



Chandan River

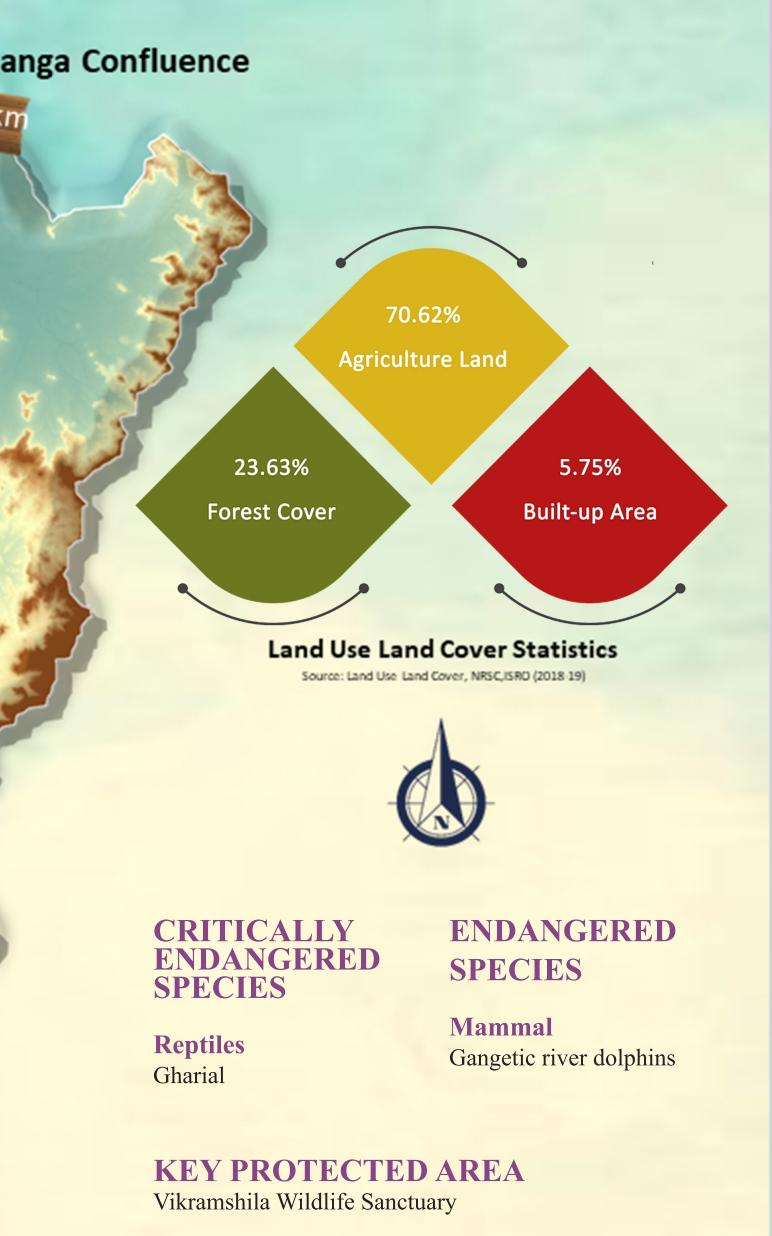


GENERAL INFORMATION

- Chandan river originates near the northern part of Deoghar hills in Jharkhand state at an elevation of 274 m.
- Chandan River covers a length of about 145 km, of which 138 km flows through Bihar and 7 km through Jharkhand.
- Chandan River Basin covers an area of 4771.76 km², of which 54.5% falls in Bihar and 45.5% in Jharkhand.
- Chandan is one of the major sources of irrigation for agriculture, an important livelihood in the area.
- During its course, the river flows through major areas of Tola Lachmipur, and enters the Banka district from the

southwest, and flows northwards through Bhagalpur and Kahalgaon. It meets the Ganga River through the Jamunia river channel nearby Vikramshila Bridge at Barari in Bihar.

- Chandan flows through two biogeographic zones, the Deccan Peninsula and the Gangetic Plains and two biotic provinces, Chhota Nagpur (6B) and Lower Gangetic Plains (7B).
- Climate of the Basin varies from sub-tropical to subhumid.
- Orhni, Kuldar and Chatri are the key tributaries of Chandan.

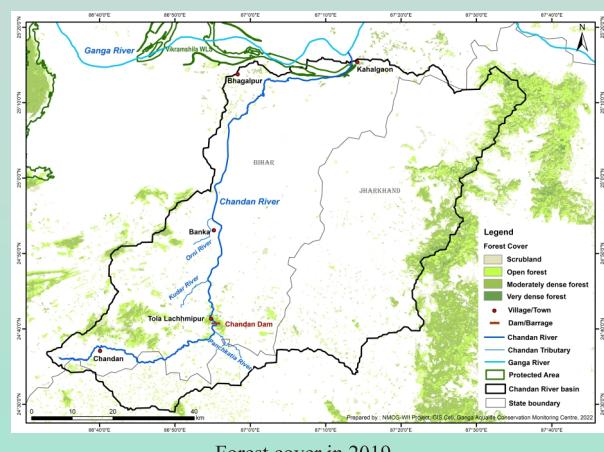
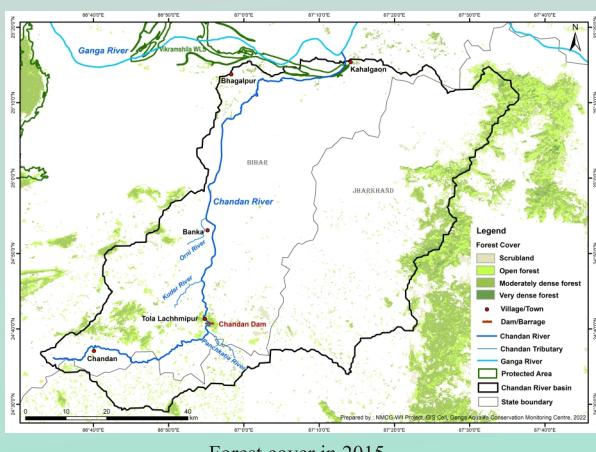


SALIENT FEATURES

- Chandan is a largest hill stream in south Bhagalpur.
- Chandan River is dynamic in nature, and gradual modification in the river system resulted in a vibrant soil system broadly grouped into two categories, alluvial soil and hilly soil.
- Floods are a common occurrence in Chandan. With its well-defined channels and high banks, Chandan becomes rapid torrents during monsoon and is almost dry in the summer.
- Around a 4 km stretch of Chandan River flows through the Vikramshila Wildlife Sanctuary, which has been protected since 1991 by the Government of Bihar, India.
- Three major forest types dominate the Basin, dry peninsular sal forest (5B/C1c), northern mixed deciduous forest type (5B/C2) and dry deciduous scrub forest (5/DS1).
- Vegetation of the Chandan River basin is represented by *Shorea-Anogeissus-Woodfordia* communities, *Cochlospermum-Euphorbia* communities, *Anogeissus-Mitragyna-Dendrocalamus-Daedalacanthus* communities, *Acacia catechu*, *Randia dumetorum*, *Ziziphus spp.*, *Carissa spp* and *Butea monosperma*.
- Gangetic river dolphins (*Platanista gangetica*) and smooth-coated otter (*Lutrogale perspicillata*) have been reported from the Vikramshila Wildlife Sanctuary in the Basin.
- Seventy-six fish species, 135 bird species and among reptiles gharial (*Gavialis gangeticus*) and several freshwater turtles have been reported from the Vikramshila Wildlife Sanctuary in the Basin.
- Basin supports a human population of 25.93 lakh, of which 22.74 lakh are in Bihar and 3.19 lakh are in Jharkhand.

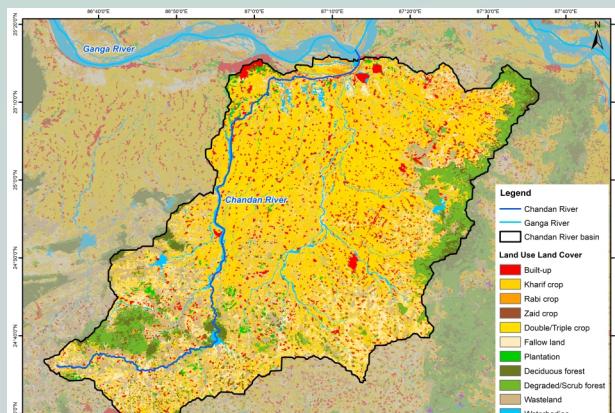
FOREST COVER

Catchment of the Chandan River is dominated non-forest cover, followed by moderately dense forest, open forest, scrubland, and very dense forest.

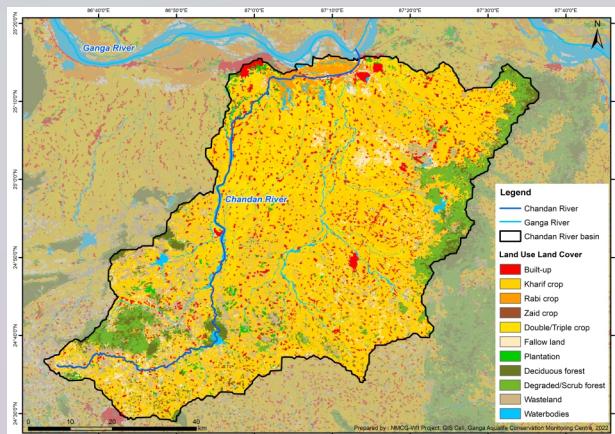


LAND USE AND LAND COVER CHANGE

Land Use and Land Cover (LULC) maps (2008-09 & 2018-19) revealed that over a period of ten years, there was an increase in the Kharif crop area (16.77%) and a decrease in the fallow land (10.06%), double/triple crop (3.59%), wasteland (1.84%) and rabi crop area (1.01%).



LULC map of 2008-09



LULC map of 2018-19



DAMS AND BARRAGES

- A dam and two weirs were constructed on the Chandan River in the Banka District, Bihar for irrigation purposes.
- Chandan Dam was built in 1968 with a length of 1555 m and has a gross storage capacity of 157.23 million cubic meters.
- Ghogha weir, with a length of 312.4 m, has 4528 cumecs design flood discharge.
- Ikoria Weir was constructed with a length of 244 m and a flood discharge capacity of 2830 cumecs.

DRIVERS OF RIVERSCAPE CHANGE

- Encroachment due to agriculture is majorly affecting the river habitat.
- Agricultural runoff is one of the major sources of pollution in Chandan as it brings a load of toxic pesticides, fertilisers and insecticides into the river.
- Discharge of domestic waste and garbage dumps into the river also threatens the physico-chemical characteristics of river water.
- Uncontrolled riverbed mining in Chandan also alters the natural riverine habitat.
- Human activities such as bathing, washing clothes, and dumping dead bodies into the Chandan River also deteriorate the water quality.



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