

# Rivers, Lakes & Dams

of

# **RAJASTHAN**

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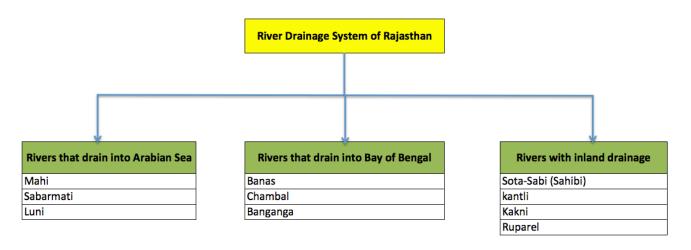
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# Rivers of Rajasthan

The rivers of Rajasthan can be divided into three main types based on their drainage pattern, they are rivers that drain into arabian sea, rivers that drain into bay of bengal and rivers with inland drainage. The most characteristic feature of the drainage system of Rajasthan is that nearly 60.2% of the area of the state has an inland drainage system.



The Aravalli range forms the main watershed for Rajasthan, dividing the drainage into the Arabian Sea and the Bay of Bengal. The Luni river system that rises from the western slopes of the Aravalli Range (near Ajmer) flows through the semi-arid transitional plains into the Rann of Kutch and Arabian Sea, while the Banas and other streams, rising from the eastern slopes of the Aravallis, join the Chambal. The Chambal, then flows into the Yamuna-Ganga river system which drains into the Bay of Bengal. The main watercourses like the Sabarmati, Banas, etc. and the tributaries of the Luni, are more or less parallel to the Aravalli Range.

# Rajasthan River Basins

A river basin is the portion of land drained by a river and its tributaries. It is considered as the basic hydrological unit for planning and development of water resources. Rajasthan is a water scarce state but there are six major river basins in the State. Major Rajasthan River Basins include:

- Banas basin which is the largest, drains out 45,833 Sq km.
- Luni basin, which comes next, drains out 37,363 Sq km.
- Chambal basin drains out 31,360 Sq km.
- *Mahi basin* drains out 16,985 Sq km.
- Banganga basin drains out 8,878 Sq km.
- Sabarmati basin drains out 4,164 sq km.

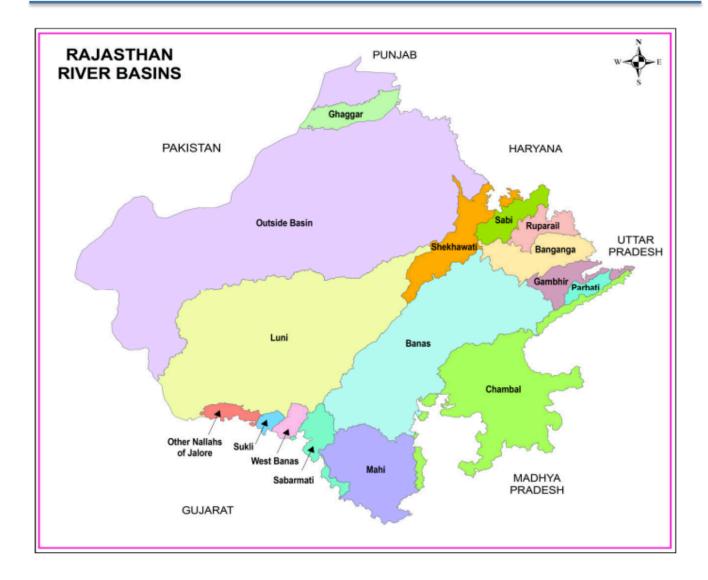
There are more rivers like Sahibi, Ruparel and Ghaggar which have smaller catchment areas besides several streams which feed the bigger rivers.

Five of these rivers can be further divided into sub-basins as given below:

- Banas Basin Banas, Berach, Dain, Gudia, Kalisil, Khari, Kothari, Mashi, Morel, Sodra.
- Luni Basin Luni, Sukri, Rediya, Mithri, Bandi, Khari, Jawai, Guhiya and Sagi, and Jojari.
- Chambal Basin Banas, Chakan, Chambal Downstream, Chambal Upstream, Kalisindh, Kunu, Mej and Parwati.

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- Mahi Basin- Anas, Bhadar, Jakham, Moran, Som and Mahi.
- Sabarmati Basin- Sabarmati, Sei, Vatrak and Wakal



# Inter-linking of Rajasthan River Basins

The National Water Development Agency (NWDA) under the Union Ministry of Water Resources, River Development and Ganga Rejuvenation is studying the preliminary level of the feasibility of the three river inter-linking projects in Rajasthan. The proposed links are:

- Parwati Kalisindh -Chambal Link,
- Yamuna-Rajasthan Link Project
- Rajasthan Sabarmati Link Project

Additionally, there's also a plan to divert water of Chambal to Bisalpur dam by linking its tributary, Brahmani river to Banas river upstream of Bisalpur.

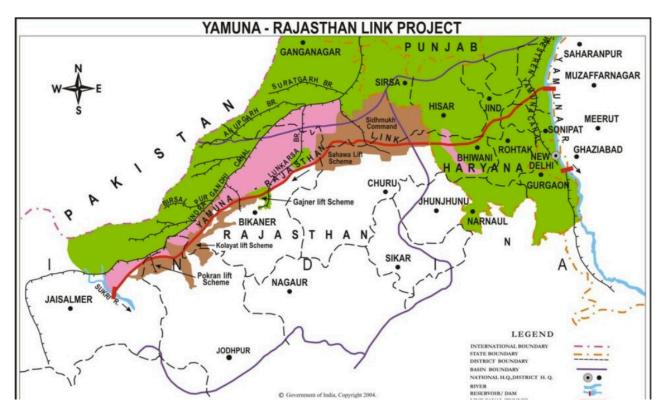
# The Rajasthan River Basin and Water Resources Planning Act, 2015

In October 2015, the Rajasthan assembly passed the Rajasthan River Basin and Water Resources Planning Bill, 2015 by voice vote. The bill sought for the establishment of *State Water Resources Advisory Council* and *Rajasthan River Basin and Water Resources Planning Authority* for management and development of river basins and sub-basins on sustainable basis on integrated water resources management (IWRM) concept.

#### Rajasthan River interlinking: Current Affairs

#### Yamuna-Rajasthan Link Canal

The National Water Development Agency (NWDA) under the Union Ministry of Water Resources, River Development and Ganga Rejuvenation is studying the preliminary level of the feasibility of the three river inter-linking projects in Rajasthan. One of the suggested project in Rajasthan is the Yamuna Rajasthan Link Canal Project.



#### Rajasthan-Yamuna link canal

The Upper Yamuna Board, which is entrusted with management of Yamuna river upto Okhla in Delhi, has Rajasthan as one of the members besides Himachal Pradesh, Haryana, Delhi and Uttar Pradesh. Rajasthan has been allocated 1.119 BCM of the share.

Three storage dams, namely: Kishau, Renuka and Lakhwar-Vyasi have been identified for which separate agreement will be executed in respect of each identified storage, within the framework of the overall allocation made in the agreement.

Due to the restricted capacity of its existing canals, Rajasthan proposed to utilise its share of Yamuna water partly in Churu district and partly in Bharatpur district. Water in the Bharatpur District is conveyed through Gurgaon Canal in Haryana that takes off from Okhla Barrage near Delhi. A second point from where water to Bharatpur is diverted is from Agra Canal, near Mathura in UP. Agra Canal also off-takes from Okhla Barrage. There is another barrage, Tajewala, in Haryana State, so that at present Haryana utilizes most of Yamuna flows at Tajewala headworks and very little water is available at Okhla headworks for Agra Canal.

Regarding supplies to Churu district, Rajasthan has proposed to take its water from Western Yamuna canal of Haryana, taking off from Tajewala headwork. A final agreement about these proposals is under negotiations between the two States and no work on this canal system has been initiated.

#### Rajasthan set to begin work on its first river-linking project

- <u>Rajasthan</u> Government has kicked off preparations for its first river-interlinking project –
  ensuring flow of excess rainwater in Chambal and Brahmani rivers to Bisalpur dam.
- Once operational, the project will ensure smooth drinking water supply to 19 towns and around 3000 villages in Jaipur, Ajmer, Tonk and Nagaur districts.

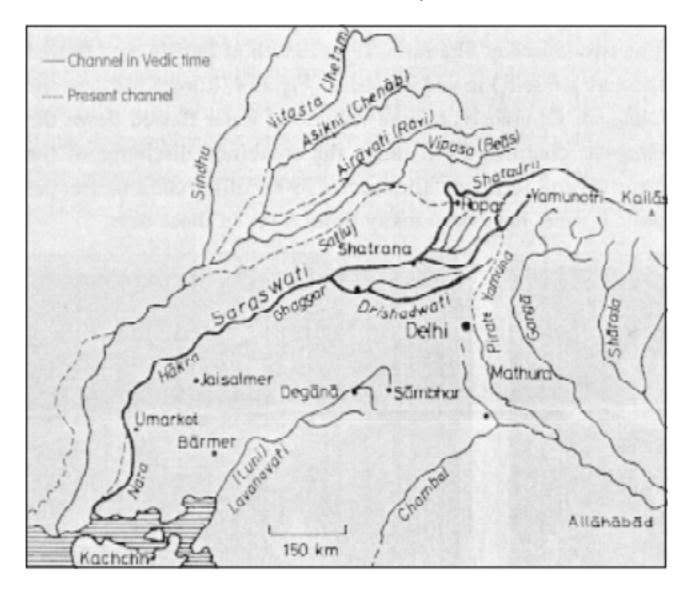
#### • The Project:

- o Construction of a dam to store monsoon flows in Brahmani river;
- A diversion system will be constructed to take water from the Brahmani dam to Bisalpur dam;

- o A pump house to lift water from Jawahar Sagar dam on the Chambal river;
- A transmission system will be made to bring water from Jawahar Sagar dam to diversion system and Brahmani dam; and from here, water will be sent to the Bisalpur dam through a 54km tunnel, which will have a 20km open channel.
- The Bisalpur dam, completed in 1999 on the Banas river, caters to water needs of <u>Ajmer</u> and <u>Jaipur</u>.

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# Ancient rivers of Rajasthan



Whenever there is mention of ancient rivers of India, three rivers emerge in Hindu ethos, viz., Ganga, Yamuna and Sarasvati. In Vedic geography, there is a mention of Sapta Sindhu, i.e., seven rivers in which Sarasvati attains an important description. Most of these rivers exist even today except Sarasvati which has disappeared completely. Information on Prehistoric India comes from two distinct sources:

• The literary tradition represented in the main by the faithfully preserved corpus of Vedic texts headed by the Rigveda.

 The archaeological tradition ranging from the Aceramic Neolithic of Mehrgarh and the various phases of the Harappan civilization to the Iron Age Painted Grey Ware and the Northern Black Polished Ware cultures.

In recent times, a third-dimension or third perspective has been added in form of Scientific Research through use of modern Technology. This article looks at these two rivers from these three different perspectives.

#### Sarasvati and Drishadvati: In Ancient Indian Texts

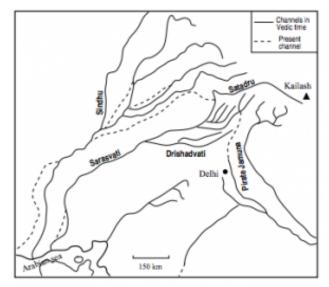
#### Sarasvati River:

Ambitame, naditame, devitame, Sarasvati

Aprasasta iva smasi prasastim Amba naskriti. — (Rigveda – 2. 41. 16)

(O Sarasvati, you the best of mothers, the best of rivers, the best of gods! Although we are of no repute, mother, grant us distinction.)

- During the vedic civilization, Aryans developed Rigveda, which describes about the "Sapta Sindhu "the seven rivers of NW India, traced from east to west as Sarasvati, Satadru (Sutlej), Vipasa (Beas), Parosni (Ravi), Asikni (Chenab) Vitasta (Jhelum) and Sindhu (Indus) which started flowing consequent on the melting of the Himalayan glaciers at the end of Pleistocene.
- According to the Mahabharata, the Sarasvati dried up in a desert (at a place named Vinasana or Adarsana).



- In the Skanda Purana, the Sarasvati originates from the water pot of Brahma and flows from Plaksa on the Himalayas. It then turns west at Kedara and also flows underground. Five distributaries of the Sarasvati are mentioned.
- In the Manu Smriti, the sage Manu, escaping from a flood, founded the Vedic culture between the Sarasvati and Drishadvati rivers. The Sarasvati River was thus the western boundary of Brahmavarta.

#### **Drishadvati River:**

The Drishadvati river is hypothesized by <u>Indologists</u> to identify the route of vedic river, Saraswati, and the state of Brahmavarta. Brahmavarta is postulated as a state during vedic times, situated on the confluence of the revered rivers Saraswati and Drishadwati. Different literary sources that mention Drishadvati include:

- <u>Latyayana Srautasutra</u> has described drishadvati as a seasonal river, while Saraswati as a perennial river up to <u>Vinasana</u>.
- Brahmanas often mention the Drishadwati River. Brahmanas point out that Drishadwati River
  had its origin from the pot of Brahma i.e. Pushkar lake, near Ajmer. Pushkar has the most
  revered Brahma temple in India.
- In the Manu Smriti, Drishadvati river and the Sarasvati River define the boundaries of the Vedic state of Brahmavarta.
- According to Srimad Bhagavatam, the Drsadvati is one of the many transcendental rivers in India.

#### Sarasvati and Drishadvati: The Archaeological Findings

#### Sarasvati River:

- More than 1200 ancient settlements on Sarasvati river basin have been dug out giving clinching
  evidence of existence of a mighty river, which sustained maritime civilization and metal-based
  economy prior to 3000 BC.
- Archaeological Survey of India has dug out more than 2400 settlements at the ancient Indus-Sarasvati river basins but no ancient settlements have been found along the present day course of Yamuna or Sutlej.
- Land was fertile and barley etc were cultivated in the Sarasvati region even 7000 years back and same style of cultivating the fields continues till date in areas like Rajasthan & Haryana.

#### **Drishadvati:**

• The first serious attempt on Drishadvati river was made by Sir Alexander Cunningham (1871) who identified the Drishadvati with the present Rakhsi river while Rapson (1914) felt that the Drishadvati used to flow through the present course of Chautang river which originates in Siwaliks. Subsquently, Keith (1922) and Dey (1927) also supported the course of the Drishadvati as being the present Chautang river and then along the Hansi —Hissar branch of the western Yamuna canal.

#### Sarasvati and Drishadvati: Scientific Research

Remote sensing data from satellites and aerial cameras has been used by several organization (including Ground Water Department, Rajasthan) to map the palaeo-channels.

#### **Benefits of such Research:**

 The search has been significant for locating sources of good quality ground water in the water scarce western Rajasthan where most of the available sources suffer from poor water quality.

#### Methodology of Research:

- Mapping of palaeochannels using multi sensor remote sensing data from WIFS, MSS-I, LISS-III
  and PAN sensors from Indian remote Sensing Satellites IRS 1B and ID was carried out using
  digital image processing techniques.
- Drilling work at fourteen locations in Dharmikhu Kuriaberi Ghantiyali Ranau Longewala Ghotaru sections, and the radiocarbon age analysis of the water samples thus obtained.

#### **Research Findings:**

- Digital merging of high resolution PAN and medium resolution LISS Ill data and analysis of water samples on water quality, sediment type and age of groundwater confirmed presence of palaeochannels.
- Additionally it also confirmed occurrence of good quality drinking water along these
  palaeochannels. The salinity of water away from the palaeochannels rises sharply.

# Annual Bathinda Chandigarh Hanappa Lakhenirvala Bahawalpur Anuppari Anuppari Recreation of a map of the Sarawath's basin, with the settlement pattern of Harappan sites (marked in blue o) in the Mature Phase, 2600-1900 BC; by Michel Danino); not to scale

## Ancient Sarasvati and present Ghaggar-Hakra System: Relation

Since the late 19th-century, scholars have postulated that the <u>Ghaggar-Hakra River</u> system is the remnant of Vedic Saraswati river. The main arguments are the:

- Supposed position east of the Indus, which corresponds with the Ghaggar-Hakra riverbed.
- Painted Grey Ware sites (ca. 1000 BCE) have been found in the bed and not on the banks of the Ghaggar-Hakra river, suggesting that the river had dried up before this period.
- The Indus Valley Civilisation (Harrapan Civilisation), which is named after the Indus, was largely located on the banks of and in the proximity of the Ghaggar-Hakra fluvial system

In 2016, K. S Valdiya committee constituted by Government of India on Palaeochannels of North-West India: Review and Assessment, concluded that Saraswati river had two branches eastern & western. The eastern branch included Sarsuti-Markanda rivulets in Haryana and the western branches included Ghaggar-Patiali channels. The committee considers that branches met near Patiala, at Shatrana, then flowed as a large river.

#### **Contradictions:**

However, in recent times, these views have been contradicted by geophysical research, which suggests that the Ghaggar-Hakra system, although having greater discharge in Harappan times which was

enough to sustain human habitation, was not watered by a Himalayan river—such as the Sarasvati—but rather by a system of perennial, but only monsoon fed, rivers.

Other research using dating of zircon sand grains has shown that late Pleistocene subsurface river channels near the present-day Indus Valley Civilisation sites in the Cholistan desert, in Pakistan, immediately below the dry Ghaggar-Hakra bed show sediment affinity with not with the Ghagger-Hakra river, but with the Beas river in the western sites and the Sutlej and Yamuna rivers in the eastern ones.

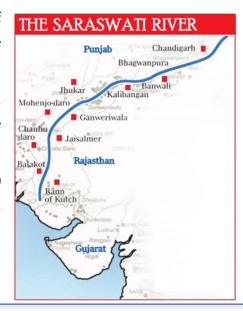
#### Sarasvati and Drishadvati: In recent NEWS

#### Saraswati River did exist, says K.S. Valdiya Committee

The seven-member expert committee of geologists, archaeologists and hydrologists, headed by Professor K.S. Valdiya of the Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), have found evidence of the course of the river Saraswati. The committee on "Palaeochannels of North-West India: Review and Assessment" had been appointed by Water Resources Ministry to map paleochannels of north-west India including river Saraswati, a mythological river mentioned in the Rigveda and other literature of Hindu mythology.

#### **Key Facts from the submitted report:**

- Sarawati was a Himalayan river.
- Saraswati river had two branches the eastern branch included Sarsuti-Markanda rivulets in Haryana and the western branches were made of Ghaggar-Patiali channels.
- These branches met in Shatrana, 25 kilometres south of Patiala and "flowed as a large river" emptying out into the sea that is now the Rann of Kutch.
- It is assumed that River Saraswati originated from Adibadri in the Himalaya to culminate in the Arabian Sea through the Runn of Kutch.
- It was approximately 4,000 km in length with nearly 3000 km of length occurring in India and remaining one-third of the river lying in present-day Pakistan.



- During its six-month research, the committee came across "an unique" palaeochannel (a path abandoned by river when it changes its course) relating to present Ghaggar, Sarsuti, Hakra and Nara rivers.
- They also concluded that around 1700 "small and big" towns and villages were located around the palaeo-channel concerned during Harappa Civilization. "Some towns were spread over more than 100 hectares. These colonies were there for 5,500 years.

#### Timeline of Topic: Prior to K S Valdiya Committee:

#### IN SEARCH OF A MYTH? 1819 | Earthquake raises older river underground waters. It turns ground by 5 to 7 meters in out to be 3,500 years old 1886-1999 | Geologists, some places in Kutch archeologists and historians 1998 | Rajasthan govt put forth theory that 1870 | Geologist Alex Rogers undertakes task to Saraswati did once flow, in discovers alluvium deposited 'unearth' the river with the now dry Gaggar, Hakra-Nara by an unknown river in the collaboration of BARC and Gulf of Khambat channels Physical Research Laboratory, Ahmedabad. 1972 | Satellite images of 1886 | British officer Oldham northwestern region show reports a dry, vast bed of 2001 | After the Guiarat underground channels of seasonal river Gaggar. Since quake, several fissures open water it could not create a bed so up in arid Kutch. Geologists vast; he guesses Gaggar is report new ponds bursting to 1980's | BARC performs occupying the bed of an the surface in Kutch area. carbon testing of the

#### **Terms:**

#### Palaeo-Channel:

- **Paleochannel** is a remnant (remaining traces) of an inactive river or stream channel that has been either filled or buried by younger sediment.
- The word palaeochannel is formed from the words "palaeo" or 'old', and channel. Hence palaeochannel stands for ancient or vey old channel.
- Study of paleo-channels help in understanding movements of faults, earth quakes etc.

# Rivers of Inland Drainage in Rajasthan

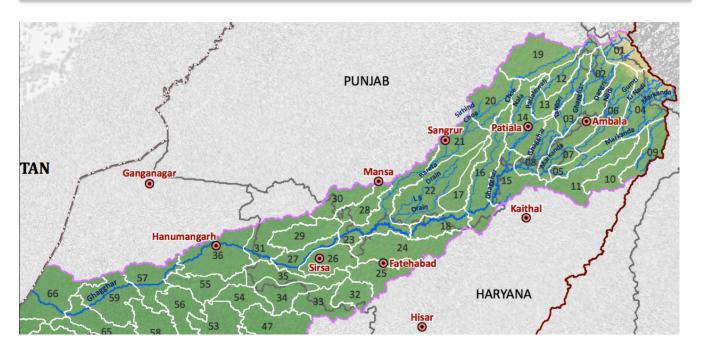
One of the most interesting feature about drainage system of Rajasthan is that nearly 60.2 percent of of the area of state has inland drainage system. Nearly all of this area lies wet of Aravalli divide and includes a large number of separate basins like Sota-Sahibi basin, Kantli basin, Barah Basin and streams in Luni basin.

#### Ghaggar-Hakra River

Ghaggar-Hakra River is a season river in India and Pakistan that flows only during the monsoon season. The river originates from kalka hills (Himachal Pradesh) and is known as **Ghaggar** before the Ottu barrage and as the Hakra downstream of the barrage.

#### **Ghaggar-Hakra River Summary Sheet**

Origin	Kalka Hills of Shivalik Range in Himachal Pradesh
Length	465 Kms
Discharge	Sand dunes in Bhawalpur district of Pakistan
States & Major Cities	Himachal Pradesh: Punjab: Ambala, Patiala Haryana: Hissar Rajasthan: Tibbi, Hanumangarh, Talwara, Anupgarh and Suratgarh
Tributaries	Chautang River, Kaushalya river, Sarsuti



#### **Ghaggar Hakra River Course:**

Ghaggar rises from Kalka hills of Shivalik Range in Himachal Pradesh and flows through Ambala, Patiala (Punjab) and Hissar (Haryana) districts. It enters Rajasthan and flows through Hanumangarh, Talwara, Anupgarh and Suratgarh. Ghaggar flows across the international border through Sri Ganganagar district and assumes the name, Hakra, near Fort Abbas City in Pakistan. The river finally enters into Bhawalpur district of Pakistan where it gets lost in sand dunes.

#### **Ghaggar in History-Culture**

• Few scholars identify Ghaggar with the vedic river of saraswati.

#### Kantli River:

- Kantli river originates from hills of Khandela hills of Sikar district and taking a northernly course runs into Jhunjhunu and ends in sand dunes near Churu district.
- Site of ancient OCP culture Ganeshwar lies on bank of Kantli river.
- Catchment area of Kantli river is known as Torawati.

#### Kakni or Masurdi River:

 Kakni is a small seasonal river of Jaisalmer, that originates 27 south from Kotri village and flows for few kms draining into Bhuj lake.

#### Mantha River:

• Mantha river orginates from jaipur and flows into Sambhar lake.

#### Ruparel River or Ruparail River

- Ruparel river originates from Udainath hills in Thangazi tehsil of Alwar district.
- It traverses these hills northwards, turning towards the east and northeast before disappearing in Bharatpur District. It flows first through hills and subsequently through plains nearly up to Kusalpur in Bharatpur district.
- It has a total length of about 104 km.
- Also called as Varah or Lasvari river.
- Ruparail basin extends in a broadly W-E direction and is bounded by the Sabi River Basins in the northwest side and the Banganga River Basin in the southeast. The northern border is shared with Haryana State.
- The river has been in news, because of its disappearance and revival by efforts of Shri <u>Rajendra</u> <u>Singh</u>

#### Rupangarh River

• Rupangarh river originates from Salemabad (Ajmer) and flows in northerly direction to drain into Sambhar lake.

#### Sota-Sabi or Sahibi River

- There are two branches, the Sabi branch rises from Sewar hills and the Sota branch rises from hills of Bairath.
- The two branches meet at Jalalpur.
- The river flows in northern direction through Kotputli tehsil, Bansur, Behror Kishangarh, Mundawar (Haryana) Rewari and empties into Najafgarh drain.
- Sabi basin is bounded in the northwest by Shekhawati River Basin and Ruparail and Banganga River basins in the southeast. The northern boundary is shared administratively with Haryana State. The Basin extends over parts of Alwar, Jaipur and Sikar districts. The total catchment area of the sabi basin is 4607.9 km2.
- It flows in Rajasthan for a distance of about 157 km before entering Harvana State.

#### Sabi River in History & Culture:

Several modern scholars identify the Sahibi River with the Drishadvati river of Vedic period. It is believed that the Drishadwati River had formed one border of the Vedic state of Brahmavarta while other was Saraswati river or the modern Ghaggar-Hakra river.

Several sites related to Indus Valley civilisation have been found along the route of Sahibi. Among the finds are handmade and wheel-made pottery dating back to over 3,000 years found on the banks of the Sahibi River at Jodhpura near Viratnagar in Jaipur district. Other findings include pottery found on the Sahibi riverbed at Hansaka in the Rewari district, Haryana. A red stone statute of Vamana Dev was unearthed in 2002 on the Sahibi riverbed near Bawal, Haryana.

# Chambal River & its Tributaries

Chambal river is one of the cleanest perennial rivers of India. It originates at Janapav, south of Mhow town, on the south slope of the Vindhya Range in Madhya Pradesh. Chambal flows north-northeast through Madhya Pradesh, running for a time through Rajasthan, then forming the boundary between Rajasthan and Madhya Pradesh before turning southeast to join the Yamuna in Uttar Pradesh.

It ends a confluence of five rivers, including the Chambal, Kwari, Yamuna, Sind, Pahuj, at Pachnada near Bhareh in Uttar Pradesh state, at the border of Bhind and Etawah districts.

#### **Chambal River Summary Sheet**

Origin	Janapav near Mhow (M.P) in the Vindhaya mountain range
Length	965 Kms (370 Kms in Rajasthan)
Discharge	Yamuna, Pachnada near Bhareh in Uttar Pradesh
States & Major Cities	Madhya Pradesh: Rajasthan: Kota Uttar Pradesh:
Right Bank Tributaries	Parbati, Kali Sindh, Shipra
Left Bank Tributaries	Banas, Mej
Major Dams	Gandhi Sagar, Rana Pratap Sagar, Jawahar Sagar, Kota Barrage

## Chambal River in mythology:

Ancient name of Chambal is said to be Charmanyavati, which may be in reference to the story of king Rantideva sacrificing several cows on its banks.

In the epic Mahabarat, Charmanwati was the southern boundary of Panchala Kingdom. King Drupada ruled the southern Panchalas up to the bank of the Charmanwati river. The region was part of the kingdom of Shakuni, the maternal uncle of Kauravs. After her attempted disrobing at the hands of Kauravs, Draupadi cursed anybody who will drink water from the river. The infamy gathered by the river may have been the reason for absence of any big settlement on its banks except Kota.

Keshoraipattan near Kota is a famous pilgrimage spot dedicated to Lord Vishnu on banks of Chambal.

#### **Chambal River Course:**

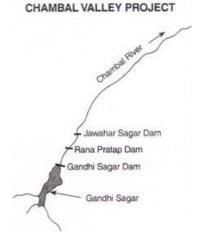
Chambal River originates from northern slopes of *Singar Chouri peak*, at an altitude of 884.4 m, in the Vindyan Range. It flows in northerly direction through Madhya Pradesh (M.P.) for about 346 kilometres and enters <u>Rajasthan</u> near Chaurasigarh (Chittorgarh). Here the river falls 505 m and then enters a gorge for 113 Kms and leaves it near Kota.

From Kota, it makes boundary between Kota and Bundi district and then boundary between Rajasthan and M.P passing through <u>Sawai Madhopur</u>, <u>Karauli</u> and <u>Dholpur</u>. It eventually enters U.P. and flows for about 32 kilometres before joining the Yamuna near Bhareh.

#### Chambal River Basin:

Rajasthan has the largest catchment area of the Chambal river at 79,401 square km, which is 57.86 per cent of the total catchment of the river. In Rajasthan, Chambal basin extends over parts of Chittorgarh, Bhilwara, Bundi, Sawai Madhopur, Tonk, Jhalawar, Kota, Baran and Dholpur districts. On its south, east and west, the basin is bounded by the Vindhyan mountain ranges and on the north-west by the Aravallis.

The proposed *Parwati- Kalisindh-Chambal link* is one of the big projects being planned in the basin which will divert surplus waters of Parwati and Kalsindh to the Rana Pratap Sagar or Gandhi Sagar dam.



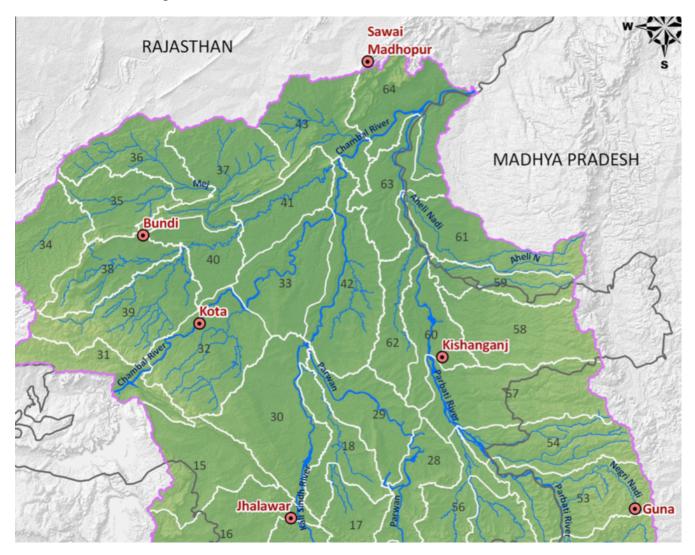
#### **Chambal River Dams:**

There are four main dams on chambal river located from south to north

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

#### **Chambal River Tributaries:**

The tributaries of the Chambal include Shipra, Choti Kalisindh, Sivanna, Retam, Ansar, Kalisindh, Banas, Parbati, Seep, Kuwari, Kuno, Alnia, Mej, Chakan, Parwati, Chamla, Gambhir, Lakhunder, Khan, Bangeri, Kedel and Teelar.



#### Kali Sindh

# Kali Sindh River Summary Sheet

Origin	Bagli (District Dewas) in Madhya Pradesh. Enters Rajasthan at Binda Village.
Length	278 Kms (145 Kms in Rajasthan)
Discharge	Chambal, Nonera village in Baran district in Rajasthan.
States & Major Cities	Madhya Pradesh: Rajasthan: Jhalawar, Baran
Tributaries	Parwan, Niwaj and Ahu

• Parban River is a tributary of Kali Sindh. that originates in Sehore district of Madhya Pradesh. Parban flows through Sehore, Shajapur and Rajgarh districts in Madhya Pradesh. It covers Jhalawar, Kota, Baran districts of Rajasthan and meets Kali Sindh in Baran district of Rajasthan.

#### Parbati River:

#### Parbati River Summary Sheet

Origin	Northern slopes of Vindhyan Range n <b>Sehore</b> district, M.P
Discharge	Chambhal, Paliya Village near Sawai Madhopur, Kota Border
States & Major Cities	Madhya Pradesh: Rajasthan: Kota

# Mej River:

Mej river is a left bank tributary of Chambal River. It originates near Mandalgarh in <u>Bhilwara</u> and joins Chambal in <u>Kota</u>. The catchment area of Mej river extends over <u>Bhilwara</u>, <u>Bundi</u> and <u>Tonk</u> of <u>Rajasthan</u>.

#### Mej River Summary Sheet

Origin	Near Mandalgarh in Bhilwara, Rajasthan
Discharge	Chambal, in Lakheri, Kota
States & Major Cities	Rajasthan: Kota

# River Interlinking Projects in Chambal:

#### Parwati- Kalisindh-Chambal link

 The proposed Parwati- Kalisindh-Chambal link is one of the big projects being planned in the basin which will divert surplus waters of Parwati and Kalsindh to the Rana Pratap Sagar or Gandhi Sagar dam.

# Banas River & its Tributaries

Banas river originates in the Khamnor Hills of the Aravalli Range, near Kumbhalgarh in <u>Rajsamand</u>. It is a <u>tributary</u> of the Chambal River and is approximately 512 kilometres in length. It is also known as '*Van Ki Asha*' (Hope of forest). There is another river in Rajasthan with name of Banas, which flows in western direction and is also called as West Banas River.

#### **Banas River Summary Sheet**

Origin	Khamnor Hills, near Kumbhalgarh in <u>Rajsamand</u> .
Length	512 Kms
Discharge	Chambal near Rameshwar in Sawai Madhopur District
States & Major Cities	Rajasthan: Nathdwara, Jahazpur and Tonk.
Right Bank Tributaries	Berach, Menali
Left Bank Tributaries	Kothari, Khari, Dai, Dheel, Sohadara, Morel and Kalisil
Major Dams	Bisalpur

# Banas River in Indian mythology

• It is said that Sage Vashishth did intense meditation and got the river down from Swarg Lok (heaven). The sage, concerned about its future, asked Lord Shiv how she will survive without water from glaciers. Shiv blessed her: —The forests will protect you and you in turn will nourish the forests. I will appear at various places on your banks to increase your influence. Hence the river got the name: Ban ki Aas' (hope of the forest) which later became Banas.

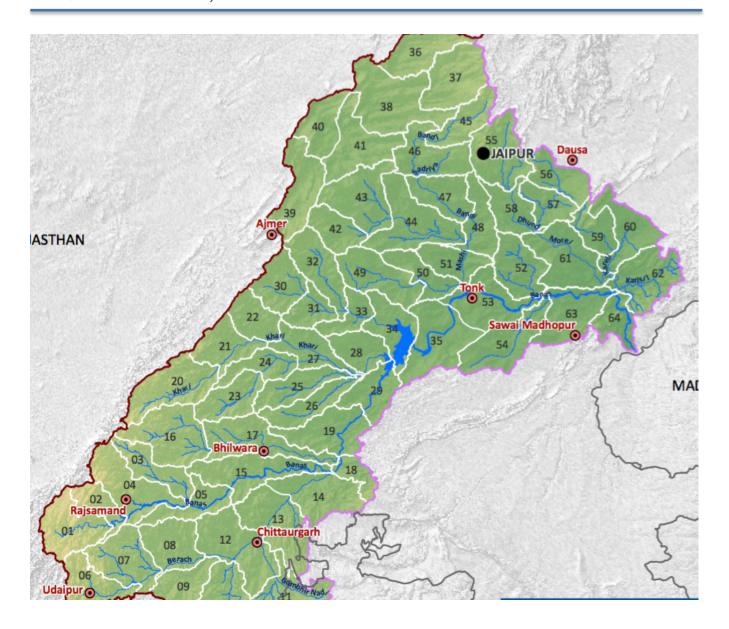
- Lord Parshuram, an avatar (incarnation) of Lord Vishnu, is linked strongly with Banas. Parshuram had killed his mother, Renukaji, on the order of his father. He went to several places seeking salvation. He saw that a calf, who had turned black on killing a man, turned white again after taking a dip in river Banas. Parshuram did the same and was relieved of the sin. The place is now called: Matrikundya' and falls in Bhilwara district. It is also known as the: Haridwar of Rajasthan'.
- Veeron ka Math' (monastery of the brave) is a holy place that abutts the origin point of Banas. It
  is said that here Parshuram gave arms training to Karan and Bhishm, the two heroes of epic
  Mahabharat.
- Jargaji, an important pilgrimage, is located around 10 km from the origin point. Jarga ji was a devotee of Baba Ramdev, chief deity of the Meghwal community.
- The triveni dham near Mandalgarh in Bhilwara district where Berach and Menali rivers meet Banas also holds great value.
- The Gokaran Mahadev or Gokaraneshwar temple in tonk district is also of great significance as
  it is believed that Ravan, the famous anti-hero of epic Ramayan, meditated and offered his head
  to Lord Shiv here.
- At Sawai Madhopur, Rameshwaram Ghat is a famous pilgrimage spot as Banas merges into Chambal here.

#### **Banas River Basin:**

Banas lies completely within Rajasthan and has the largest catchment area (45,833 square km) in Rajasthan. Banas drains the east slope of the central portion of the Aravalli Range, and the basin includes all or part of Pali, Rajsamand, Udaipur, Tonk, Ajmer, Bhilwara, Bundi, Chittorgarh, Dausa, Jaipur and Sawai Madhopur districts.

#### **Banas River Tributaries:**

Major tributaries of Banas include the right bank tributaries of Berach and Menali and the left bank tributaries of Kothari, Khari, Dai, Dheel River, Sohadara, Morel and Kalisil.



#### Berach or Bedach

Berach originates at Gogunda hills in the <u>Udaipur</u> District and is known by name of Ayar river. It is called Berach after appearing from Udaisagar lake near Udaipur. It flows northeast through Udaipur, Chittorgarh and Bhilwara districts, joining the Banas near Bigod village of Bhilwara district.

Berach has significant historical significance with banks of Ahar having thrown up evidences of settlements dating back to the Harappan and pre-Harappan eras cultural levels, thus exhibiting connection with Indus Valley civilization. Additionally, evidences of big palaces were found at Nagri, an ancient site around 16 km from Chittorgarh.

#### **Berach River Summary Sheet**

Origin	Gogunda hills in Udaipur
Length	157 Kms
Discharge	Banas, near Bigod village of Bhilwara
States & Major Cities	Rajasthan: Udaipur and Chittorgarh
Right Bank Tributaries	Ahar, Wagli (Wagon), Gambhir and Orai
Major Dams	Gosunda Dam

#### Kothari River:

Kothari River rises from the Aravalli hills near Devgarh in the Rajsamand. It flows through Bhilwara and ultimately joins the Banas river at Nandrai in Kotri tehsil. The Meja dam on the Kothari river provides drinking water to the Bhilwara district.

# **Kothari River Summary Sheet**

Origin	Aravalli hills near Devgarh in the Rajsamand
Length	380 Kms
Discharge	Banas River, Nandrai in Kotri tehsil
States & Major Cities	Rajasthan: Bhilwara

Major Dams	Meja Dam
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#### Khari River

- Origin- Hills of Bijral village, North of Rajsamand district
- Length- 80 Km
- It meets near Banas river near Deoli (Tonk).

#### Dai River

- River Dai originates in the southeastern slopes of the Aravalli Range, near Nasirabad Tehsil of Ajmer.
- It flows southeast and then east in Ajmer District and for a short distance through Tonk District, before joining Banas River near Bisalpur village in Tonk District.

#### **Dheel River**

- Dheel River originates in the plains near Bauli village in Tonk District. It flows generally from north to south through Jaipur, Tonk and Sawai Madhopur.
- It joins the Banas near Philpura village in Sawai Madhopur district.
- River Gudia is its tributary.

#### **Morel River**

- One branch of River Morel originates in the hills near Dharla and Chainpura villages in Bassi
  Tehsil of Jaipur District and the second branch makes by receiving water from the catchment
  area of foothills of Paplaj Mataji mountains, district Dausa.
- It flows southeast and then southwest to meet river Dhund, and then again southeast through
  Jaipur, Dausa and Sawai Madhopur, eventually joining Banas river near Hadoli of Sawai
  Madhopur District.

#### KaliSil River

• The River Kalisil originates in the hills near Rajpura village in Sawai Madhopur District. The river flows generally southwest, partly through hills and partly in the plains of Sawai Madhopur District, finally joining the Morel River.

# Major Dams on Banas River

• **Bisalpur Dam** is a gravity dam on the Banas River near Deoli in Tonk district, Rajasthan, India. The dam was constructed in 1999 for the purpose of irrigation and water supply.

# Banganga River & its Tributaries

Banganga River originates from the Bairath hills in Jaipur. It passes through Modhapur, Bharatpur and Fatehabad and drains into Yamuna. Jamwa Ramgarh dam has been constructed across the river in Jaipur. The river Banganga has its multiple tributary rivers like Gumti Nala, and Suri rivers on the right side banks and Palasan and Sanwan rivers are on the left bank.

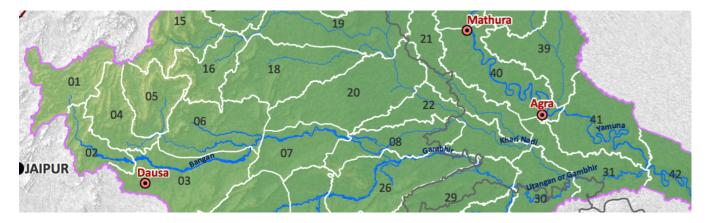
#### **Banganga River Summary Sheet**

Origin	Bairath hills in <u>Jaipur</u> , <u>Rajasthan</u>
Length	380 Kms
Discharge	Yamuna near Agra
States & Major Cities	Rajasthan: Dausa and Bharatpur Uttar Pradesh:
Right Bank Tributaries	Gumti Nala, and Suri rivers
Left Bank Tributaries	Palasan and Sanwan
Major Dams	Ramgarh Dam

# Banganga in Culture-Mythology

It is believed that Pandav brothers of epic Mahabharat stayed at Bairath kingdom during their one year of secret exile. Arjun made the river flow when he stuck an arrow in the earth to meet water shortage in

the region. The place is famous for the Banganga fair, which is held on the full moon day of Vaishakh (April-May) every year.



## **Banganga Course:**

Banganga originates from Bairath in Jaipur district. It flows towards the south, through Ramgarh, up to the village of Ghat, then towards east through partly hilly and partly plain terrain in Dausa and enters Vair tehsil in Bharatpur. Its waster spreads out into several channels in Bharatpur. One of the main channel is diverted to Ajan Band (Bharatpur), which is also source of supply of water for Keoladev National Park. The river eventually flows up to Fatehbad in Agra district (Uttar Pradesh), where it flows into Yamuna.

A few studies have suggested that Banganga might have been part of the Ghaggar-Yamuna system. It might have been connected directly to Yamuna or through Chambal. Owing to some obstruction or neo-tectonic activities around Bharatpur, the flow was disrupted.

Another theory suggests that Yamuna suddenly migrated eastward and Banganga and another possible tributary, Sahibi, could not cope up with that pace. Now, both these rivers flood the area of Bharatpur and Farrukhnagar respectively.

# Banganga Basin:

Banganga River Basin is located in the northeastern part of Rajasthan state with a total catchment area of 8,878.7 sq km. It is bounded by Ruparail and Sabi in its north; and the Shekhawati Basin in its west and the Gambhir and Banas River Basins in its south-southwest. The eastern border of the basin is marked by the Yamuna River Basin in Uttar Pradesh. Administratively, Banganga River Basin extends over parts of Alwar, Jaipur, Dausa, Sawai Madhopur and Bharatpur Districts.

# Banganga Tributaries:

The main tributaries are Gumti Nalla and Suri River, joining the river on its right bank, and Sanwan and Palasan Rivers meeting the river on its left bank.

#### **Suri River:**

• Suri River originates in hills near Kanst village in Dausa and joins Banganga near Kailai Village.

#### **Sanwan River:**

 Sanwan river originates in hills near Angri village in Alwar district and joins banganga near village juthiara.

#### **Palasan River**

 Palasan river orginates in the hills near Rajpura village in Alwar district and joins banganga near village Indiana.

#### Banganga Dams:

• Jamwa Ramgarh dam has been constructed across the banganga river in Jaipur.

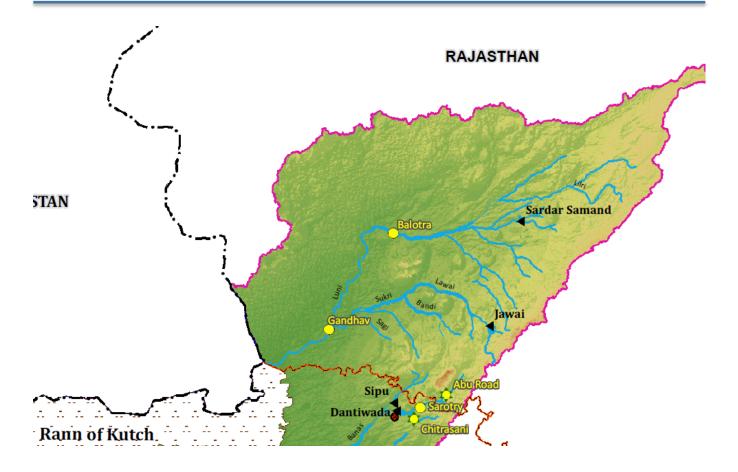
# Luni River & its Tributaries

Luni is a major west-flowing river that originates from western slopes of Naga hills, at an elevation of 772 m in <u>Ajmer</u> district of <u>Rajasthan</u>, where it is known as the *Sagarmati*. After passing Govindgarh, it meets its tributary Sarsuti, which originates from Pushkar Lake, and from then on it is referred to as Luni River.

The name Luni is derived from the Sanskrit word *lavanavari* ("salt river") and is so called because of its excessive salinity. The Luni river is not saline until it reaches Balotra, where high salt content in the soil impacts the river.

#### Luni River Summary Sheet

Origin	Naga hills in <u>Ajmer</u> district of <u>Rajasthan</u>
Length	511 Kms
Discharge	Rann of Kachchh
States & Major Cities	Rajasthan: Balotra Gujarat:
Right Bank Tributaries	Jojri
Left Bank Tributaries	Lilri, the Guhiya, the Bandi (Hemawas), the Sukri, the Jawai, the Khari Bandi, the Sukri Bandi, the Sagi
Major Dams	The Dantiwada dam, Sipu dam



#### Luni Course:

Luni River originates in Naga Hills of Aravalli Range, near Pushkar valley in Ajmer district. At Govindgarh it meets its tributary Sarsuti and travels in north-western direction towards Nagaur. Luni takes a turn and starts flowing in southwest direction through the aravalli hills in Pali and reaches plains of marwar region in Jodhpur. It continues in the same direction into Barmer and Jalore, eventually discharging into Rann of Kachchh, Gujarat. At Rann of Kutch, Luni forms a delta where the water spreads out and does not contribute any runoff.

The total length of Luni is about 511 kms.

#### Luni Basin:

 The Luni basin is bounded by Aravalli range and Gujarat plains on the east, by Rajasthan desert on north, and by the Arabian Sea on the south and the west.

 The total area of Luni basin is 32,879 Sq.km and includes several parts of the Ajmer region from Nagaur to Pali and then moving towards Jodhpur and Barmer before its entry into the Jalore district.

# Luni Tributaries:

The main tributaries of Luni joining from left are the Lilri, the Guhiya, the Sukri, the Jawai, the Bandi (Hemawas), the Khari Bandi, the Sukri Bandi and the Sagi. Jojri is the only major tributary that joins the luni river from right.

# Jawai River

- Jawai originates from the Aravalli Ranges in the Udaipur district of Rajasthan.
- Main tributaries of Jawai are Sukri and Khari river.
- Western Rajasthan's largest dam, the Jawai Dam, is located near Sumerpur in Pali district, on Jawai river
- Twin cities of Sumerpur and Sheoganj are situated on the banks of this river.

### **Bandi River**

- The Rivers Khari and Mithai meet at pickup weir of Bombadra. This confluence gives rise to the Bandi River.
- After flowing for about 45 km, it joins the Luni near the Lakhar village.
- The Hemawas dam is located near Hemawas on this river.
- The district headquarters Pali is located on the bank of Bandi.

#### Sukri River:

- Sukri river originates from the western slopes of Aravalli Range in Pali District and flows through Jalore and Barmer before merging with the Majal in Luni river.
- Bankli Dam is located on this river in <u>Jalore</u> District.

# **Guhiya River**

- Guhiya River is a small river in Pali, which runs only during the monsoon season.
- It rises in the foothills of the Aravalli Range near the villages of Khariya Neev and joins the Bandi River near the village of Phekaria.

# Dams on Luni River:

• In 1892, Maharaja Jaswant Singh of Jodhpur constructed Jaswant Sagar in Pichiyak village, Jodhpur district to use the waters of Luni river.

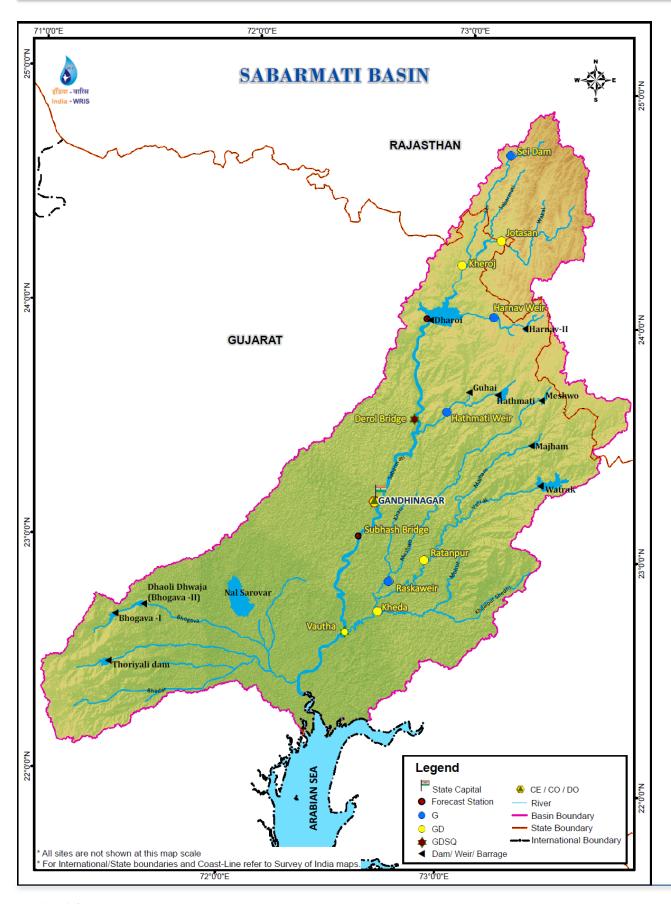
# Sabarmati River & its Tributaries

Sabarmati River is one of the major West flowing river of India, along with Narmada and Tapti, which originates from Aravali hill ranges in <u>Rajasthan</u> and after traveling 371 Km. meets the Gulf of Cambay (Khambhat) in the Arabian Sea. 48 km of the river length is in Rajasthan, while the rest 323 km is in Gujarat.

Sabarmati originates from Aravalli hills at an elevation of 762 m near village Tepur, in <u>Udaipur</u> district of <u>Rajasthan</u>. It flows generally in South – West direction in <u>Rajasthan</u> and enters the Gujarat State and passes through the plains and continues to flow in the same direction.

### Sabaramati River Summary Sheet

Origin	Village Tepur, in Udaipur, Rajasthan
Length	371 Kms
Discharge	Gulf of Cambay (Khambhat)
States & Major Cities	Rajasthan: Gujarat: Ahmedabad
Right Bank Tributaries	Sei, Siri and Dhamni
Left Bank Tributaries	Wakal, Harnav, Hathmati, Khari, Watrak
Major Dams	Dharoi Dam



### Sabarmati Basin:

The Sabarmati basin extends over states of Rajasthan and Gujarat having an area of 21,674 Sq.km with maximum length and width of 300 km and 150 km. The basin is bounded by Aravalli hills on the north and north-east, by Rann of Kutch on the west and by Gulf of Khambhat on the south. The basin is roughly triangular in shape with the Sabarmati River as the base and the source of the Vatrak River as the apex point.

### Sabarmati River Course:

At the 51 km of its run, the river is joined by the Wakal on the left bank near village Ghanpankari. After flowing generally in the South – West direction at 67th km of its run, it receives the Sei on the right bank near Mhauri and then the Harnav on the left bank at about 103 km.

From respective sources beyond this confluence, Sabarmati flows through the Dharoi gorge. Emerging from the gorge it passes through the plains and is joined on its left bank at about 170 km from its source by the Hathmati, which is its major tributary. Continuing to flow in South – West direction, the river passes through Ahmedabad and about 65 km down stream, another major tributary, Watrak joins its on the left bank, flowing for a further distance of 68 km, the river outfalls in the Gulf of Khambhat in Arabian Sea.

#### Sabarmati Tributaries:

### Sei

This is a right bank tributary of Sabarmati River.It rises in the Aravalli hills in Rajasthan and flows in South – West direction for a total distance of 95 km before it joins on its right bank. It drains an area of 946 sq km.

#### Wakal

This is a Left bank tributary of Sabarmati River. It rises in the Aravalli hills in Rajasthan and flows in South – West direction for a total length of 88 km. It joins Sabarmati on its left bank. It drains an area of 1625 sq km. The Menas is its main tributary.

#### Harnay

This is a Left bank tributary of Sabarmati River It rises in the Northern portion of the Kulalia hills of Rajasthan ranges and flows in South – West direction for a total distance of 75 km. Harnav joins the left bank of Sabarmati. It drains an area of 972 sq km.

#### Hathmati

This is a Left bank tributary of Sabarmati River This is a Left bank tributary of Sabarmati River It rises in SouthWest foot hills of Rajasthan range in Gujarat State and flows in South West direction for a distance of 122 km to meet the Sabarmati on its left bank. This tributary drains an area of 1526 sq km. The sub-tributary of Hathmati river is Guhai river, on which Guhai dam is constructed.

#### Watrak

This is a Left bank tributary of Sabarmati River It rises in Panchara hills in Dungarpur district of Rajasthan and flows in Southwest direction for a distance of 248 km and joins Sabarmati on the left bank. Meshwo, Mazam & Shedhi are sub-tributaries of Watrak river. Watrak and its tributaries drain an area of 8638 sq km. A line diagram of river system giving information of Sabarmati Basin & its tributaries and sub tributaries etc. indicating the location of major structures is enclosed.

# Major Dams on Sabarmati River

There are several dams and reservoirs constructed on Sabarmati and its tributaries. The Dharoi dam is located on the main sabarmati river, while *Hathmati dam, Harnav dam, Guhai dam, Meshvo reservoir, Meshvo pick-up weir, Mazam dam and Watrak dam* are located on tributaries. The Kalpasar is planned project in the Gulf of Khambhat.

### Dharoi Dam:

- Dharoi dam is located about 165 km upstream Ahmedabad in village Dharoi of Mehsana district.
- It was constructed in 1978.
- It has catchment area of 5540 km², out of which about 2,640 km² lies in Gujarat state.

# Vasna Barrage:

• At distance 202 km. Vasna Barrage having 10619 sq.km. catchment area is situated.

# Sabarmati River Concerns:

• The industrial city of Ahmedabad poses the danger of water pollution by industrial waste.

# Mahi River & its Tributaries

Mahi is one of the major interstate west flowing rivers, along with Tapti River and the Narmada River, of India. The total length of Mahi is 583 km. It originates in the Mahi Kanta hills, from the northern slopes of Vindhyas at an altitude of 500 m near village Bhopawar, Sardarpur tehsil in Dhar district of Madhya Pradesh. Initially the river flows Northwards through Dhar and Jhabua districts of M.P. and then turns left and passes through the Ratlam district of M.P., then turning to North - West, it enters the Banswara district of Rajasthan and flows in South - West directions and thereafter enters the Panchmahal district of Gujarat state. Then the river continuously flows in the same direction through Kheda district of Gujarat and finally falls into the Gulf of Khambhat in Arabian Sea.

Mahi river also finds mention in India mythology. In Vayu Purana, this river is also known as Mahati. The name of the river seems to be derived from the lake from which it springs. This is often called the Mau or Mahu as well as the Menda. According to one legend, the Mahi is the daughter of the Earth and sweat of Indrdyumna, the King of Ujjain.

### Mahi River Basin:

The Mahi basin extends over states of Madhya Pradesh, Rajasthan and Gujarat having total area of 34,842 Sq.km. It is bounded by Aravalli hills on the north and the north-west, by Malwa Plateau on the east, on the south by the Vindhyas and by the Gulf of Khambhat on the west.

The state wise distribution of the drainage area is shown in the following Table.

State	Drainage area (Sq. Km.)
¦¦Rajasthan	16453 
Gujarat	11694 
Madhya Pradesh	 
Total	34842

### **Tributaries of Mahi:**

#### Som

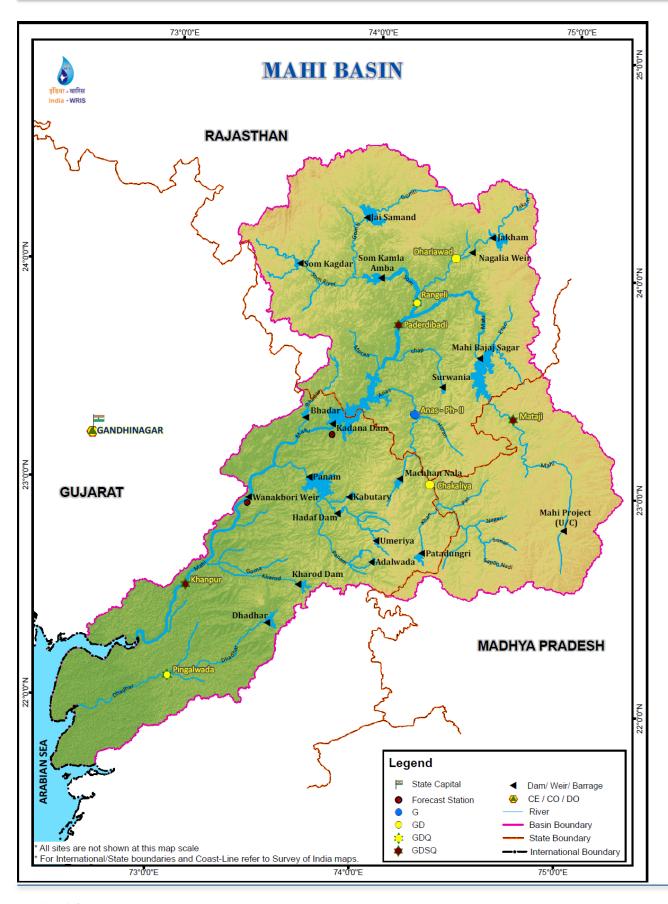
This is a right bank tributary of Mahi. Som river rises near Som on the Eastern slopes of the Aravalli hills in the Udaipur district of Rajasthan at an elevation of 600 m above m.s.l. and flows in the Eastern direction to join the main river Mahi on the right bank 6.3 km upstream of Paderdibadi site in Dungarpur district of Rajasthan. Its total length is about 155 km. The total drainage area of Som is 8707 sq.km. Gomti & Jakham are the major right bank sub tributaries of Som.

#### Anas

This is a Left bank tributary of Mahi. Anas River rises near Kalmora on the Northern slopes of Vindhyas in Jhabua district in Madhya Pradesh at an elevation of 450 m above m.s.l. and flows in the North - West direction and joins the main river Mahi on left bank in the Dungarpur district in Rajasthan. It has a total length of about 156 km and the total drainage area of 5604 sq.km.

### **Panam**

This is a Left bank tributary of Mahi. Panam river rises near Bhadra on Northern slopes of the Vindhyas near Jhabua district in Madhya Pradesh at an elevation of about 300 m above m.s.l. and flows in the North - West direction and joins the main river on the left bank in the Panchmahal district of Gujarat. It has a total length of about 127 km and drainage area of about 2470 sq.km.



# Hydro-electric projects on Mahi River

There are two major hydro-electric projects constructed on Mahi River.

Sl.No.	Project Name	River	State	District
1	Kadana Hydroelectric Project	МАНІ	Gujarat	Fort Sonagadh
2	Mahi Hydroelectric Project	Mahi	Rajasthan	Banswara

### Dams on Mahi River:

### Banswara Dam or Mahi Bajaj Sagar Dam

- Named after Shri Jamnala Bajaj, Mahi Bajaj Sagar Dam is situated 16 kilometres from Banswara town in Banswara district Rajasthan, India. It is the second largest dam in Rajasthan.
- The dam was constructed between 1972 and 1983 for the purposes of hydroelectric power generation and water supply.
- There are large number of islands within the catchment area of the dam, so Banswara also called popularly called as "City of Hundred Islands".

#### Wanakbori dam

- The Wanakbori dam is established near Wanakbori village.
- The Wanakbori thermal power station uses the water of river mahi. There are 7 units for the production electricity.

#### Kadana Dam

- Kadana Dam is an earthen and masonry dam on the Mahi River in Mahisagar district of Gujarat, India.
- The dam was constructed between 1979 and 1989.

# Mahi River Concerns:

• The silt brought down by the Mahi has contributed to the shallowing of the Gulf of Khambhat and the abandonment of its once-prosperous ports. The riverbed lies considerably lower than the land level and is of little use for irrigation.

# West Banas River & its Tributaries

The West Banas river is another west flowing river that rises near Pindwara village in Sirohi district of <u>Rajasthan</u> at an elevation of 372.5 m above mean sea level. The river flows in a south–westerly direction and after travelling length of 266 kms, empties into little Rann of Kachchh.

# West Banas River Summary Sheet

Origin	Near Pindwara village in Sirohi district, <u>Rajasthan</u>
Length	266 Kms
Discharge	Rann of Kachchh
States & Major Cities	Rajasthan: Gujarat:
Right Bank Tributaries	Sipu
Left Bank Tributaries	Batria, Sukli, Sewaran, Suket, Balaram and Khari
Major Dams	The Dantiwada dam, Sipu dam

### West Banas Basin:

West Banas drains an area of 8,674 sq km out of which nearly 38 % lies in Rajasthan State and the remaining 62 % falls in Gujarat state. It is bounded by Luni basin in the north, Sarasvati basin in the south, Aravalli Hill ranges in the east and Arabian Sea in the west.

The number of principal tributaries, which contribute significantly, is seven. Sipu is the only major tributary on the right bank. The other six tributaries namely Batria, Sukli, Sewaran, Suket, Balaram and Khari drain into the main channel from left bank. Hence draining system on the left bank of the Banas river is more extensive as compared to the right bank area.

### West Banas Tributaries:

### Sipu:

- Sipu is the prinicipal tributary of the Banas rising from Sirohi and Mount Abu hills in Sirohi district of Rajasthan state.
- About 30% of Mount Abu hills direct runoff drains into Sipu river while about 70% of mount Abu hills direct runoff flows into Banas river.
- The confluence of Sipu river and West Banas river is 12 km downstream of dantiwada dam.

#### Khari:

• Kahri river rises from Palanpur (B.K.distric) and drains into the Banasa river through Mehsana district at 80 km downstream of dantiwada dam.

#### Sukli:

• The Sukli triburtary rises from aravalli hills near Pindwara of Sirohi district (Rajasthan) and drains into the Banas river downstream of Swaroopganj dam and 9 km upstream of Abu road of Rajasthan state.

#### Batria:

The river rises near Ambaji hills of Aravalli range and drains into Banas, 3 km upstream of Abu road.

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# **Dams on West Banas River**

• The **Dantiwada dam** and **Sipu dam** are the main irrigation structures existing on the main channel of West Banas river.

# Gambhir River & its Tributaries

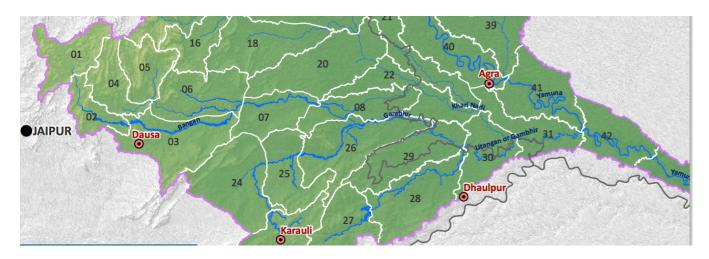
Gambhir river also referred to as Utangan River is a river that originates in the hills near Hindaun in <u>Karauli</u>, <u>Rajasthan</u> and flows around Hindaun City. The river supplies water for Keoladev Ghana Bird Century in <u>Bharatpur</u>, <u>Rajasthan</u>. Gambhir is a seasonal river but becomes perennial after its confluence with the Parbati, outside Dhoulpur District.

### **Gambhir River Summary Sheet**

Origin	In the hills near Hindaun in <u>Karauli, Rajasthan</u>
Length	288 Kms in Rajasthan
Discharge	Yamuna
States & Major Cities	Rajasthan: Hindaun in Karauli, Bayana city in Bharatpur
Tributaries	Sesa, Kher and Parbati.
Major Dams	Panchana Dam

### Gambhir River Course:

The river originates in the hills near Hindaun in <u>Karauli</u>, <u>Rajasthan</u>. It flows in south to north direction up to Kanjoli village (Toda Bhim), then turns northeast up to village Mertha and enters into Uttar Pradesh. The river again enters Rajasthan near Catchapaura village in Dholpur and subsequently forms the boundary between Uttar Pradesh and Rajasthan. It then enters Mainpuri District in UP to finally joins <u>Yamuna</u> river.



### Gambhir River Basin:

Gambhir or Utangan River Basin is located in northeastern part of Rajasthan. It is bounded by the Banganga river basin in the north, Banas river basin in the south west, Chambal and Parbati in the southeast; Uttar Pradesh state constitutes part of the boundary in the northeast. The Basin extends over parts of Bharatpur, Dausa, Dhaulpur, Karauli and Sawai Madhopur Districts. It is a small river basin and its approximate total catchment area is 4,316 square km.

### Gambhir River Tributaries:

Important tributaries of the river are Sesa, Kher and Parbati (Different from Parbati, tributary of Kali Sindh).

### Parbati River:

• Parbati River rises in hilly terrain near Chhawar village in the <u>Sawai Madhopur</u>. It runs for 123 km and falls into the Gambhir River near Kharagpur in <u>Dholpur</u>, <u>Rajasthan</u>.

# **Important Dams:**

### Panchana Dam:

• The Panchana Dam is situated at Gambhir river, near Karauli district (a tributary of Yamuna). The dam is situated at 12 km north to Karauli in the eastern part of Rajasthan. It is an important man-made wetland system, formed by the confluence of five rivers, named Barkhera, Bhadrawati, Attaki, Bhansawat and Manchi.

# **Dravyavati River**

Dravyavati River originates from the *western slope of Amber hills* at the foothills of the Nahargarh Fort in Jaisalya village and flows through the west side from Jaipur city, north to south over a length of 47.5 km to meet *river Dhund*. Most of the Jaipur's population stays in the 10 km of the periphery of this river. The river collects storm water from all the adjoining areas such as Ambabari, major portion of Walled City, Sanganer town and Pratap Nagar, etc.

### Pollution in Dravyavati River

Dravyavati River, which is also known as "Amaanishaah naala", has lost its flow and purity of water in past couple of decades. Sewerage mixed with domestic waste water and industrial waste from various city areas drains into the river through Nahri ka Nullah, Jawahar Nullah and various streams that feed through structured/unstructured sewerage system of the colonies.

### Rejuvenation:

To change the fate of the river and make Jaipur a better city, Jaipur Development Authority (JDA) had proposed a *project for Rejuvenation of Dravyawati River*. Further in August 2016, JDA has given a contract to a consortium of Tata Projects and Shanghai Urban Construction Group at a project cost of Rs1,676 crore to complete the project by October 2018. Activities included in Project include:

- Amortization of 170 MLD polluted water.
- Check dams & fall structures will be constructed to brake the flow of water during Monsoon, prevent soil erosion and improve the depleting water-table of the city. 85 such check dams and 122 fall structures shall be constructed.
- Nearby land of this project will be developed with Parks, Parking, Theaters, Fountains etc.
- The consortium will be responsible for the maintenance of this project for 10 years from the completion of the project.

# Rajasthan Rivers by Districts

<u>Rivers of Rajasthan</u> are mostly seasonal, however, these seasonal rivers recharge the groundwater making well irrigation possible. All the rivers and their floodplains in Rajasthan also serve as vast grazing grounds that support millions of livestock. Most of the Rivers originate from the Aravali hills and flow either in east or west. Those Rivers flowing in east merge with <u>Yamuna</u>. Those flowing in west fall into Gulf of Khambhat or lost in desert. Even after being a desert state, apart from Bikaner almost each district has multiple rivers.

This post contains list of Rivers of Rajasthan by District.

- Ajmer Sagarmati, Saraswati, Khari, Dai, Banas, Rupangarh
- Alwar Sabi (Sahibi), Ruparail, Kali, Gauri, Sota, Arvari, Chuhar
- Banswara Mahi, Annas, Chaini
- **Barmer** Luni, Sukri, Mithri
- Baran Parbati(Parvati), Parwan
- Bharatpur Chambal, Barah, Banganga, Gambhiri, Parvati, kukund
- Bhilwara Banas, Kothari, Berach, Menali, Mansi, Khari
- Bikaner no river
- Bundi Kural (mangli), Mej, Brahmani, Ghoda Pachhad
- Chittorgarh Banas, Berach, Brahmani, Bagan, Gambiri, Gunjali
- Churu no river
- **Dausa** Banganga, Morel
- **Dholpur** Chambal, Parbati, Gambhir(Utgan)
- **Dungarpur** Som, Mahi, Soni
- **Hanumangarh** Ghaggar
- Jaipur Banganga, Bandi(Mashi), Dhund, Morrel, Sabi (Sahibi)-Sota, Sakha, Mantha
- Jaisalmer Kaknei, Chingan, Lathi, Dhoa, Dhogri
- Jalore Luni, Bandhi, Jawai, Sukri, Sagi

- Jhalawar Kali Sindh, , Chhoti Kali Sindh, Ahu, Niwaj, Parwan
- **Jhunjhunu** Kantli
- Jodhpur Luni, Mathdi, Jojri, Gunaimata
- Karauli Gambhir, Chambal, Banas
- Kota Chambal, Kali Sindh, Parvati, Au Niwaj, Parwan
- Nagaur Luni, Mantha, Harsor
- Pali Lihri, Bandi, Sukri ,Jawai
- **Pratapgarh** Jakham, Siwan, Mahi
- Rajsamand Khari, Kothari, Banas, Chandrabhaga
- Sawai Madhopur Chambal, Banas, Morel, Gambhiri
- Sikar Kantli, Mantha, Pawta, Kavant
- Sirohi West. Banas, Sukri, Posliya, Khati, Kishnavati, Jhula, Survata
- Sri Ganganagar Ghaggar
- Tonk Banas, Mashi, Bandi
- Udaipur Banas, Ahar, Berach, Wakal, Gomti, Som, Jakham, Sabarmati, Sei

# List of Rivers in Rajasthan

Now, the List of <u>Rivers of Rajasthan</u> and districts in catchment of each River. Precaution has been taken to list districts from source of river to the discharge. Example Luni river originates in Ajmer then goes to Nagaur, then Jodhpur, then Pali, then Barmer, then Jalore and then goes to Gujarat hence Luni is listed as: Luni River (Ajmer, Nagaur, Jodhpur, Pali, Barmer, Jalore)

- Ahu (Jhalawar, Kota)
- Andheri (Jhalawar, Kota)
- Anas (Banswara)
- Arvari (Alwar)

- Aurai (Chittorgarh)
- Brahmani (Chittorgarh)
- Banas (Rajsamand, Chittorgarh, Bhilwara, Ajmer, Tonk, Sawai Madhopur, Karauli )
- Bandi River: (Jaipur, Tonk) | (Sirohi, Jalore) | (Pali) Three rivers are named Bandi
- Banganga (Jaipur, Dausa, Bharatpur,)
- Berach (Udaipur, Chittorgarh, Bhilwara)
- Chaini (Banswara)
- Chambal (Chittorgarh, Kota, Bundi, Sawai Madhopur, Karauli, Dholpur)
- Chandrabhaga (Rajsamand, Bhilwara)
- Chuhar River (Alwar)
- Dai (Ajmer, Jaipur)
- Dhogri (Jaisalmer)
- Dhundh (Jaipur)
- Gambhiri (Karauli, Sawai Madhopur, Bharatpur, Dholpur)
- Gauri River (Alwar)
- Ghaggar (Hanumangarh, Ganganagar)
- Ghoda Pachhar (Jhalawar, Bundi)
- Gomti (Udaipur)
- Gunaimata (Jodhpur)
- Harsor (Nagaur)
- Jakham (Pratapgarh, Udaipur, Dungarpur)
- Jawai (Pali, Sirohi, Jalor)
- Jojari (Jodhpur)
- Kakney (Jaisalmer)
- Kakund (Bharatpur)

- Kali Sindh (Kota)
- Kali River (Alwar)
- Kalisindh (Jhalawar)
- Kantli (Sikar, Jhunjhunu, Churu)
- Kapalganga (Sirohi)
- Khari River (Rajsamand, Bhilwara)
- Kothari River (Rajsamand, Bhilwara)
- Krishnawati (Sirohi, Sikar)
- Kural River (Bundi)
- Kyasari (Jhalawar)
- Lathi River (Jaisalmer)
- Lilri (Pali)
- Luni River (Ajmer, Nagaur, Jodhpur, Pali, Barmer, Jalore)
- Mahi River (Banswara, Pratapgarh, Dungarpur)
- Mandha River (Sikar)
- Mangli (Bundi)
- Mansi (Bhilwara)
- Masi (Tonk, Jaipur)
- Mej (Bundi)
- Menali (Bhilwara)
- Morel (Jaipur, Dausa, Sawai Madhopur)
- Niwaj (Jhalawar, Kota)
- Parban (Jhalawar, Kota, Baran)
- Parbati (Baran, Kota)
- Parvati (Bharatpur, Dholpur)

- Piplaj River (Jhalawar)
- Ruparel (Alwar, Bharatpur)
- Sabarmati (Udaipur)
- Sabi (Sikar, Alwar, Jaipur)
- Sagarmati (Ajmer)
- Sagi (Jalor)
- Sanwan (Dausa)
- Saraswati (Ajmer)
- Sindh River (Alwar)
- Sohadara (Tonk)
- Som (Udaipur, Dungarpur)
- Sota (Sikar, Alwar)
- Sukri (Pali, Sirohi, Barmer, Jalor)
- Wakal (Udaipur)
- West Banas (Sirohi)

# Important Lakes in Rajasthan

Rajasthan is the most arid state of India with average yearly rainfall less that 100 cm. However, Rajasthan has a large number lakes mostly artificial as well as historical, signifying a tradition of conserving natural resources and respecting nature. The lakes in Rajasthan can divided into types Saline and Fresh water lakes.

### Types of Lakes in Rajasthan:

- Saline (Salt) Water lakes
  - o This are considered as remains of Tethys Sea.
  - o Deedwana, Lunkaransar, Sambhar, Panchpadra etc.
- Fresh (Sweet) Water lakes
  - They have either developed naturally or artificially and get replenished by rainwater.
  - o Pichhola, Jaisamand, Rajsamand, Ana Sagar etc.

### Now,

# A. Saline (Salt) Water lakes in Rajasthan

#### Sambhar Lake

- Location: Phulera, Jaipur
- Built by: As per mythology, Scambhari Devi,
- Highlights:
  - o Ramsar Wetland
  - o Largest in-land salt-lake in India
  - Touches border of Jaipur, Ajmer and Nagaur.
  - o Rivers mantha, rupangarh, khari, khandela drain their water into this lake.
  - The lake produces 8.7% of Salt produced in India.
  - Lake is managed by Sambhar Salts Limited, a joint venture of Hindustan Salts and the Government of Rajasthan.



# Panchpadra Lake:

• Location: Barmer

• Built by: Natural

• Highlights: Its sodium chloride level is marked at 98%.



### **Lunkaransar Lake:**

Location: Bikaner

• Built by: Natural

• Highlights: It is a playa lake formed due to deflation.



### Deedwana Lake:

Location: Nagaur

• Built by: Natural

• Highlights: Salt produced is non-edible grade because of high fluoride.



# Tal Chappar:

• Location: Churu

• Built by:

• Highlights: Has Talchhapar Wild Life Sanctuary.



### Other Salt lakes:

• Nagaur District: Degana, Kuchaman

• Jodhpur: Falaudi

• Sikar: Rewasa

• Jaisalmer: Kavod

# B. Fresh Water lakes in Rajasthan

### Ana Sagar Lake, Ajmer:

Anasagar Lake is a scenic artificial lake, commissioned and built by Arnoraj Chauhan, son of Ajaypal Chauhan, between 1135 and 1150 AD. Arnoraj was also known as Anaji, which gives the lake its name. Many years later, Mughal Emperor Jahangir added his touch to the lake by laying out the Daulat Bagh Gardens near the lake.



Emperor Shah Jahan too, contributed to the expansion by building five pavilions, known as the Baradari, between the garden and the lake.

### Lake Foy Sagar, Ajmer:

A beautiful artificial lake that appears flat, Lake Foy Sagar was built by an English engineer, Mr. Foy in 1892 AD. Interestingly, this work was taken up to provide famine relief through wage employment to locals. Lake Foy Sagar offers a beautiful view of the Aravalli range.



### Pushkar lake, Pushkar, Ajmer

According to Hindu scriptures, the sacred Pushkar Lake is described as 'Tirtha Raj', the king of all pilgrimage sites. No pilgrimage is considered to be complete without a dip in in the holy Pushkar Lake. Semi-circular in shape and about 8-10 metres deep, Pushkar Lake is



surrounded by 52 bathing ghats and over 400 temples and is truly a magnificent sight to behold.

#### Siliserh Lake, Alwar

The water palace of Siliserh with a lake surrounded by low wooded hills is on route to Sariska. It lies 12 Kms. Southwest of Alwar. The tranquil lake is nestled in the hills; the sparkling ripples of the lake cover an area of about sq. Kms, surrounded by thick forest and magnificent cenotaphs



on its embankment. A royal hunting lodge / palace was built by Maharaja Vinay Singh for his Queen Shila in 1845. It has been converted into a tourist bungalow and is an attractive sot for a peaceful holiday.

### Anand Sagar lake, Banswara

This artificial lake, also known as Bai Talab was constructed by Lanchi Bai, the Rani of Maharaval Jagmal Singh. Located in the eastern part of Banswara, it is surrounded by holy trees known as 'Kalpa Vriksha', famous



for fulfilling the wishes of visitors. The 'chattris' or cenotaphs of the rulers of the state are also scattered nearby.

### Dailab Lake, Banswara

On the banks of this beautiful lake stands the summer residence of the former rulers. A major part of the lake itself is covered with lotus flowers.



### Jait Sagar Lake, Bundi

Located close to the Taragarh Fort, this picturesque lake is surrounded by hills and covered with pretty lotus flowers that bloom during winter and monsoon.



### Kanak Sagar Lake, Bundi

About 67 kilometres from the town of Bundi lies this wonderful flat lake. There is also a town named after the lake. One can spot several migratory birds here such as bar headed goose and Demoille cranes all through the year.

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# Nawal Sagar lake, Bundi

Nawal Sagar Lake is an artificial lake that is a major tourist attraction and can even be seen from the Taragarh Fort. There is a half-submerged temple dedicated to Lord Varun Dev in its centre. What makes the lake unique is that one can see the reflection of nearby palaces and forts in its waters.



# Gaib Sagar Lake, Dungarpur

The lake is famous for the shrine of Shrinathji that rests on its banks. The shrine complex contains numerous exquisitely carved temples and one core temple, the Vijay Rajrajeshwar Temple. This temple of Lord Shiva displays the skilled craftsmanship of the famed sculptors or 'shilpkars' of Dungarpur.



### Gadsisar Lake, Jaisalmer

Gadisar Lake was constructed in the 14th century by Maharawal Gadsi Singh to meet the water needs of his arid lands. Considering its importance, many small temples and shrines were constructed around it, transforming it into a pilgrimage centre and a tourist attraction.



#### Balsamand Lake, Jodhpur

Balsamand Lake is about 5 kilometres from Jodhpur on the Jodhpur-Mandore Road. Built in 1159 AD, it was planned as a water reservoir to cater to Mandore. The Balsamand Lake Palace was built on its shore later as a summer palace. It is surrounded by lush green gardens that house groves of trees such as mango, papaya, pomegranate, guava and plum. Animals and birds like the jackal and peacock also call this place home.



# Kailana Lake, Jodhpur

Situated on Jaisalmer road, this small artificial lake is an ideal picnic spot. It is like a canvas with a splash of romantic colours. The beauty of the lake stays with you long after you've experienced it.

### Kishore Sagar lake, Kota

Kishore Sagar Lake is one of the lakes in Kota which was built in 1346 by the prince of Bundi named Dher Deh. The Jagmandir Palace was built by one of the queens of Kota between 1743 and 1745, and is situated in the middle of the Kishore Sagar Lake.



### Rajsamand Lake, Rajsamand

Maharana Raj Singh an able administrator of the fifth generation of Maharana Pratap constructed rajsamand lake in 1662 AD, which is a beautiful example of sculpture and public utility works. The banks known as "Nouchoki" consist of 25 carved stone 'RAJ PRASHASHTI' the longest stone inscription in Sanskrit in the world. The stairs, footrest, artistic gates and 'Mandaps' are made of



beautiful carved marble and the sculpture imparts a new look every time. The whole construction is based on the number 9 which is considered to be the absolute number in Hindu philosophy & mythology. It took 14 years for completion and cost more than 12.5 million rupees at that time. rajsamand District is a district of the state of Rajasthan in western India.

### Doodh Talai, Udaipur

The road that takes visitors to Pichola Lake has another popular destination – the Doodh Talai Lake. The lake is nestled between several small hillocks which themselves are tourist attractions. The Deen Dayal Upadhyay Park and the Manikya Lal Verma Garden are part of the Doodh Talai Lake Garden.



# Fateh SagarLake, Udaipur

This delightful lake, bordered by hills and woodlands, lies to the north of Lake Pichola. This artificial lake is connected to Lake Pichola by a canal. The lake houses the beautiful Nehru Island as well as an islet on which stands the Udaipur Solar Observatory. It was inaugurated by the Duke of Connaught and was initially called Connaught Bundh.



# Jaisamand Lake, Udaipur

Jaisamand Lake is known for being the second largest manmade sweet water lake in Asia. It is popular among the locals as a weekend picnic destination. Locals say that the lake was constructed to halt the waters of Ruparel River. This lake boasts of a large island, which is home to various species of birds, at its centre.



#### Pichola Lake, Udaipur

Pichola was the name of a village that was submerged and lent its name to the lake when it was expanded. The islands of Jag Niwas and Jag Mandir as housed in this lake. Along the eastern banks of the lake lies the City Palace. A boat ride in the lake around sunset offers a breathtaking view of the Lake and City Palaces.



### Udai Sagar Lake, Udaipur

Udai Sagar Lake is one of the five striking lakes situated in Udaipur. Located about 13 kilometres to the east of Udaipur, the construction of this lake was started in 1559 by Maharana Udai Singh. The lake is actually a result of a dam being built on the river Berach to supply



adequate water to the Maharana's kingdom. Udai Sagar Lake is 4 kms in length, 2.5 kilometres in width and about 9 meters at its deepest.

# Important Dams of Rajasthan

S.No	River	Dam Name	District
1	Ahu	Gagrin Dam	Jhalawar
2	Alnia Hukud	Alnia Dam	Kota
3	Amlabala/ Local nala	Sindroo Dam	Pali
4	Arav/ Erau	Bhanwar Semla Dam	Pratapgarh
5	Banas	Bisalpur Dam	Tonk
6	Banas	Bithan Dam	Jalor
7	Banas	<u>Dindoli Dam</u>	Chittaurgarh
8	Banas	Gosunda Dam	Chittaurgarh
9	Banas	Matrakundia/ Matrikundia/ Matrikundial <u>Dam</u>	Chittaurgarh
10	Banas	Nand Samand Dam	Rajsamand
11	Banas/ Bandi	Hingonia Dam	Jaipur
12	Banas/ Dundh	Sheel Ki Dungri / Dogri Dam	Jaipur
13	Banas/ Local Nala	Chaparwara Dam	Jaipur
14	Banas/ Local Nala	Morasagar Dam	Sawai Madhopur

15	Bandi (Sukri)	Bandi Sandhara Dam	Jalor
16	Bandi/ Mashi	Mashi Dam	Tonk
17	Bandi/ Sumer	Hemawas Dam	Pali
18	Banganga	<u>Chandrana Dam</u>	Jaipur
19	Banganga/ Local nala	Kharad Dam	Jaipur
20	Banganga/ Local Nala	Madho Sagar Dam	Dausa
21	Banganga/ Ruparail	Jaisamand Dam	Alwar
22	Banganga/ Sawa	Sainthal Sagar / Sainthal / Sinthalsagar Dam	Jaipur
23	Banqanga	Ram Garh Dam	Jaipur
24	Began	Pachki Baori Dam	Bundi
25	BERACH	Badgaon Dam	Udaipur
26	Berach	Bagolia Dam	Udaipur
27	Berach	Bhopal Sagar Dam	Chittaurgarh
28	Berach	Fateh Sagar Dam	Udaipur
29	Berach	Madhar/ Madar Dam	Udaipur
30	Berach	<u>Udai Sagar Dam</u>	Udaipur
31	Bethali/ Benthali	Benthali / Bethli / Bethali Dam	Baran

32	Bhimlat	Abhaypura Dam	Bundi
33	Bhimlat	Bhimlat Dam	Bundi
34	Bilas	Bilas Dam	Baran
35	Brahmani	<u>Dorai Dam</u>	Chittaurgarh
36	CHAMBAL	Aklera Sagar Dam	Baran
37	Chambal	Jawahar Sagar Dam	Bundi
38	Chambal	Ranapratap Sagar Dam	Chittaurgarh
39	Chambal/ Kul	Gopalpura Dam	Baran
40	Chambal/ Local nala	Man Sarowar Dam	Sawai Madhopur
41	Chandrabhaga	<u>Chandrabhaga Dam</u>	Bhilwara
42	Chauli	<u>Chauli Dam</u>	Jhalawar
43	Chhapi	Chhapi Dam	Jhalawar
44	Dai	<u>Lassaria Dam</u>	Ajmer
45	Daya	Daya Dam	Udaipur
46	Dhoond/ Dhundh	<u>Kanota Dam</u>	Jaipur
47	Galwa	Galwa Dam	Tonk
48	Gambhir/ Local Nala	Surwal Dam	Sawai Madhopur

49	Gambhiri	<u>Gambhiri Dam</u>	Chittaurgarh
50	Gambhiri/ Panchana	Panchana Dam	Karauli
51	Gararda	Gararda Dam	Bundi
52	Ghanerow/ Tri. of Sukli	Kana Dam	Pali
53	Gomti	<u>Jai Samand Dam</u>	Udaipur
54	Gomti Banas	Rajsamand Dam	Rajsamand
55	Guhiya/ Sukli	Sardar Samand Dam	Pali
56	Gulandi	<u>Gulandi Dam</u>	Jhalawar
57	Jakham (mahi)	Jakham Main Dam	Pratapgarh
58	Jawai	<u>Jawai Dam</u>	Pali
59	Juggar Banas	Juggar Dam	Karauli
60	Kalisil Banas/ Kalisindh	Kalisil Dam	Karauli
61	Khari	Arwar Dam	Bhilwara
62	Khari	Basundni Dam	Ajmer
63	Khari	Godana Dam	Sirohi
64	Khari	Kala Bhata Dam	Rajsamand
65	Khari	Khari Dam	Bhilwara

66	Khari	<u>Ora Dam</u>	Sirohi
67	Khari	Ummed / Umaid Sagar (Baran) Dam	Baran
68	Kothari	Ladki/ Larki Dam	Bhilwara
69	Kothari	Meja Dam	Bhilwara
70	Kothari (Banas)	Kothari Stage I Dam	Bhilwara
71	Krashnauti	<u>Dhanta Dam</u>	Sirohi
72	Krishnawati	Angore Dam	Sirohi
73	Kundal	Mandawara Dam	Sirohi
74	Lhasi	<u>Lhasi Dam</u>	Baran
75	Luni	Girinanda Dam	Pali
76	Luni	<u>Jaswant Sagar Dam</u>	Jodhpur
77	Luni & WFR	<u>Giroliya Dam</u>	Pali
78	Maghai	Sadari Dam	Pali
79	Mahadev Nalla	Mahadev Dam	Sirohi
80	Mahi	Mahi Bajaj Sagar Dam	Pratapgarh
81	Manali	Govta Dam	Bhilwara
82	Mangu	<u>Phacharia Dam</u>	Sirohi

83	Mansi	Sareri / Sareru Dam	Bhilwara
84	Mej River	Bundika Gothra Dam	Bundi
85	Mej River	Paibala Pura Dam	Bundi
86	Moral/ Gandi/ Ganoli	Domti Kokra Dam	Bhilwara
87	Moran	Lodisar Dam	Dungarpur
88	Morel	Dheel Dam	Sawai Madhopur
89	Morel	Morel Dam	Sawai Madhopur
90	Nagdi	Nagdi Dam	Bhilwara
91	Nahari/ Local Nala	Deopura Dam	Sawai Madhopur
92	Nekhadi/ Local Nala	Kantaliya Dam	Pali
93	Nori/ Local nala	Kantri Dam	Dungarpur
94	Odher/ Local nala	Needar Dam	Karauli
95	Orai	Orai Dam	Chittaurgarh
96	Parbati	<u>Parbati Dam</u>	Dhaulpur
97	Parbati	Ram Sagar Dam	Dhaulpur
98	Parbati	<u>Urmila Sagar Dam</u>	Dhaulpur
99	Phuphadia	Kharda / Kharda Bund / Bandh Dam	Pali

100	Piplad	<u>Piplad Dam</u>	Jhalawar
101	Raipur Luni	Raipur Luni Dam	Pali
102	Roop Rail/ Siliberi	<u>Silibari Dam</u>	Alwar
103	Ruparel	Ruparel Dam	Chittaurgarh
104	Sabi/ Local Nala	Chittoli Dam	Jaipur
105	Sei	Sei Diversion Dam	Udaipur
106	Sisarma	Swaroop Sagar Dam	Udaipur
107	Sivani	Bajrang Garh Dam	Pratapgarh
108	Sivani	Chacha Kheri Dam	Pratapgarh
109	Sivani	Hamja Kheri Dam	Pratapgarh
110	Sohadra	Tordi Sagar Dam	Tonk
111	Som and Gomti	Som Kamla Amba Dam	Udaipur
112	Sukhri/ Sukri	Bankali Dam	Jalor
113	Sukli	Sukli Selwara Dam	Sirohi
114	Takli	<u>Takli Dam</u>	Kota
115	Telera	Burdha Dam	Bundi
116	Tokra	Tokra Dam	Sirohi

117	Tr. of Lilari	Babara Dam	Pali
118	Tr. of Sukhri	DANDIA/ Dadia (Hariom Sagar) Dam	Pali
119	Tr. of Sumer/ Tri. of Mithri	Juna Malari Dam	Pali
120	Unli	<u>Jetpura Dam</u>	Bhilwara
121	Wagon	Wagon Dam	Chittaurgarh
122	West Banas	Bhula Dam	Sirohi
123	West Banas	Chandelas/ Chandelao Dam	Sirohi
124	West Banas	Girwar / Giriwar Dam	Sirohi
125	West Banas	<u>Kui Sagna Dam</u>	Sirohi
126	West Banas	Moongthala Dam	Sirohi
127	West Banas	West Banas Dam	Sirohi
128	Yamuna/ Gambhiri	Baretha Bund Dam	Bharatpur
129		Bassi Dam	Chittaurgarh
130		Bhimsagar Dam	Jhalawar
131		Buchara Dam	Jaipur
132		Chandsen/ Chandsen Bheru Dam	Tonk
133		<u>Chatra Sagar Dam</u>	Pali

134	<u>Chikalwar Dam</u>	Udaipur
135	<u>Dugari Dam</u>	Bundi
136	Galai Sagar Dam	Sawai Madhopur
137	Galwania Dam	Tonk
138	Gudha Dam	Bundi
139	Harish Chandra Sagar Dam	Kota
140	Harsora / Harsora Bund Dam	Alwar
141	<u>Kalakho Dam</u>	Dausa
142	Kalisindh Dam	Jhalawar
143	Mangalsar Dam	Alwar
144	Manohar Thana Dam	Jhalawar
145	Maoroli Bund Dam	Dausa
146	Mata Ji Ka Kheda/ Khera Dam	Rajsamand
147	Moti Sagar Dam	Tonk
148	Narayan Sagar Dam	Ajmer
149	Phool Sagar Jalia / Jali / Jaliyan Dam	Ajmer
150	Raipur Patan Dam	Sikar

151	Rondh Dam	Dausa
152	Sawan Bhado Dam	Kota
153	Silised Dam	Alwar
154	Som Kagdar Dam	Udaipur
155	Surwania/ Surwawia Dam	Banswara
156	<u>Tasai Dam</u>	Alwar
157	<u>Utawali Dam</u>	Baran