



BEFORE THE NATIONAL GREEN TRIBUNAL,

EASTERN ZONE BENCH, KOLKATA

ORIGINAL APPLICATION NO. 30/2023/EZ

SUBHAS DATTA

.....APPLICANT

VERSUS

STATE OF WEST BENGAL & ORS.

.....RESPONDENTS

PROGRESS REPORT IN THE FORM OF AFFIDAVIT BY THE CHIEF SECRETARY, GOVERNMENT OF WEST BENGAL IN COMPLIANCE WITH ORDER DATED 02.08.2024 PASSED BY THE HON'BLE NATIONAL GREEN TRIBUNAL, EASTERN ZONE BENCH, KOLKATA

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Submitted

*Sibajyoti Chelrobanti*

Advocate  
State of West Bengal

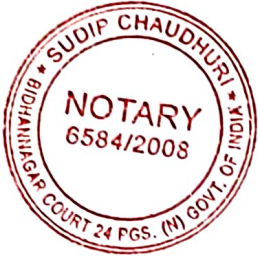


SL. NO. 596/2024

BEFORE THE NATIONAL GREEN TRIBUNAL

EASTERN ZONE BENCH, KOLKATA

ORIGINAL APPLICATION NO. 30/2023/EZ



BEFORE THE NOTARY PUBLIC  
AT BIDHANNAGAR  
DIST.-NORTH 2<sup>d</sup> PARGANAS

SUBHAS DATTA

.....APPLICANT

VERSUS

STATE OF WEST BENGAL & ORS.

.....RESPONDENTS

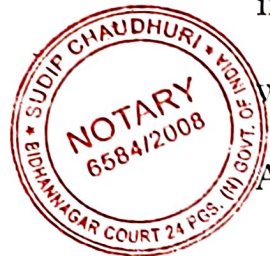
PROGRESS REPORT IN THE FORM OF AFFIDAVIT BY THE CHIEF SECRETARY, GOVERNMENT OF WEST BENGAL IN COMPLIANCE WITH ORDER DATED 02.08.2024 PASSED BY THE HON'BLE NATIONAL GREEN TRIBUNAL, EASTERN ZONE BENCH, KOLKATA

Most Respectfully Sheweth:

I, Dr. Manoj Pant, IAS, son of Dharmanand Pant, aged around 59 years, by occupation Government Service, having office at Nabanna, 325, Sarat Chatterjee Road, Howrah, do hereby solemnly declare and say as follows:-

19 SEP 2024

1. That I am holding the post of the Chief Secretary to the Government of West Bengal. Being Respondent No. 1 of the instant Original Application I have made myself acquainted with the facts and circumstances of the instant Original Application. I have gone through the documents and reports pertaining to the subject matter of the Original Application; hence, I am competent to affirm the instant Affidavit before this Hon'ble Tribunal.
2. That this Affidavit is being affirmed pursuant to the solemn Order dated 02.08.2024 passed by this Hon'ble Tribunal, wherein the undersigned was directed to file Progress Report in pursuance to the earlier Affidavit filed on 08.11.2023 addressing further steps taken for protection of Chatra Beel of Dist. Malda as a 'significant wetland' under the Wetlands (Conservation and Management) Rules, 2017.
3. That in the process of notifying the water body under the Wetlands (Conservation and Management) Rules, 2017 the District Magistrate of Malda has prepared Brief Document of Chatra Beel as per the *Guidelines for Implementing Wetlands (Conservation and Management) Rules, 2017*.



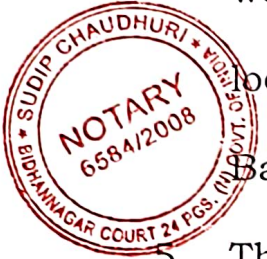
19 SEP 2024

4. That as per the said Brief Document Chatra Beel is a peri urban wetland in the fringe of Malda Town. Chatra Beel is restricted in the east by NH 34 and the railway track, in the west by afflux bandh. Physiographically, the water body is located in the Diara region, in the south-central English Bazar Municipality area of Malda Town.

5. That the said Brief Document enumerates the following corrective measures taken for conservation of Chatra Beel:

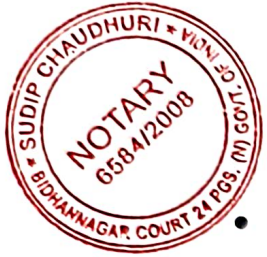
- Permanent Notice boards have been installed at different locations of the Beel to make the public aware about the restriction in land use in wetland area.
- Public announcements are being made through miking by the municipal administration in order to inform citizens towards the conservation efforts and significance of Chatra Beel and to help administration to stop further encroachment.
- District and police authorities have been keeping strict vigil on dumping of the waste and other materials to prevent further encroachment.
- District Registrar was requested not to execute any deeds in Mouzas falling under Chatra Beel area, without 'No

19 SEP 2024



Objection Certificate' from the office of the Additional District Magistrate (L&LR) as per authenticated historical reports.

- A drone survey has been conducted by the District Administration to obtain the current status of land use pattern of the wetland.
- English Bazar Municipality is conducting phase wise removal of garbage and other wastes from instant location for restoration of the instant wetland and shall also set up steps to prevent release of untreated water in the Beel.
- Demarcation of the boundary of the wetland along with geo mapping is to be commenced by District Administration with the help of the Department of Fisheries, Aquaculture, Aquatic Resources and Fishing Harbour, Department of Science and Technology and Biotechnology, and Land & Land Reforms and Refugee Relief and Rehabilitation Department.
- For removal of illegal encroachments and restoration of the said water body, the District Administration will take necessary steps fully. District Administration has initiated the process of declaring the Chatra Beel as 'significant



19 SEP 2024

wetland' under the Wetlands (Conservation and Management) Rules, 2017.

6. That the Brief Document also enumerates the restrictions in land use within Chatra Beel area under Rule 4 of the Wetlands (Conservation and Management) Rules, 2017.

The said Brief Document is annexed herewith and marked as "Annexure R/1".

The reply is true to my knowledge and belief, which I derived from the office record.

Identified and corrected by me

*Sibajyoti Chakrabarti*  
*Advocate*

Advocate.  
STATE OF WEST BENGAL

*Yanoybant*  
DEPONENT

*S. Chaudhuri*  
S. CHAUDHURI  
★ NOTARY ★  
GOVT. OF INDIA  
Regn. No.-6584/08  
Bidhannagar Court  
Dist.-North 24 Pgs

19 SEP 2024



X

VERIFICATION

I, Dr. Manoj Pant, son of Dharmanand Pant, Chief Secretary, Government of West Bengal, do hereby verify that the contents of the Progress Report in the form of Affidavit are true to my best of knowledge and belief. No part of the Report is false, and nothing has been concealed.

Verified at Kolkata on this 19<sup>th</sup> day of September, 2024.

Identified and corrected by me

*Sibajyoti Chaudhuri*  
Advocate

Advocate.  
STATE OF WEST BENGAL

*S. Chaudhuri*  
S. CHAUDHURI  
★ NOTARY ★  
GOVT. OF INDIA  
Regn. No.-6584/08  
Bishanagar Court  
Dist.-North 24 Pgs

*Manoj Pant*  
DEPONENT

19 SEP 2024



Government of West Bengal  
Office of the District Magistrate & Collector, Malda  
[General Section (Environment)]



Memo. No. 305/1G

Date: 04/09/2024.

From : District Magistrate,  
Malda.

To : The Member Secretary,  
West Bengal State Wetlands Authority.

**Sub: Submission of brief document of 'Chatra Beel', Malda.**

**Ref: Memo No. 1) EN/2194/3C-14/2022 dated 14/09/2023.**

**2) 476-EN/3C-14/2023 dated 01/08/2024.**

Sir,

I am submitting herewith the brief document of 'Chatra Beel' for your kind perusal. The submission is in compliance with the order passed by the Hon'ble National Green Tribunal (Eastern Zone) in O.A. No. 30/2023/EZ on 22.03.2023

Enclosed: As stated.

Yours faithfully,

*Neelam*  
District Magistrate,  
Malda.

Memo. No. 305/1(G)G

Date: 04/09/2024.

Copy Forwarded for information and necessary action to:

1. The Addl. District Magistrate (LR) & D.L.R & R.O, Malda.
2. The Sr. Environmental Engineer & In-Charge, Malda R.O, WBPCB, Malda.
3. Shri. Sibojyoti Chakraborty, Advocate, High Court Kolkata.
4. C.A. to the District Magistrate, Malda.
5. C.A to the Addl. District Magistrate (Env.), Malda.

*Neelam*  
District Magistrate,  
Malda.



## Brief Report on 'Chatra Beel'

### 1. Definition of Wetland as per The Wetlands (Conservation and Management) Rules, 2017

The Wetlands (Conservation and Management) Rules, 2017 states : "Wetland" means an area of marsh, fen, peatland or water; whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six meters, but does not include river channels, paddy fields, human-made water bodies/tanks specifically constructed for drinking water purposes and structures specifically constructed for aquaculture, salt production, recreation and irrigation purposes.

### 2. Chatra Beel as Wetland

Literature available in public domain suggests that water bodies of permanent and semi-permanent nature are found in Chatra beel of Malda for more than five decades (Figures attached). Chatra beel does not include river channels, or human-made water bodies/ tanks, which are constructed for drinking water purposes and structures specifically constructed for aqua-culture, salt production recreation and irrigation purposes. The Guidelines for implementing The Wetlands (Conservation and Management) Rules, 2017 also clarify in section 8 that agricultural land, if any, fall within a larger wetland and if exclusion result in impeded ecological contiguity and connectivity, then such area may be included within the boundary of wetland, which is being notified. Chatra Beel is peri urban wetland in fringe of Malda town. Chatra beel is restricted in the east by NH 34 and the railway track, and in the west by afflux bandh. Physiographically, Chatra beel is located in the Diara region, in the south-central English Bazar Municipality area of Malda town, with a nearly 5 ft deep dip in the centre portion and a 30-36 ft high raised portion around the beel.

### 3. Major drivers behind land use change in Chatra Beel

Malda district's population has more than doubled in the previous 60 years (937580 to 3997990). The primary reasons of population growth are migration from rural areas to town areas, transportation development, and medical facilities. Malda district, particularly English Bazar municipal area, is bounded on the west by the Ganga River and on the east by Bangladesh. As a result, there is no room for the town to grow horizontally. The need for accommodating a growing population frequently out-competed the need for conservation of wetland areas. According to Google Earth data, the land use pattern of Chatra Beel significantly changed during a thirty-year period. Changes in water area is 51.84% during a 15-year period from 2005 to 2020. Percentage of land covered by vegetation has grown from 8.9% in 1990 to 33% in 2020 and built-up area is from 9.1% to 42.3% (Images attached as Annexure - 1). The major causes of wetland degradation and decline in areal coverage are anthropogenic influences.



## Corrective Measures for Conservation of Chatra Beel

### 1. Fortifying measures already initiated by the district administration:

- Permanent Notice boards have been installed at different locations of the beel to make the public aware about the restriction in land use in wetland areas.
- Public announcements are being made through miking by the municipal administration in order to inform citizens towards the conservation efforts and significance of Chatra Beel and to help administration to stop further encroachment.
- District and police authorities have been keeping strict vigil on dumping of the waste and other materials to prevent further encroachment.
- District register was requested not to execute any deeds in Moujas falling under Chatra Beel area, without 'No Objection Certificate' from the office of Additional District Magistrate (I.&LR) as per authenticated historical reports.
- A drone survey has been conducted by district administration to obtain the current status of land use pattern of the wetland.
- English Bazar municipality is conducting phase wise removal of garbage and other wastes from instant location for restoration of the instant wetland. And it may also set up steps to prevent release of untreated water in the beel.
- Demarcation of the boundary of the wetland along with geo mapping is to be commenced by district administration with help of the Department of Fisheries and Department of Science and Technology and BT and Department of Land and Land reforms and R&R.
- For removal of illegal encroachments and restoration of the said water body, the district administration will take necessary steps fully. District administration has initiated the process of declaring the Chatra beel as significant wetland as per the Wetlands Conservation and Management Rules 2017.

### 2. Remedial Measures for Conservation of the Wetland

#### 2.1 Notifying the Chatra Beel as Wetlands as per the provisions for the Wetland Rules 2017

##### 2.1.1 Demarcation of wetland area shall also include:

- 1) Ecological character description;
- 2) Account of pre-existing rights and privileges;
- 3) List of site-specific activities to be permitted within the wetland and its zone of influence;
- 4) list of site-specific activities to be regulated within the wetland and its zone of influence; and



X

### 2.1.2 Restriction in use of area under Chatra beel :

The following activities shall be prohibited within the wetlands -

- (i) Conversion for non-wetland uses including encroachment of any kind;
- (ii) Setting up of any industry and expansion of existing industries;
- (iii) Manufacture or handling or storage or disposal of construction and demolition waste covered under the construction and demolition waste management rules, 2016; hazardous substances covered under the manufacture, storage and import of hazardous chemical rules, 1989 or the rules for manufacture, use, import, export and storage of hazardous micro-organisms genetically engineered organisms or cells, 1989 or the hazardous wastes (management, handling and transboundary movement) rules, 2008; electronic waste covered under the e-waste (management) rules, 2016;
- (iv) Solid waste dumping;
- (v) Discharge of untreated wastes and effluents from industries,
- (vi) Any construction of a permanent nature except for boat jetties within fifty metres from the mean high flood level observed in the past ten years calculated from the date of commencement of these rules; and,
- (vii) Poaching

### 3.0 Conservation of Chatra beel as a Nature Based Solution (Urban Sponge, Surface Recharging, Micro cooling, Sewage treatment with nutrient recovery):

- (i) The district's primary challenge is annual inundation, which is accompanied by bank erosion. The ideal wetland acts as a natural sponge, trapping and gently releasing flood water. So, if the aerial perimeter gradually shrinks, the same must be stopped and the Chatra Beel should be developed as an "Urban Sponge" to prevent further flooding.
- (ii) The ground water level in Malda has drastically been dropped in the past three-four decades. One of the contributing elements is the use of bore wells. Wetlands, as we know, serve as reservoirs for holding water as well as filters for recharging. As a result, wetland restoration is required to preserve the balance between urban expansion and development.
- (iii) Malda in 2023 observed the hottest summer with day time temperature picking at 43.3°C. Existence of Chatra Beel and landward wind from beel is still keeping Malda cooler during night in comparison to other towns in West Bengal. The Chatra beel is thus contributing to **mirocooling** in and around Malda town.
- (iv) The Hon'ble NGT has already noted in para 5 of the order dated 09.08.2023 that the Chatra beel is already receiving untreated discharge from Ward No. 03, 11, 12, 16, 18, 19, 20, 23, 24, 25, 27, 28 & 29

Hence,

- Considering the difficulties faced by English Bazar Municipality in setting up of a centralized Sewage Treatment Plant and
- Considering the previous history of pisciculture in Chatrabeel and



- Considering the natural flow of sewage in the Beel
- Considering the success of East Kolkata Wetland, similar models may be developed for sustaining the Chatra beel,

Select wetland of Chatra beel with intelligent interventions can be used for treatment of wastewater and nutrient recovery. This shall reduce the cost of construction of Sewage Treatment Plant (STP) and related sewage network for diverting the wastewater from 13 wards of English Bazar Municipality to a new STP site.

- (v) Aquatic plants such as makhana (very nutritious, entirely organic, non-cereal food growing at the moment only in Harischandrapur Block in Tal area), kalmi, kachuhinghe, and medicinal plants such as thankuni, brahmi, and kulekhera were once common sight around the beel.

### 3 Sustaining Management and Conservation of Chatrabeeel as a Nature Based Asset (Urban Sponge, Surface Recharging, Microcooling, Sewage treatment with nutrient recovery):

Considering the role of urban sponge, micro-cooling and STP, climate financing should be obtained so that use of land for wetland becomes price competitive for other uses like real estate development.

Water bodies are natural resources and conservation of water bodies are now being attempted across the globe to meet the challenges of worldwide water crisis. However, conservation of water bodies often become difficult due to conflicting priorities of urban development and non-availability of adequate fund for implementing conservation measures. Setting up a revenue positive model for conservation of Chatra Beel can ease out the typical challenges faced for implementation of conservation measures. An asset is a resource that earns for the statutory body or the private owners as the case may be applicable, which is authorized for conservation and management of the property or commodity. Depletion of groundwater can be now monitored even by remote sensing. The ecological goods and services, which are being provided by the Chatra beel can be a source of income for municipality. The possible scope of savings by wise use of Chatra Beel can reduce the economic burden for the English Bazar municipality. The Chatra Beel thus can also be declared as a natural asset. A cost-benefit analyses, possibly supported by WTP (Willingness to Pay) or WTA (Willingness to Accept) survey can be helpful in finalizing the asset value of Chatra Beel.

The beel is under the administrative jurisdiction of Pirojpur Mouza (JL NO. 69), Arazi Dilalpur (JL NO. 70), Abhirampur (JL NO. 91), Gabgachi (JL NO. 90) and Uttar Jadupur (JL NO. 88) mouza of English Bazar Block.

The Chatrabeeel thus may be declared as a Natural Asset for the Municipality and also for the Panchayats as and where it falls in the ULB and five Moujas.

Adequate state and central government funds should be sourced for fortifying the functions of the Chatra Beel as a Nature Based Solution. Considering the role of urban sponge, micro-cooling and STP, carbon financing should be obtained so that use of land for wetland becomes price competitive for other uses like real estate development. This may be supervised by the Committee constituted for implementation of the District Environmental Plan in Malda.



## Annex: 1

Sl. No.	Description	Details
1	Wetland Name	Chatra Beel
2	Geographical Coordinates	W(24.98694444, 88.13638889, E(24.99750000, 88.10972222) S(24.97444444, 88.12888889) N( 25.00388889, 88.12194444)
3	District (s) in which the wetland is located	Malda
4	Village	Adjacent to EBM Ward no. 3,29,25
5	Wetlands type	Inland
6	Wetlands sub-type	Natural
7	Area (ha)	To be finalized as per demarcation survey. It is in the range 190 ha – 230 ha.
8	Khasra or Survey numbers	
9	Whether falls within category of regulated wetlands as per Wetlands Rules	Fulfill the criteria provided in The Wetlands Rule, 2017

## Annex : 2

State / Union Territory: West Bengal

District Magistrate

Malda

Name and address of person(s) compiling this information:

**Section 1: Identification, Location and Jurisdiction**

1.1 Name of the Wetland (Alternative names, including in local language should be given in parenthesis after official name)

Chatra\_Beel\_\_\_\_\_

1.2 Name of the Village(s), Tehsil(s), Municipal area (s)

English Bazar Municipality

1.3 Name of the District(s) in which wetland complex is located

Malda\_District\_\_\_\_\_

1.4 Geographical coordinates (Latitude and Longitude, to degree, minutes and second)

Latitude: From  $24^{\circ}59'13''$ ,  $88^{\circ}08'11''$  (24.98694444, 88.13638889)

To  $24^{\circ}59'51''$ ,  $88^{\circ}07'35''$  (24.99750000, 88.10972222)

Longitude: From  $24^{\circ}58'28''$ ,  $88^{\circ}07'44''$  (24.97444444, 88.12888889)

To  $25^{\circ}00'14''$ ,  $88^{\circ}07'19''$  ( 25.00388889, 88.12194444)

1.5 Name of the Department / Agency which has jurisdiction over the wetland / wetlands complex

English Bazar Municipality at Municipal level, District administration at district level and Environment Department at state level



### Section 2: Site Characteristics

2.1 Area of wetland / wetlands category (ha) Map attached

2.2 Wetland type (Please tick appropriate categories and sub-categories)

Category	Subcategory
Natural (Inland)	<ul style="list-style-type: none"> <li>• Permanent lakes</li> <li>• Seasonal/ intermittent lakes</li> <li>• Permanent freshwater marshes</li> </ul>

2.3 Depth (m) Average 5 m Maximum to be confirmed through survey

2.4 Elevation (m above mean sea level) m

2.5 Water regimes

a) Main source of water (tick all applicable)

- Rainfall : Yes
- Catchment runoff : Yes

b) Water permanence

- Mostly permanent : Satellite Imagery over time shows that it is mostly permanent.

c) Destination of water from wetland

- Feeds groundwater: Feeds groundwater
- To downstream catchment

d) Water pH : to be measured

- Acid (< 5.5)
- Circumneutral (5.5 – 7.4)
- Alkaline (> 7.4)
- Not known

e) Water salinity : to be measured

- Fresh (< 0.5 g/l)
- Brackish (0.5 – 30 g/l)
- Euhaline (30- 40 g/l)
- Hypersaline (>40g/l)
- Not known

f) Nutrient in water: to be measured

- Eutrophic
- Mesotrophic
- Oligotrophic
- Not known

2.6 Climatic setting

Annual Rainfall / Snowfall (mm) : 1485 mm  
 Temperature (°C) : Minimum 11.3°C Maximum 36.2 °C  
 Humidity (%) Minimum NA Maximum NA

2.7 Area of zone of influence (in ha) \_\_\_\_\_



2.8 Major land use within zone of influence (provide as approximate % of catchment area)

Information about Chatra Beel Area as available in literature

- Vegetation 33.1 %
- Agriculture 14.4 %
- Built up 42.3 %
- Water body 10.2%

Attached satellite image shall indicate that this wetland is bounded by urban fringe in three side and rural agricultural field on one side.

2.9 Map of wetland complex and zone of influence

(To be enclosed as Annex I and II to this proposal)

### Section 3: Biodiversity

3.1 Notable plant species present in wetland

Name of the Flora	Scientific Name
Water hyacinth	Eichhornia crassiper
Kulekhara	Hygrophilla
Thankuni	Centella Asiatic
Hingcha	EnydraFluctuans
Ghima	Polycarbonpostratum
Susnisak	Marsileraminuta
Kalmi Sak	Ipomoea aquatic

3.2 Notable animal species present in wetland

To be surveyed.

List of fishes are as follows:

Name of Fauna	Scientific Name
Rui	Lebeorohita
Tengra	Mystuscavasius
Punti	Burbuasphutunio
Magur	Clariusbartrachus
Singhi	Heteropneustes
Boal	Wallagoniaattu
Chang	Ophicephalusgachua

3.3 Species of conservation significance (rare, endangered, threatened, endemic species)

To be surveyed.

3.4 Major plant invasive alien species

To be surveyed.

3.5 Major animal invasive alien species

To be surveyed.



**Section 4: Ecosystem services**

Importance	Relevant for the site (yes / no)	If Yes, Details (upto 50 words for each category)
Source of drinking water for people living and around	No	
Source of water for agriculture	Yes	For the agricultural land within Chhatrabeeel
Fisheries	Yes	
Cultivation of aquatic food plants	yes	
For buffalo wallowing and use of domesticated animals	Yes	
Medicinal plants	Yes	Hygrophilla, Centella Asiatic, EnydraFluctuans
Is a recreational site	Not yet	
Buffering communities from extreme events as floods and storms	Yes	
Groundwater recharge	Yes	
Water purification	Not yet	
Acts as a sink for sediments	Yes	
Has significant cultural and religious values	No	
Is a site for recreation and tourism	Not yet	
Supports noteworthy plants species	To be confirmed	
Supports noteworthy animal species	To be confirmed	
Site of high congregation of migratory water birds	Yes	
Supports life cycle of fish or amphibians	Yes	
Mining	Nil	
Any other, please list		

**Section 5: Pre-Existing Rights and Privileges**

Nature of right and privilege	Relevant for the site (please tick yes or no)	Does this negatively impact the wetland's ecological health?	Brief description (upto 50 words for each category)
Community Fishing (without any lease or permission from government department)	Yes		
Fishing under lease from government department	Yes		
Harvest of plants (without any lease or permission from government department)	Yes		
Harvest of plants under lease from government department	Yes		
Agriculture or horticulture within wetland	Yes		
Grazing	No		
Religious practices	No		
Withdrawal of water for domestic use	No		
Withdrawal of water for agriculture or fisheries	No		
Bathing or wallowing of domestic animals	No		
Plying of boats	Yes		
Any other, please list here			



**Section 6: Present and Potential Threats**

Threat	Degree (High/Medium/Low)	Present or Potential	Additional information, if any
Changes in water inflow and outflow	Medium		
Pollution	Medium		
Unsustainable harvest of biological resources	Medium		
Mining	Low		
Siltation	High		
Encroachment			
Spread of invasive species	High		
Any other, please list			

**Section 7: Activities Proposed to be Prohibited (other than those listed in Rule 4(2) of Wetland Rules and Regulated**

Activity	Whether prohibited or regulated	Regulation within wetlands or zone of influence	If regulated, indicate the level of regulation (in terms of people, restricted area or any other)	Name of department / agency responsible for regulation / prohibition	Additional information, if any
Withdrawal of water / impoundment/diversion or any other hydrological intervention	Yes	<ul style="list-style-type: none"> <li>Wetland</li> <li>Zone of influence</li> </ul>			
Harvesting of resources (living / non-living)	No	<ul style="list-style-type: none"> <li>Wetland</li> <li>Zone of influence</li> </ul>			
Grazing	Yes	<ul style="list-style-type: none"> <li>Wetland</li> </ul>			
Discharge of treated sewage/ effluent / wastewater	No	<ul style="list-style-type: none"> <li>Wetland</li> <li>Zone of influence</li> </ul>			
Construction of boat jetties, and facilities for temporary use, as pontoon bridges	No	<ul style="list-style-type: none"> <li>Wetland</li> <li>Zone of influence</li> </ul>			
Aquaculture, agriculture and horticulture activities within the Wetland boundaries.	No	<ul style="list-style-type: none"> <li>Wetland</li> <li>Zone of influence</li> </ul>			
Any other, please list	No permanent construction	<ul style="list-style-type: none"> <li>Wetland</li> <li>Zone of influence</li> </ul>			



Section 8: Activities Proposed to be permitted

Refer to

Activity	Place a tick mark if relevant	Within wetlands or zone of influence	Additional information, if any
		<ul style="list-style-type: none"> <li>• Wetland</li> <li>• Zone of influence</li> </ul>	
No permanent construction		<ul style="list-style-type: none"> <li>• Wetland</li> <li>• Zone of influence</li> </ul>	
No Concreting		<ul style="list-style-type: none"> <li>• Wetland</li> <li>• Zone of influence</li> </ul>	
No land use change for waterbody wrt baseline		<ul style="list-style-type: none"> <li>• Wetland</li> <li>• Zone of influence</li> </ul>	
No land use change for open area with vegetation other than agriculture with baseline		<ul style="list-style-type: none"> <li>• Wetland</li> <li>• Zone of influence</li> </ul>	
No land use change for open area with agriculture other than vegetation with baseline		<ul style="list-style-type: none"> <li>• Wetland</li> <li>• Zone of influence</li> </ul>	
		<ul style="list-style-type: none"> <li>• Wetland</li> <li>• Zone of influence</li> </ul>	

Section 9: Listing of Available Scientific Resources Used

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**CHECKLIST**

- Responsible agency has been clearly identified and details of contact person included
- Wetland/ wetlands complex boundary has been delineated using GIS and firmed up by adequate ground truthing
- Wetland/ wetlands complex map has been provided at required scale
- Zone of influence has been delineated and included in wetland map or a separate map
- Wetland zone of influence is sufficient to manage all activities
- Site's importance have been listed, and for major categories, justification is provided
- Site's biodiversity values are listed, and for major categories, justification is provided
- List of pre-existing rights and privileges is provided
- Consistency or inconsistency of pre-existing rights and privileges is indicated to be best of available knowledge
- Threats to site are listed, and for major categories details are provided
- Activities prohibited, other than those listed in Rule 4(2) have been mentioned
- List of activities to be regulated within wetlands and zone of influence is provided
- List of activities to be permitted is provided



Annex 3: Format for draft notification of wetlands under Wetlands (Conservation and Management) Rules, 2017

**Government of West Bengal**

**[Date]**

S.O. \_\_\_\_\_ The draft of the notification, which the [name of the issuing entity] proposes to issue in exercise of the powers conferred under rule 7 of the Wetlands (Conservation and Management) Rules 2017 read with Environment (Protection) Act, 1986 (29 of 1986), is hereby published for the information of the persons likely to be concerned or affected thereby; and notice is hereby given that the said draft notification shall be taken into consideration on or after the expiry of a period of sixty days from the date on which copies of the Gazette of ..... containing this notification are made available to the public;

Any person interested in making any objection or suggestion on the proposals contained in the draft notification may forward the same in writing, for consideration of the [State Government / UT Administration / MoEFCC, GoI], within the period so specified to the [insert designation and address], or at email address, .....

**Draft Notification**

1. WHEREAS, the ..... wetland / wetland complex, situated in ..... village(s), tehsil(s), district(s) of state of ....., is considered to be critically significant for its ecosystem services and biodiversity values for the local communities and society at large;
0. AND WHEREAS, it is considered that for sustaining these values, the ecological character of wetland ecosystem needs to be maintained by regulating developmental activities within the wetland as well as within its zone of influence;
0. NOW THEREFORE, the [State Government, UT Administration / Government of India] declares that the said wetlands shall be covered under the provisions of Wetlands (Conservation and Management) Rules, 2017.
0. The extent of the wetland / wetland complex and its zone of influence is described in Schedule I of this notification;
0. Activities prohibited within the wetland and its zone of influence are listed in Schedule II of this notification. Such prohibitions shall not apply for areas designated under other Acts and Rules, and listed at para 1.2 (a), (b) and (c) of Schedule I. Relevant provisions of respective Acts and Rules shall apply in such areas.
0. Activities regulated within the wetland and its zone of influence, i.e. permitted only with permission of [State Government, UT Administration / Government of India] are listed in Schedule III of this notification. Request for permissions can be made to the [Designation, contact address and email]. Such regulations shall not apply for areas designated under other Acts and Rules, and listed at para 1.2 a), b) and c) of Schedule I. Relevant provisions of respective Acts and Rules shall apply in such areas.
0. Activities permitted within the wetland and its zone of influence are listed in Schedule IV of this notification. Such permissions however shall not apply for areas designated under other Acts and Rules, and listed at para 1.2 (a), (b) and (c) of Schedule I. Relevant provisions of respective Acts and Rules shall apply in such areas.
0. The [State / UT Wetlands Authority] and the Ministry of Environment, Forest and Climate Change shall monitor the enforcement of the provisions of this notification.

**By order**



### Schedule 1: Location and Extent of Wetland / Wetlands Complex and its Zone of Influence

#### 1.1 Wetland / wetlands complex

The wetland / wetlands complex, as delineated, extends within an area of .....ha within the geographical coordinates as under:

Extremity	North	South	West	East
Latitude	25.00388889	24.97444444	24.99750000	24.98694444
Longitude	88.12194444	88.10972222	88.10972222	88.13638889

The map of wetland / wetlands complex boundary is at Map 1(a).

#### 1.2 Boundary of area already designated under provisions of other Acts and Rules

The wetland / wetland complex boundary includes an area of ..... ha designated under other Acts and Rules, with the geographical coordinates as under:

1.2 (a) Area designated under Indian Forest Act, 1927; Forest (Conservation) Act, 1980; State Forest Acts and amendments thereof: Not Applicable

Extremity	North	South	West	East
Latitude				
Longitude				

1.2 (b) Area designated under Wildlife (Protection) Act, 1972 and amendments thereof: Not Applicable

Extremity	North	South	West	East
Latitude				
Longitude				

1.2 (c) Area designated under the Coastal Regulation Zone Notification, 2011 and amendments thereof: Not Applicable

Extremity	North	South	West	East
Latitude				
Longitude				

The above areas should be clearly demarcated on the map of wetland / wetlands complex boundary i.e. Map 1(a). Not Applicable

#### 1.3 Zone of influence

The geographical coordinates of the zone of influence span an area of ..... Ha/ 200 m from wetland boundary within the geographical coordinates as under:

Extremity	North	South	West	East
Latitude				
Longitude				

The map of zone of influence of the wetland is at Map 1(b).



2X

1.4 List of revenue villages / municipal areas falling fully or partly within the wetland is as under (The list)

The beel is under the administrative jurisdiction of Pirojpur Mouza (JL NO. 69), Arazi Dilalpur (JL NO. 70), Abhirampur (JL NO. 91), Gabgachhi (JL NO. 96) and Uttar Jadupur (JL NO. 88) mouza of English Bazar Block.

1.5 List of revenue villages / municipal areas falling fully or partly within the zone of influence is as under:

**Schedule II: List of activities prohibited within wetland/ wetlands complex boundary**

- a. Conversion for non-wetland uses including encroachment of any kind;
- b. Setting up of any industry and expansion of existing industries;
- c. Manufacture or/and handling or/and storage or/and disposal of construction and demolition waste covered under the Construction and Demolition Waste Management Rules, 2016; hazardous substances covered under the Manufacture, Storage and Import of Hazardous Chemical Rules, 1989 or the Rules for Manufacture, Use, Import, Export and Storage of Hazardous Micro-organisms Genetically engineered organisms or cells, 1989 or the Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2008; electronic waste covered under the E-Waste (Management) Rules, 2016;
- d. Solid waste dumping;
- e. Discharge of untreated wastes and effluents from industries, cities, towns, villages and other humans settlements;
- f. Any construction of a permanent nature except for boat jetties within fifty metres from the mean high flood level observed in the past ten years calculated from the date of commencement of these rules; and,
- g. Poaching. [Other activities, likely to have an adverse impact on the ecosystem to be inserted from the Brief Document]

**Schedule III: List of activities regulated within the boundary of wetlands / wetlands complex and its zone of influence and for which prior approval of [State Government/ UT Administration/MoEF&CC] is required to be obtained**

Activity	Restrictions	
	Within the boundary of wetland / wetlands complex	Within the zone of influence

**Schedule IV: List of activities permitted within the boundary of wetlands / wetlands complex and its zone of influence**

Activity	Restrictions	
	Within the boundary of wetland / wetlands complex	Within the zone of influence

**Annex 4: Steps and format for developing Integrated Management Plan**

1. Wetlands provide wide-ranging ecosystem services that support human well-being in a number of ways. Numerous plant and animal species depend on wetlands during different parts of their lifecycle. In order to ensure that wetlands continue to provide their ecosystem services and support biodiversity, it is essential that a well-defined strategy and actions are identified for their conservation and wise use. An Integrated Management Plan reflects a common understanding between various stakeholders on the management purpose, significant threats and constraints limiting conservation and wise use, opportunities and specific actions for addressing these threats, and mainstreaming wetlands within the wider developmental planning.
2. The Integrated Management Plan is formulated to serve the following purposes:
  - Identify the objectives of wetland management;
  - Identify the factors that affect or may affect the wetland;
  - Resolve conflicts between various stakeholders having an interest in the wetland;
  - Define monitoring requirements and research needs;



- Help obtain financial resources for managing the wetland;
  - Enable communication between different wetland managers, organizations and stakeholders;
  - Ensure compliance with extant laws and regulation; and,
  - Demonstrate that management is effective and efficient
0. Systematic diagnosis of various wetlands features and factors influencing these features is essential to arrive at management objectives and actions. The following eight steps are recommended for developing an Integrated Management Plan:

#### Step 1: Preamble

0. The process for management planning must begin with an exercise of setting up an overarching preamble describing the rationale for application of human, technical and financial resources for the wetland. This is a concise policy statement that expresses the commitment of the State Government/ UT Administration for integrated management. The preamble can be developed on the basis of:

- Importance of the wetland for the state / UT
- Ways in which the wetlands conservation and wise use will contribute to conservation and developmental goals
- Alignment with sectoral policies, directives and planning frameworks

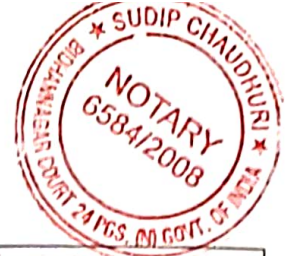
#### Step 2: Description of wetland features

0. This step entails collation and synthesis of existing information on various site features so as to provide a basis for the identification of management objectives. A generic listing of management information needs and data requirements are presented in Table 1.

Wetland feature	Management information needs	Data requirement
Wetland type and extent	<ul style="list-style-type: none"> <li>• Location</li> <li>• Wetland type</li> <li>• Wetland area</li> <li>• Significant inter-annual changes in the wetland</li> <li>• Major changes in th               <ul style="list-style-type: none"> <li>◦ wetland extent in the last 20 – 30 years (if available)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Geographical coordinates</li> <li>• Land use and land cover data for the wetland (at least for two seasons, pre and post-monsoon)</li> <li>• Historical map of the wetland ( can be developed from the Survey of India toposheets) (if available)</li> </ul>
Catchment/Drainage Basin	<ul style="list-style-type: none"> <li>• Direct and indirect catchment of the wetland</li> <li>• Geological and geomorphological characteristics that have led to the formation of the wetland</li> <li>• Present land use and land cover of the catchment and their implication for wetland</li> <li>• Major developmental activities in the catchment and their impacts on the wetland</li> </ul>	<ul style="list-style-type: none"> <li>• Geology and geomorphology</li> <li>• Topography</li> <li>• Drainage pattern</li> <li>• Soil types</li> <li>• Climate setting</li> <li>• Land use and land cover change</li> </ul>



Wetland feature	Management information needs	Data requirement
Hydrological regimes	<ul style="list-style-type: none"> <li>• Major sources of water inflow and outflow from the wetland</li> <li>• Major sources of sediments into the wetland</li> <li>• Inundation regime</li> <li>• Trends in water holding capacity and factors for the decline</li> <li>• Water quality and pollution status</li> <li>• Water use pattern within the wetland catchment and implication for wetland</li> </ul>	<ul style="list-style-type: none"> <li>• Water inflow, outflow and balance</li> <li>• Inundation pattern</li> <li>• Sedimentation</li> <li>• Groundwater</li> <li>• Water quality</li> <li>• Water use within the basin</li> <li>•</li> </ul>
Biodiversity	<ul style="list-style-type: none"> <li>• Species richness</li> <li>• Role of the wetland in the life-cycle of migratory species</li> <li>• Invasive species and major contributing factors</li> <li>• Major changes in species richness and habitat and factors thereof</li> </ul>	<ul style="list-style-type: none"> <li>• Species richness and diversity</li> <li>• Biological significance of habitats</li> <li>• Risk of species invasion</li> </ul>
Ecosystem Services	<ul style="list-style-type: none"> <li>• Key ecological and hydrological characteristics required for the sustained provision of ecosystem services</li> <li>• Ecosystem services trade-offs</li> </ul>	<ul style="list-style-type: none"> <li>• Provisioning services (direct wetland products, eg: food, fibre, water)</li> <li>• Regulating services (the ability of an ecosystem to regulate hydrological regimes, influence micro-climate, reduce disaster risk, groundwater recharge)</li> <li>• Cultural services (recreational values, cultural and religious norms and beliefs related to wetlands)</li> <li>• Supporting services (Primary production and other ecosystem functions which enable wetlands to deliver all above ecosystem services)</li> </ul>



Wetland feature	Management information needs	Data requirement
Socioeconomics and livelihoods	<ul style="list-style-type: none"> <li>• Extent of dependence on wetlands for livelihoods</li> <li>• Status of community infrastructure (such as water and sanitation) and implication for wetlands</li> <li>• Livelihood vulnerability and relationship with changes in wetland resources</li> <li>• Resource use conflicts</li> <li>• Major shifts in livelihoods and implications for wetlands</li> </ul>	<ul style="list-style-type: none"> <li>• Demographic features of communities living in and around</li> <li>• The contribution of wetland to income and employment</li> <li>• Community resource use and management practices</li> </ul>

0. Attention should be paid to the robustness of data and associated uncertainties thereof. It is recommended that the data on-site features and linked metadata are, to the extent possible, maintained in a spatial format to enable updation at a later stage as more information becomes available through monitoring programmes. The step should also include identification of data gaps.

### Step 3: Evaluation of wetland features

0. This step entails an evaluation of information on status and trends on wetlands features (conducted in the previous step) to identify:
- a) Key wetland features that should be a priority for management planning
  - b) Natural variability within these features, including describing thresholds, if any
  - c) Threats that limit (or potentially limit) maintenance of wetlands features in the desirable state
8. Evaluation of wetland features can be done on the basis of criteria such as:
- Naturalness
  - Rarity
  - Criticality for ecosystem functioning
  - Socioeconomic importance
  - Requirement under the extant regulatory regime

9. The evaluation process will lead to narrowing down of the list of wetland features, for which threats may be identified. The management plan is a response to these threats. Through this process, it is ensured that the plan does not merely focus on symptoms (for example, poor water quality) but on the root causes (in this case, ineffective sewage management in wetland catchments).

### Step 4: Defining an institutional arrangement for wetland management

10. The purpose of this step is to evaluate whether existing institutional arrangements are sufficient and effective in addressing the threats to wetlands. Based on the gaps identified, an institutional arrangement for implementation of the management plan is developed.

11. This step includes:

- Enlisting of government departments having programmes which impact (or have the potential to impact) wetlands features or threats on these features;
- b) An analysis of laws and regulation related to wetland, access and use of wetland resources, biodiversity or any dimension;
- Ownership, rights and privileges pertaining to wetlands;
- Analysis of the role of CSOs and communities in wetlands management, with particular reference to their views, rights and capacities; and,



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### Gaps and challenges.

12. Based on the analysis, an institutional arrangement for wetlands management should be developed, clearly stating:

- a) The nodal agency responsible for managing wetlands
- b) Role of different government departments and mechanisms for inter-departmental coordination
- c) Role of CSOs and communities

13. In line with the requirements of Wetlands (Conservation and Management) Rules, 2017, the following should be specified:

- a) Activities prohibited within the boundary of wetlands;
- b) Activities to be regulated within wetlands and zone of influence and regulation thresholds; and,
- c) Activities permitted.

### Step 5: Setting management objectives

14. This step involves the identification of site management objectives that need to be met so as to ensure that site features are maintained or improved. The management objectives may address the threats identified in the previous step, and issues relating to maintenance of wetland in a desired healthy state.

15. While defining objectives, the following may be considered:

- a) Measurability – The objectives must be measurable so as to enable reporting on progress towards meeting them (for example, reducing silt load from the wetland catchment by xx %)

- b) Achievability – The objectives must be achievable at least in the medium or long term. An objective that cannot be achieved can lead to an overall loss of sense of direction and misallocation of resources (for example, completely preventing nutrient enrichment in a wetland located in the intensive agricultural landscape is an unachievable objective, a much better proposition would be to reduce the current rate by xx%).

- c) Indicative of purpose and not the process – The objectives should not be prescriptively stating the way the objective should be achieved. It should ideally reflect the purpose of management (for example – afforestation in xxx ha is not an objective but a way to reduce siltation. Focusing just on afforestation then limits the use of other options for reducing siltation in a wetland).

### Step 6: Developing a monitoring and evaluation plan

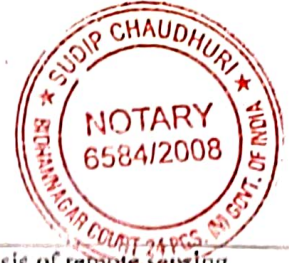
16. This section aims at outlining a monitoring and evaluation plan to enable assessment of overall management effectiveness and identify needs for mid-term correction.

### Performance indicators

17. For each of management objectives, a set of performance indicators should be identified.

Table 2: Performance Indicators

Wetland feature	Management objective	Performance Indicator	Means of measurement
Area	Maintain wetland area		
Catchments	Reduction in silt load from catchment		
Hydrological regimes	Reduce pollution	Biological Oxygen Demand, Chemical Oxygen Demand or any other water quality parameter assessed against a threshold	Water quality monitoring



	Enhance hydrological connectivity within wetlands complex	Area of wetland complex inundated during high floods period	Analysis of remote sensing data, and hydrological surveys
Biodiversity	Maintain and enhance habitat of waterbirds	Area of wetland used by waterbirds	Physical survey
	Reduce area under invasive macrophyte	Area under invasive macrophyte	Analysis of remote sensing images and ground truthing
	Maintain fish species richness	Fish species richness	Sampling
Socioeconomics	Reduce use of harmful fishing practices	Number of destructive fishing gear used in the wetland	Survey
	Reduce direct dependence of communities on capture fisheries	Reduction in % of income derived from wetland	Socioeconomic surveys

18. For each performance indicator, a baseline value at the beginning of management plan implementation may be specified. These values should be tracked over the course of management plan implementation to assess whether management objectives are being met.

#### Monitoring mechanism

19. Besides setting up performance indicators for the management plan, it is also essential to set up a monitoring system for the wetland to be able to assess changes in ecosystem condition over a period of time.

20. A generic listing of monitoring parameter, method and frequency is presented in the Table 3 below. Parameters marked with a single asterisk (\*) sign are relevant for all wetlands and must form a part of the monitoring system. In addition to these, parameters marked with a double asterisk (\*\*) are relevant for wetlands located in urban and peri-urban areas. Other parameters may be included based on the assessment of relevance and wetland contexts.

21. Photographic documentation (before, during and after management intervention) may also be maintained as part of monitoring process. Aquatic drones/ buoy-based sensor induced transmission for online data updating may be used for large wetlands, which will further help in enriching the management practices.

Table 3: Parameters for wetlands monitoring

Wetland feature	Monitoring parameter	Monitoring method	Recommended Frequency
Wetland extent	Wetland area*	Remote sensing and ground truthing	Once in a year
	Land use and land cover within the wetland area	Remote sensing and ground truthing	Once in a year
	Connectivity with other adjoining wetlands, river / streams, coastal zone	Remote sensing and ground truthing	Once in a year
Wetland Catchment	Climate	Data from the nearest weather station	Monthly



	Land use and Land Cover*	Remote sensing and ground truthing	Once in 3 years
	Total sediment yield	Stream gauging station	Monthly
	Total nutrient yield	Stream gauging station	Monthly
Hydrological regimes	Water inflow and outflow*	Stream gauging station	Monthly
	Waterholding capacity	Bathymetric survey	Once in 5 years
	Peak inundation	Remote sensing and ground truthing	Once in 2 years
	Dissolved Oxygen, Biological Oxygen Demand *	Data from water quality sampling stations	Atleast monthly
	Chemical Oxygen Demand **	Data from water quality sampling stations	Atleast monthly
	Number of point sources discharging untreated sewage into the wetland **	Surveys	Once a year
	Biodiversity and Habitat	Population of major wetland dependent species groups (such as waterbirds, mammals etc.)*	Mid-winter counts
Habitat use by key species		Physical surveys	Once a year
Number of migratory species using the wetland as a habitat		Physical surveys	Once a year
Area under invasive macrophyte**		Physical surveys	Once a year
Ecosystem Services	Annual Fish yield	Surveys	Monthly samples collated into an annual estimate
	Number of tourists	Surveys	Monthly samples collated into an annual estimate
	Volume of surface water abstracted from wetland	Hydrographic surveys	Monthly samples collated into an annual estimate
	Volume of groundwater recharged	Hydrographic surveys	Once a year
	Proportion of floodwaters stored in the wetland	Hydrographic surveys	Once a year
	Use of wetland for research and education	Surveys	Annual estimate
Livelihoods	Population living around the wetland*	Surveys	Once every three years
	Population depending on		Once every three years



	wetlands for livelihoods	Surveys	
	Number of households around the wetland using safe sanitation practices	Surveys	Once every three years
	Participation of communities in wetlands management	Surveys	Once every three years

Note: (i) The frequency, as above, is advisable for wetlands above 100 ha and is indicative in nature. The Wetland Authority may suitably modify based on logistics involved.

(ii) For wetlands less than say 100 ha, the frequency may be appropriately divided.

#### Step 7 – Developing an action plan

22. The last stage of the management planning process includes defining the action plan, or specific interventions that address the identified management objectives. A generic listing of activities is presented in Table 4. The projects need to be defined very clearly to ensure good implementation. While identifying activities for management of wetlands, the following must be kept in mind:

- Ecosystem-based interventions should be promoted as far as possible
- Engineering interventions in wetlands should be taken up in a limited manner, with impact assessments conducted for all major works
- Operations and maintenance of all structural works should be included in project design
- Participation of local communities should be included to the extent possible

Table 4: Generic listing of activities for management of wetlands

Management Plan component	Activities	Key considerations
Boundary delineation and demarcation	Boundary mapping and delineation	Site boundaries should be established with reference to inundation regimes, soil conditions and vegetation types. Landscape connectivity should also be taken into account when wetlands exist in patches. All activities should be completed within the first year.
	Removal of encroachments	Boundaries should be notified and legally protected wherever possible. All activities should be completed within the first year.
	Shoreline management	Mostly required for wetlands in urban and peri-urban setting. For stabilizing bunds of wetlands, naturalization of slopes using vegetative measures should be preferred. Development of promenade for urban lakes can be included based on an evaluation of natural drainage and shoreline ecosystem niches.
Catchment conservation	Afforestation and aided regeneration	Catchment conservation plans should be developed at watershed scales and based on Joint Forest Management approaches. Native species should be used for forestry operations. Pilot watershed should be periodically monitored to assess changes in soil moisture regimes. Livelihood interventions for catchment communities aimed at reducing dependence on wood as an energy source should be included as appropriate.
	Small scale engineering measures (gully plugging, check dams, gabion)	Community participation in design, implementation and postproject maintenance of structures should be ensured.



	structures etc.)	
Water management	Selective dredging and desilting to improve hydrological connectivity	Dredging to be used only selectively, and be based on assessments of bathymetric profile and species interactions. For inflowing channels, dredging can be used to improve water inflow.
	Interception, diversion and treatment of point sources of pollution	Mostly recommended for wetlands in the urban and peri-urban setting. Provision of comprehensive sanitation and safe drinking water coverage to communities living around the wetlands may be ensured. Engineering (STPs) as well as biological options (constructed wetlands) should be evaluated for application. Planning for Operation and Maintenance expenses should be included for all engineering structures.
	Construction and operation of hydraulic structures for maintenance of water regimes and flood control	For each significant structure, environmental impact assessments should be carried out prior to construction.
	Balancing water allocation for human and ecological purposes	Environmental flows for wetlands, hydrological regimes of which are affected by hydraulic structures, should be assessed and implemented in consultation with water managers
Biodiversity conservation	Habitat evaluation and improvement	Until specifically desired, plantation of terrestrial plant species in wetlands should be avoided.
	Improvement and maintenance of migratory routes	Community groups should be involved in habitat monitoring and maintenance of migratory routes
	Maintenance of breeding and spawning grounds for key species	Community groups should be involved in the maintenance of breeding and spawning grounds
	Management of invasive species	A mix of mechanical and biological methods for controlling species invasion should be used.  For plant invasives, economic utilization along with physical removal should be included.
Sustainable resource development and livelihood improvement	Microenterprise development for reducing dependence on wetland resources for livelihoods	Identification of micro-enterprise development options should be based on an assessment of community livelihoods, capacities, resources and market linkages.
	Sustainable fisheries development	Only capture based fisheries techniques should be promoted in natural wetlands  Options for improving culture fisheries in areas around wetlands may be included to reduce dependence on capture fisheries
	Sustainable agriculture development	Organic farming practices in immediate catchments should be included to minimize nutrient enrichment in wetland.
Institutional development	Setting regulatory regimes	Site regulation should be harmonized with national and State level regulations. Local customary self-regulation which



		supports maintenance of conservation values should be promoted
	Development of monitoring and evaluation system	Comprehensive monitoring and evaluation mechanism for hydrological, ecological, socio-economic and institutional features should be made a part of the management system Involvement of stakeholders in monitoring should be encouraged.
	Communication and Outreach	Increasing awareness on values and functions of wetland should be made an integral part of the management plan. The use of television, print, electronic and social media for awareness generation and outreach may be included as appropriate. Developing and disseminating dos and donts in wetlands for general public may also be considered.
	Research	For each site, key research areas to support management needs should be identified and included in the management plan

#### Step 8: Developing budget and financing plan

23. A complete costing of the Integrated Management Plan item wise may be done for the entire tenure of the plan using the existing norms of the State and central government, as may be the case. Year wise requirement of funds for various items of work/ activities, band PERT charts for the works/activities should be prepared. Summary of Cost Estimates and year-wise breakup of the requirement of funds may be presented in the formats given below:

Table 5: Summary of budget

S. No.	Management Plan component	Budget

Table 6: Year wise breakup of requirement of funds

S. No.	Activity	Funds Required in Yr I	Funds Required in Yr II	Funds Required in Yr III	Funds Required in Yr IV	Funds Required in Yr V	Total

Table 7: year wise breakup of requirement of funds

S. No	Total Budget	Funds from Central Government Scheme (Scheme Name)	Funds from State Government (Scheme Name)	Funds from other donors (Project and donor name)	Funds from private sector (Name of the agency)	Funds available from convergence sources	Funds required to be raised
	(a)	(b)	(c)	(d)	(e)	(f) = (b) + (c) + (d) + (e)	(g) = (a) - (f)

#### Format for compiling Integrated Management Plan

24. The management plan should have a cover sheet with the following information:

- Wetland Name
- Wetland Area (in ha)
- Location: (District(s), State / UT)
- Area of the direct catchment (in ha)
- Name of the nodal agency for management plan implementation
- Management plan period
- Date on which approval of State / UT Wetland Authority was obtained
- Total budget
- Total funds available from convergence sources

(Format 23-46 pages of guideline)



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BEFORE THE NATIONAL GREEN TRIBUNAL  
EASTERN ZONE BENCH, KOLKATA  
ORIGINAL APPLICATION NO. 30/2023/EZ



SUBHAS DATTA

.....APPLICANT

VERSUS

STATE OF WEST BENGAL & ORS.

.....RESPONDENTS

PROGRESS REPORT IN THE FORM OF AFFIDAVIT FILED BY  
CHIEF SECRETARY, GOVERNMENT OF WEST BENGAL

ADVOCATE