

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

ORIGINAL APPLICATION NO. 200 of 2014
(C.W.P. No. 3727 of 1985)

IN THE MATTER OF

M.C. Mehta vs. Union of India & ors.

SUBMISSIONS

Ganga: Segment B, Phase I & II

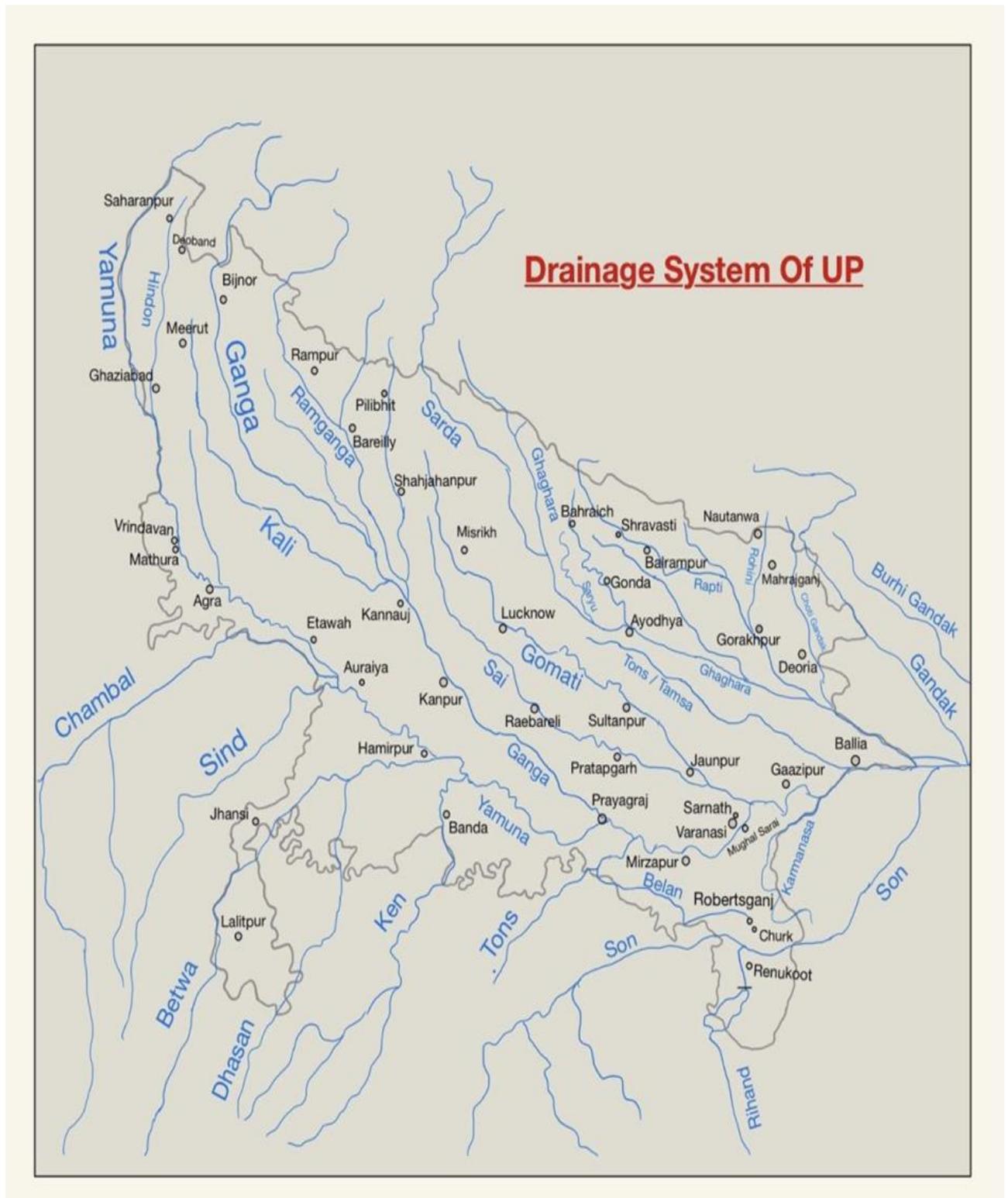
Dated 11.09.2023

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THE GANGA RIVER BASIN OF UTTAR PRADESH



Total basin area in Uttar Pradesh: 241392 Sq.km (28.02 %)

(Source: March 2014, Ganga Basin report, Ministry of water resources, CWC & NRSC)

LIST OF DISTRICTS ON THE GANGA RIVER (directly located on Ganga River)

Bijnore	Pratapgarh	Sant Ravidas Nagar
Kansganj	Kanpur Nagar	Ghazipur
Jyotibha phule Nagar	Fatehpur	Ballia
Bulundshahar	Prayagraj	Shahjahanpur
Raebareli	Azamgarh	Badaun
Farukhabad	Varanasi	Chandauli
Kannauj	Mirzapur	Hapur
Kaushambi	Meerut	Hardoi
Sambhal		

OTHER DISTRICTS (on tributaries of Ganga river)

West of Ganga River	East of Ganga River
Yamuna: <ul style="list-style-type: none"> • Agra • Aligarh • Auriya • Ballabgarh • Baghpat • Delhi • Etah • Etawah • Faridabad • Firozabad • Gautam budh nagar • Ghazaibad • Jalaun • Mainpuri • Mathura • Panipat • Shamli • Sonipat • Yamuna nagar 	Ghaghra: <ul style="list-style-type: none"> • Ambedkarnagar • Azamgarh • Barabanki • Basti • Baharaich • Gonda • Mau
Ken: <ul style="list-style-type: none"> • Banda 	Gomti: <ul style="list-style-type: none"> • Amethi • Jaunpur • Lucknow • Pilibhit • Sitapur • Sultanpur
Bhagirathi:	Rapti:

<ul style="list-style-type: none"> • Chitrakoot 	<ul style="list-style-type: none"> • Balrampur • Deoria • Gorakhpur • Shravasti • Siddharth nagar
Dhasan: <ul style="list-style-type: none"> • Hamirpur • Mahoba 	Ramganga: <ul style="list-style-type: none"> • Bareilly • Moradabad • Rampur
Sone/ Son: <ul style="list-style-type: none"> • Sonebhadra 	Ami: <ul style="list-style-type: none"> • Sant Kabir Nagar (other rivers Kuwana, rawai, manwar and katnehia- all are tributaries of Rapti river)
Betwa: <ul style="list-style-type: none"> • Jhansi • Lalitpur 	Saryu: <ul style="list-style-type: none"> • Ayodhya
Gandak: <ul style="list-style-type: none"> • Kushinagar • Maharajganj 	Sharda: <ul style="list-style-type: none"> • Lakhimpur kheri
Hindon: <ul style="list-style-type: none"> • Saharanpur • Muzaffarnagar • Gautam budh nagar 	
Sengar: <ul style="list-style-type: none"> • Hathras 	
Kali East: <ul style="list-style-type: none"> • Khatauli • Baghpat • Muzaffarnagar • Meerut • Bulandshahr • Hapur • Aligarh • Kansganj • Kannauj 	

INDUSTRIAL PROFILE OF THE GANGA BASIN

Zone	Districts	Key Sectors
Western	GB Nagar, Ghaziabad, Meerut, Saharanpur, Aligarh, Modinagar, Baghpat, Bulandshahar, Hapur, Knnauj, Aligarh	Food processing, electronics, metals, distillery, wood, Agro based and Industrial estates, paper & pulp, sugar mills, slaughter houses (on Kali E)
Northern	Jyotibha phule nagar (Gajraula), Bijnore, Moradabad, Badaun	Chemical and metal, food processing (Badaun Industrial estates @ salarpur & babrala), handloom & handicraft
Eastern	Sonbhadra, Prayagraj, Varanasi, Gorakhpur, Unnao, Kanpur (UPSIDC- Panki), Mirzapur, Ghazipur	Chemical, metal, distillery, sugar mill, tourism, mining, TPP, Hospitals, Hotels, Leather- tanneries, pharma, meat processing, cement
South western	Agra, Firozabad, Mathura	Leather, metal, textile dyeing, glass, mining, hospitals, Refinery, tourism, handicraft, hotels
Bundelkhand	Jhansi, Chitrakoot	Aerospace and defense (Bharat heavy electricals), Parichha TPP, tourism

(Source:https://www.lkouniv.ac.in/site/writereaddata/siteContent/202003291623596416roli_mishra_Uttar_Pradesh_Industry.pdf)

LIST OF DRAINS IN UP DISTRICTS OF THE GANGA RIVER (on the Ganga River)

City/ town	Drain/ River/ Tributaries
Bijnore	Malan R. Nazibabad drains (4) Banganga Hemraj drain (joined by Bijnore drain) Choiya River
Gajraula	Bagad river
Garh	Garh Drain Fuldhera drain
Bulanshahar	Kaali nadi Neem Karwan nadi
Meerut	Abu Nala 1 Abu nala 2 Slaughter house (odean drain)

City/ town	Drain/ River/ Tributaries
	Kharauli nala City drain Choiya River (nala) Kaali nadi
Moradabad	Lalbagh drain Jigar colony Nawabpura 1 drain Nawabpura 2 Daheria Kudaghar drain Jhabbu ka nala MIT drain Ramganga
Anupshahr	Anupshahr I Anupshahr II
Gajraula & Babraula	Mahavan River
Badaun	Badaun drain Sot River
Kansganj/ Kannauj	Kaali Nadi
Farukhabad	Bhairoghat drain/Tokaghat Nala Dhinapur drain Hathikhana Nala-Fatehgarh Bargadiya Ghat drain Cantt Nala
Bithoor	Noon River
Kanpur	Dabka Nalla-1 (Kachha nala) Dabka Nalla-2 (Pakka nala) Dabka Nalla-3 (Pakka nala) Shetla Bazar (Kachha nala) Wazidpur Nalla Satti Chaura Golaghat Nala Bhagwatdas Nala Sisamau Nala Permiya drain Ranighat drain Sisamau Tefco Nala Parmarth drain Muir drain Police line drain Jail drain

City/ town	Drain/ River/ Tributaries
	Budhiya ghat Airforce nala
Unnao	Loni drain City jail drain Kalyani nadi Sai nadi Loni nadi Behta nadi
Fatehgarh	Arihari drain NTPC drain Pandu River Rind river Noon river
Raibareilly	Sai river Loni river
Prayagraj	Rasulabad-1 (Pakka nala) Rasulabad-2 (Pakka nala) Rasulabad-3 (kuchha nala) Rasulabad-4 (kuchha nala) Nehru drain Kodar drain Ponaghat drain Solari drain Maviya drain Mugalaha drain Mcferson lake Sasur khaderi river Loni Naina nadi Seoti nadi Gorma nadi Seepage Ahiyari/ NTPC drain Sadananda ashram Chuhara mandir drain 1 Chuhara mandir drain 2 Arail drain Sasurkhaderi drain Mehndaury drain Jhusi drain Chhatnag drain Mnnaiya drain Ulta kila drain 1& 2 (into manshaita river) Triveni marg nala 1& 2 Ganda nala Raiyapur (into daur river)

City/ town	Drain/ River/ Tributaries
Sant ravidas nagar	Chauri drain Barbaspur drain
Mirzapur	Ghore Saheed drain Khandwa drain Chunar tikaur drain Malhaniya drain Patengra drain Parashuram ghat Kachahari Drain Balughat Drain, Chunar Barahimiliya Drain Baswariya Drain Oliyar Drain Koniya ghat Drain Narghat Drain Lohandi (to Ojhala river) Tekur nagar drain 1 & 2 Pashuchikitsalaya drain Nagar palika drain Adh nadi Belan nadi Bakhar nadi Barhi nadi Kehanjua nadi Seoti nadi Pahiri nadi Jargo nadi (Bharatpur kabristan drain)
Varanasi	Rajghat drain Nagwa drain Bhaisasur drain Baluaghat Ramnagar drain Varuna River Assi River Jargo nadi Shivala drain Lalita ghat Jalasen ghat Manikarnika ghat Sankatha ghat Mehta ghat Ram ghat Panchganga ghat Brahma ghat

City/ town	Drain/ River/ Tributaries
	Lal ghat Trilochan ghat Shakti ghat Salotri ghat Hanuman ghat
Ghazipur	Beso river Mangal Jauharganj Rajmahal ghat Malhiya basti Mahavir ghat Sangat ghat Pakka ghat Budhe Mahadev ghat Kot ghat Railway drain Kanpuimai drain Kankarwa Gorwa drain Adarsh bazar drain Pear nagar Gora bazar drain Khirki ghat DM Banglo Afeem factory colony Sai mandir Naupura Dadri ghat Collector ghat Maksud ghat Rul mandi drain Samshan Ghat Mahala Basti Harizen basti Stimer ghat Chetnat ghat Anzahi ghat Their bazar Posta ghat Mugalpura Gangi Karamnasa Gomti Dhansoi Tons
Ballia	Kathar Nala

City/ town	Drain/ River/ Tributaries
	Surha taal Ghaghara river Sarju nadi Bhagar nadi Lakda nadi

DRAINS DISCHARGING INTO TRIBUTARIES OF THE GANGA RIVER

LIST OF DRAINS ON GOMTI RIVER

River	Right bank (Cis- Gomti)	Left bank (Trans Gomti)
Gomti	<ul style="list-style-type: none"> • Nagariya drain • Sarkata • Pata • Drain downstream NER • Wazirganj • Ghasiyari mandi • China bazar • La- place • Cis- Gomti pumping station • Joppling road • GH canal • Jiamau • Lamartenier • Drain upstream railway bridge 	<ul style="list-style-type: none"> • Maheshganj drain • Rooppur • Mohan meakins • Daliganj 1 • Daliganj 2 • Arts college • Hanuman setu • Trans- Gomti pumping station • Kedarnath • Nishatganj • Bapapurwa • Kukrail

LIST OF DRAINS ON RAMGANGA RIVER

Districts	Drains
Bijnore	<ul style="list-style-type: none"> • Pungsi drain
Moradabad	<ul style="list-style-type: none"> • Katghar Drain • Kudaghar Drain • Jama Maszid (L) Drain • Jama Maszid (R) Drain • Ghosiyar Drain • Barbalan Drain • Nawabpura Drain-1 • Nawabpura Drain-2 • MIT Drain

	<ul style="list-style-type: none"> • TDI City Drain • Mokshdhaam Drain • Vivekanand (Left) Drain • Vivekanand (Right) Drain • Chakkar ki milak Drain • Jigar Colony Drain • Lalbagh Drain • Daheria Drain • Prabhat Market Drain • Jhabbu Ka Nala Drain • Karula Drain • Chandausi Road(R) Drain • Chandausi Road (L) Drain • Delhi Road (L) Drain • Delhi Road (R) Drain
Rampur	<ul style="list-style-type: none"> • Rampur Drain
Bareilly	<ul style="list-style-type: none"> • Deveraniya • Chaubari Drain • Nakatiya River/Drain • Air force

LIST OF DRAINS ON GHAGHRA RIVER

Districts	Drains
Gorakhpur	<ul style="list-style-type: none"> • Kanoongo Ghat Drain, Near Laxmi Narayan Mandir. • Tarkulahi Ghat Drain • Badhanpura drain Near Mukti Path.
Deoria	<ul style="list-style-type: none"> • Ravidas Ghat Nalla • Bhagalpur Deoria • SabjiMandiNalla
Mau	<ul style="list-style-type: none"> • Khatik Tola drain • MallahTola drain • Tiwaripur drain

LIST OF DRAINS ON KALI RIVER

District	Drain
Muzaffarnagar	<ul style="list-style-type: none"> • Khatauli drain • Chhoiya river/ drain (industrial drain) • Karabad drain • Sugar mill drain <p>Legacy waste site- vill. Ganwadi (500 mts from edge of the river) http://www.uppcb.com/pdf/RIVER-KALI-(EAST).pdf</p>

Meerut	<ul style="list-style-type: none"> • Abu 1 • Abu 2 • Odean/ Slaughter house
Hapur	<ul style="list-style-type: none"> • Hapur drain • Hapur drain 1 • Babugarh drain • Kadarabad drain
Bulandshahar	<ul style="list-style-type: none"> • Gulaothi drain • Maman road Nala • DM Colony Drain • Aadil nala • Chandbhari road nala • Cheel ghat drain • Nashal ghat drain
Kasganj	<ul style="list-style-type: none"> • Neem nala
Aligarh	<ul style="list-style-type: none"> • Kasganh drain
Kannauj	<ul style="list-style-type: none"> • Patta nala • Adanga nala • Tammi nala

LIST OF DRAINS IN PANDU RIVER

Districts	Drains
Kanpur	<ul style="list-style-type: none"> • Panki Thermal Power Plant, • Drain ICI Drain-I • Ganda Nalla • COD Nala • Halwa khanda nala • Arra nala • Pipauri nala • Ratanpur nala

LIST OF DRAINS ON VARUNA RIVER (VARANASI)

Districts	Drains
Varanasi	<ul style="list-style-type: none"> • Purana pul drain • Lohtha drain • BIDA drain • Barbaspur drain • Mamdopur nala • Phulwariya drain • Sadar bazar drain • Raja bazar drain • Narokhar drain

	<ul style="list-style-type: none"> • Sarang talab drain • Teliya bagh drain • Nakkhighat drain • Nai basti • Central jail • Hukulganj drain • Banaras drain 5 • Khajury colony drain • Orderly bazar drain • Chamrautha drain
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KEY POLLUTION/ ISSUES

SN	Pollution issues	Observation
1.	Surface water contamination (through Drains)	<p>The Ganga River alongwith its tributaries have highly polluted in Segment B, phase 1 and 2. Most of the tributaries, such as, Kali east, Varuna, Assi, Gomti etc have been turned into drains with least sign of ecological life or flow).</p> <p>Sources:</p> <p>Domestic drains- carrying raw, partially treated or treated sewage into the river.</p> <p>Mixed drains- such drains are a challenge for the State authorities to remediate as they carry not only raw sewage but also industrial effluents and solid waste (tonnes of plastic)</p> <p>Intake of clean water/ river water for dilution of sewage and industrial effluents at STPs and CETPS.</p> <p>Plastic and other solid waste, raw sewerage, industrial effluent, bio medical waste, construction- demolition waste, no flow of clean water etc.</p> <p>STPs- under performance/ non- utilisation, non compliance and absence of STPs at many places in the catchment. Not all households are yet connected with the interception/ treatment drain. Some STPs bypass additional sewage into the river directly.</p>
2.	Pathogenic and organic pollution	<p>This segment has severely high pathogenic pollution- i.e. Total Coliforms (TC) & Faecal Coliform (FC), organic matter as reflected through Biochemical Oxygen Demand (BOD) and salinity as reflected through conductivity.</p> <p>This may give rise to water borne diseases (which can already be seen in many areas, for instance River kali east)</p>

SN	Pollution issues	Observation
3.	Ground water contamination	<p>Source- Seepage from polluted surface water i.e. the rivers/ lakes, leachate from municipal illegal waste dumps (unsegregated waste includes hazardous chemicals, metals, plastic and even bio medical waste).</p> <p>For instance, ground water pollution has been impacting people's health in villages in the catchment of Kali east, Kanpur dehat etc.</p>
4.	Industrial effluents	<p>This segment has vast and varied types of industries that fall in the category of GPI and WPI (eg. slaughter houses, meat processing, chemical, pharmaceutical, refinery, glass industry, tanneries, textile, dyeing, paints and oils, distilleries, sugar mills, Agro based, food processing, thermal power plants, electro plating etc)</p> <p>Untreated/ partially treated or diluted industrial effluents laden with harmful chemicals and heavy metals are discharged into industrial drain and domestic/ mixed drains that finally meet River Ganga at confluence point. This is not only a source of river pollution but also ground water and soil contamination that has adverse health impacts.</p> <p>Non compliance or underperformance of CETPs.</p>
5.	Agro- based pollution	<p>High pesticide (insecticides, herbicides etc) application along the river basin agricultural fields led to the bioaccumulation of these residues in the ecosystem through several means. This not only polluted the river water through run off, but contaminates the soil and ground water in the area of usage, thereby impacting food chain, human health and the ecosystem.</p> <p>Since, the topography and soil profile of the Ganga basin (downstream of Bijnor) is most suited for Agriculture (with the abundance of land, irrigation water and extensive canal networks), the entire basin (in catchment of all tributaries and canals) is extensively using chemicals to increase the harvest.</p>
6.	Treated discharge from STP/ CETP	<p>Use of treated water from STP and CETP (for irrigation, reuse in industrial units etc) is yet to be implemented. With most of the drains still finding its way into the main Rivers, the surface water pollution continues unabated.</p>
7.	Biomedical waste	<p>Towns like Delhi, Agra, Meerut, Kanpur, Varanasi, Moradabad, Lucknow etc. have emerged as centres for health care facilities. Biomedical waste disposal requires CBWTF for proper treatment and disposal of such waste.</p>

SN	Pollution issues	Observation
8.	Hazardous waste dumping	Hazardous waste from industries, tanneries, health facilities etc are (at some places) dumped mindlessly in open areas without proper disposal mechanism. This leads to seepage/ leachate of chemicals into the soil/ goruns water or streams. For instance- Chromium IV disposal at Kanpur dehat (Khanchandpur and rania) since 1975.
9.	MSW/ legacy waste disposal	In almost every drain and rivers (flood plains) in this segment, there is presence of solid waste that chokes the whole system. Apart from this, the legacy waste mounds in big cities (eg. Delhi, Meerut, Ballia etc) also pose a threat for water pollution through leachate and seepage on highly toxic chemicals into the ground water table.
10.	Ecological flow	<p>Most rivers in lean and dry seasons have negligible flow and are noted to be carrying toxic effluents only, thereby devoiding them of any aquatic life or microorganisms. This adversely impacts the natural cleaning mechanism of the river.</p> <p>Bacteriophage in Ganga River- scientists documented the "self-cleansing and special healing properties" of Ganga water and identified bacteriophage as the reason behind the same. Bacteriophages are viruses that kill bacteria. In fact, some of the early studies on Ganga water by British and French microbiologists introduced the phage virus to the world. The river is the most pristine in the first 100-200 km (upstream of Haridwar) while the self-cleansing properties diminish in the middle and lower stretches, with increased human activities leading to a rise in pollution load. The high bacterial load doesn't allow the bacteriophage to overpower the bad ones.</p> <p>** NMCG has commissioned a projected (through NEERI) to study this property in rivers.</p> <p>https://www.deccanherald.com/india/scientists-take-a-deep-dive-to-get-to-the-bottom-of-ganga-mystery-1180177.html</p>
11.	Flood plain zoning/ demarcation and encroachment removal	<p>Segment B, Phase 1& 2 lies in the densely populated stretch of the Ganga River basin.</p> <p>At many places, the river islands can be seen encroached and used for farming. Houses and hotels have cropped up in the floodplains.</p> <p>Floodplain notification, demarcation and removal of encroachment maybe undertaken for timely restoration of the damaged river land.</p>

SN	Pollution issues	Observation
12.	Tributaries identified as drains (character of river changed permanently)	The names/ identification of tributaries has been permanently changed to be addressed as Drains/ nallas. For eg., chhoeya river, sahibi river (Najafgarh drain), Assi river (known as nalla) etc. This practice must be checked and rivers, howsoever polluted, must never be robbed of their identity.
13.	Mining	Unregulated and illegal sandmining can be seen in noticed in the basin of River Ganga, Yamuna, Hindon, Gomti, Sone etc. Such mining (undertaken in absence of a replenishment study) not only impacts the aquatic ecology and safety at the point source, but also has an impact on ground water levels and recharge.
14.	Odour/ smell nuisance from all drains and some rivers as well	Most drains as well as rivers/ tributaries and sub tributaries emanate foul smell (especially during non- monsoon season)
15.	Tourism	Tourist cities like Garh, Lucknow, Prayagraj, Varanasi, Agra, Mathura etc, witness lakhs/ crores of people visiting the Ganga river for performing rituals, darshan or just for holidays. The high floating population puts immense pressure on the resources and environment of the place visited. In last few decades, there has been rise in construction activities in the tourists cities of UP to facilitate the visitors (such as Hotels, dharamshalas, public toilets, eateries etc) that needs to be regulated as per environmental norms.
16.	Afforestation/ Plantation/ restoration of floodplains	NMCG (after demarcation of Ganga land is done)

The Synopsis is submitted accordingly for the kind perusal of the Hon'ble National Green Tribunal, Principal Bench, New Delhi.

New Delhi
Dated 11.09.2023

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