



नमो
गंगे



Government of India
Ministry of Jal Shakti
Department of Water Resources,
River Development & Ganga Rejuvenation



भारतीय वन्यजीव संस्थान
Wildlife Institute of India



CHAMBAL

THE CLEAN FLOW OF WILDERNESS



TOTAL LENGTH \approx 960 km
CATCHMENT AREA - 1,43,219 km²



ABOUT CHAMBAL RIVER

- The Chambal River, called Charmanvati in ancient times, is one of the major tributaries of the Yamuna River.
- Located in Central India, the river forms part of the greater Gangetic drainage system.
- Known for its clear and pristine waters, the Chambal River is also one of the cleanest rivers in India.
- Flows north-northeast through Madhya Pradesh, running for a time through Rajasthan, then forming the boundary between Madhya Pradesh, Rajasthan and Uttar Pradesh before turning southeast to join the Yamuna in Uttar Pradesh.
- The Chambal River flows across three states-Madhya Pradesh, Rajasthan and Uttar Pradesh, covering about 24 districts in total, including 12 districts in Madhya Pradesh, 11 districts in Rajasthan, and 1 district in Uttar Pradesh.

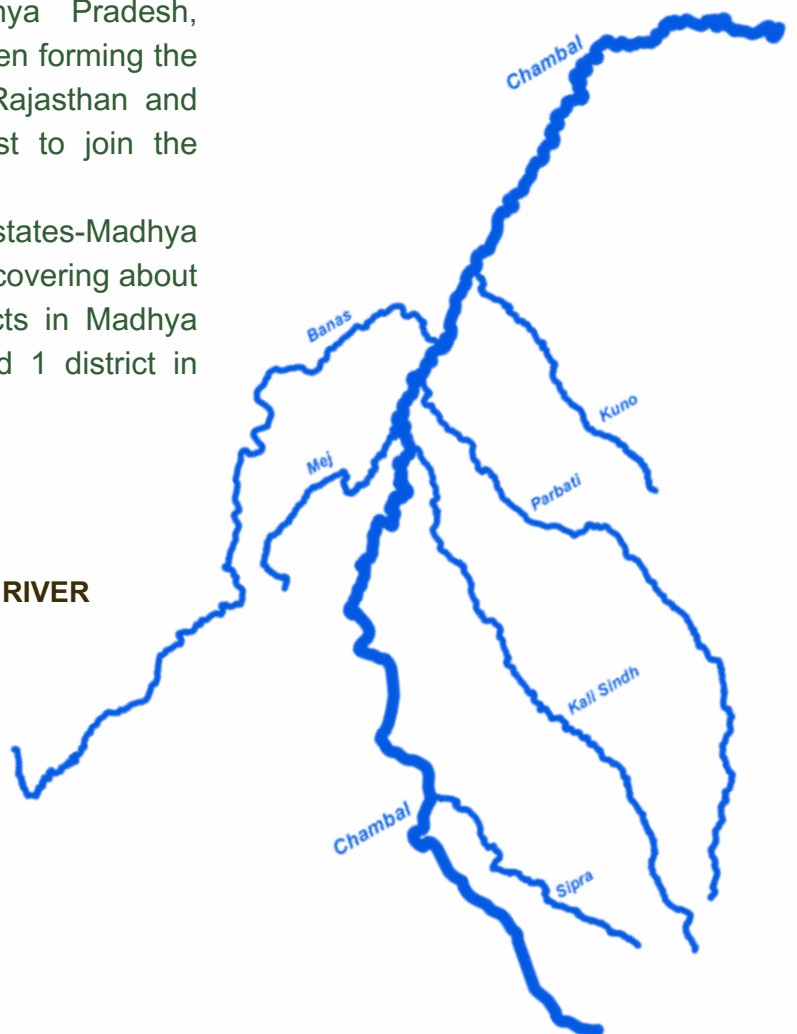
MAJOR TRIBUTARIES OF THE CHAMBAL RIVER

Left Bank Tributaries

- Banas
- Mej

Right Bank Tributaries

- Parbati
- Kali Sindh
- Shipra
- Kuno





GEOGRAPHY & ECOSYSTEM

The Chambal River is one of the most important rivers of central and northern India. Its geography is unique because the river flows through plateaus, ravines, and semi-arid plains, creating one of India's most distinctive riverscapes. This terrain, characterized by deep gorges and sandbanks, provides critical nesting and basking habitats for reptiles and birds. The river's relatively unpolluted waters make it a key refuge for freshwater biodiversity in northern India.

Chambal Plateau

- Upper reaches flow through the Malwa Plateau
- Rocky riverbed and narrow valleys
- Faster flow and deep channels

Ravine System

- One of the largest ravine systems in India
- Formed due to:**
- Soil erosion
- Seasonal flooding
- Ravines act as:**
- Natural barriers to human encroachment
- Safe habitats for wildlife

Alluvial Plains

- In lower reaches
- Wider river channel
- Sandy islands and floodplains
- Ideal for birds and aquatic species

Chambal River Basin:

The Chambal River basin forms the western section of the larger Ganga River basin. The Chambal River originates in the Vindhyan range of Central India. It is the Yamuna River's principal tributary and the largest cratonic river in India. After flowing approximately 960 km, it merges with the Yamuna River near Bhareh village, Etawah, Uttar Pradesh. It receives contributions from three significant tributaries: Kali Sindh, Banas and Parbati. The entire basin covers an area of 141,600 km² and exhibits elevations ranging from 63 m mean sea level to 1,318 m mean sea level, along with an average annual rainfall of about 1,100 mm. In Rajasthan, Chambal basin extends to 11 districts including Chittorgarh, Bhilwara, Bundi, Sawai Madhopur, Tonk, Jhalawar Kota, Baran, Pratapgarh and Dholpur. On its south, east and west, the basin is bounded by the Vindhyan mountain ranges and on the north-west by the Aravallis. Maximum area of Chambal Basin is covered by Baran district (22.43% of basin area) and while it is least covered by Tonk district (1.38% of basin area).



BIODIVERSITY ZONE

National Chambal Sanctuary

National Chambal Sanctuary is a protected riverine ecosystem along the Chambal River, spanning parts of Madhya Pradesh, Rajasthan, and Uttar Pradesh in India. Established to safeguard the critically endangered (IUCN) Gharial, it is one of the last surviving habitats supporting diverse aquatic and riparian wildlife.

Key facts

- **Established:** 1979
- **Area:** Approximately 5,400 km².
- **River length protected:** About 600 km of the Chambal River.
- **Primary species:** Gharial, Gangetic dolphin, mugger crocodile, and over 300 bird species.
- **Governance:** Jointly managed by Madhya Pradesh, Rajasthan, and Uttar Pradesh state forest departments.



Flagship & Key Species



Gharial - *Gavialis gangeticus*

Global stronghold population and listed as Critically Endangered (IUCN) due to severe population decline and habitat loss.



Gangetic Dolphin - *Platanista gangetica*

The Gangetic dolphin is an endangered (IUCN) freshwater cetacean native to the river systems of northern India, Bangladesh, and Nepal.



Indian Skimmer - *Rynchops albicollis*

Recognized for its unique bill and graceful flight, it is a key indicator of healthy river ecosystems. The species is currently listed as Endangered (IUCN), reflecting steep declines in its population and habitat.



Smooth-Coated Otter - *Lutrogale perspicillata*

Semi-aquatic mammal distinguished by its sleek, short fur and strong social behavior, it is the largest otter species in Asia and plays a crucial ecological role in freshwater systems and listed as Vulnerable (IUCN).

Additional Species

CRITICALLY ENDANGERED SPECIES

Red-crowned Roofed Turtle

(*Batagur kachuga*)

ENDANGERED SPECIES

Indian Narrow-headed Softshell Turtle

(*Chitra indica*)

Black-bellied Tern

(*Sterna acuticauda*)

VULNERABLE SPECIES

Mugger Crocodile

(*Crocodylus palustris*)

Indian Flapshell Turtle

(*Lissemys punctata*)

WETLANDS IN THE CHAMBAL RIVER SYSTEM

The Chambal River supports a network of riverine wetlands, especially within the National Chambal Sanctuary.

These wetlands are mostly natural, shaped by:

- Seasonal monsoon floods
- Sediment deposition
- Shifting river channels

1. Riverine Wetlands

- Main flowing channel of the river
- Deep pools and slow-moving stretches
- Year-round water availability

Ecological role:

- Habitat for Ganga River Dolphin, Fishes and Crocodilians
- Maintains river connectivity

2. Sandbanks & River Islands

- Formed during dry seasons
- Temporary but critical wetland habitats

Nesting sites for:

- Gharial
- Indian Skimmer
- Freshwater turtles

3. Floodplain Wetlands

- Appear during monsoon floods
- Retain water even after river levels drop

Functions:

- Fish breeding and nursery grounds
- Nutrient-rich feeding areas for birds
- Natural flood control zones

4. Riparian Wetlands

- Found along riverbanks
- Dominated by grasses, reeds and shrubs

Benefits:

- Prevent soil erosion
- Filter pollutants
- Provide shelter for amphibians and birds



SEASONAL CHANGES – A LIVING SYSTEM

Every season plays a role in river life.

Monsoon

- Expands wetlands
- Triggers breeding cycles

Winter

- Supports migratory birds

Summer

- Reveals sandbanks for nesting



GLOBAL IMPORTANCE

- Recognized as a Key Biodiversity Area (KBA)
- Identified as an Important Bird Area (IBA)
- Proposed for international wetland recognition
- Represents a model for river conservation in India

Historical and Cultural Context

Ancient References: The Chambal River is mentioned in ancient Hindu scriptures, referred to as Charmanyavati in the Mahabharata, which signifies its historical significance.

Cultural Importance: The river has been a crucial resource for agriculture and local communities, and it is associated with various cultural narratives and practices.

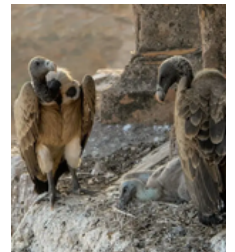
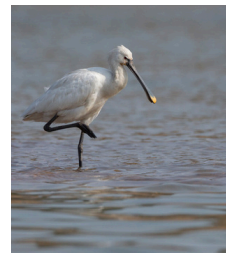


KEY THREATS

- Illegal sand mining destroys nesting sites
- Reduced water flow dries wetlands
- Noise and boat disturbance affect dolphins
- Unsustainable fishing affects food chains

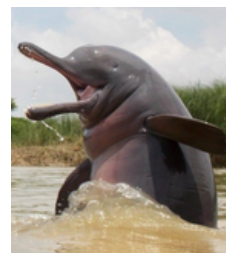
CONSERVATION HIGHLIGHTS

- Chambal supports the largest breeding population of gharials.
- The ravines and cliffs along the Chambal River provide secure nesting and roosting sites for the Critically Endangered Indian Vulture and White-rumped Vulture, and the Endangered Egyptian Vulture.
- Supports threatened turtles including Red-crowned Roofed Turtle (Critically Endangered), Three-striped Roofed Turtle and Narrow-headed Softshell Turtle (Endangered), with vital nesting on sandbanks.



WILDLIFE PROTECTED AREAS NEAR CHAMBAL RIVER

- Ranthambore National Park
- National Chambal Wildlife Sanctuary
- Kailadevi Wildlife Sanctuary
- Kesarbagh Wildlife Sanctuary
- Gandhi Sagar Wildlife Sanctuary
- Dholpur-Karauli Tiger Reserve
- Mukundra Hill Tiger Reserve



CHAMBAL RIVER DAMS

There are four main dams on Chambal river listed from south to north

1. Gandhi Sagar Dam
2. Rana Pratap Sagar Dam
3. Jawahar Sagar Dam
4. Kota Barrage



FUN FACTS



Moving Islands

- Chambal's sandbanks appear and disappear every year, creating new homes for birds and reptiles each season.

Ground Nesters

- One such bird is the Indian Skimmer. Its eggs are sandy-colored with tiny brown speckles, blending perfectly with the riverbank.

Nature's Clean-Up Crew

- Freshwater turtles help clean the river by eating dead plants and animals.

A Rare Clean River

- Chambal is one of the cleanest rivers in North India, which is why so many endangered species survive here.

Wild Ravines

- The deep Chambal ravines act like natural wildlife fortresses, keeping animals safe from disturbance.

Monsoon Magic

- When monsoon floods arrive, they form temporary wetlands that become breeding homes for fish and birds.

Crocodile with a Nose Bubble

- Male gharials grow a round bump on their nose called a "ghara", which helps them make loud sounds during mating!

Nature's Timekeeper

- Every season changes the river summer shows sandbanks, monsoon spreads wetlands, winter brings birds.

**PLANNING AND MANAGEMENT FOR AQUATIC SPECIES
CONSERVATION AND MAINTENANCE OF ECOSYSTEM
SERVICES IN THE GANGA RIVER BASIN FOR A CLEAN GANGA**

Project Investigators

Dr. Ruchi Badola
Dr. Syed Ainul Hussain

Text Compilation

Ashmika Aggarwal
Aarti Chauhan
Rohit Kumar
Mohd. Danish Kaleem

Editorial Support

Dr. Sangeeta Angomm
Dr. Soufil Malek

Design & Layout

Ashmika Aggarwal

WII- NMCG Project Team

Rahul Gupta
Anshul Bhawsar
Alankrita Sharma
Simran Aggarwal
S.K. Pal



National Mission for Clean Ganga,
Department of Water Resource,
River Development & Ganga Rejuvenation,
Ministry of Jal Shakti, Major Dhyan Chand
Stadium, India Gate, New Delhi- 110001



**भारतीय वन्यजीव संस्थान
Wildlife Institute of India**

Wildlife Institute of India
Chandrabani Dehradun - 248001
Uttarakhand, India
t.: +911352640114-15, +911352646100,
f.: +911352640117
wii.gov.in/ nmcg/ national-mission-for-clean-ganga