 2011 census data.
[2]pH, DO and BOD estimates are sourced from the assessment carried out by CPCB between 2003 and 2014; the pH and DO estimates in brackets and the Nitrate concentration estimates are based upon the study carried out by WII in 2017.

Source: WII-GACMC (2018)

22 key ecosystem services were identified for Lower Ganga; 11 provisioning, seven regulating and maintenance, and four cultural services, after an extensive literature review, river survey and meetings with representatives of various stakeholder groups .

Extent of the ecosystem services provided by the Ganga River

Ecosystem Services	Upper Ganga	Middle Ganga	Lower Ganga
Provisioning Services			
Consumptive use of water			
Drinking	•	●	●
Domestic use	●	●	●
Agriculture (irrigation)	•	●	●
Livestock (drinking, bathing etc.)	•	●	●
Industry	•	●	●
Non-consumptive use of water			
Power generation (hydro, nuclear and thermal)	●	•	•
Transportation	○	●	●
Resource Material			
Fish and other aquatic fauna for food	●	●	●
Fuelwood	•	•	●
Riverine vegetation for multiple uses	•	•	•
Riverbed material	●	●	●
Regulating & Supporting Services			
Maintaining population & habitat	●	●	●
Regulation of micro climate	●	●	●
Soil fertility	•	●	●
Soil formation (sediment deposition)	○	●	●
Water purification and waste management	●	•	•
Water cycle	•	•	•
Storm protection (through mangroves)	○	○	●
Cultural Services			
Tourism	●	●	●
Religious/Spiritual	●	●	●
Aesthetic	●	●	●
Heritage sites	●	●	●

Ecosystem Services: ○ → none; • → little/sometimes; ● → medium; ● → large

Acknowledging the Services Provided by the Ganga River - Stakeholder perception

To ascertain stakeholder perception regarding the benefits received from Lower Ganga, a questionnaire-based interview survey was conducted and 129 representatives were interviewed from different stakeholder groups.

Most cited Regulating and Maintaining Services

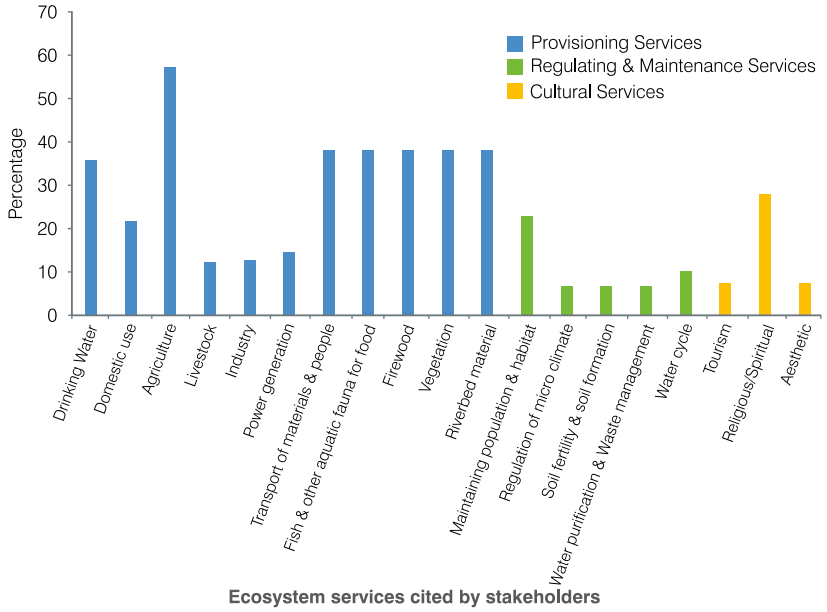
Maintains population and habitat of species > Water cycling > Micro climate regulation > Soil fertility

Most cited Provisioning Services

Water for irrigation > Provision of fish and other aquatic fauna for food > water for drinking

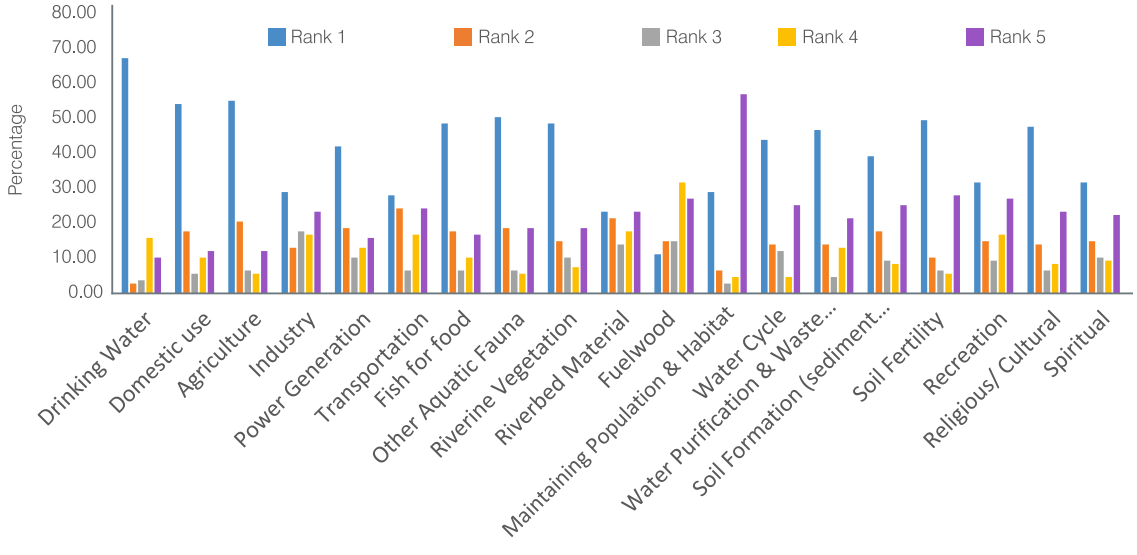
Most cited Cultural Services

Religious/spiritual > Tourism and aesthetic



Ecosystem services cited by stakeholders

The stakeholders were also asked to rank ecosystem services, based on the perceived extent and importance of these services with respect to Ganga River, with 'Rank 1' being the highest and 'Rank 5' the lowest. Provision of water for drinking, domestic use and agriculture were ranked highest by the respondents.



Ecosystem services ranked by stakeholders

Seven ecosystem services have been selected for further evaluation, based upon three factors, (a) the perception of various stakeholders regarding their contribution to human wellbeing and livelihood, (b) the extent and importance of services provided, and (c) the cost, time and man power requirement of conducting an evaluation. The methodology for their assessment has also been identified based on the objective of the evaluation i.e. 'economic appraisal of the ecosystem services provided by the Ganga River', the resource (time, cost and man power) required to execute the methods and the accuracy of results.

Methodology for assessing select ecosystem services provided by Lower Ganga

Ecosystem Service	**Methodology**
Power Generation (Thermal)	Market Price, Production Function
Fish	Market Price, Replacement Cost
Riverbed Material	Market Price, Production Function
Navigation/Transportation	Avoided Cost
Water purification & waste management	Avoided Cost
Cultural Services (Recreation & Religious/spiritual)	Invest
Qualitative Assessment via Participatory and Deliberative Methods	

BUILDING COMMUNICATION & NETWORKS

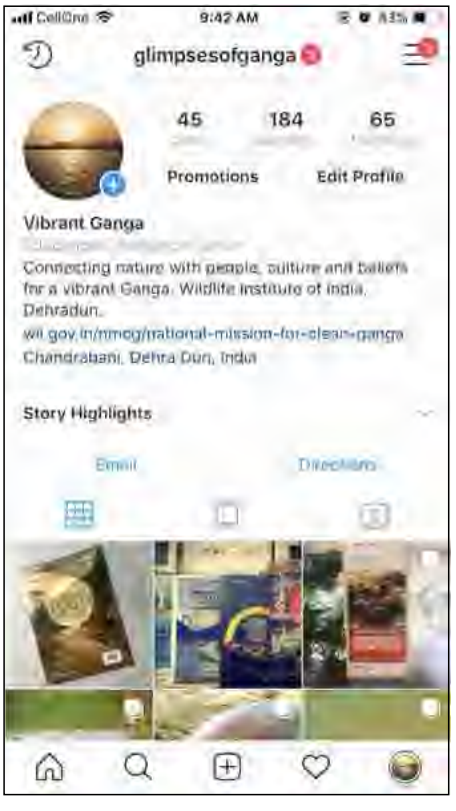
DIGITAL PLATFORM

Webpage on the NMCG-WII's project "Biodiversity conservation and Ganga Rejuvenation" was launched (URL Linkc:http:/www.wii.gov.in/nmcg/national-mission-for-clean-ganga). The webpage is a part of WII website and is widely accessible. Apart from this, was based informative pages have also been created on social media. These web portals are enhancing people's perception about the significance of Ganga River and educating them about its biodiversity and the issues related to its biodiversity loss.

Webpage on NMCG-WII project

The social media pages "Glimpses of Ganga" on facebook and instagram provide information on the activities carried out in field.

Facebook page 'Glimpses of Ganga' depicting project activites



Instagram page 'Glimpses of Ganga' depicting

Youtube channel 'Glimpses of Ganga' has been created to depict the project activities and create a awareness among the masses. The channel has a documentary series focusing on the *Ganga Prahari*, and other activities of the project.

DATABASE ESSENTIAL

Advance database coverage for research

A database management framework for spatial and non-spatial data collected from various surveys and secondary literature was established through PostgreSQL software.

The database is accessible in web format for visualization and monitoring through WII intranet.

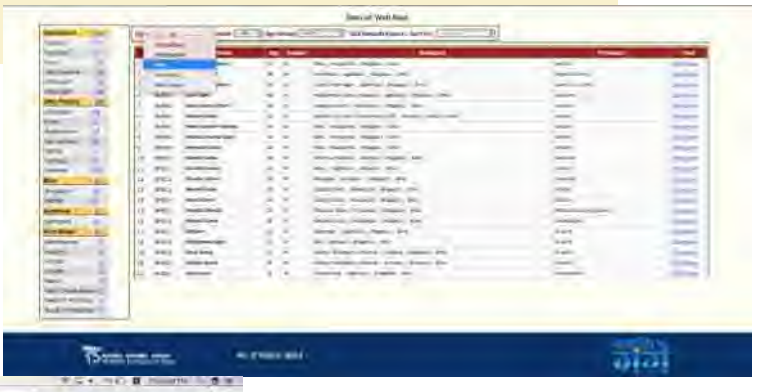
Training Database

A website has been developed with a retrievable database as a single point source where all capacity building related information's having extensive details about training programmes being conducted, training reports, training schedules, nature of input being given, training awareness materials, participants database including their contact number, email and their organisation. The data on the website is easily accessible and can be downloaded by anyone.

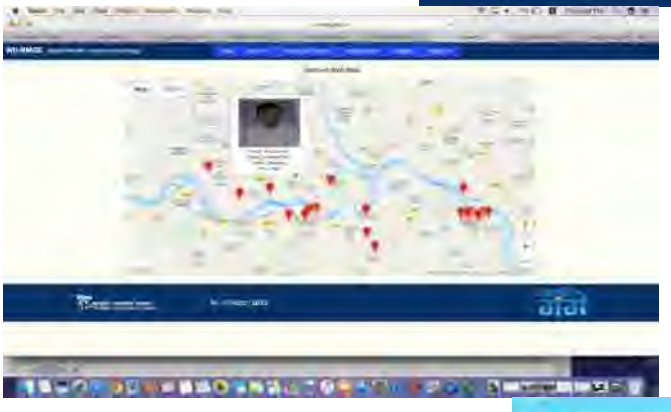
Training database

Ganga Prahari Database

Information on profile of the *Ganga Prahari* with their location was compiled to create database. This database is hosted on the web page of National Mission for Clean Ganga, Ministry of Water Resources River Development and Ganga Rejuvenation (MoWRRD&GR) The website was launched by the Honorable Minister of Water Resources River Development and Ganga Rejuvenation Shri Nitin Gadkari, on 22nd May 2018, on the occasion of World Biodiversity Day celebration, at New Delhi The website constantly monitors. and maintains the activities of each individual *Ganga Prahari* at their respective site.



Profile of Ganga Praharis



Location of Ganga Prahari on map available on NMCG homepage website

Ganga Prahari tab on the home page of NMCG website

Release of Ganga Prahari Database by Shri Nitin Gadkari, Honorable Minister of Water Resources, River Development and Ganga Rejuvenation at New Delhi

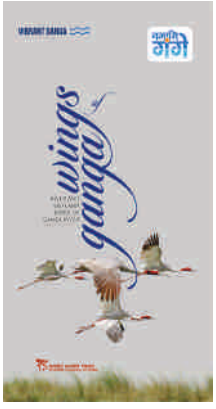
Home page of Ganga Prahari database

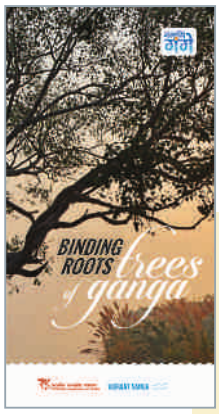
READ, LEARN AND SHOW THE WAY

Spreading awareness through print media

For dissemination of information on aquatic biodiversity of the Ganga River, their conservation status and threats, brochures, posters and booklets under the "Vibrant Ganga Series" on fish, amphibians, turtles, crocodiles, water birds and aquatic mammals have been published in Hindi and English.

Species information brochures under Vibrant Gange Series





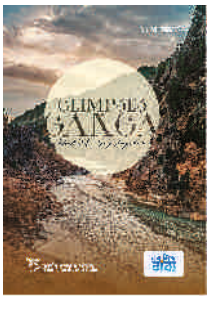
Wings of Ganga Series I and II; Trees of Ganga Series

Wings of Ganga: Series I & II,

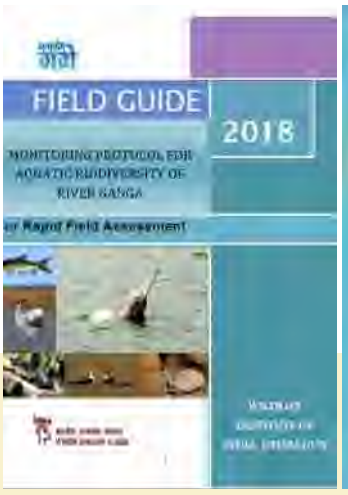
Glimpses of Ganga: Series I & II,

Binding Roots: Trees of Ganga

These provide scientific information on species taxonomy, conservation status, distribution, description, habitat, reproduction, major threats and distribution maps for birds, key aquatic species and tree species of the Ganga River respectively.



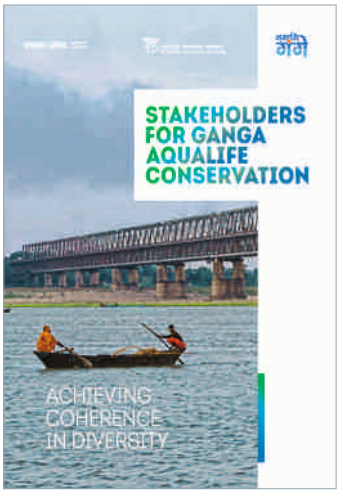
Glimpses of Ganga Series I and II

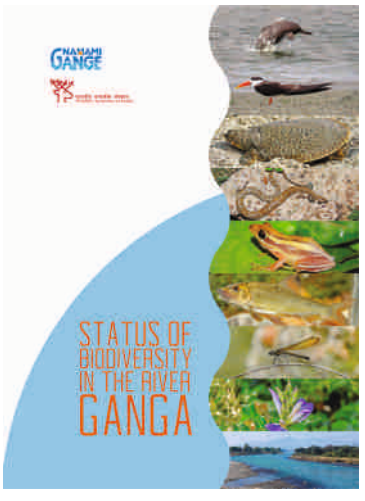


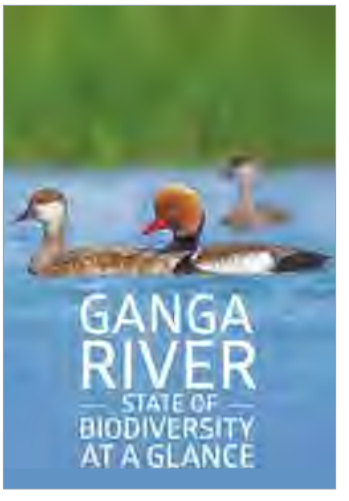
Training guide and curriculum

Training manuals and field guides that are used in the training programme have been published. These publications will be used by the spearhead teams for future training programmes.

Stakeholder brochure and Framework for valuation of ecosystem services have also been published.







EVENTS AND CELEBRATION OF DAYS

"Ganga River Dolphin Day" 5th October 2017, and Wildlife Week were celebrated with postgraduate students of Nalanda University, Rajgir, Bihar at Sanjay Gandhi Biological Park, Patna, Bihar

The world environment day was celebrated on 5th June, 2018 on the theme “Beat the plastic pollution”. Two parallel programmes were conducted in Kahalgaon and Bhagalpur, in Bihar. In Kahalgaon, a sensitization workshop, awareness rallies and a cleanliness drive involving local people and 31 *Ganga Praharis* were organised. At Bhagalpur, an awareness programme was organized by *Ganga Praharis* which was attended by about 50 members of the local community and representatives of Mandar Nature Club. As part of the celebration a total of 55 saplings of different species were planted.

Ganga Prahari participating in the event organized on the occasion of World Environment Day, 5th June 2018

On the occasion of Teacher's Day 2018, a sensitization workshop was organised for teachers, students and *Ganga Praharis* at the Ramdhari High School, Bhagalpur, Bihar. The purpose of this workshop was to sensitize the participants on the importance and role of aqualife in maintaining a healthy ecosystem, emerging threats with mitigation measures and role of youth in conserving the biodiversity with emphasis on the indicator species. The workshop was attended by 165 students from classes 8th to 11th, 11 *Ganga Praharis* and 8 teachers.

Sensitization workshop organized for the school children on the occasion of Teacher's Day

IN NEWS

सूबे में भागलपुर समेत चार जिलों में 'नमामि गंगे' का शुभारंभ आज

नवगछिया/कहलगांव
विशेषज्ञों ने बताया, गरुड़ की बेहतर देखभाल कैसे करें

नदी प्रदूषण से कछुआ की छह प्रजातियां विलुप्त

वन्य जीवों को संरक्षण एवं गंगा को स्वच्छ रखने को ले संगोष्टी आयोजित

डॉल्फिन व कछुआ नदियों की सेहत की हुई पहचान

THE TEAM

Project Leaders: V.B. Mathur and G.S. Rawat
Project Coordinators: Syed Ainul Hussain and Ruchi Badola

Components	Coordinating faculty	Co-coordinating faculty	Researchers
Establishment of Ganga Aqualife Conservation & Monitoring Centre	Syed Ainul Hussain	Ruchi Badola	Niladri Dasgupta, Shivani Barthwal, Michelle Irengbam, Anita Devi, Saurav Gawan, Sayantika Banerjee, Aishwarya R. Chandran, Ravindra Nath Tripathi, Shatakshi Sharma, Dipak Anand
Planning aquatic species restoration of Ganga River	J.A. Johnson	Syed Ainul Hussain	Rohitashva Shukla, Ajit Kumar, Sk. Zeeshan Ali, Goura Chandra Das, Ruchika Sah, Prabhaker Yadav, Dipti Dey, P. Gangaimaran, Kritish De, Bitupan Boruah, Anuja Mittal, Ajay Prakash Rawat, Rahul Rana, Chetan P.S. Ahada, Megha Shruti, Shaikh Rahim Rashid, Arkojyoti Sarkar
Capacity Building of Forest Department & other Stakeholders	Ruchi Badola	Syed Ainul Hussain	Sangeeta Angom, Monika Sharma, Monika Mehralu
Establishment of Rescue and Rehabilitation Centres	P.K. Malik	Parag Nigam, Suresh Kumar	Suvarnagowri Mallapur, Aftab Alam Usmani, Animesh Talukdar, Akshay Bajaj
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Project Management Unit			Rajeev Chauhan, Rajni Bohra, Neha Sharma, Rahul Kumar Gupta

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Sunil Kumar	ROF, Bihar	9576036419	-
Kanhiya Nand Kishor	ROF, Bihar	9931992411	-

NMCG
National Mission
for Clean Ganga,
Ministry of Water
Resources, River
Development &
Ganga Rejuvenation

GACMC
Ganga Aqualife
Conservation
Monitoring
Centre

Wildlife Institute of India
Chandrabani,
Dehradun-248001
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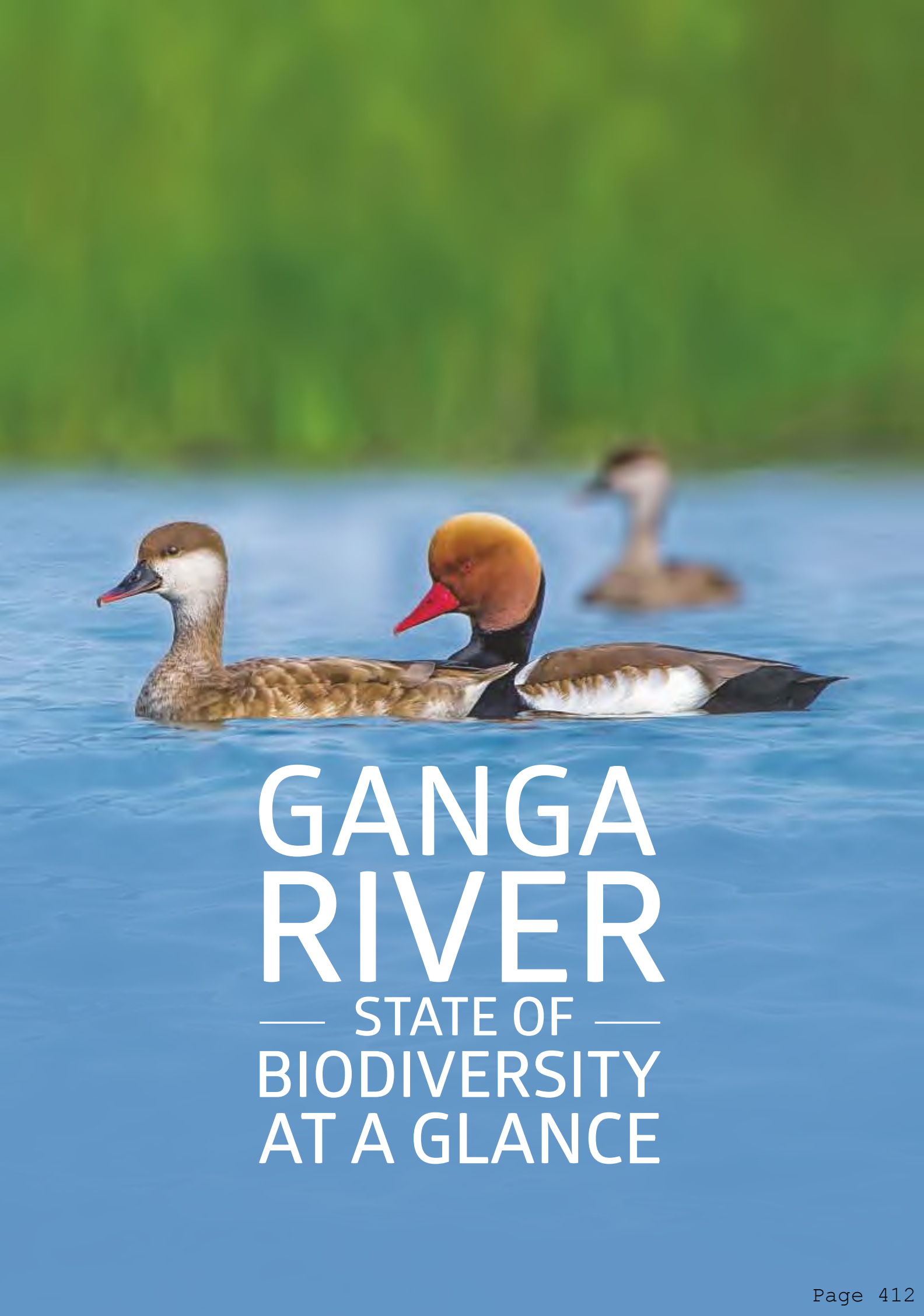
Xpressions: 9219552563 | DOC: XPS0110181534



GANGA RIVER

STATE OF BIODIVERSITY AT A GLANCE

The publication "Ganga River -State of biodiversity at a glance" provides information on the select species of the Ganga River, on the basis of literature review and rapid biodiversity assessment, carried out under the National Mission for Clean Ganga funded Wildlife Institute of India's project "Biodiversity Conservation and Ganga Rejuvenation". Additionally, it provides information on the protected areas along the Ganga River, threats to the biodiversity of the river and stretches with high biodiversity values identified along the river for conservation initiatives.

नमामि गंगे

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GANGETIC RIVER DOLPHIN

The Gangetic river dolphin belong to the class Mammalia,order Cetacea, andfamily Platanistidae. It occurs in the northern parts of the Indian sub-continent and inhabits the Ganga, Brahmaputra and the Meghna river systems and their major tributaries, from the tidal limits to the foothills of the Himalayas, the Garo hills of Meghalaya and the Cachar hills of Assam. It is around 2.3 to 2.6 m in length and females are generally larger than males. The body is fusiform; the head extended into a prolonged, laterally compressed beak or rostrum. The dorsal fin of this species is rudimentary forming a fleshy ridge located almost at the mid length of the body. The eyes are about the size of a pea and are devoid of crystalline lens thereby terming it as blind dolphin but the anatomical evidence suggests that the eye may likely serve as a light sensor. Its blowhole is a single longitudinal slit and the tail flukes are horizontally placed like all other Cetaceans. It uses double beam echolocation system for movement and detection of prey, which is unique to this species.

GANGETIC RIVER DOLPHIN

The Gangetic river dolphin is largely solitary and non-gregarious, occasionally found in small groups. Once occurring upstream up to Haridwar, its range has now reduced only to the deeper parts of the river downstream to the Bijnor barrage. It is an iconic as well as a flagship species. Being the top predator it shapes aquatic species communities particularly benthic and fish communities. Prey availability and water depth are limiting factors for their occurrence. Populations of the species is declining due to the construction of dams and barrages, unsustainable water abstraction, depletion of prey base, accidental mortalities in fishing nets and accidents with propellers of vessels. Continuous disturbance from movement of large vessels in the river may also cause unprecedented rapid decline in dolphin population, as has been the case of Yangtze river dolphin, which became extinct. It is also likely that modification of river habitat for navigation such as dredging, river training and canalization may damage its habitat. The species was declared as the National Aquatic Animal on 5th of October 2009. All the dolphin species found in India have been granted "non-human personhood" status by the Government of India, making India the first nation in the world to recognize the unique intelligence and self-awareness of the dolphins.

During the rapid biodiversity assessment, the species was frequently sighted between Brijghat and Narora, upstream of Kanpur, from Bhitura to Ghazipur, between Chappra and Kahalgaon, between Sahibganj and Rajmahal and from Baharampur to Barrackpore. The sightings were made in the stretches of the river where water depth ranged between 4 and 7 m.

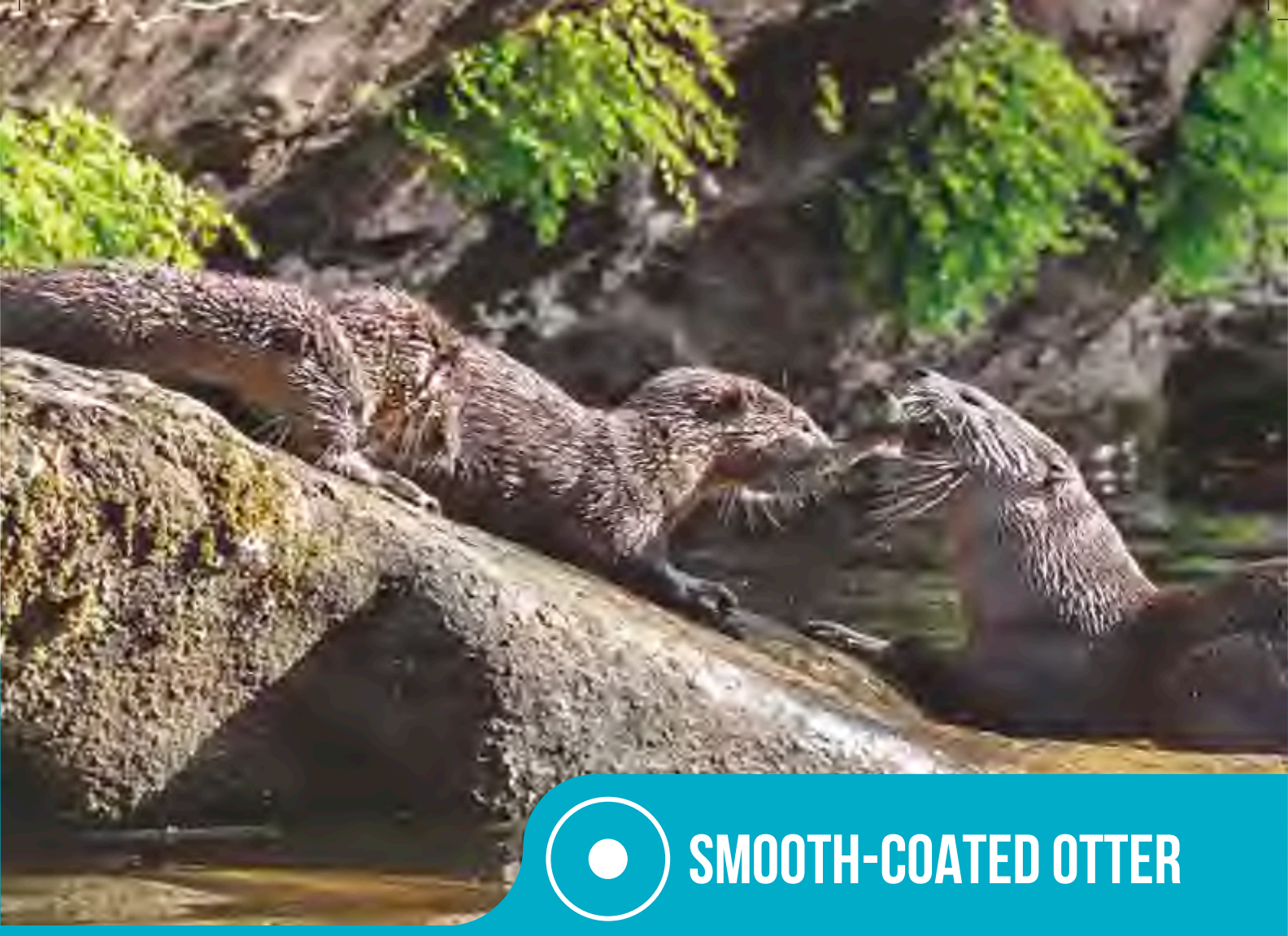
Scientific Name	Vernacular Name	Occurrence	IUCN Red List	Indian Wild Life (Protection) Act, 1972	Biogeographic Provinces	Important areas along the Ganga River
Platanista gangetica	Sus, Susu, Hihu, Shushuk	Rivers of Gangetic Plains and Brahmaputra valley	Endangered	Schedule I	Upper & Lower Gangetic Plains (7A & 7B)	Bhitura to Ghazipur, Chappra to Kahalgaon, Sahibganj to Rajmahal and Baharampur to Barrackpore

OCCURRENCE OF GANGETIC RIVER DOLPHIN ALONG THE GANGA RIVER

OTTERS

Otters belong to the class Mammalia, order Carnivora and family Mustelidae. A diverse group, they are characterized by the loss of the caranassial notch (on upper premolar), invariable loss of the upper molar and the enlargement of the anal sac. They are adapted to a semi-aquatic life, with webbed feet and flippers for swimming under water, valvular nostrils and an intra-narial larynx to exclude water while breathing and swallowing. Of the 13 species of otters worldwide, five species occur in Asia and of which three occur in India. The smooth-coated otter is distributed throughout the country from the Himalayas southward, but the Eurasian and Asian small-clawed otters are restricted to the Himalayas, north of the Ganga and southern India. Once abundant throughout these ranges, the population of otters is rapidly declining owing to the reclamation of wetland habitats for human settlements and agriculture, construction of large-scale hydroelectric projects, reduction in prey biomass, poaching and contamination of waterways.

Being at the apex of the food web, otters are indicators of healthy ecosystems and are the first to disappear from disturbed ecosystems.



SMOOTH-COATED OTTER

The smooth-coated otter (*Lutrogale perspicillata*) is distributed throughout southern Asia from Indonesia, through southeast Asia, and westwards through southern China, India and Pakistan, and an isolated population in Iraq. It is the most widely distributed otter species in India, occurring throughout the Gangetic plains, central Indian plateau of Maharashtra, Andhra Pradesh, and in South India. The smooth-coated otter is a large (7-12 kg) otter characterized by a very smooth, velvety pelage and is usually 1067 and 1300 mm in length from head till tail end. Tail length is more than half the length of the head and body and more than three times the length of hind foot.

The smooth-coated otter is piscivorous, occurs along large rivers and lakes, in mangrove forests along the coast and estuaries. Along the large rivers in India, it shows greater preference for rocky stretches that provide sites for den and resting. The Terai areas of the upper Gangetic plains and the seasonally flooded swamps are extensively used by smooth-coated otters during monsoon and early winters. They are gregarious, often living and hunting in large groups of different age and sex. A group of smooth-coated otters requires 7- 12 km of river as a foraging territory.

In the Ganga River, the species is found throughout the middle and lower stretches of the river and its major tributaries at locations where human induced disturbances are least. During the rapid biodiversity assessment, otter presence was recorded between Devprayag and Rishikesh, downstream of Bhimgoda barrage, at Munger and Kahalgaon.

Throughout the length of the Ganga River, suitable habitat for the species was mostly found in the undisturbed stretches, within the Protected Areas, with high vegetation cover and high fish diversity. Smooth-coated otters are elusive and diurnal in nature, and are highly sensitive to slight disturbances and changes in habitat conditions.

Scientific Name	Vernacular Name	IUCN Red List	Indian Wild Life (Protection) Act, 1972	Biogeographic Provinces	Important areas along the Ganga River
Lutrogale perspicillata	Uddbilav, Udberal	Vulnerable	Schedule II	West Himalaya (2B), Upper & Lower Gangetic Plains (7A & 7B)	Devprayag to Bhimgoda barrage, Hastinapur Wildlife Sanctuary, Bijnor to Narora, Munger, Vikramshila Gangetic dolphin sanctuary

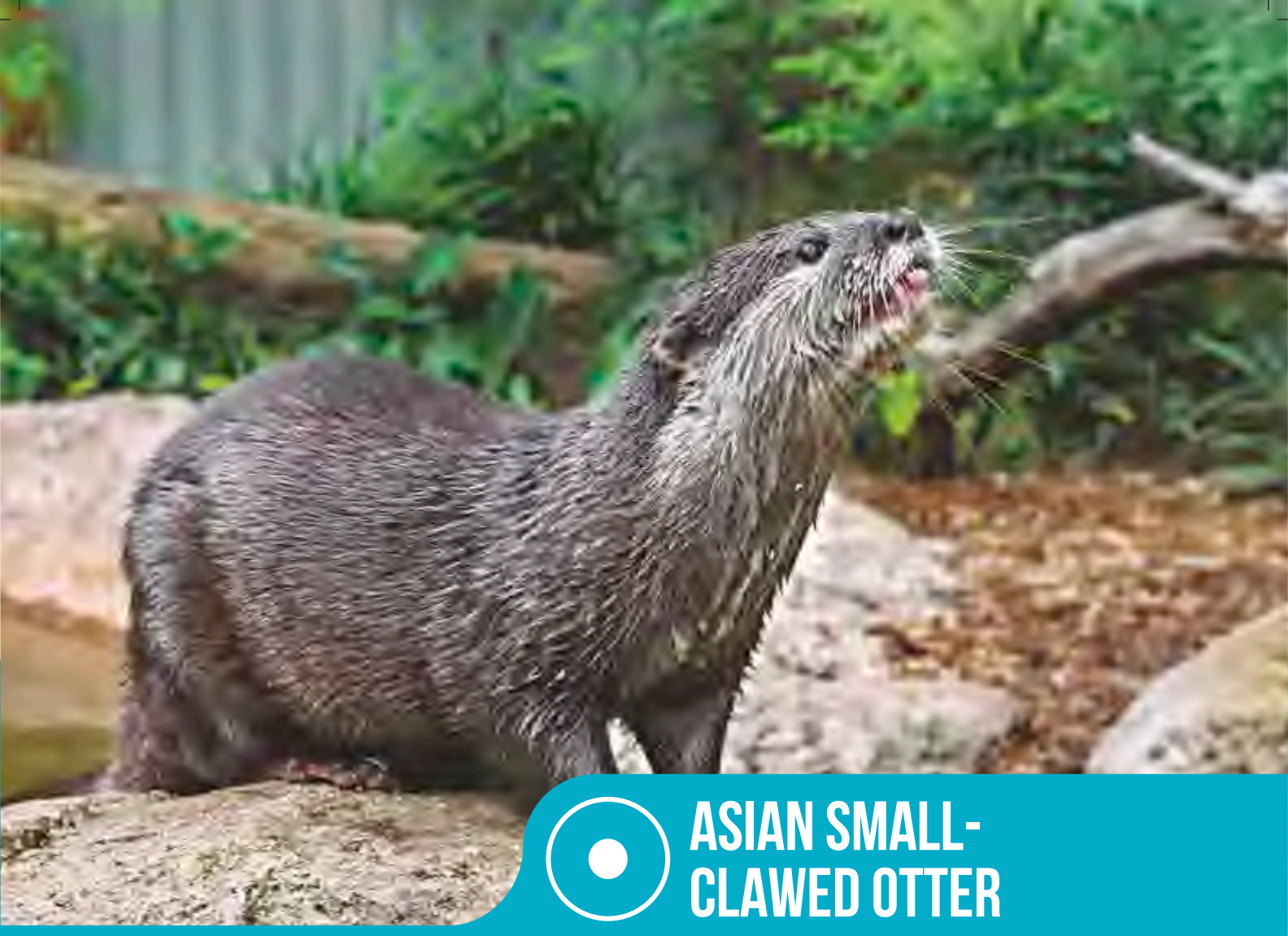
EURASIAN OTTER

The Eurasian otter (*Lutra lutra*) has the widest distribution range of all otter species, spanning parts of three continents: Europe, Asia and Africa. In India, it is distributed in Himalayas above ~750 m altitude, Western Ghats and northeast India. During summers (April - June), these otters may ascend upto 3,660 m into the Himalayas. These upward movements probably coincide with the upward migration of the carps and other fish for spawning. With the advent of winter, the otters come down to lower altitudes.

The Eurasian otter is similar to the smooth-coated otter in size but much slender, with total body length varying between 92 to120 cm, females weigh 6-12 kg and males weigh around 7-12 kg.

It is primarily nocturnal, largely solitary and lives in a wide variety of aquatic habitats, including highland and lowland lakes, rivers, streams, marshes and coastal areas. Akin to the other two species, the Eurasian otter is piscivorous. In most parts of its range, its occurrence is correlated with bank side vegetation. *Lutra lutra* is generally described as territorial and solitary, and is elusive and highly sensitive to human disturbances.

Scientific Name	Vernacular Name	IUCN Red List	Indian Wild Life (Protection) Act, 1972	Biogeographic Province	Important areas along the Ganga River
Lutra lutra	Uddbilav, Udberal	Near Threatened	Schedule II	West Himalaya (2B)	Himalayas and foothills



ASIAN SMALL-CLAWED OTTER

The Asian small-clawed otter (*Aonyx cinereus*) is found across much of south and southeast Asia, with a continuous population in southeast Asia, northeast India and Himalayan foothills and a disjunct population in the hill ranges of the Western Ghats. The species is reported from the narrower streams joining Ganga River in upper stretches of Uttarakhand and in smaller creeks in the Sundarbans in the lower stretch of the river.

It is smallest of the three otter species and is distinguished from the others by its considerably narrower feet, with more emarginate webs, which do not extend along the digital pads and are sparsely covered with short hair. The length of the head and body is around 40.6 to 63.5 cm, tail 24.6 to 30.4 cm and weight ranges between 2.7 to 5.4 kg.

Asian small-clawed otters are nocturnal and crepuscular. They mostly eat crabs, insects and small fish. They live and forage in groups of up to 12-13 individuals. The species is monogamous, and both parents contribute to raising the offsprings. Along rivers, Asian small-clawed otters rest, sun, and groom on grassy or sandy banks.

Scientific Name	Vernacular Name	IUCN Red List	Indian Wild Life (Protection) Act, 1972	Biogeographic Provinces	Important areas along the Ganga River
Aonyx cinereus	Uddbilav, Udberal	Vulnerable	Schedule I	West Himalaya (2B) East Coast (8B)	Tributaries of the Upper Ganga and in Lower Ganga

OCCURRENCE OF SMOOTH-COATED OTTERS ALONG THE GANGA RIVER

BIRDS

A global hotspot for avifaunal diversity, India harbours 1340 species of birds. The Ganga River basin supports 177 species of migratory and resident breeding birds. The avian diversity in the Ganga River includes waterbirds, water associates and terrestrial species and they can be classified as resident breeding birds and migratory birds. These birds occur from upper stretches of the Ganga River till the Sundarbans, covering several Biogeographic provinces, viz., West Himalaya (2B), Upper & Lower Gangetic Plains (7A, 7B) and East Coast (8B).

RESIDENT BREEDING BIRDS

The resident breeders are most common in the Gangetic Plains and East Coast. The resident breeding birds of the Ganga River nest and raise their fledglings on river islands, banks, sand bars and grasslands in the Gangetic floodplain. There are eight species of resident breeding birds in the Ganga River. Among these, one species each is listed as Endangered and Vulnerable, three as Near Threatened and three as Least Concern in the IUCN Red List.

They are indicators of ecosystem intactness, habitat diversity and abundance of fish and benthic macro-invertebrates.

BLACK-BELLIED TERN

The Black-bellied tern (*Sterna acuticauda*) occurs throughout the Indian sub-continent to Laos, Thailand and Cambodia. The species is going through a very rapid and on-going localized decline in population and is almost extinct in China (Yunnan). The species occurs in sandy banks and mid-river sandy islands in the middle and lower stretches of the Ganga River.

It is a small bird, 32 to 35 cm in length, adults have an orange bill, black cap and nape, dark grey breast and blackish belly and vent. Breeding individuals show a whitish belly and lack tail streamers. The species breeds during February to April. It is gregarious and a colonial nester and nests on sandy beaches of mid-river islands with a clutch size of 2-3. It is an active hunter and skims over the surface of water and ground to pick up insects and plunges at an angle into the water to feed on crustaceans, tadpoles and fish.

The species is threatened due to destruction of breeding habitats caused by agriculture, sand mining and grazing, flooding of nests, human disturbance, predation by feral dogs, cats and corvids near human settlements.

Scientific Name	Vernacular Name	Occurrence	IUCN Red List	Indian Wild Life (Protection) Act, 1972	Biogeographic Provinces	Important areas along the Ganga River
Sterna acuticauda	Kali tohri, Kalopet panpaira	Indian sub-continent, Laos, Thailand and Cambodia	Endangered	Schedule IV	Upper and Lower Gangetic Plains (7A & 7B)	Bijnor to Narora, Kachhla to Kanpur, Manikpur to Chhhapra, Sahibganj to Farakka

INDIAN SKIMMER

Indian skimmer (*Rynchops albicollis*) occurs in the Indian subcontinent and Vietnam. It is locally extinct from Cambodia, China and Laos. The species is distributed in the middle and lower stretches of the Ganga River. Its preferred habitats are sandy mid-river islands, sandy banks of large rivers and lakes, swamps and coastal wetlands.

The Indian skimmer grows upto 40-43 cm in length. The upper part of the body is black with a white forehead and collar and white underparts. It has a unique long, thick, deep orange bill with yellow tip and a longer lower mandible. Juvenile has dusky orange bill with blackish tip, paler, brownish-grey crown and nape with dark mottling. It breeds during February to May. It is gregarious and a colonial nester, nests on sandy beaches of mid-river islands with a clutch size of 3-4 and occasionally 5. With a characteristic flight it skims over water surface, feeds on surface-dwelling fish, small crustaceans and insect larvae.

The species is threatened by increased human encroachment in riverine and wetland ecosystems, exploitation and degradation of rivers and lakes through fishing, transportation, irrigation and pollution from xenobiotic compounds. An emerging threat for breeding colonies is from sand mining, which has reduced reproductive and foraging success.

Scientific Name	Vernacular Name	Occurrence	IUCN Red List	Indian Wild Life (Protection) Act, 1972	Biogeographic Provinces	Important areas along the Ganga River
Rynchops albicollis	Panchhir, Gang chasha	Indian sub-continent and Vietnam	Endangered	Not listed	Upper and Lower Gangetic Plains (7A & 7B)	Bijnor to Narora, Kachhla to Kanpur, Manikpur to Chhhapra

SARUS CRANE

The Sarus crane (*Antigone antigone*) has three separate populations in the Indian subcontinent, southeast Asia and northern Australia. It is locally extinct from Malaysia, Philippines and Thailand. It is distributed in the middle stretch of the Ganga River and has been extirpated from West Bengal. It occurs in large rivers, natural wetlands, small seasonal marshes, floodplains, fallow and cultivated lands and paddy fields.

The largest Indian crane, it stands at 1.5 m tall and has a bare red head and part of the upper neck, a greyish plumage, greenish horny bill, and red legs. Sexes are alike with females slightly smaller than the males. It breeds during June to September and pairs may indulge in spectacular "dancing" movements, posturing and displays of calling in unison and involve a short series of jumping and bowing movements are made as one of the pair circles around the other. The species nests in agricultural lands, dry grassland with reeds and grasses and nest mounds can reach roughly two meters above the water surface, with a clutch size of 2-3. Sarus is an omnivore predating on invertebrates, small amphibians and snakes exerting a top-down control in the food chain and acts as pest controller. It also feeds on aquatic plants, sedges, grass and seeds, helping in seed dispersal and control of vegetation.

Loss and degradation of wetlands and agricultural drainage of inundated floodplains has pushed these species to human dominated agricultural landscapes leading to increased incidences of conflict. Nest and chick predation by feral animals limits its breeding success. Apart from habitat loss, the persistent xenobiotic compounds also pose a threat to this species.

Scientific Name	Vernacular Name	Occurrence	IUCN Red List	Indian Wild Life (Protection) Act, 1972	Biogeographic Provinces	Important areas along the Ganga River
Antigone antigone	Saras	Indian subcontinent, southeast Asia and northern Australia	Vulnerable	Schedule IV	Upper Gangetic Plain (7A)	Bijnor to Kanpur, Manikpur to Ballia

BIRDS

MIGRATORY BIRDS

India falls within the Central Asian Flyway (CAF), utilized by 307 species of migratory waterbirds, most of them coming from Central and North Asia. Of the 307 migratory species, two are Critically Endangered, five are Endangered and 13 species are Vulnerable. Out of remaining 287 species, 10 species are Near Threatened and 277 species are Least Concern as per the IUCN Red List.

The migratory waterbirds, especially waterfowls (ducks and geese) are indicators of ecologically connected ecosystems across their breeding and wintering grounds. They are also indicators of the structural diversity of aquatic vegetation, as well as of overall abundance of benthic and emerging invertebrates. They contribute to ecosystem functioning in rivers and ephemeral wetlands by the spread of plant and animal propagules, as pollinators and also have a significant cultural value. Wetlands of International Importance (Ramsar sites) are declared using criteria based on their importance as habitats for migratory waterbird.

The migratory waterbirds are threatened by change in natural hydrograph in rivers, loss of wetland habitats, poaching and climate change which disrupt migration strategy and breeding success.

During the rapid assessment of waterbird diversity, 87 species of waterbirds and five wetland obligate species belonging to 22 families were recorded from six reservoirs along the Ganga River, viz., Rishikesh, Bhimgoda, Bijnor, Narora, Kanpur and Farakka barrages. Of the total species observed, the members of the Family Anatidae (ducks and geese) dominated (18 species) followed by Scolopacidae (waders) and Ardeidae (egrets and herons).

RUDDY SHELDUCK

Ruddy Shelduck (*Tadorna ferruginea*) is widely distributed in Europe, Asia including the Indian subcontinent and Western Africa. The bird is an early winter migrant in India and arrives by October and departs by April. The species is known for its extreme high-altitude flight at 6800 m during migration over the Himalayas. It is distributed in the middle and lower stretches of the Ganga River. The species occurs in inland freshwater and brackish water lakes and rivers. In the non-breeding season, it prefers streams, rivers, freshwater pools, flooded grasslands, and marshes. It avoids coastal waters and tall, dense vegetation or emergent and floating aquatic plants.

The adult birds are 58 to 70 cm in length, male has orange-brown body plumage and a paler, orange-brown head and neck. The inner surfaces of the wings have iridescent green speculum feathers. The bill is black and the legs are dark grey. Females are paler. It breeds during April and early June in high altitude lakes and swamps in Jammu and Kashmir. It nests in a hole or cavity, from ground level upward into trees and cliffs with a clutch size of 6-12. The species is nocturnal, omnivorous and feeds on aquatic and terrestrial invertebrates exercising a top-down control in the food chain. It also feeds on grasses, shoots of plants, grains and water plants helping in seed dispersal and control of vegetation.

The loss and degradation of inland wetlands due to agricultural drainage and wastewater discharge, urban development, xenobiotic compounds, introduction of exotic fish and overgrazing are major issues affecting the species. The species is also susceptible to avian influenza.

Scientific Name	Vernacular Name	Occurrence	IUCN Red List	Indian Wild Life (Protection) Act, 1972	Biogeographic Provinces	Important areas along the Ganga River
Tadorna ferruginea	Surkhab, Chokha chokhi	Europe and Asian countries including Indian Subcontinent and West Africa	Least Concern	Schedule IV	West Himalaya (2B), Upper & Lower Gangetic Plains (7A & 7B)	Throughout the upper and middle stretches of the river upto Barrackpore

BAR-HEADED GEESE

Bar-headed Geese (*Anser indicus*) is distributed in Central Asia including Indian subcontinent, China and Mongolia. It is one of the world's highest flying birds peaking at an altitude of around 6,000 m across the Himalayas during migration. A winter migrant and locally common in India. It occurs in middle and lower stretches of the Ganga River. Mostly occurs in habitat like large rivers, natural wetlands, lakes and freshwater marshes.

The adult birds reach upto 71–76 cm in length. The head and sides of neck of the species is white, with two horizontal black bars, body is generally silver grey and tail is grey with white border. Both the sexes are alike. It breeds during May-June and nests in the marshes and wetlands of the Tibetan Plateau with a clutch size of 2-8. The species is highly gregarious, herbivorous, grazes on grassland and agricultural fields, and on leaves of aquatic plants and sedges. It also feeds occasionally on insect larvae. They play a vital role in maintaining the natural diversity of grasslands by promoting coexistence of different plant species by regulating interspecific competition and by stimulating primary production.

The restricted and patchy breeding grounds of this species make it vulnerable. The timing of arrival on breeding territories and over wintering grounds is a key determinant of reproductive success, survivorship, and fitness. Global climate fluctuations affect adult survival and fecundity. It is also susceptible to avian influenza.

Scientific Name	Vernacular Name	Occurrence	IUCN Red List	Indian Wild Life (Protection) Act, 1972	Biogeographic Provinces	Important areas along the Ganga River
Anser indicus	Hans, Birwa	Central Asia including Indian Subcontinent, China and Mongolia	Least Concern	Schedule IV	Upper and Lower Gangetic Plains (7A & 7B)	Middle stretches until Barrackpore

OCCURRENCE OF BIRDS ALONG THE GANGA RIVER

CROCODILIANS

Crocodilians belong to the Class Reptilia and Order Crocodylia. Their senses of sight, smell and hearing are well developed. Their eyes are at the top of their head, close together to allow for binocular vision. The nostrils are crescent-shaped and valvular, and set at the end of the snout, which allows breathing even when the animal is almost entirely submerged. Their ears are covered by flaps, which close to prevent water from entering them. Their front feet have five separate toes and their rear feet have four partially-webbed toes. Crocodilians are adapted for a semi-aquatic life, are poikilothermic and temperate species. They bask in the sun during the day to raise their body temperature, returning to the water to cool off. Globally, they are represented by 24 extant species. In India, *Crocodylus palustris* (Mugger or marsh crocodile) and *C. porosus* (Estuarine crocodile) represent Crocodylidae family and the *Gavialis gangeticus* (Gharial) is the only surviving member of the Gavialidae family. These species are distributed in the Ganga River and its major tributaries.

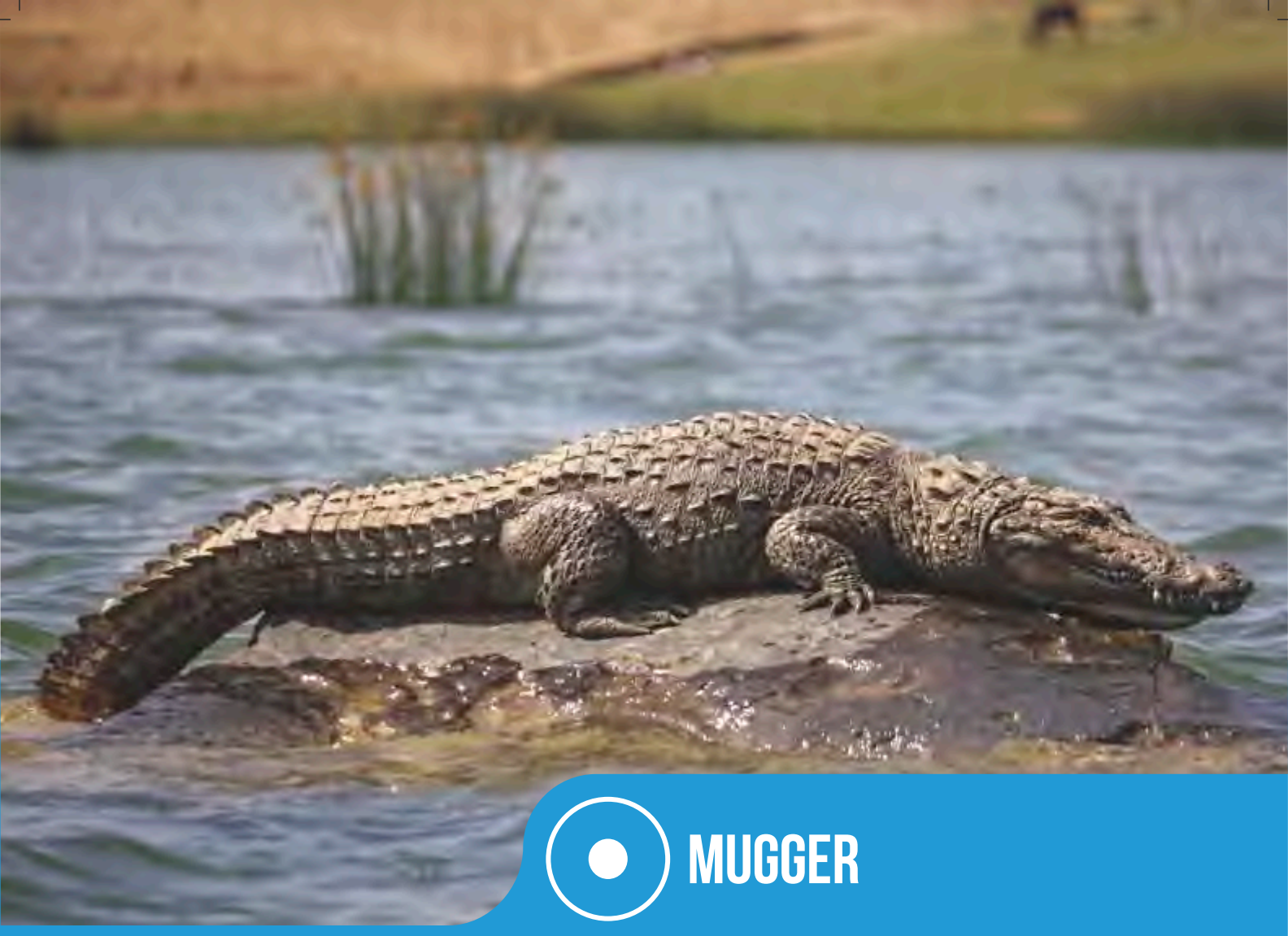
GHARIAL

The Gharial is endemic to the Indian subcontinent, occurring in the Indus, Ganga, Brahmaputra and the Mahanadi river systems. The gharial is now extinct in Myanmar, Bhutan and Pakistan. Male gharials can grow up to 6.5 m, while females are smaller. The snout is long and slender, specialized for catching fish. Males have a bulbous growth at the end of their snout called a "ghara". It functions during courtship as a visual stimulus for females, and allows gharials to produce a loud buzzing sound. They are equipped with extensively webbed feet for locomotion in the water. It is a hole-nesting species and nests along rivers in undisturbed sandy banks and islands. They prefer sandy banks with water depth of more than 4 m. Its clutch size varies from 20-60 eggs and the incubation period is around 65 days.

The species was on the verge of extinction in India by the mid-1970's until a captive breeding programme was initiated during 1975 and the population was made secure in the wild by 1995 with around 1200 gharials. However, since 1999 the gharial population has shown a dramatic decline throughout its entire range, largely as a result of anthropogenic pressures such as mortalities in fishing nets, reduction in water flow, and encroachment on river banks for agriculture, sand mining, construction of dams and barrages.

The species is a top predator and prefers to eat slower-moving, large predatory fish, such as catfish. Ecologically, disappearance of gharial from an ecosystem signifies a collapsed ecosystem due to polluted waters and or drastic drop in water levels. Gharials are hunted for use of its body parts in indigenous medicine and its eggs are harvested for consumption. During the rapid assessment, gharial presence was recorded downstream of the Bhimgoda barrage, between Bijnor and Brijghat.

Scientific Name	Vernacular Name	IUCN Red List	Indian Wild Life (Protection) Act, 1972	Biogeographic Province	Important areas along the Ganga River
Gavialis gangeticus	Gharial	Critically Endangered	Schedule I	Upper and Middle Gangetic Plain (7A & 7B)	Downstream of Bhimgoda barrage, Hastinapur Wildlife Sanctuary, Bijnor to Brijghat



MUGGER

The Mugger is a wide-ranging species, found in India, Sri Lanka, Pakistan, Nepal and possibly Bangladesh, extending westwards into eastern Iran. The species has become locally extinct over large parts of its range, and viable populations occur mostly within Protected Areas. In India, the species has been reported in 15 states and throughout much of the Ganga drainage. Significant populations occur in the Middle Ganga (Bihar and Jharkand), Chambal River (Rajastan and Madhya Pradesh) and in Gujarat.

Muggers are medium to large crocodiles, reaching 4 to 5 m in length. They have an elongate, robust skull and jaw musculature and have the broadest snout of all crocodilians. It is a hole-nesting species and nests along rivers, lakes and similar water bodies. Its clutch size varies from 20-40 eggs and the incubation period is around 62 days. They are hunted for their skin for manufacture of shoes, handbags, and other items.

Muggers have a highly adaptable nature and are known to survive in stagnant waters with placid current, making it also the most widely distributed species. They are opportunistic predators and prefer fish, amphibians, reptiles mainly snakes and possibly turtles, birds and small mammals. They also feed on carrion. The species is poached for its skin and meat as well as for its use in medicine. Mugger eggs are also poached for consumption by humans. During the rapid biodiversity assessment, muggers were sighted near Bijnor, at Malda, and upstream of the Farakka barrage. Muggers are at the apex of food web and perform the ecological role of both predators and scavengers.

Scientific Name	Vernacular Name	IUCN Red List	Indian Wild Life (Protection) Act, 1972	Biogeographic Provinces	Important areas along the Ganga River
Crocodylus palustris	Mugger	Vulnerable	Schedule I	Upper & Lower Gangetic Plains (7A & 7B)	Hastinapur Wildlife Sanctuary, Bijnor to Brijghat, Malda and upstream of Farakka

ESTUARINE CROCODILE

Estuarine or Saltwater crocodiles are most commonly found along the east coasts of India to northern Australia, through Southeast Asia along the islands of New Guinea and Indonesia. They are found in the brackish water areas of estuaries and rarely venture into the sea. They are strong swimmers and have a high tolerance for salinity.

Adult males can reach up to 6 to 7 m in length, while females do not generally exceed 3 m. The head is very large and a pair of ridges run from the eyes along the center of the snout. This crocodile spends most of its time thermogulating to maintain its body temperature. If they become too hot they often go into the water with only their eyes and nostrils showing and stay submerged until they are cooled. They are mound nesters; they create mounds of mangrove plants and mud and nest on it. Its clutch size varies from 20-60 eggs and the incubation period is around 72 days.

Estuarine crocodiles are rare in India and smaller populations occur throughout the Sundarbans at the mouth of the Ganga River. Apart from Sundarbans, the largest population of this crocodile is found in the Bhitarkanika National Park in Odisha.

Scientific Name	Vernacular Name	IUCN Red List	Indian Wild Life (Protection) Act, 1972	Biogeographic Province	Important areas along the Ganga River
Crocodylus porosus	Kumhir, Kumbhira	Least Concern	Schedule I	East Coast (8B)	Mouth of the Ganga River

OCCURRENCE OF CROCODILIANS ALONG THE GANGA RIVER

TURTLES

India is one of the global hotspot for freshwater turtle diversity harbouring 24 species of turtles and ranks among the top five countriesin the world for turtle conservation. The Ganga River is home to at least 13 of these species. According to their physiological and adaptive features, they occur from the upper stretches of the Ganga River till the Sundarban delta, covering the Himalayas, Gangetic Plains and Coasts.These freshwater turtles are represented by nine hardshell and four softshell species belonging to Class Reptilia, Order Testudines and families Geoemydidae and Trionychidae, respectively.

The hardshell species have a unique epidermal and skeletal structure in the form of a dome-shaped shell which is covered by horny scutes formed of its epidermis. These scutes overlap the seams between the shell bones and add strength to the shell. The softshell turtles lack these scutes on the flattened shell, which is covered with soft skin. They have boomerang-shaped entoplastron and possess long extensible necks, fleshy lips, tubular snout and three-clawed fore and hind limbs. These turtles are highly aquatic, drought resistant, carnivorous and even show necrophagy.

The freshwater turtles are exclusively aquatic. However, they need undisturbed terrestrial habitats like sand banks, bars, mid-river islands for nesting and basking. These species are ectothermic and bask in the sun in groups to regulate body temperature. They use a designated 'communal ground' in a sand bank/bar/island for nesting and hatchlings emerge on their own during pre and post-monsoon.

These turtles play a significant role in the river by scavenging dead organic material and diseased fish, controlling fish population as predators and controlling aquatic plants and weeds. They are also indicators of healthy aquatic ecosystems.

Most of the freshwater turtle populations are declining in the Ganga River due to sand mining which degrade the nesting habitat, illegal poaching and trade which deplete the source population, accidental mortalities in fishing nets, xenobotic compounds from agricultural fields and industries which cause toxic impact, and altered natural flow regime by dams and barrages which cause nest inundation or desiccation. It is also likely that modification of river morphology for navigation such as dredging and concretization of banks may destroy freshwater turtle habitats.

INDIAN SOFTSHELL TURTLE

Indian softshell turtle (*Nilssonia gangetica*) occurs in the Ganga, Indus and Mahanadi river systems in India. It is found in the middle and lower stretches of the Ganga River.

Its olive coloured body is dorsally flattened, head has a black longitudinal streak from between the eyes to the nape, and snout is tube-like. It reaches a carapace length of up to 94 cm.

The species inhabits deep rivers, streams, and large canals, lakes and ponds with mud and sand bottoms. It breeds during August and November andnests in islands and clayey river banks with a clutch size of 8-47. Eggs hatch during July. It is a predatory species, which also feeds on carcass. It controls fish population, removes diseased fish from rivers and also maintains water quality by scavenging on decaying organic material. The species is highly exploited for calipee, meat, eggs and illegal trade.

Scientific Name	Vernacular Name	Occurrence	IUCN Red List	Indian Wild Life (Protection) Act, 1972	Biogeographic Provinces	Important areas along the Ganga River
Nilssonia gangetica	Patal, Ganga kachhim	Ganga, Indus and Mahanadi river systems	Vulnerable	Schedule I	Upper & Lower Gangetic Plains (7A & 7B)	Bijnor to Narora, Kannauj to Kanpur, Allahabad to Varanasi

INDIAN PEACOCK SOFTSHELL TURTLE

Indian peacock softshell turtle (*Nilssonia hurum*) occurs in the rivers of India, Bangladesh, Nepal and Pakistan. In the Ganga River, the species occurs in the middle and lower stretches.

The species has a large head, dark olive green to nearly black oval carapace and downturned snout. It reaches a carapace length of 60 cm.

It inhabits rivers, streams, lakes and ponds with mud or sand bottoms. It breeds during August to November. N. hurum nests in islands and silty river banks with a clutch size of 20–30. Eggs hatch during June-July. The species is omnivorous and a carrion feeder. It controls fish population and maintains the water quality by scavenging on carcass and detritus. The species is exploited for meat, eggs and in illegal trade.

Scientific Name	Vernacular Name	Occurrence	IUCN Red List	Indian Wild Life (Protection) Act, 1972	Biogeographic Provinces	Important areas along the Ganga River
Nilssonia hurum	Kathawa, Dhum kachhim	Ganga and Indus river systems	Vulnerable	Schedule I	Upper & Lower Gangetic Plains (7A & 7B)	Bijnor to Narora, Kannauj to Kanpur, Allahabad to Varanasi, Baharampur to Barrackpore

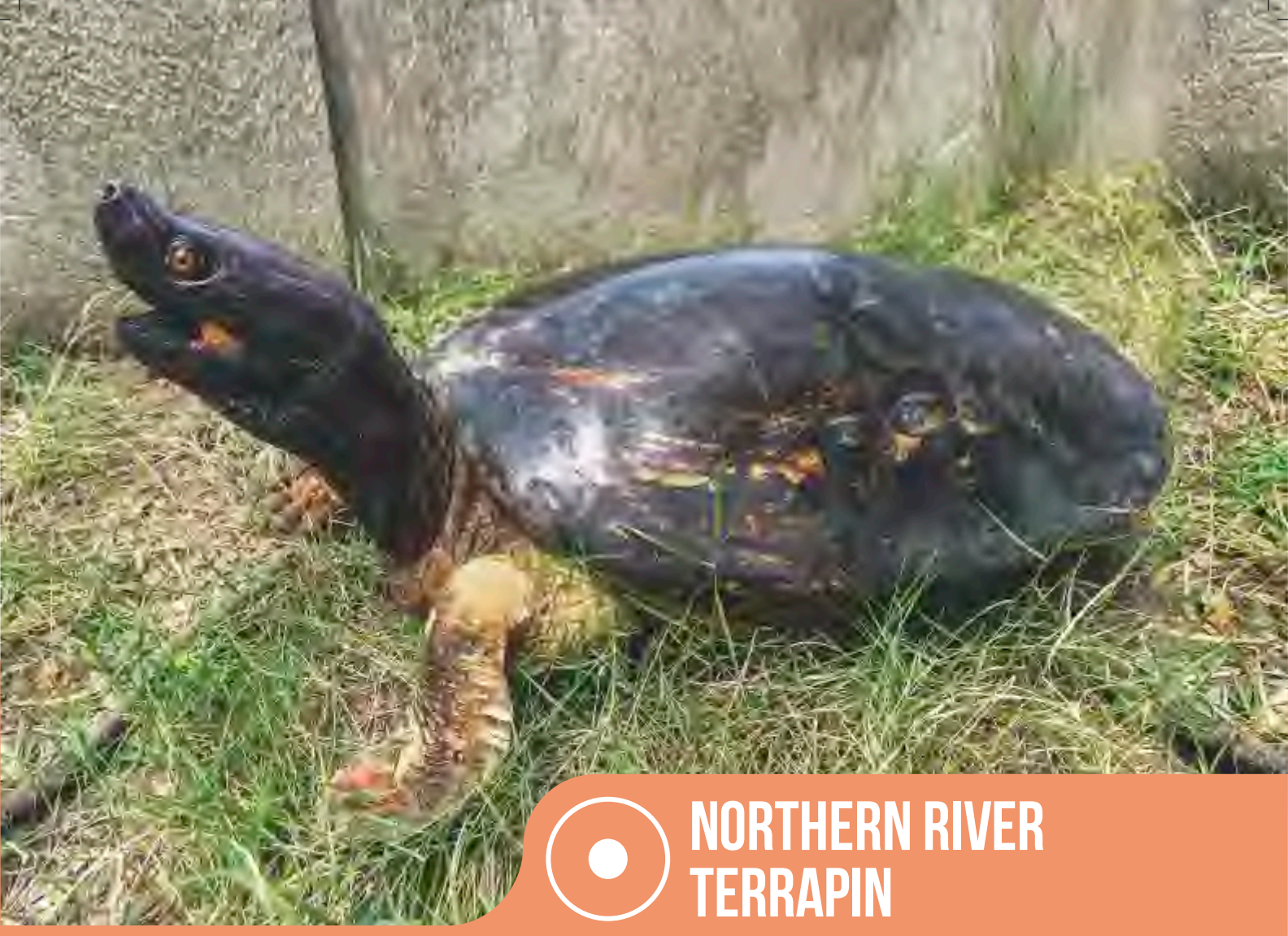
NARROW-HEADED SOFTSHELL TURTLE

Narrow-headed softshell turtle (*Chitra indica*) occurs in the rivers of India, Pakistan, Nepal, Bangladesh, Myanmar and western Malaysia. In India, the species occurs in the middle and lower stretches of the Ganga River, and the Indus, Godavari, Coleroon and Mahanadi river systems.

It has a small head, rounded snout, eyes close to nostrils and an olive-green body. The species is very large and attains a carapace length of 1.1 m.

It breeds during June to August in central India. It nests in river islands and sandy river banks with a clutch size of 65-193.Eggs hatch during September-October. *C. indica* is highly aquatic, ambush hunter and stays concealed below the sand-vegetation, with only the tip of the snout exposed. As an apex predator, it controls fish, amphibian and zoobenthos population. The species is overly exploited for calipee, meat and eggs.

Scientific Name	Vernacular Name	Occurrence	IUCN Red List	Indian Wild Life (Protection) Act, 1972	Biogeographic Provinces	Important areas along the Ganga River
Chitra indica	Chitra	Ganga, Indus, Godavari and Mahanadi river systems	Vulnerable	Schedule IV	Upper & Lower Gangetic Plains (7A & 7B)	Bijnor to Narora, Kannauj to Kanpur, Allahabad to Varanasi



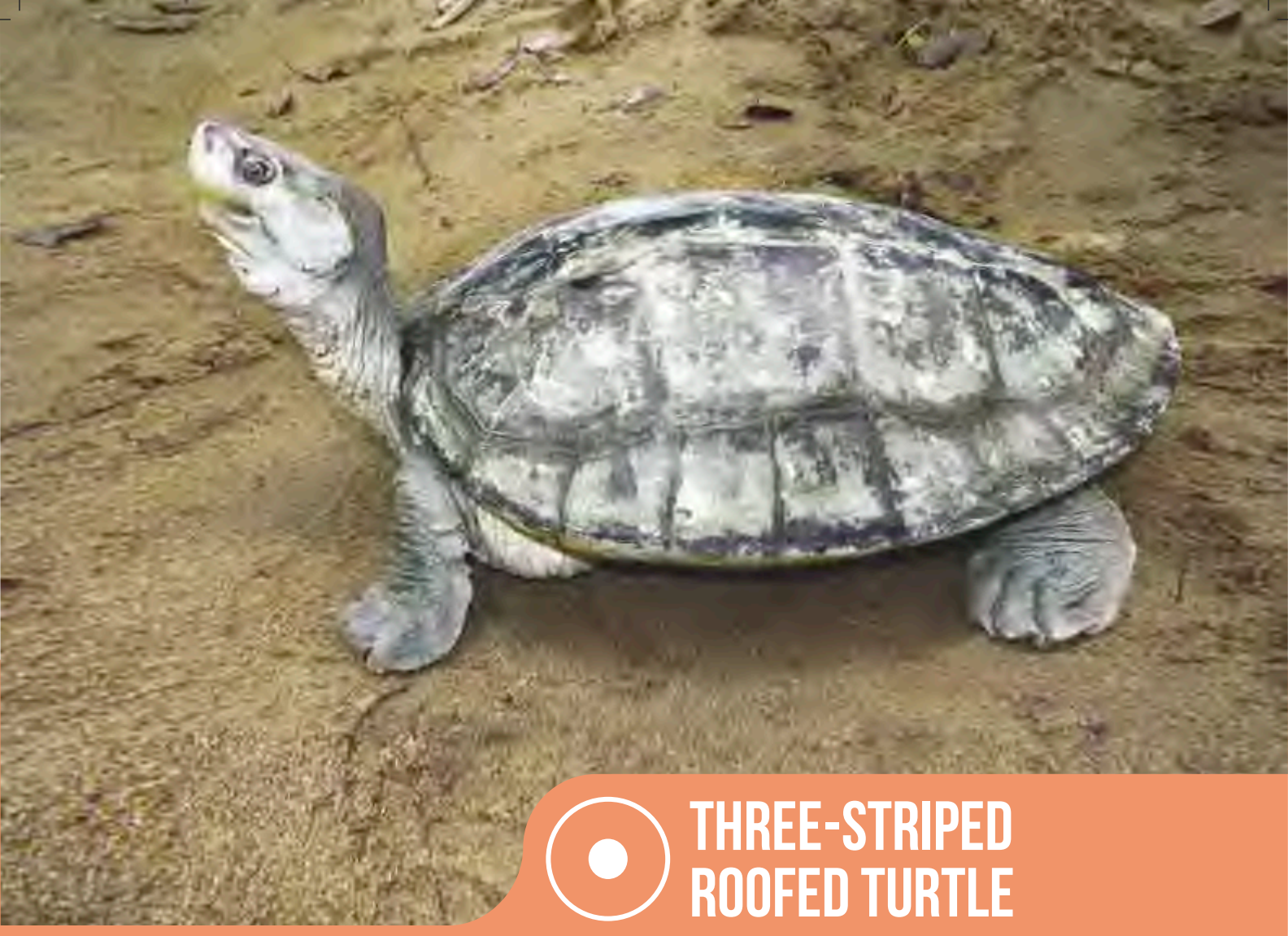
NORTHERN RIVER TERRAPIN

Northern river terrapin (*Batagur baska*) a hardshell turtle is distributed in India, Bangladesh, Cambodia, Indonesia and Malaysia. The species is extinct from the former ranges such as Myanmar; Singapore, Thailand, Vietnam and almost extirpated from the Hooghly River stretch in the Lower Ganga. It is a conservation dependent species as very few are left in the coastal mangrove estuaries in the Sundarbans.

The carapace is smooth and grey or black, has an upturned snout and attains a length upto 60 cm. It is a sexually dimorphic species and the male show breeding colouration - black head, crimson body and forelegs.

It lives in coastal mangrove estuaries and creeks, but ventures far upstream during the breeding season. Females dig nests in sandbars and banks far upstream from the normal estuarine habitat during the breeding season from December to March. It is omnivorous, controls aquatic weeds and maintains aquatic plant population in mangrove swamps.

Scientific Name	Vernacular Name	Occurrence	IUCN Red List	Indian Wild Life (Protection) Act, 1972	Biogeographic Province	Important areas along the Ganga River
Batagur baska	Pora katha	Coastal mangrove estuaries in the Sundarbans	Critically Endangered	Schedule I	East Coast (8B)	Downstream of Farakka Barrage till Ganga Sagar



THREE-STRIPED ROOFED TURTLE

Three-striped roofed turtle (*Batagur dhongoka*) is a hardshell species and occurs in India and Bangladesh. It occurs in the middle and lower stretches of the Ganga River.

The species has an oval and elevated carapace, dorsally brownish-grey with three dark brown stripes; yellow stripe on head and neck from tip of snout and over eyes. It attains a carapace length up to 60 cm.

The species inhabits large rivers with sandy banks and breeds during March and April. Nests with a clutch size of 26 are laid on sandy banks/islands. Eggs hatch during June. *B. dhongoka* is herbivorous, controls invasive aquatic weeds and maintains aquatic plant population.

Scientific Name	Vernacular Name	Occurrence	IUCN Red List	Indian Wild Life (Protection) Act, 1972	Biogeographic Provinces	Important areas along the Ganga River
Batagur dhongoka	Dhor, Sadakatha	Ganga, Brahmaputra and Padma river systems	Endangered	Schedule I	Upper & Lower Gangetic Plains (7A & 7B)	Bijnor to Narora, Kannauj, Allahabad to Varanasi

RED-CROWNED ROOFED TURTLE

Red-crowned roofed turtle (*Batagur kachuga*) a hardshell species occurs in India, Nepal and Bangladesh. In the Ganga River, it is distributed in the middle and lower stretches. The species has a dome-shaped pale green-grey carapace, the limbs have transversely enlarged and nape has red longitudinal lines. Males reach only half the length of females which has a carapace length of up to 56 cm. It is sexually dimorphic and the males show breeding colouration - red crown and yellow and blue stripes from head to neck.

It is exclusively freshwater, inhabiting deep flowing rivers with sandy nesting sites. It is a herbivorous species, and controls invasive aquatic weeds and maintains aquatic plant population. The species is overexploited for its meat, eggs and in pet trade.

Scientific Name	Vernacular Name	Occurrence	IUCN Red List	Indian Wild Life (Protection) Act, 1972	Biogeographic Provinces	Important areas along the Ganga River
Batagur kachuga	Sal, Adikori katha	Ganga, Indus and Mahanadi river systems	Critically Endangered	Schedule I	Upper & Lower Gangetic Plains (7A & 7B)	Bijnor to Narora, Kannauj, Allahabad to Varanasi, Farakka to Barrackpore

OCCURRENCE OF TURTLES ALONG THE GANGA RIVER

AMPHIBIANS

Amphibians are a distinctive group of vertebrates with unique physiological adaptations, particularly for semi-aquatic and aquatic habitats. Some are also specialized to live in trees or in deserts. There are approximately 7,000 known amphibian species of which nearly 90% are frogs. India harbors 384 species of amphibians, of which 167 species (66.3%) are endemic and distributed mostly in the Western Ghats and North-east.

The Ganga River basin provide habitat for about 49 amphibian species. These species are distributed from 3,000 m asl to the plains and delta.

Amphibians have a unique dual lifecycle, where the first phase is primarily dependent upon freshwater habitats. Typically, the eggs are laid in water or moist conditions. The larvae grow in water bodies and metamorphose into adult which utilize both terrestrial and aquatic habitats. Amphibians most of the time respire through their extremely thin skin which is called 'cutaneous gas exchange' and in the process can bypass their lungs completely. This characteristic feature, along with dependence upon freshwater ecosystems make these species acutely sensitive even to slight changes in temperature, humidity, air or water quality and susceptible to fungal diseases. These species are considered as the most sensitive to climate change.

Amphibians play a pivotal role in both aquatic and terrestrial ecosystem as secondary consumers in many food chains. Adult amphibians also act as one of the best biological pest controllers. From the ecological perspective, amphibians are regarded as good environmental indicators as their responses have been used to indicate habitat fragmentation, impact of xenobiotic compounds and overall ecosystem stress. Most of these less studied species are declining throughout their distribution range because of the changes in localized temperature and rainfall patterns, habitat loss, overutilization and diseases. The synergistic effects threaten almost 48% of the already rapidly declining species and are driving several species towards extinction.

MARBLED TOAD

Marbled toad (*Duttaphrynus stomaticus*) is widely distributed in Afghanistan, Iran, Pakistan, Nepal, Bangladesh and India. The upper elevation limit of this species is 4500 m. It is widely distributed throughout India. In the context of the Ganga River, the species has been recorded from the upper stretch covering Uttarkashi, Tehri, Pauri, Garhwal-Srinagar and Rishikesh; all through the Gangetic plains in the middle stretch and; from Calcutta and southern West Bengal in the lower stretch.

It is a light brown, moderately large bodied toad with a size of 76 mm. Tympanum is distinct, first finger longer than the second. The skin may be smooth with a few flattened tubercles. Male has a subgular vocal sac. During the breeding season, the skin color changes to yellow in both the sexes, with the males brighter than the females.

The species inhabits a wide variety of habitats such as open plains, grasslands, scrubland, forest, agricultural land and human habitations. It is a highly adaptable species and can survive under varying climatic conditions. Breeding occurs in permanent and seasonal pools, seasonal streams and slow-flowing streams.

The species is vulnerable to loss of habitat due to infrastructure development, agricultural intensification, pollution of wetlands and land by agrochemicals, traffic related mortality, and droughts.

Scientific Name	IUCN Red List	Indian Wild Life (Protection) Act, 1972	Biogeographic Provinces
Duttaphrynus stomaticus	Least Concern	Not listed	Upper & Lower Gangetic Plains (7A & 7B)

ANNANDALE'S PAA FROG

Annandale's Paa Frog (*Nanorana annandalii*) has been reported from India, Nepal and Bhutan. In India, it is found in Arunachal Pradesh, Sikkim, Uttarakhand and north eastern part of West Bengal, between 1500-3000 m asl. The species has been reported from the upper stretch of the Ganga River.

It is a medium sized frog of 55 mm. Body is olive in colour with marbling and the belly is white. It inhabits rocky streams and brooks in montane forests, and with pools in forest clearings. It needs moderate temperatures and high humidity. The tadpoles develop in streams.

Currently the population of the species is declining due to habitat fragmentation, stream modification, localized deforestation and dam construction.

Scientific Name	IUCN Red List	Indian Wild Life (Protection) Act, 1972	Biogeographic Province
Nanorana annandalii	Near Threatened	Not listed	Lower Gangetic Plain (7B)

HIMALAYA PAA FROG

Himalaya Paa frog (*Nanorana vicina*) is restricted to northern Pakistan and north western India. It is a high-altitude species and is reported from Himacahal Pradesh, Uttarakhand and Jammu & Kashmir. The species is found in the upper stretch of the Ganga River, at elevations of 2000-3000 m asl.

It is a medium sized frog of 58 mm. Body is olive in colour with marblings. The tympanum is indistinct, first finger as long as second, toes half webbed, outer metatarsal tubercle reduced, and the body dorsum is tuberculate.

The species inhabits high-altitude streams, springs, fountains and other running waters within open forest and grassland habitats. *N. vicina* is vulnerable due to destruction of stream habitats.

Scientific Name	IUCN Red List	Indian Wild Life (Protection) Act, 1972	Biogeographic Province
Nanorana minica	Vulnerable	Not listed	West Himalaya (2B)

NEPAL PAA FROG

Nepal Paa frog (*Nanorana minica*) has been reported from western and eastern Nepal and from northern India in Uttarakhand and Himachal Pradesh. It is reported from the upper stretch of the Ganga River from 1000 to over 2400 m asl.

It is a relatively small bodied frog of 28-41 mm in size. Body is brownish in colour with black spots and small warts on the back side. The snout to vent length is 1.6 inches. It inhabits subtropical montane forests and breeds in streams.

Currently the population of the species is in decline, due to localized clearance of forests, changes in waterway management due to dam construction and pollution.

Scientific Name	IUCN Red List	Indian Wild Life (Protection) Act, 1972	Biogeographic Province
Nanorana vicina	Least concern	Not listed	West Himalaya (2B)

CASCADE FROG

Cascade frog (*Amolops formosus*) has been recorded from India in Himanchal Pradesh, Uttarakhand, Nagaland, Meghalaya, Arunachal Pradesh and Assam; northern Bangladesh and much of Nepal. In the Ganga River, it is reported in the upper stretch within an altitudinal range of 1000-2500 m asl.

The species is 50-65 mm in length. It has a green to brown color on its back and a light yellow on its throat and belly. A few to about 50 gray spots are present on its back. The color patterns are used to attract mates.

The species is associated with streams and riparian vegetation within tropical evergreen forests. They are obligate stream dwelling species and breeding takes place in streams. Their tadpole has ventral suckers to attach to the substratum.

The overall population of the species is declining due to continuing loss of suitable stream habitats through both deforestation and changes in natural hydrology regime as a result of dams.

Scientific Name	IUCN Red List	Indian Wild Life (Protection) Act, 1972	Biogeographic Province
Amolops formosus	Least Concern	Not listed	West Himalaya (2B)

TYTLER'S POND FROG

Tytler's pond frog (*Hylarana tytleri*) is distributed in much of northeastern India, throughout Bangladesh and southern Nepal. In India the species is found in Assam, Meghalaya, Mizoram, Nagaland, Odisha, Uttar Pradesh and West Bengal. It has been reported from the middle and lower stretches of the Ganga River up to 300 m asl.

The males of the species grow to a maximum size of 33 mm and females to 45 mm. The head is moderately elongated and webbing is partial. The body is uniformly greenish with two whitish or yellow lines laterally on back. There are two distinct brown lines on inner side of latero-dorsal folds.

It inhabits a variety of aquatic habitats such as pools, lakes and marshes. It may also be found in riparian vegetation, within scrubland, tropical forest habitats and in artificially flooded agricultural areas. The species generally breeds in stagnant waterbodies.

Although the current population status of this species is reported to be stable, the species is vulnerable to water pollution as a result of agrochemicals and due to overexploitation as food.

Scientific Name	IUCN Red List	Indian Wild Life (Protection) Act, 1972	Biogeographic Province
Hylarana tytleri	Least Concern	Not listed	Lower Gangetic Plain (7B)

INDIAN BULLFROG

Indian bullfrog (*Hoplobatrachus tigerinus*) is found throughout most wetland areas of India, Bangladesh, northern Pakistan, southern parts of Nepal, Myanmar and Sri Lanka. The species has been introduced in the Maldives and Madagascar, where it is expanding its range. It is a lowland species, found at elevations between 25 and 800 m asl. The species is widely distributed throughout India. It is found in all the three stretches of the Ganga River.

It is a large sized frog of 134 mm. The body is greenish, olive or brown in color with a mid-dorsal yellow line on the back. The breeding males are yellow in color, with deep blue vocal sacs, with powerful, nasal calls.

The species mainly inhabits freshwater wetlands, and paddy fields. It is solitary and nocturnal in behavior, residing in holes and bushes near pools and water courses. It feeds on invertebrates, small mammals and birds. Breeding occurs during the monsoon season, during which the adults congregate at ephemeral rainwater pools. Although the species produces large number of eggs, mortality rates are high.

In the past, the species was collected in huge quantities for the international frog-leg trade. Since the 1990's legal export of this species is banned in India and Bangladesh. The population of the species is currently reported to be declining due to threats such as loss of wetland habitats, water pollution from agrochemicals, road mortality and consumption as food.

Scientific Name	IUCN Red List	Indian Wild Life (Protection) Act, 1972	Biogeographic Provinces
Hoplobatrachus tigerinus	Least Concern	Schedule IV	West Himalaya (2B), Gangetic Plain (7A &7B), East Coast (8B)

JERDON'S BULLFROG

Jerdon's bullfrog (*Hoplobatrachus crassus*) is present almost throughout south Asia in India, Bangladesh, Nepal and Sri Lanka. The species has been recorded from most parts of India viz., Andhra Pradesh, Assam, Arunachal Pradesh, Kerala, Karnataka, Madhya Pradesh, Maharashtra, Orissa, Uttar Pradesh, Uttarakhand and West Bengal. It is found in all the three stretches of the Ganga River.

It is a large sized frog of 121 mm. The dorsal part of the body is brown with dark spots and irregular glandular folds are present on the back.

The species is mainly terrestrial and inhabits seasonally flooded grasslands, open plains, cultivated areas and around human settlements, however breeding take place in various types of waterbodies. During dry periods, adults aestivate and are generally found in burrows.

Currently, population of the species is declining. Habitat loss, adult mortality due to road kill and collection for use as food are the major threats.

Scientific Name	IUCN Red List	Indian Wild Life (Protection) Act, 1972	Biogeographic Province
Hoplobatrachus crassus	Least Concern	Schedule IV	Lower Gangetic Plain (7B)

DUDHWA TREE FROG

Dudhwa tree frog (*Chiromantis dudhwaensis*) is an endemic species, currently known only from its type locality in Dudhwa National Park, Uttar Pradesh, India, where it was observed and collected below 100 m asl. However, the species is expected to occur more widely in the Gangetic basin.

It is a semi-arboreal species and mainly inhabits scrub forest, grassland and rural areas. The species may be vulnerable to habitat loss and climatic shifts, however research is underway to identify specific threats.

Scientific Name	IUCN Red List	Indian Wild Life (Protection) Act, 1972	Biogeographic Province
Chiromantis dudhwaensis	Data Deficient	Not listed	Upper Gangetic Plain (7A)

FISH

About 15000 species of freshwater fish have been recorded globally; of which, about 6.6% are found in Indian inland waters. Out of the 994 species so far listed, 482 species are endemic to India and almost 120 species are threatened according to IUCN Red List.

About 200 fish species have been reported from the Ganga River. The distinctive hydrology and geo-climatic condition in the upper, middle and lower stretches of the river support unique fish assemblages. Fish presently found in the Ganga River belong to Class Actinopterygii, however historical records show that fishes belonging to Class Elasmobranchii were also found in the Ganga River. Among the Elasmobranchii, two species of Stingray were reported uptil Kanpur and the Gangetic shark (*Glyphis gangeticus*) was reported in the Ganga River beyond the tidal range. The present status of these species is mostly unknown.

Fish form the staple diet for a majority of people in India and it is a major source of animal protein for low income families. Fishing is an important income source for most of theriverside communities along the Ganga River. Fishes also contribute to the overall economic wellbeing as a means of export commodity, tourism and recreation.

According to the feeding guilds, the freshwater fishes of the Ganga River may be divided into Zooplanktivore, Zoobenthivore, Herbivore, Piscivore, Opportunist/Omnivore and Detritivore. They regulate trophic structure and thus, influence the stability, resilience, and food web dynamics of aquatic ecosystems. They also influence the temporal availability of nutrients and the potential for algal blooms in nutrient-rich lakes. These fishes mineralize nitrogen and phosphorus through excretion and defecation, thereby making these nutrients available for primary production. The piscivores and omnivores exert a top-down control over fish populations. Fishes control the sediment process as the detritivores and zoobenthovore search for food and to lay their eggs in the bottom sediment. The seasonal migration of fish for breeding and spawning transport nutrients across the river and floodplain wetlands. As bioindicators, freshwater fishes also give out early-warning signals of anthropogenic stress on natural ecosystem dynamics, or conversely, as indicators of ecosystem recovery and of resilience.

During the rapid biodiversity assessment, golden mahaseer, mahaseer and snow trouts were encountered only in the upper stretch of the river. Wallago was frequently observed in the middle and lower stretches. Whereas, Hilsa was only encountered in the lower stretch of the river downstream Farakka barrage in the mainstem of the Ganga River and in the Feeder Canal.

GOLDEN MAHASEER

Golden Mahaseer (*Tor putitora*) has been reported from across the Himalayan region and elsewhere in south and southeast Asia. In India, the species is found in the Himalayan river systems of Himachal Pradesh, Uttarakhand and Jammu & Kashmir. In Uttarakhand, it has been reported from the Nayar, Mandal, Khoh and Sharda rivers. It is also found in the Song-Ganga river confluence.In the Ganga River, it is restricted to the upper stretches within an elevation range of 70-1891m asl.

Putitor mahaseers are large cyprinids and are known to be the toughest freshwater sport fish. It can attain a maximum length of 2.75 m and weighs 54 kg. The body colour of an adult is golden on dorsal side and fins are reddish-yellow. It is characterized by large scales and thick powerful lips with relatively longer barbels

The species inhabit montane and sub-montane regions, in streams and rivers with rocky bottom, riverine pools and lakes. It is a column feeder in freshwater, found in pH ranges 7.4-7.9 and in subtropical condition 13°C - 30°C. It is omnivorous, feeds on insects, algae, macrophytes, rotifers, small fish and crustaceans. It is potamodromous (migrating within freshwaters) and migrates upstream from the main river to the tributaries for spawning during the pre-monsoon and monsoon and return during October-November. The fish breeds in shallow water regions and the fry hide themselves under big boulders near the banks. The adult fish prefer deeper pools.

Currently the species is declining rapidly from its natural habitat due to urbanization, illegal encroachment, over-fishing and chemical and physical alterations of their natural habitats due to the growing number of hydroelectric and irrigation projects.

Scientific Name	Vernacular Name	IUCN Red List	Indian Wild Life (Protection) Act, 1972	Biogeographic Province	Important areas along the Ganga River
Tor putitora	Mahaseer, Chadu, Corchula, Putitor	Endangered	Not listed	West Himalaya (2B)	Upper stretch of the river

MAHASEER

Mahaseer (*Tor tor*) has been recorded from Myanmar, Bhutan, Bangladesh, Pakistan, Nepal and India. In India,ithas been reported from Assam, Arunachal Pradesh, Manipur, Meghalaya, Sikkim, and Uttarakhand. In the context of the Ganga River, tor mahaseers are confined to the upper stretch within an elevation range of 135-1891m asl. They are stoutly built reaching a maximum length of 1.5 to 2 m and weigh upto 78 kg or more. The characteristic feature is its small mouth with thick lips. It is omnivorous and feeds on filamentous algae, water beetles and crustaceans.

The species inhabits rivers and rapid streams with rocky bottom, within 15°C to 30°C. Tor mahaseer is potamodromous, it travels toward headwaters at the start of the rainy season and downstream at the end of the rainy season. It has a long breeding season, which commences in July-August and continues up to December with peak breeding during July to September. The species is an important food and sport fish across its range. Currently its population is declining rapidly due to overexploitation and habitat loss.

Scientific Name	Vernacular Name	IUCN Red List	Indian Wild Life (Protection) Act, 1972	Biogeographic Province	Important areas along the Ganga River
Tor tor	Mahaseer, Naharam, Mahashoal, Tor mahaseer	Near Threatened	Not listed	West Himalaya (2B)	Upper stretch of the river

SNOW TROUT

Snow trout (*Schizothorax richardsonii*) is widely distributed in India, Nepal, Bhutan, Pakistan and Afghanistan. In India, it is found in the snow fed streams of Uttarakhand, Nagaland and Jammu & Kasmir. The species is confined to the upper stretch of the Ganga River, from Gangotri to Pauri Garhwal. It is generally found within an elevational range of approximately 1000-3500m. The body of the snow trout is streamlined and scales are very small. It is characterised by the presence of a suctorial mouth and about 97 scales on the lateral line.

It inhabits moutain streams and rivers, with rocky substrate. It is a bottom feeder and feeds on algae, aquatic plants, detritus and insects. It is potamodromous and breeds during April-May, before the monsoon floods the rivers and streams. The fry grows to such a size as to bear the rigours of the flood waters.

Snow trout is a valuable game fish and is also relished for its flesh. The population of the species has been drastically declining due to anthropogenic threats such as dams, overfishing, tourism, introduction of exotic species and fishing for ornamental purpose.

Scientific Name	Vernacular Name	IUCN Red List	Indian Wild Life (Protection) Act, 1972	Biogeographic Province	Important areas along the Ganga River
Schizothorax richardsonii	Asaila	Vulnerable	Not listed	West Himalaya (2B)	Upper stretch of the river

HILSA

Hilsa (*Tenualosa ilisha*) is one of the most important tropical fish of the Indo-Pacific region. In India, the species has been reported from the Ganga, Brahmaputra, Bhagirathi-Hooghly, Rupnarayan, Godavari, Narmada, Tapti and other coastal rivers. In the Ganga River, it is now confined only within a stretch downstream of the Farakka barrage. Before the construction of this barrage, Hilsa used to migrate up to Agra, Kanpur and Delhi in years of excessive abundance, while in normal years, up to Allahabad. The species can attain a length of up to 60 cm and weigh around 2.5 kg. It is silver in color consisting of 18-21 dorsal soft rays, 18-23 anal soft rays and 30-33 scutes on the belly. Dorsal spines and anal spines are absent. A dark blotch is present behind the gill opening, followed by a series of small spots along flank in juveniles.

It is a euryhaline species, inhabiting lower regions of foreshore areas, estuaries, brackish-water lakes and freshwater rivers, due to the presence of sub surface oxygen, relatively low salinity, strong tidal action, high turbidity, heavy siltation and rich growth of plankton. It feeds on planktons, mainly by filtering, but also practices grubbing on muddy bottoms. The species is an anadromous clupeid, it schools in coastal waters and migrates into the rivers for as much as 50-100 km for spawning. It is known to be a fast swimmer, sometimes covering 71 km in a day. Spawning mainly occurs in the river during the southwest monsoon period and also from January to March. The population of this species is declining rapidly due to the construction of dams and barrages, siltation in estuary mouth, juvenile fishing, exploitation of brood fishes, over fishing, lack of mesh size regulation, ineffective fish pass, loss of habitat, and pollution.

Scientific Name	Vernacular Name	IUCN Red List	Indian Wild Life (Protection) Act, 1972	Biogeographic Provinces	Important areas along the Ganga River
Tenualosa ilisha	Hilsa, Ilish	Least Concern	Not listed	Lower Gangetic Plain (7B), East Coast (8B)	Lower stretch of the river downstream of Farakka barrage.

WALLAGO

Wallago (*Wallago attu*) is a widely distributed species found in Pakistan, Sri Lanka, Nepal, Bangladesh, Myanmar, Thailand, Vietnam, Cambodia, Java and all across India. The species has been reported from across India and is found in the middle and lower stretches of the Ganga River.

It is a large fish with a broad head, depressed snout and a strongly compressed and elongated body. Mouth consists of a deep cleft, with its corners reaching far behind the eyes. Teeth in the jaws are set in wide bands; vomerine teeth in two small patches are present. It comprises of five dorsal soft rays and 77-97 anal soft rays. It bites strongly, with its huge mouth, forming jaws and band of conical teeth.

The species inhabits large, rivers, tanks and lakes. It is among the largest, voracious and predatory of local catfish, which thrives well in rivers, lakes and ponds with grassy margin. It is associated with deep, still or slow flowing water with a mud or silt substrate. The species is carnivorous and predatory in nature. Adults are piscivorous and juveniles feed mainly on insects and adults feed on smaller fish, crustaceans and molluscs. It is potamodromous and a pre-monsoon summer breeder. It is found abundantly during the warm seasons.

Wallago is heavily utilized as food. Occasionally juveniles are caught and exported as ornamental fish. It is considered as a good sport fish and is generally targeted by recreational fisherman.

Habitat destruction and overexploitation of this species is a major cause for the rapid decline in its population.

Scientific Name	Vernacular Name	IUCN Red List	Indian Wild Life (Protection) Act, 1972	Biogeographic Provinces	Important areas along the Ganga River
Wallago attu	Boal, Barwari, Boalee, Boyari, Valai, Paran	Near Threatened	Not listed	Upper & Lower Gangetic Plains (7A & 7B); East Coast (8B)	Middle and lower stretches of the river from Haridwar to Ganga Sagar

HIGH BIODIVERSITY STRETCHES

Identification of areas with high biodiversity values for ecological restoration is based on the 'refuge approach' to restoration. This approach provides resilience and sources for future restored sites and a measure against the likelihood of local extirpation of species.

For the ecological restoration of the Ganga River, stretches with high biodiversity values were identified using information obtained from the rapid biodiversity assessment. Habitat defining variables such as water depth were also determined along the surveyed length of the river, as depth is a major limiting factor for most of the priority umbrella species. The umbrella species like the Gangetic river dolphins and gharials are highly dependent on the depth profile. They prefer depth > 4 m, which was available in scattered pools in approximately 38.7% of the river stretch assessed. Shallow areas (depth <4 m) prevail throughout the river stretch which act as barriers to the lateral movement of these large-bodied aquatic animals.

Six stretches covering about 50% of the river's length that have high biodiversity value were identified along the Ganga River.

STRETCH I

- This is a stretch of 61 km, from Devprayag to Rishikesh in Uttarakhand and falls under the West Himalaya (2B) Biogeographic province.
- It is characterized by rapids with rocky bottoms, deep gorges and gentle slopes.
- 56 species of fish including Golden mahaseer were encountered in this stretch. This stretch along with the Nayar River provides breeding grounds for the Golden mahaseer.
- Semi-aquatic mammals such as the smooth-coated and Eurasian otters have been reported from this stretch. There are also reports of Asian small-clawed otter from the narrow streams joining Ganga River.
- About 93 phytoplankton, 76 periphyton and 19 zoobenthic species have been reported.
- Riffles and pools provide habitat heterogeneity for the benthic flora and periphyton and forms headwaters for the lower stretches of the Ganga River.

DEVPRAYAG TO RISHIKESH, UTTARAKHAND

STRETCH II

- This is a 147 km stretch from Makdumpur in Jyotibha Phule Nagar to Narora in Bulandshahar district, Uttar Pradesh.
- This stretch falls under the Upper Gangetic Plain (7A) Biogeographic province.
- It is characterized by meandering channels with extensive alluvium, sandbars and mid-river islands.
- Flow regime is highly altered by the Bijnor and Narora barrages.
- During summers, the river depth ranges from 1.6 m to 5.2 m.
- During the rapid assessment a total of 27 gharials were encountered in this stretch. Around 41 sightings of Gangetic river dolphins were made. More than 800 turtles, including 176 individuals of *Batagur* sp., 50 *Nilssonia gangetica* and 619 individuals of *Pangshura* sp., were encountered within this stretch.
- More than 80 fish species and 62 waterbird species were recorded from within this stretch.
- 35 phytoplankton and 31 zooplankton species have been reported from this stretch.
- About 110 km of this stretch is protected as Hastinapur Wildlife Sanctuary and stretch between Brijghat to Narora, is recognized as Wetland of International Importance.
- Presence of sandbars, mid-river islands, backwaters and floodplain wetlands provide habitat mosaics for different aquatic biota.

MAKDUMPUR TO NARORA, UTTAR PRADESH

STRETCH III

- Traversing through an extensive alluvial plain, this 454 km stretch from Bhitaura, Fatehpur to Ghazipur, Ghazipur district, Uttar Pradesh is highly braided and anastomosed.
- This stretch falls under the Upper Gangetic Plain (7A) Biogeographic province.
- Flow regime is altered by the Kanpur Barrage and the river depth goes as low as 1.1 m. The flow regime improves significantly after the conflux with the Yamuna River near Allahabad resulting in an increased river depth of up to 20.4 m.
- A total sightings of 269 Gangetic river dolphins were made in this stretch. Around 193 Indian skimmers were also seen. Sightings of *Batagur* sp. and *Nilssonia gangetica* were also made in this stretch. A total of 50 fish species were encountered during fish sampling.
- The stretch is also known to harbour about 357 phytoplankton, 42 zooplankton, 19 periphtyon and 45 zoobenthic species.
- 7 km length of this stretch from Rajghat to Ramnagar, in Varanasi, is protected as Kachhua Sanctuary.
- A mosaic of habitat in the form of sandbars, meander belts and ox-bow lakes, results in the wide assemblage of aquatic biota.

BHITAURA TO GHAZIPUR, UTTAR PRADESH

STRETCH IV

- This is a 296 km stretch from Chhapra, Saran to Kahalgaon, Bhagalpur district in Bihar.
- This stretch falls under the Lower Gangetic Plain (7B) Biogeographic province.
- The river in this stretch is very wide, highly braided, meandered and passes through an extensive alluvial plain.
- Flow regime of this stretch is enhanced by substantial inflows from the Ghaghra and Son rivers near Chhapra and Gandak River at Patna.
- During summers, the depth ranged from 1.6 m to 33.2 m.
- A total of 141 sightings of Gangetic river dolphins and two smooth-coated otters were seen during the rapid assessment.
- In addition, 61 fish species and more than 80 phytoplankton and zooplankton species have been recorded.
- About 65 km of this stretch from Sultanganj to Kahalgaon, is protected as Vikramshila Gangetic Dolphin Sanctuary.
- Large, stable islands, meanders and ox-bow lakes provide a mosaic of habitats for the aquatic fauna.

CHHAPRA TO KAHALGAON, BIHAR

STRETCH V

- This 34 km stretch from Sahibganj to Rajmahal, Sahibganj district in Jharkhand is very wide, highly braided and anastomosing with multichannel formation on an alluvial plain.
- This stretch falls under the Lower Gangetic Plain (7B) Biogeographic province.
- Channel splitting takes place and convex sandbars are formed due to the low-energy channel flow and poor lateral stability.
- Flow regime of this stretch is enhanced by substantial inflows from the Kosi River near Katihar District, Bihar.
- During summers, the depth ranged from 1.5 m to 17.0 m.
- Around seven sightings of Gangetic river dolphins were made in this stretch. A family of smooth-coated otter was also encountered in this stretch.
- About 89 species of fish, 182 phytoplankton and 40 zooplankton species have been recorded from this stretch.
- The habitat mosaic includes deep pools, sandbars and mid-river islands, which are potential habitats for freshwater turtles, island-nesting birds and dolphins.

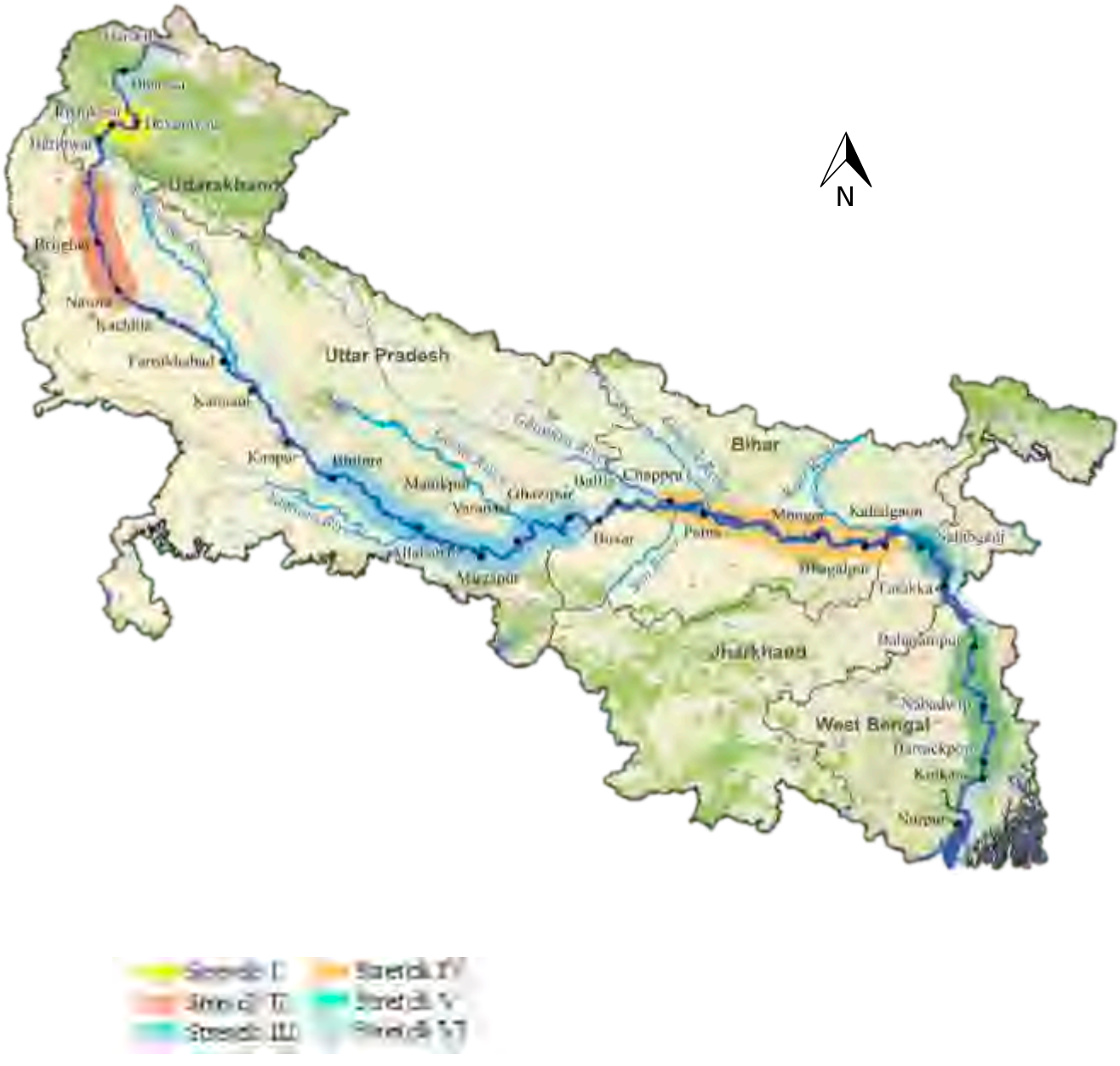
SAHIBGANJ TO RAJMAHAL, JHARKHAND

STRETCH VI

- This stretch of 246 km from Baharampur, Murshidabad to Barrackpore, North 24 Parganas District West Bengal is characterized by highly meandering channel, with convex sandbars and a few mid-river islands.
- This stretch falls under the Lower Gangetic Plain (7B) Biogeographic province.
- Flow regime is enhanced by the feeder canal originating from Farakka Barrage and meeting the main channel, Hooghly at Ahiran, Murshidabad district.
- The river receives substantial inflows from the Mayurakshi and Ajay rivers at Bardhaman district.
- During summers, the depth of the river ranged from 2.9 m to 31.0 m.
- Around 49 sightings of Gangetic river dolphins were made in this stretch.
- 25 species of fish, 44 phytoplankton and 21 zooplankton species were recorded from this stretch.
- Meanders with convex sandbars and mid-river islands provide a mosaic of habitat.

BAHARAMPUR TO BARRACKPORE, WEST BENGAL

STRETCHES IN GANGA RIVER WITH HIGH BIODIVERSITY VALUE



THREATS AND CONSERVATION ISSUES

The Ganga along with the Brahmaputra River, forms one of the largest and most diverse river systems of the world, spanning 10 biomes. The varied geomorphological features along the river, coupled with climatic variations, results in a continuous gradient of habitats for various life forms, right from the headwaters to itsb mouth.

The Ganga River basin hosts a dense population of diverse stakeholders having varied resource uses and linked to the river culturally, religiously, socially and economically. The differential resource use scenarios by different stakeholders has resulted in varied impacts and threats along the length of the Ganga River. Therefore, a successful ecological restoration of the Ganga River requires identification of site-specific threats and strategic planning on ways to minimize or eliminate them.

During the present assessment by the Wildlife Institute of India under theNMCG sponsored "Biodiversity Conservation and Ganga Rejuvenation"project, the threats and conservation issues related with the biodiversity were assessed. The upper stretch of the Ganga River is threatened by structural changes in the river and altered flow regime, both of which are heightened by the impacts of climate change. Bank alteration, unsustainable resource extraction and changes in water quality are dominant threats in the middle and lower stretches. It can be deduced that alteration of the structural morphology of the river is the key threat, leading to habitat degradation and biodiversity loss. Climate change and altered water quality due to pollution are further threatening the survival of these species.

THE UPPER STRETCH

- **Amidst the Himalayan mountain range, a river stretch of 294 km from Gaumukh to Haridwar is designated as Upper Ganga.**
- **It falls within the West Himalaya (2B) Biogeographic province and is characterized by very steep altitudinal gradient, turbulent high flow, deep gorge, narrow channel, stony or pebbly river bed with intermediate sandy bars and cold water.**
- **The human population density in the basin is about 190 persons/km^2.**
- **This is a highly sensitive and ecologically fragile stretch.**
- **This stretch has high biodiversity value - hosting habitats for endangered species such as otters, the snow trout and the golden mahaseer.**

Conservation issues

A. Structural changes

- 16 existing, 14 ongoing and 14 proposed hydroelectric projects in the Bhagirathi and Alaknanda river basins threatens the Upper stretch.
- 70.7% of the Bhagirathi River and 48.0% of the Alaknanda River are affected by inundation and water diversion.
- 28.6% and 35.2% of the Bhagirathi and Alaknanda river channels have turned into ecological deserts.

B. Climate change impact

- The flow regime in the headwaters is vulnerable to the retreat of the Gangotri glacier.
- The thermal gradient of the aquatic habitat is already distorted.
- Shrunken distribution range of *Schizothorax* sp. and upstream range extensions of *Cyprinus carpio*.

C. Loss of habitat connectivity

- Decline in golden mahaseer population due to the Tehri Dam acting as a migration barrier.

D. Pollution

- Two active drains observed downstream of the Rishikesh Barrage and Haridwar.
- pH ranged from 6.6-8.5, within the permissible limit (6.5-8.5).
- Biochemical oxygen demand (BOD) showed an overall increasing trend, and increased above the permissible limit (? 3 mg/L) near Satyanarayan Temple, downstream of Raiwala and Haridwar.
- Dissolved oxygen (DO) below the critical point (5.4 mg/L) at Haridwar.

Critical locations

Haridwar, downstream of Bhimgoda Barrage.

MIDDLE STRETCH

- **The stretch of 1082 km between Haridwar and Varanasi is designated as Middle Ganga.**
- **Falling within the Upper and Lower Gangetic Plains (7A & 7B) Biogeographic province, it is characterized by anastomosing, meandering flow patterns, wide and narrow channel, sandy river bed, sand bars and islands and extensive alluvium.**
- **The human density is about 820 persons/km^2.**
- **Extensive fertile floodplains that are extensively used for agriculture.**
- **Hosts significant populations of the Gangetic river dolphin, gharial, mugger, turtles and island-nesting birds.**

Conservation issues

A. Reduced flow regime

- Water abstraction from the Upper Ganga Canal at Bhimgoda, Haridwar, Middle Ganga Canal at Bijnor and Lower Ganga Canal and Parallel Lower Ganga Canal at Narora has reduced the flow of the river to 10% of the natural flow regime.
- Bhimgoda, Bijnor, Narora and Kanpur barrages have severely fragmented the habitat and restricted the migration of species along the river.

B. Pollution

- There were 21 wastewater inflow points, mainly of raw sewage and industrial discharge observed during the present study.
- pH ranged from 7.4 to 8.8 mg/L and DO at 7.5 mg/L, which are permissible limits.
- BOD showed overall decreasing trend however higher than the permissible limit was observed at Narora, Kannauj, Kanpur, Dalmau, Kala Kankar, Allahabad and Varanasi.
- Polychlorinated bi-phenyls (PCBs) and Perfluorinatedcompounds (PFCs), used widely in the agricultural and healthcare sectors in this stretch are endocrine disrupting chemicals (EDCs). These interfere with the hormonal and immune systems of aquatic species through bioaccumulation and biomagnification along the food chain, as reported for the Gangetic river dolphin.

C. Agriculture, sand mining and built-up area

- River bed and bank agriculture, construction and sand mining has disrupted the lateral connectivity of the river.
- Extensive sandbar cultivation has rendered the habitat unsuitable for use as nesting sites by turtles and island-nesting birds.

D. Unsustainable resource extraction

- Unsustainable biological resource extraction using destructive methods is ubiquitous, leading to decline in prey base.

Critical locations

- Varanasi and areas between Farrukhabad and Kanpur and between Allahabad and Varanasi.

LOWER STRETCH

- **The stretch of 1134 km from Varanasi to Ganga Sagar is designated as the Lower Ganga.**
- **Falling within the Biogeographic provinces viz. Upper and Lower Gangetic Plains (7A & 7B) and East Coast (8A) and is characterized by extensive alluvium and wide channels subjected to siltation, bank erosion, frequent flooding and alteration in river channel.**
- **Most densely populated of the three stretches with 950 persons/km^2.**
- **The natural vegetation in the catchment extensively replaced by croplands.**
- **Highly biodiverse with populations of the Gangetic river dolphin, otters, gharial, saltwater crocodile, turtles including Northern river terrapin and fishes such as Hilsa.**

Conservation issues

A. Altered flow and salinity regime

- The Farakka Barrage in the Hooghly River has significantly changed the salinity regime, water transparency, suspended sediments and nutrient load and altered the freshwater fish assemblage.

B. Pollution

- There were 31 active wastewater inflow points, mainly of raw sewage and industrial discharge.
- pH ranged from 7.3 to 8.8, which was within the permissible limit.
- DO showed an overall increasing trend and BOD showed an overall decreasing trend. However, Ghazipur, in Uttar Pradesh, and Baharampur, Ghoshpara, Serampore, Dakshineshwar, Shivpur, Garden Reach, Uluberia, Palta and Diamond Harbour, in West Bengal, were critical locations where the BOD was well above the permissible limits.
- Kolkata produces 5114 tonnes of solid waste per day, of which 10% is plastic. The untreated plastic waste disrupts the biodiversity and reaches the Bay of Bengal at a rate of 0.12 million tonnes per year.

C. Unsustainable resource extraction

- Destructive fishing techniques and intentional capture of Gangetic river dolphins, turtles and storks have led to mortality and population declines.
- Batagurbaska and *Glyphis gangeticus* have been extirpated due to indiscriminate killing.

D. Agriculture, sand mining and built-up area

- River bed and bank agriculture, construction and sand mining has disrupted the lateral connectivity of the river.
- Extensive sandbar cultivation has rendered the habitat unsuitable for use as nesting sites by turtles and island-nesting birds.

Critical locations

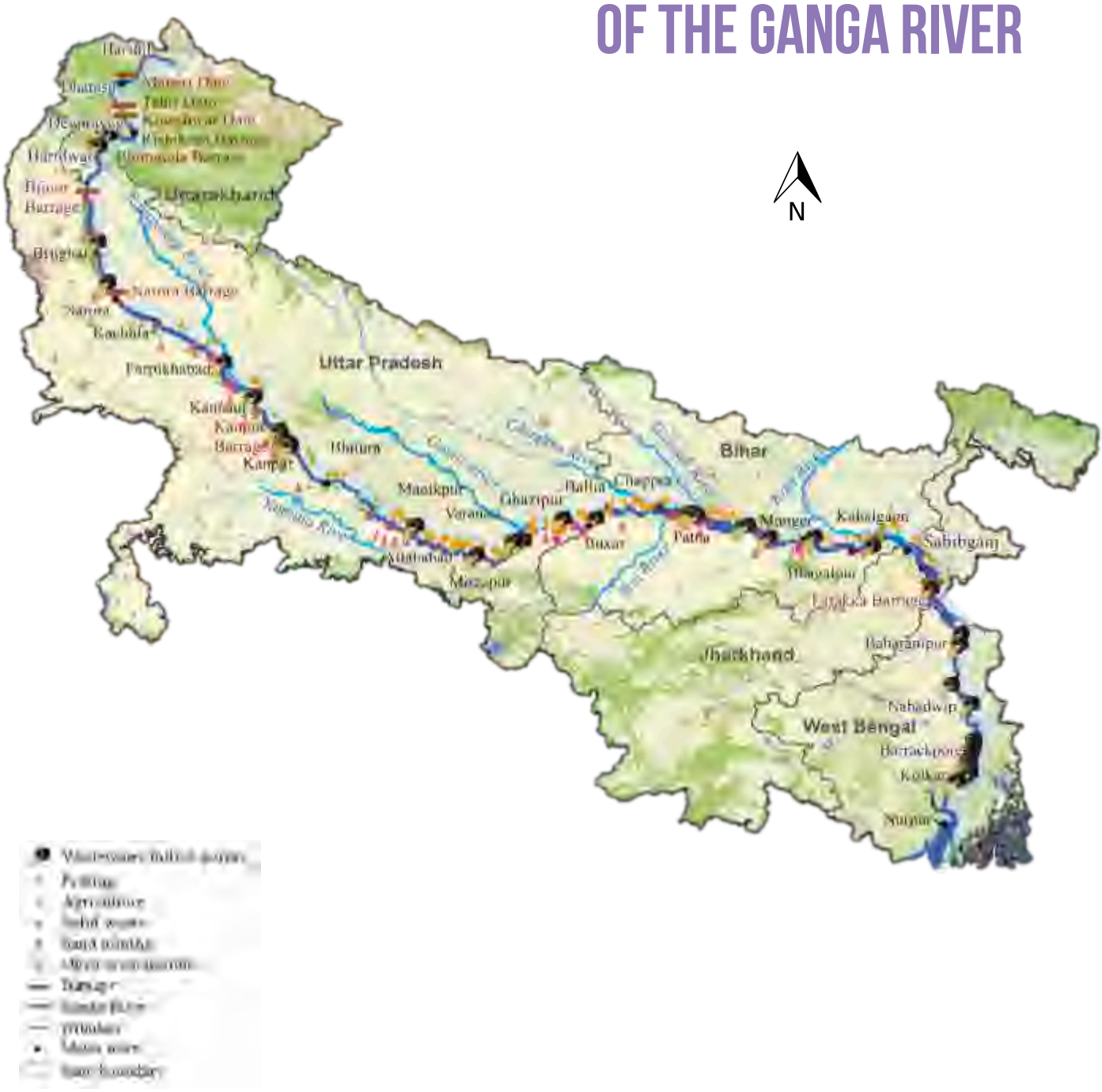
Sitab Diara, Munger, Kahalgaon, Sahibganj, Revelganj and Ajimganj/Jiaganj, Sujapur, Batanagar, Shibpur, Garden Reach, Uluberia and Falta.

STRETCH-SPECIFIC CONSERVATION STRATEGIES

In order to maintain the ecological integrity of the river, it is crucial to address stretch-specific threats keeping in view the current global river conservation scenario.

- In the Upper Ganga, the focus should be on maintaining the natural structural features of the river, and micro-hydel power projects should be considered instead of larger dams in this stretch.
- In the Lower and Middle Ganga, restoration of the hydrology regime through flow augmentation to a near-natural condition would be key to bringing about ecological restoration in the river ecosystem.
- A holistic approach should consider assessment of 'flow-ecology' relationships of designated aquatic umbrella species and then integrate the eco-hydrological requirements of these species during the conception of nature-oriented and ecologically relevant e-flow targets.
- This flow restoration would, in turn, enhance the suitability of the habitat for the aquatic biota, improve the flow regime and retain enough water in the Ganga River to dilute the heavy pollution load.

THREATS TO THE BIODIVERSITY OF THE GANGA RIVER



PROTECTED AREAS ALONG GANGA

Protected Areas (PAs) viz., National Parks, Wildlife Sanctuaries, Conservation and Community Reserves have been created by the Government of India to protect representative wild habitats across the country. Presently, India has 769 PAs, covering 4.93% of India's geographic area. These PAs cover both terrestrial and aquatic ecosystems and thus provide protection to both terrestrial and aquatic species and their habitats. The PAs along the Ganga River account for 10% of the total river stretch including the Sundarban Tiger Reserve. These areas provide relatively undisturbed habitats along the Ganga River and are repositories of umbrella species such as Gangetic river dolphin, otters and crocodilians.

GANGOTRI NATIONAL PARK

The Gangotri National Park (GNP) (30°50'-31°12' N, 78°45'-79°02' E), is the largest PA (2,390 km^2) in the state of Uttarakhand, and is located in the upper catchment of Bhagirathi River in Uttarkashi District. The origin of the Ganga River, the Gaumukh glacier, is located inside the GNP. Its north-eastern boundary runs along the international boundary between India and China. The elevation of GNP ranges from 1,800 to 7,083 m amsl. It falls within the West Himalaya biogeographic province (2B).

About 26 km of the Bhagirathi flows through the GNP. 15 mammal species and 150 bird species have been documented from the park, which includes snow leopard (*Panthera uncia*), black bear (*Ursus thibetanus*), brown bear (*Ursus arctos*), musk deer (*Moschus chrysogaster*), blue sheep (*Pseudois nayaur*), Himalayan tahr (*Hemitragus jemlahicus*), Himalayan monal (*Lophophorus impejanus*), koklass (*Pucrasia macrolopha*) and Himalayan snowcock (*Tetraogallus himalayensis*).

Among the aquatic species, Asian small-clawed otter (*Aonyx cinereus*), Eurasian otter (*Lutra lutr*a) and snow trout (*Schizothorax richardsonii*) are found here.

RAJAJI NATIONAL PARK

Rajaji National Park (RNP) in the state of Uttarakhand is spread across the three districts viz. Haridwar, Dehradun and Pauri (29°15' to 30°31' North Latitude, 77°52' to 78°22' East Longitude). It has a geographical area of 820.42 km^2 in and around the Shivalik foothills with elevation ranging from 302 to 1000 m asl.

About 18 km of the Ganga River flows through RNP and cuts it into two segments, with the Chilla range to the east and the rest on the west side of the river. Due to its strategic location in the Shivalik landscape, RNP has been designated as a reserved area (Shivalik Elephant Reserve) under the "Project Elephant" with the aim of maintaining a viable population of Asian elephants in their natural habitat. It falls within biogeographic provinces West Himalaya (2B) and the Upper Gangetic plain (7A).

Along with elephants, RNP is home to tiger (*Panthera tigris*), leopard (*Panthera pardus*), sloth bear (*Melursus ursinus*), striped hyena (*Hyaena hyaena*), barking deer (*Muntiacus muntjak*), spotted deer (*Axis axis*), sambar (*Rusa unicolor*) and wild boar (*Sus scrofa*).

Among aquatic species, smooth-coated otters (*Lutrogale perspicillata*), Eurasian otter (*Lutra lutra*), mugger (*Crocodylus palustris*), golden mahaseer (*Tor putitora*) are found here.

HASTINAPUR WILDLIFE SANCTUARY

Hastinapur Wildlife Sanctuary is spread across Meerut, Ghaziabad, Bijnore and Jyotiba Phule Nagar districts (29°7' N to 78°4'E) of Uttar Pradesh. Covering an area of 2073 km^2, it was declared a Sanctuary in 1986 in order to protect and conserve the ecology and biodiversity of the Ganga River basin.

About 110 km of the Ganga River flows through the Hastinapur Wildlife Sanctuary. The grassland of the Sanctuary holds a variety of flora, avifauna and a population of swamp deer and hog deer. The Sanctuary has a variety of landforms and is a mixture of different habitats such as wetlands, marshes, dry sand beds and gently sloping ravines. The vegetation can be classified into tall wet grasslands, dry short grasslands, scrubs and plantations.

The sanctuary was established to protect the state animal of Uttar Pradesh, the swamp deer (*Rucervus duvaucelii duvaucelii*). Other mammalian species recorded here include hog deer (*Axis porcinus*), blackbuck (*Antilope cervicapra*), nilgai (*Boselaphus tragocamelus*), wild boar (*Sus scrofa*), golden jackal (*Canis aureus*), jungle cat (*Felis chaus*) and fishing cat (*Prionailurus viverrinus*). Along with rich mammalian fauna, the Sanctuary is home to 180 species of birds along with a large congregation of migratory waterbirds visiting the area during winter. Asian openbill (*Anastomus oscitans*) has established several colonies while sarus crane (*Antigone antigone*) is also recorded

KACHHUA SANCTUARY

Turtle Kachhua Sanctuary is located in the Varanasi District (25°44'58.25"N, 83°17'21.24"E) of Uttar Pradesh. This PA is a 7 km stretch of the Ganga River flowing through Varanasi city from Ramnagar Fort to Malviya Rail/Road Bridge.

The Sanctuary was established to ensure the survival of turtles released into the Ganga River in Varanasi. Due to the sacred status of the river and the Varanasi (Kashi) city, people from all over the country come to perform funeral rites and half burnt bodies and religious wastes are often immersed into the river. To get rid of these waste and keeping in view the religious sentiments and cultural values of the people, the Ganga Action Plan supported breeding and release of turtles into the river. The turtles promote organic removal of half-burnt human corpses which are dumped into the river. The idea behind the action was that this will nurture a good population of the already dwindling population of the Indian softshell turtle.

VIKRAMSHILA GANGETIC DOLPHIN WILDLIFE SANCTUARY

The Sanctuary is a 65 km stretch of the Ganga River, from Sultanganj to Kahalgaon (25°17'23" N, 86°55'48" E), in Bihar, notified in 1991 for conservation of the Gangetic river dolphin (*Platanista gangetica*). The area of the Sanctuary is prone to changes due to inundation of the floodplains and the meandering channels of the Ganga River during monsoon. The river stretch, particularly a 36 km stretch from Sultanpur to Bhagalpur, is a paradise for breeding birds because of the presence of a large numbers of sandbars.

About 65 km of the Ganga River flows through the Vikramshila Gangetic Dolphin Sanctuary. It is the only dolphin sanctuary in India and hence, is crucial for the conservation of the Gangetic river dolphin, the national aquatic animal. Other important mammalian fauna include the smooth-coated otter (*Lutrogale perspicillata*). The Sanctuary is also identified as an 'Important Bird Area' by BNHS for its rich avifauna. The Sanctuary is home to hundreds of Indian skimmers (*Rynchops albicollis*), Pallas's fish eagle (*Haliaeetus leucoryphus*), greater spotted eagle (*Clanga clanga*) and lesser kestrel (*Falco naumanni*). Greater adjutant (*Leptoptilos dubius*) and lesser adjutant (*Leptoptilos javanicus*) have also been reported from the Sanctuary. The Sanctuary is also home to a sizable population of gharial (*Gavialis gangeticus*), a variety of freshwater turtles and numerous fish species.

SUNDARBAN BIOSPHERE RESERVE

The Sundarban is the largest delta in the world and consists of 10,200 km^2 of mangrove forest, spread over India (4200 km^2) and Bangladesh (approx. 6000 km^2). Named after the mangrove plant Sundari (*Heritiera minor*), it is located in South Parganas district of West Bengal in India and the Khulna and Backarganj districts in Bangladesh. The Sundarban Biosphere Reserve (21°10'46" N, 88°58'21"E) includes the Sundarban Tiger Reserve, Sundarban National Park (core area), Halliday Island and Lothian Island Wildlife Sanctuaries with Sajnakhali Wildlife Sanctuary as its buffer area. It is a UNESCO World Heritage site, an 'Important Bird Area' and a proposed Ramsar Site. The mangroves reduce the fury of cyclonic storms and prevent coastal erosion caused by tidal action.

About 50 km of the Ganga River flows through the Sundarban Biosphere Reserve. Champion (1936) classified the vegetation of the area as moist tropical seral forest with beach and tidal forests. Sundarban has extremely rich diversity of aquatic and terrestrial flora and fauna.

Over 200 species of birds have been reported from the area including the rare and elusive masked finfoot (*Heliopais personatus*). Sundarban also hosts the largest population of estuarine crocodile (*Crocodylus porosus*). The mangrove forest of the Sundarbans is home to tigers (*Panthera tigris*), with perhaps the largest tiger population in the world.

PROTECTED AREAS ALONG THE GANGA RIVER

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National Mission for Clean Ganga

NMCG
National Mission
for Clean Ganga,
Ministry of Water
Resources, River
Development &
Ganga Rejuvenation

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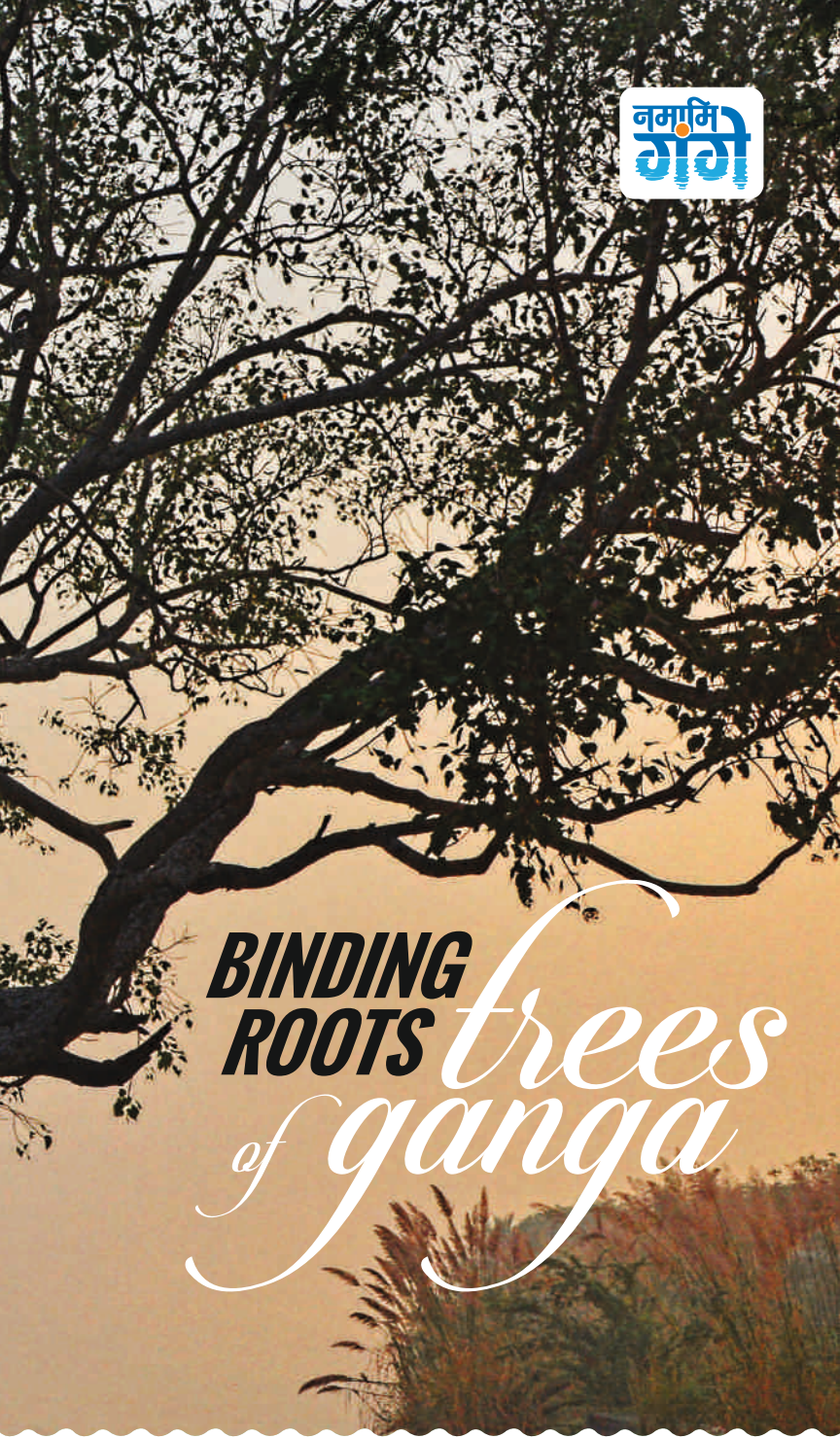

National Mission for Clean Ganga

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Wildlife Institute of India

VIBRANT GANGA

trees
of
ganga
BINDING
ROOTS

क्वचित् तीररुहैर्वृक्षैर्मालाभिरिव शोभिताम् ।
क्वचित् फुल्लोत्पलच्छन्नां क्वचित् पद्मवनाकुलाम् ॥

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PREFACE

The Ganga River is one of the largest and most diverse river systems of Asia with one of the highest human densities in the world. The main stem of the Ganga River (Goumukh to the Bay of Bengal) is roughly 2525 km in length and passes through the states of Uttarakhand, Uttar Pradesh, Jharkhand, Bihar and West Bengal. Encompassing five ecologically diverse biogeographic provinces viz., the Western Himalaya (2B), the Upper and Lower Gangetic plain (7A & 7B) and East coast (8B), the river harbours a unique assemblage of biodiversity, due to mosaic of habitats. This diversity of the Ganga River and their habitats are in peril due to a multitude of factors arising from conflicting and unsustainable resource use practices, climate change and pollution. The National Mission for Clean Ganga (NMCG) and Wildlife Institute of India (WII)'s project "Biodiversity Conservation and Ganga Rejuvenation" aims at aquatic species restoration plan through science-based research and knowledge sharing. "Vibrant Ganga" is one such attempt to share the science-based information to the various stakeholders with the aid of print and digital media. Under the "Vibrant Ganga" series a set of brochures and books are being published with the aim to provide information on faunal and floral diversity, their conservation status, distribution, ecology and threats.

This new series 'Binding Roots' aims at providing information on the vegetation along the Ganga River, since river bank vegetation strongly influences the water chemistry and the associated biodiversity of the region. Vegetation is a key element in a number of processes that establish the eco geomorphological features of the river landscape. Vegetation aids in water purification, river bank stabilization, protection of soil surface and soil nutrient cycling, and provides shade & shelter to aquatic faunal species. Riverside human communities are dependent on the vegetation for fodder, fuelwood, timber as well as for food.

'Binding Roots: Trees of Ganga' provides information on conservation status, distribution, ecological and local usage on the floral diversity of the Ganga River. Part I of the 'Binding Roots: Trees of Ganga' enlists some important and commonly occurring tree species along the Ganga River. Thus, 40 tree Species belonging to 14 Orders and 21 Families have been described in this booklet. The species are described through scientific and common names and thus a wide audience can use this booklet.

TREE SPECIES OF UPPER STRETCH

GANGOTRI TO HARIDWAR

Betula utilis

Vernacular name:	Bhojpatra, Bhuj
Common name:	Himalayan Birch
Order:	Fagales
Family:	Betulaceae
Genus:	*Betula*
Species:	*utilis*
IUCN Red List:	Least Concern

Distribution
The species is common throughout the Himalaya within 2500 to 4500m elevation range.

Biogeographic Provinces
Western Himalaya (2B)

Habit
Deciduous tree

Habitat
The species often grows at high altitudes (subalpine forest to treeline), frequently on slopes with unstable soils or under high snow pressure. Seedlings have been found on disturbed ground and on the rotten trunks of fallen trees. The species generally occurs in groves, and forests that receive minimal precipitation supplied by snowmelt. It is also found on northern shady slopes and ravines.

Native/Exotic : Native

Phenology :
Flowering: June-July
Fruiting: June-July

Ecological role
It helps in river bank stabilization and prevents soil erosion.

Local usage
Wood is used for timber and fuel. Leaves are used for fodder. In the past, the outer bark was used for the inscription of religious texts. The outer bark is used for roof construction, packaging purpose, making umbrella covers and various religious ceremonies. The bark has carminative and antiseptic properties, infusion of it is given for hysteria, and a paste of the resin is applied to boils.

Pinus wallichiana

Vernacular name:	Kail, Biar
Common name:	Himalayan White Pine, Blue Pine
Order:	Pinales
Family:	Pinaceae
Genus:	*Pinus*
Species:	*wallichiana*
IUCN Red List:	Least Concern

Distribution
The species is common throughout the Himalaya up to an elevation on 3400m.

Biogeographic Provinces
Western Himalaya (2B)

Habit
Coniferous tree

Habitat
The species is found in the Himalaya, sometimes in pure stands or in mixed forest in association with *Cedrus deodara* and *Pinus roxburghii*. It is a light demanding species and prefers well drained porous soils.

Phenology:
Flowering: April- June
Fruiting: April- June

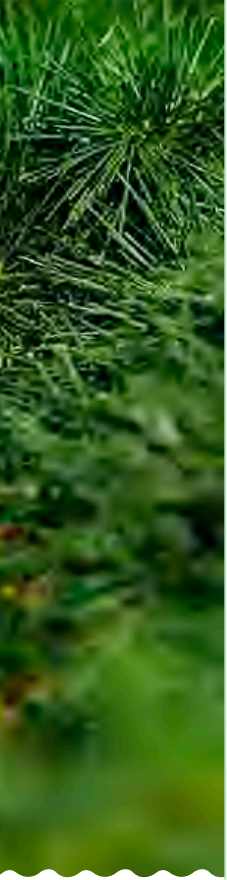
Native/ Exotic
Native

Ecological role
The species grows extensively on steep slopes and controls erosion. It is also planted on wasteland and is a useful intercropping species in agroforestry.

Local usage
The timber is highly valued and is used as joinery, house fitments, light furniture, packing cases, railway sleepers etc. The species is commercially tapped for turpentine and tar. The turpentine obtained is used for various medicinal purpose.

Cedrus deodara

Vernacular name:	Devdar
Common name:	Himalayan Cedar, Deodar Cedar
Order:	Pinales
Family:	Pinaceae
Genus:	*Cedrus*
Species:	*deodara*
IUCN Red List:	Least Concern



Distribution
The species is found throughout the Himalaya within an elevation range of 1700-3000m in the western parts of its range and between 1300-3300m in the eastern part, where the climate is less dry.

Biogeographic Provinces
Western Himalaya (2B)

Habit
Coniferous tree

Habitat
It occurs on rocky precipitous slopes, and generally forms pure stands on the northern slopes. It is a light demanding species, prefers loamy soil with high organic carbon content.

Native/Exotic
Native

Phenology:
Flowering: June- August
Fruiting: September- November

Ecological role
It is a soil binder species and controls erosion.

Local usage
The presence of oil in the wood makes the species highly durable and resistant from termite attacks. Thus, the species is highly valued as timber.

Hippophae salicifolia

Vernacular name:	Amesh, Chook, Ameel
Common name:	Seabuckthorn
Order:	Rosales
Family:	Elaeagnaceae
Genus:	*Hippophae*
Species:	*salicifolia*
IUCN Red List:	Not Listed

Distribution
The species is distributed in the Trans-Himalayan regions of Jammu & Kashmir, Himachal Pradesh, Uttarakhand and North East within an elevation range of 2000-3500m.

Biogeographic Provinces
Western Himalaya (2B)

Habit
Small deciduous tree

Habitat
The species grows luxuriantly on sun facing northern aspects of steep slopes in riparian buffers. It prefers sandy and eroded soil and grows well on gravelly sand and stone on the banks of the river, streamlets and sometimes also in forest habitats. It often forms pure stands on freshly formed landslips and is a pioneer deciduous species.

Native/Exotic
Native

Phenology
Flowering: June - September
Fruiting: June- September

Ecological role
It is an indicator species of riparian buffer health and helps in river bank stabilization. The species has the ability to ameliorate soil and increases soil fertility being a nitrogen fixer.

Local usage
The tender branches and leaves produce oil that is used as an ointment for treating burns. Oil made from its fruit is used for cardiac disorders, heal burns, eczema, radiation injury and stomach illness.

Populus ciliata

Vernacular name:	Chalun, Biaon, Ban peepal, Pahari peepal
Common name:	Himalayan Poplar
Order:	Malphigales
Family:	Salicaceae
Genus:	*Populus*
Species:	*ciliata*
IUCN Red List:	Least Concern

Distribution
The species is common throughout the Himalaya up to an elevation of 3400m.

Biogeographic Provinces
Western Himalaya (2B)

Habit
Deciduous tree

Habitat
It is a fast growing species and can be seen growing on steep slopes, mountains in mixed montane woodland or forest. It prefers moist cool places and is able to grow on a wide range of soils.

Native/ Exotic
Native

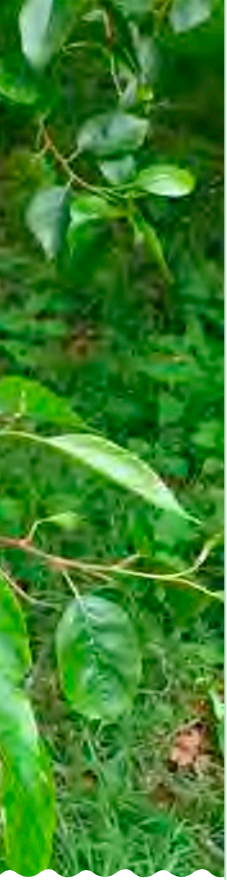
Phenology
Flowering: March- April
Fruiting: March- April

Ecological role
The species helps in erosion control. It is a fast growing species and grows easily from branches and stem cuttings. Poplar is also planted along agricultural fields as wind break and for providing shade.

Local usage
The wood is used for fuel and timber for making packing boxes, trucks, cross beams and furniture. The fiber of the species is used for making paper. Bark of the species is used for medicinal purpose.

Alnus nepalensis

Vernacular name:	Utees
Common name:	Indian Alder, Nepal Black Alder, Himalayan Alder
Order:	Fagales
Family:	Betulaceae
Genus:	*Alnus*
Species:	*nepalensis*
IUCN Red List:	Least Concern



Distribution
The species is found throughout the Himalaya up to an elevation of 3600m.

Biogeographic Provinces
Western Himalaya (2B)

Habit
Semi-deciduous tree

Habitat
It is a pioneer species. It grows well in light but is also shade tolerant. It does not require high soil fertility and prefers permeable soils. The species occurs naturally in both pure and mixed stands, and is common in stream beds, near streams, and in ravines. It is frost tolerant.

Native/Exotic
Native

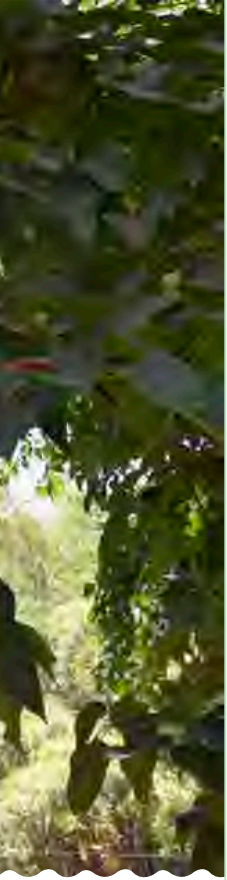
Phenology
Flowering: October- May
Fruiting: October-May

Ecological role
It is a fast growing tree and is used as a soil binder in landslide areas. It is planted as erosion control on hillsides and for land recovery in shifting cultivation.

Local usage
The species is used as firewood and charcoal. Timber is used for making boxes, splints, poles, and inexpensive furniture. The bark is used for tanning, dyeing and in local medicine.

Trewia nudiflora

Vernacular name:	Pindalu, Pindar, Oitali
Common name:	False White Oak tree
Order:	Malpighiales
Family:	Euphorbiaceae
Genus:	*Trewia*
Species:	*nudiflora*
IUCN Red List:	Not Listed



Distribution
The species is widely distributed throughout India, up to an elevation of 1200m.

Biogeographic Provinces
Western Himalaya (2B)

Habit
Deciduous tree

Habitat
It is a fast growing early successional dioecious tree, usually growing near streams and rivers. It prefers alluvial soil, and can grow on dry ground. Seedlings of the species are sensitive to drought and usually get killed at the exposed upland sites.

Native/Exotic
Native

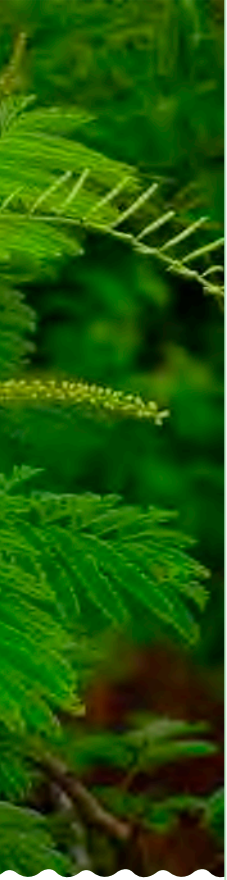
Phenology
Flowering: November- March
Fruiting: November- March

Ecological role
The roots of the tree are soil binder and control erosion.

Local usage
Different parts of the plant are used for medicinal purpose. Wood is used as timber, for making drums and agricultural implements.

Acacia catechu

Vernacular name:	Khair
Common name:	Black cutch
Order:	Fabales
Family:	Fabaceae
Genus:	*Acacia*
Species:	*catechu*
IUCN Red List:	Not Listed



Distribution
The species is common throughout the sub Himalayan tract and outer Himalaya within an elevation range of 90-1200m.

Biogeographic Provinces
Western Himalaya (2B)

Habit
Deciduous tree

Habitat
The species occurs naturally in tropical moist deciduous forests along riverbanks and watersheds.

Native/ Exotic
Native

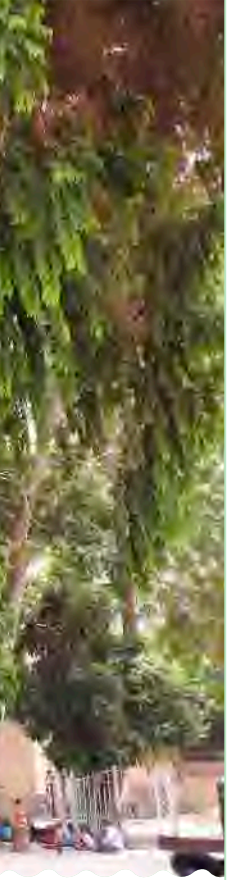
Phenology
Flowering: July- August
Fruiting: August -December, ripens in the following year by February-March

Ecological role
It is a soil binding species and helps in nitrogen fixation in the soil. The species is also used as live fence.

Local usage
Wood is used as firewood and timber, for making house posts, agricultural implements, rice pestles and wheels. Cutch is extracted from the heartwood and is used for tanning leather, besides it also has medicinal properties. *Kattha*, obtained from cutch, is smeared on *paan* as a condiment with slaked lime.

Putranjiva roxburghii

Vernacular name:	Putijia
Common name:	Putranjiva, Lucky bean tree, Wild Oilve tree
Order:	Malpighiales
Family:	Putranjivaceae
Genus:	*Putranjiva*
Species:	*roxburghii*
IUCN Red List:	Not Listed



Distribution
The species is widely distributed throughout India.

Biogeographic Provinces
Western Himalaya (2B)

Habit
Evergreen tree

Habitat
The species grows along river banks, evergreen forests and shady valleys.

Native/Exotic
Native

Phenology
Flowering: March-August
Fruiting: March- August

Ecological role
The species helps in river bank stabilization and prevents erosion.

Local usage
The exudates of the species is used to treat liver complaints, colds, fevers and rheumatism. Wood is sometimes used as timber for making tools, and turnery. Seeds are used for making rosaries and necklaces.

Phoenix sylvestris

Vernacular name:	Khajur
Common name:	Wild date palm, Indian wild date palm, Date sugar palm
Order:	Arecales
Family:	Arecaceae
Genus:	*Phoenix*
Species:	*sylvestris*
IUCN Red List:	Not Listed

Distribution
The species is widely distributed throughout India, up to an elevation of 1500m.

Biogeographic Provinces
Western Himalaya (2B)

Habit
Evergreen tree

Habitat
The species is generally found in open forests and grasslands. It also occurs along river banks, moist well drained depressions, rocky cliffs and along bunds of paddy fields.

Native/Exotic
Native

Phenology
Flowering: March-May
Fruiting: September-October

Ecological role
The species helps in erosion control and fruits are eaten by many faunal species.

Local usage
Different parts of the plant is used for making mats, baskets and brooms. Sugary sap exudate from the top of the trunk, is boiled and made into jaggery.

TREE SPECIES OF MIDDLE STRETCH

HARIDWAR TO VARANASI

Terminalia arjuna

Vernacular name:	Arjun
Common name:	Arjuna Tree
Order:	Myrtales
Family:	Combretaceae
Genus:	*Terminalia*
Species:	*arjuna*
IUCN Red List:	Not Listed

Distribution
The species is found throughout India within an elevation range of 0-1200m.

Biogeographic Provinces
Upper & Lower Gangetic Plain (7A & 7B)

Habit
Evergreen tree

Habitat
The species is characteristic of riverine forests and occurs naturally along banks of streams, rivers and seasonally dry water courses at low elevations. It grows well on fertile, neutral soils, especially loose, moist, alluvial loam with good water supply and drainage.

Native/Exotic
Native

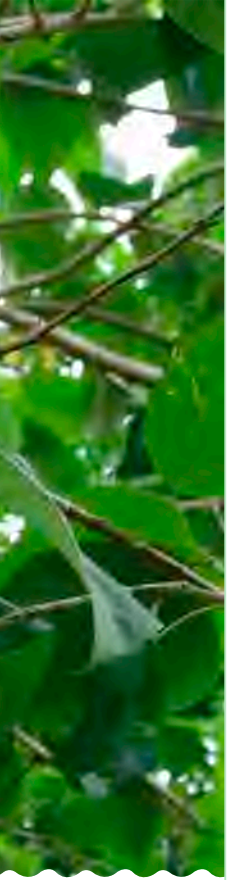
Phenology
Flowering: April- May
Fruiting: February- May of the following year

Ecological role
It helps in erosion control through its root mass. It is also used in agro and social forestry for reclamation of saline, alkaline soils and deep ravines. It is often intercropped with coconut, citrus and as a shade tree in coffee plantations.

Local usage
It is a popular shade tree, planted in avenues, parks and also for ornamental purpose. The species is used as timber for making carts, agricultural implements, water troughs, traps, boat building, house building, electric poles, tool-handles and jetty-piles. It is also used as fodder, fuelwood and for the treatment of cancer, dermatological, cardiac and urinary disorders.

Gmelina arborea

Vernacular name:	Gamhar, Madhumati, Gamari
Common name:	White teak
Order:	Lamiales
Family:	Lamiaceae
Genus:	*Gmelina*
Species:	*arborea*
IUCN Red List:	Not Listed



Distribution
The species is widespread throughout India, within an elevation range of 0-1200m.

Biogeographic Provinces
Upper & Lower Gangetic Plain (7A & 7B)

Habit
Deciduous tree

Habitat
The species grows in a variety of forest habitats, including tropical semi-evergreen, moist teak, deciduous, sal and dry teak forests. It also grows well on high silt deposits near rivers.

Phenology
Flowering: March
Fruiting: April-July

Ecological role
The species is preferred for large-scale afforestation programme and is also planted as an avenue tree. The tree's low dense canopy, acts as an effective weed control.

Local usage
The leaves and young shoots of the species are used as fodder. It is also used as fuelwood and as timber for making furniture, plywood core stock, mine props and matches. The species is also used for apiculture and silkworm culture. Bark, roots and leaves are used for medicinal purpose. The fruits and wood ash yield persistent yellow dye.

Bombax ceiba

Vernacular name:	Semal, Simul, Roktosimul
Common name:	Silk cotton tree, Red silk cotton tree
Order:	Malvales
Family:	Malvaceae
Genus:	*Bombax*
Species:	*ceiba*
IUCN Red List:	Not Listed

Distribution
The species is widely distributed throughout India.

Biogeographic Provinces
Upper & Lower Gangetic Plain (7A & 7B)

Habit
Deciduous tree

Habitat
The species generally occurs along streams and rivers. It prefers deep, rich, well-drained soil. Young trees can be coppiced.

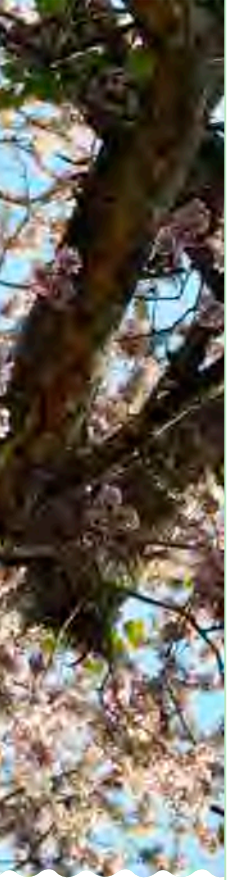
Phenology
Flowering: January- March
Fruiting: April- May

Ecological role
It helps in erosion control, as young plant produces suckers. It is a pioneer species for restoration of native woodland. Flowers and fruits are eaten by many faunal species.

Local usage
The wood is used for making match boxes, packing cases, canoes and light duty boats. The fruits slit open, and the seed floss known as silk cotton is used for stuffing pillows and cushions. Different parts of the plant are used for medicinal purpose.

Desmodium oojeinense

Vernacular name:	Sandan, Sanaan, Pandhan
Common name:	Sandan
Order:	Fabales
Family:	Fabaceae
Genus:	*Desmodium*
Species:	*oojeinense*
IUCN Red List:	Not Listed



Distribution
The species is common throughout India, within an elevation of 300-1500m.

Biogeographic Provinces
Upper & Lower Gangetic Plain (7A & 7B)

Habit
Semi-deciduous tree

Habitat
The species is found in sub-tropical, mixed deciduous and Sal forests. It grows well on dry exposed sites, eroded hills and lowland alluvial soils.

Native/ Exotic
Native

Phenology
Flowering: February- May
Fruiting: May-June

Ecological role
The species is useful in controlling erosion along steep banks and eroded hillsides, owing to the presence of abundant root suckers. It helps in nitrogen fixation in the soil.

Local usage
The leaves and young shoots are used as fodder. It is also used as fuelwood and timber for making agriculture implements, furniture and textile mill implements. Juice of the roots and bark is used for medicinal purposes.

Holoptelea integrifolia

Vernacular name:	Anjan, Arjan, Chirrhol, Papri, Nata karanja, Chilbil
Common name:	Indian elm
Order:	Rosales
Family:	Ulmaceae
Genus:	*Holoptelea*
Species:	*integrifolia*
IUCN Red List:	Not Listed

Distribution
The species is distributed widely throughout India.

Biogeographic Provinces
Upper & Lower Gangetic Plain (7A & 7B)

Habit
Deciduous tree

Habitat
It is found in dry forest areas and along agricultural fields. It grows well on properly drained sites with loamy, sandy soil or gravelly alluvium.

Native/Exotic
Native

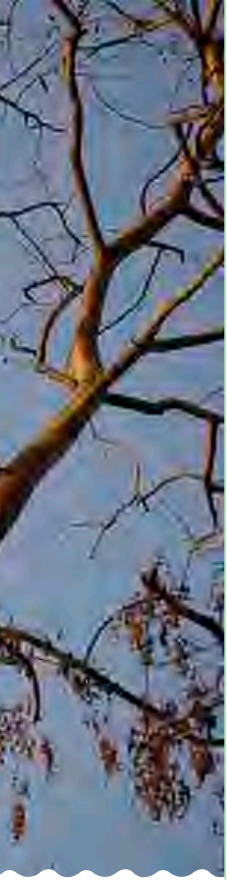
Phenology
Flowering: January - February
Fruiting: April-may

Ecological role
The species helps in erosion control and land reclamation. It is also planted as an avenue tree.

Local usage
Wood is used as fuel and timber for making cheap furniture, carts and for carving small articles. Leaves are used for fodder. Several parts of the plant are also used for medicinal purpose.

Albizia procera

Vernacular name:	Safed Siris
Common name:	White Siris, Tall Siris
Order:	Fabales
Family:	Fabaceae
Genus:	*Albizia*
Species:	*procera*
IUCN Red List:	Not Listed



Distribution
The species is widely distributed throughout India.

Biogeographic Provinces
Upper & Lower Gangetic Plain (7A & 7B)

Habit
Deciduous tree

Habitat
The species generally occurs in mixed deciduous forest, grasslands and open secondary forests. It inhabits swampy places, banks of perennial streams and rivers.

Native/Exotic
Native

Phenology
Flowering: August- September
Fruiting: December

Ecological role
It has soil binding capacity and helps in erosion control, therefore is used for afforestation of degraded lands. It is planted as a shade providing, fire and wind break species along agricultural fields and also along roadsides. The species also helps in nitrogen fixation in soil.

Local usage
Wood is used for fuel and timber for making furniture, veneer, cabinet work, flooring and agricultural implements. Leaves are used for fodder. Bark produces tannin and gum/resin. Various parts of the plant are used in traditional medicine.

Lannea coromondolica

Vernacular name:	Gurjan, Gurj, Goonja, Moyan, Moi
Common name:	Indian Ash tree
Order:	Sapindales
Family:	Anacardiaceae
Genus:	*Lannea*
Species:	*coromondolica*
IUCN Red List:	Not Listed

Distribution
The species is found throughout India up to an elevation of 1700m

Biogeographic Provinces
Upper & Lower Gangetic Plain (7A & 7B)

Habit
Evergreen tree

Phenology
Flowering: March- April
Fruiting: March- April

Habitat
The species occurs in open, deciduous forests, in moist area, along rivers or streams.

Ecological role
The deep extensive root system aids in slope, gully and river bank stabilization. Fruits are relished by a variety of birds. It is also planted as a shade tree.

Local usage
Timber is of low quality and is used for making cheap furniture, packing cases and fruit crates. Bark, stem, roots and leaves are used in traditional medicine. Fruits are eaten raw or cooked.

Ziziphus mauritiana

Vernacular name:	Indian Jujube, Indian plum
Common name:	Ber
Order:	Rosales
Family:	Rhamnaceae
Genus:	*Ziziphus*
Species:	*mauritiana*
IUCN Red List:	Not Listed

Distribution
The species is widely distributed throughout India.

Biogeographic Province
Upper & Lower Gangetic Plain (7A & 7B)

Habit
Evergreen tree

Habitat
The species is generally found in humid forests, along river banks, hills, slopes and dry limestone woodlands.

Native/Exotic
Native

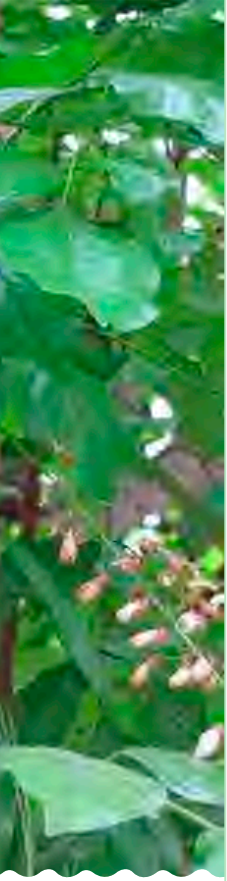
Phenology
Flowering: September-October
Fruiting: December- March

Ecological role
The species helps in erosion control and reclamation of land. It is also planted as shade, windbreak and live fence species. Fruits are eaten by birds and mammals.

Local usage
Leaves are highly favored for fodder. Wood is used for fuel and timber for making furniture, cabinet works, tool handles, agricultural implements, baseball bats and chisels. The fruits are a rich source of Vitamin C and are eaten fresh or dried. It is also a host tree for lac insects.

Pongamia pinnata

Vernacular name:	Karanja, Karanj,Kanji, Papar
Common name:	Karum tree, Indian Beech, Pongam
Order:	Fabales
Family:	Fabaceae
Genus:	*Pongamia*
Species:	*pinnata*
IUCN Red List:	Least Concern



Distribution
The species is widely distributed throughout India up to an altitude of 2170m.

Biogeographic Provinces
Upper & Lower Gangetic Plain (7A & 7B)

Habit
Evergreen tree

Habitat
The species is found in humid and sub-tropic environment, along water bodies and rivers. The species is also drought resistant and shade bearer. It can grow on most soil types.

Native/ Exotic
Native

Phenology
Flowering: April-May
Fruiting: April-May of the following year

Ecological role
The species helps in erosion control owing to its extensive network of lateral roots and nitrogen fixation in the soil. It is planted along roads and agriculture fields.

Local usage
Timber is used for making cartwheels, posts, agricultural implements and toll handles. It is also a source of pulp for making paper. Leaves are used for fodder. Bark, seeds and roots are used in traditional medicine.

TREE SPECIES OF LOWER STRETCH

VARANASI TO HALDIA

Ficus religiosa

Vernacular name:	Peepal, Asvattha
Common name:	Sacred Fig tree
Order:	Rosales
Family:	Moraceae
Genus:	*Ficus*
Species:	*religiosa*
IUCN Red List:	Not Listed

Distribution
The species is widely distributed throughout India up to an elevation of 1500m.

Biogeographic Provinces
Upper & Lower Gangetic Plain (7A & 7B)

Habit
Deciduous to semi-evergreen tree

Habitat
The species thrives in hot, humid weather. In forests it is found scattered and mainly propagates as an epiphyte.

Phenology
Flowering: March-June
Fruiting: March- June

Ecological role
The tree provides shelter and food to many faunal species. Besides, the tree is an excellent soil binder. It is an excellent shade tree, owing to its dense and wide crown.

Local usage
Leaves are used for fodder. Timber is used for making packing cases, yokes, spoons and bowls. Fruit and bark are used in traditional medicine.

Madhuca longifolia

Vernacular name:	Mahua, Mowa, Moha
Common name:	Honey tree, Butter tree
Order:	Ericales
Family:	Sapotaceae
Genus:	*Madhuca*
Species:	*longifolia*
IUCN Red List:	Not Listed

Distribution
The species is found from the Himalayan foothills, Gangetic plains and central India within an elevation range of 0-1200m

Biogeographic Provinces
Upper & Lower Gangetic Plain (7A & 7B)

Habit
Deciduous tree

Habitat
The species is found in the deciduous forests and dry sal plain forests. It is found scattered in pastures and cultivated fields.

Native/Exotic
Native

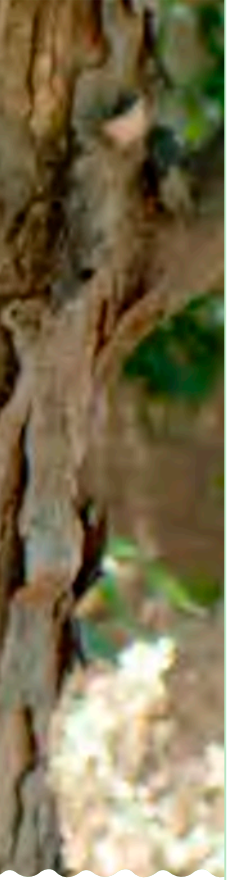
Phenology
Flowering: February- April
Fruiting: June-August

Ecological role
It is used for erosion control, due to the presence of large spreading superficial root system. It is planted as barrier and shade tree. It also helps in nitrogen fixation, due to the presence of vesicular arbuscular mycorrhizal associations and root colonization.

Local usage
The flowers of Mahua are sweet and fleshy, are either eaten fresh or dried, powdered and cooked with flour. The fruit is edible and ripe fruits are used for fermenting liquor. The leaves are used for fodder. Timber is used for house construction.

Dalbergia sisoo

Vernacular name:	Shisham, sissoo, Sisam, Shishu
Common name:	Shisham
Order:	Fabales
Family:	Fabaceae
Genus:	*Dalbergia*
Species:	*sissoo*
IUCN Red List:	Not Listed



Distribution
The species is found along the sub-Himalayan tracts of Uttarakhand, Himachal Pradesh and West Bengal, within an elevation range of 0-1500m.

Biogeographic Provinces
Upper & Lower Gangetic Plain (7A & 7B)

Habit
Deciduous tree

Habitat
The species grows along riverine habitats, where sunlight and moisture are plentiful.

Native/ Exotic
Native

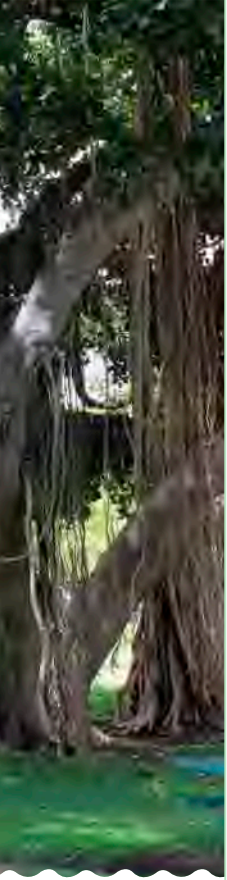
Phenology
Flowering: January- February
Fruiting: January- February

Ecological role
The species is useful for stabilizing eroded sites and also improves soil fertility owing to the presence of nodules in its roots. The heavy litter fall decomposes to enrich the soil with nitrogen, phosphorus and organic carbon. It also hosts a wide variety of orchids and is used as intercrop.

Local usage
Foliage and young shoots are extensively used as fodder. The species is used as fuelwood and timber for making high quality furniture and aircraft grade plywood. Oil obtained from the seeds have medicinal properties.

Ficus benghalensis

Vernacular name:	Bargad, Bat, Barh
Common name:	Banyan tree
Order:	Rosales
Family:	Moraceae
Genus:	*Ficus*
Species:	*benghalensis*
IUCN Red List:	Not Listed



Distribution
The species is found throughout India up to an elevation of 1200m.

Biogeographic Provinces
Upper & Lower Gangetic Plain (7A & 7B)

Habit
Evergreen tree

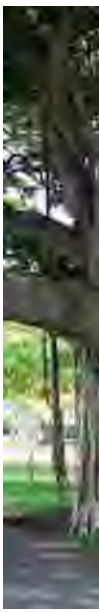
Habitat
The species prefers wet habitats and well drained sandy loam soil. It also grows as an epiphyte on other trees or crevices of old buildings.

Native/ Exotic
Native

Phenology
Flowering: April- June
Fruiting: April- June

Ecological role
It is a keystone species, providing shelter and food to a range of other faunal species. The extensive aerial root system acts as a soil binder and helps in erosion control. It is planted along roadsides and agriculture fields as the dense canopy provides shade. Figs are relished by birds.

Local usage
Timber is used for making boxes and furniture. Several parts of the tree like bark, leaves, root-fibers, and milky juice (latex) are used in traditional medicine. Leaves are excellent fodder species. Banyan is the "National Tree of India" and is considered sacred.



Azadirachta indica

Vernacular name:	Neem
Common name:	Indian Lilac, Neem
Order:	Sapindales
Family:	Meliaceae
Genus:	*Azadirachta*
Species:	*indica*
IUCN Red List:	Least Concern

Distribution
The species is widely distributed throughout India.

Biogeographic Provinces
Upper & Lower Gangetic Plain (7A & 7B)

Habit
Evergreen tree

Habitat
The species occurs in mixed forests in association with *Acacia* sp. and *Dalbergia sissoo*. It has deep tap roots and is able to survive in drought conditions and in sandy, leached soils.

Native/Exotic
Native

Phenology
Flowering: March- May
Fruiting: June- August

Ecological role
It helps in erosion control due to the presence of a well-developed root system. It is an effective shade tree, and is planted widely along agricultural fields and as an avenue tree in towns and villages. Neem cake (made from seeds after extraction of oil) is used as an organic manure.

Local usage
The species is used as fuelwood and fodder (during the dry season). Timber is used for making wardrobes, bookcases and closets. Almost all parts of the plants are utilised for medicinal purpose. Neem oil is used for treating several skin diseases. Neem is used for manufacturing pesticides and insect repellants.

Mangifera indica

Vernacular name:	Aam
Common name:	Mango tree
Order:	Sapindales
Family:	Anacardiaceae
Genus:	*Mangifera*
Species:	*indica*
IUCN Red List:	Data Deficient

Distribution
The species is widely distributed throughout India, up to an elevation of 1200m.

Biogeographic Provinces
Upper & Lower Gangetic Plain (7A & 7B)

Habit
Evergreen tree

Habitat
It grows widely in sub-tropical and tropical forests. The species prefers well drained deep soil.

Native/Exotic
Native

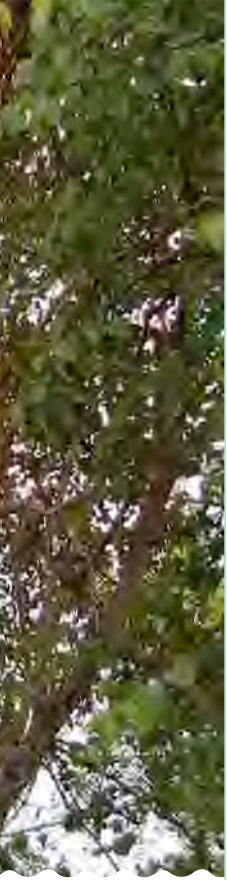
Phenology
Flowering: January- March
Fruiting: April- July.

Ecological role
It helps in improving soil quality, when used as mulch. It is also used as a shelter and fire break species and planted as an avenue tree.

Local usage
The fruit is edible and highly valued all over the world. The leaves are used as fodder. It also provides fuelwood and timber for making furniture. Various parts of the plant like leaves, bark and seeds are used for medicinal purpose.

Anogeissus latifolia

Vernacular name:	Dhavda, Dhau, Chakwa
Common name:	Axle wood, Button tree
Order:	Myrtales
Family:	Combretaceae
Genus:	*Anogeissus*
Species:	*latifolia*
IUCN Red List:	Not Listed



Distribution
The species is found throughout India except for the driest regions in the west and the moist rainforest zones, up to 1200m elevation.

Biogeographic Provinces
Upper & Lower Gangetic Plain (7A & 7B)

Habit
Deciduous tree

Habitat
The species is found in deciduous or semi-evergreen forests

Native/Exotic
Native

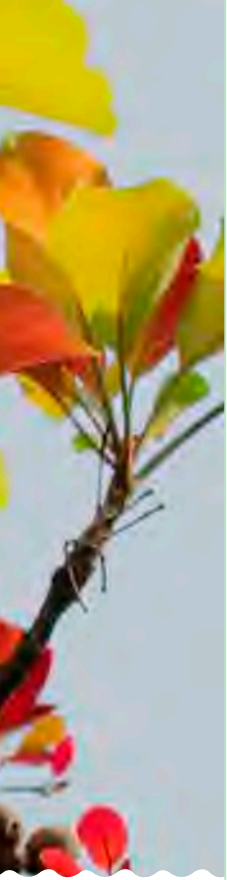
Phenology
Flowering: May- July
Fruiting: November-March.

Ecological role
The species is used for river bank stabilization and survives well on eroded land. It also contributes to soil nutrient due to high leaf litter decomposition.

Local usage
The species is utilized for fodder and fuelwood. Tussar silkworms are cultured on its foliage. It also produces tannin and gum.

Terminalia bellirica

Vernacular name:	Baheda
Common name:	Bedda Nut tree
Order:	Myrtales
Family:	Combretaceae
Genus:	*Terminalia*
Species:	*bellirica*
IUCN Red List:	Not Listed



Distribution
The species is found wild in most parts of India within an elevation range of 0-1000m.

Biogeographic Provinces
Upper & Lower Gangetic Plain (7A & 7B)

Habit
Deciduous tree

Habitat
The species is found in monsoon forests, mixed deciduous forests or dry deciduous dipterocarp forests. It is generally associated with Teak. The species grows best on fertile, loam soils with good drainage, however it performs reasonably well on poor soils where the choice of tree species is limited.

Native/Exotic
Native

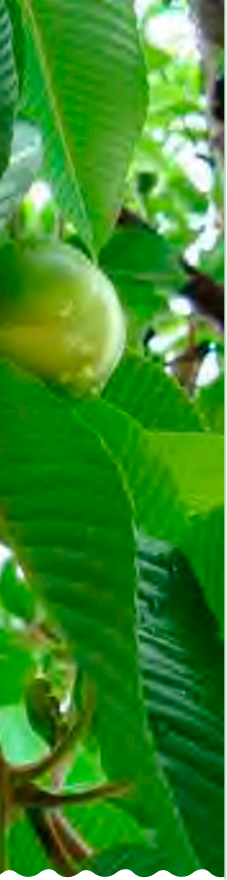
Phenology
Flowering: October- November
Fruiting: November -December

Ecological role
It is grown as an avenue tree and also as an intercropping species, grown with other agricultural crops.

Local usage
It is used as timber for making furniture and construction purpose. Leaves are highly valued as fodder. The kernels of the fruits are sometimes used for soap making.

Dillenia indica

Vernacular name:	Chalta, Karambel
Common name:	Elephant apple
Order:	Dilleniales
Family:	Dilleniaceae
Genus:	*Dillenia*
Species:	*indica*
IUCN Red List:	Not Listed



Distribution
The species is widely distributed throughout India, up to an elevation of 1100m.

Biogeographic Provinces
Upper & Lower Gangetic Plain (7A & 7B)

Habit
Evergreen tree

Habitat
The species is generally found in evergreen and tropical rain forest, along rivers and streams. It prefers well drained sandy loam soil and a sunny position.

Phenology
Flowering: July- November
Fruiting: July- November

Ecological role
It helps in river bank stabilization and prevents soil erosion. Fruits are eaten by birds, monkeys and other faunal species.

Local usage
The fruit of the species is edible and has medicinal properties. The calyces are made into curries, jellies and sherbet. Wood is used as fuel and timber for making railway sleepers and plywood. Stem bark, leaves and fruits are used for medicinal purpose.

Acacia farnesiana

Vernacular name:	Guh Babool, Gukikar, Guya babul
Common name:	Mimosa bush, Fragrant acacia
Order:	Fabales
Family:	Fabaceae
Genus:	*Acacia*
Species:	*farnesiana*
IUCN Red List:	Not Listed

Distribution
The species is found throughout India, except the Himalaya.

Biogeographic Provinces
Upper & Lower Gangetic Plain (7A & 7B)

Habit
Deciduous small tree

Habitat
The species is generally found in dry deciduous forests, on dry sandy soils.

Native/Exotic
Exotic

Phenology
Flowering: March- June
Fruiting: July- December

Ecological role
The species is planted as a windbreak and for erosion control in sandy soils. It also helps in nitrogen fixation of soil. The flowers are scented and highly attractive to bees.

Local usage
Stem gum is used in confectionery, essential oil extracted from the flowers are used in perfume making.

TREE SPECIES OF COASTAL STRETCH

HALDIA TO GANGA SAGAR

Bruguiera cylindrica

Vernacular name:	Bakul Kakra
Common name:	White Burma Mangrove
Order:	Rhizophorales
Family:	Rhizophoraceae
Genus:	*Bruguiera*
Species:	*cylindrica*
IUCN Red List:	Least Concern

Distribution
Species is found in the coastal mangroves of Sundarbans, Mahanadi delta and Andaman and Nicobar Islands.

Biogeographic Provinces
East Coast (8B)

Habit
Tall tree, a true mangrove species

Habitat
Grows abundantly in the intermediate estuarine zone; shade tolerant; possess high regeneration potential, although has slow growth rate; species can be found in pure stand. Viviparous germination.

Native/ Exotic
Native

Phenology
Flowering during winter and summer and fruiting occurs during monsoon

Ecological role
The species aids in soil stabilization and coastal protection.

Local usage
The species is used for timber, as it grows straight and is considered good for construction and charcoal production. It produces bark tannin - 17.8%, which is useful for fisherman's nets and leather industries and is also used for medicinal purpose.

Bruguiera gymnorhiza

Vernacular name:	Kankra
Common name:	Burma Mangrove
Order:	Rhizophorales
Family:	Rhiziphoraceae
Genus:	*Bruguiera*
Species:	*gymnorhiza*
IUCN Red List:	Least Concern

Distribution
The species occurs throughout the coastal mangrove areas in India, both east and west coast; in Andaman and Nicobar islands

Biogeographic Provinces
East Coast (8B)

Habit
Tall tree, a true mangrove species

Habitat
Species grows along river banks, in the inter-tidal mangrove forests of the Sundarbans. It is shade tolerant and is found in association with *Kandelia candel* on muddy deep shore.

Native/ Exotic
Native

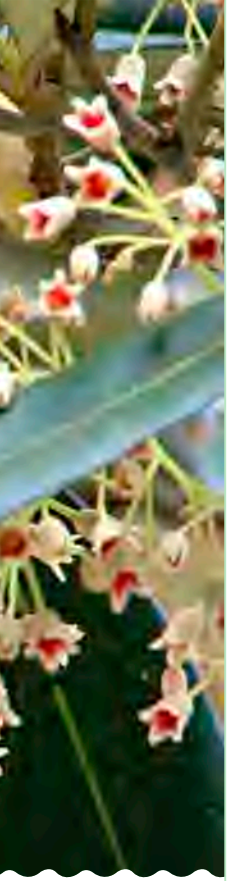
Phenology
Flowers during winter, with the fruits hanging till next monsoon

Ecological role
The species provides protection to the coasts.

Local usage
The species is used for timber and for fuel wood purpose. It produces 36% tannin.

Heritiera fomes

Vernacular name:	Sundari
Common name:	Sundri
Order:	Malvales
Family:	Malvaceae
Genus:	*Heritiera*
Species:	*fomes*
IUCN Red List:	Endangered



Distribution
The species is common in Sundarbans of Bangladesh, India and Irrawady delta of Burma. It is believed that the name of the Gangetic delta is based on the vernacular name 'Sundari' of *H. fomes*, since this was the most abundant species during early periods.

Biogeographic Provinces
East Coast (8B)

Habit
Tall tree, a true mangrove species

Habitat
This species is found in the upstream estuarine zone in the high intertidal region. It prefers freshwater, and is fast-growing in low-saline environments. It occurs in stands and grows up to 25 m. It is the only *Heritiera* species that produces pneumatophores.

Native/ Exotic
Native

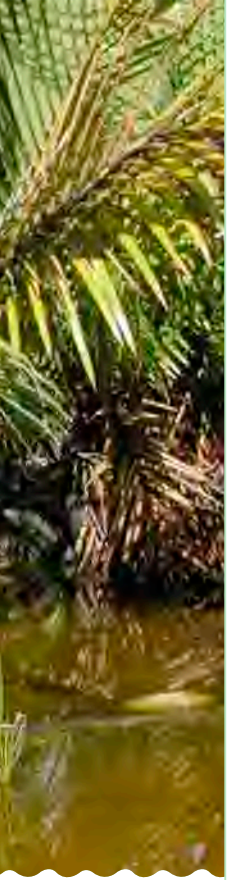
Phenology
Flowering and fruiting occurs from January to April.

Ecological role
Sundari helps to check soil erosion in the tidal forests and loosely consolidated silted up soil. The species along with the associated mangrove species provide habitat for crabs and other faunal species.

Local usage
The timber of this species is highly valued and is considered superior to teak. Timber is used for boat building and other domestic furniture. It is also used as fuelwood.

Nypa fruticans

Vernacular name:	Golpata
Common name:	Mangrove Palm, Nipa Palm, Nypa Palm
Order:	Arecales
Family:	Arecaceae
Genus:	*Nypa*
Species:	*fructicans*
IUCN Red List:	Least Concern



Distribution
The species is found along the swampy mangrove delta of the Ganga-Brahmaputra estuary, Sundarbans, Andaman & Nicobar Islands.

Biogeographic Provinces
East Coast (8B)

Habit
Tree, a true mangrove species

Habitat
The species is found in the upstream estuarine zone in low, mid and high intertidal regions. It forms extensive belts along brackish to tidal freshwater creeks and rivers.

Native/ Exotic
Native

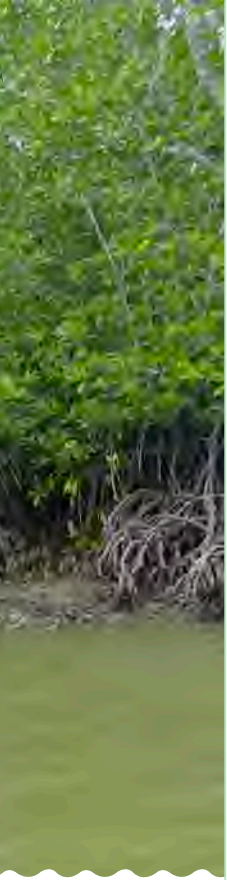
Phenology
Flowering and fruiting occurs throughout the year.

Ecological role
The species provides protection to coasts during strong storm surges.

Local usage
The isothermic leaves of the species are highly durable for house thatching and the inflorescence sap or juice is used for making alcohol and molasses.

Rhizophora apiculata

Vernacular name:	Garjan
Common name:	Tall- Stilt Mangrove
Order:	Rhizophorales
Family:	Rhizophoraceae
Genus:	*Rhizophora*
Species:	*apiculata*
IUCN Red List:	Least Concern



Distribution
The species is common almost throughout the tidal mangrove area in the coastal India; Andaman & Nicobar Islands.

Biogeographic Provinces
East Coast (8B)

Habit
Tree, a true mangrove species

Habitat
The species is found in the intermediate estuarine zone and grows on the inter tidal river banks and river flats on the newly formed sediment soil. It is a hardy and fast growing species.

Native/ Exotic
Native

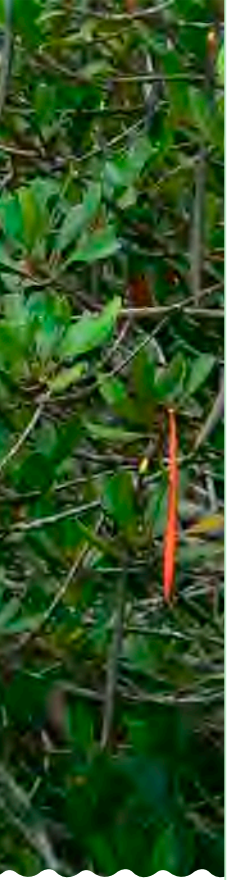
Phenology
Flowering occurs during winter and the hanging viviparous germinated radical remains up to the end of the monsoon or next winter.

Ecological role
The species provides protection to coasts during strong storm surges.

Local usage
It produces high quality timber and fuel woods. The tannin content of the bark is 33%.

Ceriops decandra

Vernacular name:	Goran
Common name:	Yellow Mangrove
Order:	Rhizophorales
Family:	Rhizophoraceae
Genus:	*Ceriops*
Species:	*decandra*
IUCN Red List:	Near Threatened



Distribution
The species is found throughout the coastal, deltaic and estuarine tracts of India including Andaman & Nicobar Islands.

Biogeographic Provinces
East Coast (8B)

Habit
Tree, a true mangrove species

Habitat
The species occurs in the intermediate estuarine zone in mid to high intertidal regions. In the Sundarbans it grows in the inter-tidal ridge forests and river slopes. It is a slow growing species and can tolerate extreme environmental conditions.

Native/ Exotic
Native

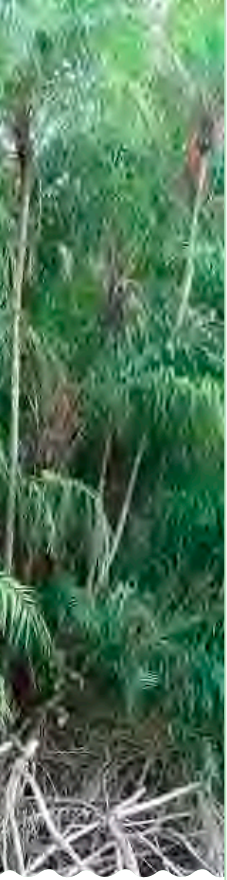
Phenology
Flowering during winter and fruiting during summer and monsoon months.

Ecological role
The species provides protection to coasts during strong storm surges.

Local usage
The species is used for timber and fuelwood purpose. It contains 19% tannin and is used by fisherman for tanning their fishing nets.

Phoenix paludosa

Vernacular name:	Hental
Common name:	Mangrove Date Palm
Order:	Arecales
Family:	Arecaceae
Genus:	*Phoenix*
Species:	*paludosa*
IUCN Red List:	Near Threatened



Distribution
The species is found almost throughout the coastal mangrove forests on inter-tidal zone of the Indian East Coast including the Andaman & Nicobar Islands.

Biogeographic Provinces
East Coast (8B)

Habit
Tree, a true mangrove species

Habitat
The species commonly occurs on the tidal and inter-tidal mangrove forests of the Sundarbans. It grows on the porous and mature soil of the riversides and forms ridge dense forests.

Native/ Exotic
Native

Phenology
Flowering and fruiting occurs from March till July.

Ecological role
The species provides protection to coasts during strong storm surges.

Local usage
Stem is used for building cottages and for fire wood. Young shoots are edible. Leaves are used for making mats, ropes and umbrellas

Avicennia alba

Vernacular name:	Kal-Bain
Common name:	White Mangrove
Order:	Lamiales
Family:	Avicenniaceae
Genus:	*Avicennia*
Species:	*alba*
IUCN Red List:	Least Concern

Distribution
The species is found almost throughout the mangrove forests in the coastal areas including Andaman & Nicobar Islands.

Biogeographic Provinces
East Coast (8B)

Habit
Tree, a true mangrove species

Habitat
The species commonly occurs in the inter-tidal forests of the coastal areas and ridge forests of the Sundarbans.

Native/ Exotic
Native

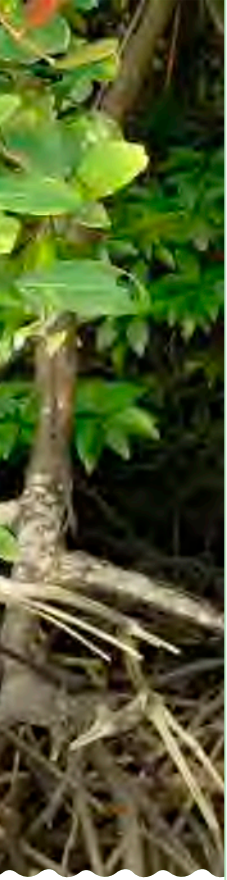
Phenology
Flowering and fruiting occurs from April till September

Ecological role
The species provides protection to coasts during strong storm surges. It aids in soil development in the newly silted up soils and also adds litter nutrients to the mangrove soil and water phases.

Local usage
Used as fire wood and contains very low bark tannin.

Xylocarpus granatum

Vernacular name:	Dhundhul
Common name:	Cannonball Mangrove
Order:	Sapindales
Family:	Meliaceae
Genus:	*Xylocarpus*
Species:	*granatum*
IUCN Red List:	Least Concern



Distribution
The species is found in the tidal forests of Sundarbans, Andaman & Nicobar Islands and other mangrove forests.

Biogeographic Provinces
East Coast (8B)

Habit
Tree, a true mangrove species

Habitat
The species commonly occurs in the tidal creeks, river sides and inter tidal mangrove forests of the Sundarbans. It is mostly found scattered.

Native/ Exotic
Native

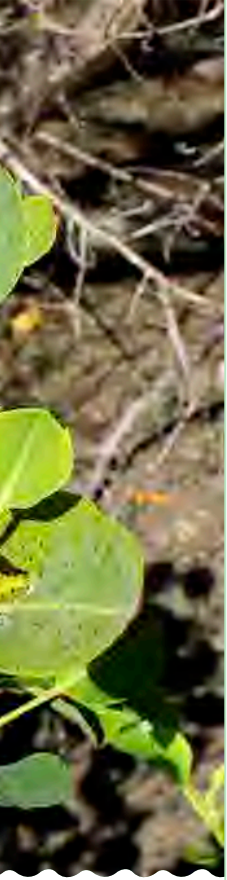
Phenology
Flowering and fruiting occurs from July till December

Ecological role
The species provides protection to coasts during strong storm surges.

Local usage
The timber is an excellent hard wood for furniture and carvings due to the presence of anti-ant properties. It is also used as firewood, ointment and medicinal purpose.

Aegialitis rotundifolia

Vernacular name:	Tora, Nuniagach
Common name:	Club Mangrove
Order:	Plumbaginales
Family:	Plumbaginaceae
Genus:	*Aegialitis*
Species:	*rotundifolia*
IUCN Red List:	Neat Threatened



Distribution
The species is found in the tidal forests of Sundarbans, Andaman & Nicobar Islands and other mangrove forests.

Biogeographic Provinces
East Coast (8B)

Habit
Small tree, a true mangrove species

Habitat
The species is found in the downstream estuarine zone, in the inter- tidal ridge forests.

Native/ Exotic
Native

Phenology
Flowering and fruiting occurs from January till May

Ecological role
It is one of the pioneer species of the mangrove forests of the newly silted up soils and provides protection to coasts during strong storm surges.

Local usage
It is used for firewood and contains 12.2-15% tannin.

Notes

Notes

Notes

NMCG

National Mission
for Clean Ganga,
Ministry of Water
Resources, River
Development &
Ganga Rejuvenation

GACMC

Ganga Aqualife
Conservation
Monitoring
Centre

Wildlife Institute of India

Chandrabani,
Dehradun-248001
Uttarakhand

XPRESSIONS: 9219552563 | DOC. NO. XPS1808181490 www.wii.gov.in/national_mission_for_clean_ganga

VIBRANT GANGA

नमामि गंगे

wings of ganga

RIVER AND WETLAND BIRDS OF GANGA RIVER

National Mission for Clean Ganga

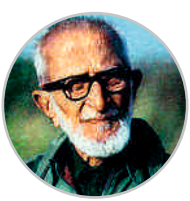
भारतीय वन्यजीव संस्थान
Wildlife Institute of India

हंसः पद्मवनं समिच्छति यथा नीलांबुदं चातकः
कोकः कोकनदप्रियं प्रतिदिनं चन्द्रं चकोरस्तथा
चेतो वाञ्छति मामकं पशुपते चिन्मार्गमृग्यं विभो
गौरीनाथ भवत्पदाब्जयुगलं कैवल्यसौख्यप्रदम्

..."O Lord of all beings! Consort of Gauri ! The All-pervading! Just like the Hans longs for the lotus forest, the Chataka bird longs for the dark clouds, the Koka longs for the lotus, and the Chakora bird longs for the Moon, my heart intensely longs for your lotus feet, sought by following the path of knowledge and leading to the bliss of kaivalya, the state of Absolute Unity of everything.."

Dedicated to

Dr. Sálim Moizuddin Abdul Ali



The Birdman of India

(12 November 1896 - 20 June 1987)

wings OF ganga

PART 1

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The **"Wings of Ganga: Part I"** under the **"Vibrant Ganga: Book Series"** includes **"River & Wetland Birds of Ganga River"**. The representative species have been elucidated on the basis of four criteria;

- International Union for Conservation of Nature and Natural Resources (IUCN) Red List categories
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) Appendices
- Convention on the Conservation of Migratory Species of Wild Animals (CMS) Appendices
- Indian Wild Life (Protection) Act , 1972 (IWPA) Schedules

This book covers **19** families of riverine and wetland birds of Ganga River represented by **30** species. At least one representative species from each family is illustrated. The species are described through scientific and common names and are categorized according to their families. The book also provides information about the conservation status of species, taxonomy, key identifying features, habit and habitat, reproduction ecology and major threats.

PREFACE

Ganga River, India's National River, the lifeline of Indian civilization with deep rooted religious and cultural beliefs, is one of the largest river systems in the world. The river has been the cradle of Indian civilization from ancient times and witness to the changing history, culture and belief. She flows through 5 states, however her entire catchment provides water to 11 states, nurturing over 500 million people and supporting enormous biodiversity in the three ecologically diverse biogeographic zones, viz. Himalayan Zone, Gangetic Plain and Coastal Zone.

The faunal diversity of Ganga River is represented by the water and water associated birds, amphibians, turtles, gharial and mugger crocodiles and aquatic mammals including Otters and Gangetic River Dolphins.

Being a mega-biodiversity country, India harbours 1301 species of birds. The Gangetic basin supports 177 species of these birds including wetland, riverine and terrestrial species. Some iconic and globally threatened birds also breed along the Ganga. These species are indicators of healthy river ecosystems, as they are vulnerable to habitat alteration, habitat loss, climate change and pollution.

The National Mission for Clean Ganga (NMCG) and Wildlife Institute of India (WII)'s project "Biodiversity Conservation and Ganga Rejuvenation" aims at aquatic species restoration plan through science-based research and knowledge sharing. "Vibrant Ganga" is one such attempt to share the science-based information to the various stakeholders with the aid of print and digital media. Under the "Vibrant Ganga" series a set of brochures and books are being published with the aim to provide information on faunal diversity, their conservation status, ecology and human threats.

All species belong to

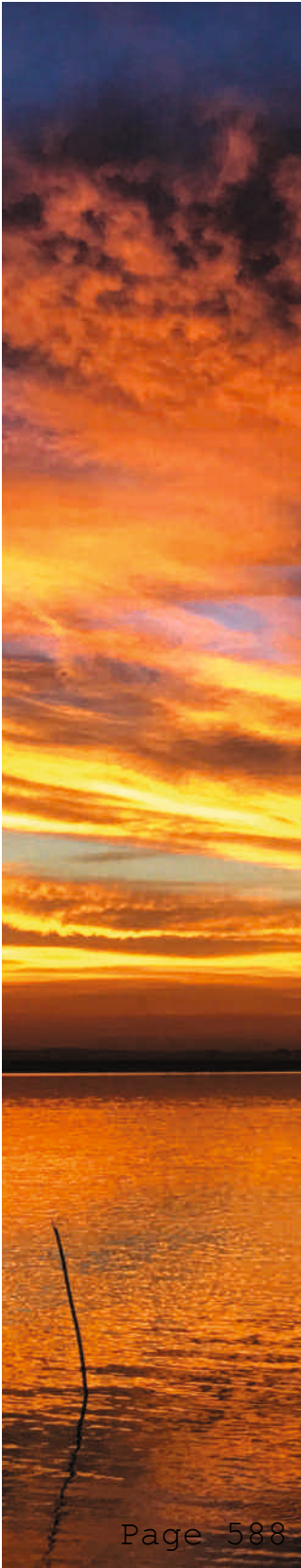
Kingdom: Animalia,
Phylum : Chordata,
Class: Aves

Following colour coding are adopted to describe the conservation status according to IUCN Red List.

EN VU NT LC

Following codes were used for describing migration status of the species

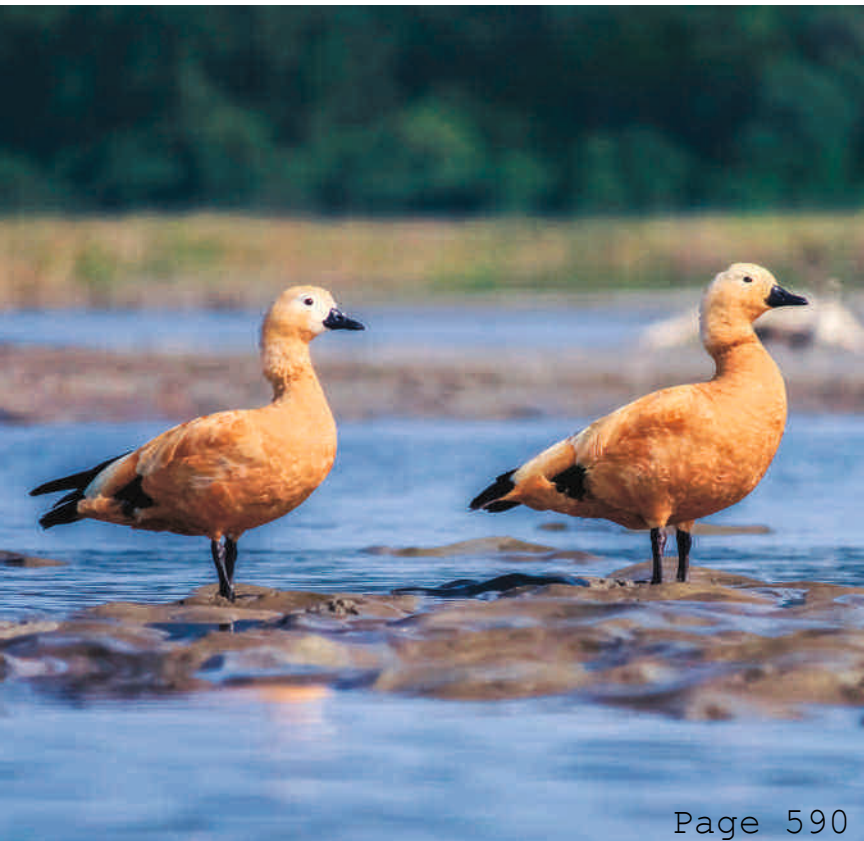
- **Non breeding**
- **Breeding**
- **Resident**
- **Possibly resident**
- **Possibly extinct**



Ruddy shelduck

Tadorna ferruginea

Vernacular name:	*Surkhab* (Hindi), *Chokha-chokhi* (Bengali)
Order:	Anseriformes
Family:	Anatidae
Genus:	*Tadorna*
Species:	*T. ferruginea*
IUCN Red List:	Least Concern
CITES:	Not listed
CMS:	Appendix II
IWPA, 1972:	Schedule IV
Population Trend:	Unknown



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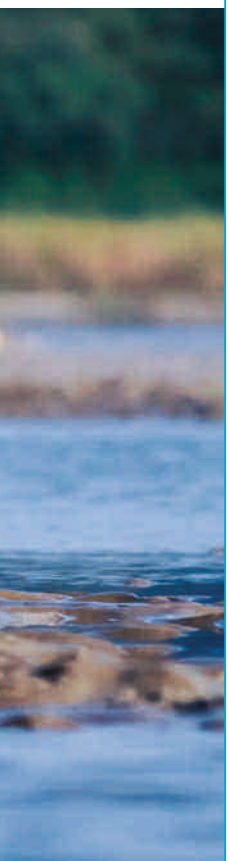


Distribution

Early winter migrant in India. Arrives by October and departs by April. Found in upper, middle and lower stretches of the Ganga River.

Habit & Habitat

Nocturnal, omnivorous and feeds on grasses, the young shoots of plants, grain and water plants as well as both aquatic and terrestrial invertebrates. Typical breeding habitat is large rivers and wetlands with mud flats and shingle banks.

Reproduction

Breeding Season: Late April and early June. It breeds in high altitude lakes and swamps in Jammu and Kashmir.

Nest site/ type: Nests in hole or cavity, from ground level upward into trees and cliffs (up to heights of 10 m). Lined with down and feathers and a little grass.

Clutch Size: 6-12.

Incubation period: 27-29 days

Key identifying features

Size 58 to 70 cm. The male has orange-brown body plumage and a paler, orange-brown head and neck. The rump, flight feathers, tail-coverts and tail feathers are black and inner surfaces of the wings have iridescent green speculum feathers. The bill is black and the legs are dark grey. Females are paler.

Major threats

Local population fluctuates in numbers and is vulnerable to climatic shifts, hydrology alteration and pollution.

08/09

Northern pintail

Anas acuta

Vernacular name:	*Seenkh-par battak* (Hindi), *Dig haans* (Bengali)
Order:	Anseriformes
Family:	Anatidae
Genus:	*Anas*
Species:	*A. acuta*
IUCN Red List:	Least Concern
CITES:	Not listed
CMS:	Appendix II
IWPA, 1972:	Schedule IV
Population Trend:	Decreasing

LC

Distribution
A winter migrant in India. Found in upper, middle and lower stretches of the Ganga River.

Habit & Habitat
Crepuscular and nocturnal feeding. Feeds on seeds of grasses, sedges, aquatic plants, and also mollusks, crustaceans, amphibians, small fish. Mostly found in rivers, shallow fresh-water lakes, marshes, open grasslands with cover available rather than wooded areas. Often found in coastal areas in winter.

Reproduction
Breeding Season: Late April to May.

Nest site/ type: On the ground, loosely concealed in vegetation, built from dry vegetation and lined with down and feathers.

Clutch Size: 6-12.

Incubation period: 22-24 days

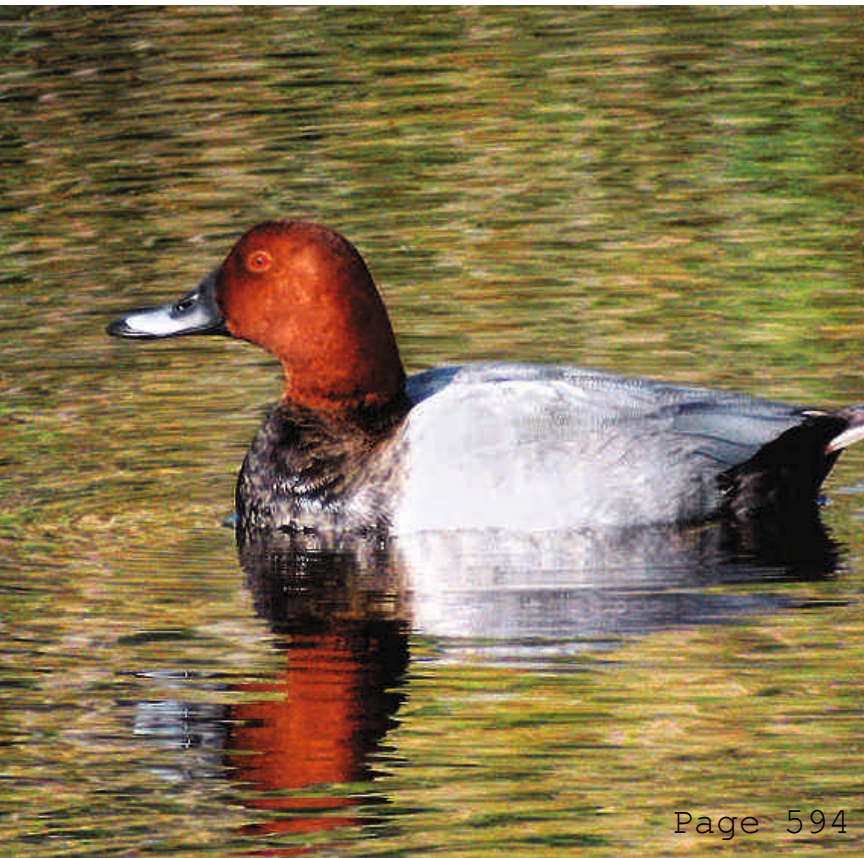
Key identifying features
Size 51-74 cm. Male: head chocolate brown, hind neck darker; white lower foreneck makes stripes at sides of neck and merge to white central breast and abdomen. Female: head and neck pale brown with fine black spotting, breast and abdomen pale and spotted.

Major threats
The species is vulnerable to habitat loss, pollution, environmental toxicants and predation by feral animals at its breeding and wintering grounds.

Common pochard

Aythya ferina

Vernacular name:	*Burar nar, Lal sir* (Hindi), *Ranga muri* (Bengali)
Order:	Anseriformes
Family:	Anatidae
Genus:	*Aythya*
Species:	*A. ferina*
IUCN Red List:	Vulnerable
CITES:	Not listed
CMS:	Appendix II
IWPA, 1972:	Schedule IV
Population Trend:	Decreasing



VU

Distribution
A winter migrant, common in western, central and southern India. Found in upper and lower stretches of the Ganga River.

Habit & Habitat
Gregarious outside nesting season. Feeds on seeds, vegetation, roots of aquatic plants, grasses, sedges, also small aquatic invertebrates, amphibians and fish. Mostly occur in slow flowing rivers, shallow to deep freshwater lakes with good fringe or emergent vegetation and also in swamps, marshes.

Reproduction
Breeding Season: April to May.

Nest site/type: Nest made of heap of grass, reeds and leaves, concealed in vegetation on ground or in water.

Clutch Size: 6-10.

Incubation period: 24-28 days

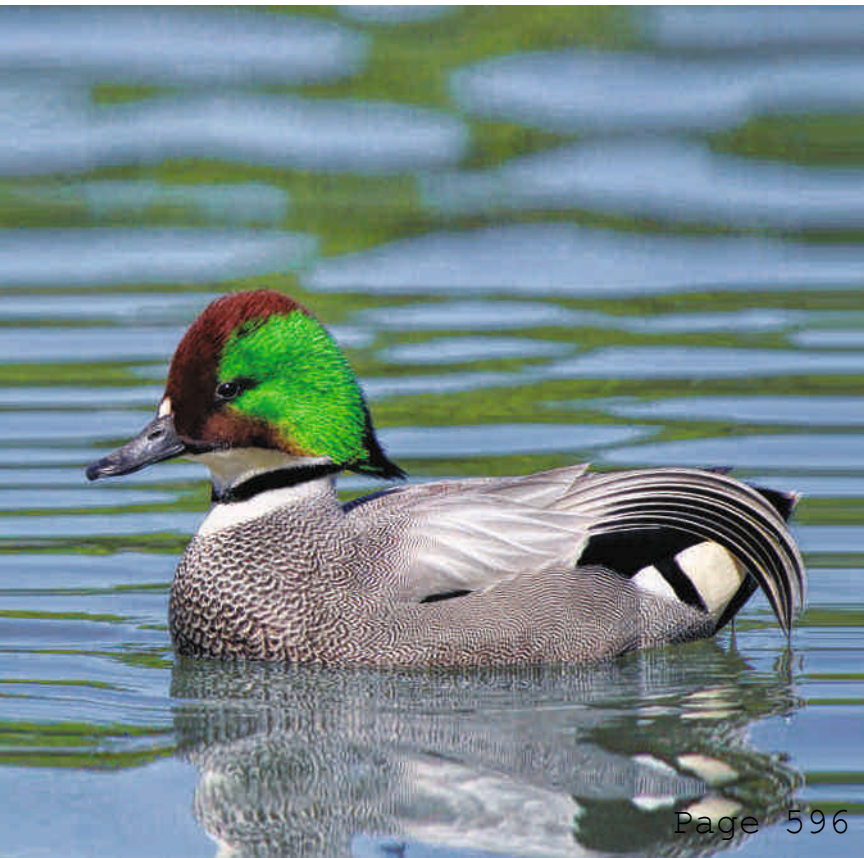
Key identifying features
Size 46-58 cm. Male: head with dark grey base, head and neck chestnut; chest, tail and rump black; underparts and upperparts vermiculated pale grey. Female: head dark grey/blackish, narrow pale grey sub-terminal band, poorly defined paler throat and facial stripes.

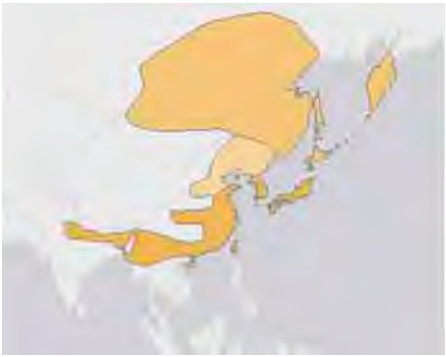
Major threats
The species is vulnerable to habitat loss, human interference, hunting, river and wetland pollution, and occasional drowning in fishing nets.

Falcated duck

Mareca falcata
Syn: Anas falcata

Vernacular name:	*Kala sinkhur* (Hindi)
Order:	Anseriformes
Family:	Anatidae
Genus:	*Anas*
Species:	*M. falcata*
IUCN Red List:	Near Threatened
CITES:	Not listed
CMS:	Appendix II
IWPA, 1972:	Schedule IV
Population Trend:	Decreasing





NT

Distribution
A winter migrant and rare in India. Found in upper and middle stretches of the Ganga River.

Habit & Habitat
Feeds on seeds, green parts of aquatic plants and aquatic invertebrates. Mostly found in freshwater lakes, pond, lagoons, rivers often with wooded areas and coasts.

Reproduction
Breeding Season: May to June.

Nest site/ type: Nests on the ground at banks with tall grass or in bushes near water.

Clutch Size: 6-9.

Incubation period: 24-26 days

Key identifying features
Size 46-53 cm. Male: head iridescent green and purple with long crest, white spot on forehead; chin, throat and fore-neck white with black collar. Breast grey with black scaling. Female: head and neck grey-brown with dark streaking and slight nape crest. Breast and underparts brown with darker markings.

Major threats
The species is vulnerable to habitat loss and hunting for food in the non-breeding regions.

African comb duck
Knob-billed duck
Sarkidiornis melanotos

Vernacular name:	*Nakta* (Hindi & Bengali)
Order:	Anseriformes
Family:	Anatidae
Genus:	*Sarkidiornis*
Species:	*S. melanotos*
IUCN Red List:	Not listed
CITES:	Appendix II
CMS:	Appendix II
IWPA, 1972:	Schedule IV
Population Trend:	Decreasing

Distribution
Widespread resident bird throughout India, Found in upper, middle and lower stretches of the Ganga River.

Habit & Habitat
Crepascular, feeds on vegetation, seeds of grasses, sedges and aquatic plants by grazing or dabbling, occasionally small fish, terrestrial and aquatic insects. Mainly found in rivers, wetlands, swamps and lakes and forages in agricultural fields.

Reproduction
Breeding Season: July to September.

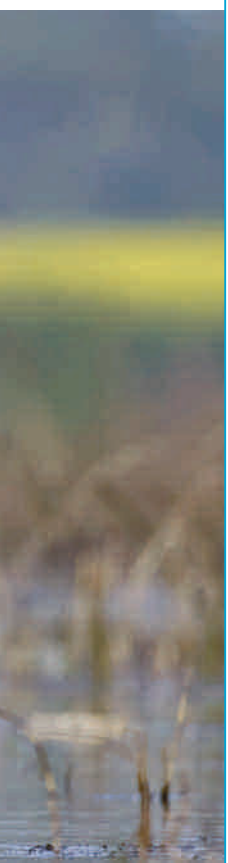
Nest site/ type: In tree hollows e.g. 20-30 feet above ground level, occasionally on the ground in tall grass or reeds or amongst stones.

Clutch Size: 6-20.

Incubation period: 28-30 days

Key identifying features
Size 56 to 76 cm. Male has a knob on upper-bill, white spot with back, yellow-tinge on back of head and neck in breeding season. Upperparts including flanks iridescent blue-green black, with stripe down side of breast. Wing metallic green/black. Female without knob and head has more spots.

Major threats
The species is vulnerable to hunting, deforestation and poisoning by pesticides used in paddy fields.



Red-crested pochard

Netta rufina

Vernacular name:	*Laal chonch* (Hindi), *Bada Rangamuri* (Bengali)
Order:	Anseriformes
Family:	Anatidae
Genus:	*Netta*
Species:	*N. rufina*
IUCN Red List:	Least Concern
CITES:	Not listed
CMS:	Appendix II
IWPA, 1972:	Schedule IV
Population Trend:	Unknown

Distribution
A winter migrant and common throughout India. Found in upper, middle and lower stretches of the Ganga River.

Habit & Habitat
Gregarious, feeds on the roots, seeds and vegetative parts of aquatic plants by means of dive, up-end, head-dip, and surface dabbling. Occurs in large rivers, deep freshwater lakes and lagoons with abundant bordering vegetation.

Reproduction
Breeding Season: April to May.

Nest site/ type: Nests constructed from roots, twigs, leaves with thick downy lining, on ground in thick vegetation near water's edge.

Clutch Size: 6-14.

Incubation period: 26-28 days

Key identifying features
Size 53-58 cm. Male: Head and throat rusty orange, hind-neck, lower neck, breast, underparts and upper tail coverts black. Wings brown with white leading edge. Beak red. Female: crown down to eye and hindneck brown, throat and upper neck very pale grey. Beak grey-brown with pink tip.

Major threats
The species is vulnerable to habitat degradation, pollution of inland freshwater ecosystems and hunting.

Goosander

Mergus merganser

Vernacular name:	*Samanya Samndra Badak* (Hindi)
Order:	Anseriformes
Family:	Anatidae
Genus:	*Mergus*
Species:	*M. merganser*
IUCN Red List:	Least Concern
CITES:	Not listed
CMS:	Appendix II
IWPA, 1972:	Schedule IV
Population Trend:	Increasing

LC

Distribution
A winter migrant in Northern and Eastern part of India. Found in upper and middle stretches of the Ganga River.

Habit & Habitat
Gregarious, crepuscular, dives from surface. Fish forms main part of diet, also feeds on aquatic invertebrates, amphibians and little plant material.

Reproduction
Breeding Season: March to May.

Nest site/ type: Holes excavated by large woodpeckers or natural cavities in mature hardwood trees.

Clutch Size: 6-17.

Incubation period: 30-32 days

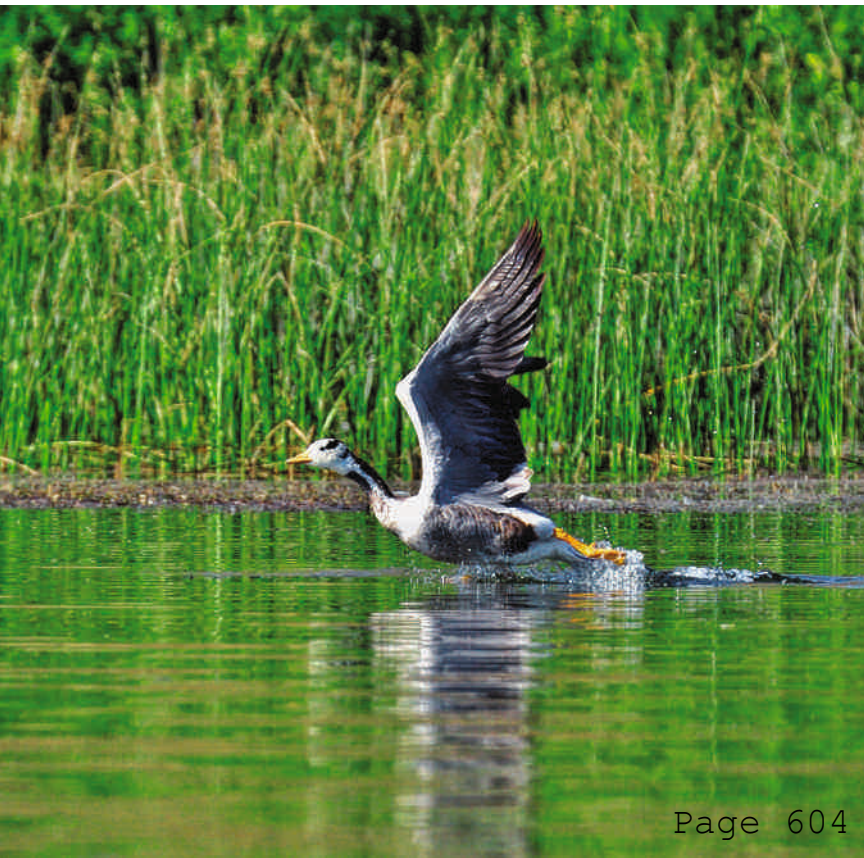
Key identifying features
Size 51-68 cm. Male: head and upper neck glossy green-black with smooth 'puffy' crest. Lower neck, breast, flanks, underparts creamy. Female: head and upper neck, cinnamon, including slightly-ragged crest.

Major threats
The species is threatened due to habitat degradation, pollution, drowning in fishing nets.

Bar-headed goose

Anser indicus

Vernacular name:	*Hans, Birwa* (Hindi)
Order:	Anseriformes
Family:	Anatidae
Genus:	*Anser*
Species:	*A. indicus*
IUCN Red List:	Least Concern
CITES:	Not listed
CMS:	Appendix II
IWPA, 1972:	Schedule IV
Population Trend:	Decreasing



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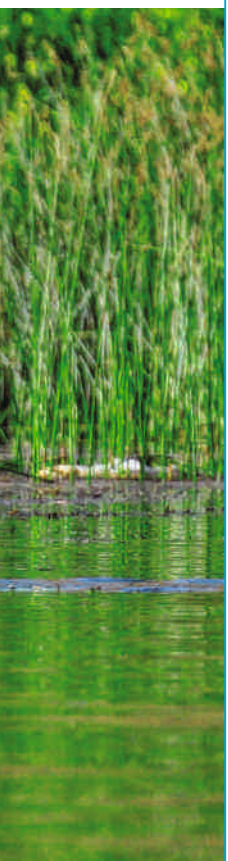


Distribution
A winter migrant and locally common in India. Found in upper, middle and lower stretches of the Ganga River.

Habit & Habitat
One of the world's highest-flying birds peaking at an altitude of around 6,400 m. Highly gregarious, herbivorous, graze on grassland and agricultural fields. Feed mainly on leaves of aquatic plants and sedges, occasionally on insect larvae. Mostly occurs in large rivers, natural wetlands, lakes and freshwater marshes.

Reproduction
Breeding Season: Late May to June.

Nest site/ type: Mainly in the marshes and wetlands of the Tibetan Plateau.

Clutch Size: 2-8.

Incubation period: 27-30 days

Key identifying features
Size 71–76 cm. Head and sides of neck white, with two horizontal black bars. Body generally silvery grey, tail grey with white border.

Major threats
The species is vulnerable to hunting, lower reproductive success due to egg collection and habitat loss.

Indian Sarus crane

Antigone antigone

Vernacular name:	*Saras* (Hindi & Bengali)
Order:	Gruiformes
Family:	Gruidae
Genus:	*Antigone*
Species:	*A. antigone*
IUCN Red List:	Vulnerable
CITES:	Appendix II
CMS:	Appendix II
IWPA, 1972:	Schedule IV
Population Trend:	Decreasing

VU

Distribution
A residential bird of northern and central India. Found in upper and middle stretches of the Ganga River.

Habit & Habitat
Omnivorous and feeds on aquatic plants, sedges, invertebrates and small vertebrates. Occurs in large rivers, natural wetlands, small seasonal marshes, floodplains, fallow and cultivated lands and paddy fields.

Reproduction
Breeding Season: June to September.

Nest site/ type: Nests in agriculture land, dry grassland. Nests are built with reeds and grasses and can reach roughly two meters above the water surface.

Clutch Size: 2-3.

Incubation period: 28-31 days

Key identifying features
The largest Indian Crane with naked red head and upper neck, grey plumage, greenish horny bill, and red legs. Sexes alike, female slightly smaller than male.

Major threats
Loss and degradation of wetlands, as a result of drainage and conversion to agriculture, ingestion of pesticides and in some occasion hunting of adults and collection of eggs and chicks for trade, food and medicinal purposes.

Eurasian coot

Fulica atra

Vernacular name:	*Dasari, Aari, Thekari* (Hindi); *Jal kukkut, Karandab* (Bengali)
Order:	Gruiformes
Family:	Rallidae
Genus:	*Fulica*
Species:	*F. atra*
IUCN Red List:	Least Concern
CITES:	Not listed
CMS:	Not listed
IWPA, 1972:	Schedule IV
Population Trend:	Increasing

LC

Distribution
Common resident and winter migrant and widely distributed all over India. Found in upper, middle and lower stretches of the Ganga River.

Habit & Habitat
Gregarious, gathers in very large flocks during winter. Diurnal, forages on aquatic vegetation, mollusks and aquatic insects in open waters. Occurs in large rivers, ponds, lakes and other wetlands.

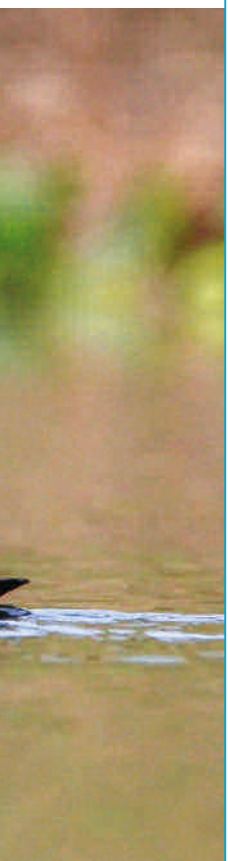
Reproduction
Breeding Season: May to December

Nest site/ type: Nest of dead reeds or grasses beside river bank.

Clutch Size: 10.

Key identifying features
Slaty-black waterbird with stout pointed ivory-white bill, white frontal shield and green legs; head, neck and throat black; upper plumage slaty-black with steel-blue sheen; under plumage slaty grey with dark vent and under tail-coverts.

Major threats
Loss of wetland habitats, loss of nesting sites and water pollution.



Painted stork

Mycteria leucocephala

Vernacular name:	*Kanth saras, Janghil, Kankri* (Hindi), *Ranga manik-jor* (Bengali)
Order:	Ciconiiformes
Family:	Ciconiidae
Genus:	*Mycteria*
Species:	*M. leucocephala*
IUCN Red List:	Near Threatened
CITES:	Not listed
CMS:	Not listed
IWPA, 1972:	Schedule IV
Population Trend:	Decreasing

NT

Distribution
A residential bird widespread throughout India. Found in middle and lower stretches of the Ganga River.

Habit & Habitat
Forages in day, feeds on small fish, frogs, occasionally snake. Occurs in freshwater marshes, lakes and reservoirs, river banks and wetlands areas.

Reproduction
Breeding Season: August to October.

Nest site/ type: Colonial tree nester often with other species.

Clutch Size: 3-4.

Incubation period: 30 days

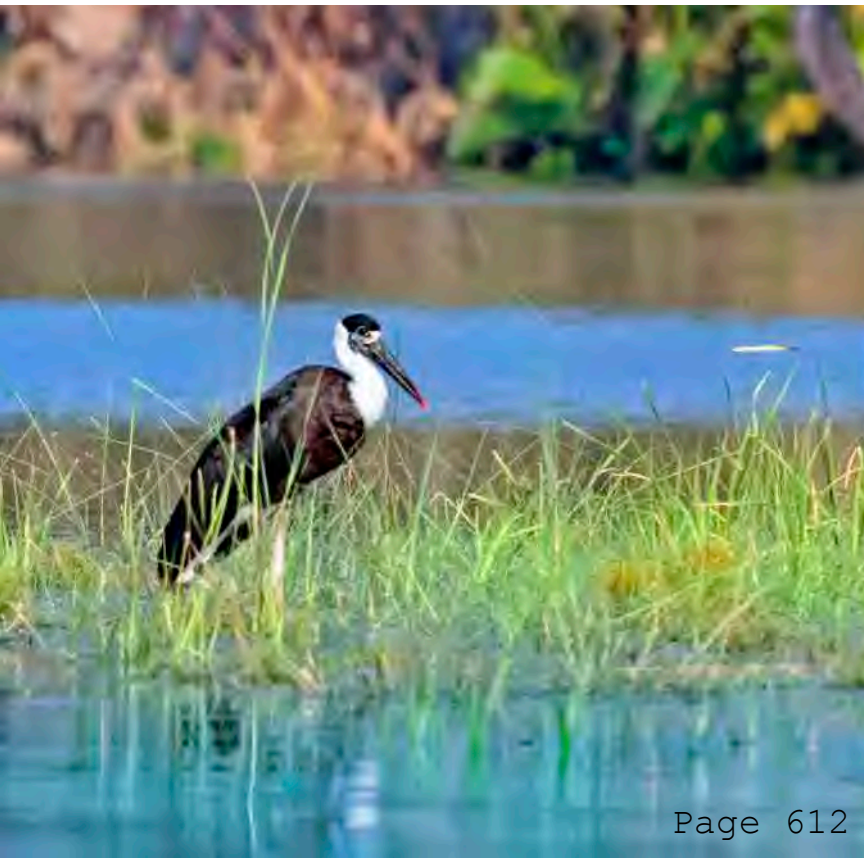
Key identifying features
Pure white body, coverts of the wings are black, the tail are pink. Head of the adult is bare and orange or reddish. Bill long, yellow-orange, broad at base. Long legs, semi–palmated feet.

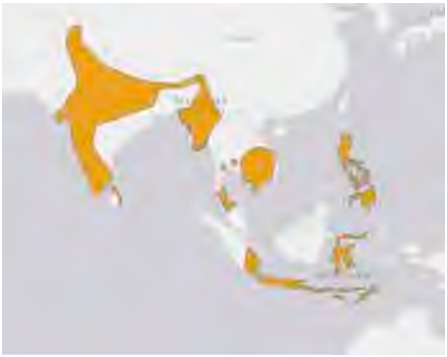
Major threats
Habitat loss and degradation, pollution, disturbance to breeding colonies resulting from hunting of adults and collection of eggs and nestlings from colonies.

Asian Woolly-necked stork

Ciconia episcopus

Vernacular name:	*Haji laq laq* (Hindi), *Manik jor* (Bengali)
Order:	Ciconiiformes
Family:	Ciconiidae
Genus:	*Ciconia*
Species:	*C. episcopus*
IUCN Red List:	Vulnerable
CITES:	Not listed
CMS:	Appendix II
IWPA, 1972:	Schedule IV
Population Trend:	Decreasing





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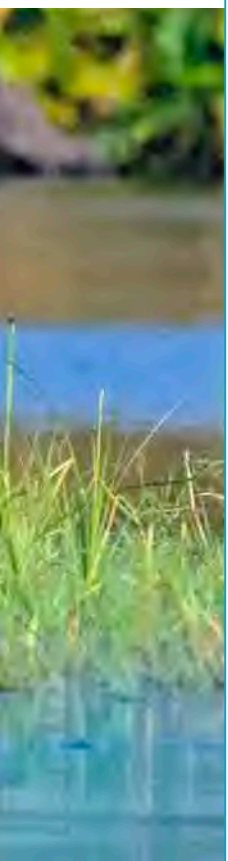


Distribution

It is a resident breeder in India. Found in upper, middle and lower stretches of the Ganga River.

Habit & Habitat

Carnivorous, feeds on fish, frogs, toads, snakes, lizards, large insects and larvae, crabs, mollusks and marine invertebrates. Occurs in rivers, seasonal and perennial reservoirs and marshes, crop lands, and irrigation canals.

Reproduction

Breeding Season: July to October.

Nest site/ type: A large stick platform built about 10-30 m (and sometimes up to 50 m) above the ground or over water.

Clutch Size: 3-4.

Key identifying features

Size 75–92 cm. The stork is glistening black overall with a black "skull cap", a downy white neck. The lower belly and under-tail coverts are white, fore-neck are iridescent with a coppery-purple tinge, long red legs and a heavy, blackish bill.

Major threats

Habitat loss and degradation, hunting, disturbance and possibly the use of agro-chemicals.

Black-necked stork

Ephippiorhynchus asiaticus

Vernacular name:	*Loharjang, Loha sarang* (Hindi)
Order:	Ciconiiformes
Family:	Ciconiidae
Genus:	*Ephippiorhynchus*
Species:	*E. asiaticus*
IUCN Red List:	Near Threatened
CITES:	Appendix I
CMS:	Not listed
IWPA, 1972:	Schedule IV
Population Trend:	Decreasing

NT

Distribution
It is a resident breeder in north, north-east and north-west India. Found in upper and middle stretches of the Ganga River.

Habit & Habitat
Feeds on fish, reptiles and frogs, turtle eggs, crabs, mollusks, insects, arthropods sometimes waterfowl, using tactile feeding methods. Inhabits large rivers, freshwater marshes and lakes, pools in open forest and flooded grassland, and occasionally uses mangroves and coastal habitats.

Reproduction
Breeding Season: September to October.

Nest site/ type: Nests on large isolated trees, made up of sticks, branches and lined with rushes, water-plants and sometimes with a mud plaster on the edges.

Clutch Size: 1-4.

Incubation period: 30 days

Key identifying features
Size 129–150 cm. A glossy bluish-black iridescent head, neck, secondary flight feathers and tail; a coppery-brown crown; a bright white back and belly; bill black with a slightly concave upper edge; and bright red legs. The adult female has a yellow iris while the adult male has it brown.

Major threats
Drainage of wetlands for development, encroachment for agriculture or aquaculture, overfishing, overgrazing, hunting, felling of nest trees and consecutive years of drought.

Lesser adjutant stork

Leptoptilos javanicus

Vernacular name:	*Chinjara, Chhota Garud* (Hindi), *Madanchur, Madantak* (Bengali)
Order:	Ciconiiformes
Family:	Ciconiidae
Genus:	*Leptoptilos*
Species:	*L. javanicus*
IUCN Red List:	Vulnerable
CITES:	Not listed
CMS:	Not listed
IWPA, 1972:	Schedule IV
Population Trend:	Decreasing

VU

Distribution

It is a resident breeder in central, north-east and eastern India. Found in middle and lower stretches of the Ganga River.

Habit & Habitat

Carnivorous, feeds on frogs, fish, small reptiles and aquatic crustaceans by walking in shallow puddles. Occurs mostly in large rivers and lakes inside well wooded regions, in freshwater wetlands in agricultural areas, and coastal wetlands including mudflats and mangroves.

Reproduction

Breeding Season: November to January, beginning as early as July.

Nest site/ type: A large, flat platform of sticks lodged between thick branches of a tall tree.

Clutch Size: 1-4.

Incubation period: 29-30 days

Key identifying features

Size 87-93 cm. Large bird with upright stance, a bare head and neck without a pendant pouch. The skullcap is paler and the upper plumage appearing black. The nearly naked head and neck have a few scattered hair-like feathers, yellow but red in breeding male. The belly and undertail are white. Bill is broad at base and tapering to the end.

Major threats

Hunting, loss of nesting trees, conversion and degradation of wetlands and agricultural intensification.

Grey heron

Ardea cinerea

Vernacular name:	*Nari, Sain* (Hindi), *Sada Kaak* (Bengali)
Order:	Pelecaniformes
Family:	Ardeidae
Genus:	*Ardea*
Species:	*A. cinerea*
IUCN Red List:	Least Concern
CITES:	Not listed
CMS:	Not listed
IWPA, 1972:	Schedule IV
Population Trend:	Unknown

LC

Distribution
Widespread resident bird throughout India. Found in upper, middle and lower stretches of the Ganga River.

Habit & Habitat
Solitary, crepuscular, carnivorous, feeds mostly on fishes. Generalist in its habitat and occurs in estuaries, rivers, streams, lakes, or marshes.

Reproduction
Breeding Season: Late February to early June.

Nest site/ type: Found in branches of tall trees and also have been reported in dense undergrowth and occasionally on bare ground.

Clutch Size: 3-5.

Incubation period: 25-26 days

Key identifying features
Size 90 to 98 cm. Head is white, long black feathers that extend from the eyes to the beginning of the neck, yellow bill, and has a large, impressive crest.

Major threats
The species is vulnerable to persistent pollutants and habitat loss.

Black-headed ibis

Threskiornis melanocephalus

Vernacular name:	*Munda*, *Safed baza* (Hindi), *Sada Kastechura* (Bengali)
Order:	Pelecaniformes
Family:	Threskiornithidae
Genus:	*Threskiornis*
Species:	*T. melanocephalus*
IUCN Red List:	Near Threatened
CITES:	Not listed
CMS:	Not listed
IWPA, 1972:	Schedule IV
Population Trend:	Decreasing

NT

Distribution

It is resident, widespread and locally common in central and western India. Found in upper, middle and lower stretches of the Ganga River.

Habit & Habitat

Gregarious, carnivorous, feeds on fish, frogs, mollusks and aquatic insects. Inhabits rivers, freshwater marshes, lakes, flooded grasslands, paddy fields, tidal creeks, intertidal mudflats, mangroves, salt-marshes and coastal lagoons.

Reproduction

Breeding Season: February to June.

Nest site/ type: Platform of stick nest on a tree

Clutch Size: 2-4.

Key identifying features

Size 75 cm. plumage white, with some greyer areas on the wings. The bald head, the neck and legs are black. The thick down curved bill is dusky yellow.

Major threats

It is vulnerable to wetland drainage, agricultural conversion, human disturbance, pollution, destruction of roosting and nesting sites, hunting and collection of eggs and nestlings from colonies.

Eurasian spoonbill

Platalea leucorodia

Vernacular name:	*Chamach baza* (Hindi), *Khunte bak* (Bengali)
Order:	Pelecaniformes
Family:	Threskiornithidae
Genus:	*Platalea*
Species:	*P. leucorodia*
IUCN Red List:	Least Concern
CITES:	Appendix II
CMS:	Appendix II
IWPA, 1972:	Schedule I
Population Trend:	Unknown

LC

Distribution
A widespread winter visitor and resident in India. Found in upper and middle stretches of the Ganga River.

Habit & Habitat
Forages singly or in small flocks, feeds on aquatic insects, mollusks, newts, crustaceans, frogs, tadpoles and small fish. Prefers extensive shallow wetlands with muddy, clay or fine sandy beds.

Reproduction
Breeding Season: Monsoon.

Nest site/ type: Nest is a platform of sticks and vegetation, constructed on the ground, on islands in lakes and rivers, or in dense stands of reeds, bushes, mangroves or deciduous trees.

Clutch Size: 3-4.

Incubation period: 24-25 days

Key identifying features
Size 80-90 cm. A white heron-like bird with spoon-shaped bill. Breeding bird is all white except for its dark legs, black bill with a yellow tip, and a yellow breast patch.

Major threats
Habitat degradation through drainage and pollution, disappearance of wetlands due to agricultural and hydroelectric development, over-fishing and human disturbance.

Dalmatian pelican

Pelecanus crispus

Vernacular name:	*Hawasil* (Hindi), *Gaganber* (Bengali)
Order:	Pelecaniformes
Family:	Pelecanidae
Genus:	*Pelecanus*
Species:	*P. crispus*
IUCN Red List:	Vulnerable
CITES:	Appendix I
CMS:	Appendix I & II
IWPA, 1972:	Schedule IV
Population Trend:	Decreasing

VU

Distribution
A winter migrant to India. Found in upper, middle and lower stretches of the Ganga River.

Habit & Habitat
Gregarious, migratory bird seen in dense colonies. Feeds almost entirely on fish. Occurs mainly in large rivers, inland freshwater wetlands, coastal lagoons, river deltas and estuaries.

Reproduction
Essentially migratory in Asia and breeds in Russia.

Key identifying features
Size 160 to 183 cm. It has curly nape feathers, grey legs and silvery-white plumage. In winter brownish-grey cream colour, orange-red lower mandible and pouch against a yellow upper mandible.

Major threats
Wetland drainage, water pollution, shooting and persecution by fishermen and over-exploitation of fish stocks.

Oriental darter

Anhinga melanogaster

Vernacular name:	*Pandubbi* (Hindi), *Goyar* (Bengali)
Order:	Suliformes
Family:	Anhingidae
Genus:	*Anhinga*
Species:	*A. melanogaster*
IUCN Red List:	Near Threatened
CITES:	Not listed
CMS:	Not listed
IWPA, 1972:	Schedule IV
Population Trend:	Decreasing

NT

Distribution
A resident species almost throughout India. Found in upper, middle and lower stretches of the Ganga River.

Habit & Habitat
Occurs singly, in twos or small flocks. Feeds chiefly on fish. Preferred habitats are large rivers, deepwater lakes, marshes and mangroves.

Reproduction
Breeding Season: July to December.

Nest site/ type: Nests of dry and green twigs are built at the forking of big branches or closer to the main trunks of large trees.

Clutch Size: 3-6.

Key identifying features
Size 28-32 cm. Long slender snake-like neck; narrow head; pointed and small daggershaped bill and fan-shaped stiff tail. A white streak from eye to sides of the neck; white chin and throat, back and wings longitudinally streaked and speckled with silver-grey below, including legs.

Major threats
Vulnerable to degradation of foraging wetlands and rivers, felling of nesting trees, water pollution, hunting and egg collection.

Eurasian curlew

Numenius arquata

Vernacular name:	*Goar, Goungh, Bada Gulinda* (Hindi), *Kastechura* (Bengali)
Order:	Charadriiformes
Family:	Scolopacidae
Genus:	*Numenius*
Species:	*N. arquata*
IUCN Red List:	Near Threatened
CITES:	Not listed
CMS:	Appendix II
IWPA, 1972:	Schedule IV
Population Trend:	Decreasing

NT

Distribution
A winter migrant to the whole of the subcontinent, migrates mainly from large rivers to the coastal areas. Mostly found in middle and lower stretches of the Ganga River.

Habit & Habitat
Carnivorous, feeds on fiddler and sand crabs, crustaceans and insects. Prefers large sandy river banks, marshes and wet grasslands.

Reproduction
Breeds in West, Central & East Siberia.

Key identifying features
Size 50–60 cm. Long, slender and strongly down-curved dark brown bill, bluish-grey legs and feet, plumage, streaked buff and brown, abdomen whitish and streaked with black, white lower back and rump.

Major threats
Vulnerable to habitat fragmentation and habitat loss. Egg loss and chick mortalities due to higher predation rates and human disturbance.

Black-tailed godwit

Limosa limosa

Vernacular name:	*Kalidum ka Gudera, Gairiya, Jangral* (Hindi), *Jaurali* (Bengali)
Order:	Charadriiformes
Family:	Scolopacidae
Genus:	*Limosa*
Species:	*L. limosa*
IUCN Red List:	Near Threatened
CITES:	Not listed
CMS:	Appendix II
IWPA, 1972:	Schedule IV
Population Trend:	Decreasing

NT

Distribution
A locally common and widespread winter migrant to India extending eastward up to West Bengal. Found in upper, middle and lower stretches of the Ganga River.

Habit & Habitat
Gregarious, carnivorous, feeds on mollusks, crustaceans and seeds of aquatic plants. Occurs in large flocks in wetlands, marshes and river banks.

Reproduction
Breeds in Central Asia, disjunct areas in Central & East Siberia. Winters in South & South-East Asia, Philippines to Australia.

Key identifying features
Size 42 cm. Sexes alike but female slightly larger, bill long, slender and straight with red base and dusky tip; upperparts grey-brown, with white upper tail-coverts; underparts white; legs and feet greyish-green.

Major threats
Vulnerable to loss of nesting habitat, hydrological alteration in wintering wetlands and human disturbance.

Great stone-curlew
Great thick-knee
Esacus recurvirostris

Vernacular name:	*Chamach baza* (Hindi), *Khunte bak* (Bengali)
Order:	Charadriiformes
Family:	Burhinidae
Genus:	*Esacus*
Species:	*E. recurvirostris*
IUCN Red List:	Near Threatened
CITES:	Not listed
CMS:	Not listed
IWPA, 1972:	Schedule IV
Population Trend:	Decreasing

NT

Distribution
A resident species widespread throughout India. Found in upper, middle and lower stretches of the Ganga River.

Habit & Habitat
Crepuscular and nocturnal. Feeds on crabs and mollusks. Mainly found in sandy river bank, mid-river islands, rocky out-crops in large rivers. Sometimes ventures into agricultural fields for foraging.

Reproduction
Breeding Season: February to June.

Nest site/ type: Nests on exposed sandbank on riverbeds.

Clutch Size: 2.

Key identifying features
Size 49–55 cm. Large, thick-headed long-legged plover, heavy upturned yellow and black beak, big yellow eyes and peculiar black and white facial pattern.

Major threats
Habitat destruction, habitat loss, alteration in river hydrology, nest predation by dogs, disturbance by fishermen and cattle.

Little pratincole

Glareola lactea

Vernacular name:	*Bauni titahri* (Hindi), *Choto babuibatan* (Bengali)
Order:	Charadriiformes
Family:	Glareolidae
Genus:	*Glareola*
Species:	*G. lactea*
IUCN Red List:	Least Concern
CITES:	Not listed
CMS:	Not listed
IWPA, 1972:	Not listed
Population Trend:	Unknown

LC

Distribution
A resident species widespread throughout India. Found in upper, middle and lower stretches of the Ganga River.

Habit & Habitat
Gregarious, crepuscular, insectivorous. Its short bill is an adaptation to aerial feeding. Mostly found at large river banks, natural wetlands and coastal marshes.

Reproduction
Breeding Season: March to May/ February to April.

Nest site/ type: Colonial nester, nests on the sandy river bank, mid-river sandy islands.

Clutch Size: 2-3.

Key identifying features
Size 16.5-18.5 cm. Sandy grey body, very shallow forked tail, short legs. The tail is white with a black terminal triangle.

Major threats
Habitat destruction, habitat loss, river hydrology alteration, nest predation by feral dogs, disturbance by fishermen and cattle.

River lapwing

Vanellus duvaucelii

Vernacular name:	*Titeeri* (Hindi), *Kata titi* (Bengali)
Order:	Charadriiformes
Family:	Charadriidae
Genus:	*Vanellus*
Species:	*V. duvaucelii*
IUCN Red List:	Near Threatened
CITES:	Not listed
CMS:	Appendix II
IWPA, 1972:	Schedule IV
Population Trend:	Decreasing

NT

Distribution
A resident species widespread in Northern, East and Central India. Found in upper, middle and lower stretches of the Ganga River.

Habit & Habitat
Primarily feeds on crustaceans, insects and small frogs. Feeds at the banks of large rivers and lakes with sand banks or gravel bars and islands.

Reproduction
Breeding Season: March to June.

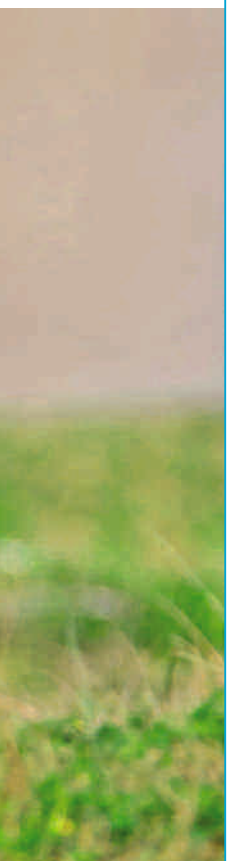
Nest site/ type: Small depressions in shingle and sand banks of the riverside.

Clutch Size: 2.

Incubation period: 28-30 days

Key identifying features
Size 29–32 cm. Bill, head and occipital crest black; underparts sandy grey-brown; upper tail coverts and tail white. Legs and feet reddish black.

Major threats
Alteration of river hydrology by dams, habitat degradation due to encroachment and excessive disturbance, incidental nest drowning and disturbance caused by human, livestock and dogs.



Indian skimmer

Rynchops albicollis

Vernacular name:	*Panchhira* (Hindi), *Gang chasha* (Bengali)
Order:	Charadriiformes
Family:	Laridae
Genus:	*Rynchops*
Species:	*R. albicollis*
IUCN Red List:	Vulnerable
CITES:	Not listed
CMS:	Not listed
IWPA, 1972:	Not listed
Population Trend:	Decreasing

VU

Distribution
A resident species found in large rivers of western and eastern India, coastal estuaries. Found in middle and lower stretches of the Ganga River.

Habit & Habitat
Skims over water surface, feeds on surface-dwelling fish, small crustaceans and insect larvae. Preferred habitats are sandy mid-river islands, sandy banks of large rivers and lakes, swamps and coastal wetlands such as estuaries.

Reproduction
Breeding Season: February to May.

Nest site/ type: Colonial, island nester on sandy beaches of mid-river islands.

Clutch Size: 3-4.

Key identifying features
Unique bill with much longer lower mandible, deep orange with yellow tip. Black and white plumage, black upper body, white underpart and bright red legs.

Major threats
Alteration and degradation of habitats through dam constructions, fishing, sand mining, agriculture, grazing and pollution from agricultural and industrial chemicals. Nest destruction by unpredicted water release from dams, predation by corvids and stray dogs.

River tern

Sterna aurantia

Vernacular name:	*Dariyai tehri* (Hindi), *Pan paira* (Bengali)
Order:	Charadriiformes
Family:	Laridae
Genus:	*Sterna*
Species:	*S. aurantia*
IUCN Red List:	Near Threatened
CITES:	Not listed
CMS:	Not listed
IWPA, 1972:	Not listed
Population Trend:	Decreasing

NT

Distribution
A resident species widespread throughout India. Found in upper, middle and lower stretches of the Ganga River.

Habit & Habitat
Predominantly feeds on fish, small crustaceans and insects. Resident breeder, prefers sandy beaches and mid-river islands of large perennial rivers.

Reproduction
Breeding Season: March to June.

Nest site/ type: Sand banks, sandy mid-river islands.

Clutch Size: 2-3.

Key identifying features
Size 38–43 cm. Fluviatile pale grey and white bird with pointed bright yellow bill, deeply forked swallow tail and short red legs.

Major threats
Alteration and degradation of habitats through dams, fishing, sand mining, agriculture, grazing and pollution from agricultural and industrial chemicals. Nest destruction by unpredicted water release from dams, predation by corvids, stray and domestic dogs.

Black-bellied tern

Sterna acuticauda

Vernacular name:	*Kali tohri* (Hindi), *Kalopet Panpaira* (Bengali)
Order:	Charadriiformes
Family:	Laridae
Genus:	*Sterna*
Species:	*S. acuticauda*
IUCN Red List:	Endangered
CITES:	Not listed
CMS:	Not listed
IWPA, 1972:	Not listed
Population Trend:	Decreasing

EN

Distribution
A resident species found in major rivers systems in India. Found in middle and lower stretches of the Ganga River.

Habit & Habitat
Skims over the surface of water and ground to pick up insects and plunges at an angle into the water to feed on crustaceans, tadpoles and fish. Occurs in sandy banks and mid-river sandy islands of lowland rivers and marshes.

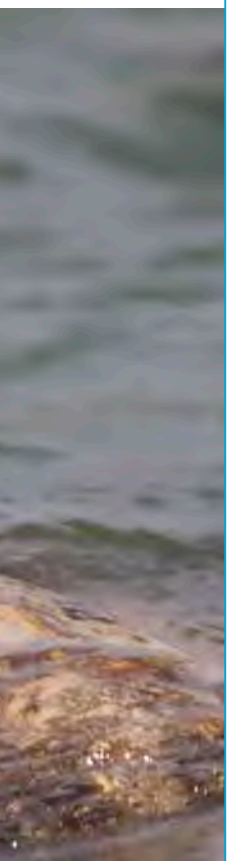
Reproduction
Breeding Season: February to April.

Nest site/ type: Colonial island nester on sandy beaches of mid-river islands.

Clutch Size: 2-3.

Key identifying features
Adults have orange bill, black cap and nape, dark grey breast and blackish belly and vent. Breeding birds show a whitish belly and lack tail streamers.

Major threats
Alteration of breeding habitats, river bank and river island agriculture, sudden release of water from dams, water pollution, nest predation by cats, dogs and corvids.



Brown-headed gull

Larus brunnicephalus

Vernacular name:	*Bhuri ganga chilli* (Hindi), *Gang chil* (Bengali)
Order:	Charadriiformes
Family:	Laridae
Genus:	*Larus*
Species:	*L. brunnicephalus*
IUCN Red List:	Least Concern
CITES:	Not listed
CMS:	Not listed
IWPA, 1972:	Schedule IV
Population Trend:	Stable

LC

Distribution
It is a winter migrant at large rivers, inland lakes and on the coasts in India. Found in upper, middle and lower stretches of the Ganga River.

Habit & Habitat
Highly gregarious, mainly piscivorous. Found in coastal or inland water bodies like large rivers, lakes and estuaries.

Reproduction
Breeds in the high plateaus of central Asia from Tajikistan to Ordos in Inner Mongolia

Key identifying features
Size 42 cm. A pale brown head, a pale grey body, and red bill and legs. The black tips to the primary wing feathers have conspicuous white "mirrors". The under wing is grey with black flight feathers.

Major threats
Habitat loss and fragmentation, human disturbances and pollution.

Pied avocet

Recurvirostra avosetta

Vernacular name:	*Kusya chaha* (Hindi)
Order:	Charadriiformes
Family:	Recurvirostridae
Genus:	*Recurvirostra*
Species:	*R. avosetta*
IUCN Red List:	Least Concern
CITES:	Not listed
CMS:	Appendix II
IWPA, 1972:	Schedule IV
Population Trend:	Unknown

LC

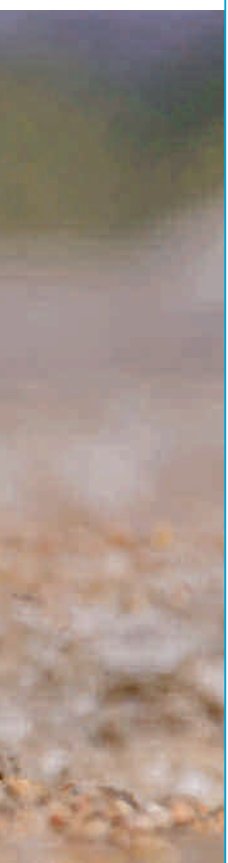
Distribution
A locally common winter and passage migrant to NW India. Found in upper, middle and lower stretches of the Ganga River.

Habit & Habitat
Carnivorous, feeds on aquatic insects by sweeping bill from side to side on water surface or mud. Generally found in shallow water of large river, islands and mudflats.

Reproduction
Breeds in Central Asia

Key identifying features
Size 41.9–45.1 cm. Up-curved long black bill; dark red iris, glistening white body, black head, hind neck and two wing-bands, and bluish-grey legs.

Major threats
Habitat alterations and loss due to development activities, pollution, human disturbances and reduced river flow.



Osprey

Pandion haliaetus

Vernacular name:	*Chota Machhlimaar* (Hindi), *Machhmarol* (Bengali)
Order:	Accipitriformes
Family:	Pandionidae
Genus:	*Pandion*
Species:	*P. haliaetus*
IUCN Red List:	Least Concern
CITES:	Appendix II
CMS:	Appendix II
IWPA, 1972:	Schedule I
Population Trend:	Increasing

LC

Distribution
A widespread winter visitor and resident in India. Found in upper, middle and lower stretches of the Ganga River.

Habit & Habitat
Carnivorous, solitary and monogamous. Fish makes upto 99% of the Osprey's diet. It prefers shallow, fresh, brackish or marine habitats. It is found fishing in ponds, lakes, marshes, lagoons and creeks.

Reproduction
Breeding Season: Varies with region.

Nest site/ type: The nests is a platform of twigs, sticks and plant material.

Clutch Size: 2-4.

Key identifying features
Size 50–66 cm . The upperparts are a deep, glossy brown, while the breast is white and sometimes streaked with brown, and the underparts are pure white. The head is white with a dark mask across the eyes, reaching to the sides of the neck.

Major threats
Hunting of adult birds, collection of eggs, poisoning by agricultural pesticides, disturbance in breeding habitats and felling of tall trees.

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Notes

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NMCG

National Mission
for Clean Ganga,
Ministry of Water
Resources, River
Development &
Ganga Rejuvenation

GACMC

Ganga Aqualife
Conservation
Monitoring
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VIBRANT GANGA

नमामि गंगे

wings of ganga

RIVER AND
WETLAND
BIRDS OF
GANGA RIVER

भारतीय वन्यजीव संस्थान
Wildlife Institute of India

हंससारससंघुष्टां चक्रवाकोपशोभिताम् ।
सदामत्तैश्च विहगैरभिपन्नामनिन्दिताम् ।।

.....the River (Ganga) is resonant with the sounds of swans and cranes, and adorned with cackling of Chakrawaka birds and other birds which are always overjoyed (and stays in her vicinity), such is the virtuous river .... (VR 2.50.19)

Dedicated to

Dr. Sálim Moizuddin Abdul Ali

The Birdman of India

(12 November 1896 - 20 June 1987)

wings OF ganga

PART II

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This publication is second part of the **"Wings of Ganga"** series under the **"Vibrant Ganga: Book Series** " and includes important wetland and wetland obligate birds of the Ganga River. The representative species were selected on the basis of the four criteria listed as follows-

- International Union for Conservation of Nature and Natural Resources (IUCN) Red List categories
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) Appendices
- Convention on the Conservation of Migratory Species of Wild Animals (CMS) Appendices
- Indian Wild Life (Protection) Act, 1972 (IWPA) Schedules

This book covers **23** families of wetland and wetland obligate birds of the Ganga River represented by 34 species. At least one representative species from each family is illustrated. The species are described through scientific and common names. The book also provides information about the conservation status of species, taxonomy, key identifying features, habit and habitat, reproduction ecology and major threats.

PREFACE

A megadiverse country, India harbours 1301 species of birds. Rivers and associated wetlands are crucial habitats for native as well as migratory waterbirds. The Ganga River basin in the Central Asian flyway is one of the most important stopover sites for migratory waterbirds and supports 177 species of birds including riverine, wetland and associated terrestrial species. Some iconic and globally threatened birds also breed along the Ganga River.

Conversely, waterbirds manage riverine and wetland habitats by maintaining its diversity, controlling pests and therefore, are effective indicators of healthy ecosystems. They also provide a myriad of provisioning and regulating services to humans such as pest control, seed dispersal, pollination, scavenging through their behaviour and feeding patterns. Waterbirds also hold important cultural values and have often been described in mythology and ancient scriptures.

The Wildlife Institute of India through the Biodiversity Conservation and Ganga Rejuvenation project funded by the Ministry of Water Resources, River Development and Ganga Rejuvenation has been working towards the conservation of these birds through various platfroms, as a part of our goal to formulate a comprehensive strategy to restore the biodiversity value of the Ganga River.

To ensure ecological restoration through the active involvement of stakeholders, their sensitization on the biodiversity of the river is essential. With this objective in mind, the present publication 'Wings of Ganga – Part II' is second of the series 'Vibrant Ganga' and has been conceptualised as an information booklet for a glance into the birds of the Ganga River. This booklet is targeted for a wide audience and can be used by students to the scientific community to check the conservation status and related information on these birds.

All species belong to

Kingdom: Animalia,
Phylum : Chordata,
Class: Aves

Following colour coding are adopted to describe the conservation status according to IUCN Red List.

EN VU NT LC

Following codes were used for describing migration status of the species

- **Non breeding**
- **Breeding**
- **Resident**
- **Possibly resident**
- **Possibly extinct**

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Lesser White-fronted Goose

Anser erythropus

Vernacular name:	*Swetmal hans*
Order:	Anseriformes
Family:	Anatidae
Genus:	*Anser*
Species:	*A. erythropus*
IUCN Red List:	Vulnerable
CITES:	Not listed
CMS:	Appendix II
IWPA, 1972:	Schedule IV
Population Trend:	Decreasing

VU

Distribution
This species is winter migrant and vagrant in India. Arrives by October and departs by January. Found in parts of upper and middle stretches of the Ganga River.

Habit & Habitat
Herbivorous, feeds on grasses, roots, stems, leaves, fruits and the green parts of aquatic and terrestrial plants along lake-shores, rivers and marshes. During the winter, the species supplements its diet with winter agricultural grains. Mostly found in wet grassland and lakes.

Reproduction
Breeding Season: The east Asian population breeds in northern Russian tundra to Western Siberia and breeds during late May to early June.
Nest site/type: Nests in rocky outcrops or prominent hummocks, hidden amongst vegetation or in boggy hollow, usually in close proximity to open water or marshy areas.
Clutch size: 3-5
Incubation period: 2-3 months

Key Identifying Features
Size 53-66 cm. Small grey-brown goose with pink bill and yellow eye-ring. Adult has half-moon white frontal band on head and black barring on belly.

Major Threats
The species is vulnerable to habitat loss, human interference, hunting, climatic shifts, hydrology alteration and pollution.

Gadwall

Mareca strepera

Vernacular name:	*Myla, Bhuar, Beykhur* (Hindi) *Peeing Hans* (Bengali)
Order:	Anseriformes
Family:	Anatidae
Genus:	*Mareca*
Species:	*M. strepera*
IUCN Red List:	Least Concern
CITES:	Not listed
CMS:	Appendix II
IWPA, 1972:	Schedule IV
Population Trend:	Increasing

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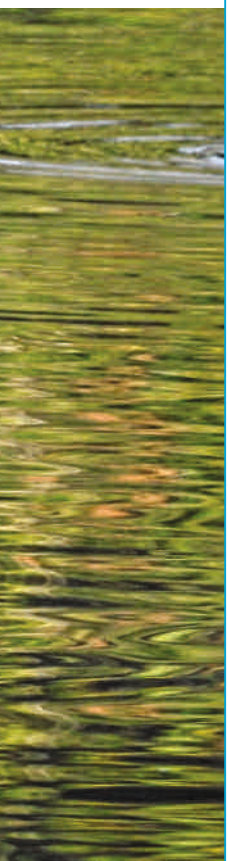
LC



Distribution
The species is a winter migrant in India. Found throughout the Ganga River.

Habit & Habitat
Usually shy and wary. Feeds mainly by dipping head into shallow water; sometimes also by upending. Predominantly herbivorous, consumes seeds, leaves, roots and stems of aquatic plants as well as grasses; occasionally takes cereal grains on land and small amount of insects, molluscs, annelids, amphibians, and small fish during winter.

Reproduction
Breeding Season: Early winter
Nest site/ type: Nests in dense grasses of at least a foot tall within 200 yards of open water or on islands for greater safety from predators.
Clutch Size: 7-12
Incubation Period: 24-27 days

Key Identifying Features
Size 50 cm. Dull, grey-brown duck. Male has distinct vermiculations on scapular and back, grey and brown upperparts; grey bill and orange legs. Brown head; upper and lower tail-coverts black. Long, pointed, silver-grey tertials; white secondaries with black greater secondary coverts distinctive and obvious in flight. Female lacks vermiculation and is more brownish on back and buffy tan on breast.

Major Threats
The species is vulnerable to hunting, pollution and disturbance from recreational use of freshwater wetlands.

Eurasian Wigeon

Mareca penelope

Vernacular name:	*Chhota lalsir* (Bengali)
Order:	Anseriformes
Family:	Anatidae
Genus:	*Mareca*
Species:	*M. penelope*
IUCN Red List:	Least Concern
CITES:	Not listed
CMS:	Appendix II
IWPA, 1972:	Schedule IV
Population Trend:	Decreasing

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LC

Distribution
This species is a winter migrant in India. Arrives by October-November and departs by March-April. Found throughout the Ganga River.

Habit & Habitat
Gregarious and a diurnal feeder. Feeds on leaves, seeds, stems and root bulbs of pond weeds, fine grasses, as well as algae, especially from agricultural land surrounding lakes. Breeds in lowland freshwater marshes, slow-flowing large rivers and shallow lakes and lagoons with ample submerged, floating and emerging vegetation.

Reproduction
Breeding season: April to May

Nest site/type: The nest is a shallow depression in the ground lined with vegetation, usually positioned near water and well concealed under overhanging vegetation.

Clutch size: 6-12

Incubation Period: 40-45 days

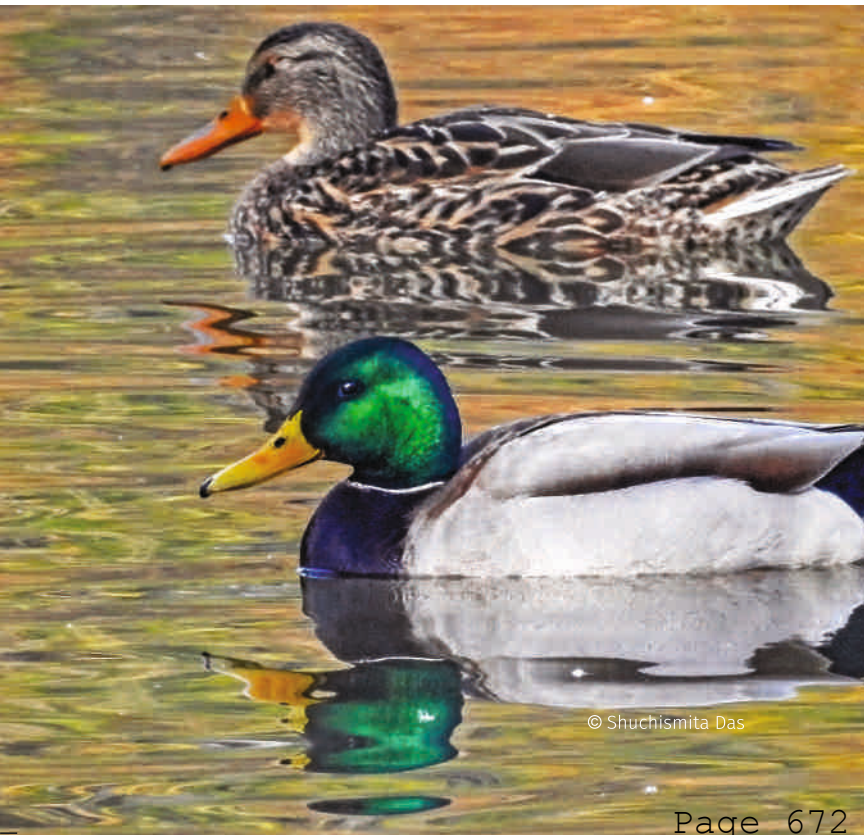
Key Identifying Features
Size 50 cm. Plump, large-headed and short-necked duck. Breeding male has grey back, white belly and pink chest, rusty red head with buff forehead, tail predominantly black. White shoulder patch; stubby, greyish-blue bill with black tip. Male in eclipse resembles female. Female is dull, mottled greyish-brown. Juvenile is very similar to female.

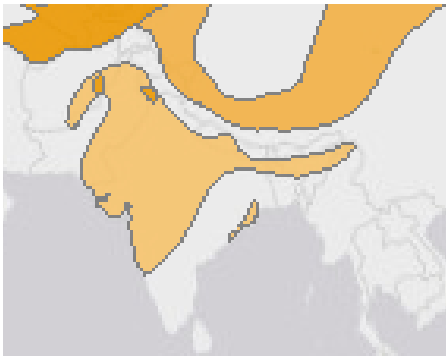
Major Threats
The species is vulnerable to habitat loss, hunting and pollution.

Mallard

Anas platyrhynchos

Vernacular name:	Nilsir (Hindi & Bengali)
Order:	Anseriformes
Family:	Anatidae
Genus:	Anas
Species:	*A. platyrhynchos*
IUCN Red List:	Least Concern
CITES:	Not listed
CMS:	Appendix II
IWPA, 1972:	Schedule IV
Population Trend:	Increasing





LC

Distribution
The species is a winter migrant in India. Arrives by October and departs by February. Found throughout the Ganga River.

Habit & Habitat
Gathers in flocks of upto 40-50 birds. Omnivorous and opportunistic feeder; feeds on seeds, shoots of grasses and aquatic plants, tadpoles, fish spawn and worms.

Reproduction
Breeding Season: March to June

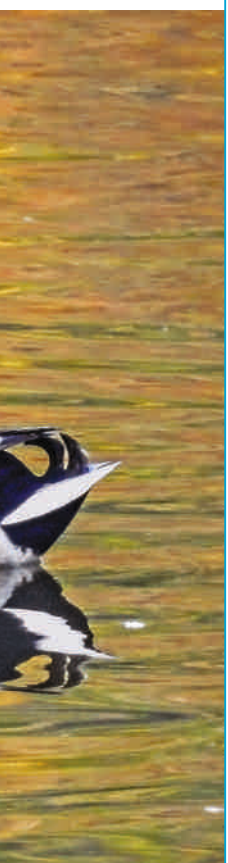
Nest site/ type: The nest is a shallow depression or a bowl of vegetation placed within vegetation on the ground, in natural tree cavities, under bushes and even in abandoned nests of other species.

Clutch Size: 5-14

Incubation Period: 30 days

Key Identification Features
Size 60 cm. Male has a yellow bill, dark green head and purplish-chestnut breasts, grey body, and black rear end. Female is pale brown and boldly patterned with dark brown. Bill variable, patterned mainly in dull orange and dark brown. Eclipse male is similar to female, but with rusty brown breast, glossed blackish-green crown and eye-stripe, and uniform olive-yellow bill.

Major Threats
The species is vulnerable to wetland habitat degradation caused by pollution, wetland drainage, peat-extraction and hunting.



Indian Spot-billed Duck

Anas poecilorhyncha

Vernacular name:	*Garm pai, Gugral* (Hindi)
Order:	Anseriformes
Family:	Anatidae
Genus:	*Anas*
Species:	*A. poecilorhyncha*
IUCN Red List:	Least Concern
CITES:	Not Listed
CMS:	Not Listed
IWPA, 1972:	Schedule IV
Population Trend:	Decreasing

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LC

Distribution
The species is a resident breeder in India. Found throughout the Ganga River.

Habit & Habitat
It is a surface feeder and obtains food chiefly by tipping or up-ending in shallow water. Feeds on vegetable matter.

Reproduction
Breeding Season: July to September
Nest site/ type: The nest consists of a pad of grass and weeds concealed among herbage on marshy margins of waterbodies.
Clutch Size: 6-12

Key Identifying Features
Size 65 cm. Overall grey bird with paler head and neck; black bill with bright yellow tip. Whitish wings with black flight feathers below; whitish head; upper parts blackish-brown, feathers edged paler; black cap, dark, broad eye-stripe; green-blue speculum bordered above with white; coral red legs and feet. Male has red spot on base of bill. Sexes are alike.

Major Threats
Conversion of wetlands due to rapid urbanization has resulted to loss of habitat of the species.

Demoiselle Crane

Anthropoides virgo

Vernacular name:	*Karkara* (Hindi)
Order:	Gruiformes
Family:	Gruidae
Genus:	*Anthropoides*
Species:	*A. virgo*
IUCN Red List:	Least Concern
CITES:	Appendix II
CMS:	Appendix II
IWPA, 1972:	Schedule IV
Population Trend:	Increasing

LC

Distribution
A winter migrant in India. Arrives by September and departs by February. Found in the upper and middle stretchs of the Ganga River.

Habit & Habitat
Moves in huge flocks often with the Common crane in 'V' shaped formations. Feeds during early mornings and early evenings; rests during hot hours on marsh edges and sandbanks. A voracious feeder, feeds on cultivated seeds and pulses, and also insects, especially grasshopers.

Reproduction
Breeding Season: March to April
Nest site/ type: Nest is a shallow scrape on dry ground, lined or surrounded by pebbles and plant materials.
Clutch Size: 2
Incubation Period: 27-29 days

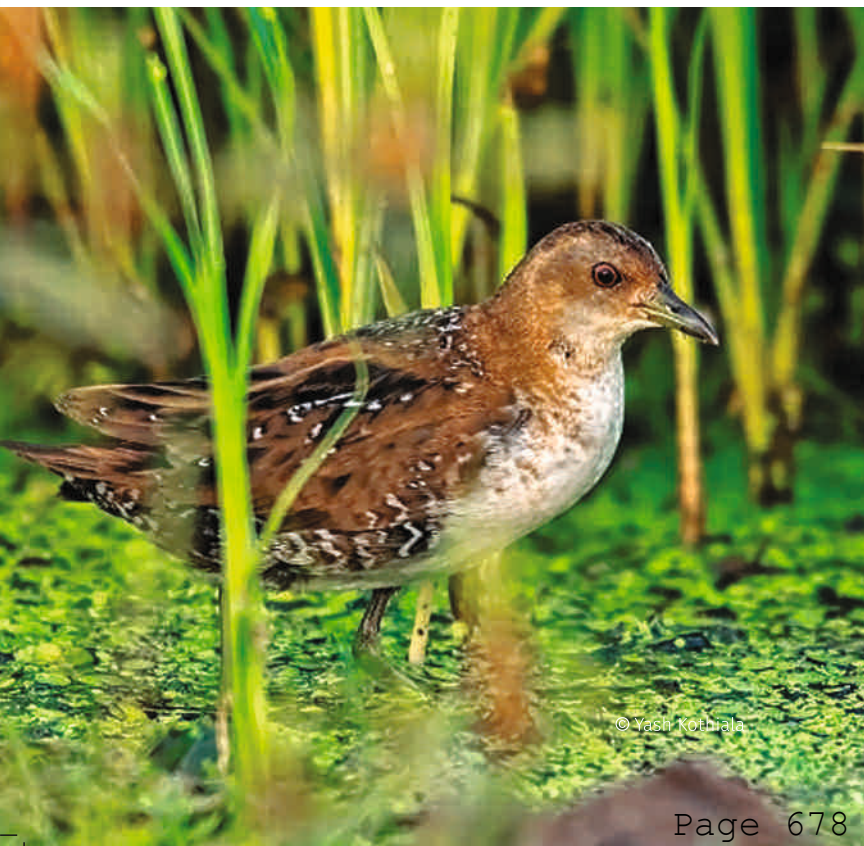
Key Identifying Features
Size 95 cm. Overall grey bird with black head and neck, prominent white ear-tufts. Long black feathers of lower neck fall over breast; brownish-grey secondaries sickle-shaped and drooping over tail. Juvenile has grey head and much shorter drooping secondaries over tail than adults. Sexes are alike.

Major Threats
The species is vulnerable to habitat loss and degradation, hydrologic alterations, pollution and hunting.

Baillon's Crake

Zapornia pusilla

Vernacular name:	*Jhilli* (Hindi) *Chhota Jal-bater* (Bengali)
Order:	Gruiformes
Family:	Rallidae
Genus:	*Zapornia*
Species:	*Z. pusilla*
IUCN Red List:	Least Concern
CITES:	Not Listed
CMS:	Appendix II
IWPA, 1972:	Schedule IV
Population Trend:	Unknown



LC

Distribution
Scarce passage migrant and winter visitor throughout India. Breeds in Kashmir Himalayas. Visits upper and middle stretches of the Ganga River.

Habit & Habitat
The species forages diurnally and feeds mainly on insects, annelids, molluscs, small crustaceans, small fish, amphibians, and vegetation. Found in marshes, edges of lakes and pools and paddy fields.

Reproduction
Breeding Season: May to July
Nest site/ type: The nest is a shallow cup or platform of vegetation close to water on a grass tussock, usually 4-6 cm above the water level. Occasionally the nest may be floating or anchored to vegetation in water.
Clutch Size: 4-11
Incubation Period: 16-20 days

Key Identifying Features
Size 19 cm. Very small crake with streaked black-and-white upperparts. Pale grey underparts that stretch from breast to around eyes. Pale green bill and legs. Females often has reddish-brown streak over ear and paler grey upperparts; stout, well-muscled legs. Juvenile has mottled-white breast.

Major Threats
The species is vulnerable to degradation and loss of seasonal and ephemeral wetlands, sudden changes in water levels and collisions with powerline during migration.

Greater Adjutant

Leptoptilos dubius

Vernacular name:	*Hargila, Garud, Peda dhauk* (Hindi) *Hargila* (Bengali)
Order:	Ciconiiformes
Family:	Ciconiidae
Genus:	*Leptoptilos*
Species:	*L. dubius*
IUCN Red List:	Endangered
CITES:	Not listed
CMS:	NA
IWPA, 1972:	Schedule IV
Population Trend:	Decreasing

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EN

Distribution
Resident in India. Found in patches in the upper and lower stretches of the Ganga River.

Habit & Habitat
Gathers with vultures and kites at refuse dumps. Hunts small animals in typical stork fashion. Feeds on injured ducks and carrions. Found in marshes, lakes and agricultural land.

Reproduction
Breeding Season: October to June
Nest site/ type: Nest is made up of sticks in canopy of large trees.
Clutch Size: 3
Incubation Period: 28-30 days

Key Identifying Features
Size 120-150 cm. Stout, conical bill with convex ridge to culmen. Adult breeding has bluish-grey mantle, prominent silvery-grey panel across greater coverts and tertials, white neck ruff and grey undertail-coverts. It has blackish face and forehead (with appearance of dried blood), sparsely feathered head and neck and larger neck pouch (visible when inflated). Non-breeding adult has darker grey mantle and wing-coverts.

Major Threats
The species is vulnerable to direct exploitation at nesting colonies, habitat destruction, pollution and over-exploitation of wetlands; also threatened by the reduced use of open rubbish dumps for the disposal of carcasses and food items.

Great White Pelican

Pelecanus onocrotalus

Vernacular name:	*Gulabi Hawasil* (Hindi) *Gaganber* (Bengali)
Order:	Pelecaniformes
Family:	Pelecanidae
Genus:	*Pelecanus*
Species:	*P. onocrotalus*
IUCN Red List:	Least Concern
CITES:	Not Listed
CMS:	Appendix I
IWPA, 1972:	Not Listed
Population Trend:	Unknown

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LC

Distribution
Mainly a winter visitor to northern, southern and south-eastern India Found in the middle stretch of the Ganga River.

Habit & Habitat
Usually found in pairs on larger lakes, lagoons and tidal creeks. Roosts on open sand bars. Entirely piscivorous; often fishes cooperatively by swimming forward in a semicircular formation, driving fish into shallow waters and then scooping fish from the water into its pouch, before swallowing it.

Reproduction
Breeding Season: February to April
Nest site/ type: Deserted nests of flamingos, on the ground either on a pile of sticks and vegetation or in a simple shallow scrape are used as nesting site. Shed-feathers are used as nest-linings.
Clutch Size: 1-8
Incubation Period: 38 days

Key Identifying Features
Size 175 cm. Enormous bird with dramatic azure blue bill with central red stripe. Bright yellow, expandable pouch extends from lower jaw to base of throat. Bare, fleshy pink face; white, bushy crest; creamy white plumage with pale pinkish wash; pink feet and yellowish tuft on breast; black primaries and underside of secondaries.

Major Threats
The species is vulnerable to habitat destruction, climatic shifts, hydrology alteration, pollution and hunting.

Black Bittern

Ixobrychus flavicollis

Vernacular name:	*Kala bagla* (Hindi) *Kalo bak* (Bengali)
Order:	Pelecaniformes
Family:	Ardeidae
Genus:	*Ixobrychus*
Species:	*I. flavicollis*
IUCN Red List:	Least Concern
CITES:	Not listed
CMS:	Not listed
IWPA, 1972:	Schedule IV
Population Trend:	Decreasing

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LC

Distribution
Widespread resident in India. Found throughout the Ganga River.

Habit & Habitat
Crepuscular, solitary and extremely secretive. May fly quite high to feeding sites. Feeds on fish, frog, reptiles and invertebrates. Occurs in reed beds with bushes and bushy margins of canals, rivers and jheels.

Reproduction
Breeding Season: May to September
Nest site/ type: The nest is a platform, with a shallow central depression; made of twigs or reeds and is placed from 1 to 15 m above the water or ground.
Clutch Size: 3-6

Key Identifying Features
Size 58 cm. Male has blackish upperparts, with yellowish malar and sides of neck and dark streaking on upperparts. Females are similar to males but has browner upperparts and chestnut-streaked underparts. Juvenile is similar but with distinct fringes to upperparts.

Major Threats
The species is threatened by habitat destruction due to rapid urbanization, and water pollution.

Striated Heron

Butorides striata

Vernacular name:	*Kancha bagla* (Hindi) *Kana bak, Kuro bak* (Bengali)
Order:	Pelecaniformes
Family:	Ardeidae
Genus:	*Butorides*
Species:	*B. striata*
IUCN Red List:	Least Concern
CITES:	Not listed
CMS:	Not listed
IWPA, 1972:	Schedule IV
Population Trend:	Decreasing

LC

Distribution
A widespread resident in India. Found in the middle and lower stretches of the Ganga River.

Habit & Habitat
Skulking predator; feeds on crab, shrimp, mud-fish. Occurs in secluded ponds, rivers with dense shrubby vegetation on banks, mangroves and intertidal flats.

Reproduction
Breeding Season: March to August
Nest Site/ Type: The nest is a small, shallow structure of twigs placed well hidden amongst the branches of trees or bushes.
Clutch Size: 3-5
Incubation Period: 21-29 days

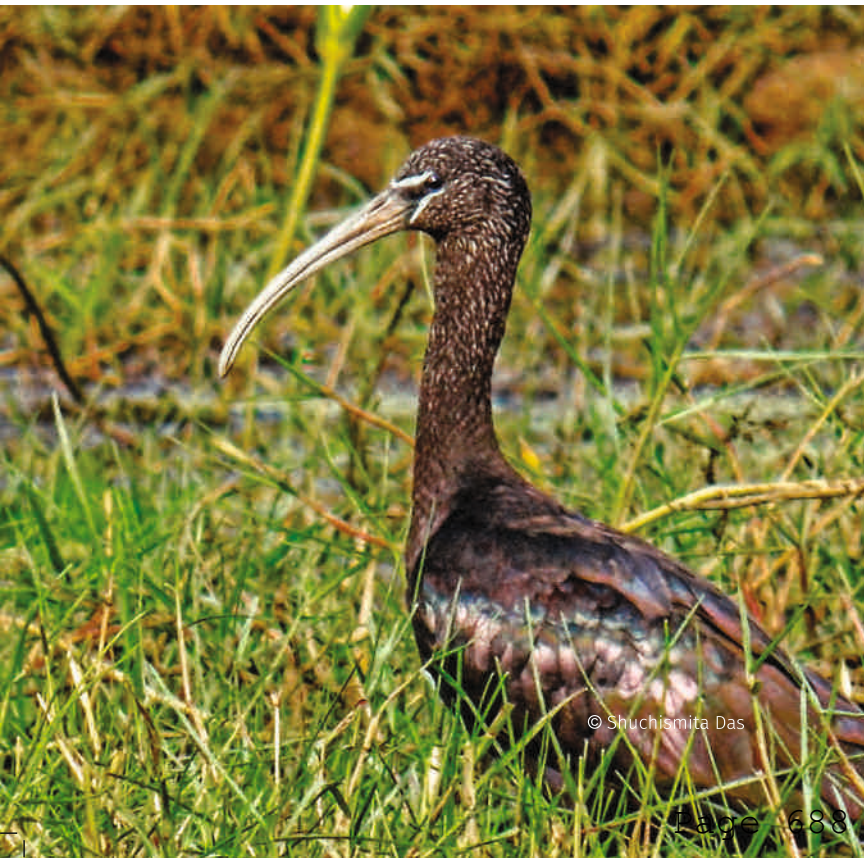
Key Identifying Features
Size 45 cm. Small, stocky heron with longish drooping crest. Upperpart is greenish slaty-grey; underpart is grey with pinkish tint; green wing feathers are outlined with yellow; yellow eye has deep grey surround. Deep green forehead, short legs, grey head and black crown. Orange feet in breeding. Juvenile is darker, more heavily streaked and mottled.

Major threats
The species is vulnerable to habitat destruction, human disturbances and pesticide pollutions.

Glossy Ibis

Plegadis falcinellus

Vernacular name:	*Kawari, Kowar, Chhota baza* (Hindi) *Kachia tora* (Bengali)
Order:	Pelecaniformes
Family:	Threskiornithidae
Genus:	*Plegadis*
Species:	*P. falcinellus*
IUCN Red List:	Least Concern
CITES:	Not listed
CMS:	Appendix II
IWPA, 1972:	Schedule IV
Population Trend:	Decreasing



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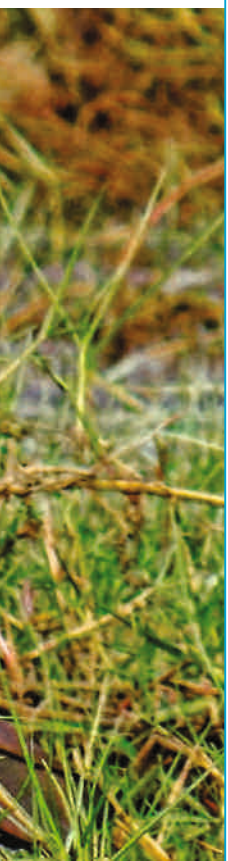

Distribution
A local breeding resident in India. Found throughout the Ganga River.

Habit & Habitat
Feeds in shallow water or marshy wetlands on small fish, aquatic insects, molluscs, frogs and food sifted from water surface. Occurs in all types of shallow freshwater, particularly with floating vegetation.

Reproduction
Breeding Season: June to August
Nest Site/ type: The nest is a platform of twigs and vegetation usually positioned less than 1 m above water in tall dense stands of emergent vegetation.
Clutch Size: 3-6
Incubation Period: 25-28 days

Key Identifying Features
Size 60 cm. Dark wading bird with long legs and fine downcurved bill. Breeding adult chestnut with green and purple gloss; naked, grey facial skin; pale blue lines bordering the front part of face; brown eyes and bill; grey legs with red knee joints.

Major Threats
The species is vulnerable to habitat loss and degradation, invasion of exotic plants, aquaculture, pollution and hunting.

Marsh Sandpiper

Tringa stagnatilis

Vernacular name:	*Chhota gotra, Biler balubatan* (Bengali)
Order:	Charadriiformes
Family:	Scolopacidae
Genus:	*Tringa*
Species:	*T. stagnatilis*
IUCN Red List:	Least Concern
CITES:	Not Listed
CMS:	Appendix II
IWPA, 1972:	Schedule IV
Population Trend:	Decreasing

Distribution
A common winter visitor in India. Found throughout the Ganga River.

LC

Habit & Habitat:
Feeds on small fish, molluscs and insects. Congregates in small flocks with other waders in shallow freshwater jheels, village ponds, wet paddy and river shoals.

Reproduction
Breeding Season: April to June

Nest Site/ Type: The nest of this species is a shallow depression, often on a mound at the marshy edge of a lagoon, lake or pool.

Clutch Size: 2-4

Key Identifying Features
Size 22-25 cm. Distictive wader with long and slender needle-like bill and very long olive greenish legs. Upperparts are grey and foreneck and underparts white in non-breeding plumage. In breeding plumage, foreneck and breast streaked and upperparts blotched and barred.

Major Threats
The species is vulnerable to habitat loss and degradation due to agricultural intensification, egg collection from nesting sites, aquaculture and pollution.

Wood Sandpiper

Tringa glareola

Vernacular name:	*Chupka, Titvari* (Hindi) *Balu batan* (Bengali)
Order:	Charadriiformes
Family:	Scolopacidae
Genus:	*Tringa*
Species:	*T. glareola*
IUCN Red List:	Least Concern
CITES:	Not Listed
CMS:	Not Listed
IWPA, 1972:	Schedule IV
Population Trend:	Stable

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LC

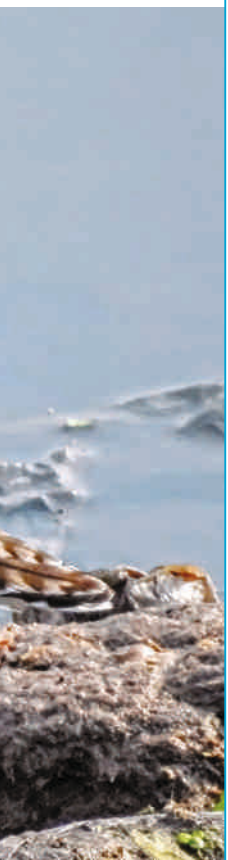
Distribution
A widespread winter visitor in India. Found throughout the Ganga River.

Habit & Habitat
Forages singly, in pairs or in scattered groups. It walks slowly in shallow water or mud, gleaning, probing or sweeping with the bill through the water. Feeds on small fish, molluscs, aquatic and freshwater insects. Occurs in wet cultivation, marshes, tidal creeks and muddy flats.

Reproduction
Breeding Season: May to mid-July
Nest site/ type: The nest is a scrape on the ground amongst dense vegetation or raised on a tussock or slight ridge and is surrounded by water
Clutch Size: 3-4
Incubation Period: 22-23 days

Key Identifying Features
Size 18-21 cm. Upperpart greyish-brown, spotted white; breast and neck white and stripe brown. White supercilium, extending from behind eye to back of ear-covert, short, straight bill with deep olive-green base; long greenish-yellow leg; brownish tail contrast with white rump patch. Breeding adult is olive-brown, spotted white and bill has pale-base.

Major Threats
The species is vulnerable to habitat loss and degradation, climatic shift and wetland pollution.



Little Ringed Plover

Charadrius dubius

Vernacular name:	*Zirrea, Merwa* (Hindi) *Jira* (Bengali)
Order:	Charadriiformes
Family:	Charadriidae
Genus:	*Charadrius*
Species:	*C. dubius*
IUCN Red List:	Least Concern
CITES:	Not listed
CMS:	Appendix II
IWPA, 1972:	Schedule IV
Population Trend:	Stable

LC

Distribution
A widespread resident in India. Found throughout the Ganga River.

Habit & Habitat
Tramples around on sand or mud to flush prey out of hiding places. Feeds on insects, freshwater shrimp, mussels and grasses. Inhabits shingle-covered riverbanks, tidal mudflats, estuaries and edges of lakes.

Reproduction
Breeding Season: Mainly during March to May, but varies with latitude.
Nest Site/ Type: The nest is a shallow scrape on loose sand, dry mud or on flat, bare rocks surrounded by mud or sand.
Clutch Size: 3-4
Incubation Period: 22-27 days

Key Identification Features
Size 14-17 cm. Small, elongated and small-headed appearance, and uniform upperwing with only a very narrow wing-bar. Bill small and mainly dark. Legs yellowish or pinkish. Breeding adult has striking yellow eye-ring. Non-breeding adults and juveniles have uniform head pattern with buff forehead and supercilium.

Major Threats
The species is vulnerable to habitat loss and degradation due to hydrology alteration and pollution, and human interferences at breeding sites.

Indian Thick Knee

Burhinus indicus

Vernacular name:	*Barsiri, Karwanak* (Hindi)
Order:	Charadriiformes
Family:	Burhinidae
Genus:	*Burhinus*
Species:	*B. indicus*
IUCN Red List:	Least Concern
CITES:	Not listed
CMS:	Not listed
IWPA, 1972:	Not listed
Population Trend:	Decreasing

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LC

Distribution
Widespread resident, mostly in the drier parts of India. Found throughout the Ganga River.

Habit & Habitat
Crepuscular and nocturnal; feeds mostly on insects, small reptiles and seeds. They feed on the ground. Occurs in light dry forest, stony dry riverbeds with scrubs and ravinous country.

Reproduction
Breeding Season: March and April

Nest site/ type: The nest is a small depression on bare ground or under a bush.

Clutch Size: 2-3.

Key identifying features
Size 41 cm. Sandy-brown bird streaked darker; whitish underparts; thick head, long, bare, yellow legs and large goggle-eyes; white wing patch in flight; black-tipped bill with yellow base. Sexes are alike.

Major threats
The species is vulnerable to habitat degradation and hunting.

Pheasant-tailed Jacana

Hydrophasianus chirurgus

Vernacular name:	*Piho, Pihuya* (Hindi) *Jal Mayur, Jal Pipi* (Bengali)
Order:	Charadriiformes
Family:	Jacanidae
Genus:	*Hydrophasianus*
Species:	*H. chirurgus*
IUCN Red List:	Least Concern
CITES:	Not Listed
CMS:	Not Listed
IWPA, 1972:	Schedule IV
Population Trend:	Decreasing

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LC

Distribution
A widespread resident in India. Found in the middle and lower stretches of the Ganga River.

Habit & Habitat
Purely aquatic, moves on vegetation-covered pond surfaces. Forages in water or edge and also in cultivation. Food comprises of insects, molluscs and seeds. Occurs in ponds and jheels covered with floating vegetation, but prefers open waters.

Reproduction
Breeding Season: March to July

Nest site/ type: The nest is a large circular floating mass built with plant material, placed close to water edge.

Clutch Size: 4

Key identifying features
Size 31 cm. extensive white on upperwing, and white and black underwing. Yellowish patch on sides of neck. Breeding adults have brown or chocolate underparts and long, curved tail. Non-breeding adults and juveniles lack elongated tail and have white underparts, with dark line down side of neck and dark breast-band.

Major threats
The species is vulnerable to habitat destruction and degradation.

Black Winged Stilt

Himantopus himantopus

Vernacular name:	*Gaz paon* (Hindi) *Lal thengi* (Bengali)
Order:	Charadriiformes
Family:	Recurvirostridae
Genus:	*Himantopus*
Species:	*H. himantopus*
IUCN Red List:	Least Concern
CITES:	Not Listed
CMS:	Appendix I
IWPA, 1972:	Schedule IV
Population Trend:	Increasing

LC

Distribution

A widespread winter visitor in India. In some parts of North-West region, it is a summer visitor. Found throughout the Ganga River.

Habit & Habitat

Gregarious; seen in large numbers, often along with other waders in wetlands. Feeds on larval and aquatic insects, molluscs, small fish, tadpoles and occasionally seeds. Occurs in marshes, salt pans, tidal creeks, village ponds and also riversides.

Reproduction

Breeding Season: May to July

Nest Site/ Type: The nest is a depression on hard ground near water on a floating mass of aquatic vegetation or amongst grass and sedge, and is made up of soft vegetation.

Clutch Size: 1-5

Incubation Period: 21-26 days

Key identifying features

Size 35-40 cm. Slender appearance, with long pinkish legs, and a fine straight black bill. Black upperwing strongly contrasts with white back V in flight. Adult at rest shows mainly white head, neck and underbody, contrasting with upperparts. Both sexes can show variable amount of black or dusky-grey on crown and hind neck. Juvenile has browner upperparts with buff-fringed.

Major threats

The species is vulnerable to pollution from runoffs containing pesticides, habitat loss and human interferences.

Pallas's Gull

Larus ichthyaetus

Vernacular name:	*Dhomra* (Hindi)
Order:	Charadriiformes
Family:	Laridae
Genus:	*Larus*
Species:	*L. ichthyaetus*
IUCN Red List:	Least Concern
CITES:	Not listed
CMS:	Appendix II
IWPA, 1972:	Schedule IV
Population Trend:	Increasing

LC

Distribution
A widespread winter visitor in India. Found throughout the Ganga River.

Habit & Habitat
Solitary or in groups of 2-3 individuals; mixes with smaller gulls and terns where fish is in abundance. Inhabits coastal areas, large rivers and lakes.

Reproduction
Breeding Season: April

Nest site/ type: The nest is a shallow depression placed in the open on bare rock, among reeds or scrub vegetation, or on vegetated sand-dunes.

Clutch Size: 2-4.

Key identifying features
Size 69 cm. Long-winged gull with long-sloping forehead and strong black and orange tipped yellow bill. Breeding adult has velvety-black hood and white eye-rings. Non-breeding adult has duskier head. Upperparts are pale grey; whiter outer wing with black speckling near tips. Orangish-yellow bill; greenish-yellow legs with orange web.

Major threats
The species is vulnerable to nest predation, commercial fishing and nest flooding.

Common Tern

Sterna hirundo

Vernacular name:	*Pardeshi dhomdi*
Order:	Charadriiformes
Family:	Laridae
Genus:	*Sterna*
Species:	*S. hirundo*
IUCN Red List:	Least Concern
CITES:	Not listed
CMS:	Appendix II
IWPA, 1972:	Not listed
Population Trend:	Unknown

© Girish Ketkar

LC

Distribution
A winter visitor mainly in the coastal and island regions. Breeds in Ladakh. Found in parts of upper, middle and lower stretches of the Ganga River.

Habit & Habitat
Opportunistic feeder; feeds mainly on small fish and occasionally planktonic crustaceans and insects. Occurs in large rivers, jheels, tidal creeks and estuaries.

Reproduction
Breeding Season: April to June
Nest Site/ Type: The nest is a shallow depression on open substrate with little or no vegetation placed near rocks to provide shelter.
Clutch Size: 1-4
Incubation Period: 22-27 days

Key identifying features
Size 35 cm. Grey mantle contrasts with white rump and uppertail-coverts. Breeding adult has orange-red bill with black tip, red legs, pale grey wash to underparts, dark trailing edge to underside of primaries and dark outer wedge to upperside, and shorter tail streamers which do not extend beyond tail at rest. Non-breeding adults has darker grey upperparts, shorter tail with grey outer webs to feathers, shorter and stouter bill.

Major threats
The species is vulnerable to human interference at nesting colonies, flooding of nest sites, overfishing and pollution.

Great Cormorant

Phalacrocorax carbo

Vernacular name:	*Ghogur, Paan-kowwa* (Hindi) *Paan-kawri* (Bengali)
Order:	Suliformes
Family:	Phalacrocoracidae
Genus:	*Phalacrocorax*
Species:	*P. carbo*
IUCN Red List:	Least Concern
CITES:	Not listed
CMS:	Not listed
IWPA, 1972:	Schedule IV
Population Trend:	Increasing

© Shuchismita Das

LC

Distribution
A widespread resident in India. Found throughout the Ganga River.

Habit & Habitat
Largely sedentary outside breeding season; usually one or two birds feeding close by; feeds on fish by diving and chasing underwater. Inhabits large inland lakes, reservoirs, mountain torrents and occasionally coastal lagoons.

Reproduction
Breeding Season: September to February
Nest Site/ Type: The nest varies from a depression to a platform of sticks, reeds and seaweed.
Clutch Size: 1-7

Key identifying features
Size 80-100 cm. Larger and bulkier with thicker neck, angular head and stouter bill. Breeding adults has glossy black, with dark gular skin, red spot at base of bill, white cheeks and throat, extensive white plumes and white thigh patch. Non-breeding lacks white head plumes and thigh patch. Base of bill and gular skin are yellow.

Major threats
The species is vulnerable to poisoning, hunting, oil spills and drowning by fishing net.

Great Crested Grebe

Podiceps cristatus

Vernacular name:	*Chotili dubki, Chotili moti dubki*
Order:	Podicipediformes
Family:	Podicipedidae
Genus:	*Podiceps*
Species:	*P. cristatus*
IUCN Red List:	Least Concern
CITES:	Not listed
CMS:	Not listed
IWPA, 1972:	Schedule IV
Population Trend:	Unknown

© Partha Sen

LC

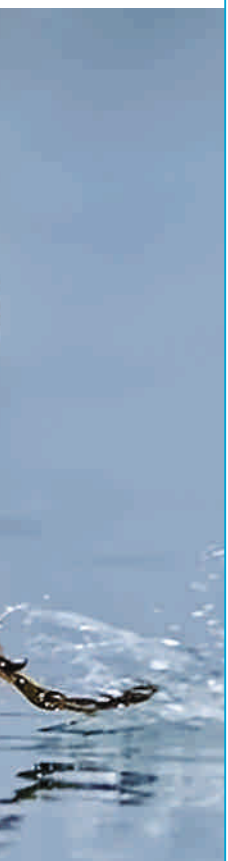
Distribution
A winter visitor to North India; breeds in North-West subcontinent. Found in the middle and lower stretches of the Ganga River.

Habit & Habitat
Both sexes perform striking, ritual courtship displays. Feeds on large fish, insects and molluscs. Favours open water, lakes and reservoirs, river, and also coastal waters and saltpans.

Reproduction
Breeding Season: January to April.
Nest site/ type: The nest is a platform of aquatic plant matter either floating or anchored to emergent vegetation or built from the lake bottom in shallow water.
Clutch Size: 4.
Incubation Period: 27-29

Key identifying features
Size 46-51 cm. Long neck, long bill and distinctive black double crest. Black crown, white face; black line from base of bill to eye; dark brown wings with prominent white-patches; satiny-white underparts; dark olive-green feet prominent in flight. Breeding adults has reddish-orange head plumes, tipped black. Females slightly smaller than male.

Major threats
The species is vulnerable to habitat loss and degradation, hydrological alteration, predation and accidental drowning by fishing nets.



Pallas's Fish-eagle

Haliaeetus leucoryphus

Vernacular name:	*Machhmanga, Dhenk, Patras* (Hindi) *Koral, Machhal* (Bengali)
Order:	Accipitriformes
Family:	Accipitridae
Genus:	*Haliaeetus*
Species:	*H. leucoryphus*
IUCN Red List:	Endangered
CITES:	Appendix II
CMS:	Appendix II
IWPA, 1972:	Schedule IV
Population Trend:	Decreasing

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EN

Distribution
A resident breeder in India. Found throughout the Ganga River.

Habit & Habitat
Known to hunt in pairs and sometimes steal food from other birds. Feeds mostly on fish caught close to surface of water. Inhabits jheels and large rivers.

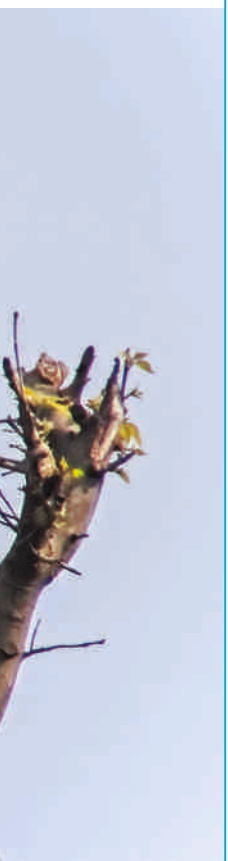
Reproduction
Breeding Season: November to March

Nest site/ type: The nest is a huge platform of sticks lined with hay, rushes, straw, fine twigs and green leaves. It usually nests in trees near water.

Clutch Size: 1-3.

Key identifying features
Size 76-84 cm. Upperparts dark brown with pale brown-grey head and neck and brown underparts; dark grey beak and cere; long, rounded tail and contrasting broad, white band diagnostic. Juveniles are brown with white markings on underwing. Sexes are alike; females are is larger.

Major threats
The species is vulnerable to habitat loss and degradation, spread of water hyacinth, siltation due to catchment deforestation, and hunting.



Egyptian Vulture

Neophron percnopterus

Vernacular name:	*Safed gidh* (Hindi) *Shwet shakun* (Bengali)
Order:	Accipitriformes
Family:	Accipitridae
Genus:	*Neophron*
Species:	*N. percnopterus*
IUCN Red List:	Endangered
CITES:	Appendix II
CMS:	Appendix I
IWPA, 1972:	Schedule IV
Population Trend:	Decreasing

EN

Distribution
A resident breeder in India. Found throughout the Ganga River.

Habit & Habitat
Feeds on garbage, carrion, insects, stranded turtles. Adept at killing stranded freshwater turtles and extricating flesh from the shell. Inhabits open country and in vicinity to human habitation.

Reproduction
Nest site/ type: The nest is a shabby mass of twigs, rags, hair and rubbish on a ledge of rock or in ruined fortifications and occasionally in large trees.
Clutch Size: 2.

Key identifying features
Size 60-70 cm. Small vulture with long, pointed wings, small and pointed head, and wedge-shaped tail. Adult mainly dirty white, with bare yellowish face and black flight feathers. Juvenile blackish-brown with bare grey face.

Major threats
The species is vulnerable to habitat loss, reduced food availability, lead poisoning, electrocution and ingestion of Diclofenac (NSAID) used for livestock.

Red-headed Falcon

Falco chicquera

Vernacular name:	*Turumti* (Hindi)
Order:	Falconiformes
Family:	Falconidae
Genus:	*Falco*
Species:	*F. chicquera*
IUCN Red List:	Near Threatened
CITES:	Not listed
CMS:	Not listed
IWPA, 1972:	Schedule I
Population Trend:	Decreasing

NT

Distribution
It is a resident breeder in India. Found throughout the Ganga River.

Habit & Habitat
Hunts from sheltered perch. Feeds on small birds like sparrows, starlings and pigeons. Inhabits open country and wide cultivated plains with patches of trees close to water.

Reproduction
Breeding Season: January to May
Nest site/ type: Nest is made of sticks and twigs, lined with grass roots, erected on well foliaged tree, sometimes old nests of kites and crows are used.
Clutch Size: 3-5.
Incubation Period: 32-35 days

Key identifying features
Size 31-36 cm. Small, stout and dashing falcon with pointed wings and long tail. Adult has rufous crown, nape and narrow moustachial stripe, pale blue-grey upperparts with fine dark barring, white underparts finely barred with black, and grey tail has broad black subterminal band. Females are slightly larger. Juvenile is darker, with fine dark shaft-streaking on crown, fine rufous fringes to upperparts.

Major threats
The species is vulnerable to rapid urbanization and development.

Common Kingfisher

Alcedo atthis

Vernacular name:	*Chhota kilkila* (Hindi), *Chhota machranga* (Bengali)
Order:	Coraciiformes
Family:	Alcedinidae
Genus:	*Alcedo*
Species:	*A. atthis*
IUCN Red List:	Least Concern
CITES:	Not Listed
CMS:	Not listed
IWPA, 1972:	Schedule IV
Population Trend:	Unknown

© Shuchismita Das

LC

Distribution
A widespread resident in India. Found throughout the Ganga River.

Habit & Habitat
The species prefer still or gently flowing water with excess of fish and vegetation on the banks to perch. Feeds predominantly on fish; occasionally tadpoles and insects. Also uses streams, lakes, canals and coastal areas.

Reproduction
Breeding Season: March to June.
Nest site/ type: Nest-sites can be over 250 m from foraging waters and can occur infrequently in walls, rotten tree stumps, concrete tunnels in canal banks.
Clutch Size: 6-7.
Incubation Period: 19-21 days

Key identifying features
Size 18 cm. Bright blue above, greenish on wings, orange ear-coverts and paler orange underparts; white patch on neck-sides, white chin and throat, coral red legs and blackish beak. Sexes are alike, but female has red on lower mandible.

Major threats
The species is vulnerable to habitat loss and degradation, climatic shift, river pollution and inadequate food due to canalization of streams.

Stork-billed Kingfisher

Pelargopsis capensis

Vernacular name:	*Bada kilkila, Badami kourilla* (Hindi), *Gurial, Mach ghorel* (Bengali)
Order:	Coraciiformes
Family:	Alcedinidae
Genus:	*Pelargopsis*
Species:	*P. capensis*
IUCN Red List:	Least Concern
CITES:	Not listed
CMS:	Not listed
IWPA, 1972:	Schedule IV
Population Trend:	Decreasing

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LC

Distribution
A widespread resident in India.
Foundthroughout the Ganga River.

Habit & Habitat
Solitary, more heard than seen. Feeds on fish, frog, crabs and shrimps. Occurs in canals, streams, coastal backwaters in well-wooded country.

Reproduction
Breeding Season: January to September
Nest site/ type: Cavity nesters; dig tunnels into the earth banks on the sides of rivers and lakes.
Clutch Size: 2-5.

Key identifying features
Size 35 cm. Very large with huge coral-red bill, brownish cap, pale orange-buff collar and underparts, and blue-green upperparts. In flight, shows turquoise rump and lower back. Juvenile has dusky barring on underparts, especially on breast.

Major threats
The species is vulnerable to deforestation and loss of habitat.

Oriental Skylark

Alauda gulgula

Vernacular name:	*Bharat chandul* (Hindi), *Jhunti bharat* (Bengali)
Order:	Passeriformes
Family:	Alaudidae
Genus:	*Alauda*
Species:	*A. gulgula*
IUCN Red List:	Least Concern
CITES:	Not listed
CMS:	Not listed
IWPA, 1972:	Not Listed
Population Trend:	Decreasing

LC

Distribution
A widespread resident in India. Found throughout the Ganga River.

Habit & Habitat
It lays low among shrubs and grass, runs in short spurts, and sometimes flylow in an undulating manner; food comprises small insects and weed seed. Occurs in grasslands, cultivation, mudflats and fallow lands.

Reproduction
Breeding Season: February to July
Nest site/ type: The nest is a cup-like depression on the ground in culitvated fields or grasslands, lined with fine grass and roots.
Clutch Size: 2-5.
Incubation Period: 10-11 days

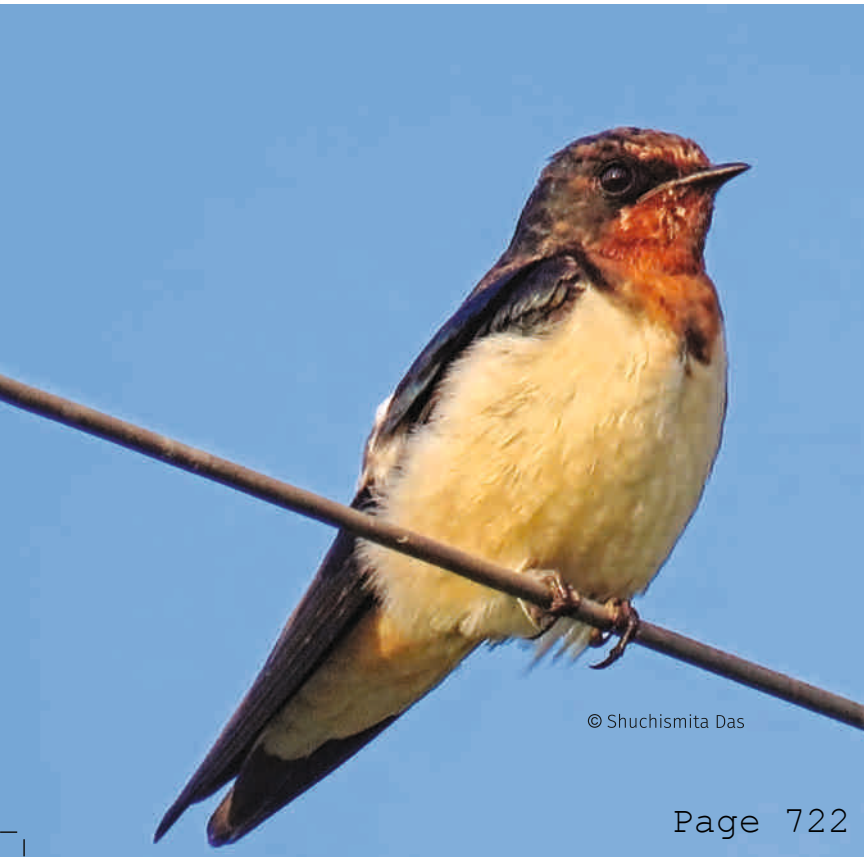
Key identifying features
Size 16 cm. Brownish above, feathers edged yellow-brown with black centres; short, indistinct crest, not often visible; dark brown tail with pale-buff outer feathers; dull-buff below; more yellowish-brown on breast, faintly streaked and spotted darker. Sexes are alike.

Major threats
The species is vulnerable to urbanization and habitat loss.

Barn Swallow

Hirundo rustica

Vernacular name:	*Ababil* (Hindi & Bengali)
Order:	Passeriformes
Family:	Hirundinidae
Genus:	*Hirundo*
Species:	*H. rustica*
IUCN Red List:	Least Concern
CITES:	Not listed
CMS:	Not listed
IWPA, 1972:	Not listed
Population Trend:	Decreasing



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LC

Distribution
Breeds in Himalayas and hills of NE India; widespread further south in winter. Found throughout the Ganga River.

Habit & Habitat
Gregarious, agile flier. Feeds predominantly on insects. Occurs in cultivations, towns and villages usually near or over water.

Reproduction
Breeding Season: May to August
Nest site/ type: The nest is a cup or half-cup, made from mud pellets mixed with fibres such as dry grass, straw and horsehair and lined with dry grass and white feathers.
Clutch Size: 2-7.
Incubation Period: 12-17 days

Key identifying features
Size 18 cm. Adult has bright red forehead and throat, blue-black breast-band and upperparts, and long tail-streamers. Underparts vary from white to rufous. Immature has duller orange forehead and throat, breast-band is browner and less well defined, upperparts are duller, and shorter tail-streamers.

Major threats
The species is vulnerable to habitat loss, intensification of agriculture, climatic shift and hunting.

Black Redstart

Phoenicurus ochruros

Vernacular name:	*Thirthira, Thirthir-kampa* (Hindi), *Lal-girdi* (Bengali)
Order:	Passeriformes
Family:	Muscicapidae
Genus:	*Phoenicurus*
Species:	*P. ochruros*
IUCN Red List:	Least Concern
CITES:	Not Listed
CMS:	Appendix II
IWPA, 1972:	Schedule IV
Population Trend:	Increasing

LC

Distribution
A widespread winter visitor to all over India. Breeds in the Northern Himalayas. Found in the upper, middle and lower stretches of the Ganga River.

Habit & Habitat
Perches on stones mid-stream, bobbing body and flicking and fanning wings and tails. Flies low over water. Feeds on invertebrates and berries. Found in rocky streams and rivers, fast-flowing water and alpine pastures.

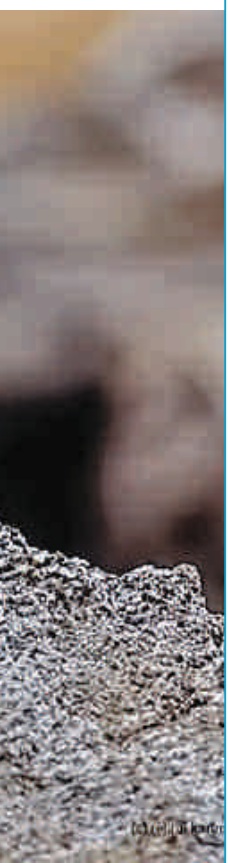
Reproduction
Breeding Season: May to August

Nest site/ type: The nest is a loose cup of grass, moss, hair, wool and feathers, which is set in a crevice of a wall or rock, or in an earth bank, pile of stones or on the ground

Clutch Size: 4-6.

Key identifying features
Size 15 cm. Male has black or dark grey upperparts, black breast and rufous underparts. Females and first-year males are almost entirely dusky-brown with rufous-orange wash on lower flanks and belly. Juvenile has diffused dark scaling on upperparts and underparts, and fine-buff greater-covert bar.

Major threats
The species is vulnerable to habitat loss and degradation and accidental removal of nest sites.



White-capped Redstart

Phoenicurus leucocephalus

Vernacular name:	*Sada-tupi pangirdi* (Bengali)
Order:	Passeriformes
Family:	Muscicapidae
Genus:	*Phoenicurus*
Species:	*P. leucocephalus*
IUCN Red List:	Least Concern
CITES:	Not Listed
CMS:	Not Listed
IWPA, 1972:	Schedule IV
Population Trend:	Stable

LC

Distribution
A common breeding resident in the Himalayas and North-East hills of India. Found in the upper stretch of the Ganga River.

Habit & Habitat
Usually seen on stony areas, repeatedly pumping, fanning and cocking the tail. Feeds primarily on insects, spiders and molluscs. Occurs in rocky streams and rivers, fast-flowing water and alpine pastures.

Reproduction
Breeding Season: May to August
Nest site/ type: TThe nest is a fairly deep bulky cup, with thick lining of grass, rootlets, animal hair and moss, bound with mud.
Clutch Size: 3-5.

Key identifying features
Size 19 cm. Adult has white cap and rufous tail with broad black terminal band. Juvenile has black fringes to white crown and blackish underparts with rufous fringes.

Major threats
No substantial threats documented.

White-browed Wagtail

Motacilla maderaspatensis

Vernacular name:	*Mamula, Khanjan* (Hindi), *Sada-bhuru khanjana* (Bengali)
Order:	Passeriformes
Family:	Motacillidae
Genus:	*Motacilla*
Species:	*M. maderaspatensis*
IUCN Red List:	Least Concern
CITES:	Not Listed
CMS:	Not Listed
IWPA, 1972:	Not Listed
Population Trend:	Stable

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LC

Distribution
A widespread resident in India. Found throughout the Ganga River.

Habit & Habitat
Prefers flowing waters, especially rock-strewn rivers. Feeds on insects at edges of water, frequently wags tail; also rides on ferry boats plying rivers. Inhabits clear, shingly or rocky smooth-running streams with diminutive grass-covered islets here and there; also village tanks and irrigation reservoirs. Usually tame and confiding.

Reproduction
Breeding Season: March to September
Nest site/ type: The nest is a cup-shaped pad of rootlets, hair, wool and dry algae etc., placed under a projecting rock, among rafters of a dwelling house, or under girders of a bridge.
Clutch Size: 3-4.

Key identifying features
Size 21 cm. Black above; prominent white supercilium and large wing-band; black throat and breast; white below. Females are usually more brown, while males black.

Major threats
No substantial threats documented.

Western Yellow Wagtail

Motacilla flava

Vernacular name:	*Pilkya* (Hindi), *Halud khanjana* (Bengali)
Order:	Passeriformes
Family:	Motacillidae
Genus:	*Motacilla*
Species:	*M. flava*
IUCN Red List:	Least Concern
CITES:	Not Listed
CMS:	Not Listed
IWPA, 1972:	Not Listed
Population Trend:	Decreasing

LC

Distribution
A widespread winter visitor in India. Found throughout the Ganga River.

Habit & Habitat
Found near edges of water bodies and irrigated fields, moves in small spurts, roosts in reed beds or in standing crops. Feeds on small insects, beetles and spiders.

Reproduction
Breeding Season: April to August
Nest site/ type: The nest is a grass cup lined with hair and placed on or close to the ground in a shallow scrape.
Clutch Size: 4-6.
Incubation Period: 11-13 days

Key identifying features
Size 17 cm. Greenish-and-yellow wagtail; many races and hybrids occur; only wagtail with olive-green or brownish mantle, back, and rump. Relatively shorter tail; yellow underparts, vent; two wing-bars. Breeding male has greenish-yellow to dark grey crown and ear-coverts.

Major threats
The species is vulnerable to habitat loss and degradation, agricultural intensification, dumping of manures and pesticide pollution.

Asian Pied Starling

Gracupica contra

Vernacular name:	*Ablak myna* (Hindi), *Guye shalik* (Bengali)
Order:	Passeriformes
Family:	Sturnidae
Genus:	*Gracupica*
Species:	*G. contra*
IUCN Red List:	Least Concern
CITES:	Not Listed
CMS:	Not Listed
IWPA, 1972:	Schedule IV
Population Trend:	Increasing

© Shuchismita Das

LC

Distribution
A widespread resident in India. Found throughout the Ganga River.

Habit & Habitat
Found usually in neighbourhood of villages, towns, and cities where refuse dumps act as attractive feeding site. Feeds on insects, flower-nectar, grains. Commonly seen in attendance on grazing cattle, particularly on moist or marshy environs of village tanks.

Reproduction
Breeding Season: March to September
Nest site/ type: The nest is large, untidy, globular, of twigs, leaves, grass and rubbish, with a lateral entrance; placed in branch of mango or similar tree
Clutch Size: 4-5.

Key identifying features
Size 23 cm. Sexes are alike. Black and white, with white cheek patch and scapular line. Has orange orbital skin and base to large, pointed yellowish bill. In flight, white uppertail-coverts contrast with black tail. Juvenile has black of plumage replaced by brown; white cheeks are washed with brown and less distinct and breast-band is not clearly defined.

Major threats
No major threats documented.

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NMCG

National Mission
for Clean Ganga,
Ministry of Water
Resources, River
Development &
Ganga Rejuvenation

GACMC

Ganga Aqualife
Conservation
Monitoring
Centre

Wildlife Institute of India

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Dehradun-248001
Uttarakhand

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VIBRANT GANGA

नमामि गंगे

wings of ganga

RIVER AND WETLAND BIRDS OF GANGA RIVER

PART III

भारतीय वन्यजीव संस्थान
Wildlife Institute of India

फलपुष्पैः किसलयैर्वृतां गुल्मैर्द्विजैस्तथा ।
विष्णुपादच्युतां दिव्यामपापां पापनाशिनीम् ।।

...the cluster of trees and shrubs are decorated with various fruits and flowers, and covered with young tender leaves, and also by various birds (playing over them),

The River (Ganga) has originated from the feet of Sri Vishnu; She is Divine and sinless, and the destroyer of sins... (VR 2.50.24)

Dedicated to

Dr. Sálim Moizuddin Abdul Ali

The Birdman of India
(12 November 1896 - 20 June 1987)

wings OF ganga

PART III

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This publication is third part of the **"Wings of Ganga"** series under the **"Vibrant Ganga: Book Series"** and includes important river and wetland birds of the Ganga River. Previous two publications in the series covered 69 species, 25 families. The representative species were selected on the basis of the four criteria listed as follows-

- International Union for Conservation of Nature and Natural Resources (IUCN) Red List categories
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) Appendices
- Convention on the Conservation of Migratory Species of Wild Animals (CMS) Appendices
- Indian Wild Life (Protection) Act, 1972 (IWPA) Schedules

This book covers **16** families of riverine and wetland birds of the Ganga River represented by 29 species. At least one representative species from each family is illustrated. The species are described through scientific and common names and are categorized according to their families. The book also provides information on the conservation status of the species, taxonomy, key identifying features, habit and habitat, reproduction ecology and major threats.

PREFACE

The Ganga River has been the cradle of Indian civilization and enshrined in the culture, tradition and economy of the people living in its basin and beyond. Encompassing three ecologically diverse biogeographic zones, it harbours important aquatic faunal species including several terrestrial and water birds.

As a part of the Central Asian flyway, the Ganga River basin is an important habitat for migratory water birds and supports 177 species of birds including riverine, wetland and associated terrestrial species. Some iconic and globally threatened birds also breed along the river. These birds maintain the habitats they occur in and function as pollinators, scavengers, predators, seed dispersers and ecosystem engineers. Migratory birds link ecosystem processes and fluxes that are separated by great distances and times contributing to a myriad of functions. In effect, the occurrence of these birds are indicators of healthy riverine systems.

The Ministry of Jal Shakti, DoWR, RD, GR through its National Mission for Clean Ganga and the Wildlife Institute of India, Dehradun has taken up the 'Biodiversity and Ganga Conservation' project as an integrative restoration approach incorporating ecological, biological as well as socio-economic processes. The project aims for a science-based aquatic species restoration plan for the Ganga River by involving multiple stakeholders. A comprehensive strategy to restore the biodiversity value of the Ganga River and associated wetlands in the basin is being developed.

To ensure active and sustained involvement of stakeholders, their sensitization on the importance of Ganga's biodiversity is essential. With this objective in mind, the present publication 'Wings of Ganga -Part III' under the series 'Vibrant Ganga' was conceptualised as an information booklet for a glance into the birds of the Ganga River. It is the third in its series, with the first two booklets covering Rare and Endangered birds of the Ganga River. For each species, information on their taxonomy, conservation status, distribution, description, habitat, reproduction and major threats are included. The information booklet is targeted for a wide range of audience and can be used by students, scientific community and local communities as a field guide to identify and study the species included in this booklet.

Editors

All species belong to

Kingdom: Animalia,
Phylum : Chordata,
Class: Aves

Following colour coding is adopted to describe the conservation status according to IUCN Red List.

EN Endangered

VU Vulnerable

NT Near Threatened

LC Least Concern

Following codes were used for describing migration status of the species

Extant (Resident)

Extant (Breeding)

Extant (Non-Breeding)

Extant (Passage)

Extant & Vagrant (Seasonality uncertain)

Little Grebe

Tachybaptus ruficollis

Vernacular Name:	Pandubi, Dubdubi (Hindi and Bengali)
Order:	Podicipediformes
Family:	Podicipedidae
Genus:	*Tachybaptus*
Species:	*T. ruficollis*
IUCN Red List:	Least Concern
CITES:	Not Listed
CMS:	Not Listed
IWPA, 1972:	Schedule IV
Population Trend:	Decreasing

LC

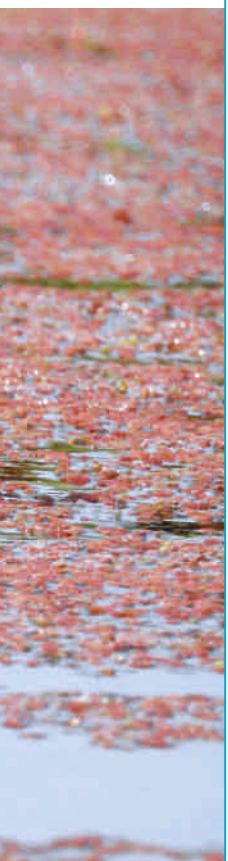
Distribution
A widespread resident in India. Found throughout the Ganga River.

Habit & Habitat
Feeds primarily on adult and larval insects as well as molluscs, crustaceans, adult and juvenile amphibians and occasionally on small fishes.

Reproduction
Breeding Season: May to August
Nest site/ type: The nest is a floating platform of aquatic plant matter anchored to emergent vegetation, submerged branches or bushes close to the edge of shallow wetlands.
Clutch Size: 3-6
Incubation Period: 19-23 days

Key Identifying Features
Small sized bird (25-29 cm). The breeding plumage has rufous cheeks and neck sides, and yellow patch at the base of the bill. The non-breeding plumage, has buff-cheeks, foreneck and flanks with puffed-up rear end. Juvenile is similar to non-breeding adults, but is characterized by brown stripes across the cheeks.

Major Threats
The species is vulnerable to habitat loss and degradation due to transformation of wetlands, canalization of streams, pollution and climatic shifts. It is also susceptible to avian influenza.



Shuchismita Das

Little Cormorant

Microcarbo niger

Vernacular Name:	Paan-kowwa, Jograbi (Hindi) Paankawri (Bengali)
Order:	Suliformes
Family:	Phalacrocoracidae
Genus:	*Microcarbo*
Species:	*M. niger*
IUCN Red List:	Least Concern
CITES:	Not Listed
CMS:	Not Listed
IWPA, 1972:	Schedule IV
Population Trend:	Unknown

LC

Distribution

A widespread resident, with local migration depending on water conditions. Found throughout the Ganga River.

Habit & Habitat

Feeds predominantly on fish and to a lesser extent on tadpoles, frogs and crustaceans. Prefers rivers, lakes, irrigation reservoirs and canals, village tanks, tidal estuaries.

Reproduction

Breeding Season: May to October
Nest Type: Cup-shaped nests on trees close to human habitations, however always near a waterbody.
Clutch Size: 2-6
Incubation Period: 14-21 days

Key Identifying Features

Size 51 cm. Breeding adult is black with white plumes on the sides of the head. Bill, eyes, facial skin and pouch are black. In non-breeding adults, plumage is browner with whitish chin, paler bill and pouch, and lacks white head plumes.

Major Threats

The species is vulnerable to habitat destruction, human disturbances and pesticide pollution.

Shuchismita Das

Little Egret
Egretta garzetta

Vernacular Name:	Kilchia or Karchiabagla (Hindi) Chotokorchebak (Bengali)
Order:	Pelecaniformes
Family:	Ardeidae
Genus:	*Egretta*
Species:	*E. garzetta*
IUCN Red List:	Least Concern
CITES:	Not Listed
CMS:	Not Listed
IWPA, 1972:	Schedule IV
Population Trend:	Increasing

LC

Distribution
A widespread resident, shifts locally with water conditions. Found throughout the Ganga River.

Habit & Habitat
Highly opportunistic feeder. Feeds on fish, frogs, crustaceans, aquatic insects. Roosts communally. Prefer lakes, river marshes, flooded paddy fields, estuaries, tidal creeks and mangroves.

Reproduction
Breeding season: July to September in Northern India; November to February in Southern India.
Nest Type: Nest is a typical flimsy cupped structure of twigs, placed 2 to 6 m up on a tree most often near a waterbody.
Clutch Size: 3-5
Incubation Period: 21-25 days

Key Identifying Features
Size 55-65 cm. Body is slender with black bill and legs, yellow feet and greyish or yellowish lore. Breeding adults have elongated nape and mantle plumes. Lores and feet become reddish in courtship. Non-breeding and immature individuals have pinkish and greyish bill base and yellowish or greenish legs.

Major Threats
Wetland loss to agriculture and industrial operations. It is also susceptible to avian influenza.

P. Gangaiamaran

Purple Heron

Ardea purpurea

Vernacular Name:	Laal anjan (Hindi) Laal kank (Bengali)
Order:	Pelecaniformes
Family:	Ardeidae
Genus:	*Ardea*
Species:	*A. purpurea*
IUCN Red List:	Least Concern
CITES:	Not Listed
CMS:	Not Listed
IWPA, 1972:	Schedule IV
Population Trend:	Decreasing

LC

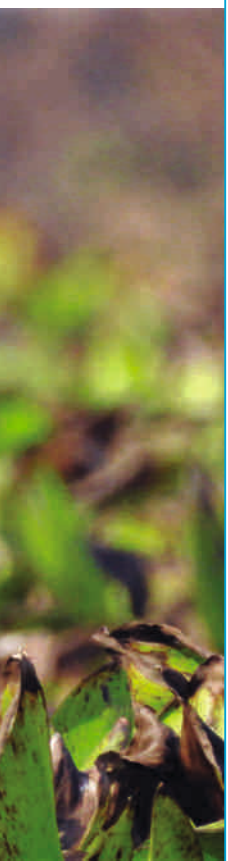
Distribution
A widespread resident and local migrant in India. Found throughout the Ganga River.

Habit & Habitat
Crepuscular, feeds on fish, frogs, molluscs, crustaceans, aquatic insects, small rodents and young birds among dense aquatic vegetation. Prefer inland swampy habitats with tall covers.

Reproduction
Breeding Season: June to October in Northern India, November to March in Southern India.
Nest Type: The nest is a platform of sticks and branches, or rush stems, built on trees, dense reed beds positioned over or beside water up to 3 m high.
Clutch Size: 3-5
Incubation Period: 24-26 days

Key Identifying Features
Size 78-90 cm. Rakish, with long thin neck. Adult has chestnut head, black stripes in the neck, grey mantle and upperwing coverts, with dark chestnut belly and underwing coverts.

Major Threats
The main threats to this species are loss of wetland habitat, loss of reed bed through reed cane harvesting, agricultural encroachment and pollution.



Shuchismita Das

Cattle Egret

Bubulcus ibis

Vernacular Name:	Gai bagla (Hindi) Go bak (Bengali)
Order:	Pelecaniformes
Family:	Ardeidae
Genus:	*Bubulcus*
Species:	*B. ibis*
IUCN Red List:	Least Concern
CITES:	Not Listed
CMS:	Not Listed
IWPA, 1972:	
Population Trend:	Increasing

LC

Distribution
A widespread resident in India. Found throughout the Ganga River.

Habit & Habitat
Gregarious when feeding and roosting; typically in flocks around domestic stock and wild buffalo, often riding on their backs, picking parasites and flies from their hides. Prefers damp grasslands, paddy fields, grass banks of village tanks, canals and lakes and also rubbish dumps and forest clearings.

Reproduction
Breeding Season: June to August in Northern India; November to February in Southern India.
Nest Type: Nest comprises of twigs and vegetation and positioned up to 20 m high in reed beds, bushes, trees, mangroves or dense thickets, usually over or surrounded by water.
Clutch Size: 3-5
Incubation Period: Undetermined

Key Identifying Features
Size 48-53 cm. Stocky body with short yellow bill and short dark legs. Breeding plumage displays orange buff on head, neck and mantle, base of bill and legs are reddish. Non-breeding plumage is white.

Major Threats
The species is threatened by wetland degradation and destruction, pesticide poisoning and other human disturbances.

Shuchismita Das

09/10

Indian Pond Heron

Ardeola grayii

Vernacular Name:	Kunch bagla (Hindi) Konch bak (Bengali)
Order:	Pelecaniformes
Family:	Ardeidae
Genus:	*Ardea*
Species:	*A. grayii*
IUCN Red List:	Least Concern
CITES:	Not Listed
CMS:	Not Listed
IWPA, 1972:	Schedule IV
Population Trend:	Unknown

LC

Distribution
A widespread resident; shifts locally with drought and flood conditions. Found throughout the Ganga River.

Habit & Habitat
Solitary when feeding, gregarious at roost. Feeds on frogs, fish, crustaceans, water beetles and other insects. Prefers streams, lakes, marshes, inundated paddy-fields, village tanks, stagnant roadside ditches, borrow-pits and puddles and tidal mudflats.

Reproduction
Breeding Season: May to September in Northern India; November to February in Southern India.
Nest Type: Nest is an untidy structure of twigs, placed on isolated large trees or clumps growing near human habitations, not necessarily close to water.
Clutch Size: 3-5
Incubation Period: 24 days

Key Identifying Features
Size 42-45cm. Wings are white with dark saddles and earthy brown when at rest. Breeding adult has yellowish-buff head and neck, and maroon-brown mantle. The head, neck and breast are streaked in non-breeding plumage.

Major Threats
Wetland degradation, poisoning and other human disturbances.

Shuchismita Das

Asian Openbill

Anastomus oscitans

Vernacular Name:	Gungla (Hindi) Shamukh-khol (Bengali)
Order:	Ciconiiformes
Family:	Ciconiidae
Genus:	*Anastomus*
Species:	*A. oscitans*
IUCH Red List:	Least Concern
CITES:	Not Listed
CMS:	Not Listed
IWPA, 1972:	Schedule IV
Population Trend:	Unknown

LC

Distribution
A widespread resident; shifts locally with drought and flood condition. Found in the middle and lower Ganga River.

Habit & Habitat
Gregarious during foraging and nesting. Feeds chiefly on molluscs; also eat crabs, frogs and other small animals. Prefers inland waters such as lake, marsh, paddy-field, village tank.

Shuchismita Das

Reproduction
Breeding season: July to September in Northern India; November to March in Southern India.
Nest Type: Nest is a rough circular pad of twigs with a central depression lined with leaves. Usually built on trees standing partially submerged in a lake or monsoon-filled land depression.
Cultch Size: 2-4
Incubation Period: 24-25 days

Key Identifying Features
Size 68 cm. Stout dull-coloured and open bill. White plumage (breeding) or greyish-white plumage (non-breeding) with black flight feathers. Legs dull pink, which become brighter in breeding adults. Juvenile has brownish-grey head, neck, breast and mantle.

Major Threats
Wetland degradation, poisoning and other forms of human disturbances.

Red-naped Ibis

Pseudibis papillosa

Vernacular Name:	Kala baza (Hindi) Kalo dochara (Bengali)
Order:	Pelecaniformes
Family:	Threskiornithidae
Genus:	*Pseudibis*
Species:	*P. papillosa*
IUCN Red List:	Least Concern
CITES:	Not Listed
CMS:	Not Listed
IWPA, 1972:	Schedule IV
Population Trend:	Decreasing

LC

Distribution
A widespread resident in India. Found in the middle and lower Ganga River.

Habit & Habitat
Less dependent on water, forages on the drier margins of lakes, riverbanks and in stubble fields; occasionally wades into puddles. Feeds on small fishes, frogs, earthworms, beetles and other insects and occasionally on grains.

Reproduction
Breeding Season: March to October in Northern India; later in Southern India.
Nest Type: Nest is a large, deep, stick platform, loosely lined with straw. Built on large trees. Old nests are also utilized.
Clutch Size: 2-4
Incubation Period: Unrecorded

Key Identifying Features
Size 68 cm. Stocky, dark ibis with relatively stout downcurved bill, small white shoulder patches and reddish legs. A triangular patch of red warts covers top of naked black head. Adult is dark-brown with green-and-purple gloss.

Major Threats
The species is vulnerable to habitat loss and degradation, invasion of exotic plants, aquaculture, pollution and hunting.

Charles J. Sharp

Lesser Whistling Duck

Dendrocygna javanica

Vernacular name:	Seelhi (Hindi) Saral (Bengali)
Order:	Anseriformes
Family:	Anatidae
Genus:	*Dendrocygna*
Species:	*D. javanica*
IUCN Red list:	Least Concern
CITES:	Not Listed
CMS:	Not Listed
IWPA, 1972:	Schedule IV
Population Trend:	Decreasing

LC

Distribution

A widespread resident in India,moves locally with drought and flood conditions. Found throughout the Ganga River.

Habit & Habitat

Social; occasionally sighted around urban tanks and inundated paddy-fields. Avoids open water and large rivers. Mainly a nocturnal feeder and herbivorous; feeds largely on aquatic weeds, tender shoots and sedges.

Reproduction

Breeding season: June to October, varying locally with early or late monsoon and water conditions.
Nest Type: The nest is made of twigs and grasses placed in natural hollows in tree-trunks, or built at moderate heights in the fork of large branches, sometimes well away from water. Old nests of kites, herons and crows are also utilized.
Clutch Size: 7-12
Incubation Period: 22-24 days

Key Identifying Features

Size 42 cm. A small pale-brown and maroon-chestnut coloured duck with uniformly chestnut upper tail coverts.

Major Threats

The species is vulnerable to habitat loss, river and wetland pollution and hunting.

Shuchismita Das

Greylag Goose

Anser anser

Vernacular Name:	Raj hans (Hindi and Bengali)
Order:	Anseriformes
Family:	Anatidae
Genus:	*Anser*
Species:	*A. anser*
IUCN Red List:	Least Concern
CITES:	Not Listed
CMS:	Not Listed
IWPA, 1972:	Schedule IV
Population Trend:	Increasing

LC

Distribution

A winter visitor in India; arrives in large skeins from Central Asia in October-November and leaves by mid-March. Found throughout the Ganga River.

Habit & Habitat

Highly gregarious. Congregates in large flocks near large rivers and wetlands with abundance of aquatic vegetation, grasses and sedges and less human disturbance. Exclusively herbivorous, feeds on grass, shoots of new growth vegetation, aquatic weeds and tubers.

Aftab A. Usmani

Reproduction

Breeding Season: April to May
Nest Type: The nest is a shallow construction of plant matters, placed among reed beds, on the ground, in or at the base of trees and under bushes.
Clutch Size: 2-11
Incubation Period: 28-29 days

Key Identifying Features

Size 75-90 cm. Large grey goose with stout pink bill and pink legs and feet. Juvenile has less prominent pale fringes in upper parts, flanks and belly.

Major Threats

The species is threatened by degradation and destruction of wetland habitats and poisoning. It is also susceptible to avian influenza.

Cotton Pygmy-goose

Nettapus coromandelianus

Vernacular Name:	Girria, Girja (Hindi) Bali hans (Bengali)
Order:	Anseriformes
Family:	Anatidae
Genus:	*Nettapus*
Species:	*N. coromandelianus*
IUCN Red List:	Least Concern
CITES:	Not Listed
CMS:	Not Listed
IWPA, 1972:	Schedule IV
Population Trend:	Stable

Distribution
A widespread resident in India. Found throughout the Ganga River.

LC

Habit & Habitat
Solitary, however move in pairs in breeding season. Prefers wetlands with vegetation cover, reservoirs and rivers. Feeds on surface, dive occasionally to get submerged vegetation. Mainly herbivorous, feeds on aquatic vegetation, shoots, corms and seeds of aquatic plants.

Shuchismita Das

Reproduction
Breeding Season: July to August
Nest Type: Nest in natural hollow in a tree-trunk standing in or near water.
Clutch Size: 6-14
Incubation Period: 15-16 days

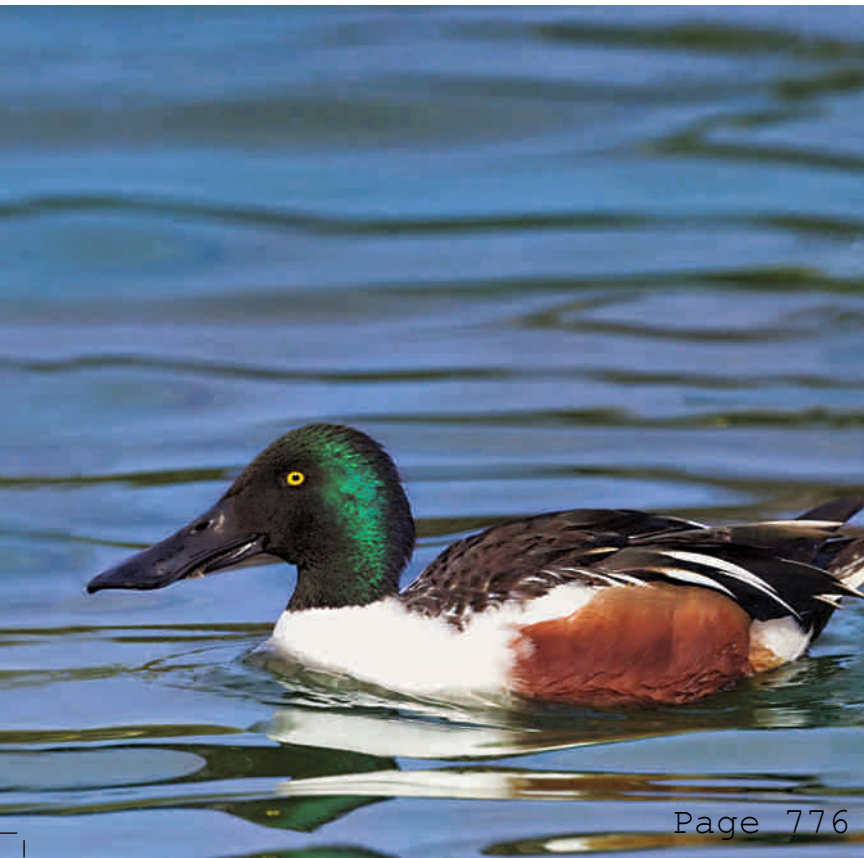
Key Identifying Features
Size 30-37 cm. Sexually dimorphic. Male has broad white band across wing, white head and neck, black cap, greenish-black upper parts, and black breast band. The female has white trailing edge to wing and have dark stripe through eye. Both the sexes have a red iris and black legs. Breeding males have greenish black legs.

Major Threats
The species is threatened by degradation and loss of wetland habitats, changing wetland management practices and poisoning.

Northern Shoveler

Spatula clypeata

Vernacular Name:	Tidari, Ghirah (Hindi) Khunte hans (Bengali)
Order:	Anseriformes
Family:	Anatidae
Genus:	*Spatula*
Species:	*S. clypeata*
IUCN Red List:	Least Concern
CITES:	Not listed
CMS:	Not Listed
IWPA, 1972:	Schedule IV
Population Trend:	Decreasing



LC

Distribution

A widespread winter visitor in India, arrives during October and leaves in mid-June. Widespread in middle and lower Ganga River.

Habit & Habitat

Diurnal, moves in small flocks. Prefers all types of inland waters. When feeding, swims slowly with neck and broad shovel-bill stretched stiffly in front. Feeds on crustaceans, molluscs, aquatic insects and their larvae, fish spawn, worms and occasionally on aquatic weeds.

Rick Bowers

Reproduction

Breeding Season: Mid-April to June
Nest Type: Nest is a hollow or depression in the ground in a meadow, amongst herbage, lined with grasses.
Clutch Size: 7-16
Incubation Period: 23-25 days

Key Identifying Features

Size 44-52 cm. Long spatulate bill and bluish forewing. Male has dark green head, white breast, chestnut flanks, and blue forewing. Female is mottled dark brown and buff, with greyish-blue shoulder patch and bright orange bill.

Major Threats

Habitat loss and degradation, nest predation, pollution from agricultural run-off and collision with power lines. Susceptible to avian influenza and avian botulism.

Tufted Duck

Aythya fuligula

Vernacular Name:	Dubaru (Hindi) Bamuniya hans (Bengali)
Order:	Anseriformes
Family:	Anatidae
Genus:	*Aythya*
Species:	*A. fuligula*
IUCN Red List:	Least Concern
CITES:	Not Listed
CMS:	Not Listed
IWPA, 1972:	Schedule IV
Population Trend:	Stable

Distribution

A winter visitor in India; arrives in mid-October and leaves by end of March. Found throughout the Ganga River.

LC

Habit & Habitat

Gregarious; sometimes in flocks of several hundreds. Prefers water bodies with large open areas. Omnivorous, feeds on molluscs, crustaceans, aquatic insects, as well as grains and seeds of aquatic plants.

Reproduction

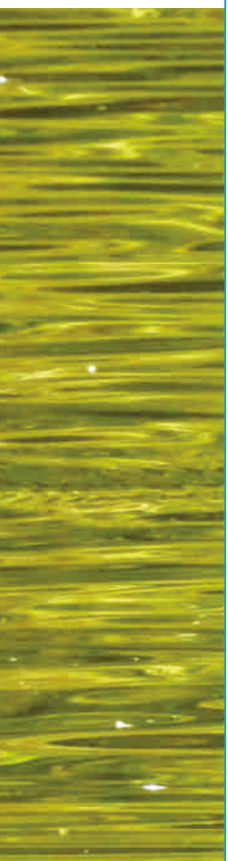
Breeding Season: Late April to June.
Nest Type: The nest is constructed of vegetation and is placed in water on floating mats or islets, or on the ground on islands in rush or grass tussocks, or under bushes.
Clutch Size: 6-12
Incubation Period: 25-27 days

Key Identifying Features

Size 43-47 cm. Breeding male is glossy black, with prominent crest and white flanks. Eclipse and immature males are duller with greyish flanks, and less pronounced crest. Females are dusky brown, with paler flanks and yellow iris.

Major Threats

Habitat loss and degradation, changing land management practices, agricultural intensification and human disturbances, predation and hunting. It is also susceptible to avian influenza.



Shuchismita Das

Black-winged Kite

Elanus caeruleus

Vernacular Name:	Kapassi (Hindi and Bengali)
Order:	Accipitriformes
Family:	Accipitridae
Genus:	*Elanus*
Species:	*E. caeruleus*
IUCN Red List:	Least Concern
CITES:	Not Listed
CMS:	Appendix II
IWPA, 1972:	Schedule IV
Population Trend:	Stable

LC

Distribution
A widespread resident in India. Found in the middle and lower Ganga River.

Habit & Habitat
Solitary or in widely scattered pairs. Prefers grassland interspersed with cultivation or with scattered trees, and scrub desert. Somewhat crepuscular, feeds on small grassland mammals, reptiles, birds and insect; hunts from both a perch and hovering vantage, quartering the ground and hawking insects in flight.

Reproduction
Breeding Season: Varies locally to cover the entire year, with a marked recession in April and May.
Nest Type: Nest is made of small twigs, lined with roots and grass, placed on tree branch 3-20 m above the ground, usually in open area.
Clutch Size: 3-6
Incubation Period: 26-33 days

Key Identifying features
Size 31-35 cm. Small, dainty gray and white hawk. A black line from lores to behind the blood-red eyes, and black patches on wing shoulders. Juvenile has brownish-grey upper parts with pale fringes and less distinct shoulder patch.

Major Threats
Loss of wetland habitat, human disturbances and use of rodenticides and pesticides.

www.birding-in-portugal.com

Western Marsh Harrier

Circus aeruginosus

Vernacular Name:	Kutar, Kulesir (Hindi) Pan cheel (Bengali)
Order:	Accipitriformes
Family:	Accipitridae
Genus:	*Circus*
Species:	*C. aeruginosus*
IUCN Red List:	Least Concern
CITES:	Appendix II
CMS:	Appendix II
IWPA, 1972:	Schedule IV
Population Trend:	Increasing

LC

Distribution
A winter visitor in India; arrives in September and leaves by April. It is widespread in the middle and lower Ganga River.

Habit & Habitat
Inhabits extensive areas of dense marsh vegetation, in fresh or brackish water, generally in lowlands. It is a generalist predator, taking a variety of prey types, from small birds to small mammals.

Reproduction
Breeding Season: April to June
Nest Type: The nest is a mass of reeds and rushes lined with grass; placed on the ground near a marsh.
Clutch Size: 4-6
Incubation Period: 33-38 days

Key Identifying Features
Size 42-45 cm. Broad-winged, stout-bodied harrier. Adult male is distinguished by chestnut-brown mantle and upperwing coverts contrasting with grey secondaries, black outer primaries, pale head and brown streaking on breasts and belly. Adult female and immature individuals are dark chocolate-brown with a creamy-buff cap on head.

Major Threats
Wetland degradation, pollution, heavy metal poisoning and hunting.

Dr. Raju Kasambe

Common Crane

Grus grus

Vernacular Name:	Kronch (Hindi)
Order:	Gruiformes
Family:	Gruidae
Genus:	*Grus*
Species:	*G. grus*
IUCN Red List:	Least Concern
CITES:	Appendix II
CMS:	Appendix II
IWPA, 1972:	Schedule IV
Population Trend:	Increasing

LC

Distribution

A winter visitor to Northern India; arrives in late September/October and stays until March. Found in the middle and lower Ganga River.

Habit & Habitat

Found in flocks, near rivers, reservoirs, large wetlands and sometimes in agricultural fields. Omnivorous in both breeding and non-breeding season.

Reproduction

Breeding Season: May to June.
Nest Type: The nest is a large untidy heap of vegetable matter placed on the ground in open or thinly-wooded swamps and marshy clearings in forest.
Clutch Size: 2
Incubation Period: 30 days

Key Identifying Features

Size 110-120 cm. Adult has black head and foreneck, white stripe behind eye extending downside of neck with red patch on the crown. Immature individual has brown marking on upper parts with buff or grey head and neck.

Major Threats

The species is threatened by habitat loss and degradation through dam construction, urbanization, agricultural expansion, nest disturbance from tourism and recreation, nest predation and hunting.

Jorge Sierra

White-breasted Waterhen

Amaurornis phoenicurus

Vernacular Name:	Dauk, Jalmurghi (Hindi) Dahuk (Bengali)
Order:	Gruiformes
Family:	Rallidae
Genus:	*Amaurornis*
Species:	*A. phoenicurus*
IUCN Red List:	Least Concern
CITES:	Not Listed
CMS:	Not Listed
IWPA, 1972:	Schedule IV
Population Trend:	Unknown

LC

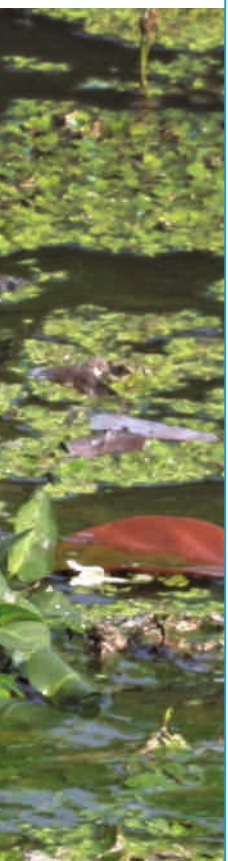
Distribution
A widespread resident in India. Found throughout the Ganga River.

Habit & Habitat
Solitary, diurnal, found in small to larger wetlands and rivers with thick cover of weeds or rushes. Feeds largely on vegetable matter, but also on small molluscs, aquatic insects and larvae.

Reproduction
Breeding Season: July to September in plains, but in the hills it starts earlier in May.
Nest Type: The nest is a mass of sedges and other vegetation heaped up to form a hollow for the eggs; placed either on the water amongst vegetation or in tufts of grass, or even sometimes a foot or two above ground.
Clutch Size: 6-9
Incubation Period: 19-21 days

Key Identifying Features
Size 32 cm. Adult has grey upper parts and white face, foreneck and breast. The undertail coverts are rufous-cinnamon, bill and legs are greenish or yellowish, with swollen reddish base to upper mandible.

Major Threats
The species is threatened by wetland degradation and destruction, pesticide poisoning and human disturbances.

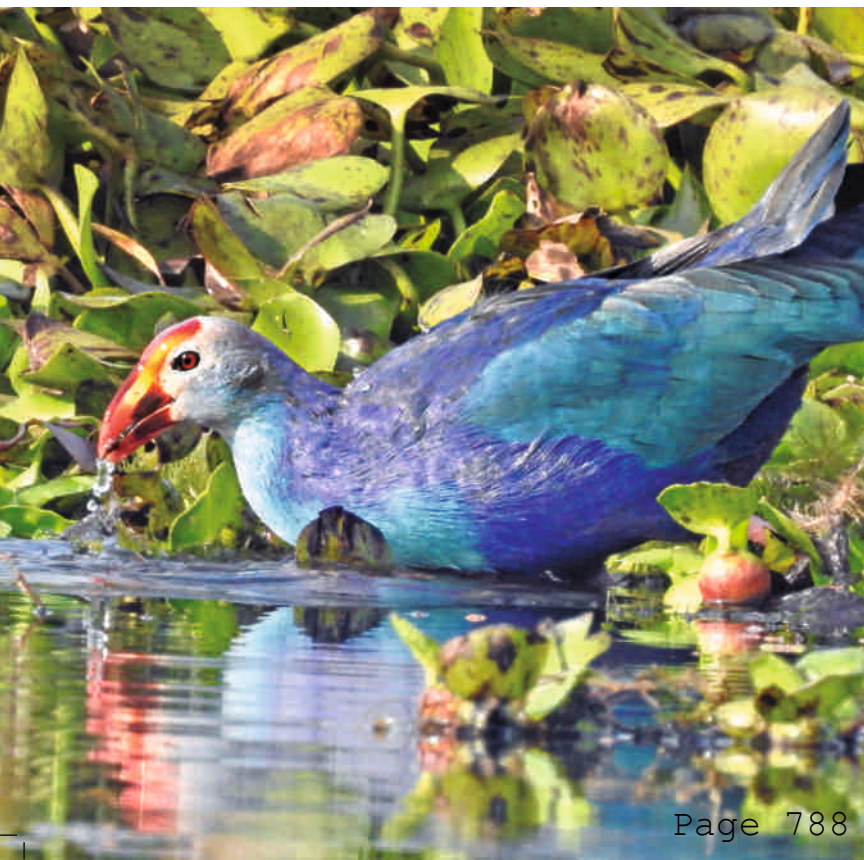


Shuchismita Das

Grey-headed Swamphen

Porphyrio porphyrio

Vernacular Name:	Kalim (Hindi) Kampakhi (Bengali)
Order:	Gruiformes
Family:	Rallidae
Genus:	*Porphyrio*
Species:	*P. porphyrio*
IUCN Red List:	Least Concern
CITES:	Not Listed
CMS:	Not Listed
IWPA, 1972:	Schedule IV
Population Trend:	Unknown



Distribution
A widespread resident in the plains of India. Found in the middle and lower Ganga River.

LC

Habit & Habitat
Mainly crepuscular. Prefers large swamp or lakes with plenty of rushes, bushes and weeds. Feeds predominantly on plants and seeds; also takes molluscs, leeches, small crustaceans, spiders, fish and fish eggs and frogs.

Shuchismita Das

Reproduction
Breeding Season: June to September
Nest Type: Nest is a massive heap of sedges and rushes firmly put together with a depression on the top for the eggs; placed amongst rushes, tufts of grass, or in bushes.
Clutch Size: 3-7
Incubation Period: 23-27 days

Key Identifying Features
Size 45-50 cm. Purplish-blue body with variable greyish head, huge red bill and frontal shield. Sexes alike, but females are smaller than male.

Major Threats
Wetland drainage, pesticide contamination, poisoning by cyanobacterial toxin and hunting. It is also susceptible to avian influenza and avian botulism.

Bronze-winged Jacana

Metopidius indicus

Vernacular Name:	Jal pipi (Hindi and Bengali)
Order:	Charadriiformes
Family:	Jacanidae
Genus:	*Metopidius*
Species:	*M. indicus*
IUCN Red List:	Least Concern
CITES:	Not Listed
CMS:	Not Listed
IWPA, 1972:	Schedule IV
Population Trend:	Unknown

LC

Distribution
A widespread resident in the plains of India. Found in the middle and lower Ganga River.

Habit & Habitat
Solitary, however often move in flocks and can be seen walking on plants on the surface of water. Prefers marshy areas with extensive vegetation. Feeds mainly on plants but also on insects, molluscs and crustaceans.

Shuchismita Das

Reproduction
Breeding Season: June to September
Nest Type: Nest is composed of rushes and water-weed twisted to form a circular pad, with a depression for the eggs in the centre, placed amongst thickly growing lotus leaves, either on the water surface or on the edge of an island.
Clutch Size: 4
Incubation Period: 29 days

Key Identifying Features
Size 28-31 cm. A rail-like bird with long toes and claws. Adults have white supercilium, bronze-green upperparts and blackish underparts; greenish-yellow bill with reddish base, and a broad lappet at its base.

Major Threats
The species is threatened by wetland degradation and destruction, pesticide poisoning and other human disturbances.

Kentish Plover

Charadrius alexandrinus

Vernacular Name:	Kentish jiria (Bengali)
Order:	Charadriiformes
Family:	Charadriidae
Genus:	*Charadrius*
Species:	*C. alexandrinus*
IUCN Red List:	Least Concern
CITES:	Not Listed
CMS:	Appendix II
IWPA, 1972:	Schedule IV
Population Trend:	Decreasing

LC

Distribution
A winter visitor throughout India, arrives in September and leaves by March. Found in the middle and lower Ganga River.

Habit & Habitat
Typical plover gait and feeding behaviour. Common in the seashore and the sandy margins of rivers, wetlands and urban tanks. Feeds on insects, crabs, brine shrimps, molluscs, worms, spiders and sea-weeds.

Reproduction
Breeding Season: March to June
Nest Type: Nest is a shallow scrape placed near water on bare earth or in a sparse vegetation, often on slightly raised ground partly sheltered by plants.
Clutch Size: 3
Incubation Period: 27-29 days

Key Identifying Features
Size 15-17 cm. Small body with white hind collar and usually small, well-defined patches on the sides of the breasts. Male has rufous cap, black eye-stripe and fore crown.

Major Threats
The species is threatened by the disturbance of coastal habitats, degradation and loss of wetland habitat through pollution, land reclamation, and urbanization. It is also susceptible to avian botulism.

Shuchismita Das

Grey-headed Lapwing

Vanellus cinereus

Vernacular Name:	Titeeri (Hindi) Dhusortiti (Bengali)
Order:	Charadriiformes
Family:	Charadriidae
Genus:	*Vanellus*
Species:	*V. cinereus*
IUCN Red list:	Least Concern
CITES:	Not Listed
CMS:	Not Listed
IWPA, 1972:	Schedule IV
Population Trend:	Decreasing

LC

Distribution
A winter visitor in India, arrives in October and leaves by late-February/ early-March. Found in the middle and lower Ganga River.

Habit & Habitat
Keeps in pairs or in small flocks. Prefers riverbanks, marsh and wet fields. Crepuscular, feeds on insects, small fishes, shrimps, worms and molluscs.

Reproduction
Breeding Season: March to August
Nest Type: The nest is a shallow depression in the ground lined with stems and blades of grass collected from the surrounding areas.
Clutch Size: 4
Incubation Period: 28 days

Key Identifying Features
Size 34-37 cm. The bird has yellow bill with black tip and yellow legs. Head, neck and breasts are grey and tail-band is black.

Major Threats
The species is threatened by habitat degradation and fragmentation, and reclamation of wetland.

Shuchismita Das

Red-wattled Lapwing

Vanellus indicus

Vernacular Name:	Titeeri (Hindi) Hattiti (Bengali)
Order:	Charadriiformes
Family:	Charadriidae
Genus:	*Vanellus*
Species:	*V. indicus*
IUCN Red List:	Least Concern
CITES:	Not Listed
CMS:	Not Listed
IWPA, 1972:	Schedule IV
Population Trend:	Unknown

LC

Distribution
A widespread resident in India. Found throughout the Ganga River.

Habit & Habitat
Usually keeps in pairs or in small flocks. Crepuscular, feeds on insects, small fish, shrimp, worms and molluscs. Prefers riverbanks, marsh and wet fields.

Reproduction
Breeding Season: March to August
Nest Type: Nest is a circular depression scraped in the soil, and it is sometimes encircled with small stones or pieces of hard clay.
Clutch Size: 3-4
Incubation Period: 28-30 days

Key Identifying Features
Size 32-35 cm. The cap and breast is black, red bill with black tip, and yellow legs. In flight, shows white greater-covert wing-bar and black tail-band. Juvenile is duller than adult, with whitish throat.

Major Threats
The species is threatened by habitat degradation and fragmentation and draining of wetland.

P. Gangaiamaran

Common Snipe

Gallinago gallinago

Vernacular Name:	Kadakhocha (Bengali)
Order:	Charadriiformes
Family:	Scolopacidae
Genus:	*Gallinago*
Species:	*G. gallinago*
IUCN Red List:	Least Concern
CITES:	Not Listed
CMS:	Appendix II
IWPA, 1972:	Schedule IV
Population Trend:	Decreasing

LC

Distribution

A widespread resident in India, arrives in August and leaves by mid-May. Found throughout the Ganga River.

Habit & Habitat

The bird moves in smaller flocks and can be sighted in river banks, wetlands with islands and vegetation. It feeds on insects and their larvae, earthworms, small crustaceans, spiders and aquatic plants.

Reproduction

Breeding Season: May to June
Nest Type: Nest is a shallow cup of dried grass placed in the centre of a clump of thick grass in marshy ground.
Clutch Size: 3-4
Incubation period: 19-21 days

Key Identifying Features

Size 25-27 cm. Plumage is dark brown, streaked and variegated with black, rufous and buff. In flight, shows prominent white trailing edge to wing, white banding on underwing-coverts. During rest, shows noticeable projection of tail beyond wings, buff supercilium contrasts with white cheek-stripe.

Major Threats

Changes in wetland and riverine habitats, pollution, loss of reed vegetation and increased nestling predation.

Rajiv Lather

Common Greenshank

Tringa nebularia

Vernacular Name:	Timtima batan (Hindi) Gotra (Bengali)
Order:	Charadriiformes
Family:	Scolopacidae
Genus:	*Tringa*
Species:	*T. nebularia*
IUCN Red List:	Least Concern
CITES:	Not Listed
CMS:	Appendix II
IWPA, 1972:	Schedule IV
Population Trend:	Stable

LC

Distribution

A widespread winter visitor in India, arrives in August and leaves by April-May. Found throughout the Ganga River.

Habit & Habitat

Chiefly carnivorous, feeds on insects and their larvae, crustaceans, annelids, molluscs, amphibians, small fish and occasionally rodents. Prefers wide range of fresh and salt-water wetlands and large rivers.

Shuchismita Das

Reproduction

Breeding Season: May onwards
Nest Type: The nest is a depression in the ground lined with a few leaves and bents.
Clutch Size: 3-4
Incubation Period: 22-25 days

Key Identifying Features

Size 30-34 cm. Stocky body, with long, stout bill and greenish legs. Upper parts grey, and foreneck and underparts white in non-breeding plumage. In breeding plumage, foreneck and breast streaked, upper parts untidily streaked.

Major Threats

The species is threatened by degradation and loss of wetland habitats through pollution, reduced river flow and human disturbances.

Ruff

Calidris pugnax

Vernacular Name:	Gehwala (Hindi) Geowala (Bengali)
Order:	Charadriiformes
Family:	Scolopacidae
Genus:	*Calidris*
Species:	*C. pugnax*
IUCN Red List:	Least Concern
CITES:	Not Listed
CMS:	Appendix II
IWPA, 1972:	Schedule IV
Population Trend:	Decreasing

LC

Distribution
A winter visitor to the plains of India. Found in the middle and lower Ganga River.

Habit & Habitat
Inhabits freshwater lakes, pools, marshes, flooded fields, grasslands and intertidal mudflats. During breeding season, it feeds almost entirely on adult and larval terrestrial and aquatic insects. Rest of the time, it takes insects, small crustaceans, molluscs, annelid worms, frogs, small fish and aquatic plants.

R. Shankar Raman

Reproduction
Breeding Season: May to August
Nest Type: Nest is a shallow scrape concealed in marsh vegetation or meadow grass on damp ground.
Clutch size: 3-4
Incubation Period: 20-23 days

Key Identifying Features
Males are considerably larger (male 26-32 cm; female 20-25 cm). Distinctive shape with long neck, small head, short and slightly downcurved bill, and long yellowish or orangish legs. Breeding male has a striking ruff.

Major Threats
Wetland and floodplain drainage, scrub and reed overgrowth and pollution. It is also susceptible to avian influenza, avian botulism and avian malaria.

Little Tern

Sternula albifrons

Vernacular Name:	Choti Tehari (Hindi)
Order:	Charadriiformes
Family:	Laridae
Genus:	*Sternula*
Species:	*S. albifrons*
IUCN Red List:	Least Concern
CITES:	Not Listed
CMS:	Appendix II
IWPA, 1972:	Schedule IV
Population Trend:	Decreasing

Distribution

The species occurs widely but rather locally in coastal regions and Northern India. Found in the middle and lower Ganga River.

LC

Habit & Habitat

Solitary or move in small flocks. Diurnal, feeds predominantly on small fish and crustaceans, as well as insects, annelid worms and molluscs. Prefers rivers, also found in wetlands, tidal creeks, coastal lagoons and saltpans.

P. Gangaiamaran

Reproduction

Breeding Season: May to June
Nest Type: The nest is a bare scrape positioned on the ground in less than 15% vegetation cover on beaches of sand, pebbles, shingle, or rock above the high tide-line.
Clutch Size: 2-3
Incubation Period: 19-21 days

Key Identifying Features

Size 24 cm. Adult in breeding plumage has white forehead and black lores, black-tipped yellow bill, orange legs and feet and black outer primaries. Non-breeding adults have blackish bill, black mask and nape band, dark lesser-covert bar and dark legs.

Major Threats

The species is vulnerable to habitat loss, agriculture in river bank and islands, reduction in river flow and nest predation.

Crested Kingfisher

Megaceryle lugubris

Vernacular Name:	Machhi bag (Hindi) Jhutiyal machranga (Bengali)
Order:	Coraciiformes
Family:	Alcedinidae
Genus:	*Megaceryle*
Species:	*M. lugubris*
IUCN Red List:	Least Concern
CITES:	Not Listed
CMS:	Not Listed
IWPA, 1972:	Schedule IV
Population Trend:	Decreasing

LC

Distribution

Resident in the Himalayas and North-eastern India. Found in the upper and middle Ganga River.

Habit & Habitat

The bird often move in pairs. Diurnal, chiefly piscivorous. Prefers rocky, fast-flowing mountain rivers and large rivers in foothills.

Reproduction

Breeding Season: March to April
Nest Type: The nest is a horizontal tunnel dug into a vertical stream-bank, with a widened egg-chamber.
Clutch Size: 4-5
Incubation Period: Unknown

Key Identifying Features

Size 41-43 cm. Head with prominent crest, often held open. The bird has a complete white neck-collar, finely spotted breast-band, dark grey wings and tail finely barred with white.

Major Threats

The species is vulnerable to habitat loss and degradation, climatic shifts, river pollution and inadequate food due to canalization of streams.

Shuchismita Das

Wire-tailed Swallow

Hirundo smithii

Vernacular Name:	Tarduma babil (Hindi)
Order:	Passeriformes
Family:	Hirundinidae
Genus:	*Hirundo*
Species:	*H. smithii*
IUCN Red List:	Least Concern
CITES:	Not Listed
CMS:	Not Listed
IWPA, 1972:	Schedule IV
Population Trend:	Increasing

LC

Distribution
A widespread resident in India. Found throughout the Ganga River.

Habit & Habitat
Sociable and perch in groups. Chiefly insectivorous. Prefers habitat near lakes, rivers and canals.

Reproduction
Breeding Season: March to August
Nest Type: The nest is a shallow cup composed of mud pellets, fastened at one side to a slanting or perpendicular surface of wall or rock, lined with feathers.
Clutch Size: 3-4
Incubation Period: 12-17 days

Key Identifying Features
Size 14 cm. A dark steel-blue swallow, with chestnut cap, glistening white underparts and fine filamentous projections to outer tail feathers.

Major Threats
The species is vulnerable to habitat loss, intensification of agriculture and climatic shift.

Shuchismita Das

White Wagtail

Motacilla alba

Vernacular Name:	Dhoban (Hindi) Khanjana (Bengali)
Order:	Passeriformes
Family:	Motacillidae
Genus:	*Motacilla*
Species:	*M. alba*
IUCN Red List:	Least Concern
CITES:	Not Listed
CMS:	Not Listed
IWPA, 1972:	Schedule IV
Population Trend:	Stable

LC

Distribution

Breeds in the Himalayas and becomes widespread in winter. Found throughout the Ganga River.

Habit & Habitat

Feeds on a wide range of small terrestrial and aquatic invertebrates, and fish. Prefers non-forested wet and dry habitats, rocky or sandy upland rivers and slow-moving lowland rivers and lake shores.

Reproduction

Breeding Season: April to August
Nest Type: Nest is a rough cup of twigs, grass stems, leaves, rootlets and mosses, lined with hair, wool or feathers and placed in a hole or crevice in a river bank.
Clutch Size: 3-8
Incubation Period: 12-16 days

Key Identifying Features

Size 19 cm. Small bird with extremely variable plumage often with black and white head pattern, grey or black mantle, and largely white to largely black wing-coverts.

Major Threats

The species is threatened by climatic shifts that may affect its timing of migration. It is also vulnerable to habitat loss due to river bank agriculture, sand mining and nest predation.

Shuchismita Das

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Notes

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NMCG

National Mission for Clean Ganga,
Ministry of Jal Shakti, DoWR, RD & GR
Major Dhyan Chand National Stadium,
India Gate, New Delhi- 110001

GACMC

Ganga Aqualife Conservation Monitoring Centre
Wildlife Institute of India, Chandrabani, Dehradun- 248001
nmcg@wii.gov.in

XPRESSIONS: 9219552563 | DOC. NO. XPS060819040 www.wii.gov.in/national_mission_for_clean_ganga

Any other direction covered by earlier orders of this Tribunal

i. In situ Treatment of Drains through bio-remediation/ phytoremediation or any other technique of drain joining Ganga & its tributaries:

Previously 2 projects of in-situ drain treatment through bio-remediation for Danapur Cant Drain and Rajapur Drain in Patna have been sanctioned at a cost of Rs 3.16 Cr.

In addition, In-situ treatments through bio-remediation have been at drains joining Ganga and other polluted rivers via vide letter – BGCMS/2019/Bio-remediation/25/**418**.

Refer on Page no. 28

ii. Status of screening arrangements to tapping drains along with the Ganga front towns.

Screening arrangements have been provided in a total no. of 124 out of 127 drains along the Ganga front town. Rest 3 Nallas screening not required.

Refer Annexure - 6

Detail of Nallas where screens have been installed/to be installed

Date-30.11.2020

Sl.No.	ULBs Name	Nallas Name	No.of Nallas where screens have been installed	No.of Nallas where screens yet to be installed	Remarks
1	Barh Municipal Council	Pipal Ghat Nala	Completed	–	
		Shalimpur Nala	Completed	–	
		Malina Ghat Nala Ward no. 11 Salempur Barh	Completed	–	
		Dhobiya Ghat, Laxmi flour mill	Completed	–	
		Gauri shankar Ghat	Completed	–	
		Talimpur Nala	Completed	–	
		Dayachak Nala	Completed	–	
2	Hajipur Municipal Council	Subhash Chowk Nala	Completed	–	
3	Sonepur Nagar Panchayat	Barwatta Nala	Completed	–	
4	Mokama Municipal Council	Tapaswi Ghat Nala	Completed	–	
		Chaudhry Ghat, Pipal tal	Completed	–	
		Kamleshwari Asthan Nala	Completed	–	
		Sidhnath Mandir	Completed	–	
5	Bakhtiyarpur Municipal Council	Raghopur Dagar Nala	Completed	–	
6	Teghra Nagar Panchayat	Teghra Chowk	Completed	–	
		Mukhtaj Maidan Nalla		–	No Drain exist on the spot overflow of water from soak pit along the ground.
7	Maner Nagar Panchayat	Maner bazar Nala	Completed	–	
		Ram Nagina Singh College Nala	Completed	–	
		Ram Ghat Nala	Completed	–	
8	Barahiya Nagar Panchayat	Krishna Chawk Nala	Completed	–	
		Baba Dani Mohalla Nala	Completed	–	
		Bangal kunj taal Nala	Completed	–	
		Bah path Nala	Completed	–	
9	Manihari Nagar Panchayat	Primari Health School Nalla	Completed		
		Pachimi Mohala ward no.-14 Nala	Completed		
		Pirpatra Nala	Completed	–	
10	Buxar Municipal Council	Nath baba Nala (Cannal)	Completed	–	
		Tadka Nala	Completed	–	
		Sati gaht	Completed	–	
		Sidhnath Nala (Hospital Nala)	Completed	–	
		Saripur Nala	Completed	–	
		Bangla Ghat Nala	Completed	–	
		Sohanipatti Nala	Completed	–	

11	Fatuha Municipal Council	Kali Ghat Samaspur	Completed	–	
		Bindeshwari Ghat Nala (East)	Completed	–	
		Bindeshwari Ghat Nala (West)	Completed	–	
		Kataiya Ghat	Completed	–	
		Devanti Ghat	Completed	–	
		Mastana Ghat	Completed	–	
		Bankipur Ghorkak Nala	Completed	–	
12	Khagariya Municipal Council	Daan nagar By-Pass Nala	Completed	–	
		P.W High school Nala	Completed	–	
13	Naugachiya Nagar Panchayat	New basti Nala	Completed	–	
		Maa Tara Bhawan Nala	Completed	–	
		Ward no. -08 Nala	Completed	–	
		Station road Nala (1)	Completed	–	
		Station road Nala (2)	Completed	–	
		Durga Asthan Nala	Completed	link with station road nalla.	
		Ward no. -03 Nala	Completed	–	
		Milan Chawk Nala	Completed	–	
		Ward no. - 09 Nala	Completed	–	
		Noniya patti, ward no. -20 Nala	Completed	–	
		Mushar patti, ward no- 13 Nala	Completed	–	
		Rajendra Colony, ward no- 05 Nala	Completed	–	
		Nagar Panchyat karyalaya ke bagal me ward no-16	Completed	–	
		Hardiya patti, ward no- 21 Nala	Completed	–	
		Hero Honda showroom ke bagal me ward no- 21 Nala	Completed	–	
14	Danapur Nagar Parishad	Danapur Cant Nala	Completed	–	
15	Kahalgaon Nagar Panchayat	Kagali Nala	Completed	–	
		L.C.T Nala	Completed	–	
		Asamsan Ghat Nala	Completed	–	
		Pampu Nala	Completed	–	
		Badshahi Nala	Completed		
		Koyala Nala	–	–	At present Koyala nalla not in Kahalgaon Nagar Panchayat area.

16	Dighwara Nagar Panchayat	Bagahing tola	Completed	–	
		Marchav Baba Mandir	Completed	–	
		UMV Nala	Completed	–	
		Post office road	Completed	–	
		Market Area	Completed	–	
		R. Primary school	Completed	–	
		Barbana	Completed	–	
		M.S Basadpur	Completed	–	
17	Jamalpur Municipal Council	Ramnagar Nalla	Completed	–	
		Laxmipur Nalla	Completed	–	
		Aashikpur Nalla	Completed	–	
		Faridapur Nalla	Completed	–	
18	Chhapra Municipal Council	Khanua Nala	Completed	–	
19	Sultanganj Municipal Council	Masjid Ghat Nala	Completed	–	
		Vishari Asthan Ghat Nala (1st)	Completed	–	
		Vishari Asthan Ghat Nala (2nd)	Completed	–	
		Jahaj Ghat Nala	Completed	–	
		Krishngarh Bhatta gali Nala	Completed	–	
		New Sidhi Ghat masjid ke bagal wala Nala	Completed	–	
		New Sidhi Ghat Nala	Completed	–	
20	Begusarai Municipal Council	Pokhariya Nala Mohammadpur Jail ke najdik	Completed	–	
21	Munger Municipal Council	Lal Darwaja Nala	Completed	–	
22	Bhagalpur Municipal Corporation	Adampur Nala	Completed	–	
		Hathiya Nala intek wel ke najdik	Completed	–	
		Surkhilal Nala	Completed	–	
		Sakhichand Nala	Completed	–	
		BarariGhat Nala, Vikramshila bridge ke najdik	Completed	–	
		Nil Kothi Nala	Completed	–	
		Pipal dham Nala -1	Completed	–	
		Pipal dham Nala -2	Completed	–	
		Kuppa Ghat	Completed	–	
		Koyal Ghat	Completed	–	

		Hathiya Nala, Tilkamanjhi ke najdik	Completed	–	
		S.T.P Nala Bhagalpur	Completed	–	
		Shahebganj Miyabari Nala	Completed	–	
		Champa Nala -1	Completed	–	
		Champa Nala -2	Completed	–	
23	Patna Municipal Corporation	Digha Ghat Nala (Cannal)	Completed	–	
		Kurzi Nala	Completed	–	
		Mandiri (Bans Ghat Nala)	Completed	–	
		Krishna Ghat Nala	Completed	–	
		Barharwa Ghat Nala	Completed	–	
		Rani Ghat Nala	Completed	–	
		Ghagha Ghat Nala	Completed	–	
		Masjid Ghat Nala	Completed	–	
		Loharwa Ghat Nala	Completed	–	
		Gosai Ghat Nala	Completed	–	
		Bhadra Ghat Nala	Completed	–	
		Nauzar Ghat Nala	Completed	–	
		Mittan Ghat Nala	Completed	–	
		Badshahi Nala	Completed	–	
		Gay Ghat Nala	Completed	–	
		Mahavir Ghat Nala	Completed	–	
		Balu Ghat Nala	Completed	–	
		Rajapur	Completed. (4 additional screens have been installed in Nehru nagar nala, Shivpuri nala, Indrapuri nala & Surpentine nala-links drains of Rajapur nallas)		
		Mandiri Nala	Completed	–	
		Anta Ghat Nala	Completed	–	
		Kali Ghat Nala	Completed	–	
24	Phulwarisariff	Khagaol Aasiyana overbridge crossing Nalla	Completed	–	
		Issopur Raichowk nalla	Completed	–	
		Mitramandal Colony Nalla	Completed	–	
		Birla Colony Nala A	Completed	–	
		Birla Colony Nala B	Completed	–	