

VIBRANT GANGA



भारतीय वन्यजीव संस्थान
Wildlife Institute of India



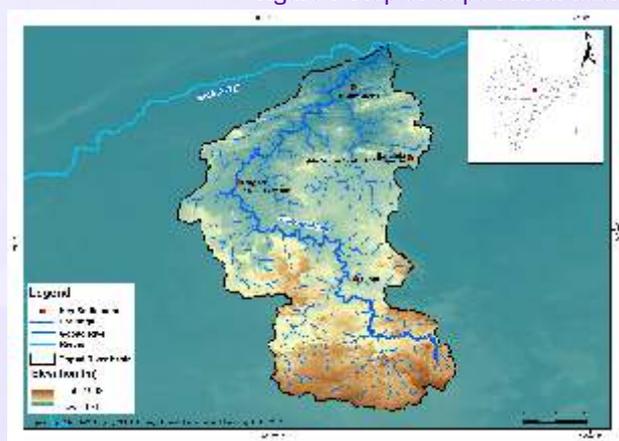
Gopad

GENERAL INFORMATION

- Gopad River, a right bank tributary of the Son River, originates on the northern slopes of the Sonhat Plateau within Guru Ghasidas National Park, Korea district, Chhattisgarh, and flows for about 255 km through the districts of Korea in Chhattisgarh, and Sidhi and Singrauli in Madhya Pradesh.
- It joins the Son River near Sonbarsha village, Singrauli district.
- Gopad River basin spans an area of about 6,036.3 km² (Figure 1).
- The basin lies within the Deccan Peninsula (Central Highlands – 6A) biogeographic zone.
- Gopad basin experiences a tropical monsoon climate, characterised by hot, dry summers, a wet monsoon, and cooler, drier winters.
- Gopad basin comprises undulating to gently sloping plateau terrain with dissected uplands, shallow valleys, forested hill slopes, and localized alluvial plains in the lower reaches.
- Key tributaries of the Gopad River are the Mahan, Dhonnai Nala, Kandas, Mohan, Neur and Goini.
- The population density along the river basin is approximately 173.04 persons/km².

- Decadal LULC transitions in the Gopad basin (2008-09 to 2018-19) recorded an increase in area under kharif crop (8.92%), double/triple cropping (1.93%), built-up area (0.2%), deciduous forest (0.11%), water bodies (0.03%) and plantation (0.01%), while current fallow land (-8.46%), rabi crop (-2.03%), wasteland (-0.69%) and scrub forest (-0.02%) declined, indicating a shift towards agricultural intensification (Figures 2a and 2b).

Figure 1: Map of Gopad River basin



BIODIVERSITY VALUE

- Gopad basin is dominated by moderately dense forest (37.74%), followed by non-forest areas (36.64%), open forest (18.46%), very dense forest (6.4%), and scrubland (0.76%) (Figure 3).
- The basin is characterised by Northern Tropical Moist Deciduous forest in the upper Sonhat Plateau, dominated by *Shorea robusta*, *Terminalia tomentosa*, and *Pterocarpus marsupium*, transitioning across the Vindhyan tracts to Northern Tropical Dry Mixed Deciduous forest with *Anogeissus latifolia*, *Butea monosperma*, and *Boswellia serrata*, and further to riparian and alluvial formations along the lower reaches with *Terminalia arjuna*, *Dalbergia sissoo*, *Syzygium cumini*, and grasses such as *Saccharum spontaneum*.
- Sanjay-Dubri Tiger Reserve, in the Gopad basin, harbours the Endangered tiger (*Panthera tigris*), and Vulnerable leopard (*Panthera pardus*), sloth bear (*Melursus ursinus*), sambar (*Rusa unicolor*) and four-horned antelope (*Tetracerus quadricornis*).
- About 294 bird species have been recorded from the Sindhi and Singrauli districts, 309 from the Sanjay-Dubri Tiger Reserve and 111 species from the Son Gharial Wildlife Sanctuary, including the Critically Endangered sociable lapwing (*Vanellus gregarius*), red-headed vulture (*Sarcogyps calvus*), white-rumped vulture (*Gyps bengalensis*) and Indian vulture (*Gyps indicus*).
- Son Gharial Wildlife Sanctuary harbours the Critically Endangered gharial (*Gavialis gangeticus*), and Vulnerable mugger crocodile (*Crocodylus palustris*). The presence of turtles has also been documented in the Gopad basin, including the Endangered Indian narrow-headed softshell turtle (*Chitra indica*) from Sanjay-Dubri Tiger Reserve.
- 32 fish species (7 orders, 11 families) have been recorded from the Gopad River, including the Vulnerable *Wallago attu*, and Near Threatened *Ompok bimaculatus*.

Figure 2a: LULC map of Gopad River basin (2008-09)

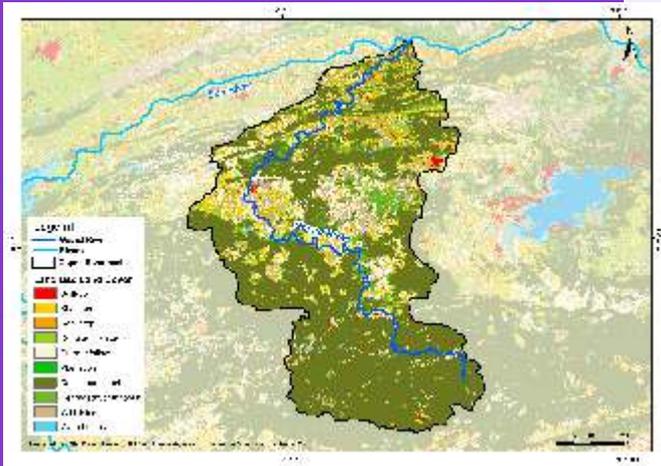


Figure 2b: LULC map of Gopad River basin (2018-19)

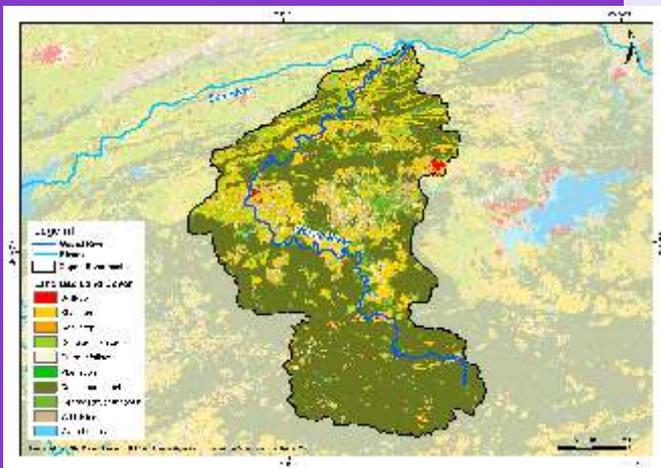


Figure 3: Forest cover of Gopad River basin (2019)



CONSERVATION SIGNIFICANCE

CRITICALLY ENDANGERED

Avifauna

Sociable lapwing *Vanellus gregarious* (Pallas, 1771)

Reptile

Gharial *Gavialis gangeticus* (Gmelin in Linnaeus, 1789)

ENDANGERED

Avifauna

Indian skimmer *Rynchops albicollis* (Swainson, 1838)

Black-bellied tern *Sterna acuticauda* (Gray, 1832)

Pallas's fish-eagle *Haliaeetus leucoryphus* (Pallas, 1771)

Egyptian vulture *Neophron percnopterus* (Linnaeus, 1758)

Reptile

Indian narrow-headed softshell turtle *Chitra indica* (Gray, 1830)

VULNERABLE

Avifauna

River tern *Sterna aurantia* (Gray, 1831)

Greater spotted eagle *Clanga clanga* (Pallas, 1811)

Bristled grassbird *Schoenicola striatus* (Jerdon, 1841)

Common pochard *Aythya ferina* (Linnaeus, 1758)

Sarus crane *Grus antigone* (Linnaeus, 1758)

Reptile

Mugger *Crocodylus palustris* (Lesson, 1831)

Fish

Wallago attu (Bloch and Schneider, 1801)

KEY PROTECTED AREAS

Guru Ghasidas National Park

Sanjay National Park

Sanjay-Dubri Wildlife Sanctuary

Son Gharial Wildlife Sanctuary

DRIVERS OF RIVERSCAPE CHANGE

- Coal mining and thermal power projects in the Singrauli–Sindh region have significantly altered the landscape through large-scale land excavation, deforestation, overburden dumping, and infrastructure development, resulting in changes to drainage patterns, increased sediment load, groundwater stress, and deterioration of air and water quality.
- Gond Major Irrigation Project on the Gopad River, including the Jalpani Dam and proposed Songarh and Gotra barrages, has fragmented the river and altered its natural flow regime, disrupting sediment transport, longitudinal connectivity, and downstream ecological processes critical for sustaining aquatic biodiversity.
- Agricultural expansion and deforestation in the catchment have accelerated soil erosion and sediment inflow, reducing riparian buffers, destabilising riverbanks, and altering channel morphology.
- Sand mining along the Gopad River has destabilised the riverbed, deepened the river channel, and weakened the riverbanks, increasing erosion, altering natural flow regimes, and degrading critical habitats supporting riverine biodiversity.

Gaur (*Bos gaurus*) | ©Anjan Lal



INTERESTING FACTS

- Gopad basin includes two tiger reserves, namely Sanjay–Dubri and Guru Ghasidas–Tamor Pingla, forming part of the Bandhavgarh–Sanjay–Guru Ghasidas–Palamau tiger landscape. The first recorded white tiger in India, 'Mohan', was discovered in 1951 in the Bargadi forest (now within Sanjay–Dubri Tiger Reserve) by Maharaja Martand Singh of Rewa and later kept at Govindgarh Palace; the Maharaja Martand Singh Judeo White Tiger Safari and Zoo has since been established at Mukundpur in Satna district, Madhya Pradesh.
- Sanjay–Dubri Tiger Reserve historically supported populations of the Vulnerable gaur (*Bos gaurus*), with the last confirmed record in 1998. Under the 2023 Gaur Reintroduction Programme, 50 individuals (34 from Kanha Tiger Reserve and 16 from Satpura Tiger Reserve) have been translocated to restore the species in the reserve.
- Gangirani Devi Temple (Korea district), a major regional religious site along the Gopad River, features a 300–400-year-old rock-cut subterranean cave (approximately 20 × 20 m) carved from a single stone. The cave houses sculptures of *Vrishabha*, serpent (*Naag*) motifs, dancers, and a deity associated with the Naag tradition, reflecting early cultural use of the riverine landscape.
- Bardi Fort (*Vardi ka Kila*), a late medieval fort located at the confluence of the Son and Gopad rivers in Singrauli district, is believed to have been originally constructed by the Chandela Rajput rulers and later strengthened and expanded by Raja Mayur Shah in the 18th century.



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