

**Annex: 2 Format for preparing brief document**

State / Union Territory: BIHAR

Name and address of person(s) compiling this information

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**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)

Jagatpur Wetland (Jagatpur lake, Jagatpur Jheel)

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

Jagatpur village, Jagatpur panchayat, Naugachia block

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

Bhagalpur district

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

**Latitude: From N 25°20'33.28" to N 25°19'57.69"**

**Longitude: From E 87°02'05.19" to E 87°02'36.12"**

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

Revenue dept, Govt of Bihar

Department of Environment, Forests and Climate Change, Government of Bihar

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**Section: 2, Site characteristics**

2.1 Area of wetlands/wetlands category (ha): 40 ha

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

Category	Sub category
Natural (Inland)	<input checked="" type="checkbox"/> Permanent lakes <input type="checkbox"/> Seasonal/intermittent lakes <input type="checkbox"/> Permanent streams/creeks <input type="checkbox"/> Seasonal/intermittent streams/creeks <input type="checkbox"/> Oxbow <input type="checkbox"/> River floodplain <input type="checkbox"/> Permanent freshwater marshes <input type="checkbox"/> Seasonal/intermittent freshwater marshes <input type="checkbox"/> Shrub dominated wetlands <input type="checkbox"/> Tree dominated wetlands <input type="checkbox"/> Geothermal wetlands <input type="checkbox"/> Karst and other subterranean hydrological systems
Natural (Coastal)	<input type="checkbox"/> Coastal lagoon <input type="checkbox"/> Estuary <input type="checkbox"/> Intertidal mud, sand or salt flats <input type="checkbox"/> Mangroves <input type="checkbox"/> Coral reefs
Human made	<input type="checkbox"/> Aquaculture pond <input type="checkbox"/> Tank <input type="checkbox"/> Saltpan <input type="checkbox"/> Dam / Reservoir

2.3 Depth (m)      Average 1.64 m    Maximum 3.1 m

2.4 Elevation (m above mean sea level)      17 m

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2.5 Water regimes

Main source of water (tick all applicable)

Rainfall  Groundwater  Catchment runoff  Direct / indirect inflow from river

Others, please specify \_\_\_\_\_

b) Water permanence

Mostly permanent  Mostly intermittent

c) Destination of water from wetland

Feeds groundwater  To downstream catchment  To river  To Sea

d) Water pH

Acid (< 5.5)  Circumneutral (5.5 – 7.4)  Alkaline (> 7.4)

Not known

e) Water salinity

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

Eutrophic  Mesotrophic  Oligotrophic

Not known

2.6 Climatic setting

a) Annual Rainfall /Snowfall(mm)- 1111 mm

b) Temperature (°C)- Minimum 10.4° C Maximum 37.7° C

c) Humidity (%) Minimum- 69% Maximum- 88%

2.7 Area of zone of influence (in ha) – 909 ha [Ref. paras 32-34 of the guidelines on wetlands]

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

Forests – 0%

Plantation- 10%

Agriculture- 70%

Settlements (Rural)- 20%

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Settlements (Urban)- 0%

Industrial- 0%

2.9 Map of wetland complex and zone of influence

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

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**Section 3: Biodiversity**

3.1 Notable plant species present in wetland

*Eichhornia crassipes* (Free floating), *Hydrilla verticillate* (Submerged), *Nelumbo nucifera*, *Nymphaea alba*, *Cynodon dactylon* (marginal)

3.2 Notable animal species present in wetland

Oriental darter, Little grebe, Grey heron, Purple heron, Black necked stork, Lesser adjutant stork, Greater Adjutant Stork, Woolly necked Stork, Eastern Imperial eagle, Greater spotted eagle, Asian Openbill stork, Black Ibis, Large whistling teal, Lesser whistling teal, Cotton teal, Northern Shoveller, Northern Pintail, Gargeny, Common teal, Red crested pochard, Purple moorhen, Common coot, Pheasant tailed Jacana, Bronze winged jacana, White breasted Kingfisher, Lesser Pied Kingfisher, Black winged stilt

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

Endangered – Greater Adjutant Stork

Vulnerable- Lesser Adjutant Stork, Woolly necked Stork, Eastern Imperial eagle, Greater spotted eagle

3.4 Major plant invasive alien species

*Eichhornia*

3.5 Major animal invasive alien species

None

**Section 4: Ecosystem services**

Importance	Relevant for the site: please tick yes or no	If Yes, details (upto 50 words for each category)
Source of drinking water for people living in and around	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Source of water for agriculture	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	The adjoining village people pump out the water from the lake and use it for irrigation in agricultural lands during dry season. This is the only source of water in the surrounding.
Fisheries	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Annual fishing lease is issued by the Fisheries department. The lease owner engage the local fishermen for fishing all around the year. Seeding is also done to maintain the population. Every alternate year, the fishermen pump out all water and catch all the fishes.
Cultivation of aquatic food plants	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Makhana (Lotus seeds) is cultivated and the seeds are collected by the local villagers. This is done during the season of availability of water.

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For buffalo wallowing and use of domesticated animals	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Medicinal plants	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Is a recreational site	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Buffering communities from extreme events as floods and storms	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	The wetland act as flood water drainage point and thereby reduce the effects of flood situation in the catchment area. The Zone of influence of this lake is in the Gangetic plain and are often prone to flooding during monsoon. The presence of Jagatpur lake which is a large water body in the area helps control flood.
Groundwater recharge	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	The perennial lake in Jagatpur stores water all the year round and helps in recharging the surrounding water table. The hand pumps and wells never dry out in the zone of influence area.
Water purification	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Acts as a sink for sediments	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Has significant cultural and religious values	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	The local people use this water body for Puja purpose especially during the annual Chhat puja festival. Large number of people congregate in the lake and offer puja and prayers. Therefore this lake has got significant cultural and religious value.
Is a site for recreation and tourism	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	This lake has a potential for recreation and tourism. Proposals have been submitted to initiate eco-tourism in the future.
Supports noteworthy plants species	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Supports noteworthy animal species	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	The endangered Greater Adjutant storks are found here. The Kadwa diara which is one of the breeding sites for this bird spp is just about 20 km from Jagatpur lake. Other vulnerable species of birds like Lesser Adjutant Stork, Woolly necked Stork, and Black necked storks are also recorded in this lake.
Site of high congregation of migratory water birds	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Jagatpur lake falls in the Central Asiatic Flyway and so during migratory season, hundreds of migratory birds can be spotted in Jagatpur lake. Being the only large inland water body in the surrounding, this lake harbours many birds as a wintering spot. The adjoining Ganga river which has been notified as Vikramshila Gangetic Dolphin

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		Sanctuary, is one of the largest congregation site of migratory birds in Bihar
Supports life cycle of fish or amphibians	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Numerous fishes, amphibians and insects are found in the wetland and adjoining marshes and agricultural landscape.
Mining	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Any other, please list	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

### 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 (up to 50 words for each category)
Community Fishing (without any lease or permission from government department)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Assessed	
Fishing under lease from government department	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Assessed	Annual fishing lease is issued by the Fisheries department. The lease owner engage the local fishermen for fishing all around the year. The impact on the local fish population and the birds that forage in these fishes has not been assessed. This is one major topic that requires a long term study. Introduction of non native fish species also has negative impact on the lake ecosystem
Harvest of plants (without any lease or permission from government department)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Assessed	Makhana (Lotus seeds) is cultivated and the seeds are collected by the local villagers. The impact of such practices needs to be studied.
Harvest of plants under lease from government department	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Assessed	
Agriculture or horticulture within Wetland	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Assessed	
Grazing	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	

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		<input type="checkbox"/> Not Assessed	
Religious practices	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Assessed	The local people use this water body for Puja purpose especially during the annual Chhat puja festival. Large number of people congregate in the lake and offer puja and prayers. This practice is done only for a few days in a year and does not have negative impact on the wetland.
Withdrawal of water for domestic use	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Assessed	
Withdrawal of water for agriculture or fisheries	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Assessed	The adjoining village people pump out the water from the lake and use it for irrigation in agricultural lands during dry season. Due to this practice, the lake gets dried up during summer. Excessive usage of water for agriculture sometimes leads to total drying of the lake which is having negative impact on the dependent species. Every alternate year, the entire lake is purposefully drained out of water by the local fishermen to catch all the fishes.
Bathing or wallowing of domestic Animals	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Assessed	
Plying of boats	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Assessed	Boats are popular means of travel from one village to another. The local people prefer crossing the waterbody instead of a long road travel. But there are only minimum number of boats, that too non-mechanised manual boats in the lake and plying them does not effect in any way. During winter, when the lake is full of migratory birds, the boating should be totally stopped.

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Any other, please list here	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
		<input type="checkbox"/> Not Assessed	

**Section 6: Present and Potential Threats**

Threat	Degree	Present or Potential	Additional Information if any;
Changes in water inflow and outflow	<input type="checkbox"/> High <input type="checkbox"/> Medium <input checked="" type="checkbox"/> Low	<input checked="" type="checkbox"/> Present <input type="checkbox"/> Potential	
Pollution	<input type="checkbox"/> High <input type="checkbox"/> Medium <input checked="" type="checkbox"/> Low	<input checked="" type="checkbox"/> Present <input type="checkbox"/> Potential	
Unsustainable harvest of biological resources	<input type="checkbox"/> High <input type="checkbox"/> Medium <input checked="" type="checkbox"/> Low	<input checked="" type="checkbox"/> Present <input type="checkbox"/> Potential	
Mining	<input type="checkbox"/> High <input type="checkbox"/> Medium <input checked="" type="checkbox"/> Low	<input type="checkbox"/> Present <input checked="" type="checkbox"/> Potential	
Siltation	<input type="checkbox"/> High <input type="checkbox"/> Medium <input checked="" type="checkbox"/> Low	<input checked="" type="checkbox"/> Present <input type="checkbox"/> Potential	
Encroachment	<input type="checkbox"/> High <input type="checkbox"/> Medium <input checked="" type="checkbox"/> Low	<input type="checkbox"/> Present <input checked="" type="checkbox"/> Potential	
Spread of invasive Species	<input checked="" type="checkbox"/> High <input type="checkbox"/> Medium <input type="checkbox"/> Low	<input checked="" type="checkbox"/> Present <input type="checkbox"/> Potential	
Any other, please list	<input type="checkbox"/> High <input type="checkbox"/> Medium <input type="checkbox"/> Low	<input type="checkbox"/> Present <input type="checkbox"/> Potential	

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**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	regulated	<input checked="" type="checkbox"/> Wetland/Wetlands complex boundary <input type="checkbox"/> Zone of influence	Water from the lake is used for agriculture by the adjacent farmers. This can be allowed only during the years when highest water level is reached during the monsoon.		
Harvesting of resources (living / non-living)	regulated	<input checked="" type="checkbox"/> Wetland/Wetlands complex boundary <input type="checkbox"/> Zone of influence	Fishing is allowed in the lake for the local fishermen	Fisheries dept	Annual lease issued
Grazing	regulated	<input checked="" type="checkbox"/> Wetland/Wetlands complex boundary <input type="checkbox"/> Zone of influence	Limited grazing of local cattle in the wetland boundary		
Discharge of treated sewage/ effluent / wastewater	prohibited	<input checked="" type="checkbox"/> Wetland/Wetlands complex boundary <input type="checkbox"/> Zone of influence			
Construction of boat jetties, and facilities for temporary use, as pontoon bridges	prohibited	<input checked="" type="checkbox"/> Wetland/Wetlands complex boundary <input type="checkbox"/> Zone of influence			
Aquaculture, agriculture and horticulture activities within the wetland boundaries.	regulated	<input checked="" type="checkbox"/> Wetland/Wetlands complex boundary <input type="checkbox"/> Zone of influence	All these activities can be allowed for the economic development and livelihood of the local community.		
Any other, please list	None	<input type="checkbox"/> Wetland/Wetlands complex boundary <input type="checkbox"/> Zone of influence			

**Section 8: Activities Proposed to be permitted**

Activity	Place a tick mark if relevant	Within wetlands or zone of influence	Additional information, if any
Fishing (regulated)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Wetland/Wetlands complex boundary <input type="checkbox"/> Zone of influence	
Cultivation of Makhana	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Wetland/Wetlands complex boundary <input type="checkbox"/> Zone of influence	
Plying of boats	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Wetland/Wetlands complex boundary <input type="checkbox"/> Zone of influence	
Cultivation of agriculture and horticulture crops	<input checked="" type="checkbox"/>	<input type="checkbox"/> Wetland/Wetlands complex boundary <input checked="" type="checkbox"/> Zone of influence	
Eco-tourism	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Wetland/Wetlands complex boundary <input type="checkbox"/> Zone of influence	
Construction of village roads	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Wetland/Wetlands complex boundary <input checked="" type="checkbox"/> Zone of influence	
	<input type="checkbox"/>	<input type="checkbox"/> Wetland/Wetlands complex boundary <input type="checkbox"/> Zone of influence	

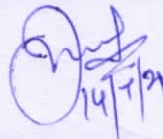
**Section 9: Listing of Available Scientific Resources Used**

1. Kumar, B. N., & Choudhary, S. K., 2010. Avifauna of Jagatpur wetland near Bhagalpur (Bihar, India). *Indian Birds* 6 (1): 15-17.
2. Kumar, B.N., 2011. Limnology of Jagatpur wetland, Bhagalpur (Bihar), India. *Indian Journal of Environmental health* 53(4): 463-8
3. Kumar, B.N., & Choudhary, S.K., 2010. Phytoplankton species diversity of Jagatpur Wetland, Bhagalpur, Bihar (India). *J. Indian bot. Soc.* Vol. 89 (3&4) 2010: 358-363.

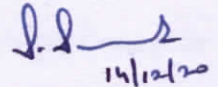
**CHECKLIST**

- 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

Attested

  
14/1/19

**Divisional Forest Officer  
Bhagalpur Forest Division**

  
14/1/20

**Divisional Forest Officer  
Bhagalpur Forest Division**