Springboard ACADEMY

AN INSTITUTE FOR IAS & RAS

RAS PRELIMS

2024 - 2025

GEOGRAPHY OF RAJASTHAN

PRELIMS EXAM



Vijay sihag sir

A-1 Keshav Vihar, Riddhi-Siddhi Chouraha, Gopalpura Bypass,
Jaipur- 302018 Mob.: 0141-3555948, 9636977490, 8955577492

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SYLLABUS

- **Major Physiographic regions and their Characteristics.**
- **Climatic Characteristics.**
- **Major Rivers & Lakes.**
- **Natural Vegetation & Soil.**
- **Major Crops – Wheat, Maize, Barley, Cotton, Sugarcane, & Bajra.**
- **Major Industries.**
- **Population – Growth, Density, Literacy, Sex-ratio & Major Tribes.**
- **Minerals – Metallic & Non-Metallic.**
- **Power Resources – Conventional & Non-Conventional.**
- **Biodiversity & its Conservation.**
- **Tourist Centres & Circuits.**

Geography of Rajasthan

☑ **Physical Geography -**

- ✓ **Origin of Rajasthan.**
- ✓ **Location & Extension of Rajasthan.**
- ✓ **Physiographic Regions.**
- ✓ **Climate**

☑ **Water Geography –**

- ✓ **Drainage System & Rivers.**
- ✓ **Lakes.**
- ✓ **Irrigation Projects.**
- ✓ **Techniques of water conservation**

☑ **Resource Geography -**

- ✓ **Soil**
- ✓ **Vegetation**
- ✓ **Wildlife and Conservation**
- ✓ **Minerals – Metallic & Non- Metallic**

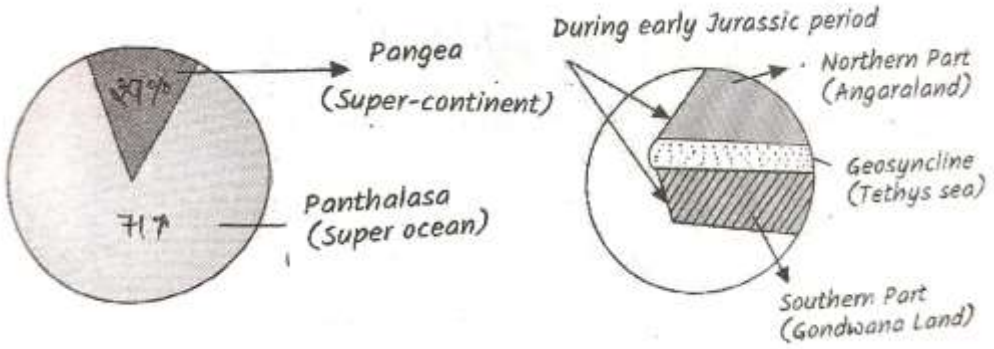
☑ **Economic Geography -**

- ✓ **Agriculture & Animal husbandry**
- ✓ **Industry**
- ✓ **Energy – Conventional & Non-Conventional.**
- ✓ **Population**
- ✓ **Tourism**
- ✓ **UNESCO – Geo Park, World Heritage Sites.**

INDEX

Sr.No.	Chapter Name	Page No.
1.	Origin, Location & Extention of Rajasthan	1-11
2.	Physiographic Division	12-36
3.	Climate	37-52
4.	Drainage System – Rivers	53-75
5.	Lakes	76-90
6.	Irrigation	91-110
7.	Soil	111-120
8.	Minerals – Mettalic & Non-Mettalic	121-142
9.	Vegetation	143-155
10.	Wildlife & its Conservation	156-170
11.	Agriculture	171-180
12.	Industry	181-198
13.	Energy	199-226
14.	Population	227-235
15.	Tourism	236-243
16.	UNESCO – Geo Park, World Heritage Sites	244-246
17.	Technique of Water Conservation	247-251
18.	Live Stock	252-261

Origin of Rajasthan



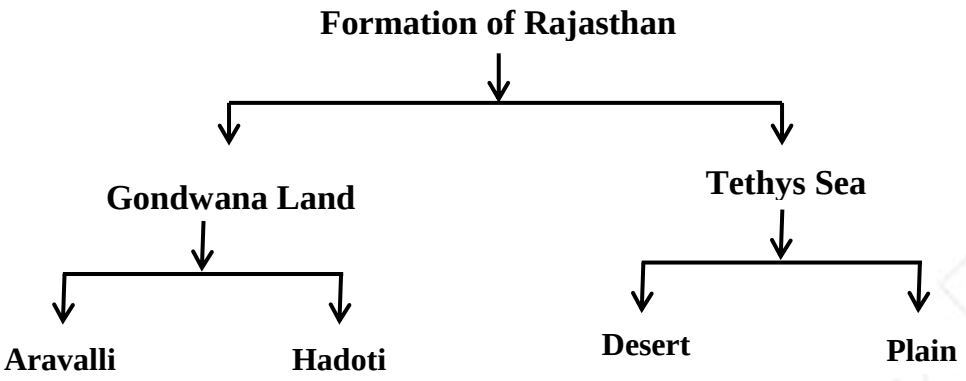
- **Pangea -** According to Alfred Wegener Super continent area is known as Pangea. At present Pangea is divided into two parts.

Pangea

Northern Part
(Angara land / Lauransia)
Eg.
- **North America**
- **Europe**
- **North Asia**

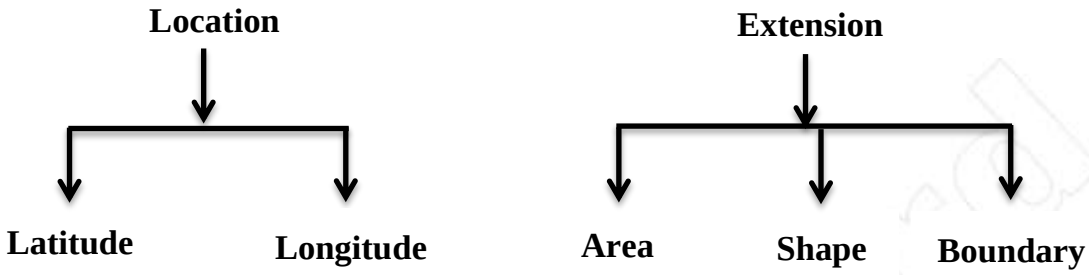
Southern Part
(Gondwana Land)
(India/Rajasthan)
Eg.
- **South America**
- **Africa**
- **South Asia**
- **Australia**
- **Antarctica**

- **Panthalassa :-**
  - According to Alfred Wegener super ocean part is known as Panthalassa. Which is located surround of Pangea. It's main ocean is the Pacific Ocean.
  - **Tethys Sea**- It was a geosyncline and it's located between Angaraland and Gondwanaland.

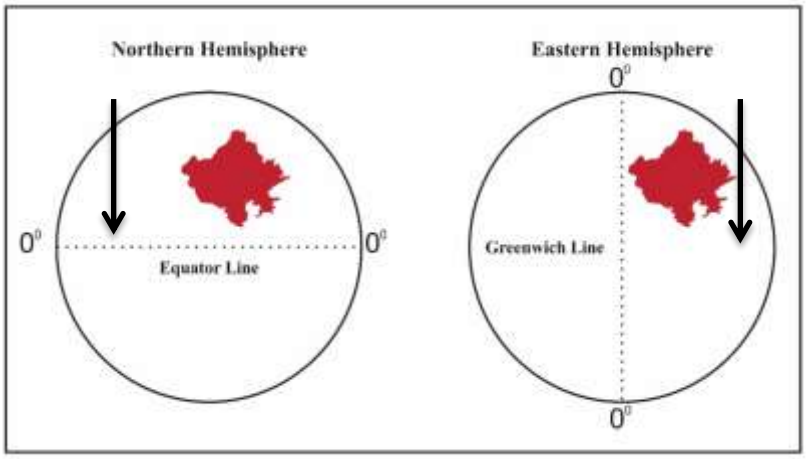


- Aravalli and Hadoti is the part of **'Peninsular Plateau'** of India while desert and Eastern plain is the part of the **'Great Northern Plain of India'**.

Location and Extension of Rajasthan



A. Location of Rajasthan -



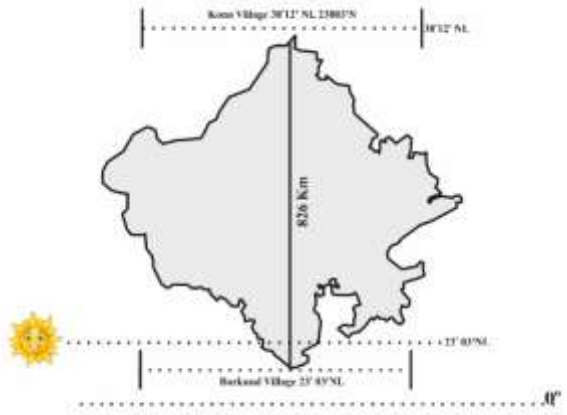
❖ Location of Rajasthan in India

- Rajasthan is located in the North-West of India.
- According to latitude and longitude, the position of rajasthan is – North- East.
- According to Asia - South -West



(a) Latitudinal Location of Rajasthan:-

Latitude :	$23^0 03'$ NL	$30^0 12'$ NL
Place :	Borkunda	Kona Village
District :	Banswara	Sri Ganganagar
Distance :	South - (826 KM) - North	



Note :-

(i) Latitude Gaps of Rajasthan – $7^0 09'$

(ii) **23½° NL** – Tropic of Cancer line which passes through Banswara and Dungarpur in Rajasthan. Its total length in Rajasthan is 26 km.

21 June -

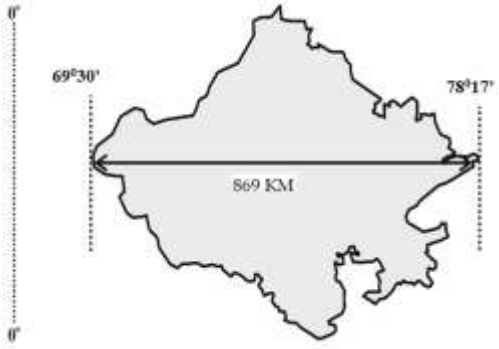
- Longest day of northern hemisphere or Rajasthan state.
- This day celebrated as summer solstic day.
- That day celebrated as **"International Yoga Day"** since 2015.

(iii) Latitude lines are known as climate lines.

(iv) The nearest city to the tropic of cancer- Kushalgarh(Banswara)

(b) Longitudinal Location of Rajasthan:

Latitude :	$69^0 30'$ EL	$78^0 17'$ EL
Place :	Katra Village	Silana Village
District :	Jaisalmer	Dholpur
Distance :	West 869 KM	East

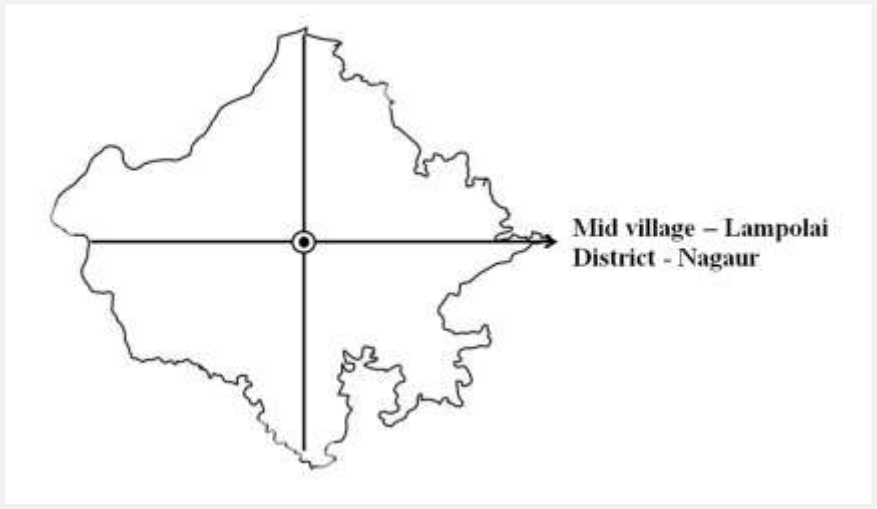


Note :-

(i) Longitudinal Gap of Rajasthan – 8^0 47'

(ii) Mid Village – Lampolai

Note - According to Satellite survey, mid village of Rajasthan is Gagrana (Nagaur District).



(iii) Longitudinal line is known as date and time line.

- 1^o Longitude = 4 Min
- 1' longitude = 4 sec.

- Time gap between dholpur (East) and Jaisalmer (West) - 35 Minute 8 Seconds.

B. Extension of Rajasthan

(a) Area

(b) Shape

(c) Boundary

(a) Area -

Area of Rajasthan

342239 Km^2 **132139 $Mile^2$**

Note -

- Area of Rajasthan Part of India 10.41% (1st November, 1956).
- According to areawise rank of Rajasthan is first. (1st November, 2000).

Rajasthan State

Largest District (JBBJ)			**Smallest District (DDBP)**		
1. Jaislmer	-	38401 Km^2	1. Dholpur	-	3034 KM^2
2. Bikaner	-	30239 Km^2	2. Dausa	-	3432 KM^2
3. Barmer	-	28387 Km^2	3. Dungarpur	-	3770Km^2
4. Jodhpur	-	22850 Km^2	4. Pratapgarh	-	4449Km^2

Note :-

- Area of Jaisalmer part of Rajasthan - 11.22%
  Jaisalmer is the only district in Rajasthan which area more than 10%
- Area of Dholpur part of Rajasthan – 0.89%
  Dholpur is only one district in Rajasthan which area less than 1%.
- Jaisalmer's area is 12.66 time multiple of dholpur disrtict.
- Area of Rajasthan part of world = 0.25% (India = 2.42%)

	Countries	**Rajasthan**
1.	Germany	Equal to Rajasthan
2.	Japan	Equal to Rajasthan
3.	Srilanka	5 time multiple
4.	Britain	2 time multiple
5.	Israel	17 time multiple

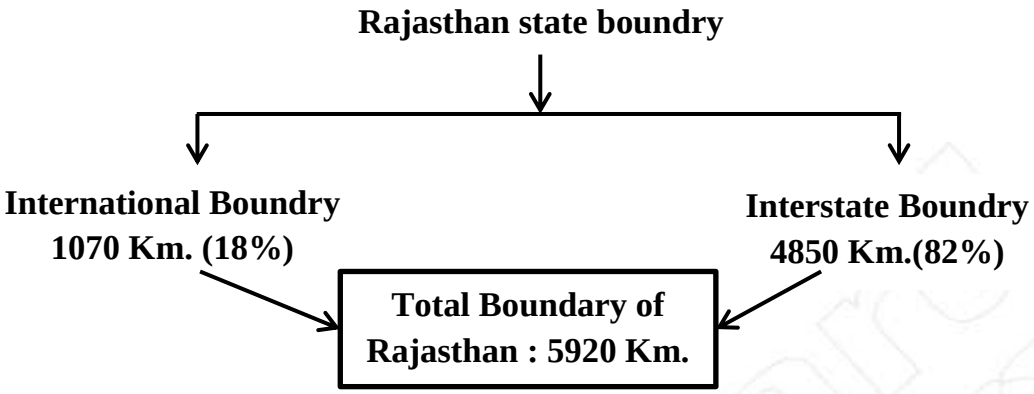
b) Shape of Rajasthan:-

- T.H. Handley called the shape of Rajasthan Rhombus.
- It is also called Kite shape.

☑ **Special Shaped District of Rajasthan:-**

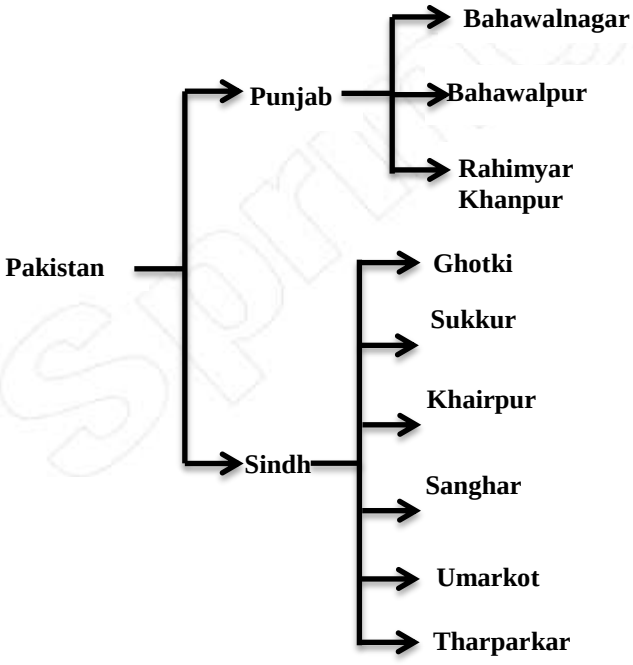
- Hanumangarh : Chair-Shaped
- Dausa : Bow-shaped
- Chittorgarh : Horseshoe-shaped
- Rajsamand – Tilak/water droplet shaped

(c) Boundry of Rajasthan:-



A. International Boundry

- Name of Boundry - Sir Cyril Radcliffe Line
- Starting point - Hindumal Kot (Sriganganagar)
- Declared Date - 17 August, 1947
- Last / ending Point - Shahgarh or Bakhasar (Barmer)
- International Boundary is 18 % (1070 Km) of the total boundary of Rajasthan.
- Two states of Pakistan (Punjab, Sindh) are located on the international border.
- Share border with 6 district of Rajasthan.





Note –

1. **Anupgarh:** Nearest district headquarter **on** International boundary.
2. **Phalodi :** Farthest district headquarter **on** International boundry.
3. **Dholpur :** Farthest district headquarter **from** International boundry.

B. Interstate Boundary

- Neighbour State = 5
- Total Interstate boundry = 4850 Km

	Neighbour State	Boundary
1.	Madhya Pradesh	1600 KM
2.	Haryana	1262 KM
3.	Gujarat	1022 KM
4.	Uttar Pradesh	877 KM
5.	Punjab	89 KM

	State	District of Rajasthan
1.	Punjab	Sri Ganganagar, Hanumangarh
2.	Haryana	Hanumangarh, Churu, **Neem Ka Thana, Kotputali-Behror, Khairthal-Tijara, Deeg.** Note- Sikar, Jaipur, and Bharatpur are currently not located on the Haryana border.
3.	Uttar Pradesh	**Deeg**, Bharatpur, Dholpur
4.	Madhya Pradesh	Dholpur, Karauli, Sawai Madhopur, Bhilwara, Banswara, Baran, Jhalawar, Pratapgarh, Chittorgarh
5.	Gujarat	**Sanchore,** Banswara, Barmer, Udaipur, Sirohi, Dungarpur

☑ **Important Facts -**

1. **The districts of Rajasthan which form the border with two states-**
   - ✓ Hanumangarh - Punjab, Haryana
   - ✓ **Deeg** - Haryana, Uttar Pradesh
   - ✓ Dholpur - Uttar Pradesh, Madhya Pradesh
   - ✓ Banswara - Madhya Pradesh, Gujarat

2. **Kota - Chittorgarh:-** Those districts of Rajasthan which form border with a state twice.
3. **Kota -** The district of Rajasthan which form border with a state twice but It's non dismantle district.
4. **Chittorgarh** - The district of Rajasthan which form border with a state twice but It's dismantle district.
5. Bhilwara divides Chittorgarh into two parts
6. **On Interestate boundry -**

Interestate Boundry

Maximum Longest Boundry
Jhalawar (Madhya Pradesh)

Minimum Boundry Barmer
(Gujarat)

7. **29 District - On Boundary District of Rajasthan**
   - 25 District - Located on Interstate boundary.
   - 23 District - Located only on Interstate boundary.
   - 6 District - Located on International boundary.
   - 4 District - Located only on International boundary.
   - 2 District - Located on International & Interstate boundary (Sriganganagar, Barmer)
8. **21 Districts –** There are land locked districts of Rajasrthan.

Note – Those districts of Rajasthan which form the border with maximum and minimum districts.

Maximum

Jaipur Rural (11 Districts)

1. Jaipur City
2. Kotputali-Bahror
3. Sikar
4. Neem ka Thana
5. Ajmer
6. Deedwana-Kuchaman
7. Tonk
8. Dudu
9. Dausa
10. Sawai Madhopur
11. Alwar

Manimum

- Jaipur Urban (Only Jaipur Rural)
- Jodhpur Urban (Only Jodhpur Rural)

- Rajsamand district headquater and district name is not same. It's Headquater name is **Rajnagar.**

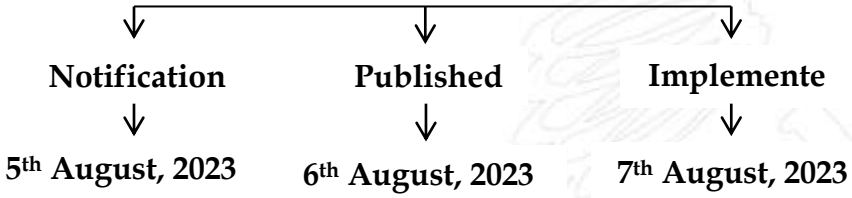
Note - Boundary Dispute –

Mangarh Hill:-

- It is situated in Banswara which is disputed between Rajasthan and Gujarat.
- This place is famous for the Mangarh Massacre (November 17, 1913).

☑ **Budget Announcement and District Reorganization (2022-23) :-**

- During Chief Minister Ashok Gehlot's tenure, a high-level district reorganization committee was formed under the 2022-23 budget announcement to restructure the districts. This committee, chaired by Shri Ramlubhaya (retired IAS), was established on March 21, 2022.
- On march 17, 2023, the budget for 2023-24 announced the creation of 19 new districts and 3 new divisions.
- New Districts and Divisions –



- CM Gehlot formally established 19 new districts and 3 new divisions, bringing the total number of divisions in Rajasthan to 10 and the total number of districts to 50.
- At present the are 10 divisions and 50 districts –

Divisions (10)	**Districts (50)**
1. Bikaner	Bikaner, Shri Ganganagar, Hanumangarh, **Anupgarh (New)**
2. Sikar (New)	Sikar, Churu, Jhunjhunu, **Neem Ka Thana (New)**
3. Jodhpur	**Jodhpur City, Jodhpur Rural, Phalodi (New)** Barmer, **Balotra (New)** Jaisalmer
4. Ajmer	Ajmer, **Beawar (New)**, **Kekri (New)**, Nagaur, **Didwana-Kuchaman(New)**, Tonk, **Shahpura(New)**
5. Jaipur	**Jaipur City, Jaipur Rural, Dudu, Kotputali- Behror, Khairthal-Tijara(New),** Alwar, Dausa.
6. Bharatpur	Bharatpur, Karauli, Dholpur, Sawai Madhopur, **Deeg(New), Gangapur City (New)**
7. Pali (New)	Pali, Jalore, **Sanchor(New),** Sirohi

8. Udaipur	Udaipur, Chittorgarh, Rajsamand, Bhilwara(Earlier in Ajmer), **Salumbar (New)**
9. Kota	Kota, Bundi, Baran, Jhalawar
10. Banswara (New)	Banswara, Dungarpur, Pratapgarh

Note –

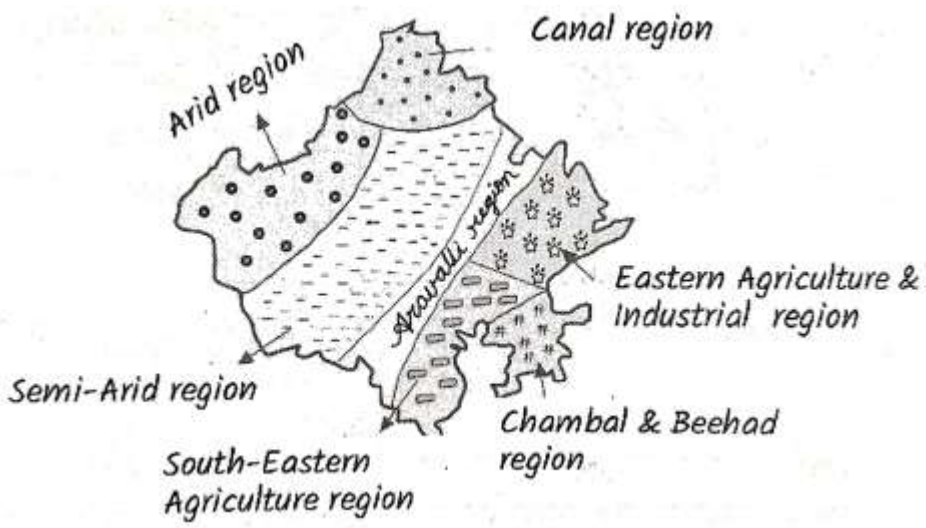
1. **Divisions with maximum number of districts**
   a. Jaipur (7 districts)
   b. Ajmer (7 districts)
2. **Division with minimum number of districts.**
   a. Banswara (3 Districts)

PHYSICAL DIVISION OF RAJASTHAN

- Classification of Physical Divisions :
  1. Based on individual basis
  2. Based on geographical factors

1. Classification Based on Individual basis :

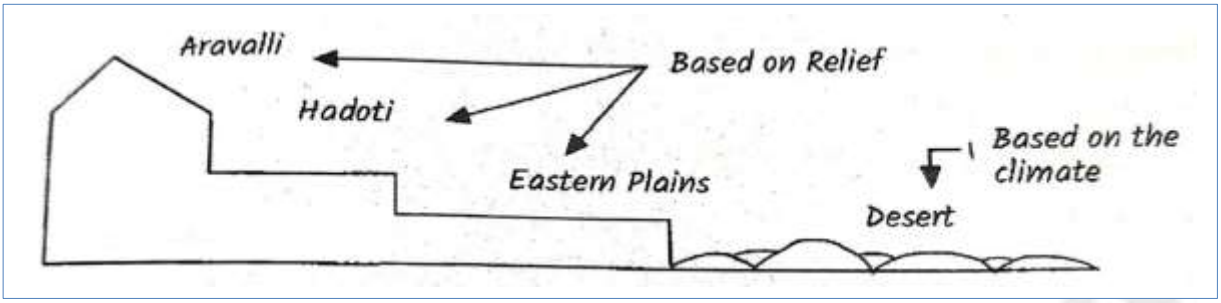
- According to Prof. V.C. Mishra, Rajasthan is divided into seven physical divisions : (Book – Geography of Rajasthan: 1967)



1. Arid region
2. Canal Region
3. Semi-Arid Region
4. Aravalli Region
5. Eastern Agricultural and Industrial Region
6. Chambal and Beehad Region
7. South-Eastern Agricultural Region

2. Classification Based on Geographical factors:

- Based on Geographical factors(Relief and Climate), Rajasthan can be divided into four Geographical divisions.



- **Rajasthan is divided into four physical divisions.**



- **General Information of Physical Divisions :-**

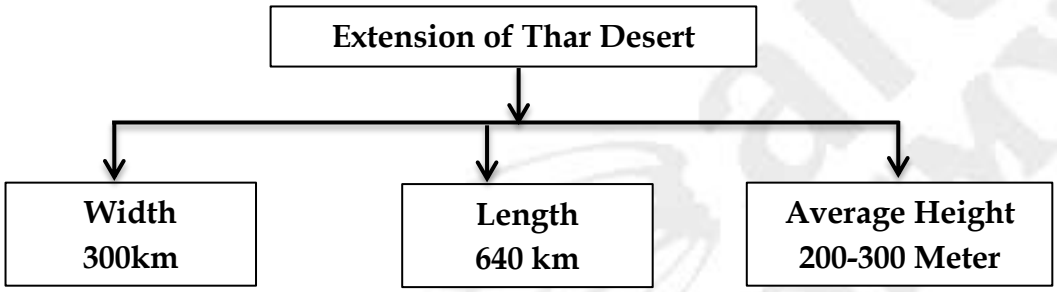
	Desert	Aravali	Eastern Plain	Hadoti Plateau
Area	61.11%	9%	23%	6.89%
Population	40%	10%	39%	11%
Districts	12	13	10	7
Soil	Sandy	Mountain / Forest Soil	Alluvial Soil	Black / Regur Soil
Climate	Arid and Semi Arid Climate	Sub Humid Climate	Humid Climate	Very Humid Climate

I. North - Western Desert

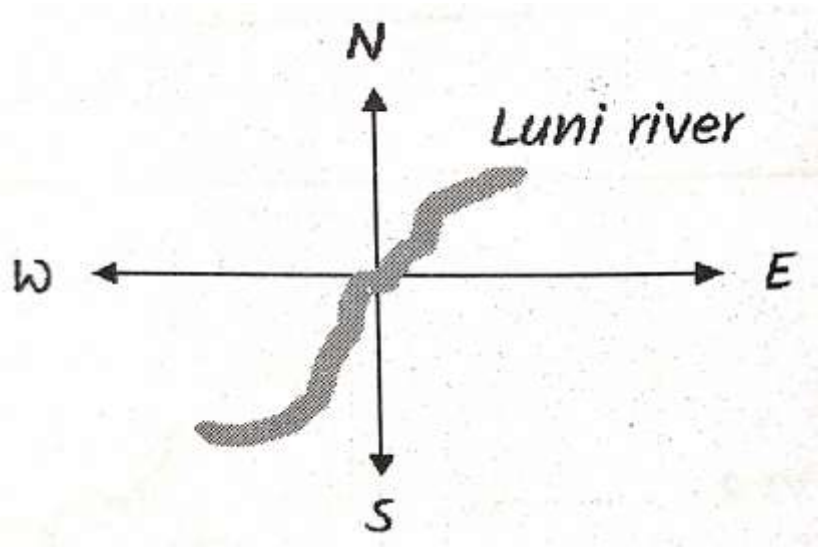
- Rajasthan desert region is known as 'Thar Desert'.
- Formation from - **'Tethys Sea'**.
- Formation time period of Thar Desert is tertiary or Pleistocene.

  Note – Present Period = Holocene

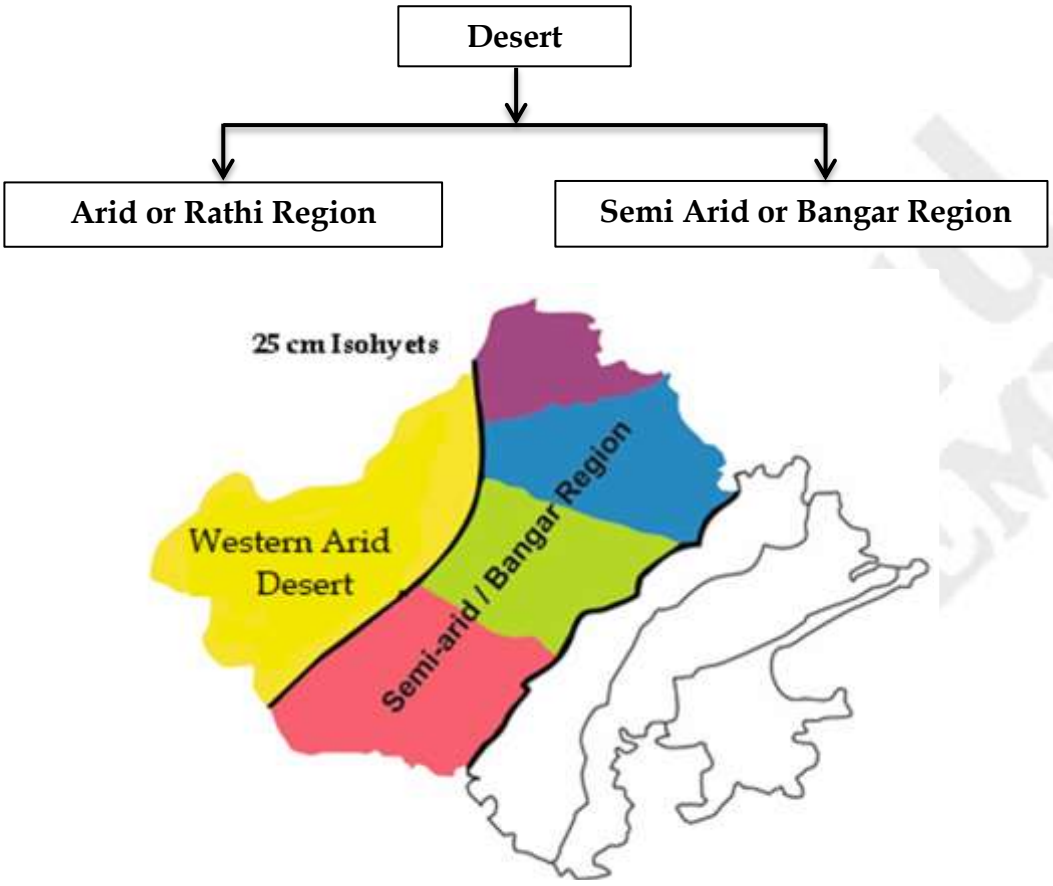
☑ **Extension :-**



- **Slope of Desert –**
  - Slope of desert from North-East to South-West.
  - On the basis of Luni River Basin



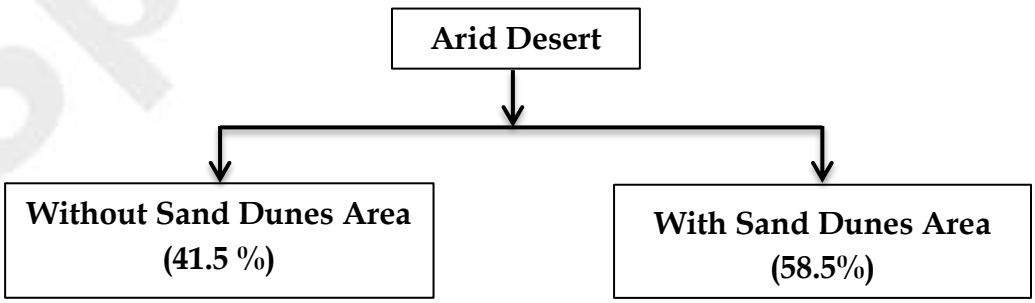
- **Study of Desert :-** According to the study point of view, Thar Desert is divided into two parts.



Note:- 25 cm Isohyets :- It divides the desert into two parts which are arid and semi-arid desert.

Arid Desert/Rathi Region :-

- Less than 25 cm rainfall region known as Rathi Region.
- Arid desert again divided in two parts.



(a) Without Sand Dunes Area :-

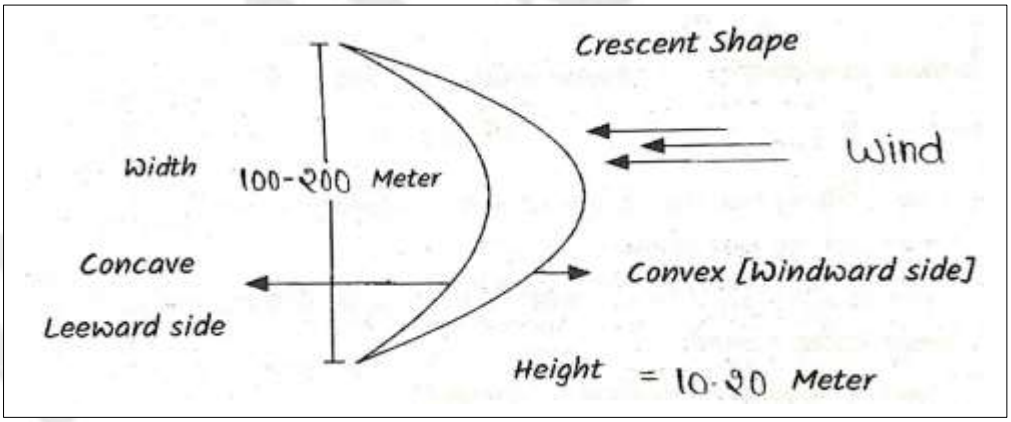
- Sand dunes are not fount in this region, because 'Rocky Desert' is found here.
- Rocky Desert is called Hamada. It's extension maximum in Jaisalmer (Pokaran, Lodarava and Ramgarh), Barmer, Jodhpur and Phalodi.

(b) With Sand Dunes Area :-

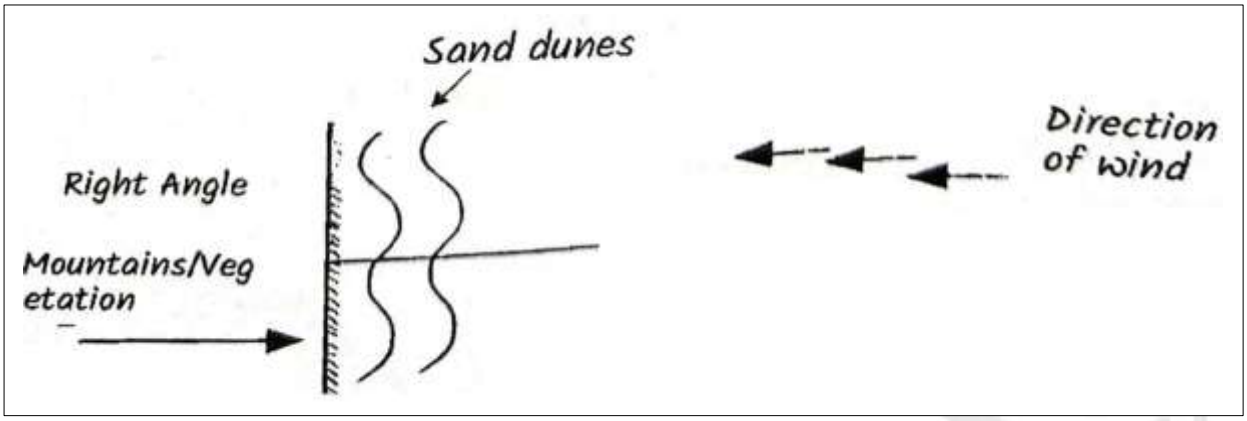
- Meaning – Wind→ Soil → deposition = Sand Dunes
- When the wind deposits soil then formed structure is known as sand dunes.
- In Rajasthan State sand dunes are maximum in Jaisalmer.
- All types sand dune are found in Jodhpur.

Types of Sand Dunes

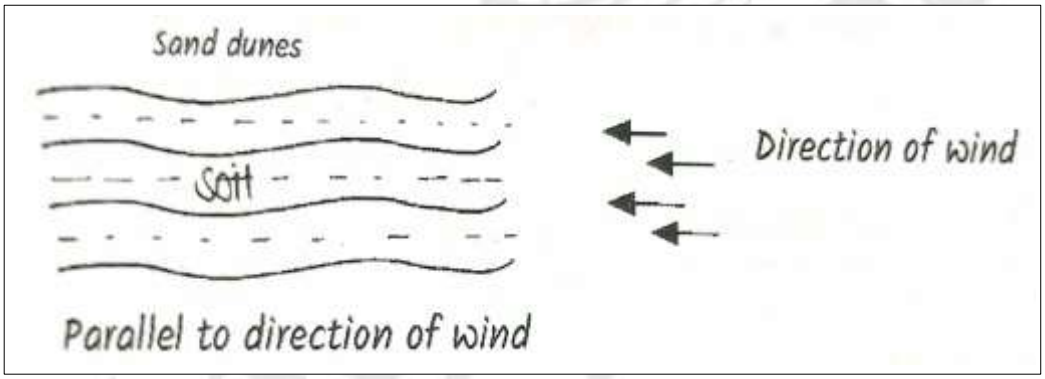
1. **Barkhan:-**
   - When the winds deposit soil in crescent shape then formed structure is called barkhan.
   - The direction from which the wind comes in Barkhan has a convex slope, while in the forward direction there is a concave slope.
   - The width of the barkhan is 100 to 200 meter while the height is 10-20 meter.
   - These sand dunes are mostly found in Shekhawati (Maximum **Bhaleri Village - Churu**)
   - Barkhan Sand dunes maximum contribute in desertification because these sand dunes are maximum dynamic.



2. **Transverse Sand Dune :-**
   - When the soil is deposited at the right angle of wind, then formed structure is called transverse sand dune.
   - These sand dunes are mostly found in Bikaner, Shriganganagar, Hanumangarh and Shekhawati Region.
   - Characteristics = Most Stable Sand Dune



3. **Longitudinal/Linear Sand Dune :-**
   - When the soil is deposited parallel to the wind, then formed structure is called longitudinal/linear sand dune.
   - These sand dunes are mostly found in Jaisalmer.

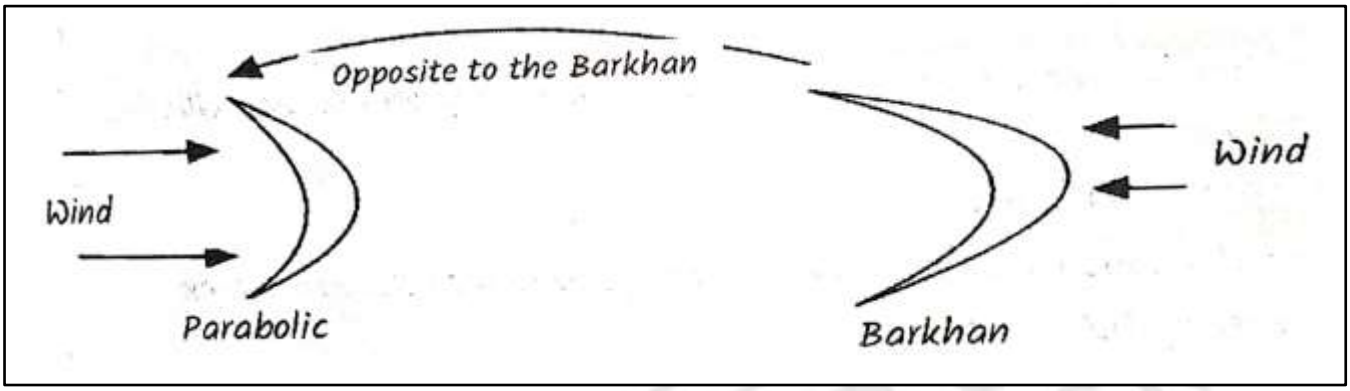


4. **Star shaped sand dune :-**



- Star types sand dunes are formed in a sandy desert when the direction of the wind changes a lot. These dunes have three or more "arms".
- These sand dunes are mostly found in Bikaner, Jaisalmer, Suratgarh (Sriganganagar).

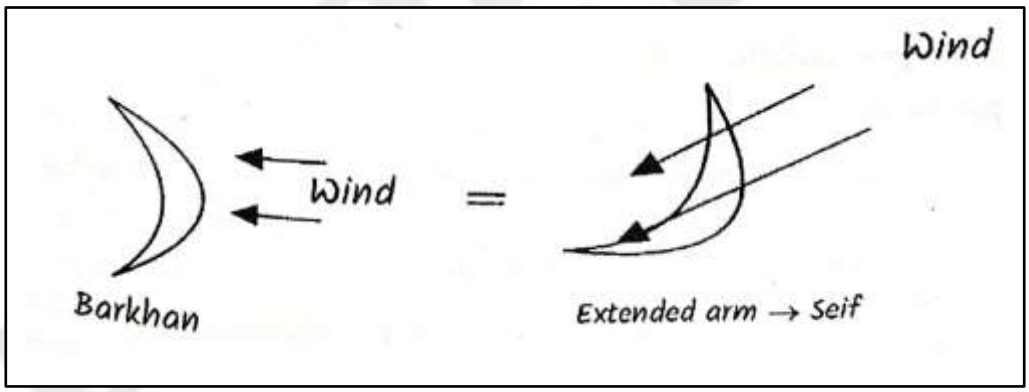
5. Parabolic Sand dune :-



- Sand dunes which found opposite to Barkhan or hair Clip shape sand dunes are called parabolic.
- These sand dunes are maximum found in Rajasthan State.

6. Seif Sand Dunes :-

- When is change in direction of wind during formation of Barkhan, then barkhan one arm get extend, then formed structure is known as seif.



Note :-

1. Barkhan is like transverse sand dunes.
2. Seif is like Longitudinal sand dunes.

7. Shrub Copis :-



- The small sand dunes formed near bushes and small vegetation is called a Shrub Coppies.
- **Note:- Nebkha -** It is a sand dunes which formed around vegetation or back side of bushes.

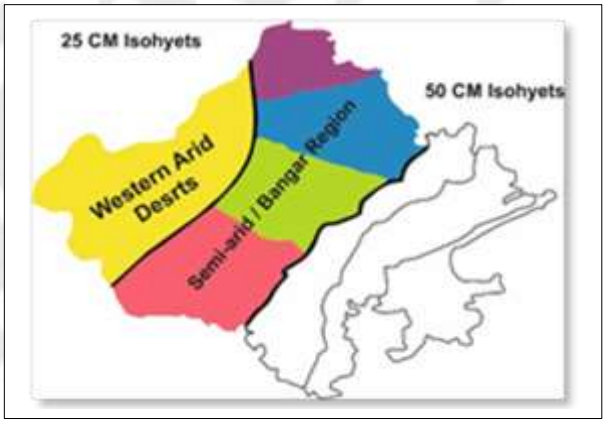
8. Network Sand Dune

- Interconnected sand dunes (group of sand dunes) are called "network sand dunes.
- These are most common in Jaisalmer, Bikaner

9. Barrier sand dunes

- These sand dunes are formed by barrier of hills
  Eg. Mostly found in Pushkar (Ajmer)

(2) Semi - Arid Desert / Bangar Region



- The physical division which is located between Arid Desert and Arawali region is known as semi Arid Desert or a physical Division which is located between 25cm. Isohyet Line and 50cm Isohyet Line Rainfall line is called Semi Arid Desert.

- According to the study Semi Arid Desert again divides into 4 parts.
  (a) Luni Basin
  (b) Nagauri Upland
  (c) Shekhawati Inland Drainage Area
  (d) Ghagghar Basin

(a) Luni Basin :-

- It is also called Godwad Basin. It's extension in Jalore, **Sanchor**, Pali, Barmer, **Balotra**, Sirohi and Jodhpur.
- In this Basin saline plants (Halophyte) are found in Barmer, **Balotra**.
- "Rann of Nehar" (Jalore) is located in this basin.
- "Kala Bhura Dhungar" is located in **Pali** to the east of this basin.

(b) Nagauri Upland :-

- The brine water lakes are the highest found in Nagaur, **Deedwana-Kuchaman**.
- The most fluoride region where fluorosis disease is more common, therefor this region is called hump belt or banka belt. It's situated between Nagaur & Ajmer.

(c) Shekhawati Inland Drainage Region :-

- **Torawati** :- The drainage/catchment area of Kantali is called Torawati.
- **Johad :-** Raw wells of water are called as a Johad.
- **Sar :-** The ponds formed during the mosoon period in Shekhawati are called Sar.
- **Beed :-** The Pasture Land is called beed. It's listed in conservation reserve of Rajasthan State.

(d) Ghagghar:-

- It is spread in Sriganganagar and Hanumangarh and **Anupgarh.**

NOTE :-
When the flow of Ghagghar is high, it reaches Fort Abbas in Pakistan

- **Features-**
  (1) **Naali/Paat :-** Ghagghar river in Hanumangarh is called Naali/Paat.
  (2) **Kathi/Baggi :-** The smooth and fertile soil of Ghagghar basin is called Kathi/Baggi.
- **Major crops :-** wheat, rice, cotton, sugarcane.

☑ Desert Related Other Important Points

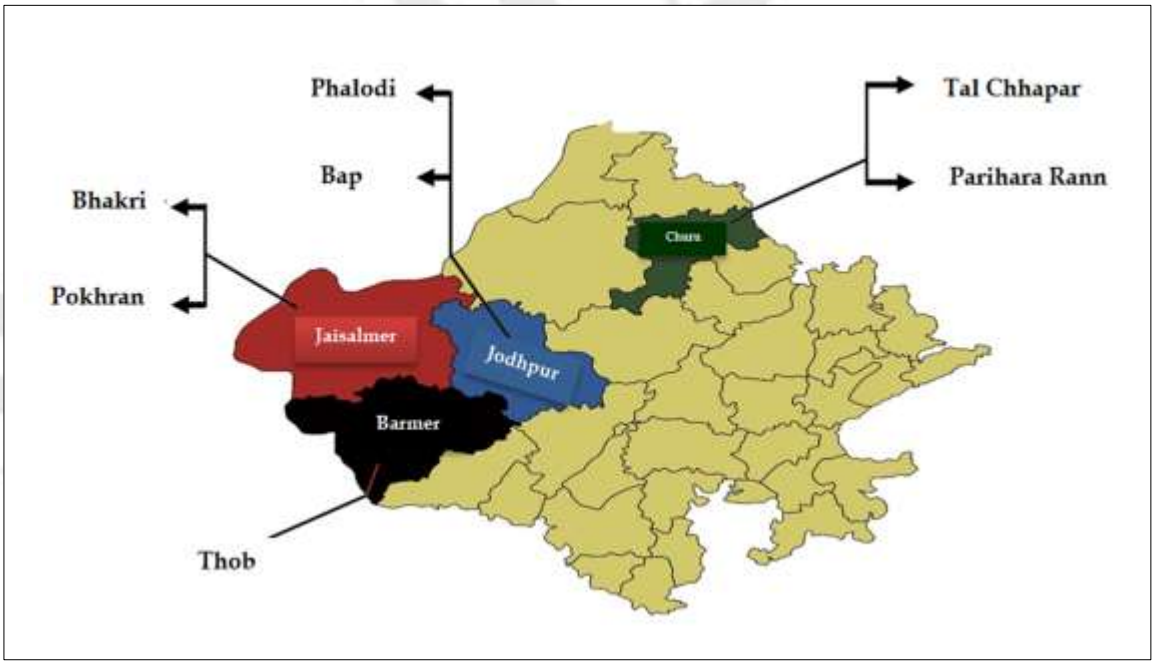
(1) Khadeen / Playa Lakes



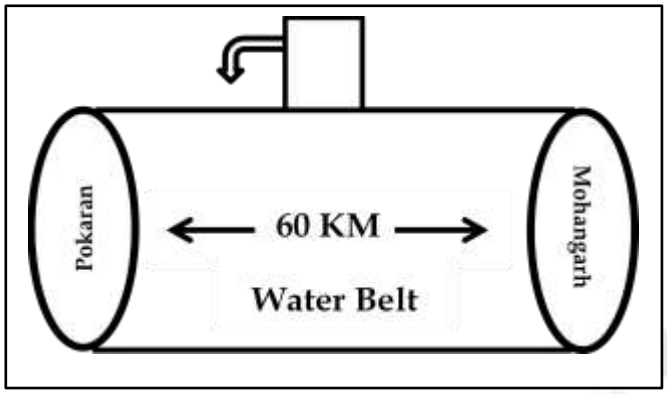
- Temporary lakes are called khadeen/Palaya lakes in northern Jaisalmer.
- In These lakes khadeen agriculture was starded by Paliwal Brahmins.
- Rabi Crops is mainly sown in these lakes.

(2) Rann / Taat

- In desert Marshy, saline and infertile land is called Rann / Taat.
- These are Maximum found in Jaisalmer(1st) and Barmer(2nd).



(3) Water Belt (Lathi Series) :-



- Remaining underground water of Saraswati river is known as water belt/Lathi series.
- It is located between Pokaran and Mohangarh in Jaisalmer.
- Chandan tubewells are called "Pot of Thar", which is located on lathi series in chandan village.

NOTE :- Second water belt of Rajasthan = Baytu (Balotra) to Sanchore .

(4) Akal Wood Fossil Park (Jaisalmer):-

- The oldest wooden remains in Jaisalmer (National Desert Park) which are currently received as stone form.
- The formation period of these fossils is the Jurassic Period. (Before 180 Million years)



(5) Baap Boulder Clay :-

- Sediments and large stones / Boulders formed by deposition from glaciers / ice sheets are called Boulder clay.
- The formation period of Boulder clay is the Permo - Carboniferous (250-280 million year ago).



- These Boulder Clay is mostly found in Phalodi,Jodhpur (Baap).

(6) Oasis:-

- A place in the desert where there is water and where plants grow.

  Example :-

  1. Kolayat lake - Bikaner
  2. Gajaner - Bikaner
  3. Gadisar - Jaisalmer



(7) Dhore and Dharyan :-

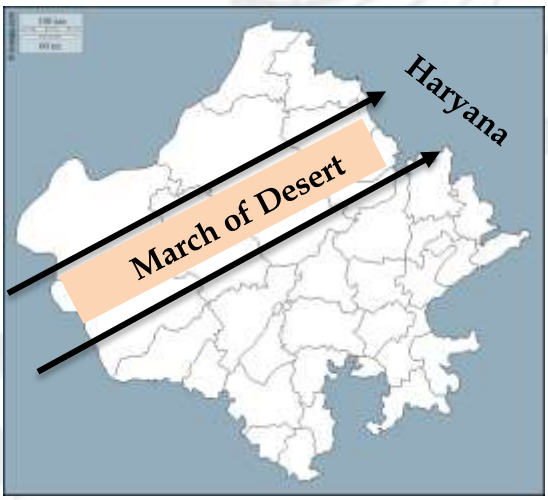
- Shifting sand dunes are known as Dhariyan and Wavy types sand dunes are known as Dhore.
- Dhore and Dharyan these are mainly found in Jaisalmer. (Desert area)

(8) Peevna :-

- It is a species of snake with yellow colour.
- This species is mainly found in Jaisalmer.(Desert area)

(9) March of Desert :-

- Shifting of desert is known as 'March of Desert'.
- Which is moving from Rajasthan to Haryana.
- Barkhan sand dunes contribute maximum in desertification.



(10) Balson

- The water basin or lakes found in the middle of the mountains in the desert is called Balson. **Example:** Sambhar Lake.

(11) The Thar Desert :-

- About 85% of Thar Desert is located in India and the remaing 15% is in Pakistan.
- More than 60% of the desert lies in Rajasthan (62%) and the remaing extends into Gujarat, Punjab and Haryana.

II. Aravali Mountain

- Aravali is an **Ancient** (formation time Period), **Folded** (Formation Process) and **Residual** (At Present) Mountain.
- Formation Time Period of Aravali is Pre-cambrian Period.
- The total length of Aravali is **692 KM** and in Rajasthan is **550 KM/80%**
- Average Height of Aravali is **930 metres.**

➢ **Direction of Aravali :-**



- South-West to North - East

➢ **Study of Aravali**

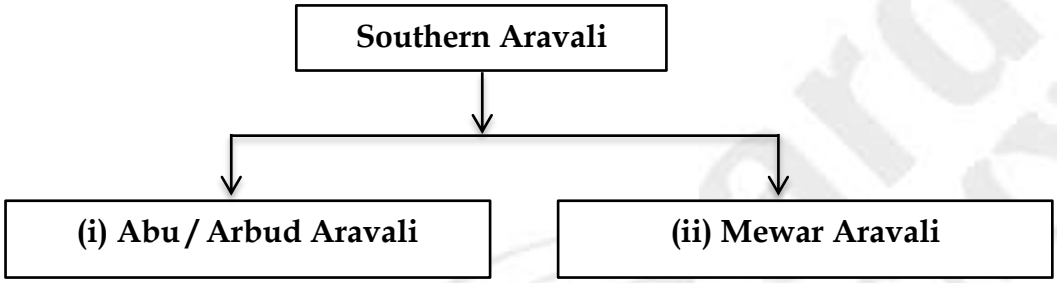
- According to the study point of view, Aravali Divided into three parts.
  (a) Northern Aravali
  (b) Middle Aravali
  (c) Southern Aravali
  (a) Northern Aravali:- It's located between **Neem Ka Thana** to Jaipur.
  Highest Peak:- Raghunathgarh (1055 Metres Sikar) is the hightest peak of Northern Aravali.

(b) Middle Aravali:- Ajmer Aravali Known as Middle Aravali. It's located between Jaipur and Rajsamand.

Highest Peak :- Todgarh (934 Metres - **Beawar**) and Taragarh (873 Metres - Ajmer) are the Highest Peaks of Middle Aravali.

(c) Southern Aravali :- It's located betwen Rajsamand to Sirohi.

Highest Peak :- Gurushikar (1722 Metres Sirohi) is the hightest peak of Southern Aravali.



(i) Abu / Arbud Aravali:-

- It's mainly located in Sirohi and Pali.
- Gurushikhar (1722 M.) is the highest peak of this Aravali.

(ii) Mewar Aravali :-

- It's mainly located in Udaipur and Rajsamand.
- Jarga (1431 M. – Udaipur) is the highest peak of Mewar Aravali.

Highest Peak of Aravali

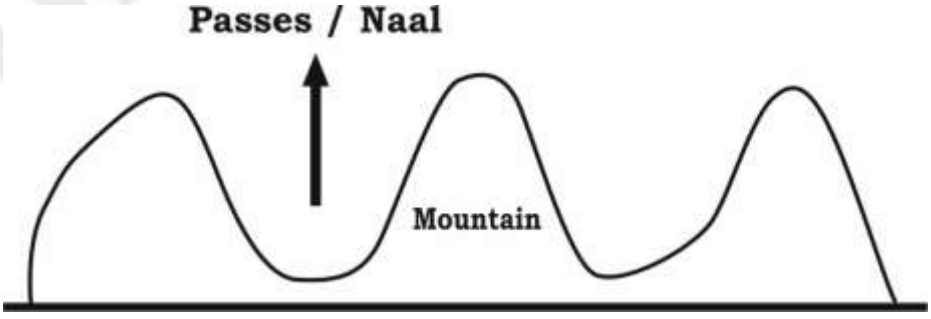
S.No.	Trick	Peak	Location	Height (Metres)
1.	Guru	Gurushikhar	Sirohi	1722
2.	Se	Ser	Sirohi	1597
3.	Dil Se	Delwara	Sirohi	1442
4.	Jara	Jarga	Udaipur	1431
5.	Aas	Achalgarh	Sirohi	1380
6.	Kumbha	Kumbhalgarh	Rajsamand	1224
7.	Dhoni	Dhoniya	Rajsamand	1183
8.	Ragunath	Raghunathgarh	Sikar	1055
9.	Rishi	Rishikesh	Sirohi	1017
10.	ka	Kamalnath	Udaipur	1001
11.	Sajjan	Sajjangarh	Udaipur	938
12.	Mor	Moramji / Todgarh	Beawar	934
13.	Khoh me	Kho	Jaipur Rural	920
14.	Sa	Saira	Udaipur	900
15.	T	Taragarh	Ajmer	873
16.	Boli	Bilali	Kotputali Behror	775
17.	Roj	Roja Bhakar	Jalore	730

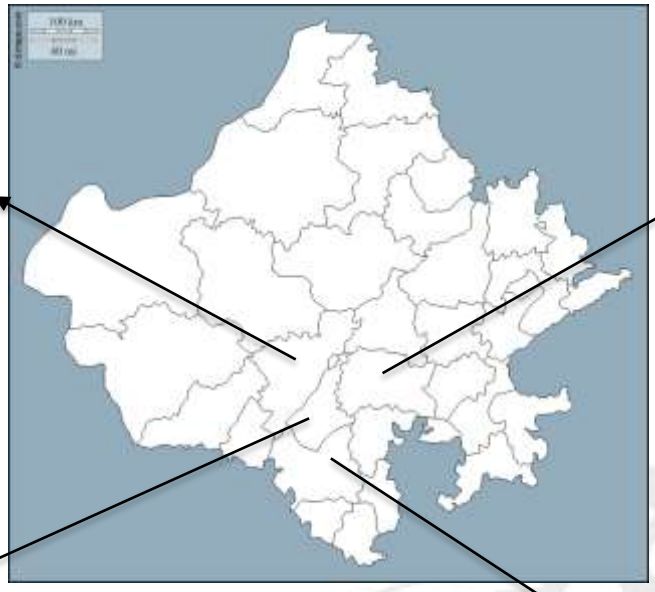
Note:-

- Maximum height of Aravali is in Sirohi.
- Maximum extension or area of Aravali is in Udaipur.
- Minimum height and extension of Aravali is in Ajmer.

➢ **Passes / Col / Naal of Aravali :-**

- It's a lower and narrow way located in mountain which connect both sides of mountain.
- Rajsamand has the largest number of Naal in Aravali.





- ✓ **Pagalya Naal:-** which connects Marwar (Pali) to Mewar (Rajsamand).
- ✓ **Bar Naal:-** which connects Pali (Bar) to Ajmer (Beawar).

➢ **Plateau of Aravali**

1. **Udiya Plateau :-**
   - It is Located in southern Aravali in Sirohi.
   - Height of Udiya Plateau is 1360 Metres.
   - It is highest plateau of Rajasthan.
2. **Abu block:-**
   - It is a plateau.
   - Abu block is located in southern Aravali in Sirohi.
   - Height of Abu Plateau is 1200 Metres.
   - Abu block is an example of Batholith Structure.

3. **Bhorat:-**
   - It is located in Southern Aravali from Udaipur (Gogunda Hills) to Rajasamand (Kumbhalgarh Hills).
   - Height of Bhorat is 1225 Metres(Second Highest Plateau of Rajasthan).

     Note – Jarga Hill, the highest peak in the Mewar Aravalli Range, is located in the Bhorat Plateau Region.
4. **Bhomat :-**
   - It is a plateau and hills region which is located between Udaipur to Dungarpur.
   - Bheel tribe most found in this region.
5. **Lasadiya:-**
   - This plateau is located east of Jaisamand Lake in South Arawali in Udaipur.
   - It is a badland plateau.
6. **Kakanvadi & Kranska Plateau :-** These plateau are located in Alwar (Sariska Sanctuary).

➢ **Importance of Aravali**

- Aravali prevents desertification/It's a barrier for desertification.
- Maximum Biodiversity are found in Arwali Because Maximum Vegetation is found here.
- Aravali mountain is known as water divide line of Rajasthan Because it separate drainage system of Rajasthan into two parts.
- Mostly rivers of Rajasthan are originates from Aravali.
- Aravali is known as shelter of tribes.
- Aravali Mountain is famous for Tourism. (**Example:-** Hill station like **Mount Abu** is located here.)
- Aravali is the mother land of Ancient (Aahad, Bairath, Ganeshwar and Gilund) and Modern Civilization (Jaipur, Ajmer and Udaipur).
- Maximum Metallic Minerals are found in Aravali mountain region because it's formed by Dharwar rocks.

Why Aravali is called "Planning Region" of Rajasthan ?

Ans. In the annual plan of the state government, the budget is mainly spent in the areas connected with the Aravali. Such as tribal areas, river-valley projects, lake conservation,

mining, urban development, tourist places and biodiversity areas. For this reason Aravali is called the "Planning region" of Rajasthan.

➢ **Important Hills of Rajasthan and their Location**

- **Bhakar = Sirohi**
- **Hill Name + Bhakar / Bhakri = Jalore**
- **Hill Name + Magra / Magri = Udaipur**
- **Hill Name + Dungar / Dungari = Jaipur**

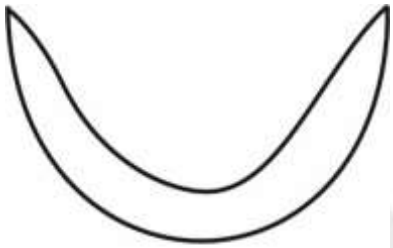
S.No.	Hills / Mountain	Location
1.	Trikoot Hills (Sonar Fort)	Jaisalmer
2.	Trikoot Parvat (Kaila Devi Temple)	Karauli
3.	Chidiya Took (Mehrangarh Fort)	Jodhpur city
4.	Chappan Hills (Circular Hill)	Barmer (Sivana)
5.	Roja Bhakar	Jalore
6.	Israna Bhakar	Jalore
7.	Jharola Bhakar	Jalore
8.	Jaswantpura Hills (Dora Mountain is the highest Peak of this hills)	Jalore
9.	Sundha / Sunda Mountain 1st Rope way (2006), Sundhamata Temple and bear conservation are located here.	Jalore
10.	Bhakar Small, acute and bedland hills is known as Bhakar in Southern Aravali.	Sirohi
11.	Bel ka Magra	Sirohi
12.	Moti Magri (Fateh Sagar)	Udaipur
13.	Hiran Magari	Udaipur
14.	Machhla Magra (2nd Rope way - 2008)	Udaipur
15.	Jarga Hills (1413 Metre)	Udaipur
16.	Raga Hills **Note :-** **Deshaharo :-** it's a greenery region which is located between Jarga and Raga Hills in Udaipur.	Udiapur
17.	Gogunda Hills	Udaipur

	(Origin of Aayad / Bedach River)	
18.	Bichhameda Hills (Origin of Som River)	Udaipur
19.	Rail Ka Magara	Rajsamand
20.	Bijraal Hills (Origin of Khari River)	Rajsamand
21.	Diwer Hills (Origin of Kothari River)	Rajsamand
22.	Khamnore Hills (Origin of Banas River)	Rajsamand
23.	Naag Hills (Origin of Luni River)	Ajmer
24.	Moti Dungri	Jaipur city
25.	Jhalana Dungri	Jaipur city
26.	Mahadev Dungri	Kotputali-Bahroar
27.	Ganesh Dungri	Kotputali-Bahroar
28.	Bheem Dungri	Kotputali-Bahroar
29.	Beejak Dungari	Kotputali-Bahroar
30.	Manoharpur Hills	Jaipur Rural
31	Sevar Hills (Origin of Sabi River)	Jaipur Rural
32.	Bairath (Origin of Banganga River) 704 Metres	Kotputali-Bahroar
33.	Barwada Hills	Jaipur Rural
34.	Eagle Hills (Jaigarh Fort)	Jaipur Rural
35.	Chauth Ka Barwara	Sawai Madhopur
	(Temple of Chauth Mata and Lead and Zinc Storage)	
36.	Baabai Hills	Jaipur City
37.	Babai Hills	Neem Ka Thana
38.	Cheel ka Teela / Eagle's Hills	Jaigarh, Jaipur
39.	Harsh Hills	Sikar
40.	Maalkhet Hills	Sikar
41.	Khandela Hills	Sikar (Kajal Hills)
	(Origin of Kantali River and Uranium Storage)	
42.	Udaynath (Origin of Ruparel River)	Alwar
43.	Harshnath Hills	Alwar (Bhangarh Hills)
44.	Bhairach Hills	Alwar
45.	Aadawal / Aarawala Hills	Bundi
46.	Bijasan Hills	Bhilwara

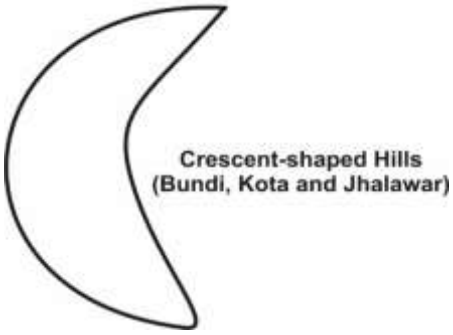




Horse Shoe Type Hills
(Ramgarh-Baran)



Disc or Girwa Hills
(Udaipur)





Naag/Snaketype Hills
(Ajmer)

➢ **Girwa :-**

- Series of Mountains or Disc shape hills is called Girwa.
- Udaipur City is located in Girwa Hills.

➢ **Other Important Points of Aravali**

- The Study of Geomorphic Structure and Aravali in Rajasthan done by A.M. Heron.
- According to A.M. Heron, the Aravali is formed from the **'Delhi Super Group'** in which three group Included.
  - ✓ Alwar Group
  - ✓ Ajabgarh Group
  - ✓ Railo Group

➢ **Piedmont Hills :-**

- Piedmont is an area at the base of a mountain or mountain range. which is formed by Erosion.
- It is located in Devgarh (Rajasamand).

III. Eastern Plain

- Eastern plain formed from sediments deposition by river.
- Pleistocene Period is formation time of Eastern Plain.

➢ **Study of Eastern Plain**

- According to the study point of view, Eastern plain is divided into three parts.
  1. Mahi Plain
  2. Banas and Banganga Plain
  3. Chambal Plain

(1) Mahi Plain:-

- The southern plain of Rajasthan is called the Vagad / Bhati plain.
- **Extension :-** Banswara, Pratapgarh, Dungarpura.
- Mahi Plain is also known as chhapan plain in Banswara and Pratapaghar.
- **Soil:-** Red Loamy soil found here.
- **Production :-** Maize and Rice are the major producing crops in this plain.
  - **Rice :** Mahi Sugandha
  - **Maize :** Mahi Kanchan, Mahi Dhawal

(2) Banas and Banganga Plain:-

(i) Banas Plain :- It is divided into 2 parts on the study basic.

(a) Mewar Plain:- Southern plain of Banas is known as Mewar Plain.

- It's extension in Rajsamand, Udaipur, Bhilwara, Chittorgarh and **Shahpura**.

(b) Maalpura-Karauli Plain:- Northern Plain of Banas is known as Maalpura-Karauli plain.

- It's extension in Ajmer, Swaimadhopur,Tonk and **Kekari.**
- Brown soil is found in the plains of Banas.

(ii) Banganga Plain:-

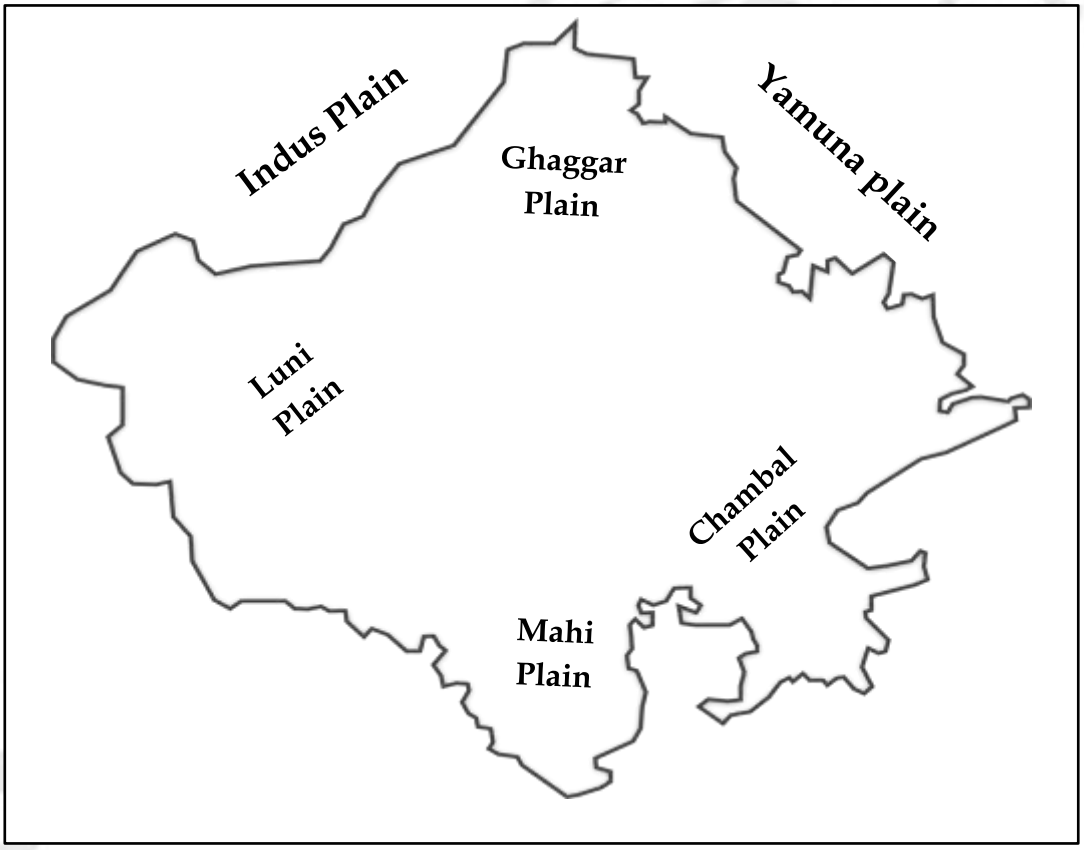
- Banganga plain is located in **Jaipur (Rural)**, Dausa, Bharatpur, **Kotputali-Behror**.
- Alluvial soil is found here.

(3) Chambal Plain:-

- Chambal plain is known as Ravines / Dang plain.
- It's a badland plain which is formed by Gully Erosion of Chambal River.
- It's extension in Chittorgarh, Kota, Bundi, Karauli, Dholpur, Swaimadhopur and **Salumbar.**
- Soil-Black alluvial soil is mostly found here.

➢ **Other Important Point**

- Population density is Maximum in eastern plain because maximum fertile soil (Alluvial) is found here.
- Plain area of Rajasthan according to the direction wise



(4) South - Eastern Plateau / Hadoti Plateau

- **Formation :-** It is formed by Basalt Lava of Volcanic Eruption.
- **Time Period :-** It's formation time is cretaceous period.

  Note:- Light Black Soil is found in Hadoti Plateau Region.
- **Study:-** According to study point of view, Hadoti is divided into two major division and three sub-divisions.

☑ **Major Divisions of Hadoti :-**

(i.) Deccan Lawa Plateau

(ii.)Vindhyan Scarpland

Note :-

Great Boundary Fault :-

- It is a fault, It's located between hadoti and Aravali.
- Great Boundary Fault extends in Chittorgarh, Bhilwara, Kota, Bundi, Karauli, Dholpur and Swaimadhopur

(i) Deccan Lawa Plateau :-

- It's extension in Malwa and Uparmal Region
- **Malav Region :-** Pratapgarh and Jhalawar are included in this region where Malwa Plateau region extended
- **Uparmal Region :-** It is a Plateau region which is extended from Bijolia (Bhilwara) to Bhainsrorgarh (Chittorgarh)

(ii) Vindhyan Scarpland :-

➢ It's extended in Hadoti and Dang.

- **Hadoti :-** Kota, Bundi, Jhalawar and Bara.
- **Dang:-** Karoli, Dholpur and Swaimadhopur.

➢ **Rock and Minerals which found in Vindhya Scarpland –**

1. Sandstone (maximum)
2. lime Stone
3. Kota stone
4. Red Stone
5. Daimond

☑ **Sub-Division parts of Hadoti**

(i) Crescent Shape Hills :-

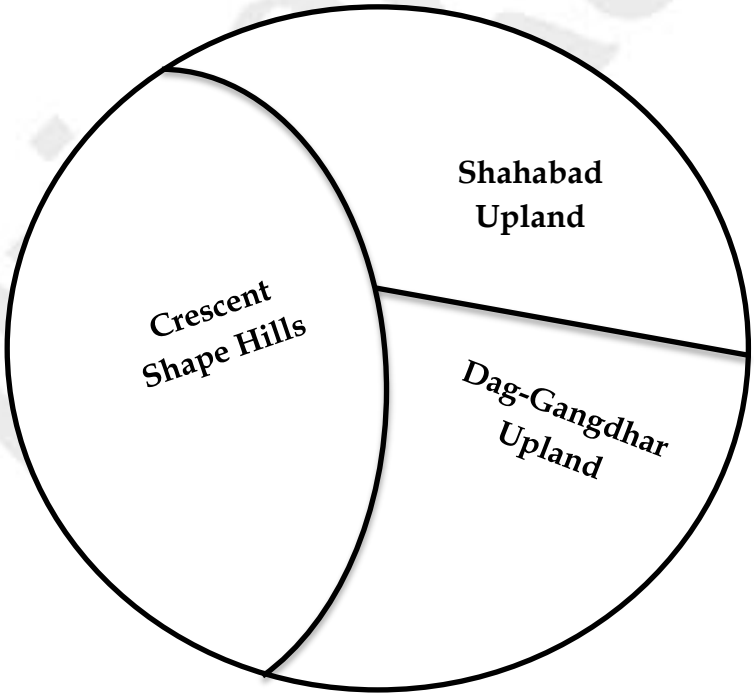
- Bundi hills and Mukundra hills are known as Crescent Hills.
- Which is located in Bundi, Kota and Jhalwar.

(ii) Shahabad Upland :-

- Horse Shoe Type hills is located in this region. (Ramgarh - Baran)
- Saharia tribe is mainly found in shahabad.

(iii) Dag - Gangdhar Upland

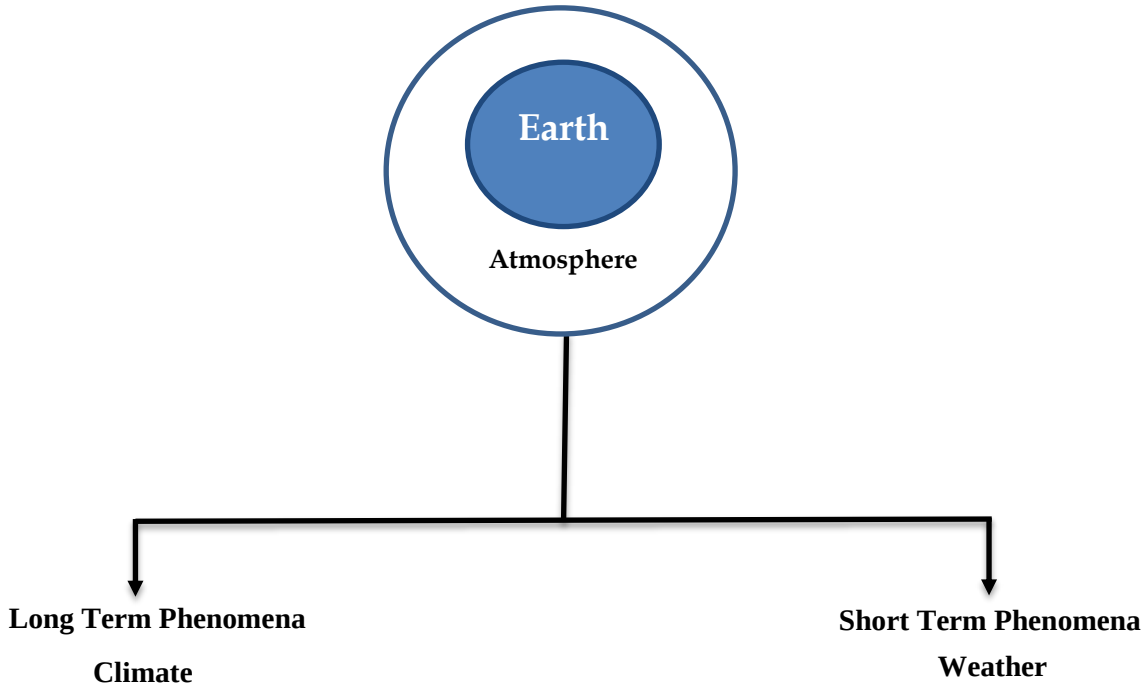
- It's Sub-division part of Hadoti which is located in Jhalawar.



CLIMATE

1. Meaning of Climate
2. How is the Climate
3. Climate Classification
4. Season Classification
5. Other Important Points

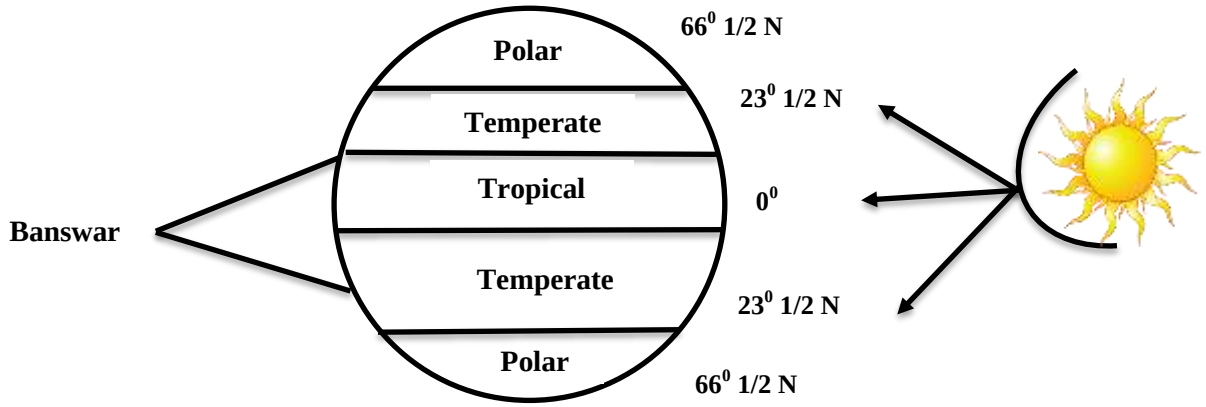
1.) Meaning of Climate



- Long term Phenomena taking place in the Atmosphere surrounding earth is called climate.
- Climate is decided on the basis of average of 30 years weather condition.

2.) How is the Climate

- Sub-tropical Climate condition is found in Rajasthan.
- Direct and Slanting Rays of sun -
  - **Direct Ray :-** Banswara
  - **Slanting Ray :-** Gangangar



3.) Climate Classification

Climate Classification

(A) General Classification

Type - 5

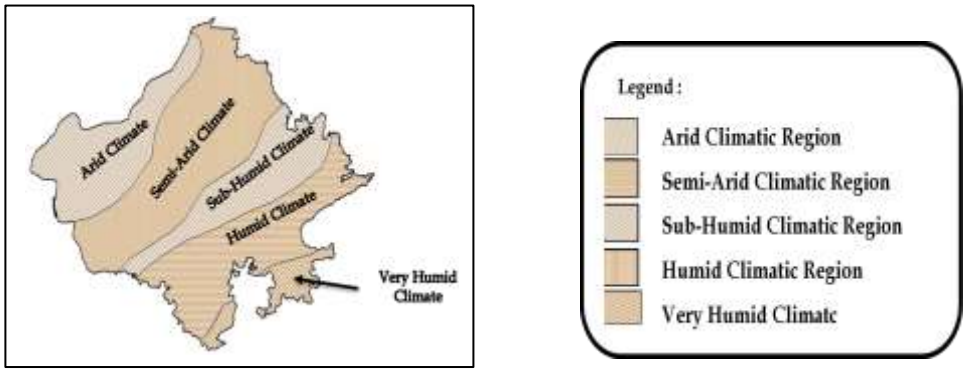
Base - Rainfall & Temperature

(B) Individual Classification

	Koppen	Trewartha	Thornthwait
Type -	4	4	4
Base -	• Vegetation • Temperature • Rainfall	Rainfall	• Temperature • Evaporation • Rainfall

(A) General Classification:-

- According to General Classification climate of Rajasthan is divided in to five parts on the basis of Rainfall & Temperature.

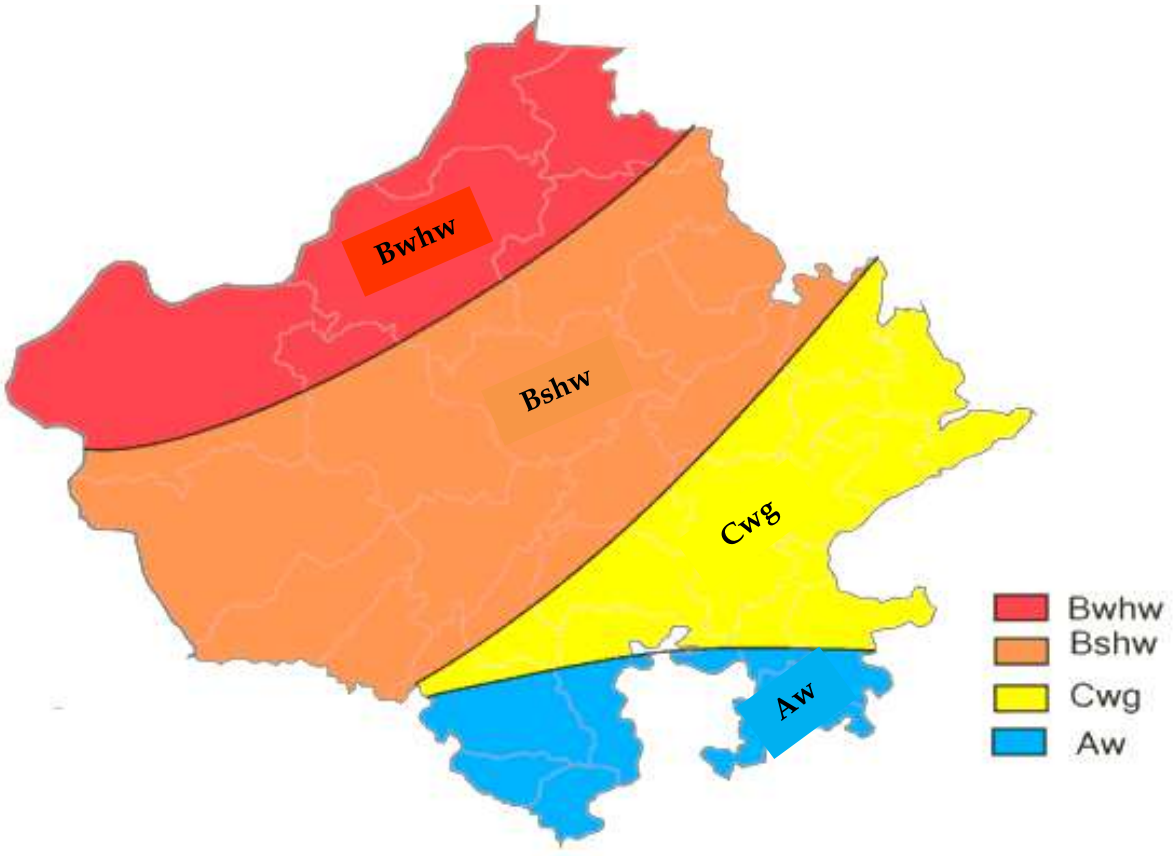


S.No.	Climate	Rainfall	Physical Division
1.	Arid Climate	0 - 20 m	North-Western Desert
2.	Semi - Arid Climate	20 - 40 m	North-Western Desert
3.	Sub - Humid Climate	40 - 60 m	Aravali
4.	Humid Climate	60 - 80 m	Eastern Plain
5.	Very Humid Climate	80 - 120 m	Hadoti Plateau & Mahi Besin

(B) Individual Classification :-

(a) Koppen:-

- According to Koppen Climate of Rajasthan is divided into four parts.
- This Climate classification is based on Vegetation, Temperature and Rainfall.



(1)

AW

- **Climate -** Tropical Humid / Very Humid Climate
- **Vegetation -** Savanna Type Vegetation
- **Extension –** Vagad (Banswara, Dungarpur, Pratapgarh), Hadoti (Southern Kota, Baran, Jhalawar), Mount Abu, Partial Chittorgarh.
- **Special -** Vegetation density is maximum found here.

(2)

BWhw

- **Climate -** Arid Desert Type Climate
- **Vegetation -** Xerophytes and Thorny Vegetation are found here.
- **Extension –** Jaisalmer, Bikaner, Churu, Sriganganagar, Hanumangarh, Anupgarh.
- **Special -** Minimum Rainfall and Thorny Vegetation are found.

(3)

BShw

- **Climate -** Steppe Type or Semi Arid Climate
- **Vegetation -** Steppe (Small Grassland Area).
- **Extension –** Luni Basin, Nagaur, Shekhawati, Ghaggar Basin
- **Special –** It is the largest climate zone according to Koppen.

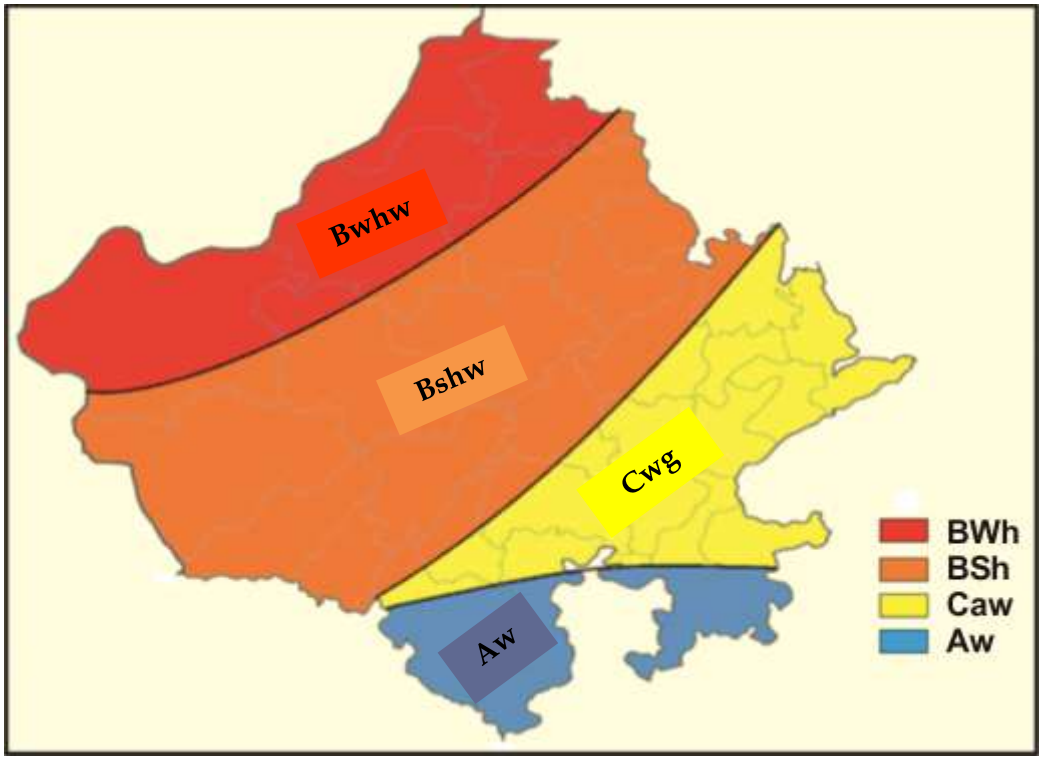
(4)

Cwg

- **Climate –** Sub-Tropical , Sub - Humid Type Climate is found here.
- **Vegetation -** Dry Deciduous Vegetation
- **Extension –** Alwar, Bharatpur, Karoli, Dholpur, Ajmer, Bhilwara, Bundi, Chittorgarh, Dausa, Rajsamand, Tonk, Swai-Madhopur, Udaipur, Jaipur.
- **Special –** Population density and Agriculture production are maximum in this climate zone.

(b) Triwartha Climate Classification

- According to Triwartha, Rajasthan's climate is divided into four parts basis on Rainfall.



S.No.	Koppen	Trewartha	Rainfall
1.	Aw	Aw	100 cm
2.	BWhw	BWh	10 cm
3.	Bshw	Bsh	30 cm
4.	Cwg	Caw	70 cm

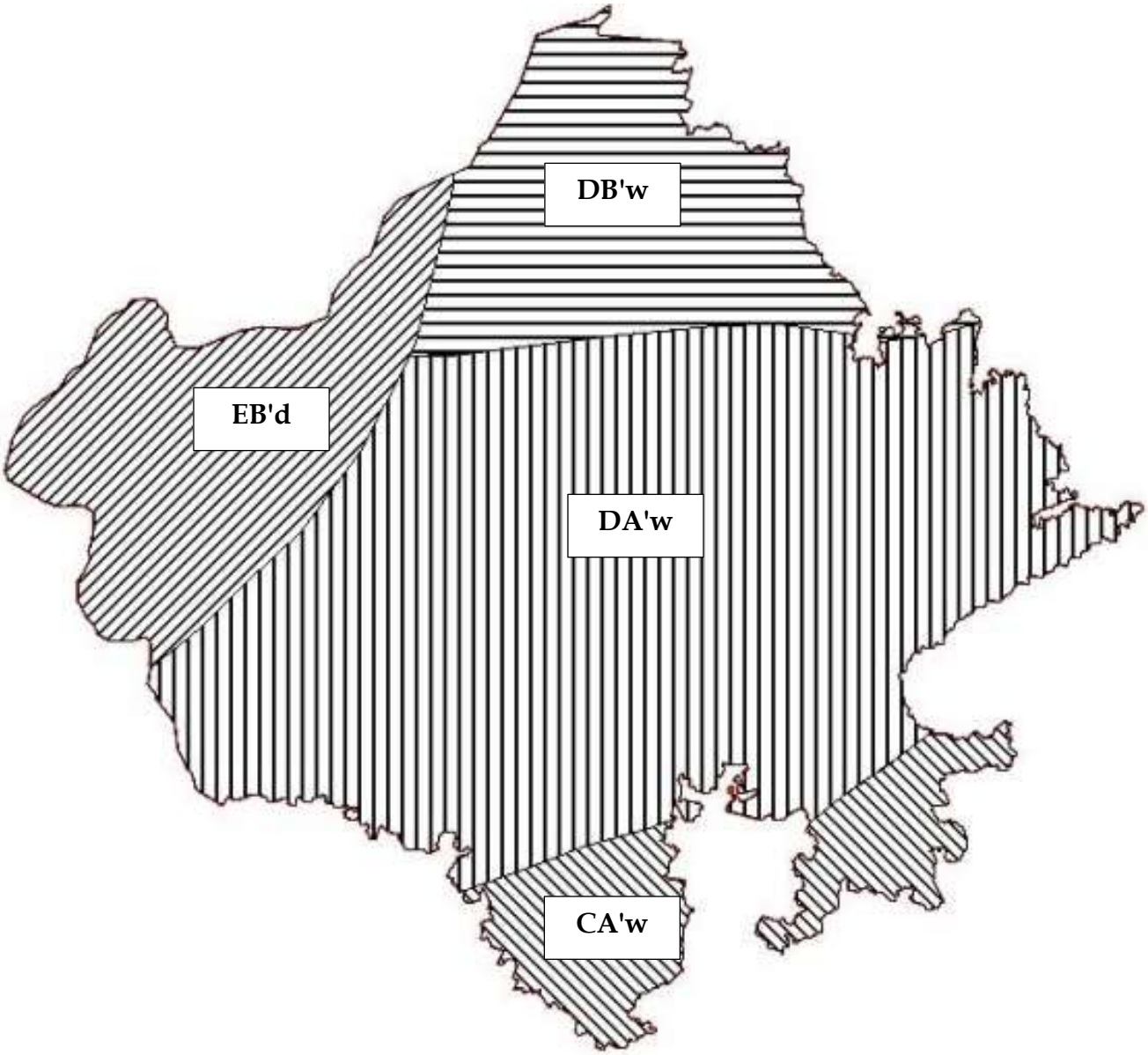
(C) Thornthwaite Climate Classification

- According to thornthwaite, Rajasthan's climate is divided into four parts basis on the Temperature, Evaporation and Rainfall.

- A – Very Humid
- B – Humid

→ **These climate are not found in Rajasthan**

- C – Sub - Humid
- D - Arid
- E – Semi – Arid



(i) CA'w :-

- **Climate :-** Sub Humid climate is found here.
- **Extension :-** Banswara, Dungarpur, Pratapgarh, Jhalawar, Baran and South Kota and Partial Chittorgarh.

(ii) DA'w :-

- **Climate :-** Semi-arid climate is found here.
- **Extension :-** Alwar, Bharatpur, Karauli, Dholpur, Ajmer, Bundi, Bhilwara, Chittorgarh, Dausa, Jaipur, Nagaur and Pali.
- Extention **Trick – ABCD, AB^2CD, RS^3TU, PNJ_3**

Note:- This is the largest climatic region of Thornthwaite.

(iii) DB'w :-

- Climate – Arid and Semi-arid climate is found here.
- Extension **-** Bikaner, Churu, Ganganagar, Hanumangarh and Anupgarh.

(iv) EA'd :-

- **Climate: -** Dry climate is found here.
- **Extension :–** It's found in Jaisalmer, Barmer, Western Jodhpur, South West Bikaner and **Phalodi.**
- Note**:-** The climate classification of Thornthwaite is more authentic among the climatic classifications of Rajasthan.

☑ **Climate Season Classification:-** There are four types of Seasons

(i) Summer Season (March – June)

(ii) Rainy Season (June – September)

(iii) Autumn Season (October – November)

(iv) Winter Season (December - Febuary)

(i.) **Summer Season :-**

(a) Loo :- Hot and dry winds of summer season are Called Loo.

➢ **Cause :-**

- Horizontal or Advection flow of air.

Note :- The maximum effect of loo is in Barmer.

(b) Sand Storm :- Dusty and Humid wind is called Sand Strom in Summer season .

➢ **Cause:-**

- Convection flow of air / Verticle flow of Air.
- That phenomena of Summer Season which decrease the temperature = Sand Storm.

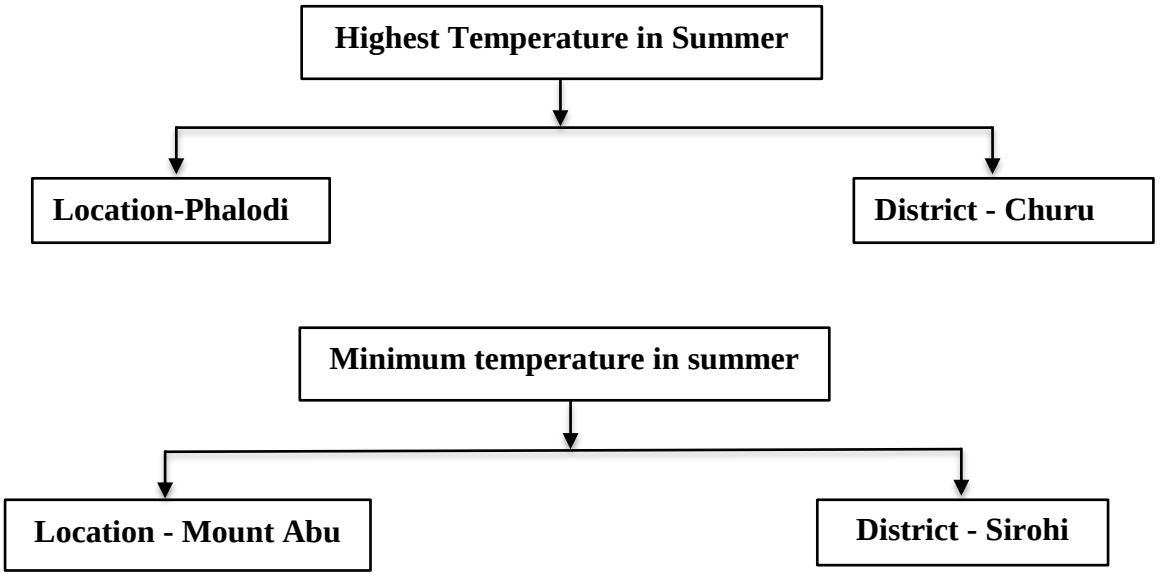
Note :- The maximum effect of sand storm is in Ganganagar (27 days)

(c) Sand Cyclone :- Sandy/Dusty and Cyclone winds are called sands cyclone.

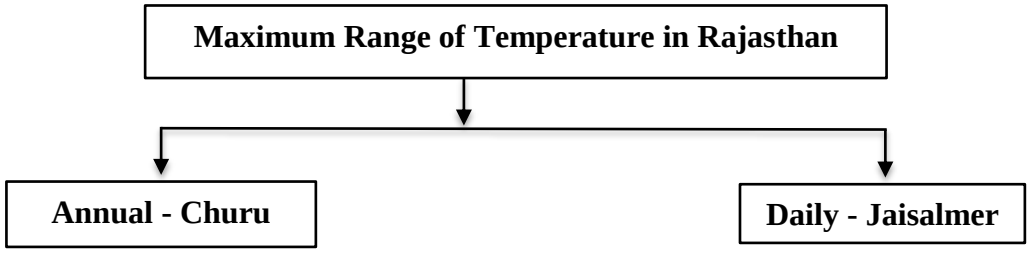
➢ **Cause:-**

- High temperature and low air pressure in the center of a place while the opposite situation is in it's circumference.

Note :- Maximum Impact of Sand Cyclone is in Bikaner.



Reason- The surface elevation is high in the south-west of Rajasthan. Due to this the temperature decreases due to higher altitude.



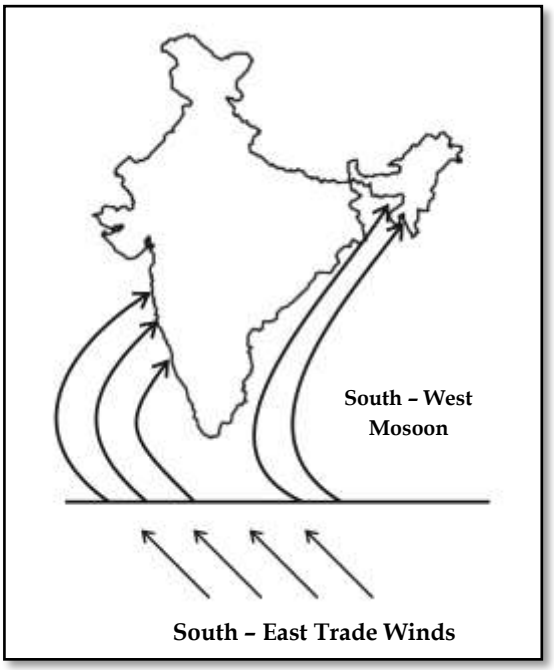
Range of Temperature :- The difference between the maximum and minimum temperature in a given time is called Range of temperature.

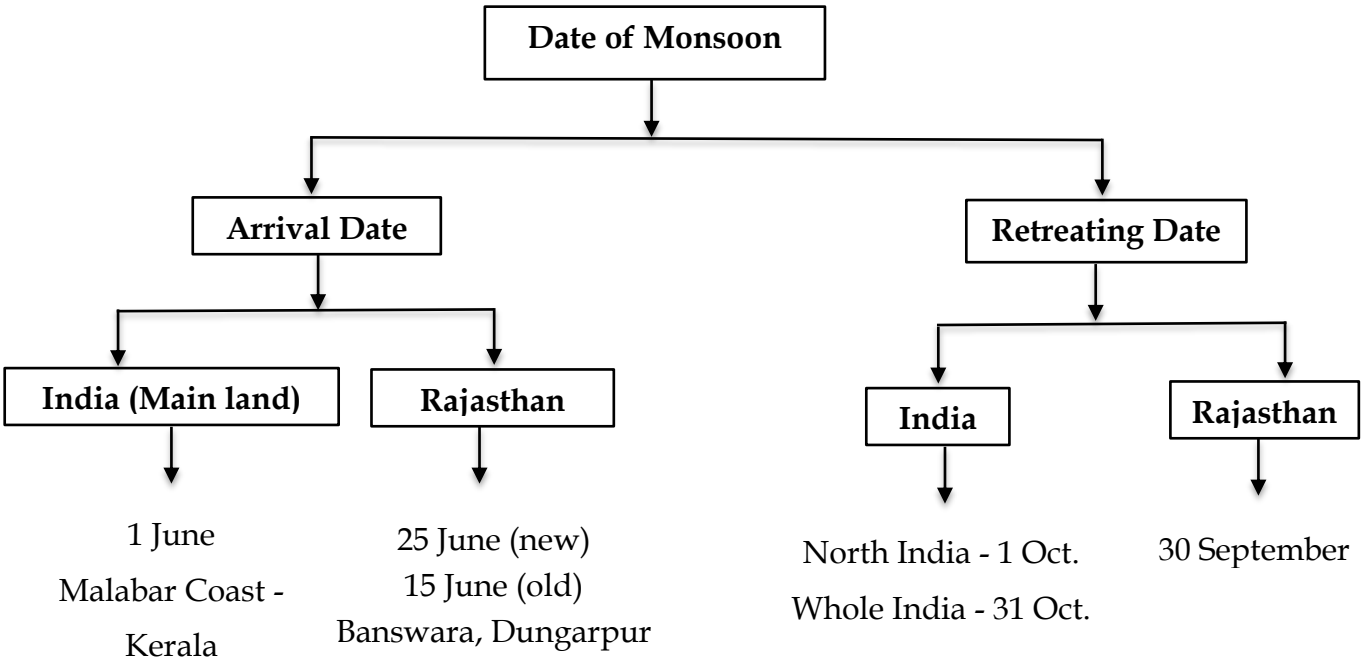
(ii) Rainy Season :-

(a) Monsoon :-

- **Basic Word -** Mausim
- The word Mausim is derived from the Arabic language
- The father of the word monsoon - Al Masoodi
- **Meaning -** Change in Season or Change in direction of wind which move towards from water to land.

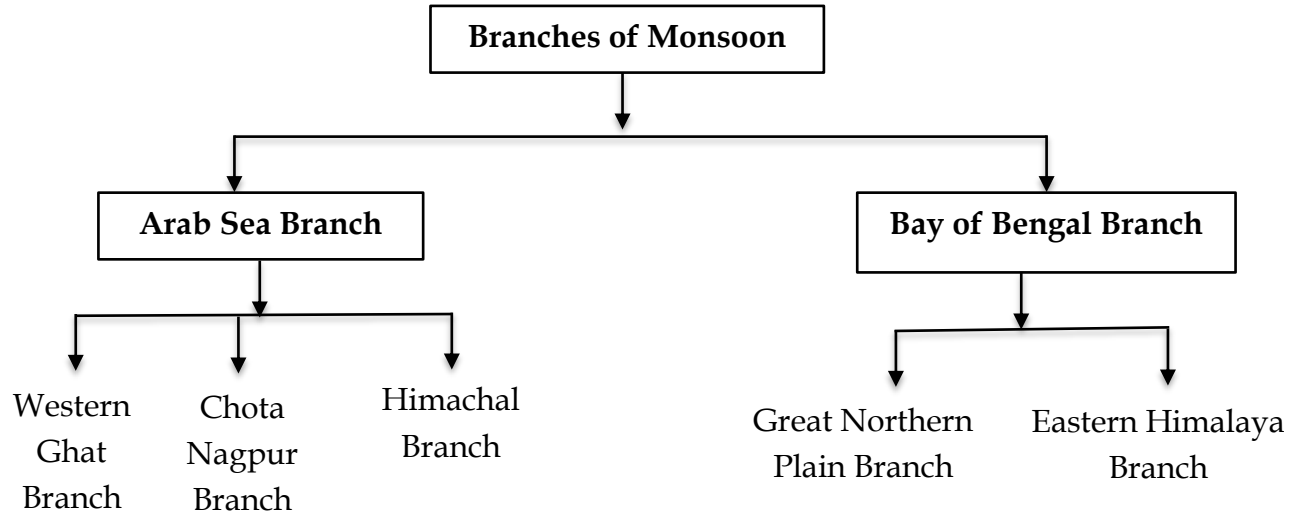
➢ **Name of Monsoon –** The monsoon of India/Rajasthan is called **"South-West Monsoon".**





- Note:- Nature of Monsoon in Rajasthan - Late arrival and early return.

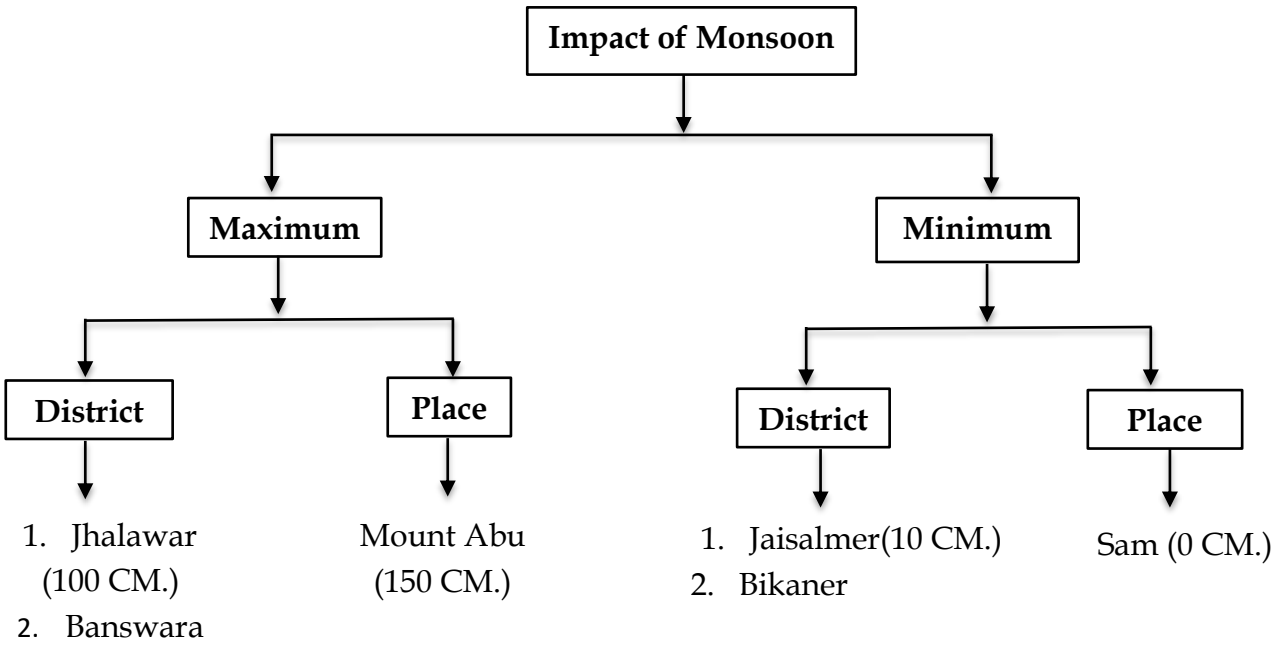
❖ **Branches of Monsoon -**



Note:-

- The Branch of Monsoon which brings monsoon first in Rajasthan - Himachal Branch.
  - While this branch does not have much rainfall because Aravali is parallel to it.
- The Branch of Monsoon which bring much rainfall in Rajasthan - Western Great plain branch.

  Note:- Purvai (Easterlies) – The monsoon winds coming from the bay of bengal are called Easterlies. Due to this, there is more rainfall in the east of Aravalli.



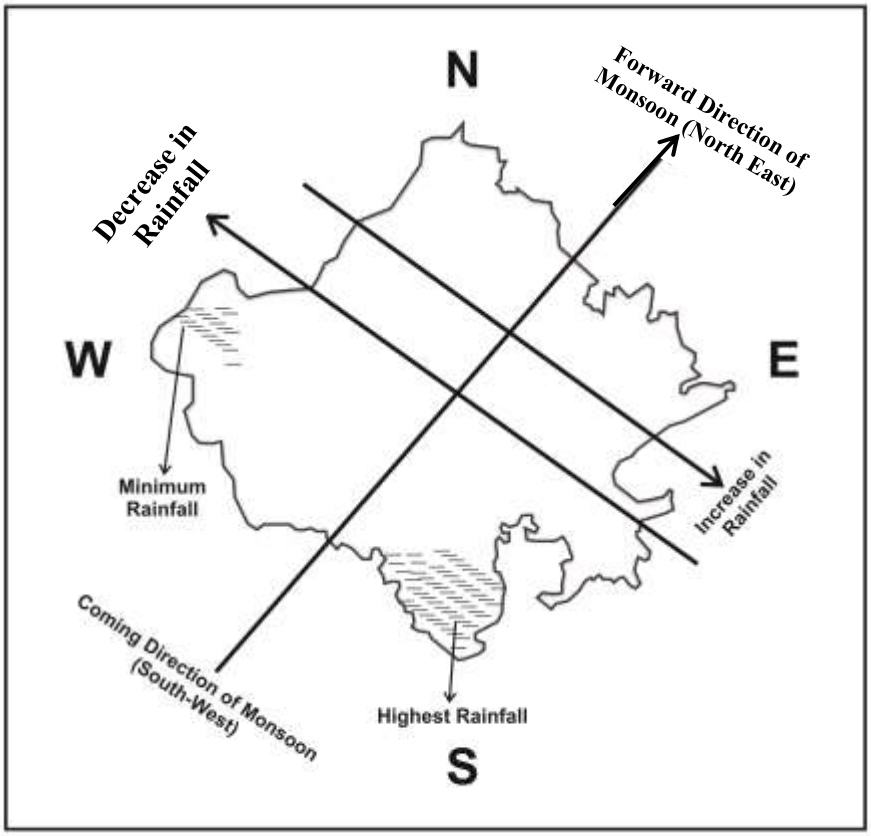
- Average Annual Rainfall of Rajasthan is 57.5 cm. (575 MM)
- Average Annual Rainfall of India is 125 cm.

❖ **Impact of Direction on Monsoon –**

- The distribution of monsoon rainfall in Rajasthan is found to be unequally according to this pattern Rajasthan is divided into **three divisions.**

3 Division of Rainfall Region

3. High	**2.** Medium	**1.** Scanty
Average Rain Fall	Average Rain Fall	Average Rain Fall
80-120 Cm.	50-80 Cm.	0-50 Cm.
Extention :-		
Hadoti , Vagar Region	Aravali , Eastern Plain	Arid & Semi Arid Region (Northern Western Part of Raj.)



0

❖ **Events During Monsoon :-**

➢ **Burst of Monsoon (Rainy Season):-**

- The heavy rainfall that occurs at the beginning of monsoon is called monsoon burst .
- Whose time is mainly in the month of July-August.

➢ **Gap of Monsoon (Rainy Season) :-**

- After the monsoon burst, there is no rain for two to three weeks.
- Whose time is mainly in the month of August or September.

➢ **Retreating of Monsoon :-**

- The event of withdrawal of monsoon is called withdrawal of monsoon.
- Whose time is mainly in the month of October-November in Rajasthan.

➢ **Kartik Heat/October Heat –**

- The increase in temperature during the retreating of monsoon is called Kartik Heat.
- Whose time is in the month of October.

❖ **Impact of Global events on monsoon :-**

(1) EL – Nino

➢ **Meaning :-** It's a hot ocean current.

➢ **Location**:- Near the Eastern Coast of Southern pacific ocean or 3^0 southern latitude to 24^0 southern latitude.

➢ **Time Period**:- Last week of December Month

➢ **Effect on Monsoon**:- Late arrival of monsoon and less effect.

Note:- It is also known as **Ocean fever / Child of Christ**.

(2) La – Nina

➢ **Meaning** :- It's a cold ocean current.

➢ **Location** :- Near the eastern coast of southern pacific ocean.

- **Time Period**:- Last week of December.
- **Effect :-** Indian Monsoon arrival on time and more effective monsoon.

Note:- It is known as younger sister of EL - Nino.

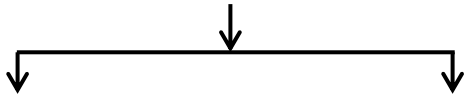
(iii) Autumn Season -

- **Retreating of Monsoon :-**
  - The event of withdrawal of monsoon is called withdrawal of monsoon.
  - Whose time is mainly in the month of October-November in Rajasthan.
- **Kartik Heat/October Heat –**
  - The increase in temperature during the retreating of monsoon is called Kartik Heat.
  - Whose time is in the month of October.

(iv) Winter Season -

1. **Mawath :-**
   - Rainfall in the **winter season** (December to March) in Indian is known as Mawath.
   - The cyclones **(Western Disturbance)** arising form the **Mediterranean Sea** which bring rainfall in the North-West India including Rajasthan.
   - It is good for the wheat crops.
   - Therefor this rainfall is called **Golden drops**.

Note :- Total Annual rainfall in Rajasthan - 2 Types



Monsoon Rain Fall (90%) **Winter Season Rain fall (Mawath) - (10%)**

(2) Cold Winds :-

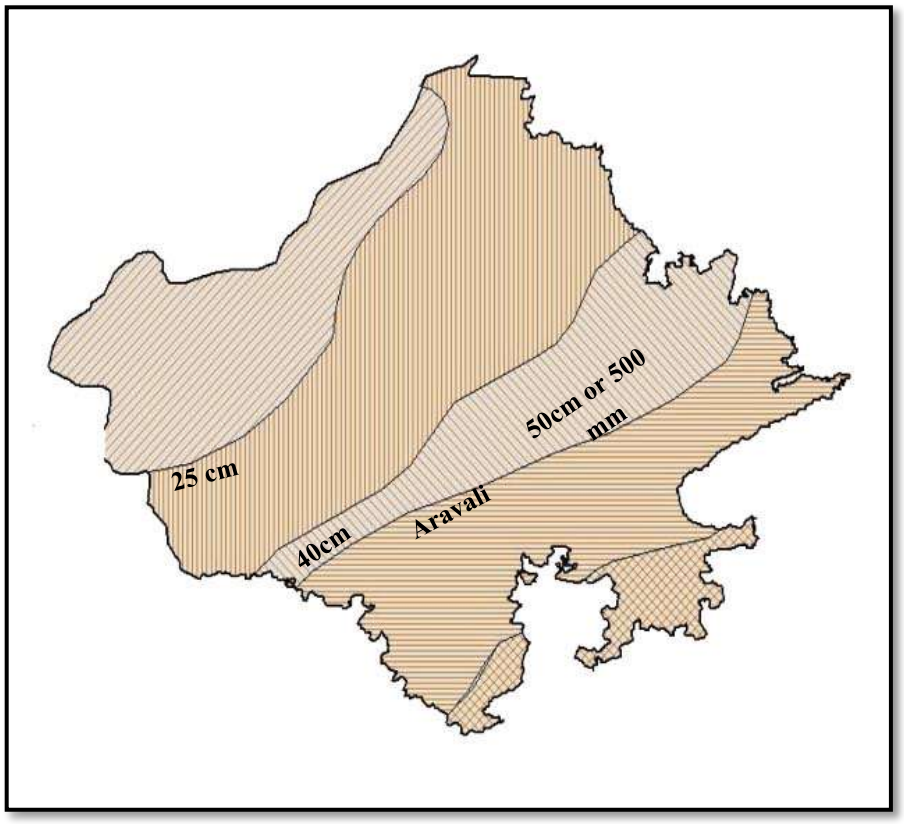
- **Meaning -** Cold winds flowing in winter season which comes from Himalaya.

- **Direction –** North- East to South-West (Duration - December and January)
- **Effective Region -** Churu (Maximum), Sikar, Bikaner

☑ **Other Important Points related to Climate -**

- ❖ Isohyets Line
- ❖ Isobar Line

❖ **Isohyets Line :-** A line on a map or chart connecting areas of equal rainfall.



- **25 CM Isohyets :-**
  - 25 Cm Isohyets divides desert into two part, those are Arid and Semi - Arid desert.
- **40 CM Isohyet :-**
  - It divides Rajasthan into two equal parts.
  - It makes eastern boundary of desert.
- **50 CM Isohyet :-**
  - It is located on Arawalli and it's divided Eastern plain and western desert.

❖ **Isobar Line:-** Imaginary line on a map, connecting areas of equal Air pressure.

Isobar Line in Rajasthan

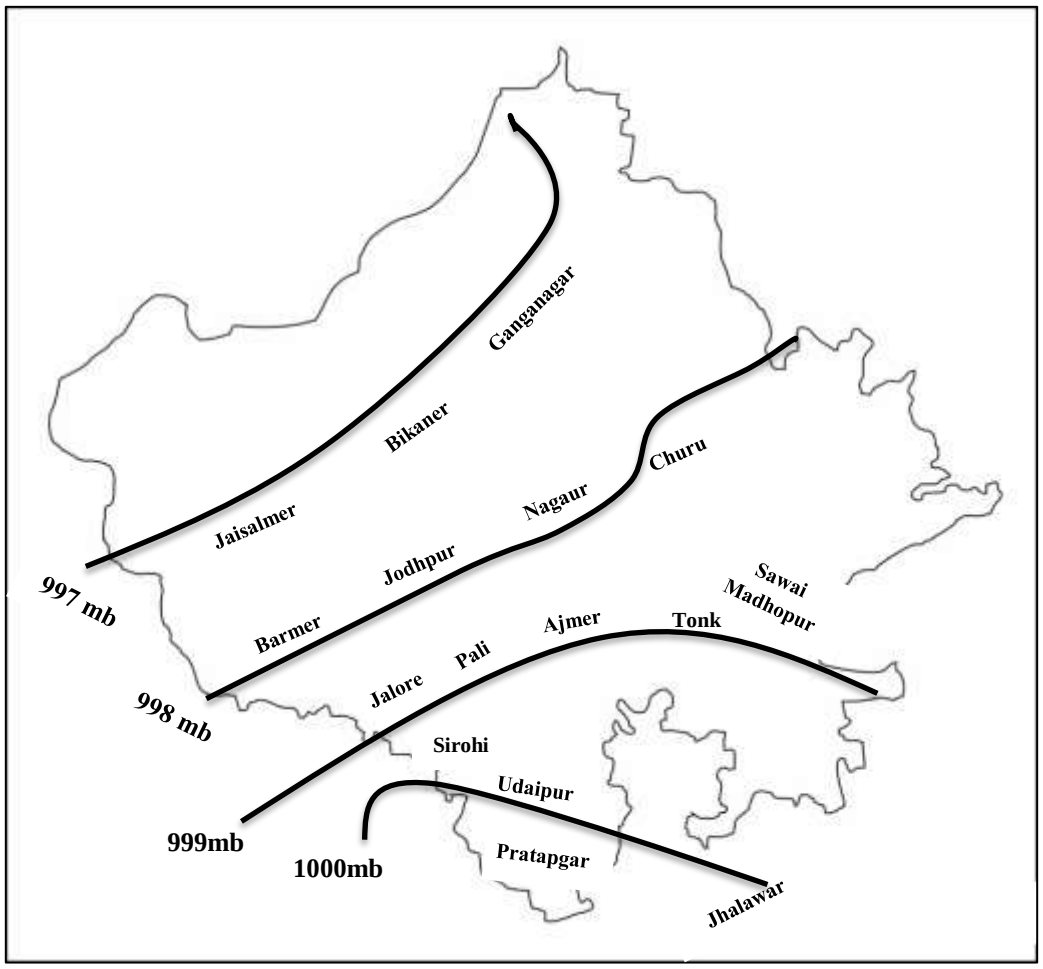
January (T↓AP↑)

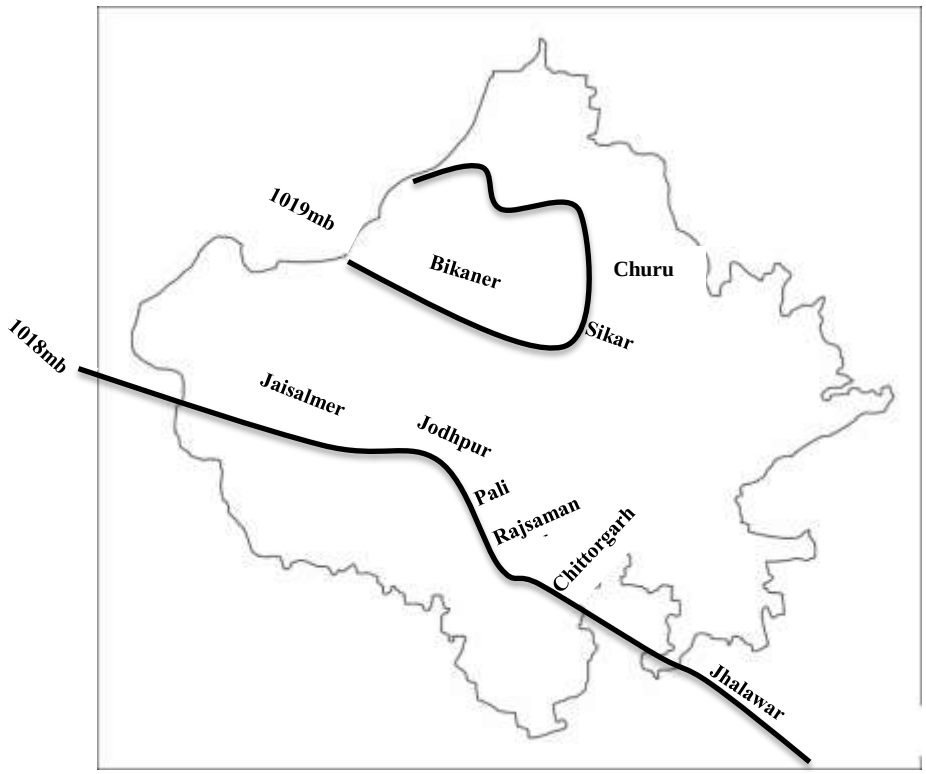
1) 1018 mb
2) 1019 mb

July (T↑AP↓)

1) 997 mb
2) 998 mb
3) 999 mb
4) 1000 mb

- **T = Temperature and AP = Airpressure**
- **↑ = High and ↓ = Low**
- **mb = Millibar**




1019mb
Bikaner
Churu
Sikar
1018mb
Jaisalmer
Jodhpur
Pali
Rajsaman
Chittorgarh
Jhalawar

DRAINAGE SYSTEM

➢ Drainage System of Rajasthan is divided into 3 parts according to discharge point

Drainage System

- **Arabian Sea Rivers 17%**
- **Inland Drainage System Rivers (60%)**
- **Bay of Bengal Rivers 23%**



☑ **Characteristics of Drainage System -**

- Aravali is known as water divide line of Rajasthan because Aravali divided drainage system into two parts.
- Mostly river of Rajasthan is Inland drainage system because maximum desert extension in Rajasthan.
- Surface water of Rajasthan state part of India is 1.16 %.
- Under ground water of Rajasthan state part of India is 1.72%.

1. River of Arabian Sea

(A) Luni
(B) Mahi
(C) Western Banas
(D) Sabarmati

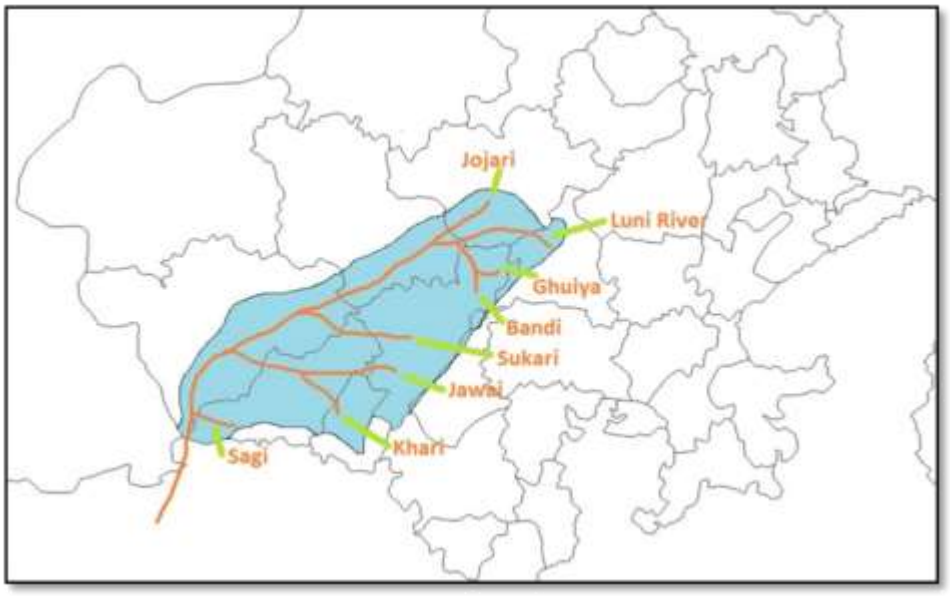
A. Luni River :-

- **Origin:-** Naag Hills (Ajmer)
- **Discharge Point :-** Rann of Kutch (Gujarat)
- **Length :-** 495 KM. (Length in Rajasthan)
- **Catchment Area :-** Ajmer, Pali, Nagaur, Jalore, **Jodhpur Rural**, **Balotra, Sanchore** and **Beawar.**
- **Tributaries :-** Sukadi, Bandi, Khari, Jojadi, Jawai, Sagi, Meethadi, Leeladi, Guhiya.

⇒ **Note –**

1. **Jojdi :-** The only river coming from the right side in Luni.
2. **Bandi :-** It is called as chemical river.

   Reason :- Dyeing - Printing Industry



☑ **Characteristics :-**

(1) Other Name of Luni :-

Sagarmati/Lawanvati/Aadhi Mithi – Aadhi Khari (Half Sweet – Half Brine River) /Anteh Salila (According to Kalidas)

(2) Rail / Nada :- The drainage area of Luni in Sanchore is called Rail / Nada.

(3) Balotara:-

- Catchment area of Luni river is Balotara.
- Water of Luni river become Saline after Balotara.
- Contribution of Luni river in Rajasthan drainage system is 10.40%.

(4) Luni :-

- Longest river in desert region.

(5) Dam Project:-

- Jaswant Sagar / Pichiyak Dam (Jodhpur Rural)
- Bakali Dam (Jalore - Sukadi River)
- Hemavaas Dam (Pali - Bandi River)
- Jawai Dam (Pali – Sumerpur on Jawai River)

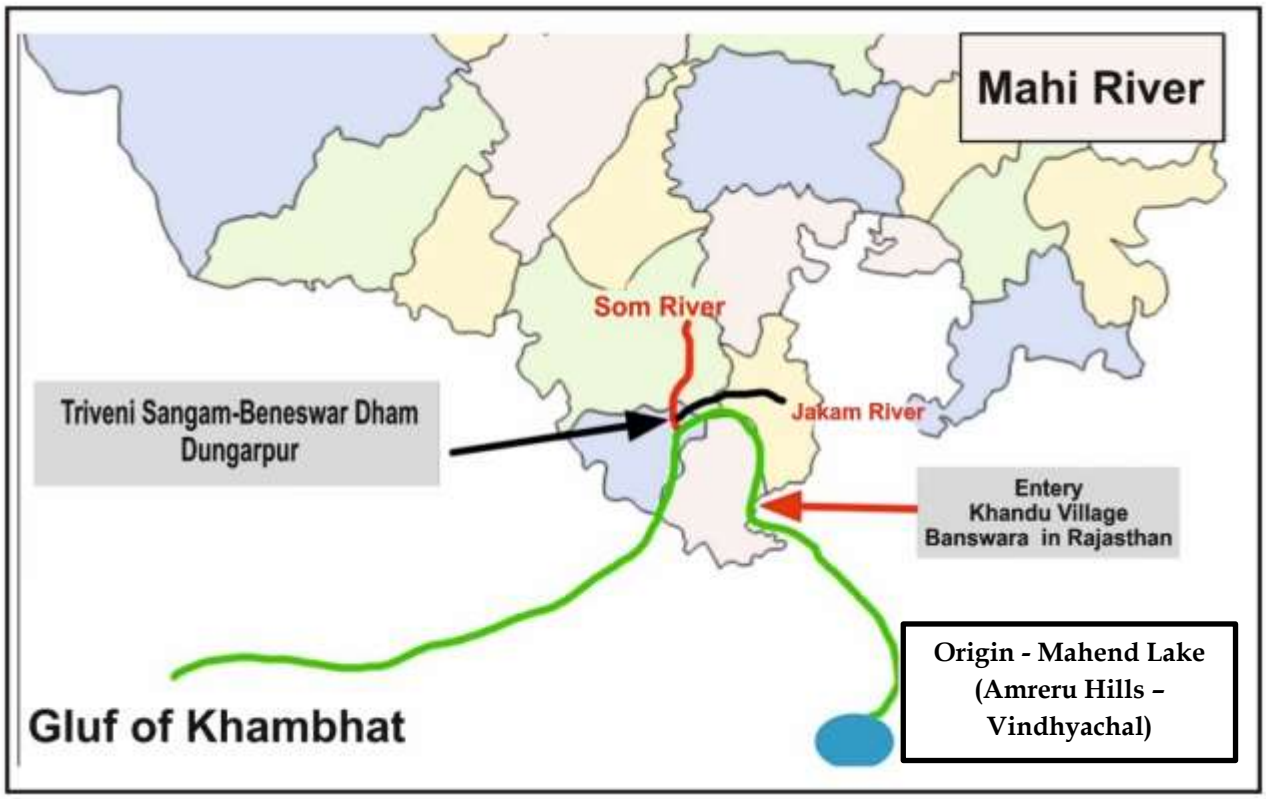
➢ **Jawai Dam :-**

- It is located in Pali (Sumerpur).
- Jawai Dam do water supply in Pali, Jodhpur (Rural, Urban), Jalore, Sirohi and Bewar.
- It is known as "Amritsarovar of Marwar."
- When water level decrease in Jawai Dam then water supplied from Sei tunnel.

Sei Tunnel:- It is a first water tunnel of Rajasthan state which supplied water from Udaipur to Jawai dam of Pali.

B. Mahi River:-

- **Origin:-** Mahend Lake (Amreru Hills – Vindhyachal)
- **Discharge Point:-** Gulf of Khambhat (Gujarat)
- **Length :- 576 Km (171 KM in Rajasthan)**
- **Catchment Area :-** Banswara (Maximum), Dungarpur, Pratapgarh.
- **Tributaries:-** Arav, Annas, Chaap, Moren, Som, Jakham



☑ **Characteristics :-**

(1) Other Name of Mahi:-

- Ganga of Tribes
- Kanthal Ganga
- Vagad ki Ganga
- Swarn Rekha river of Southern Rajasthan

(2) Triveni Sangam :-

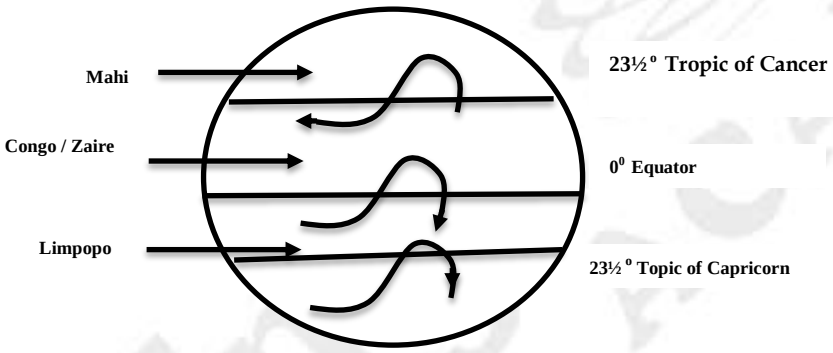
- Mahi , Som and Jakham River meet at Beneshwar Dham (Nawatapra -Dungarpur).
- A fair is organised on the coast of this river which is called "Kumbh of Trives".
- The most visited tribe at this fair is Bhil.

(3) **Sujalam Suphalam :-**

- It is a cleaning project for Mahi**.**

> **Note :- Sujalam Project**
>
> - It's a drinking water project in Barmer District. Which is empowered by **BARC (Bhabha Atomic Research Center).**

(4) Mahi is the only river of world that crosses the Tropic of Cancer twice.



(5) Mahi River is the only river of Rajasthan which enters from south of Rajasthan and then this river flowing westward.

(6) Dam Project :-

1. Mahi Bajaj Sagar - Banswara
2. Kagdi Pickup Dam - Dungarpur
3. Kadana Dam – Gujarat
4. Kadana Back Water Dam - Dungarpur
5. Som - Kagdar Project - Udaipur
6. Som Kamla - Amba - Dungarpur
7. Jakham Dam - Pratapgarh

Note :-

- **Mahi Bajaj Sagar :-**
  - It is located in Borkheda (Banswada) and It's total length is 3109 meters.
  - It is longest dam project of Rajasthan and Largest Dam project of Tribal area.
- **Jakham Dam :-**
  - It is located in Sitamata Sanctuary (Pratapgarh) and It's the highest dam (81 meter) of Rajasthan.

C. West Banas :-

- **Origin -** New Sanwara (Sirohi)
- **Leanth** = 266 Km. (In Rajasthan = 50 Km.**)**
- **Confluence -** Little Kutch (Gujarat)
- **Catchment Area -** Sirohi
- **Tributary** - Kukri, Sukli / Sipu
- Abu (Sirohi) and Disa (Gujarat) City are located at the Bank of this river.



D. Sabarmati :-

- **Origin - Padrana Hills (Udaipur)**
- **Confluence - Gulf of Khambhat (Gujarat)**
- **Length - 416 km (Length in Rajasthan - 45 km)**
- **Catchment Area - Udaipur**
- **Tributries** – Vetrak, Sei, Hathmati, Meshwa, Mansi – Wakal and Majam.

Water tunnels of Sabarmati

Sei Water Tunnel
- Udaipur - Pali
- Water Supply into Janwai Dam.
- It is the first water tunnel of Rajasthan

Mansi - Wakal Water Tunnel
- Udaipur
- Water Supply to Dewas project/ Mohan lal Sukhariya Project.
- It is the longest water tunnel of Rajasthan



2. Inland Drainage System

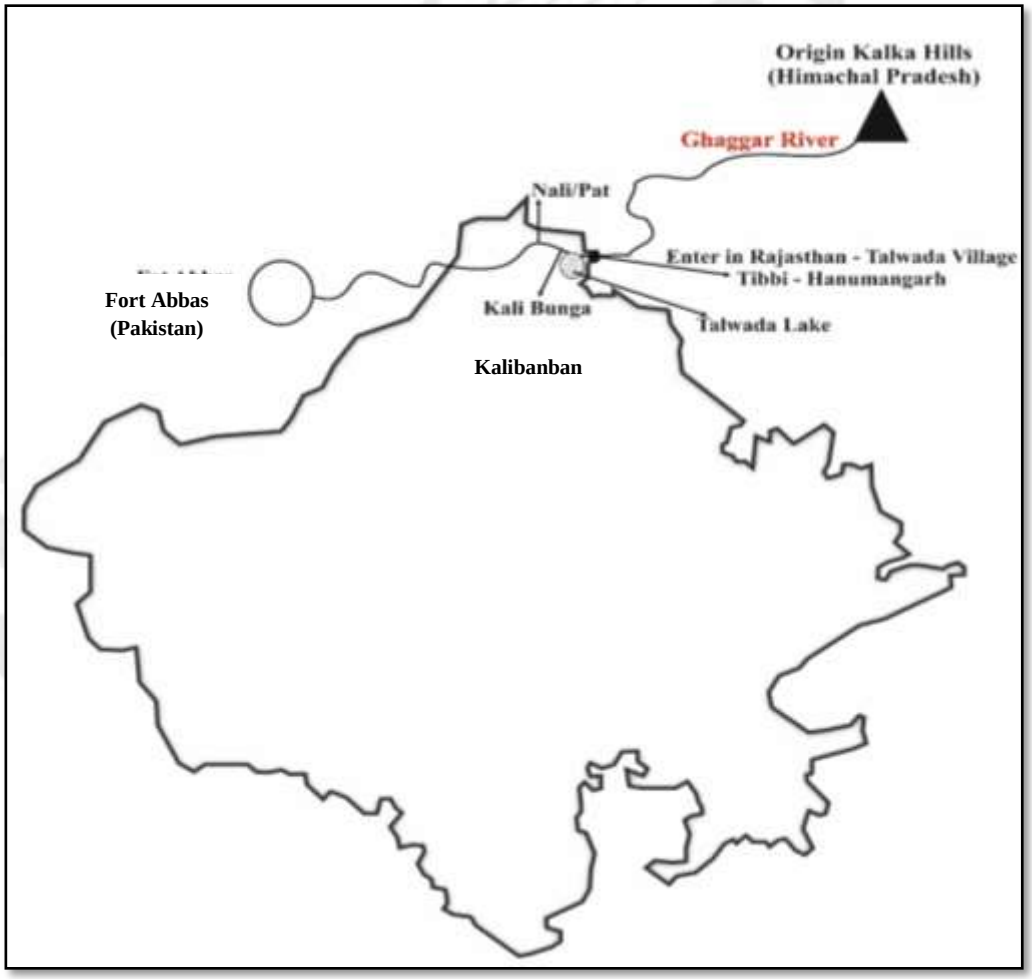
A. Ghagghar River :-

- **Origin - Kalka Hills (Himachal Pradesh)**
- **Catchment Area –** Sri Ganganagar, Hanumangarh and Anupgarh.

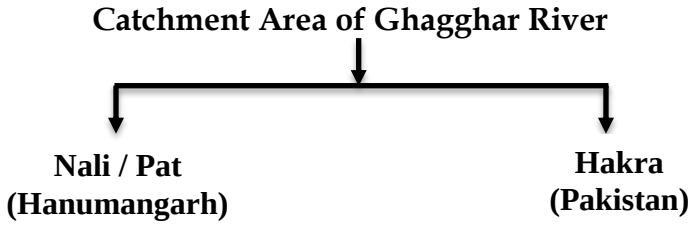
❖ **Characteristics :-**

(i) Other Name :-

- Saraswati (Ancient name)
- Dead River
- Drishadvati River
- Natt River / Sota River



(ii) Catchment Area of Ghagghar :-



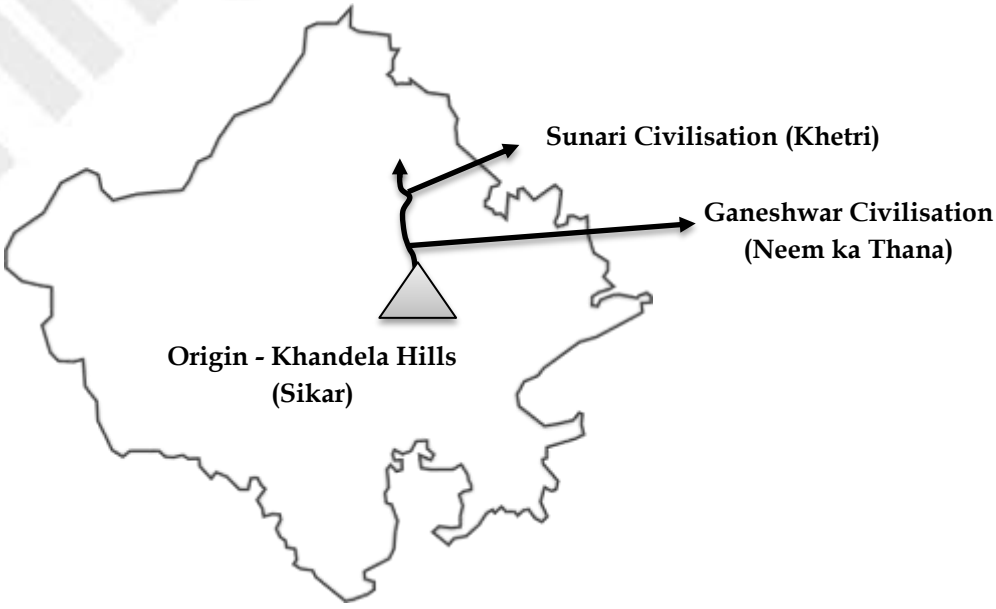
- **A breed of sheep found on the bank of Ghagghar is also called Nali.**
- **Fort Abbas (Pakistan) - It is the last point of Ghagghar river.**
- **Only one river of Rajasthan comes from Himalaya.**
- **Ghagghar is the longest Inland drainage river of India.**
- **Shree** ram wadre and Hanuvanta wadre were appointed to find coarse of Ghagghar river.

B. Kantli River

- **Origin - Khandela Hills (Sikar)**
- **Catchment Area -** Sikar – Jhunjhunu, Neem Ka Thana.

Note :- Torawati - Catchment area of Kantli river is known as Torawati. Which extends region is Sikar and Jhunjhunu.

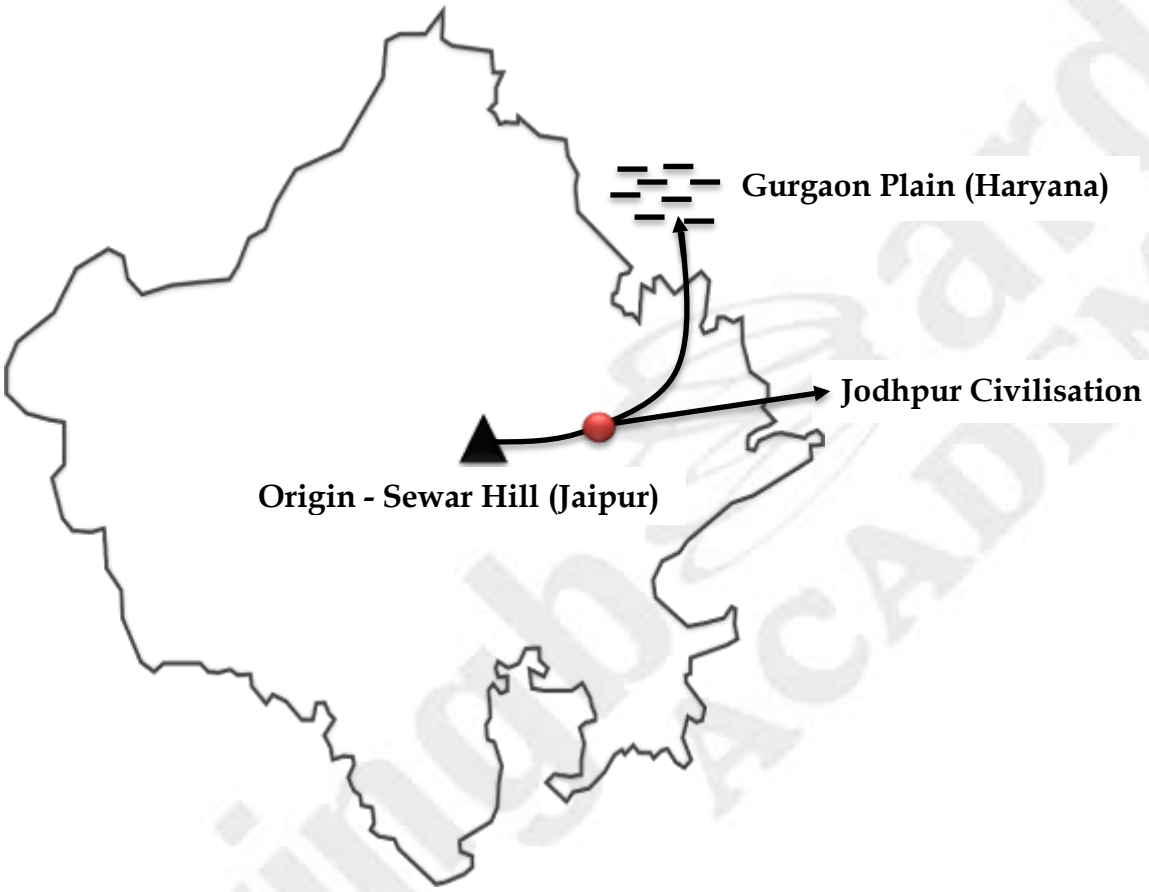
Note :- Kantali River is longest inland river in Rajasthan. (Total Length – 100 KM.)



C. Sabi /Sahibi/Najafgarh ka Nala /River

- **Origin - Sewar Hill (Jaipur)**
- **Catchment Area –** Jaipur (Rural), Khairthal-Tijara, Kotputali-Behror

Note :- Only river of Rajasthan state goes into Gurgaon plain of Haryana.



D. Banganga River

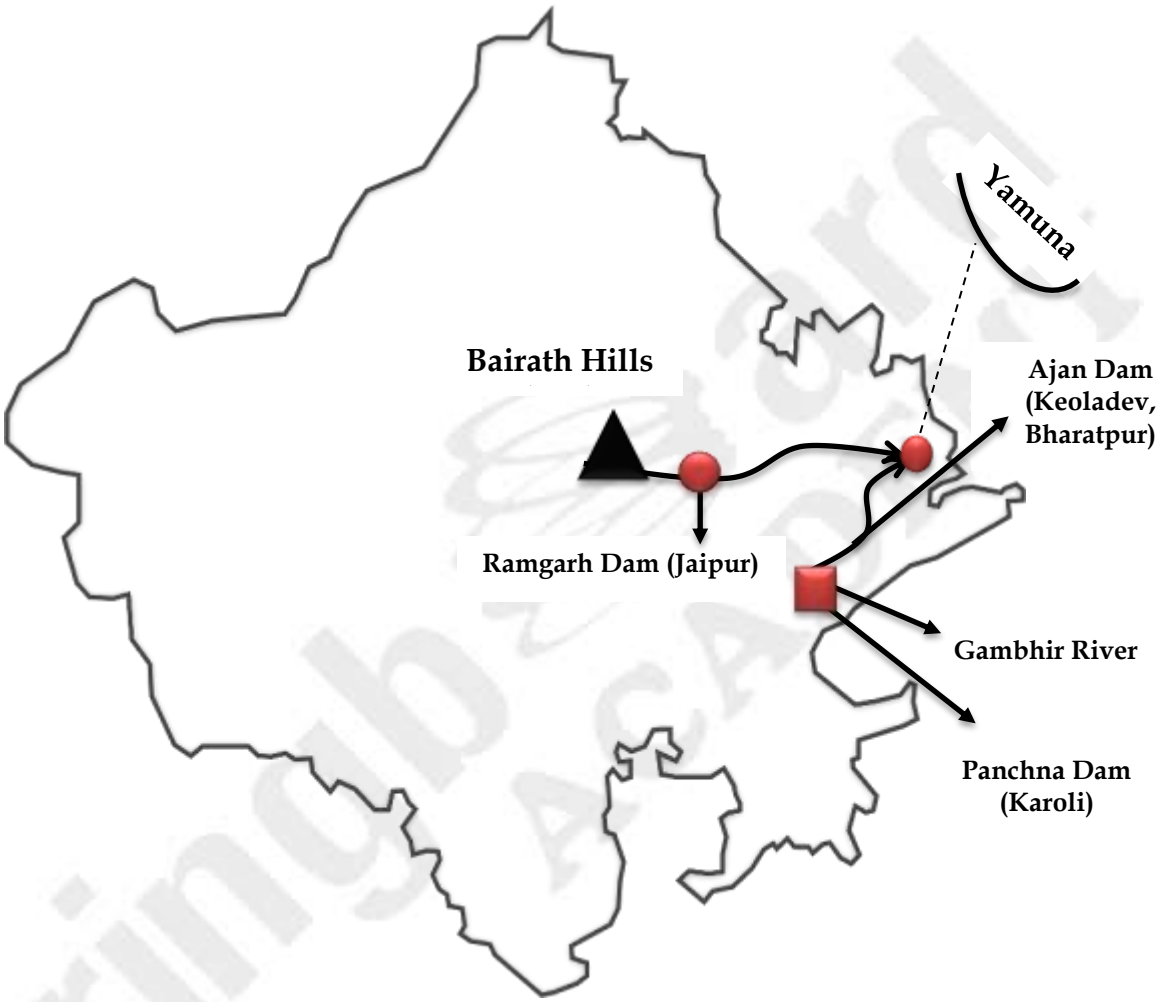
- **Origin –** Bairath Hill **(Kotputali-Behror)**
- **Catchment Area – Jaipur (Rural),** Dausa, Bharatpur**, Kotputali-Behror**
- **Tributary –** Suri, Sanwan, Palason, Gomati Nala

❖ **Characteristics :-**

(i) Other Name :-

- Ganga of Arjun
- Tala River

- **Beheaded River -** The tributary that ends before meeting main river is called Beheaded river.
- **Now** Banganga river is listed in Inland rivers (2012).



Dam Projects

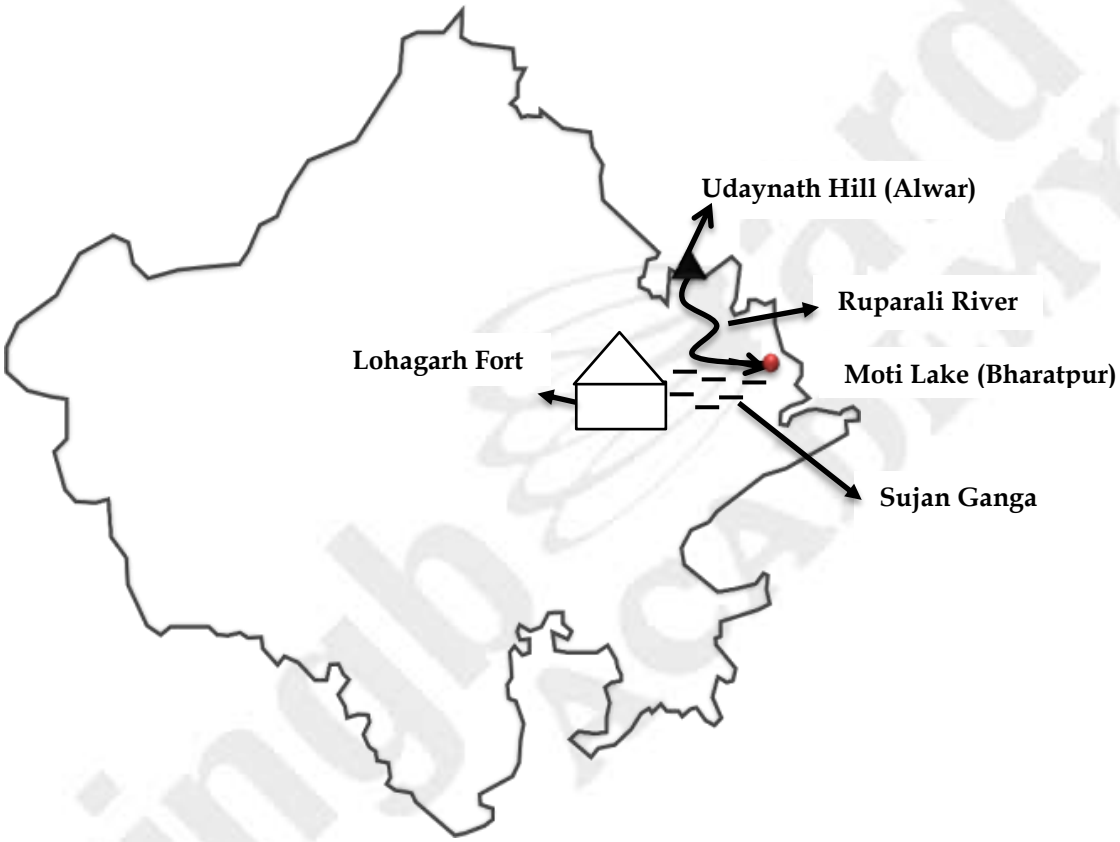
Ramgarh (Jaipur) | **Ajan Dam (Bharatpur)**

Ajaan Dam :-

- ✓ It is located in Bharatpur district.
- ✓ It's water supplied in Kevla dev national park.
- ✓ During lack of water in this dam, water supplied from Panchna dam or Gambhir river.

E. Ruparail River / Varahi River

- **Origin –** Udaynath Hill (Alwar)
- **Catchment Area –** Alwar, Bharatpur,Deeg
- **Sikari Dam -** Deeg



❖ **Moti Lake:-**

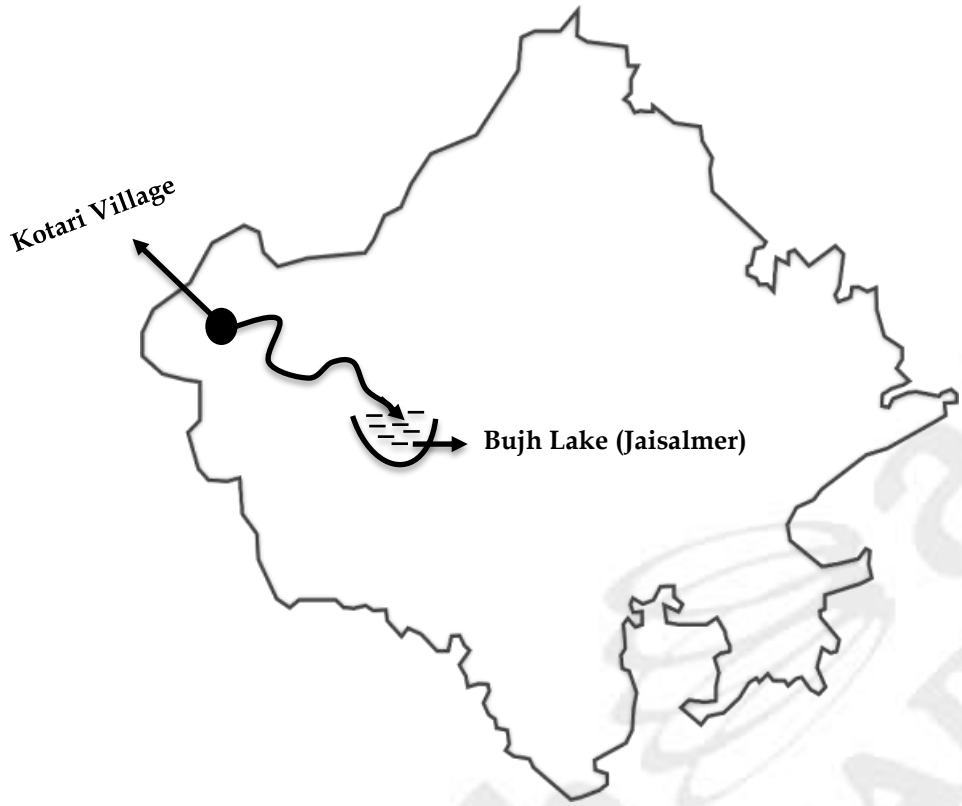
- It's a sweet water lake which is located in Bharatpur.
- It's also called as lifeline of Bharatpur District.

❖ **Sujaan Ganga:-**

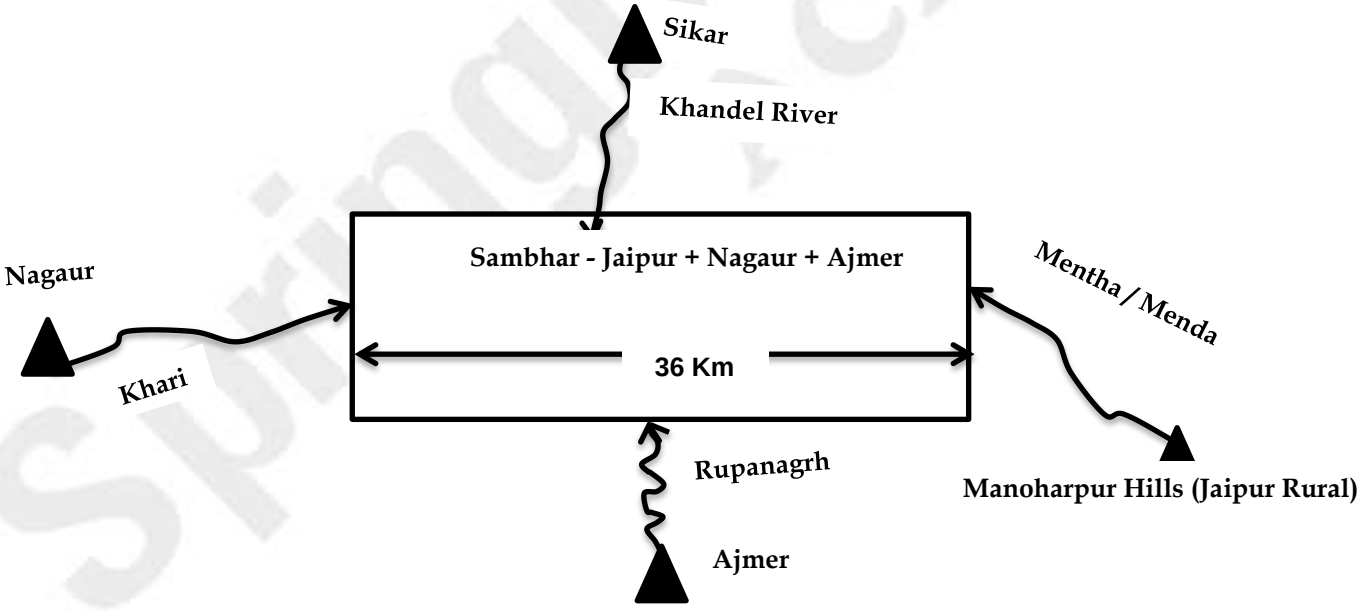
- It is a link or channel which connects Moti Lake to Lohagarh.

F. Kakani or Kakney River (Local Name – Masurdi River) :-

- **Origin -** Kotari Village (Jaisalmer)
- B**ujh Lake:-** It is a sweet water lake which formed on Kakni River In Jaisalmer.



❖ **Other Inland Rivers:-**



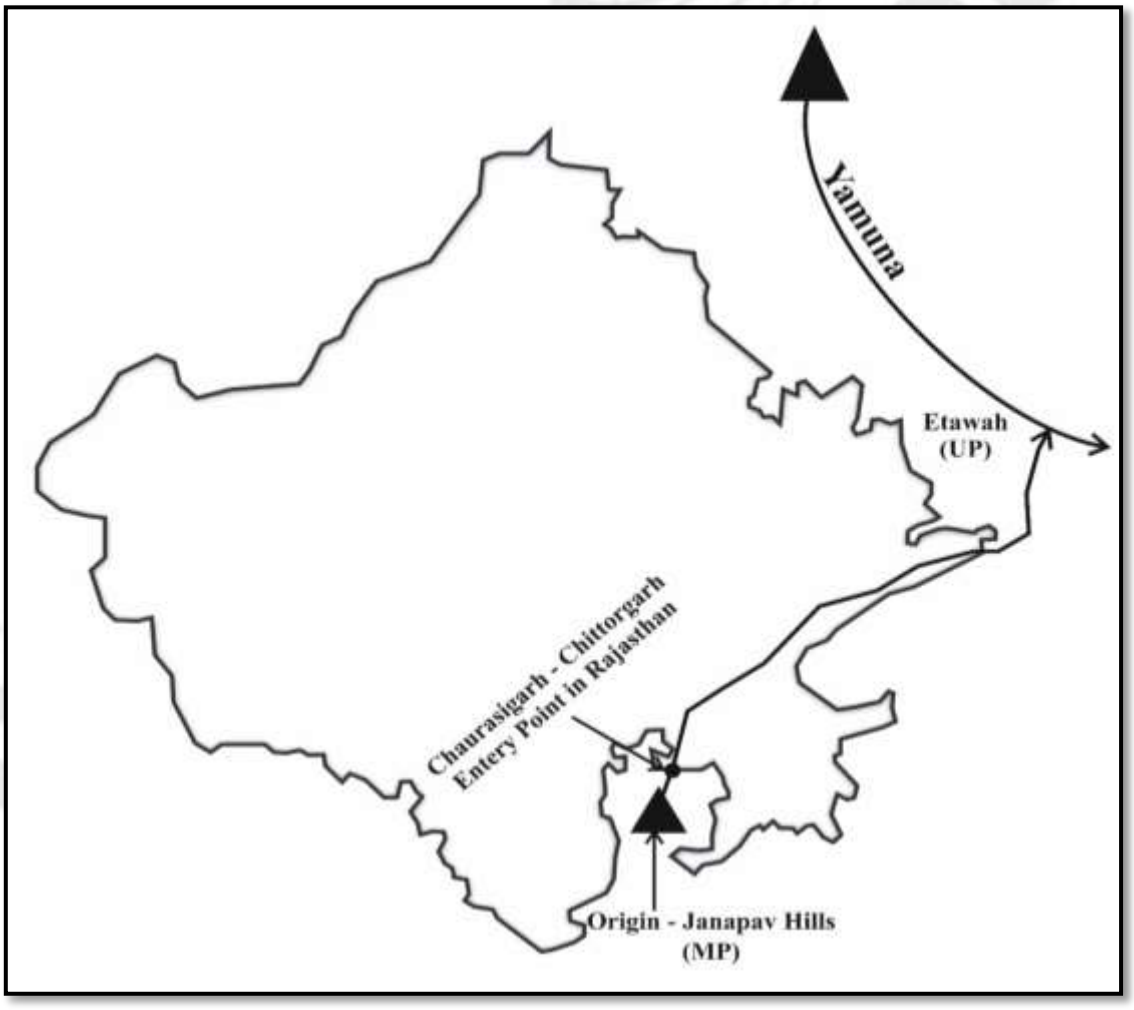
- Mentha river is the most salt bringing river in Sambhar.
- Sambhar Lake is an example of centripetal river pattern.
- Maximum Inland Drainage Rivers in Rajasthan are located in North - Western Side.

3. Bay of Bengal Rivers

A. Chambal River
B. Banas
C. Bedach / Aayad River – Gambhiri
D. Gambhir River – Yamuna

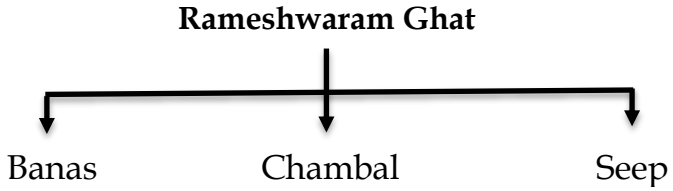
A. Chambal River :-

- **Origin -** Janapaav Hills - Vindhyan Mountain (M.P.– Indore)
- **Discharge Point -** Yamuna - Etava (U.P)
- **Catchment Area –** Chittorgarh (Entry in Rajasthan- Chaurasigarh), Kota, Bundi, Karoli, Bharatpur, Sawai Madhopur, Dholpur, Gangapurcity.
- **Length of River -** 1051 KM. (In Rajasthan State – 322 KM)
    - **Note:- Old Length of Chambal -** 966 KM (In Rajasthan = 135 KM)
- T**ributaries -** Gunjali, Maij, Mangli, Parvati, Newaj, Aahu, Kalisindh, Ghoda-Pachaad, Parvan, Brahmani, Banaas, Chakan, Kunu, Kuraal and Seep.



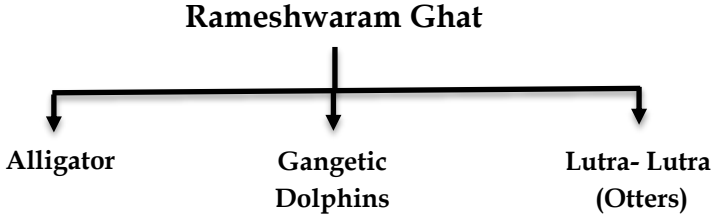
❖ **Characteristics :-**

1. **Other Name of Chambal :-** Charmannvati River, Kamdhenu, Barahmasi
2. **Triveni Sangam -** Rameshwaram Ghat (Padra – Sawai Madhopur).

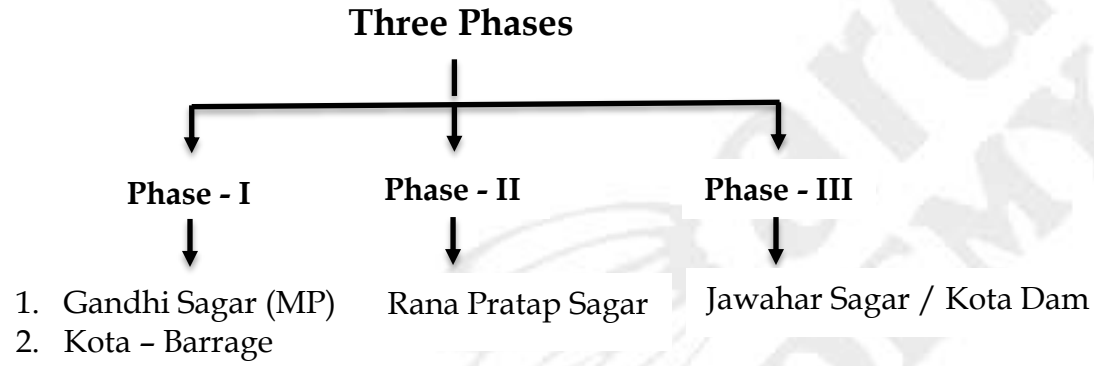


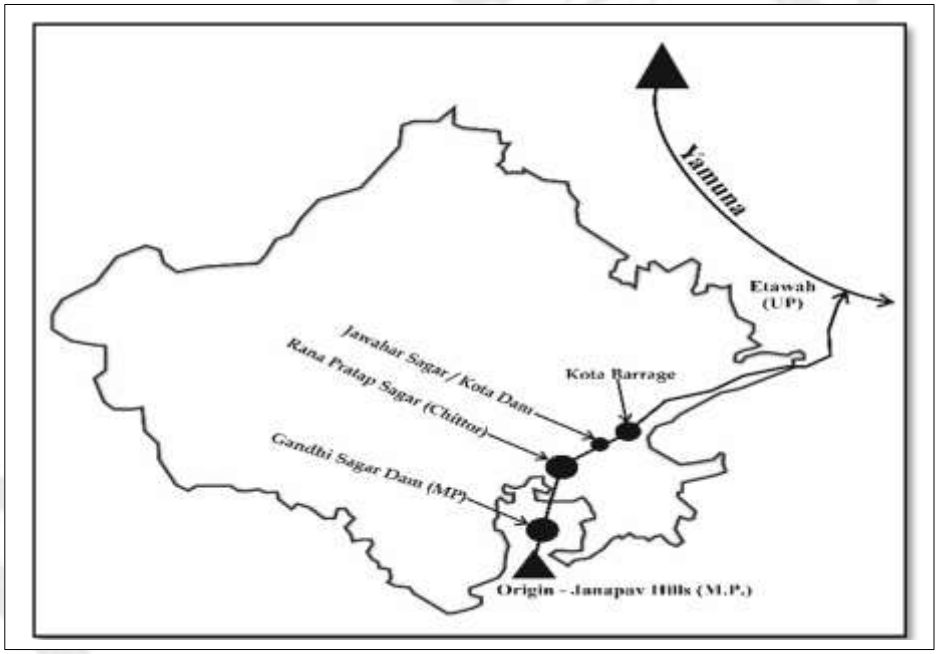
3. **Samela:-**
   - The confluence of Ahu and Kali Sindh is called Samela.
   - Gagrone fort located on the bank of Kali Sindh and Ahu (Samela).
4. **Chulia Waterfall :-**
   - Chulia waterfall is located in Bhainsrorgarh (Chittorgarh) on Chambal River.
   - It is the highest (18 Meter) waterfall in Rajasthan.

   Note :-
   - Kuchikaran Waterfall for is the highest (455 Meters) waterfall of India.
   - It is located in Karnataka on Barahi River.
5. **Hanging Bridge :-**
   - It is the only Hanging Bridge in Rajasthan, which is located in Kota on Chambal River.
   - It is length is 1.5 Kilometer.
   - NH - 27 passes from here.
   - The longest river of Rajasthan = Chambal
6. Chambal is the longest river flowing on the inter-state boundry (Rajasthan-Madhya Pradesh).
7. **Banas :-** It is the longest tributary of Chambal River.
8. **Kali Sindh :-** It is the longest tributary of Chambal River from right side.
9. **Protected Animals in Chambal:-**



10. **Behad / Ravines :-**
    - The badland topography is formed by gully erosion of Chambal river.
    - Which is called Ravines / Dang.
    - Whose extension in Karauli, Sawai Madhopur and Dholpur.
11. **Dam Projects of Chambal :-**
    - In collaboration with Rajasthan, Madhya Pradesh, four dams were constructed on Chambal in three phases.





B. Banas River :-

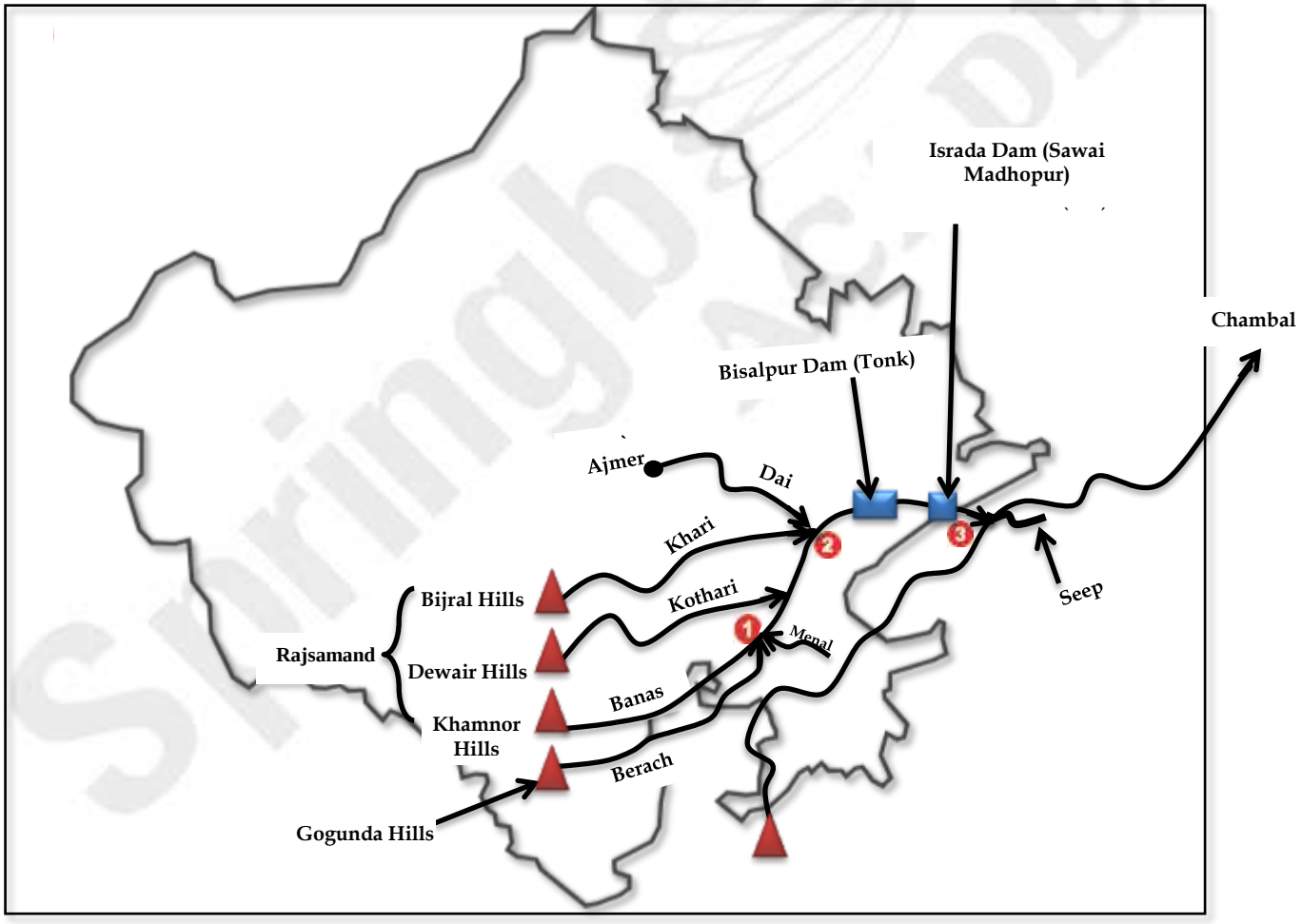
- Origin - Khamnaur Hill (Rajsamand)
- Discharge Point - Chambal River (Rameshwaram Ghat - Sawai Madhopur)

- Length - 512 KM (Old Length – 480 KM)
- Catchment Area –
    - **Mewar's Plain** (Bhilwara, Shahpura, Rajsamand, Chittorgarh)
    - **Malpura - Karauli Plain** (Ajmer, Tonk, Kekri, Sawai Madhopur)

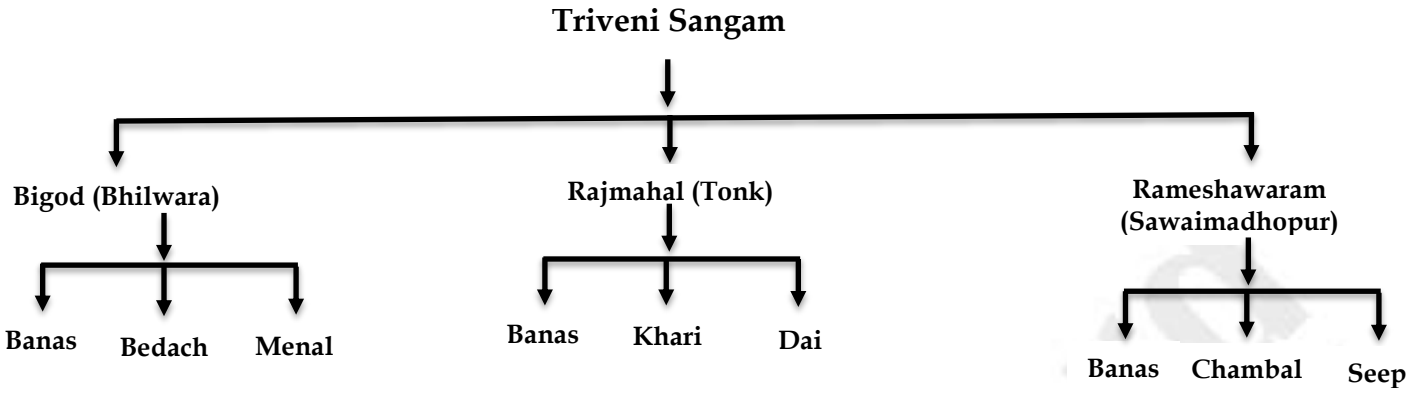
1. **Tributary -** Kalisil, Dai, Mansi, Mainal (Bhilwara), Bandi, Morel, Aahad (Berach), Kothari and Khari.
    - **Note :- Khari** is the longest river of **Banas** and **Berach** is the longest tributary of Banas river from right side.

❖ **Characteristics**

1. **Banas - Other Name**
2. Hope of Forest / Varnasha
3. Vashishthi River



2. Triveni Sangam



4. Banas River makes the highest Triveni in Rajasthan.

3. Banas is most polluted river of Rajasthan.

4. Banas is the longest river only flowing in Rajasthan.

Note:- Chambal is the longest river of Rajasthan.

5. Dam Projects of Banas River :-

(i) Bisalpur Dam – Tonk (Banas)

(ii) Isarda Dam - Sawai Madhopur (Banas)

(iii) Morel Dam – Dausa (Morel)

(iv) Meja Dam – Bhilwara (Kothari River)

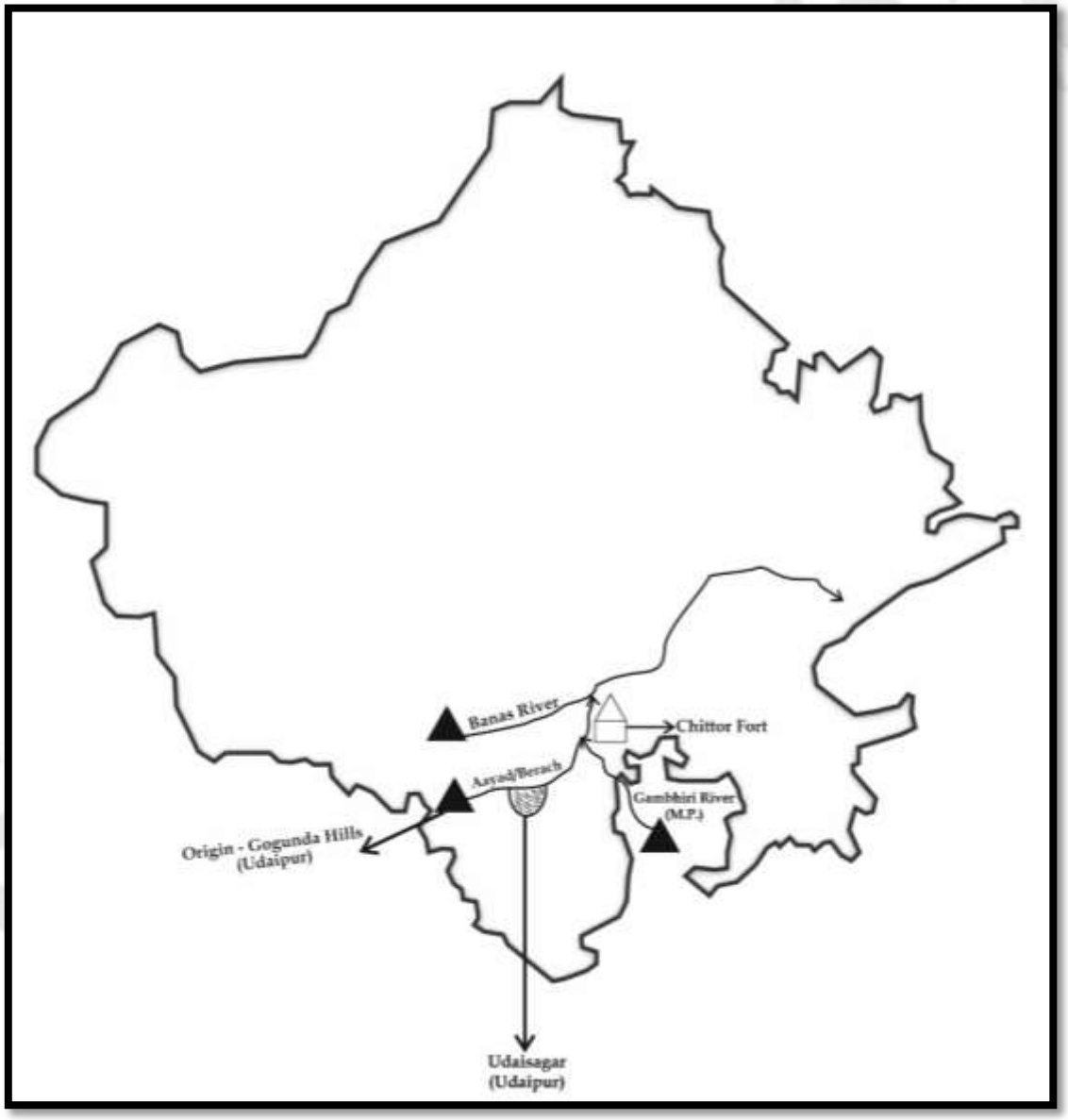
Note:- Bisalpur Dam :-

- **Location -** Tonk (Banas River)
- **Bisalpur is the largest drinking project of Rajasthan.**
- **Drinking water supply to -**
  - ✓ Tonk (Water supply for Drinking water and Irrigation)
  - ✓ Ajmer – Nagore – Jaipur – Dausa - Swai Madhopur
- **Bisalpur is the largest concrete dam of Rajasthan State.**
- **It is counted in Conservation Reserve.**
- **Due to lack of water in Bisalpur dam, there is a proposal to connect with Chambal** River. This is First River linking project of Rajasthan.

- **Excess water of Bisalpur dam is released into Isarda dam (Sawai Madhopur).**
- **A** breeding center for colorful fish has been established at Bisalpur Dam.

C. Berach River/Ayar :-

- **Origin - Gogunda Hills / Udaisagar (Udaipur)**
- **Discharge Point - Banas (Bigod, Bhilwara)**
- **Catchment Area - Udaipur, Chittorgarh, Bhilwara**
- **Trilutory** - Gambhiri River, Orai.



❖ **Characteristics**

1. **Udaisagar :-** Aayad river is known as Bedach river after fall into Udaisagar lake.
2. **Chittor Fort :-** Chittor Fort is located on the Bank of Bedach and Gambhiri.
3. **Banas :-** Bedach is the longest tributory of Banas from right side.

D. Gambhir River/Utangar :-

- **Origin - Sapotara Tehsil (Karauli)**
- **Discharge Point - Yamuna (Mainpuri – U.P)**
- **Catchment Area - Karoli, Dholpur, Bharatpur**
- **Tributaries - Parbati – II, Ata, Machi.**
- **Length -** 288 KM.

Note:-

1. **Panchana Dam :-**
   - **It is located in Karoli on Gambhir and Tributries of Gambhir.**
   - **It is the largest soil dam of Rajasthan.**
   - **When there is lack of water in Ajan Dam then water is supplied through Panchna** Dam/Gambhir River.

❖ **Other Important Facts** :-

(1) Bikaner – Churu :- No one river in these district.

(2) Chittorgarh :- Maximum river in this district.

(3) Kota Division :- Maximum river in this division.

(4) Bikaner Division :- Minimum river in this division.

(5) According to **directionwise** longest river of Rajasthan :-

- ✓ Ghagghar is the longest river of Northern Rajasthan.
- ✓ Luni is the longest river in Desert area or Western Rajasthan.

- ✓ Mahi is the longest river in Southern Rajasthan of Tribe Area.
- ✓ Chambal is the longest river of Rajasthan and Eastern Rajasthan.
- ✓ B**anas** is the longest river only flowing in Rajasthan.



(6) According to **lengthwise**, longest river of Rajasthan **(Descending Order)**

- ➢ Chambal - 1051 KM
- ➢ Mahi - 576 KM
- ➢ Banas - 512 KM
- ➢ Luni - 495 KM

(7) According to **drainage area** Famous River in Rajasthan **(Descending Order)**

- 1st Banas
- 2nd Luni
- 3rd Chambal
- 4th Mahi

Note:- In all over the largest drainage area is of Chambal but only in Rajasthan has the largest drainage area of Banas.

(8) Total Main River Basin and Sub-Basin in Rajasthan **(Descending Order)**

- ✓ Total Main River Basin – **15** (Remaining area of Rajasthan has been defined as Ourtside Basin)
- ✓ Sub-Basin – 58

Main River Basin	**-**	**Sub-Basin**
• Luni	-	12
• Banas	-	10
• Chambal	-	7/8
• Mahi	-	6

(9) Famous main and Sub – Tributries of Rajasthan

- **Sabi -** Inland Drainage System

  Sagi - Luni
- **Moren -** Mahi

  Morel - Banas
- **Parvati -** Chambal

  Parbati - Gambhir
- **Gambhir -** Yamuna

  Gambhiri - Berach
- **Katali -** Torawati

  Kakney - Masurdi of Jaisalmer
- **Sukadi -** Luni

  Sukali - West Banas
- **Banas -** Bay of Bengal

  Western Banas - Arabian Sea
- **Kali Sindh -** Chambal

Kali Sil – Banas

- **Masi -** Banas

  Mansi - Vakal (Sabarmati)

- **Ruparel -** Alwar, Bhartpur (Moti Lake**)**

  Rupangarh - Ajmer (Sambhar)

- **Bandi –** Pali (Luni)

  Bandi – Ajmer – Anasagar Lake (Banas)

- **Khari -** Shergaon Hills – Sirohi (Luni - Arabian Sea)

  Khari - Nagore (Sambhar - Inland Drainage)

  Khari - Bijral Hill – Rajsamand – (Banas - Bay of Bengal)

- **Seep –** Chambal

  Seepu – West Banas

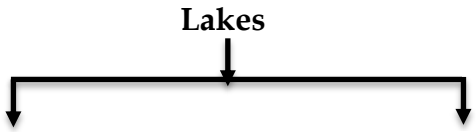
Note :- Water Policy of Rajasthan State Was Released on 18 Febuary 2010.

☑ Importance of Rivers :-

1. Creation of Fertile Plains.
2. Raising underground water level.
3. Enhancing biodiversity.
4. Drinking water Supply.
5. Water supply for irrigation.
6. Religious significance.(Triveni Sangam)
7. Fisheries.
8. Hydro Power generation.(Chambal, Mahi, Jakham etc.)

LAKES OF RAJASTHAN

- Lakes are divided into Two parts on the basis of water nature.



Brine Water Lake

Cause :- Remaining parts of Tethys sea

Maximum -Deedwana-Kuchaman

Fresh Water Lake

Cause :- Depend on fresh water or Rainy Water

Maximum - Udaipur

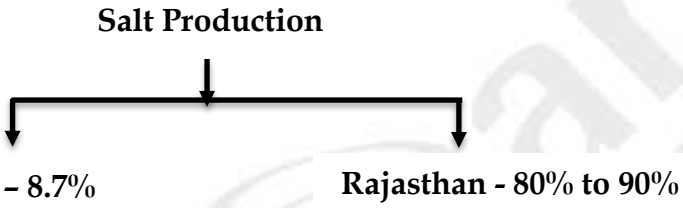
Note:- The Scientific and main cause of salinity in lakes is Mica Schist rocks inside the lakes.

1.) Brine Water Lakes :-

S.No.	Lake	Location
1.	Sambhar	Jaipur Rual
2.	Panchpadra	Balotra
3.	Deedwana	Deedwana-Kuchaman
4.	Degana	Nagaur
5.	Nawa	Deedwana-Kuchaman
6.	Kuchaman	Deedwana-Kuchaman
7.	Tal Chhapar	Churu
8.	Rewasa	Sikar
9.	Kochhor	Sikar
10	Lunkaransar	Bikaner
11.	Kawod	Jaisalmer
12.	Phalodi	Phalodi

1. Sambhar Lake

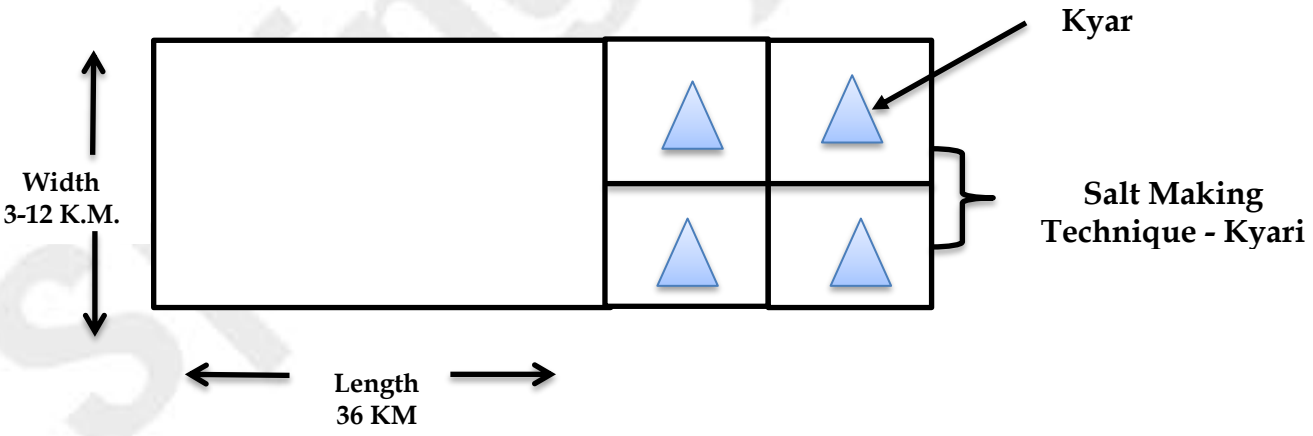
- It is Brine water Lake which is located in Jaipur Rural.
- Vasudev Chauhan, the creator of this lake (according to Bijolia inscription).
- Sambhar is the largest brine water lake in Rajasthan and the third largest in the country. (1st Chilika Lake - Odisha, 2nd Pulicat - Andhra Pradesh and Tamil Nadu)
- Sambhar is the largest Brine Water Lake in india which is located on landlocked part.



- Sambhar salt limited produces salt from Sambhar which is under Hindustan Salt Limited (HSL).
- Sambhar Lake is listed in the Ramsar Site (1990). Where Kurja and flamingo birds get protection.

  Note:- Recently, Sambhar Lake was in the news due to the death of Kurja birds. Avian botulism disease is believed to be the cause.

- The salt produced from the Sambhar lake is called "Kyar".



2. Panchpadra Lake

- It is a brine water lake located in Barmer.

- The best quality of salt is produced from Panchpadra, because the sodium chloride content is 98% in it.
- Kharwal:- It is caste that produces salt from Panchpadara.
- Morli bush:- It is used for salt production in Panchpadara.

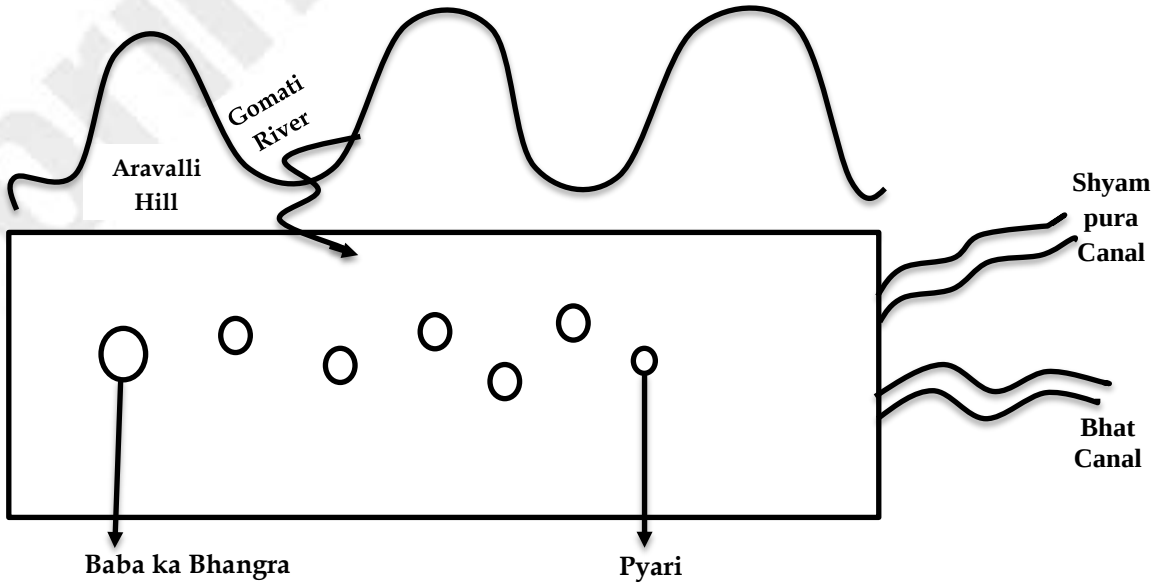
3. Deedwana Lake

- It is a brine water lake located in Nagore
- Low quality salt is produced from this lake, because Sodium Sulfate (Na_2SO_4) is found in place of Sodium Chloride.
- The **"Rajasthan State Chemical Works"** (1964) was established near this lake.
- Sodium sulphate is used in the glass, paper and leather industry.

2) Fresh Water Lake

1. Jaisamand Lake:-

- Located in Salumbar.
- It is a fresh water lake, which is situated on the "Gomti River" in Udaipur.
- This lake was built by Maharana Jai Singh.
- Construction period - 1685-1691 AD

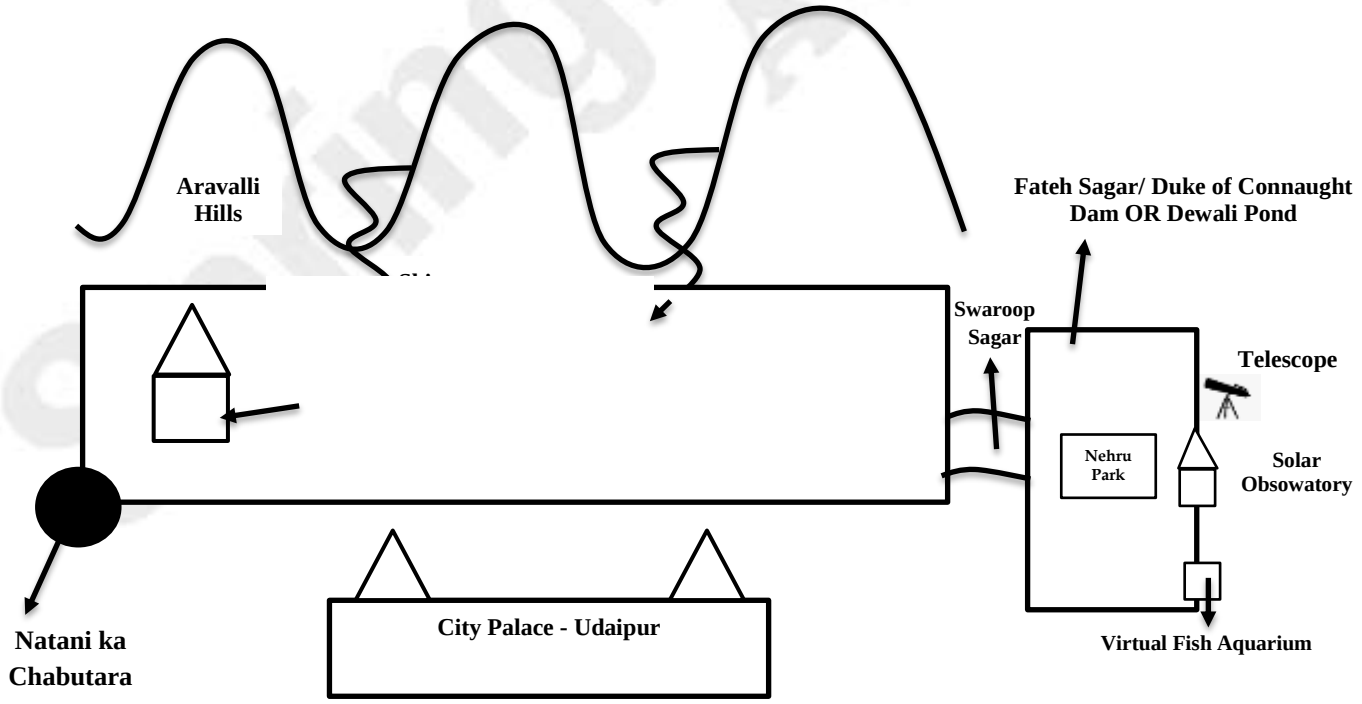


❖ **Characteristics:-**

- It is also called as Dhebar Lake.
- It is also called Dhebar Lake, because it is situated in the Dhebar Nal.
- It is the largest artificial freshwater lake in Rajasthan.
- There are seven islands in this lake, out of which the largest island is "Baba Ka Bhangra" and the smallest is "Pyaari".
- Bhil-Meena tribe inhabit on these island.
- Two canals have been extracted from this lake - Shyampura canal, Bhat canal.
- The Narmadeshwar Mahadev temple is situated on the banks of this lake which is built by Maharana Jai Singh.

2. Pichhola Lake :-

- It is a fresh water lake located in Udaipur.
- Under the rule of Rana Lakha, this lake was built by the Banjara in the memory of the bull.
- River :- Sisarma, Bujhda



Characteristics:-

- Natni ka Chabutra is situated near this lake, which was built by Rana Lakha.
- Jag Mandir and Jag Niwas are situated in this lake.
- Shah Jahan took refuge in the Jag Mandir during the rebellion period.
- The excess water of this lake is distributed in Fateh Sagar.
- **Note :- Swaroop Sagar** - It is a link/channel that connects fatehsagar to Pichola lake.

3. **Fateh Sagar:-**

- It's a fresh water lake which is located in Udaipur.
- It is constructed by Maharaja Jai Singh (1688 AD) and Reconstructed by Maharaja Fateh Singh (1888)
- River:- Sisarma, Bujhra

❖ **Characteristics:-**

- Nehru garden is located in this lake.
- Telescope and solar observatory are located on the bank of this lake.
- Virtual fish aquarium is located near this lake.

4. **Rang Sagar/Amarkunt :-**

- It is fresh water lake which is located in Udaipur.
- This lake is connected to Pichola and Swaroop Sagar.

5. **Udai Sagar Lake :-**

- It is a fresh water lake which is situated on the Ayed/Berach river in Udaipur.
- This lake was built by Maharana Udai Singh.
- Construction period:- 1559 to 1564 AD
- **Note :-** Ayed river is called Berach after falling into Udaisagar lake.

6. Doodh Talai :-

- It is Fresh water lake which is located in Udaipur.

Note :-

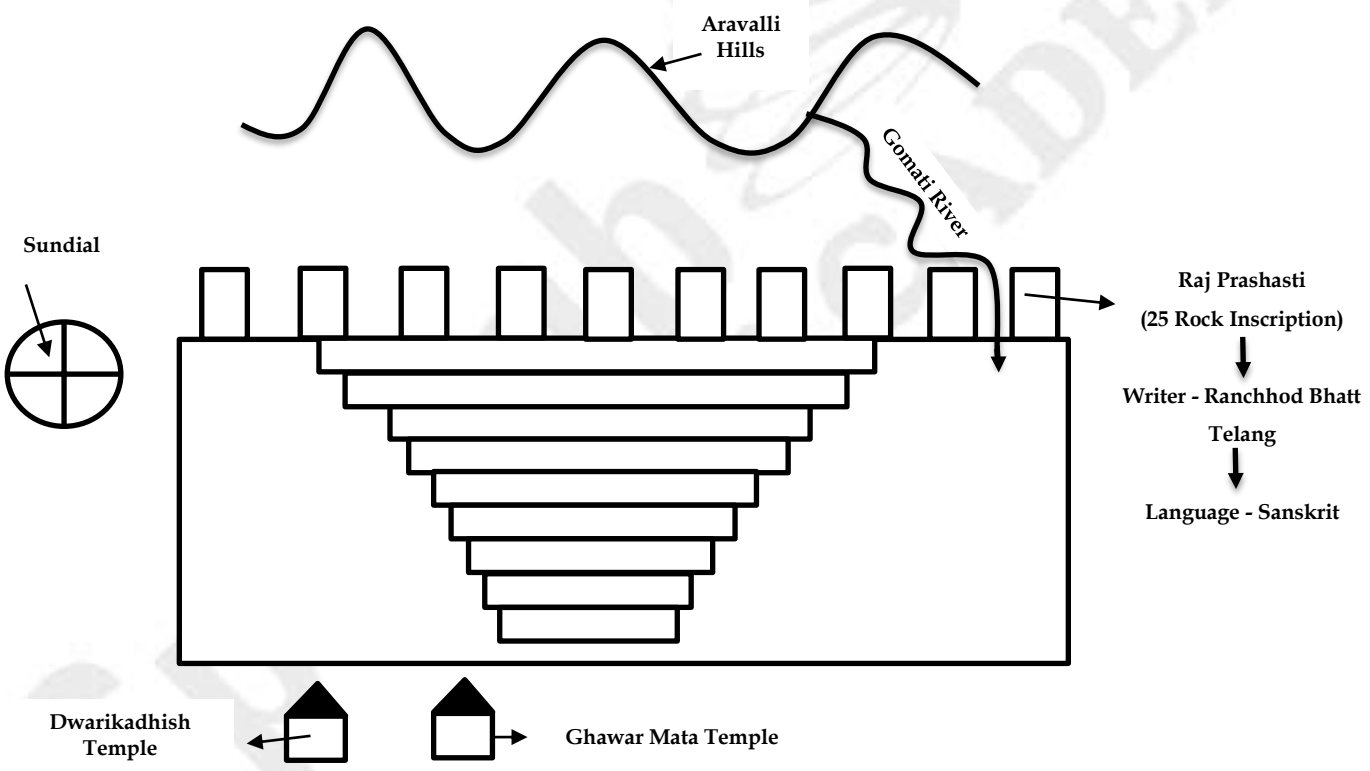
- Doodh stepwells located in Sirohi.

7. Badi Lake / Jana Sagar :-

- It is Fresh water lake which is located in Udaipur.

8. Rajsamand Lake:-

- This lake constructed by Maharana Raj Singh.
- **Construction Period -** 1662 to 1676 AD.
- **River –** Gomati, Tali, Kelwa.



❖ **Characteristics :-**

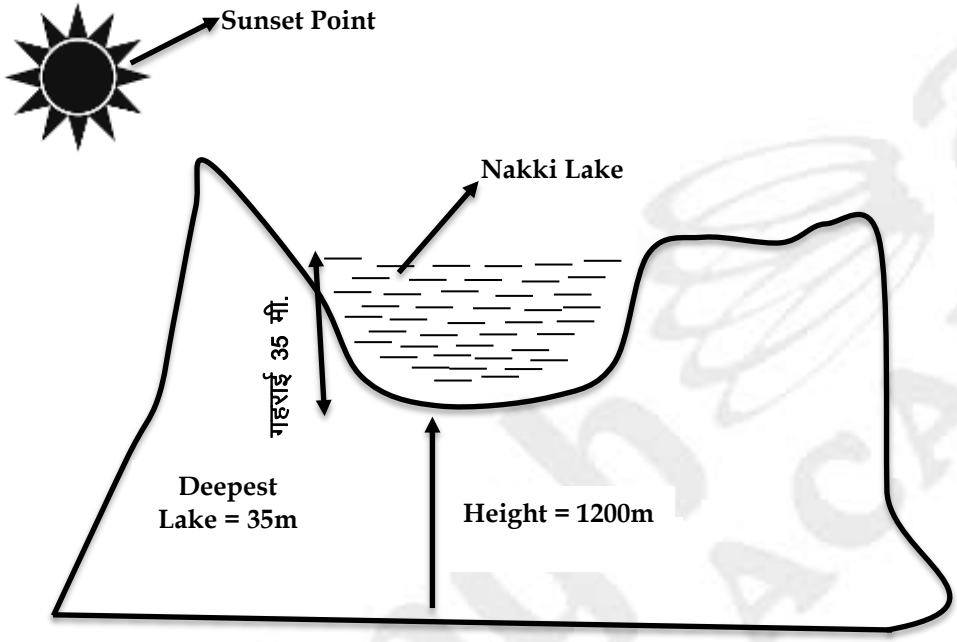
- **Nau Chauki Paal** :- Northern part of Rajsamand lake is called Nau Choki Pal.
- First lake of the country (1662 years) built for famine relief.
- Religious places located near this lake- (1) Dwarkadhish Temple (2) Ghevar Mata Temple
- The remains of Sundial has been found on the banks of this lake.

- Maximum numbers of people (about 60,000) have contributed in the construction of this lake.

9. Nandsamand Lake:- It is a Fresh Water lake located in Rajsamand.

10. Nakki Lake:-

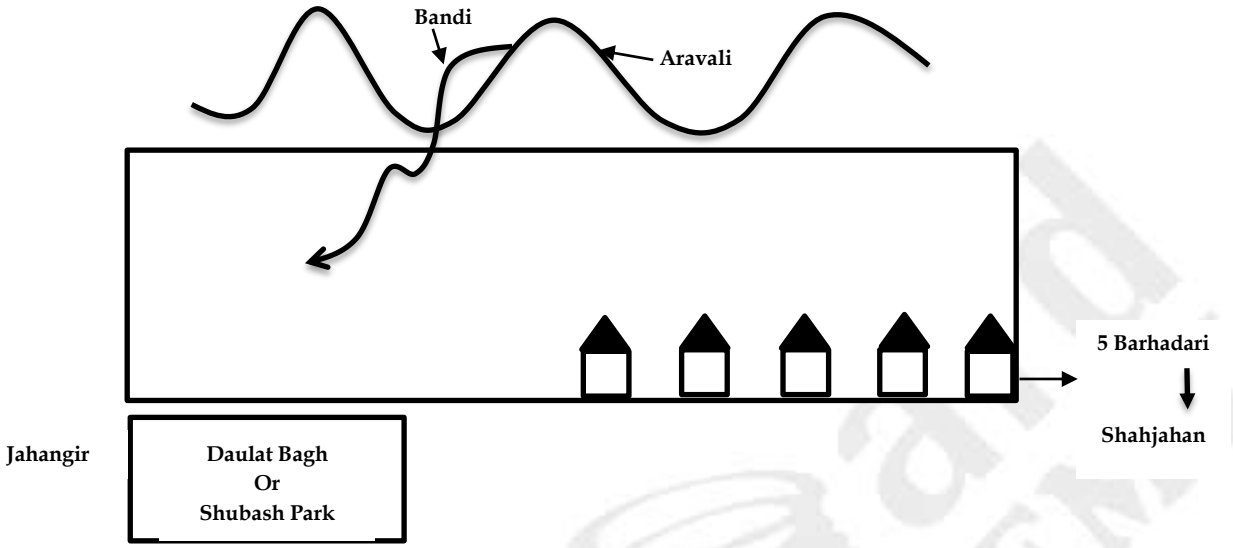
- It is a crater lake (Volcano Lake).
- According to folk proverbs, this lake is made of nails.



- It is the highest and deepest lake (35 Meter) in Rajasthan.
- The bones are discharged into this lake by Garasiya tribe.
- The only lake in Rajasthan which is situated at the hill station.
- Only lake of Rajasthan which is freeze in winter.
- Main rocks like Toad Rock, Nun Rock, Nandi Rock and Horn Rock are found on the banks of this lake.

11. Aanasagar Lake

- It is fresh water lake which is located in Ajmer.
- Aanasagar lake constructed by **Arnoraj Chauhan**.
- **Construction Period -** 1136 – 1137 AD
- **River** – Bandi



12. Foy Sagar:- Ajmer

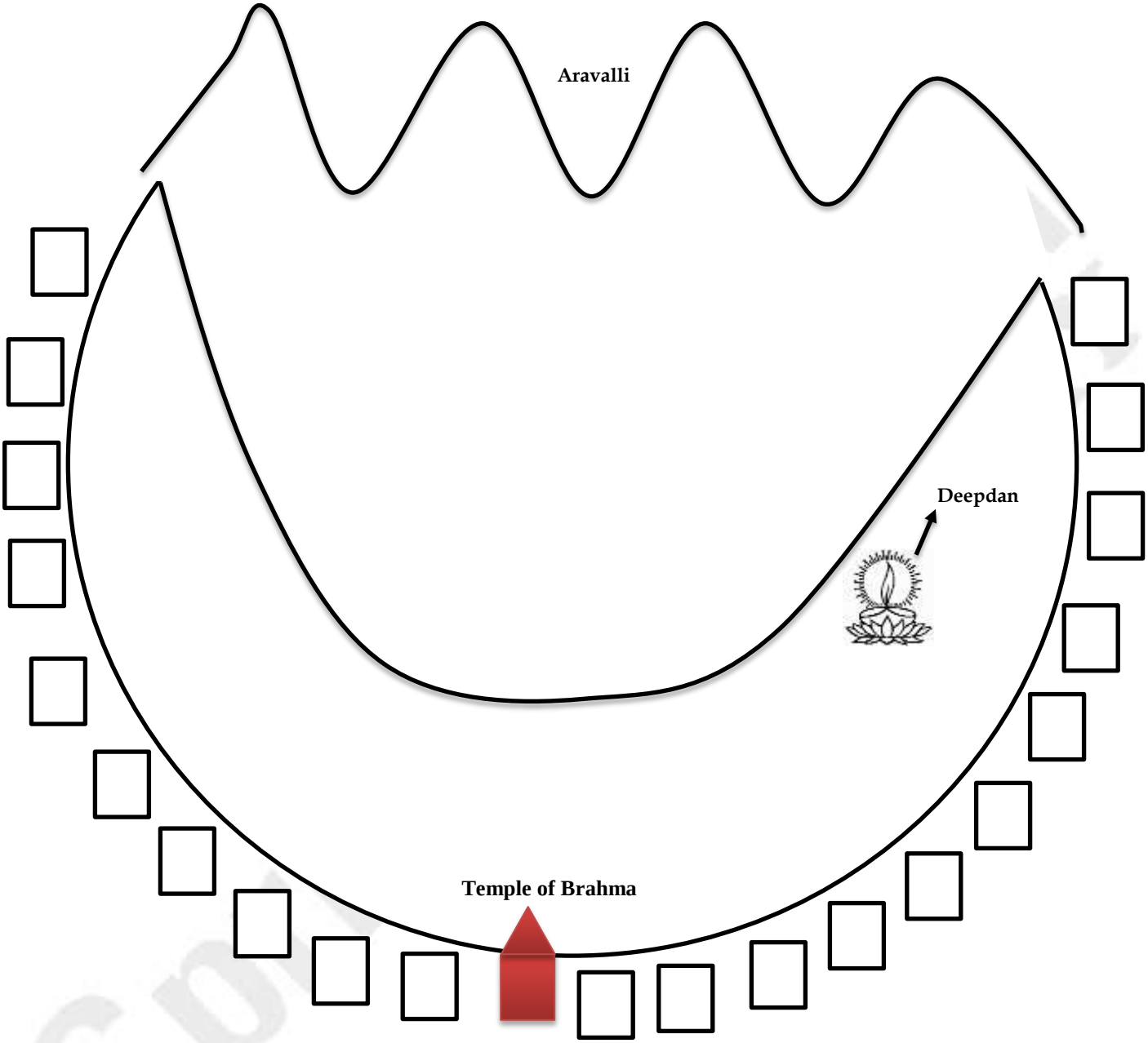
- **Constructed -** Engineer Foy
- **Construction Period** - 1891 – 1892 AD
- **River -** Bandi
- It is second famine Relief Lake of Rajasthan after Rajsamand Lake.

13. Pushkar Lake :-

- It is a Crater Lake / Volcanic Lake of Rajasthan.
- **Other Name :-** Panchva Tirth / Tirthraj / Tirtho ka Mama / Konkan Tirth / Cresent Shape Lake / Bawan (52) Ghat Lake.

Characteristics :-

- Pushkar is the largest natural fresh Water lake of Rajasthan.
- Pushkar is most holy lake of Rajasthan.
- A fair is organized on the banks of Pushkar Lake on Kartik Purnima, which is called "Rangila Mela of Rajasthan".
- Lamps are lit in this lake on Kartik Purnima.
- The main holy lake of Rajasthan where the bones of prominent personalities Mahatma Gandhi, Balasaheb Thackeray and Atal Bihari Vajpayee were immersed.

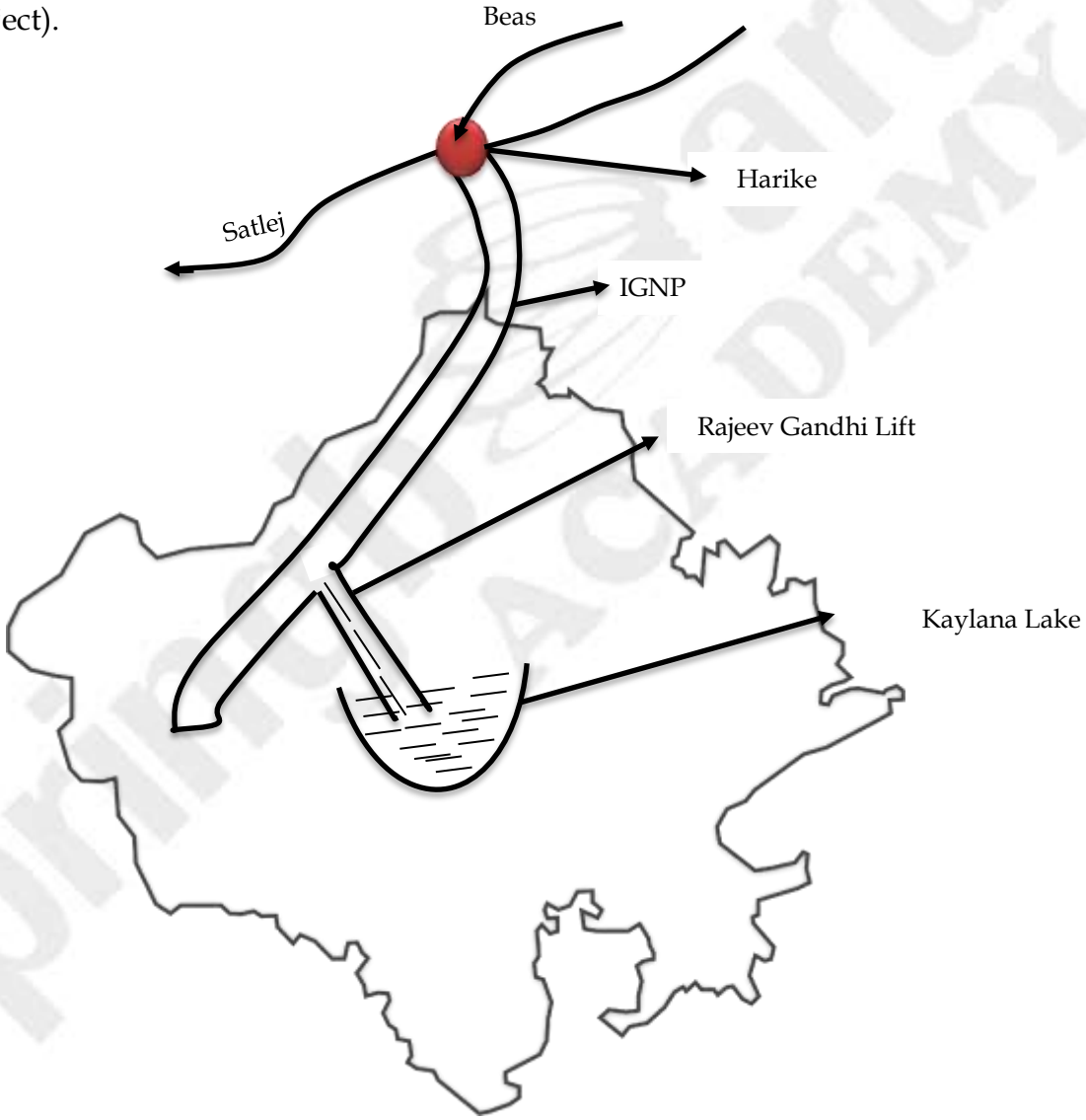

Aravalli
Deepdan
Temple of Brahma

14. Kaylana Lake / Sir Pratap Sagar

- It is a fresh water lake located in Jodhpur.
- **Constructed :-** Sir Pratap Singh
- **Construction Period :-** 1872 AD

Characteristics :-

- The only lake in the state of Rajasthan which is connected by IGNP canal (Indira Gandhi Canal Project).



15. Kolayat Lake :-

- It is a fresh water lake which is located at Bikaner. The Lake was created by Kapil Muni for the liberation of his mother.

Note :-

- A fair is organised on Kartik purnima along this lake.
- Like the Pushkar Lake, the lamps are lit in this lake on Kartik Purnima.
- Charan Cast doesn't visit this lake.
- Kolayat Lake is called as Maru Udyan / Oasis.

16. **Mansagar Lake :-**

- Located in Jaipur
- **Constructed –** ManSingh.
- **Construction Period – 1610 AD**

Characteristics :-

- Mansagar Lake is the Most Polluted lake of Rajasthan.
- Jal Mahal is Situated in this lake.
- Nahargrah Hill is Situated near this lake.
- Dravyavati River or Amina Shah Nalla originate from this lake.

17. **Mawatha Lake :-**

- Located - Jaipur (Based on Rain Water.)
- This is a Natural Lake Which is Located near Amer Fort.

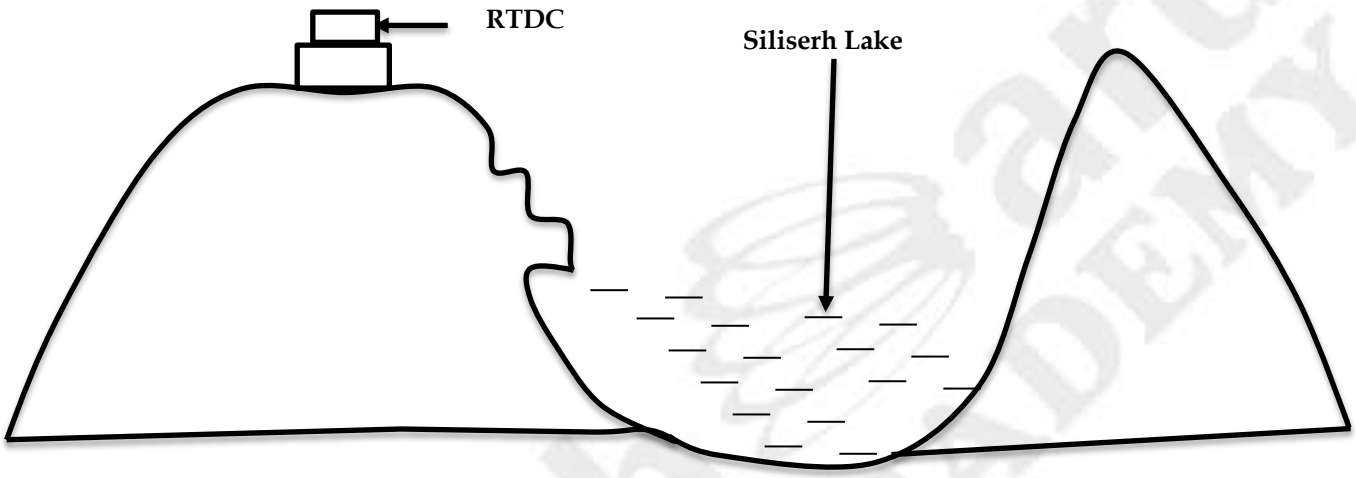
18. Ramgarh Lake :-

- Located - Baran
- **Characteristics :-**
  - This is an example of crator/meteorite lake.
  - This lake is Surrounding by horseshoe-like hills.
  - This lake was included in the list of Geo - heritage by UNSCO in 2020. (Notified 2024)

19. Gujner Lake :-

- It is a fresh water lake which is location at Bikaner.
- It is called "the clean mirror of water".

20. Siliserh Lake (Alwar)



- It is a fresh water lake which is located in Alwar.
- This lake is located on the **"Golden Triangle"** (Jaipur, Delhi and Agra).
- It is also called "Nandan Kanan" of Rajasthan.

☑ Other Lakes of Rajasthan State :-

1) Aanand Sagar Lake	-	Banswara
2) Diaylaav Talab	-	Banswara
3) Edwards/Gaib Sagar	-	Dungarpur
4) Mansarovar Lake (Kadla Lake)	-	Jhalawar
5) Mansarovar Lake	-	Sawai Madhopur
6) Ramsagar Lake	-	Dholpur
7) Navlakha Lake	-	Bundi
8) Kanak Sagar (Dugari Dam)	-	Bundi
9) Talwada Lake	-	Hanumangarh
12) Bujh Sagar	-	Jaisalmer
13) Amar Sagar	-	Jaisalmer
14) Gadisar Lake	-	Jaisalmer
15) Band Baretha	-	Bharatpur
16) Balsamand	-	Jodhpur
17) Nandsamand	-	Rajsamand
18) Buda Johad	-	Ganganagar
19) SardarSamand	-	Pali
20) JaySamand	-	Alwar

☑ Rajasthan Famous Wells

1) Chandan Tubewell (Pot of Thar)	-	Jaisalmer
2) Batadu Well (Water Palace of the Desert)	-	Bayatu (Barmer)

☑ Famous Pond

➢ Pannalal Shah Talab	-	Khetri (Jhunjhunu)
➢ Sareri Talab	-	Bhilwara
➢ Khari Talab	-	Bhilwara

- Navlakha Pond - Baran
- Sukh Talab - Ranthambore (Sawaimadhopur)
- Kala Pond - Ranthambore (Sawaimadhopur)
- Jungali Pond - Ranthambore (Sawaimadhopur)
- Machkund (Pilgrimage's nephew) - Dholpur
- Sethani's Johda - Churu
- Shukra Pond - Nagaur
- Jaitsagar Pond - Bundi

☑ **Stepwells / Bawri of Rajasthan :-** Most of the stepwells in Rajasthan are found in Bundi therefore Bundi is called the city of stepwells.

- **Bundi** - Anarkali Stepwell, Rani Stepwell, Gulab Stepwell
- **Tonk** - Hadi Rani Stepwell (Toda Raising)
- **Jaipur** - Panna – Meena Stepwell, (Amber)
- **Dausa** - Choti Stepwell, Badi Stepwell, Chand Bawri (Abhaneri)
- **Sirohi** - Lahini Stepwell (Ancient Step well of Rajasthan), Dudh Stepwell
- **Dungarpur** - Navlakha Stepwell
- **Udaipur** - Trimukhi Stepwell
- **Jodhpur** - Bhoot Stepwell

☑ **National Lake Conservation Plan -**

- Launched by the Central Government on 1st April, 2016.
- Cooperation - Center (60%): State (40%)
- Pichola, Fatehsagar, Anasagar, Pushkar , Mansagar and Nakki lakes of Rajasthan have been included in this program.

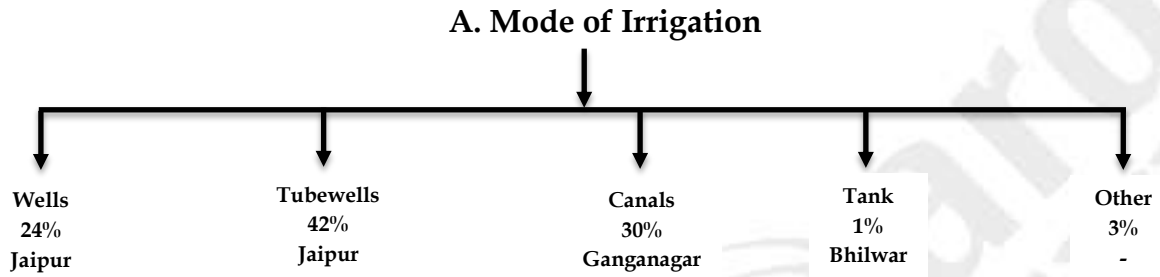
☑ Importance of Lakes :-

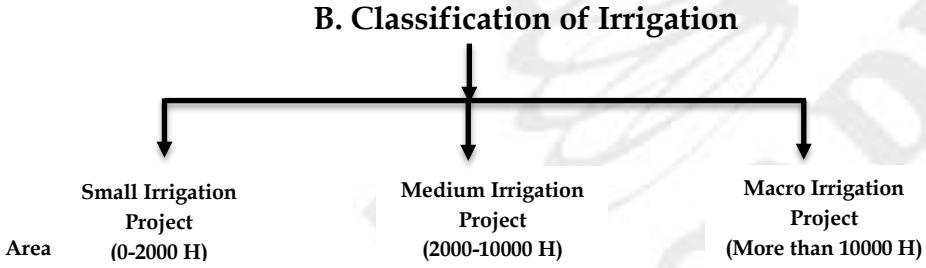
1. Salt Production. (Sambhar, Pachpadra,Deedwana etc.)
2. Water Conservation.
3. Tourism. (Nakki, Mansagar, Pushakar etc.)
4. Water Supply. (Pichola, Annasagar etc.)
5. Fisheries.
6. Biodiversity. (Jaysamand)
7. Ground Water Conservation.
8. Religious Significance.(Pushkar, Kolayat, Nakki etc.)

IRRIGATION

A. Mode of Irrigation

B. Classification of Irrigation



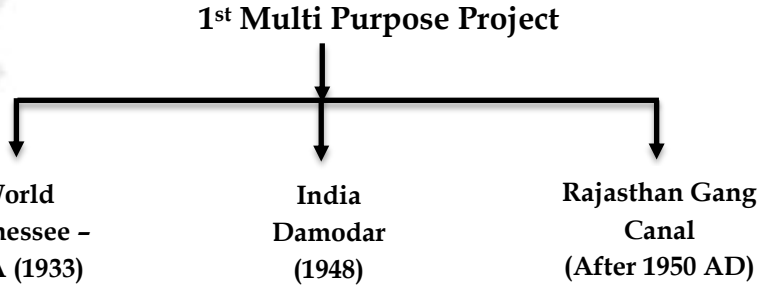


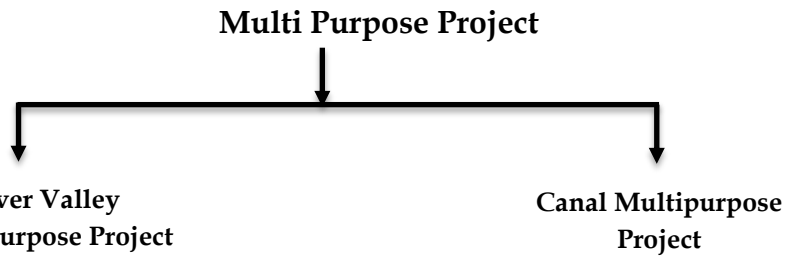
Note:-

1. Small Irrigation Project Maxium participate for Irrigation.

2. Multi Purpose Project :-

- Such project which have two or more than two objectives are called as multipurpose projects. **Example -** Irrigation, Drinking water, Hydro Power Project.
- Pandit Jawaharlal Nehru called multipurpose projects "temples of modern India".





A. River Valley Multipurpose Projects

(1) Chambal Multipurpose Project

(2) Mahi Multipurpose Project

(3) Bhakhada–Nagal Multipurpose Project : Satlaj River

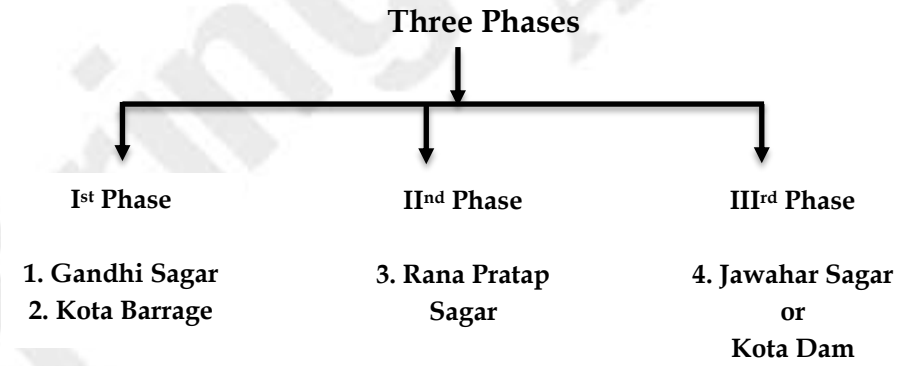
(4) Vyas Multipurpose Project

(5) Renukaji Multipurpose Project : Giri River

(6) Lakhwar Multipurpose Project

(1) Chambal Multipurpose Project:-

- **Contribution –** Rajasthan : MP (50 : 50)
- In this project four dams are constructed in three phases.



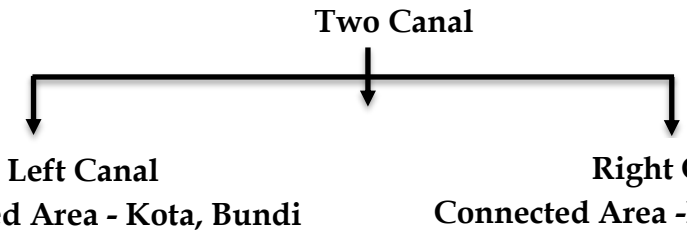
Phase 1st :-

1. Gandhi Sagar :-

- **Location -** Mandsor (M.P)
- Highest and Largest dam in Chambal multipurpose project.
- **Hydro Power Production Capacity –** 23 MW X 5 Unit = 115 MW

2. Kota Bairaj :-

- **Location –** Kota
- It is an irrigation dam of Chambal multipurpose project.
- Two canals are extracted from this dam for Irrigation.



Note:-

- **Lift Canals** :- 14 lift canals have been extracted from the right canal of Kota Bairaj. In which, 8 canals in Rajasthan and remaining 6 in Madhya Pradesh.

Name's of 8 Lifts Canals of Chambal

S.No.	Lift	Cannal	-	Location
1.	दी	Deegod Lift	-	Kota
2.	प	Pachel Lift	-	Baran
3.	क	Kachari Lift	-	Baran
4.	गणेश	Ganesh Ganj	-	Baran
5.	आ	Aanta Lift Scheme	-	Baran
6.	आ	Aanta Minor Lift	-	Baran
7.	सो	Sorkhand Lift	-	Baran
8.	जा	Jalipura Lift	-	Kota

Phase IInd :-

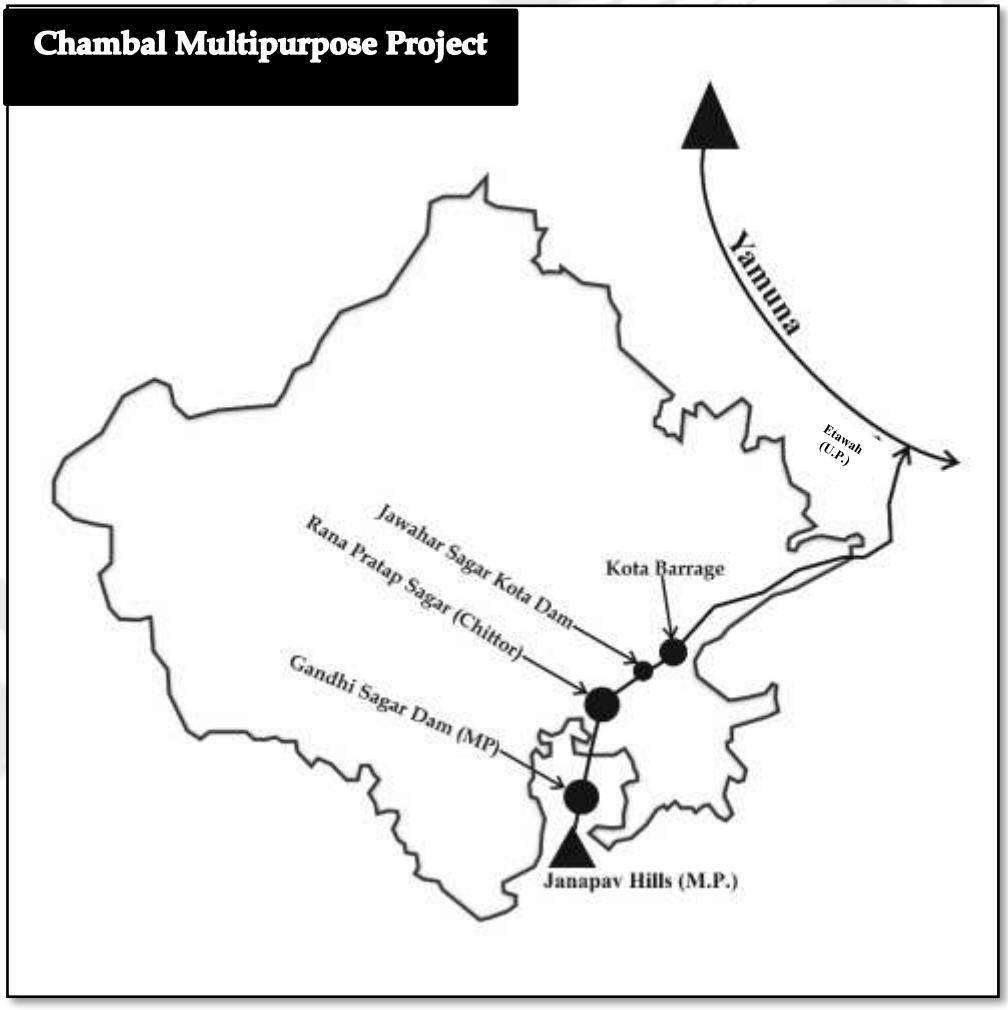
1. **Rana Pratap Sagar :-**

   - **Location -** Chittorgarh District
   - It is the largest dam in Rajasthan state. Water is supplied to Rawatbhata Atomic Power Station from this dam.
   - **Hydro Power capacity -** 43 MW X 4 Unit = 172 Unit

Phase IIIrd :-

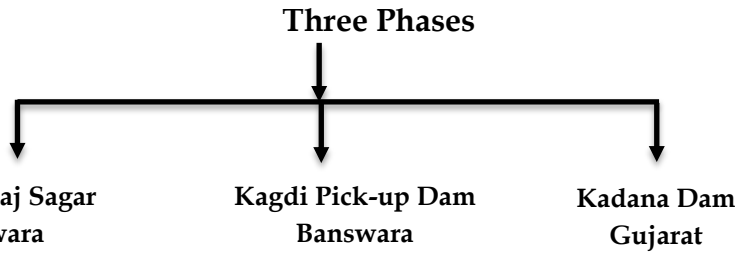
1. **Jawahar Sagar / Kota Dam :-** This is called the pick-up dam of Chambal.

   - **Location -** Kota, Bundi
   - **Hydro power production capacity –** 33 MW X 3 Unit = 99 mw



(2) Mahi Multipurpose Project:-

- **Contribution –** Rajasthan : Gurjarat (45 : 55)
- Three dam are constructed in this project.



(i) Mahi Bajaj Sagar Dam :-

- This dam is located at **Borkheda (Banswara)**
- It is the longest (3109 m) dam project in Rajasthan and the largest dam project in the tribal area.

(ii) Kagdi Dam:-

- This dam is located in **Banswara**. It is called Pickup Dam of Mahi.

(iii) Kadana Dam :-

- This dam is located in Gujarat on the Mahi river.
- **Hydro Electricity Produced from this project -**

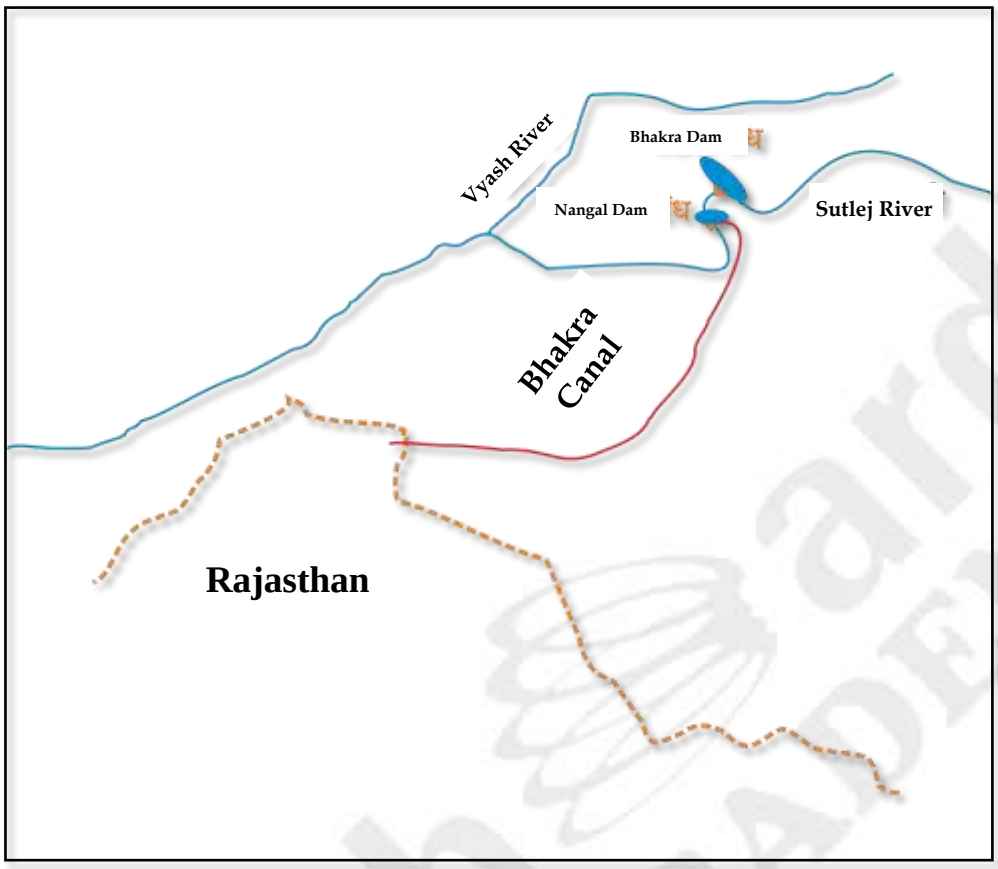
  1st Phase - 25MW x 2 Unit = 50 MW

  2nd Phase - 45MW x 2 Unit = 90 MW

- The complete hydropower of this project (140 mw) is distributed in the tribal area of Rajasthan.

(3) Bhakhada–Nagal Multipurpose Project :-

- **Contribution -** The states of Punjab, Haryana and Rajasthan (15.2 percent) have Contribution in the construction of this project.
- The project is operated on River **Sutlej**.

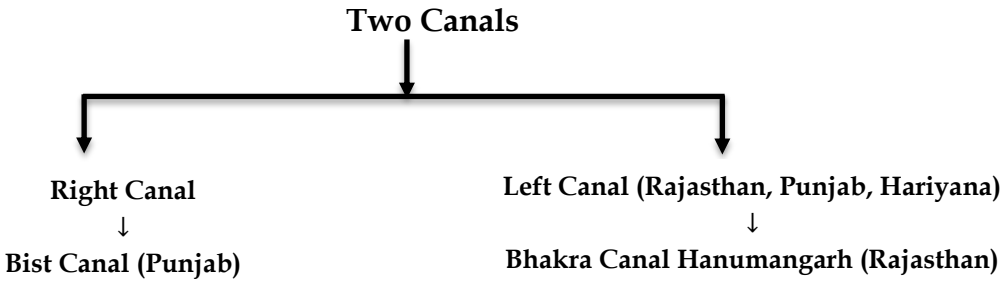


(a) Bhakhada Dam :-

- **Location –** Bilaspur (H.P)
- It was called by Nehru as "**the miraculous things of India**".
- It is the highest gravity dam of India. (Height - 226 Meter)
- **G**ovind Sagar lake is located on this dam.

(b) Nangal Dam:-

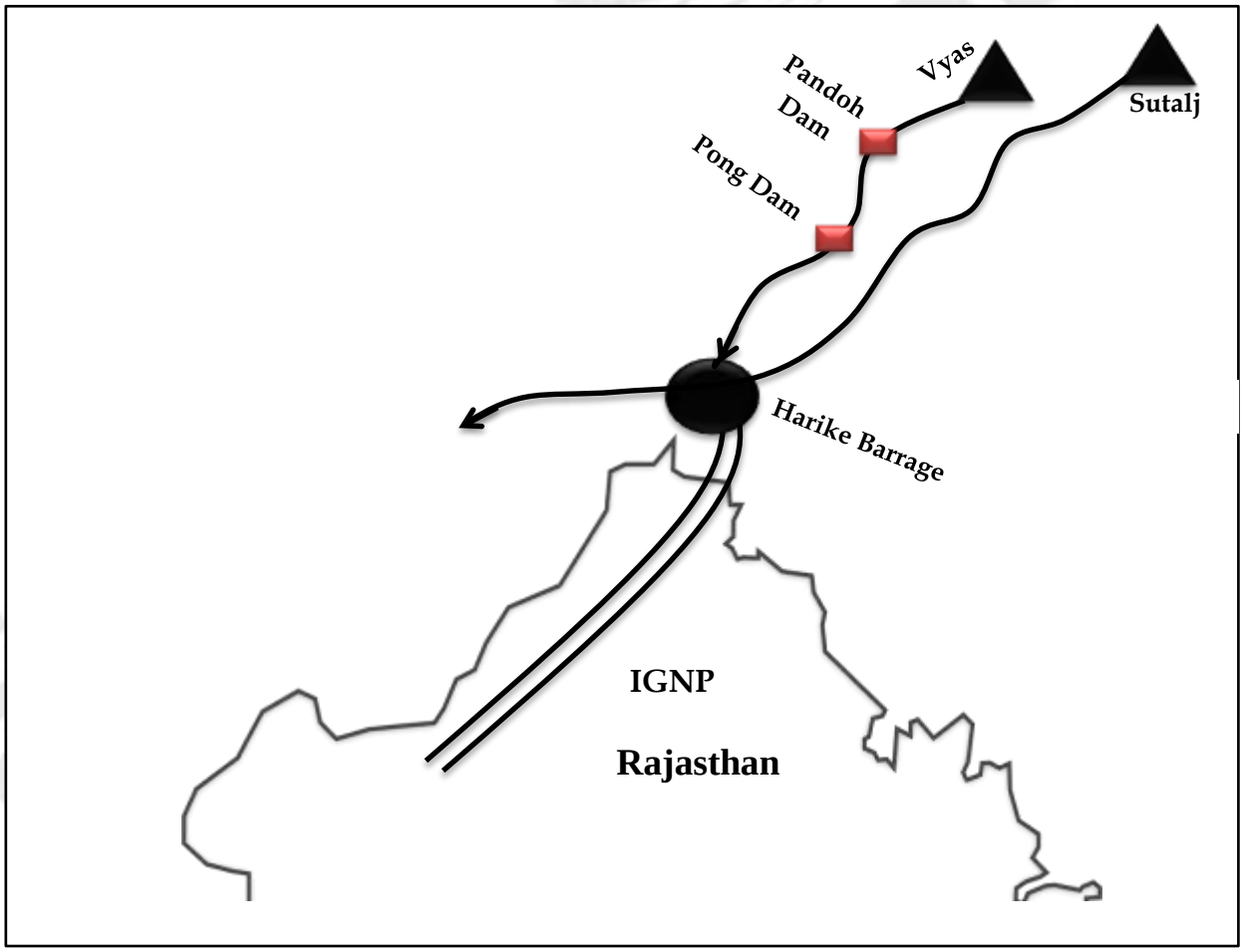
- **Location –**Ropad (Punjab)
- Two canals are extracted from this dam.



- Hanumangarh is the most benefited district in Rajasthan from Bhakra-Nangal multipurpose project. This is the largest multipurpose project of Rajasthan state or India.

(4) Vyas Multipurpose Project:-

- **Contribution –**Punjab, Haryana, Rajasthan
- Rajasthan gets 59% profit from **Pong Dam** and 20% from **Pandoh Dam**.



Note:-

- When there is a shortage of water in IGNP in winter season then water is supplied from Pong Dam.
- Rajeev Gandhi - Longowal Accord (1985) and Iradi Commission (1986) both are related to Vyas Project.

(5) Renukaji Multipurpose Project :- (Under Construction)

- **Contribution –** Himachal Pradesh, Haryana, Uttarakhand, Uttar Pradesh, Rajasthan and Delhi.
- **Financial Cooperation –** Center : State - (90% : 10%)
- **Hydro Power Capacity –** 40 MW
- **River** – Giri
- **Object -** Drinking water and Hydro Electricity. It is an irrigation and drinking water project, which is under construction on **Giri River**.

(6) Lakhwar Multipurpose Project :-

- **Location** - Lakhwar (Dehradun – Uttarakhand)
- **River** – Yamuna
- **Budget –** Center : State - (90% : 10%)
- **Contribution –** Himachal Pradesh, Haryana, Uttrakhand, Delhi, Uttar Pradesh, Rajasthan.
- **Hydro Power Capacity –** 300 MW
- **Objective** – Drinking water and Hydro Power Electricity. It is an irrigation and drinking water project, which is under construction on **Yamuna River**.

B. Cannal Multipurpose Projects

(1) Indira Gandhi Nahar Pariyojana / Rajasthan Canal

(2) Gang Nahar

(3) Rajeev Gandhi Siddmukh Canal / Nohar Canal

(4) Narmada Nahar

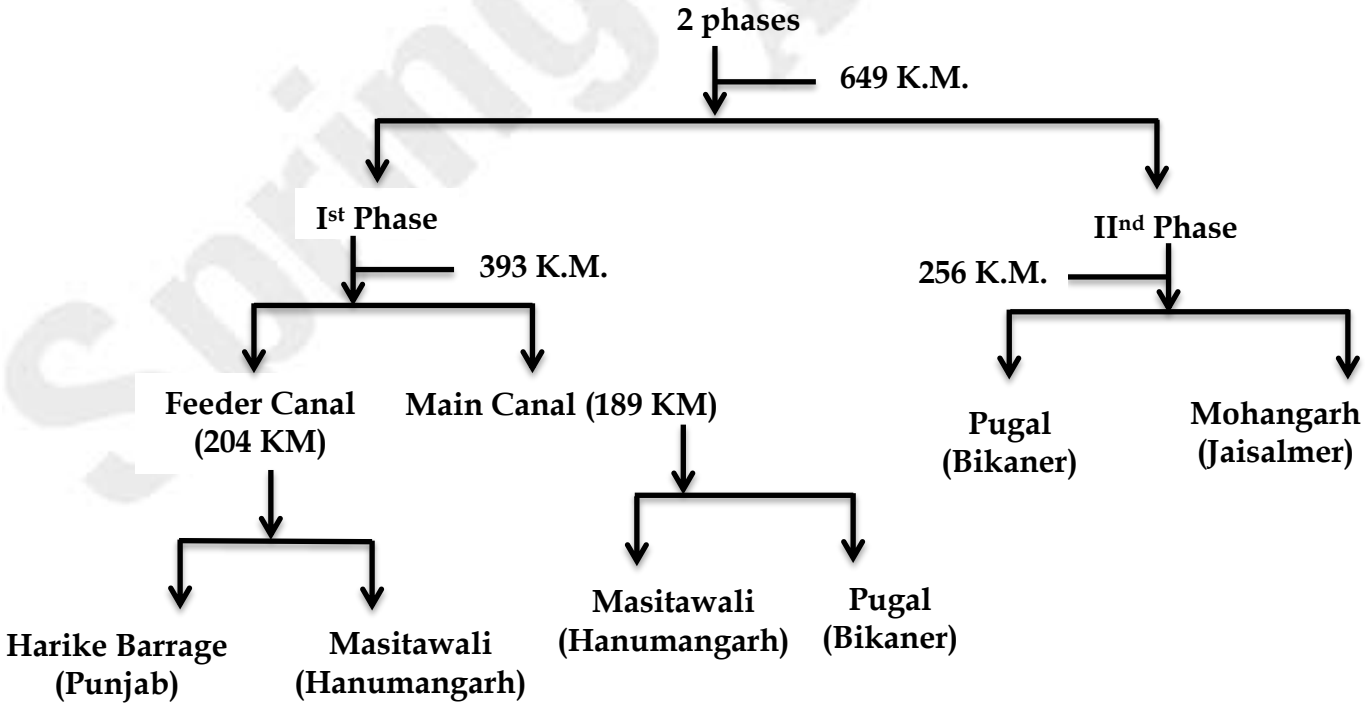
(5) Gurgaon Canal / Yamuna Lift Canal

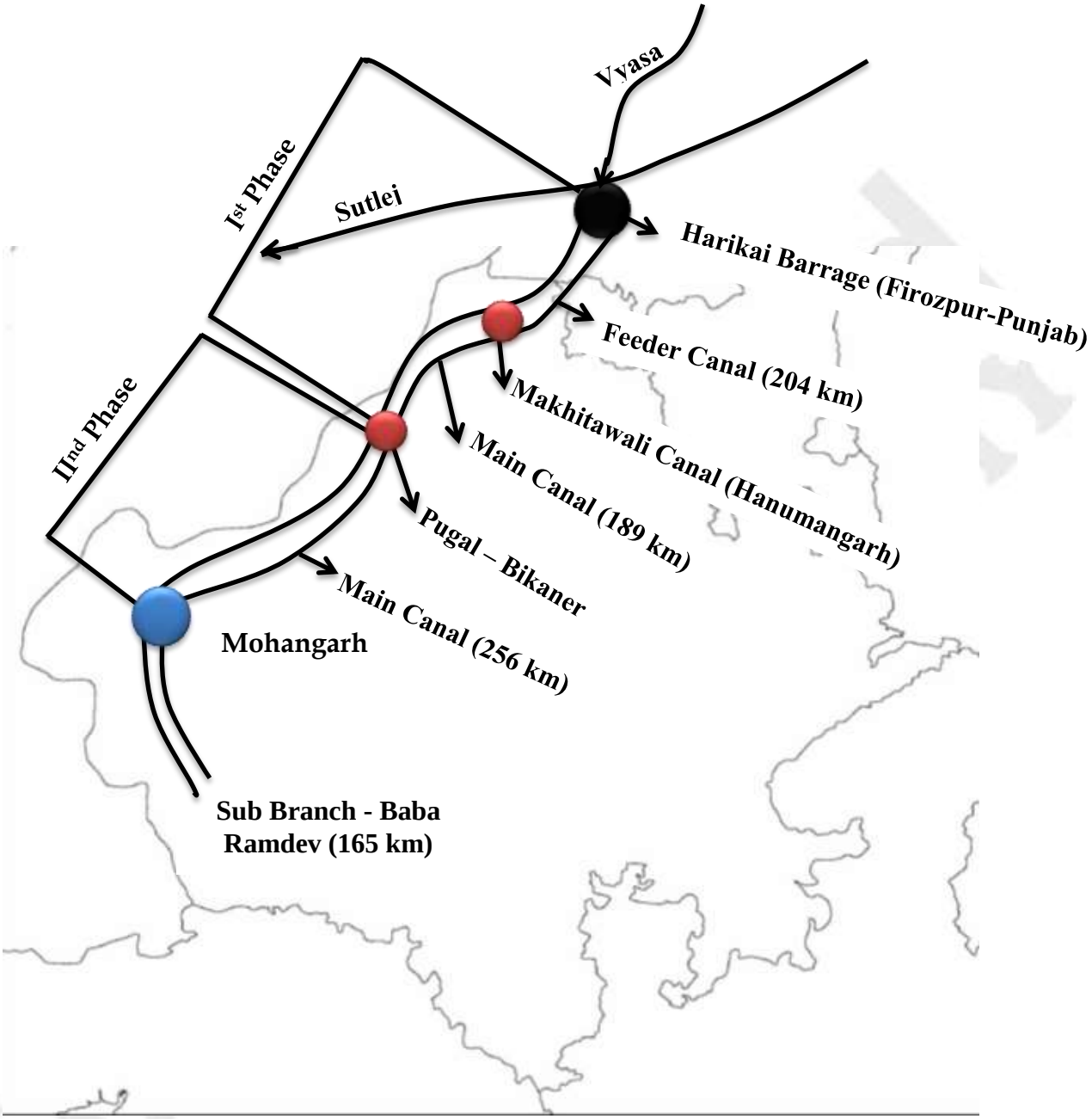
(6) Bharatpur Nahar

(7) ERCP (Eastern Rajasthan Canal Project)

(1) Indira Gandhi Nahar Pariyojana / Rajasthan Canal: -

- **Inaugurate By -** Govind Ballabh Pant (**Inauguration -** 31st March, 1958 AD)
- **Name Changed –** 2 November, 1984 AD
- Govind Vallabh Pant called the Rajasthan canal as **"Maru Ganga".**
- The Creator of IGNP is Engineer Kanwar Sen.
- **River –** Satluj & Vyas (Harike Barrag)
- **This canal is constructed in 2 phases.** (Financial Corporation – World Bank.)
- **Total Length of IGNP =** 649 KM

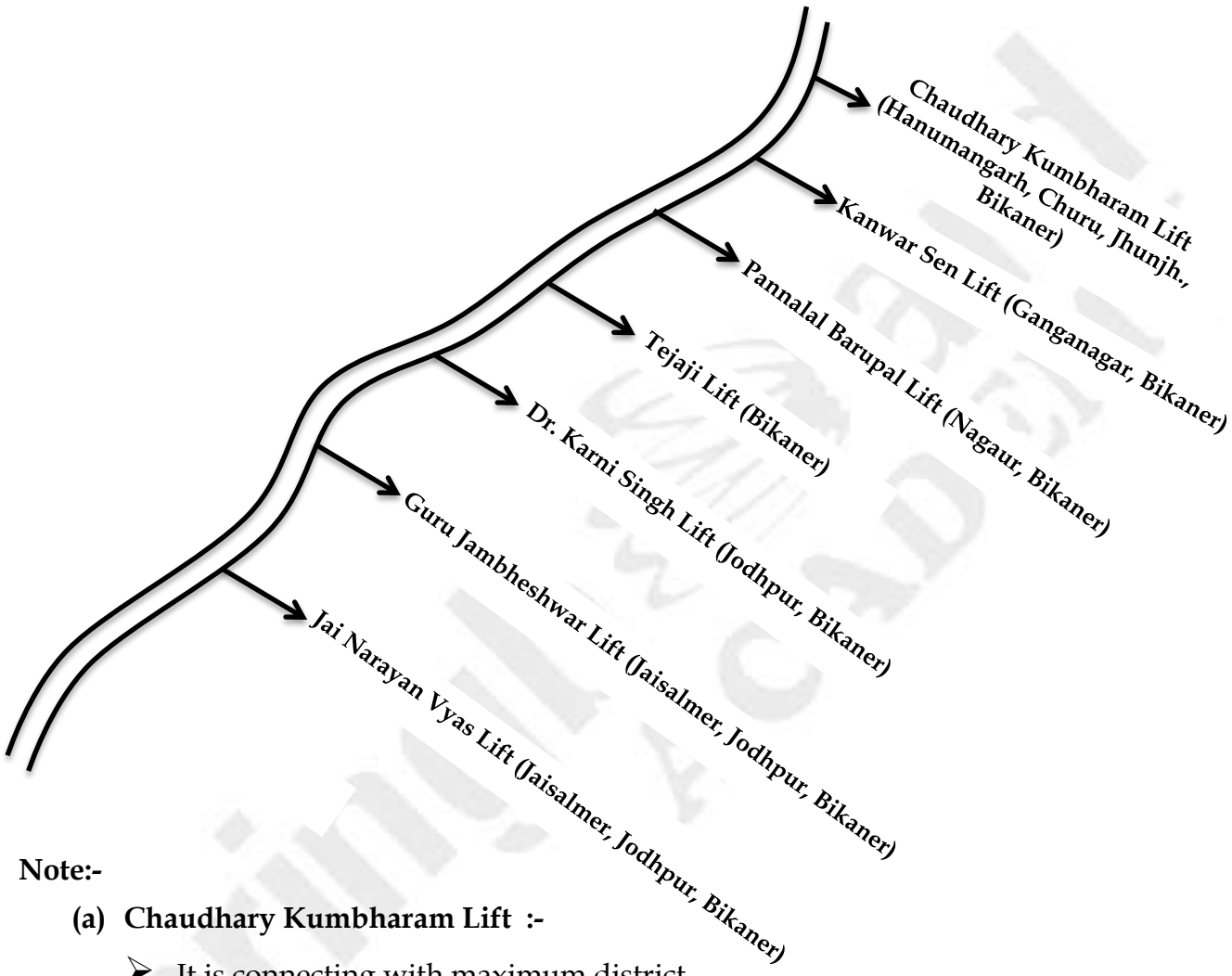




Note:-

- **Main objective of IGNP -** Water supply for Drinking and Irrigation.
- **Financial Support -** World Bank
- 7 lift and 9 branches are built on IGNP for Irrigation purpose.
- Total length of Lift Canal – 1495 Km.

❖ **Lift of IGNP –** All lift canals are located at left side of IGNP because left side land portion is upland.



Note:-

(a) Chaudhary Kumbharam Lift :-

- It is connecting with maximum district.
- It is distributed in Hanumangarh, Churu, Jhunjhunu and Bikaner districts.

(b) Kanwar Sen Lift :-

- It is First and longest lift of IGNP.
- It is distributed in Ganganagar and Bikaner districts.

(c) Pannalal Barupal Lift :-

- **Jayal de –** Fluoride drinking water project is located in Nagore on this lift.
- It is distributed in Nagaur and Bikaner districts.

(d) Tejaji Lift :-

- The smallest lift of IGNP.
- It is distributed in Bikaner districts.

(e) Dr. Karni Singh Lift :-

- It is distributed in Jodhpur and Bikaner districts.

(f) Guru Jambheshwar Lift:-

- It is distributed in Jaisalmer, Jodhpur and Bikaner districts.

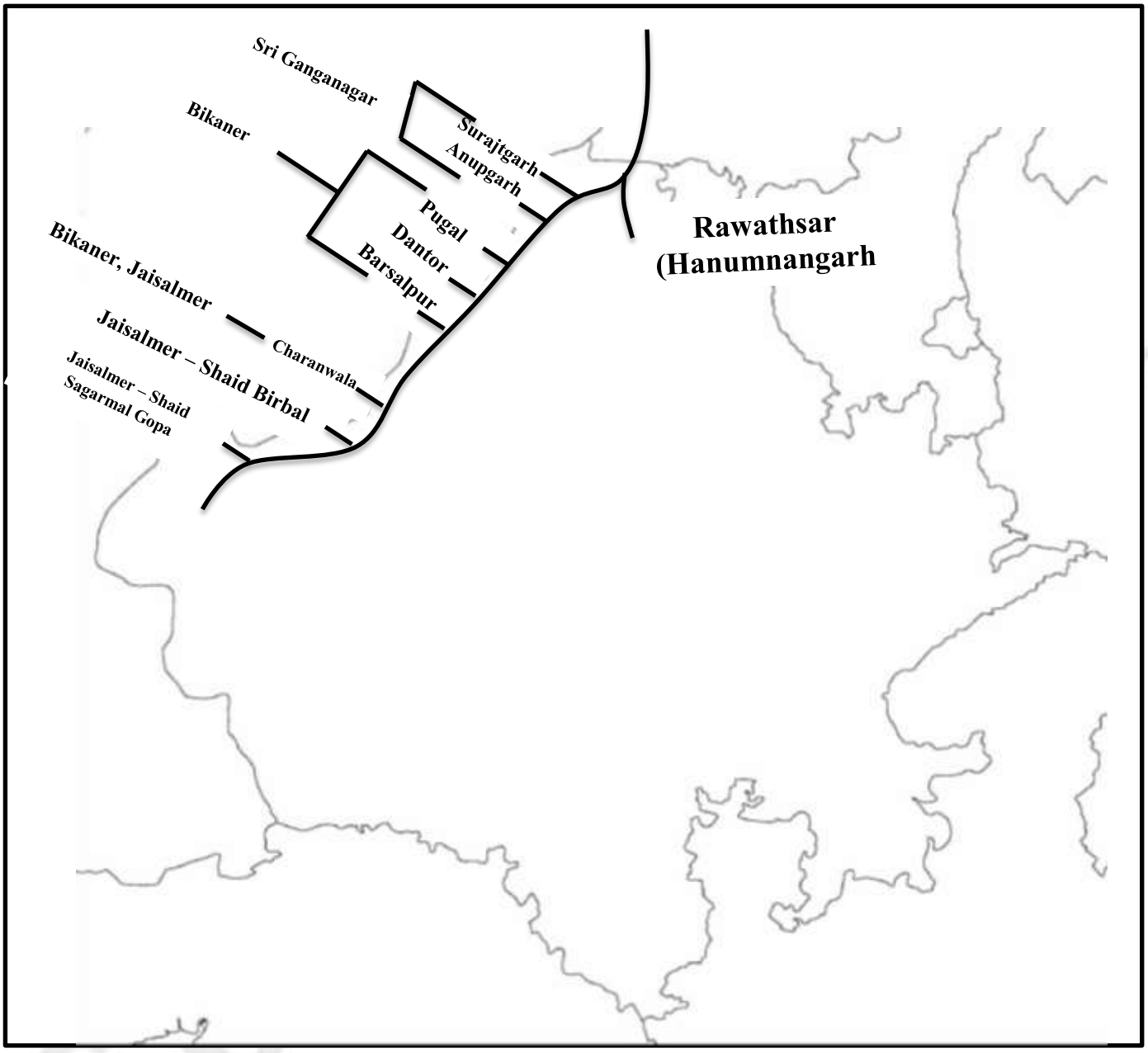
(g) Jai Narayan Vyas Lift:-

- It is distributed in Jaisalmer and Jodhpur districts.

☑ **Old name of Lift Canal :-**

1. Choudhary Kumbharam Lift – Gandheli Sahwa lift
2. Kanwarsen lift - Lunkaransar lift
3. Pannalal Barupal lift - Gajner lift
4. Tejaji lift - Bangarsar lift
5. Dr. Karni Singh lift - Kolayat Lift
6. Guru Jambheshwar lift - Phalodi lift
7. Jai Narayan Vyas lift - Pokran lift

☑ Branches of IGNP :-



Note:-

- Rawatsar is the only branch which is on left side on ignp.
- Charanwala is the only branch which is distributed in two districts (Bikaner and Jaisalmer).
- Bikaner district gets maximum benefit of IGNP because Maximum lift canal and branches of IGNP are extended in Bikaner.
- The total irrigated area by ignp is 16.17 lakh hectare.

☑ Drinking water lift of IGNP :-

- Kawarsen drinking water lift - Bikaner and Ganganagar.
- Aapani drinking water lift/Gandhali Sahaba lift - Churu, Hanumangarh and Jhunjhunu.
- Rajeev Gandhi drinking water lift - Jodhpur

☑ Profit of IGNP :-

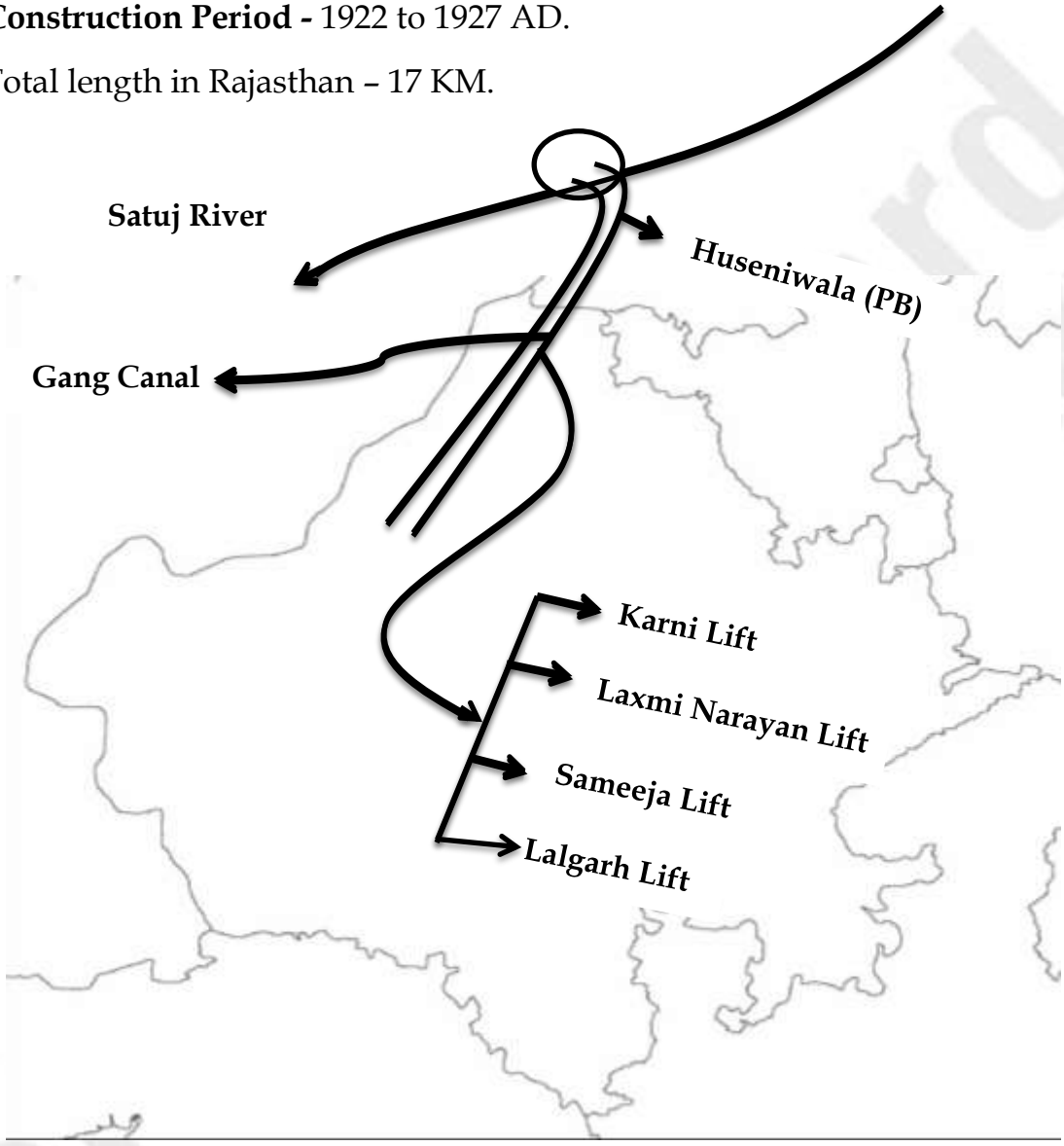
- Green Revolution started in North-West Rajasthan from ignp, which has increased agricultural production.
- Expansion of pasture lands, which has increased animal wealth.
- Improvement in the economic and social condition of the farmers.
- Beginning of fishing.
- Increase in ecotourism.
- Drinking water supply (3 lifts - Kanwarsen, Aapni, Rajiv Gandhi lift) is done.
- Hydro Power Generation - Suratgarh, Anupgarh, Pungal, Birsalpur (about 24 MW)
- Increasing biodiversity in western Rajasthan.
- Water supply to Petroleum Refinery (Barmer).
- Control of desertification.

☑ Disadvantages / Curse of IGNP:-

- Increase inWaterlogging problem. (Maximum - Hanumangarh and Ganganagar)
- Increase in salinity problem.
- Land disputes increased.
- The main reason for the reduction in soil fertility is the excessive use of chemical fertilizers and pesticides.
- Decreased desert biodiversity.

(2) Gang Nahar / Bikaner Canal :-

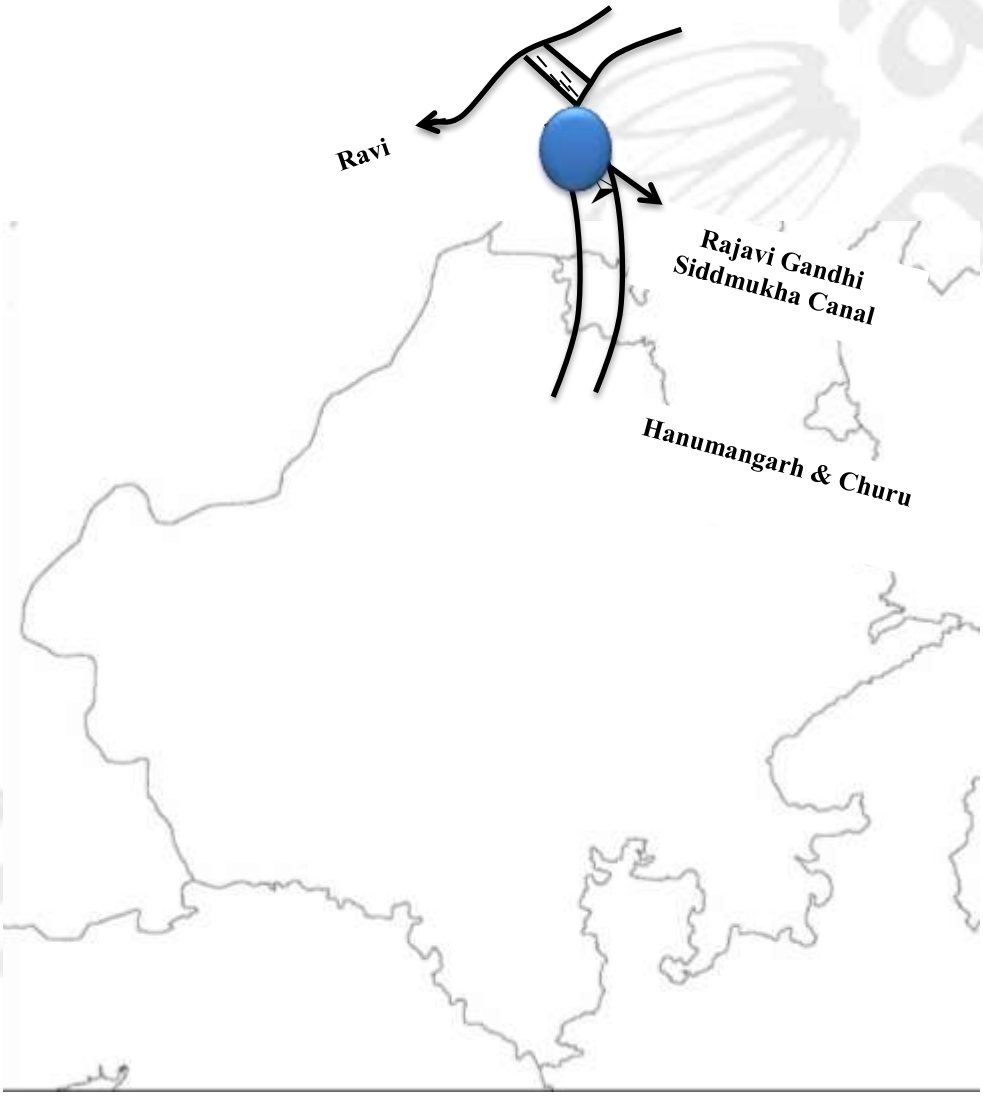
- **Constructed -** Maharaja Ganga Singh
- **River –** Satlaj
- **Construction Period -** 1922 to 1927 AD.
- Total length in Rajasthan – 17 KM.



- All the lifts of Ganga Canal are located in Ganganagar. Ganganagar is the most benefited district from this project.
- It is first multipurpose project of Rajasthan.
- World's first paved canal.

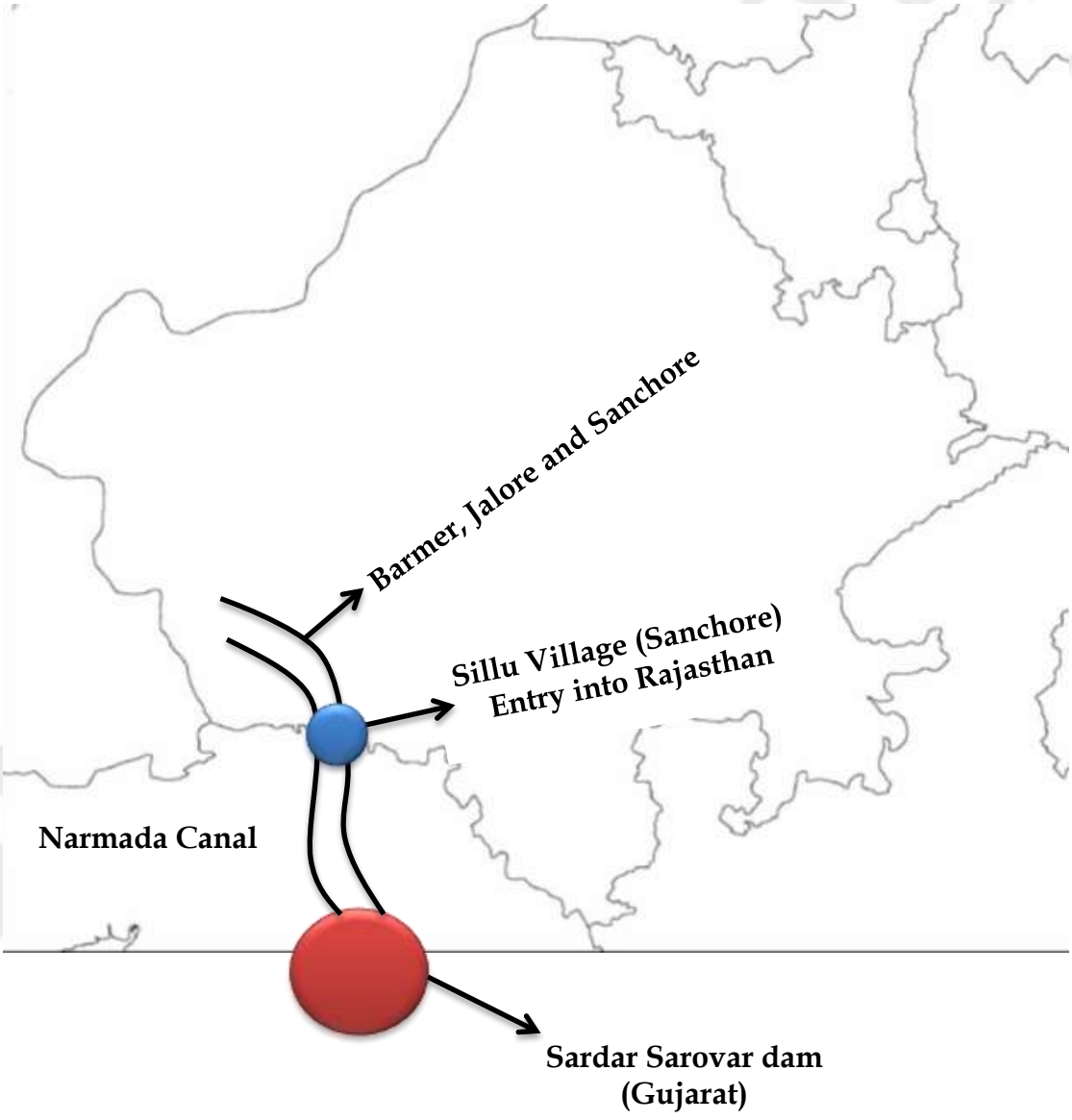
(3) Rajeev Gandhi Sidhmukh Canal / Nohar Canal :-

- **Start –** 2002
- **River -** Ravi and Vyas River.
- **Profited Districts –** (1) Hanumangarh (Nohar, Bhadra) (2) Churu (Rajgarh/ Sadulpur)
- **Financial Co-operate –** "E.U (European Union) and Nabard".
- After the 1998 nuclear test, economic cooperation was stopped by the European Union, after which economic cooperation was done by NABARD.



(4) Narmada Canal :-

- **Started –** 2008
- Narmada canal is extracted from Sardar Sarovar dam Gujarat.
- **Co-operation -** Gujarat and Rajasthan
- **Maximum Profitable Areas –** Jalore, Barmer, Sanchore.
- Sprinkler and drip irrigation technique is compulsory applied On Narmada Canal.



Lift Canal of Narmada :-

- Sanchore Lift (Sanchore), Bhadreda (Jalore), Panoriya (Barmer)

(5) Gurgaon Canal / Yamuna Lift Canal :-

- **Co–Operative State - Rajasthan and Haryana**
- **River – Yamuna**
- **Beneficiary Area -** Bharatpur(Maximum), Shekhawati (Churu, Sikar, Jhunjhunu).

(6) Bharatpur Canal :-

- **Co-Operation -** Rajasthan and Uttar Pradesh
- **River – Yamuna**
- **Beneficiary Area –** Bharatpur

(7) ERCP (Eastern Rajasthan Canal Project) :-

- **Budget** – 37,500 Crore
- **Beneficiary Areas :-**

(1) Bharatpur Division - (Dholpur, Karoli, **Deeg**, **Gangapur city**, Sawai Madhopur)

(2) Kota Division - (Kota, Bundi, Baran and Jhalawar)

(3) Ajmer, Tonk, **Beawar, Kekri**.

(4) Jaipur Division - (Jaipur (R+U),Dausa,Alwar,**Khairthal-Tijara, Kotputali-Behror**)

Main Object :-

- Supply of water for irrigation and drinking water to **21** (old 13) districts.
- 26 major and medium dam projects will be constructed in this project. Through which 2.8 lakh hectares of land will be irrigated.
- ERCP is an ambitious project for the state of Rajasthan. Under this project, excess water of Chambal tributaries - Kunu, Kural, Kalisindh, Chakan, Mej, Parvati will be distributed in Banganga, Chambal, Banas, Gambhir rivers during monsoon season.

Micro and Medium Irrigation Project of Rajasthan :-

S.No.	Project	Location
1.	Bheem Sagar	Jhalawar
2.	Gagreen	Jhalawar
3.	Piplaad	Jhalawar
4.	Kali Sindh	Jhalawar
5.	Chauli / Chavari	Jhalawar
6.	Chhapi	Jhalawar
7.	Reva	Jhalawar
8.	Bainthali	Baran
9.	Bilas	Baran + Kota
10.	Parvan	Baran + Kota + Jhalawar
11.	Lhasi	Baran
12.	Hathiyadeh	Baran
13.	Harischandra	Kota
14.	Gopalpura	Kota
15.	Takali	Kota
16.	Sawan – Bhado	Kota
17.	Aalaniya	Kota
18.	Guda	Bundi
19.	Gardara	Bundi
20.	Zig-Zag	Bundi
21.	Chakan	Bundi
22.	Mej	Bundi
23.	Meja Dam	Bhilwara

24.	Madhosagar	Dausa
25.	Radio / Radiyo Sagar	Dausa
26.	Morel	Dausa, Sawai Madhopur
27.	Chir-miri	Dausa
28.	Jhilmili	Dausa
29.	Bisalpur	Tonk
30.	Tordi Sagar	Tonk
31.	Isarada	Sawai Madhopur
32.	Pipalda	Sawai Madhopur
33.	Indira Gandhi Lift Project (Chambal River)	Sawai Madhopur + Karauli
34.	Dholpur Lift Project (Chambal River)	Dholpur
35.	Parvati Project	Dholpur
36.	Narayan Sagar	Ajmer
37.	Bandi – Senda Project	Jalore
38.	Bankali (Sukadi River)	Jalore
39.	Sukali – Selvada	Sirohi
40.	Battisa Nala (Latest)	Sirohi
41.	Som – Kagdar	Udaipur
42.	Som – Kamla Amba	Dungarpur
43.	Bhikhabhai Sagwara Canal (Mahi)	Dungarpur
44.	Kadana Back Water Project	Dungarpur
45.	Annas Project	Banswara
46.	Orai Project	Chittorgarh

SOIL

A) What is Soil

B) Organisation of Soil

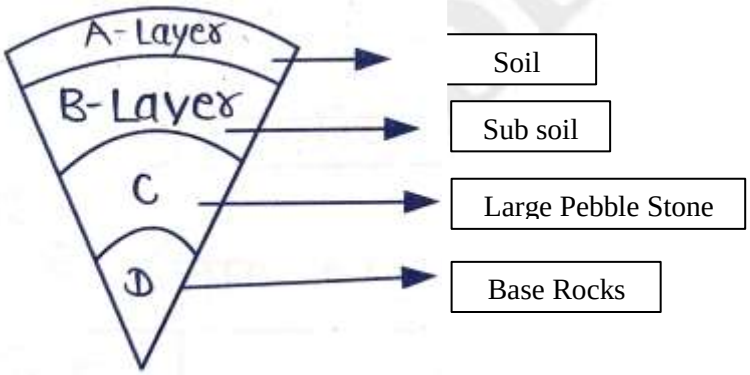
C) Classification of Soils

D) Types of Soils

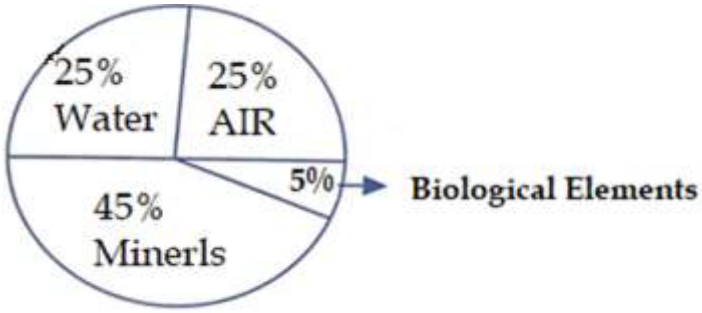
E) Soil Problems

(A) Soil - The layer of disintegrated rocks on the upper surface of the earth is called soil.

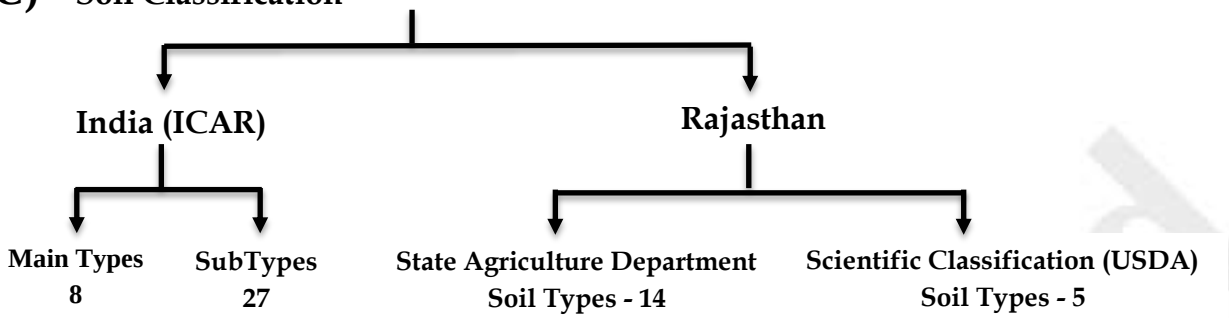
Note - Pedology is the study of soil.



(B) Organisation of Soil –



(C) Soil Classification -

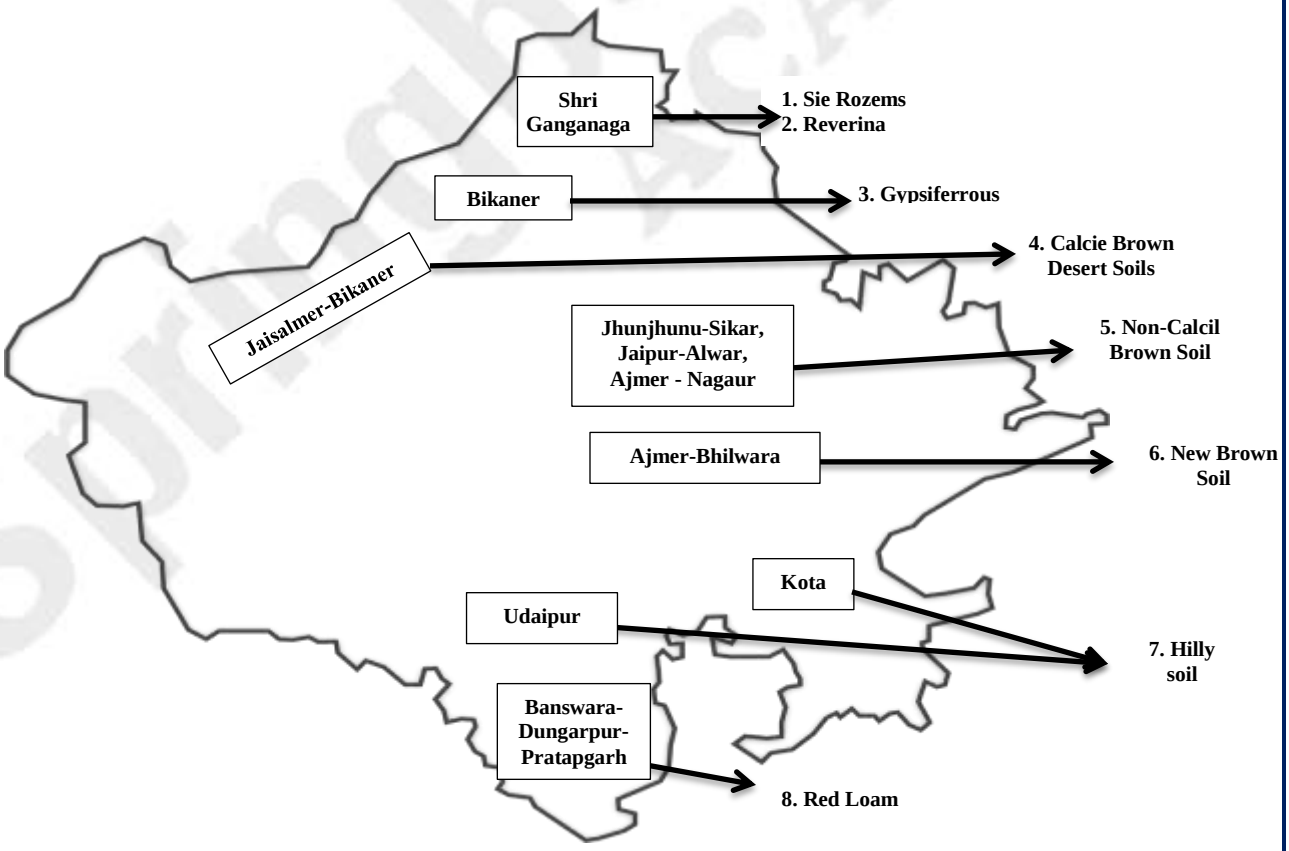


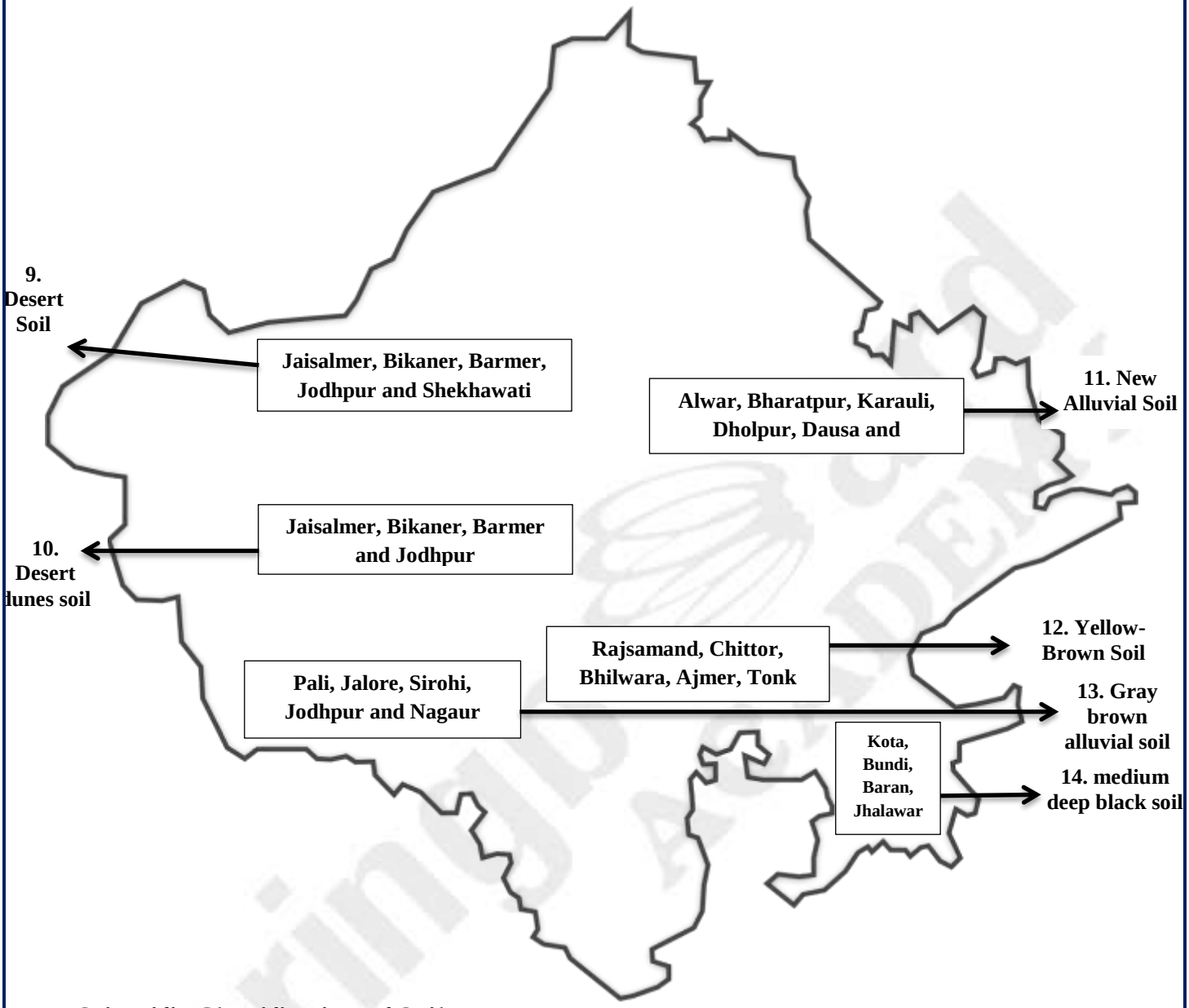
Note :-

- ✓ **ICAR – Indian Council of Agricultural Research – 1929 (New Delhi)**
- ✓ **USDA – United State Department of Agriculture** (Founded – 1862, H.Q.- Washington - DC)

I. STATE AGRICULTURE DEPARTMENT –

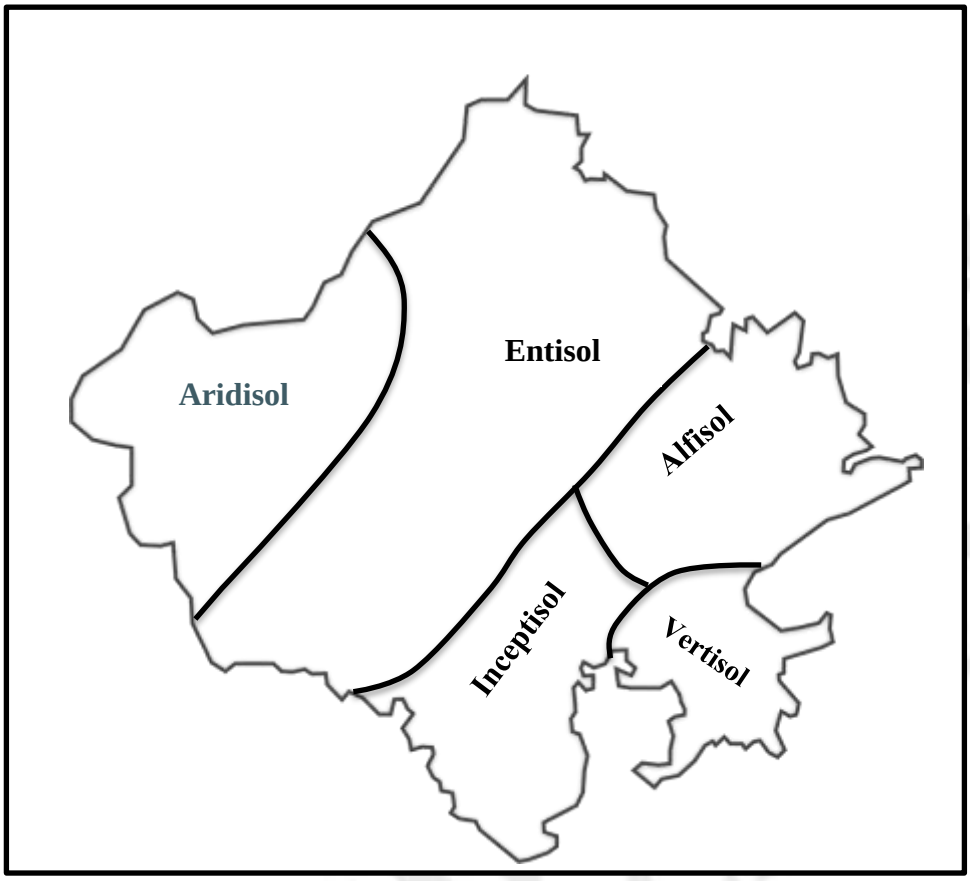
- The soil of Rajasthan has been divided into 14 parts according to State Agriculture Department.





II. Scientific Classification of Soils -

- The scientific classification of soil was done by USDA, whose main basis was considered to be "size of soil particles".
- **The soil of Rajasthan is divided into 5 scientific soil classes –**
  1. Aridisol
  2. Entisol
  3. Alfisol
  4. Inceptisol
  5. Vertisol



1. Aridisol -

- **Extension -** Bikaner, Jaisalmer, Barmer, Jodhpur
- This soil is founded mainly in western rajasthan.
- **Climate -** Dry climate is found in the region.
- **There are 4 subgroups of this soil -**
  1. Camb Orthoids
  2. Calci Orthids
  3. Pali Orthoids,
  4. Sal Orthids

2. Entisol -

- **Extension -** West of Aravalli
- **Climate –** Arid-Semi arid climate zone.
- **There are 2 subgroups of this soil –**
  1. Saments
  2. Tourifluvents

Note -

- ✓ The maximum extent of this soil is found in Rajasthan.
- ✓ Most found scientific soil in Rajasthan - I - Antisol, II – Aridosol

3. Alfisol -

- **Extension -** It is a soil group found towards eastern Rajasthan.
- **Climate -** It is found in sub humid-humid type climate.
- **Subgroup –** Heplusthalphus

4. Inceptisol -

- This Soil is founded in mainly southern Rajasthan.
- **Extension -** Rajsamand, Pali, Udaipur, Chittorgarh, Banswara, Dungarpur, Pratapgarh.
- **Climate –** It is found in Semi arid - humid type climate.
- **Subgroup –** Eustrocaptus

5. Vertisoil -

- **Extension -** Found in Hadoti region (Kota-Bundi, Baran and Jhalawar).
- **Climate –** It is found in Humid-hyperhumid type climate.
- It is Black and Chernozem soil.
- **Subgroups –** Palustartus and Cromestartus

☑ STUDY OF SOILS OF RAJASTHAN ON GENERAL BASIS –

Or

D) Types of Soils -

1. Sandy Soil -

- It is formed by erosion of sandstone and granite.
- **Other Name -** Dry soil, Thirsty soil, Desert Soil.
- **Extension –** Mainly founded in western rajasthan.
- **Extension Districts –** Jaisalmer, Bikaner, Barmer, Balotra and Jodhpur
- **Production –** Bajra/Millet, Moong, Moth, Guar, Groundnut (Bikaner) Gram
- **Characteristic -**
  - ✓ The particles of this soil are coarse, hence water leakage is more and irrigation is done frequently, therefor it is called thirsty soil.
  - ✓ Calcium is found the most in this soil.
  - ✓ Sandy soil is maximum extension in Rajasthan.

2. Brown - Sandy Soil (Sirozum Soil) -

- **Formation -** It is formed by sandstone and Luni Basin.
- **Extension -** Jalore, Pali, Nagaur, Sikar, Churu and Jhunjhunu (Shekhawati)
- **Production –** Jeera, Moong, Moth, Arandi, Chanwla, Isabgol
- **Characteristic -** The abundance of phosphate is mainly found in this soil**.**

3. Saline Soil -

- **Other Name -** Reh/Kallar/Khar
- **Formation -** In areas with more irrigation, the salinity from the land comes upwards by the process of capillary and forms a white layer.
- **Extension -** IGNP - Sri Ganganagar, Hanumangarh, Bikaner.
  - Narmada Canal – Sanchore, Jalore, Barmer.
- **Production -** Pomegranate and sugarcane maximum, rice.

4. Alluvial Soil -

- **Other Name -** Delta Soil/Loamy Soil
- **Formation -** It is formed from sediments deposited by rivers.
- **Extension -** Alwar, Bharatpur, Karauli, Dholpur, Tonk, Sawai Madhopur, Jaipur, Dausa
- **Production -** Wheat, Mustard, rice, barley, millet
- **Characteristic -**
  - ✓ Alluvial soil is most fertile.
  - ✓ The amount of potash is found in high in this soil.
  - ✓ Alluvial soil is mostly founded in India.

5. Red Loamy -

- **Formation -** It is formed by the erosion of metamorphic rocks.
- **Extension -** Banswara, Dungarpur, Pratapgarh, South part of Udaipur and Chittorgarh.
- **Production -** Maize, Rice, Sugarcane
- **Characteristic -** The reason for the red color of this soil is believed to be **"Iron oxide"**.

6. Black Soil -

- **Other Name -** Cotton soil / Volcanic soil / Regur soil/Self-ploughing soil.
- **Formation -** It is formed by the erosion of basalt rocks.
- **Extension -** Hadoti Region - Kota, Bundi, Baran, Jhalawar
- **Production -** Cotton, Spices, Soybean
- **Characteristic -**
  - ✓ Black soil is also called Chernozem soil and Vertisoil.
  - ✓ The amount of clay is highest in this soil.
  - ✓ The water holding capacity of this soil is highest. Because of this, once irrigated, irrigation not required for a long time.

7. Red - Black Soil -

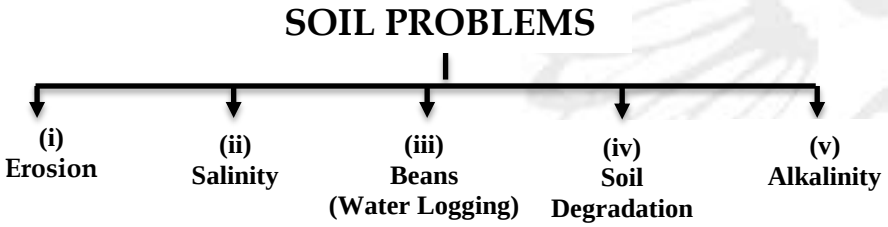
- **Formation - -** It is formed by the erosion of basalt rocks.

- **Extension -** Pratapgarh, Jhalawar, Chittorgarh, Bhilwara and Bundi.
- **Production -** Maize, Cotton, Opium

8. Red-Yellow Soil -

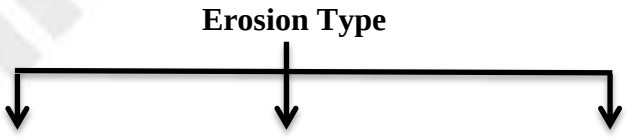
- **Formation -** Due to water addition, there is erosion of iron-rich rocks, due to which red-yellow soil is formed.
- **Extension -** Udaipur, Rajsamand, Chittorgarh, Bhilwara, Ajmer, Tonk, Sawai Madhopur
- **Production –** Mustard, Jowar

E) Soil Problem -



(i) Erosion -

- What - Soil erosion on the upper surface of the earth is called earosion**.**
- This is called the '**Creeping Death**' of the soil or '**The death of the farmer**'.
- **Erosion Type –**

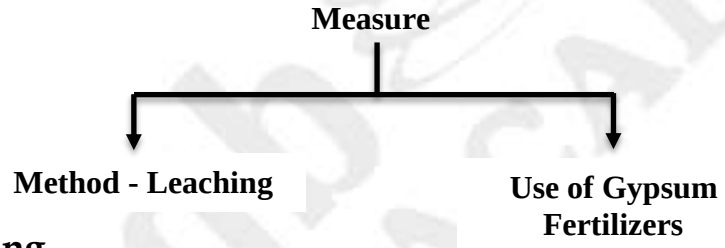


Factor -	Layer Erosion	Sheet Erosion	Gully Erosion
	Air	Rain Water	River Water
Maximum -	West Rajasthan	Rajsamand	Most in Chambal
	Highest In Rajasthan	Sirohi	Basin

- **Main causes of erosion -**
  - ✓ Exploitation of trees.
  - ✓ Overgrazing
  - ✓ Excessive tillage of agricultural land
- **Erosion Measures -**
  - ✓ Tree plantation
  - ✓ Fencing of fields

(ii) Salinity -

- **What -** Due to excessive irrigation, the accumulation of salts on the surface of the land by the process of **"capillarity"** is called Salinity/Reh/Kallar.
- **Effective Areas –** Shri Ganganagar, Hanumangarh, Bikaner, Sanchore, Jalore, Barmer



(iii) Water Logging -

- **What –** Water logging is the saturation of soil with water.
- **Effective Areas –** Hanumangarh(Badopal), Shri Ganganagar
- **Measure -** Eucalyptus planting and use of sprinkler and drip systems

(iv) Alkalinity -

- **What** - If the pH of the soil is more than 8, then it is called the problem of alkalinity.
- **Causes** – Maximum uses of Chemicals fertilizers.
- **Measure** - Sowing of guar-drenche crop and mixing it again in the soil and use of gypsum and rock-phosphate fertilizers.

(v) Soil Degradation -

- **What -** Soil Degradation is the physical, chemical and biological decline in soil quality.

- **Causes** – Maximum uses of Chemicals fertilizers.
- **Measure -** Use of organic fertilizers
- Organic State in India – Sikkim
- Organic District in Rajasthan - Dungarpur

Springboard ACADEMY

Minerals
Metallic - Non-Metallic

A. View of Minerals

B. Minerals Rockss

C. Classification of Minerals

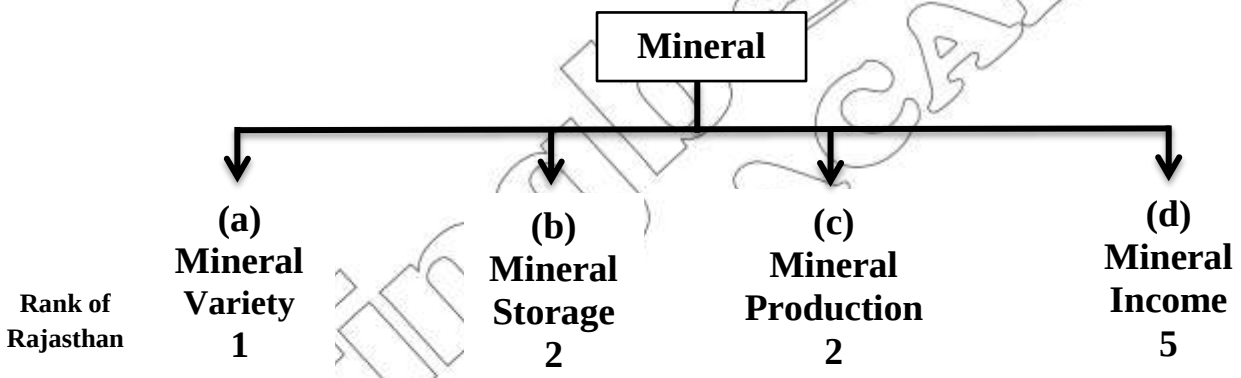
D. Minerals Production

E. Use of Minerals

F. Mineral Policies

G. Mineral Institute

A. View of Minerals :-



a. Mineral Variety:-

- The highest mineral diversity in the country is found in Rajasthan.
- For this reason Rajasthan is called the museum of minerals.

b. Mineral Storage:-

- The maximum mineral storage in Rajasthan is found in Aravali.
- That's why Aravali is called **"Storehouse of Minerals".**
- Total 81 type minerals are available in Rajasthan State.

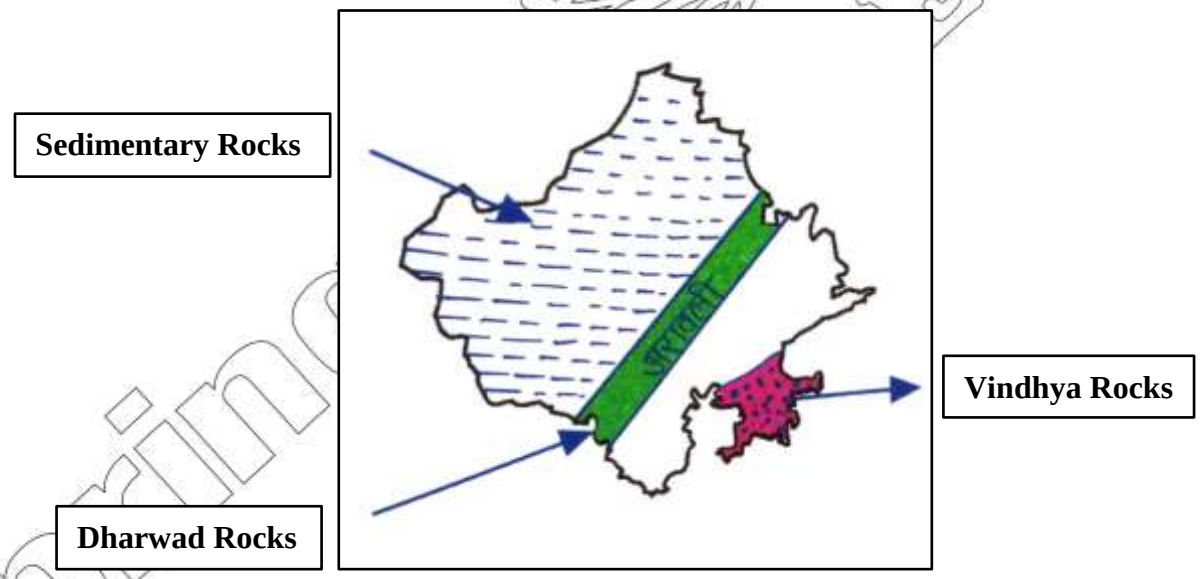
c. Mineral Production :-

- Rajasthan produces 22% of the total production of minerals in India.
- In which metallic is 15% and non-metallic is 25%.
- Rajasthan ranks 1st in the production of non-metallic minerals.
- Note:- Rajasthan produces a total of 57 types of minerals.

d. Mineral Income :-

- Rajasthan is a backward state from the point of view of mineral income because the production of metallic minerals is less here.

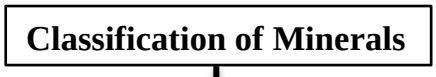
B. Mineral Rocks :-

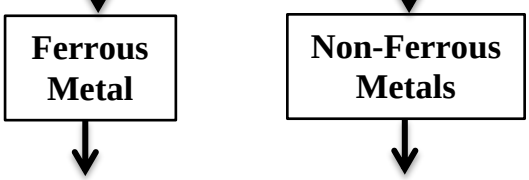


1. **Sedimentary Rocks -** Most of the non-metallic and energy minerals are found here.
   Example -
   1. Petroleum,
   2. Natural Gas
   3. Coal
2. **Dharwad Rocks -** Due to the abundance of metallic minerals, more income is obtained from these rocks.
   Example - Copper, Iron, Ore, Lead-Zinc, Silver

3. **Vindhya Rocks –**
   Example -
   1. Kota stone
   2. Sand stone
   3. Red stone
   4. Limestone.

C. Classification of Minerals :-





K – Cobalt
K – Chromite
L – Iron ore
M – Manganese
N – Nickel
T – Tungsten
T – Titanium

1. Gold
2. Silver
3. Platinum
4. Lead-zinc (Twin Mineral)
5. Tin
6. Copper
7. Bauxite
8. Aluminum
9. Magnesium
10. Mercury

1. Mica
2. Asbestos
3. Gypsum
4. Clay
5. Stone
6. Energy minerals
   - Coal
   - Petroleum

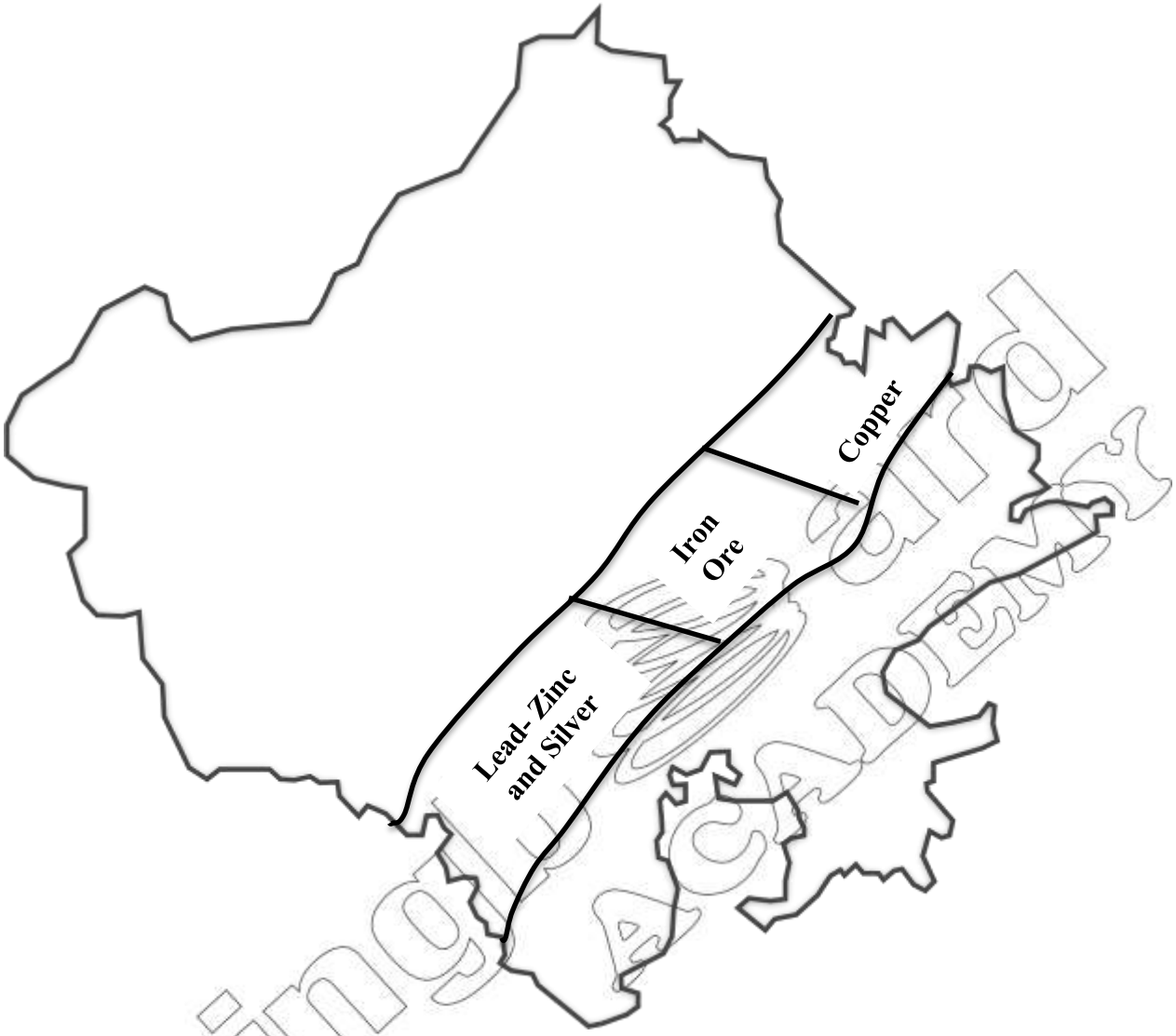
D. Minerals Production :-

I. Aravali Mineral Belt :-

(a) Copper - Its storage is in Jhunjhunu, Sikar, **Neem Ka Thana**, Alwar, Udaipur and Chittorgarh.

Production Area :-

1. Jhunjhunu :–
   - ☞ Kolhan
   - ☞ Chandmari
   - ☞ Madan- Kudan
2. **Neem Ka Thana :-**
   - ☞ Banno Ki Dhani
   - ☞ Khetri
3. Alwar :-
   - ☞ Kho- Dariba
4. Udaipur :-
   - ☞ Anjani – Salumbar
5. Chittorgarh :-
   - ☞ Bhagal - Wari Region
6. Bhilwara :-
   - ☞ Pur-Dariba
   - ☞ Banera
   - ☞ Devtalai region
7. Churu :-
   - ☞ Bidasar
8. Ajmer :-
   - ☞ Hanotiya
9. **Kekri**
   - ☞ Sawar



(b) Iron Ore :-

- Its deposits in Jaipur, Dausa, Jhunjhunu, Udaipur and Bhilwara.

Production Area :-

1. **Jaipur –**
   - ☞ Morija – Banola
2. **Dausa –**
   - ☞ Neemla – Raisela
3. **Jhunjhunu –**
   - ☞ Dabla – Singhana

4. **Udaipur –**
   - ☞ Nathara Ki Pal
   - ☞ Thur Hunder
5. **Bhilwara –**
   - ☞ Tiranga Region
6. **Karauli-**
   - ☞ Dedrauli,
   - ☞ Khohra,
   - ☞ Leeloti

(c) Lead-Zinc and Silver :-

- ➢ It is found in Udaipur, Rajsamand, Bhilwara, Sawai Madhopur and Alwar.

Production Area :-

1. **Udaipur –**
   - ☞ Jawar – Debari
2. **Rajsamand –**
   - ☞ Rajpura Dariba
3. **Bhilwara –**
   - ☞ Gulabpura - Agucha,
   - ☞ Rampura – Agucha
4. **Sawai Madhopur –**
   - ☞ Chauth Ka Barwara
5. **Alwar –**
   - ☞ Gudha-Kishoridaspura

Springboard ACADEMY

II. Minerals of Vangad Belt :-

(a) Gold –

- G.S.I (Geographical Survey of India) the latest gold deposits in Rajasthan have been discovered in Banswara (Ghotia Amba) and Udaipur.

Production Area :-

1. **Banswara -**
   - ☞ Anandpura - Bhukia
   - ☞ Jagpura – Bhukia

Note:- Latest gold deposits have been found in **'Ghotia Amba'** of Banswara.

(b) Manganese –

- Its storage is mainly in Banswara, Dungarpur and Udaipur.

Production Area :-

1 **Banswara –**
- ☞ Leelavani
- ☞ Kalakhunta
- ☞ Talwara
- ☞ Tambresa
- ☞ Itala

2 **Udaipur :-**
- ☞ Badi Sar
- ☞ Chhoti Sar

3 **Rajsamand :-**
- ☞ Negadiya

(c) Fluorite/Fluorspar :–

- Its storage is mainly in Dungarpur.

Production Area :-

1 **Dungarpur –**
- ☞ Mando ki Pal.

(d) Diamond :–

- Its storage is mainly in Pratapgarh.

Production Area :-

- ✓ **Pratapgarh** - Kesarpura.

III. Clay Minerals :-

1. Ball Clay/Bikaner Clay – Bikaner

2. Fire Clay – Bikaner

3. China-Clay/Ceramic - Bikaner, Sikar

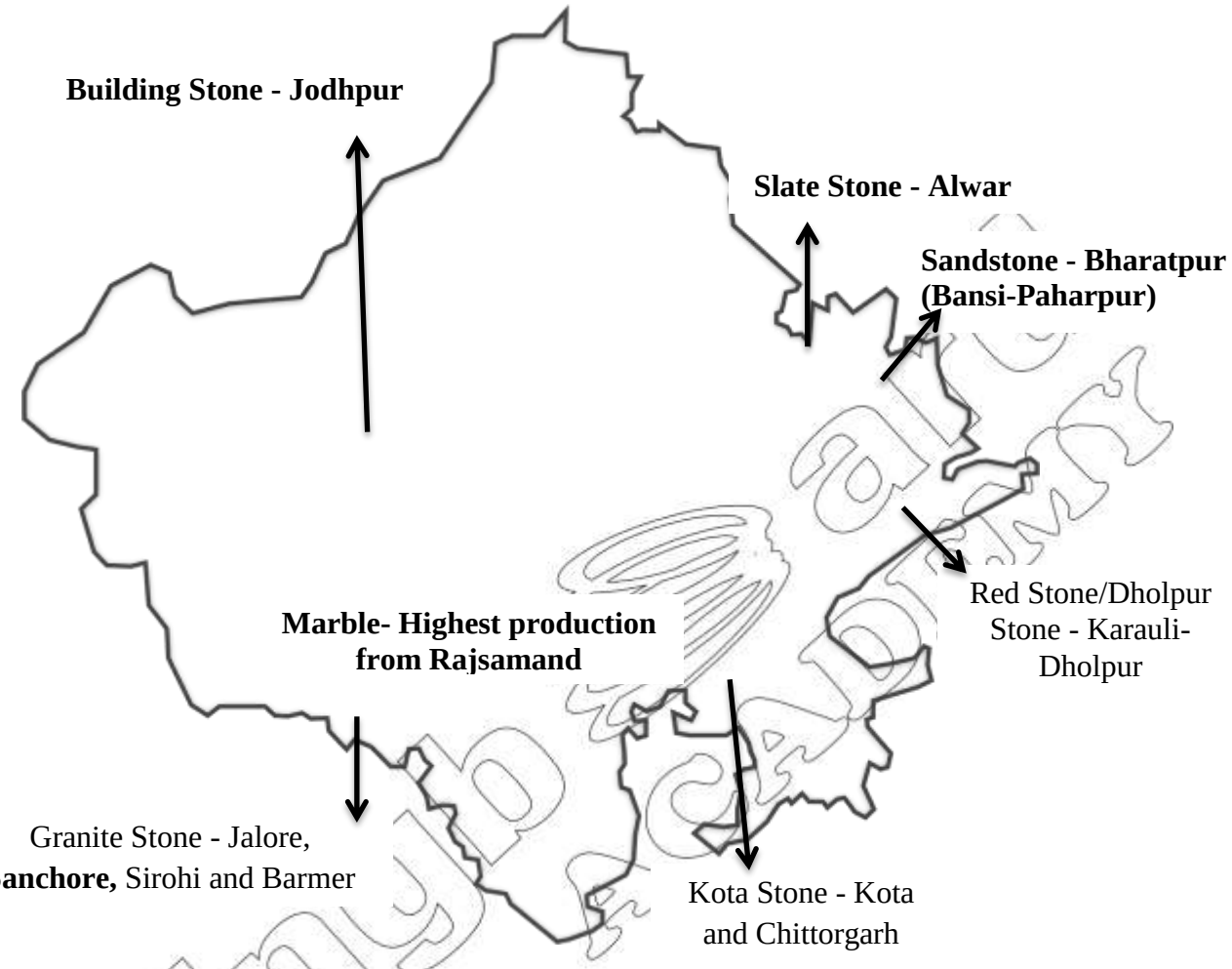
4. Bleaching Clay/Fullers Earth/Multani Mitti – I - Barmer, II - Bikaner

Note:-

- Production of silica sand – I - Bundi (Badodia), II – Jaipur.
- It is used in the glass industry.

Springboard ACADEMY

IV. Stone Minerals :-



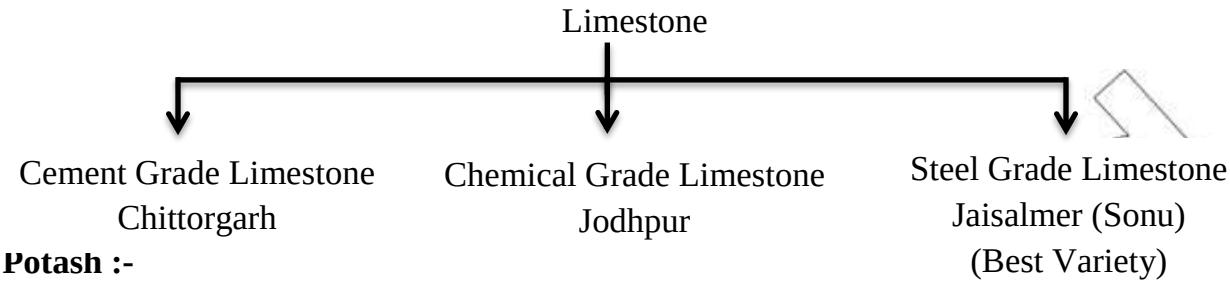
Note :-

(i) Highest Production of Marble :-

- Maximum production of marble is done from Rajsamand, because maximum production units of marble are operated in Rajsamand. Other varieties of marble are obtained from the following places.
  - ✓ White Marble - Makrana (Nagaur)
  - ✓ Black Marble - Bhainslana **(Jaipur Rural)**
  - ✓ Yellow Marble - Pithala (Jaisalmer)
  - ✓ Green Marble - Rishabhdev (Udaipur)
  - ✓ Pink Marble - Rishabhdev and Babarmal (Udaipur)
  - ✓ Satrangi Marble - Padarla (Pali)
  - ✓ Badami Marble - Jodhpur

(ii)Limestone –

- Maximum Production is done from Jodhpur.
- Major varieties and production areas of limestone



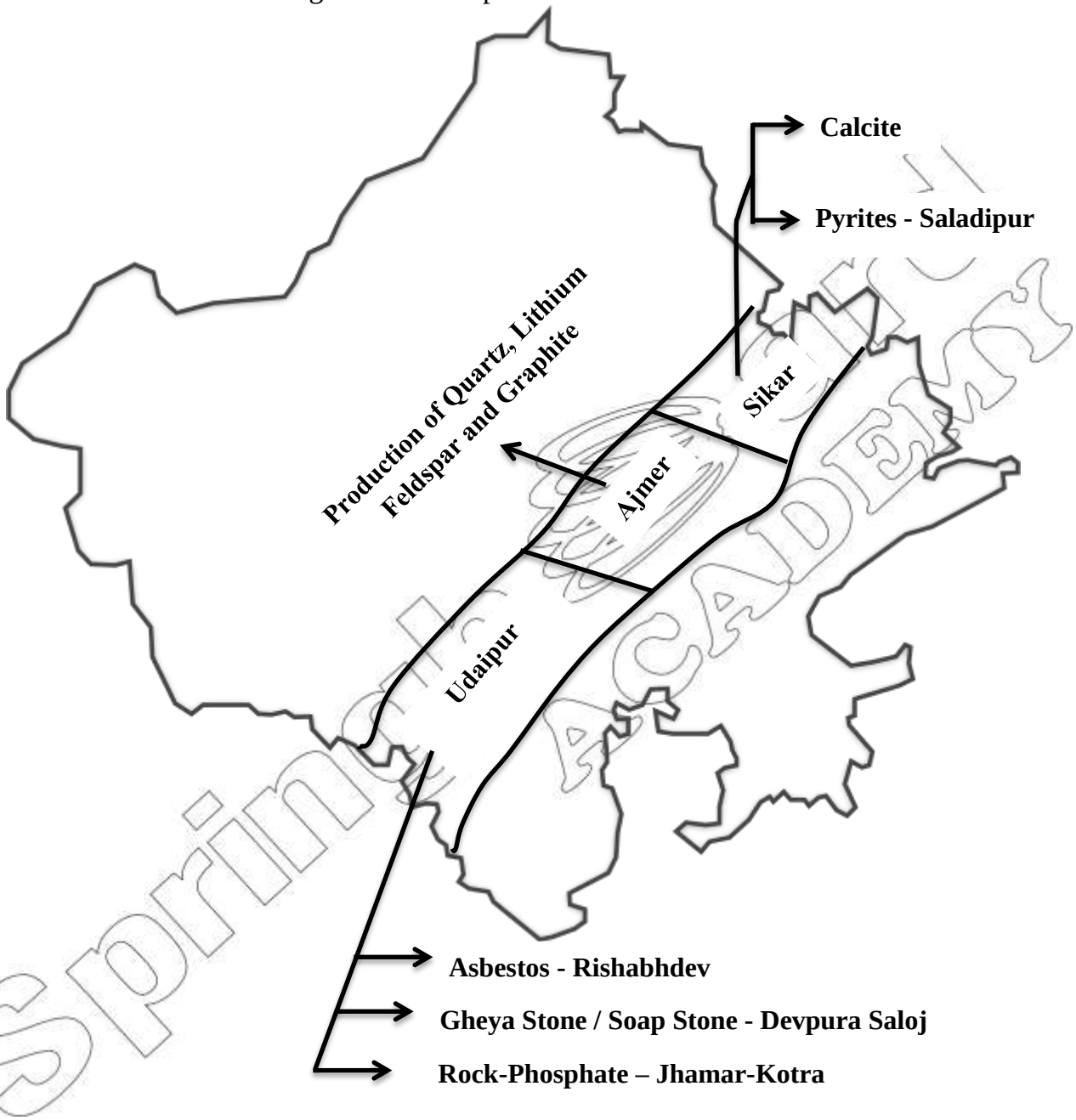
V. Potash :-

- Its main storage and production areas **:–**
  1. Hanumangarh
  2. Sri Ganganagar
  3. Bikaner and
  4. Churu
  5. Karauli

Springboard ACADEMY

VI. Minerals of Aravali Region :-

- The major mineral producing places in this region are Udaipur, Ajmer and Sikar.
- From where the following minerals are produced -



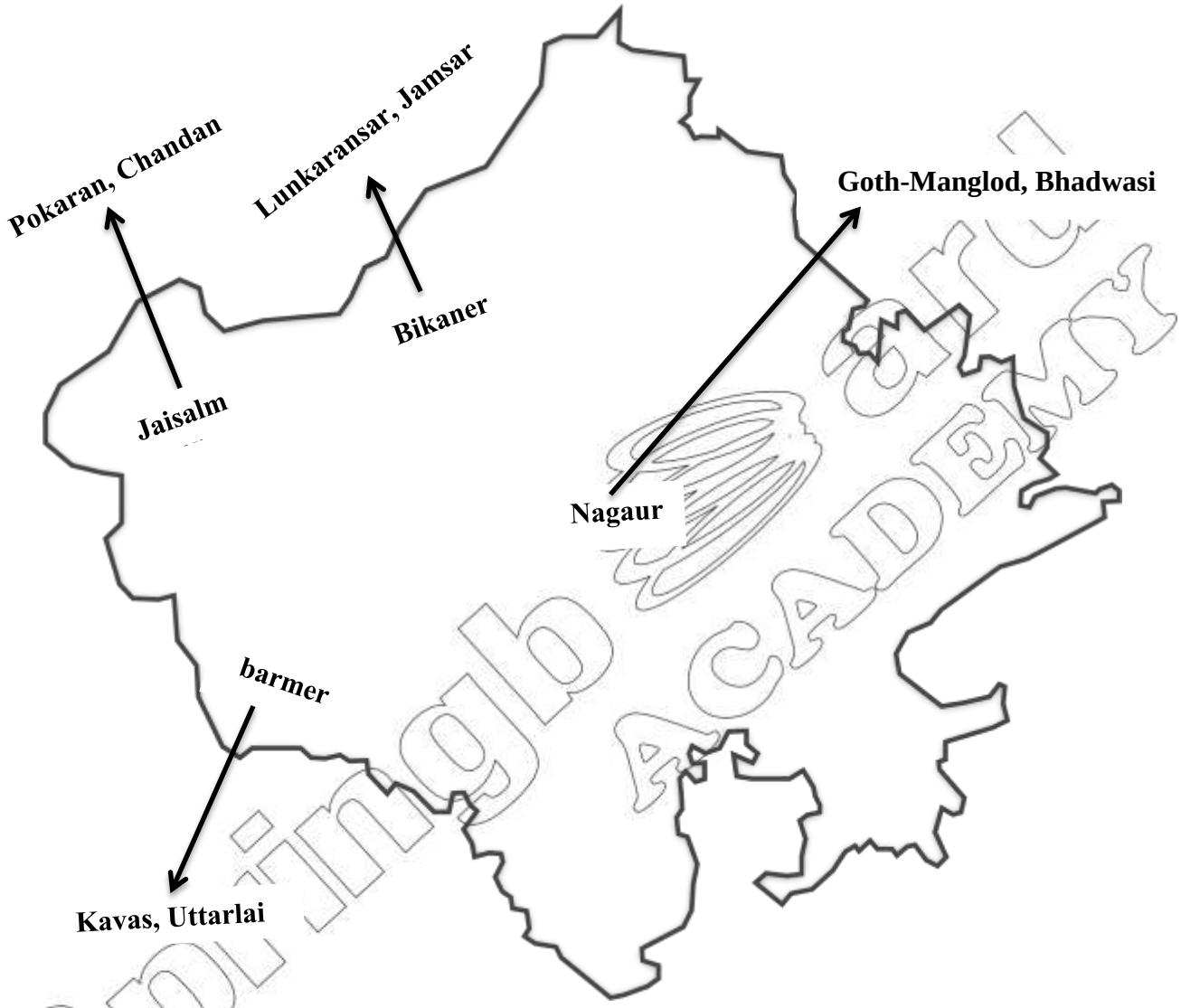
Note:- Udaipur produces maximum minerals in Rajasthan.

VII. Minerals in Nagaur Region :-

G - Gypsum

T - Tungsten

1. **Gypsum Producing Area -** Bikaner produces maximum gypsum in Rajasthan Pokaran, Chandan.



2. **Tungsten Producing Area -** Nagaur, Pali and Sirohi are the reserves of Tungsten.

Production Area :-

(i) Nagaur :- Degana (Revat Hills)

Note:-

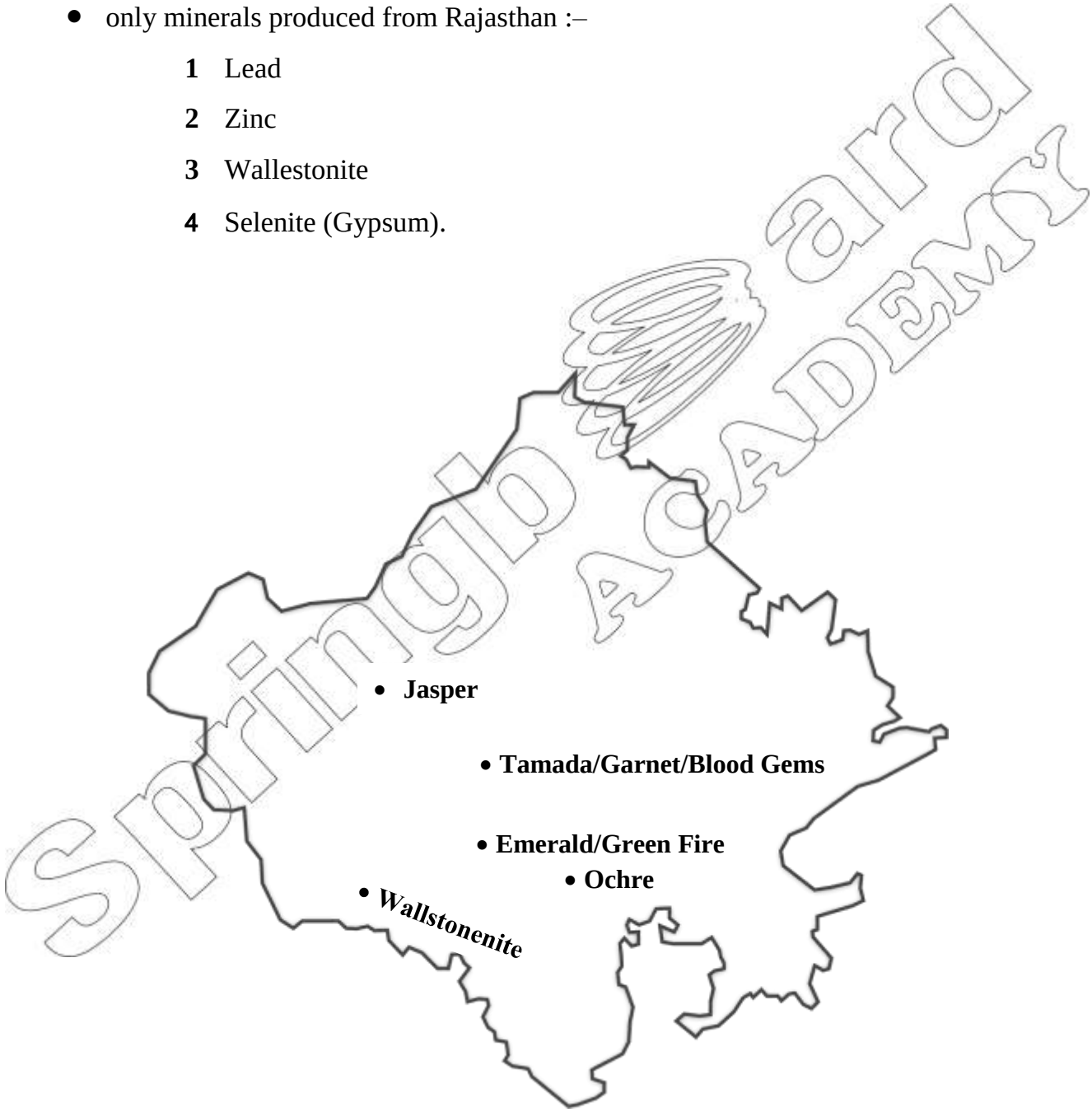
- Degana (Nagaur) is the largest mine of tungsten in the country.
- Which are currently closed.

(ii) Pali:- Nana-Karab

(iii) Sirohi:- Balda and Abu-Revdar

VIII. Monopoly Minerals :-

- According to the Economic Review 2020 - 2021,
- only minerals produced from Rajasthan :–
  1. Lead
  2. Zinc
  3. Wallestonite
  4. Selenite (Gypsum).



Springboard ACADEMY

1 Jaspar – Jodhpur

2 Tamda/Garnet/Blood Gems – **I.** Tonk - Rajmahal, Janakpur and **II** - Ajmer – Sarwar

3 Wollastonite - Sirohi (Bell's Maggra)

4 Ochre - Chittorgarh

5 Panna/Green Fire - Rajsamand (Production from Kala Guman mine between Amet-Devgarh.

IX. Atomic/Atomic Energy Minerals:-

1. Uranium :-

- Uranium storage areas in Rajasthan are Udaipur, Sikar and Baran.

Production Area :-

1 **Udaipur :–**

☞ Umra

2 **Sikar :-**

☞ Khandela hill

☞ Rohilla region

3 **Baran :-**

☞ Ramgarh

2. Thorium :–

- Thorium storage areas in Rajasthan are Pali and Bhilwara.

Production Area -

1. **Pali :–**

☞ Bhadravan

2. **Bhilwara :–**

☞ Sardarpura

X. Mica :-

- Mica is an example of Metallic minerals, which is deposit in rajasthan in three Belt & Region
- The storage and production of mica is maximum in Bhilwara.

Production Area :-

1. Bhilwara (Danta - Bhunas),
2. Ajmer
3. Rajsamand.

- Mica has been called the **"Sick Child of Minerals"** because only 50% of mica production comes from the country's 20 largest mines.

XI. Bentonite, Bauxite, Beryllium Minerals :-

(a) **Bentonite :-**

1. Barmer
2. Bikaner

(b) **Bauxite :-**

1. Kota

(c) Beryllium :-

1. Gujarwara – Jaipur
2. Bandar- Sindary – Ajmer
3. Shikarbari – Udaipur

Production Area –

1. Jaipur – Gujarwada
2. Ajmer - Bandar – Sindri
3. Udaipur - Shikarbari

XII. Energy Minerals :-

a. Petroleum
b. Natural Gas
c. Coal

→ These minerals are found in sedimentary rocks. Whose formation time period is the Tertiary Period.

a. Petroleum :-

- Most of the petroleum is stored and produced in Barmer.
- Petroleum reserves are in **4** basins and **14** districts in Rajasthan.

☑ **Petroleum Basin :-**

1. Barmer - Sanchore Basin :–

- ☞ It extends into Barmer and Jalore (partialy).
- ☞ This basin has the largest reserves of petroleum.
- ☞ This area is also the first in petroleum production.
- ☞ Main Authority of this basin :-
    1. Cairn energy(Vedanta Ltd.)
    2. ONGC (Oil Natural Gas Corporation)

2. Rajasthan Shelf :–

- ☞ Its extension is in Jaisalmer.
- ☞ Main Authority :-
    1. ONGC (Oil Natural Gas Corporation)
    2. PDVSA

3. Bikaner-Nagaur Basin :-

- ☞ It extends into Bikaner, Nagaur, Ganganagar, Hanumangarh and Churu.
- ☞ Main Authority :-
    1. Oil India Ltd.

4. Vindhya Basin :–

- ☞ It is spread in Kota, Bundi, Baran, Jhalawar, Chittorgarh and Bhilwara.
- ☞ Main Authority of this basin :-
    1. Cairn energy(Vedanta Ltd.)
    2. ONGC (Oil Natural Gas Corporation)

Springboard ACADEMY

☑ **Petroleum Production Area :–**

I[st] Barmer :-

1. **Nagana -** Mangala (Jogsar Village)
2. **Gudha Malani -** Raageshwari
3. **Koslu -** Saraswati
4. **Bytu -** Aishwarya

Note:-

1. Other Petroleum Wells in Barmer :-

1. Bhagyam
2. Vijaya
3. Shakti
4. Kameshwari

2. Mangala (Barmer) :-

- ☞ This is the first petroleum well of Rajasthan.
- ☞ From where production is taking place since August 29, 2009.
- ☞ At present Rajasthan has the largest production area.

II[nd] Jaisalmer –

1. Baghewala
2. Sadhewala
3. Tanot
4. Chinewala

III[rd] Bikaner :-

1. Tuvariwala
2. **Poonam Field :-**

- ☞ It has been discovered by OIL (Oil India Limited).
- ☞ Which is located in Bikaner - Nagaur basin.
- ☞ Its production capacity is - 30000 barrels/day.

Note:-

- Highest production of petroleum in the country
- **1[st] Bombay High (Offshore Area) -** 40-45 percent production.

- **2nd Rajasthan** - 22-23 percent production. The petroleum production capacity of Rajasthan is 1.60 lakh - 1.70 lakh barrels/day.

b. Natural Gas –

- Its maximum storage and production in Rajasthan is in Barmer.

Production Area:-

1st Jaisalmer :–

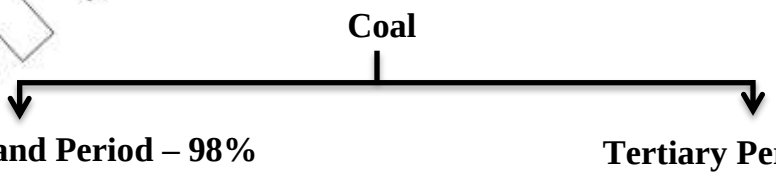
- ☞ Dandewala
- ☞ Gumanewala
- ☞ Ramgarh
- ☞ Tanot
- ☞ Manihari
- ☞ Tiba and
- ☞ Ghotaru

2nd Barmer –

- ☞ Gudamalani
- ☞ Raageshwari

c. Coal –

- Barmer has the highest storage and production of coal in Rajasthan.
- Types of coal on the basis of time of formations.



Note:-

- ☞ Tertiary coal is stored in Rajasthan.
- ☞ While the country has maximum coal reserves of Gondwanaland period.

- **Types of coal according to carbon content :-**

Coal	-	Carbon Quantity	-	Color of Coal
Anthracite	-	95%	-	Black – Shining
Bituminous	-	60 – 70%	-	Black – Brown
Lignite	-	50 – 60%	-	Brown
Peat	-	50%	-	Light Brown

Note:-

- Most of the Bituminous coal is found in India and the most lignite coal is found in Rajasthan.
- **Best Coal :-**
  - It has high carbon content.
  - Due to this the temperature is higher while the amount of smoke and ash is less.
  - This coal burns with a blue flame.

Coal Production Area :-

1st Barmer :–

- Kpurdi
- Jalipa
- Giral
- Bhadres

2nd Bikaner :-

- Beethnok
- Barsingsar
- Palana
- Gudha

Note :-

Palana :- It is situated in Bikaner district from where best lignite is produced.

3rd Nagaur –

- Merta City
- Igyar
- Mata-Sukh
- Kasnau Region.

Note:- Highest lignite coal production in India –

1st - Tamil Nadu

2nd – Gujarat

3rd - Rajasthan (22%)

E. Mineral Policies :-

1st - 1978

2nd - 1991

3rd - 1994

4th - 2011

5th - 4 June 2015

Purpose:- Latest mineral based industries will be established in tribal and backward areas.

Provision :-

1. Scientific exploitation of minerals.
2. 31 Major Minerals and Minor Minerals Mining leases will be issued in a minimum of four hectares.
3. Sand stone mining leases will be issued in minimum one hectare.
4. Gravel mining leases will be issued from minimum 5 hectares to maximum 50 hectares.
5. Illegal mining will be punishable with a sentence of 5 years and a fine of Rs. 5,00,000.
6. The lock-in period of lottery minerals will be one year.
7. Period of mining license increased from 15 years to 30 years.
8. Settlement committee will be constituted to resolve disputes in illegal mining areas.
9. In the latest mineral policy, the provision of minerals directory was kept. In which the storage and production areas of minerals will be shown.
10. To increase the contribution of minerals in the GDP of the State.

Note:-

i. **Marble and Granite Policy** - 2002

ii. **M - Sand policy** -

- Released in January 2021.
- Objective: To give industry status to D-Sand and to protect the environment.
- The sand will be obtained from granite. The use of which has been made mandatory for 25% in the construction of government buildings. Which can be increased to 50%.

iii **Vision - 2020 -** It was launched on 15th August, 1999 in the mineral sector.

Provisions:-

- Scientific/sustainable exploitation of minerals.
- Providing basic facilities in the mining sector.
- To increase the contribution of minerals in GDP.

Springboard ACADEMY

G. Minerals Institute :-

1. RSMML (Rajasthan State Mines and Minerals Limited) :-
   - Establishment :- 1974
   - Headquarters :- Udaipur

2. **Hindustan Zinc Limited :-**
   - Establishment **:-** 1966
   - Headquarters **:-** Debari (Udaipur)

   Note :-
   - ✓ Zinc Smelter Plant was established in 2005 at Chanderia (Chittorgarh).

3. Hindustan Copper Limited :-
   - Establishment **:-** 1967
   - Headquarters **:-** Khetri (Jhunjhunu)

   Note:- Projects of Hindustan Copper Limited :-
   1. Khetri Copper Project – Neem Ka Thana
   2. Chandmari Copper Project – Jhunjhunu
   3. Kho-Dariba Copper Project **:-** Alwar

4. **Petroleum Refinery :-**
   - Location **:-** Pachpadra
   - Budget **:-** Rs. 43,129 crores
   - Cooperation **:-** HPCL **:** State Government (74% **:** 26%)
   - Capacity **:-** 9 MMTPA (Million Metric Tonne Per Annum)

   ❖ **Features :-**

   i. This is the first refinery of Rajasthan and 26th refinery of the country.
   ii. The standard of this refinery is BS-VI.
   iii. A petro-chemical complex will be set up along with the refinery.

VEGETATION

(1) Forest Policies

(2) Forest Census

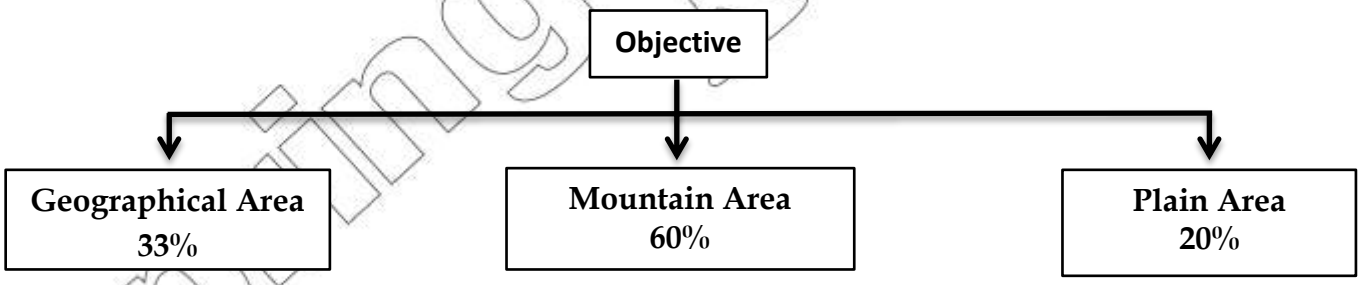
(3) Classification of forest
(4) Important Forest and Grasses of Rajasthan
(5) Afforestation Programmes
(6) Forestry and Environment Award
(7) Major Acts and Important Days
(8) Other Important Facts

(1) Forest Policies :-

- **National Forest Policies**

1. 1894 - First Forest Policy
2. 1952 - Independent India's first forest policy
3. **1988 - Latest Forest Policy :-**

☞ According to the latest forest policy, the target of forests.



➢ **State Forest Policies :-**

1st - 18 FEB. 2010

2nd - 5 June2023

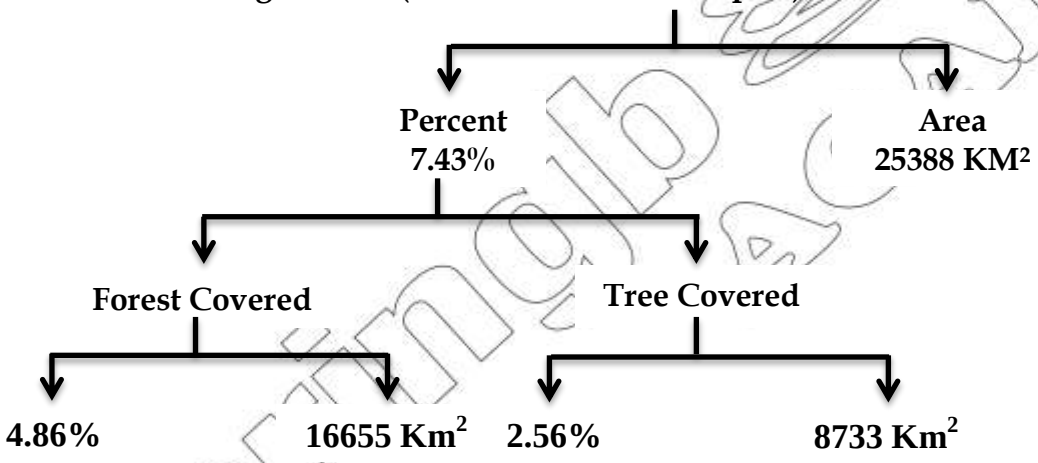
Note:-

- State forest policy - 18 Feb. 2010
- According to the state forest policy, there should be forests on 20% of the total geographical area.
- State **Eco-tourism policy –** 2020 (First- 4 February, 2020)

(2) Forest Census :-

- Institution - forest survey and research institution, Dehradoon (Uttarakhand)
- Time - It is done once in every two years.
- **New forest census - 17th (2021)**

➢ **According to ISFR (Indian State Forest Report) - 17th total forest area in Rajasthan –**



➢ According to the 17th forest report, the Maximum Forest expansion in the state –

Maximum Forest

Area			**Percent**		
1. Udaipur	-	2753 KM²	1. Udaipur	-	23.49%
2. Alwar	-	1196 KM²	2. Pratapgarh	-	23.24%
3. Pratapgarh	-	1034 KM²	3. Sirohi	-	17.49%
4. Baran	-	1010 KM²	4. Karoli	-	15.28%

- **According to the 17th forest report, the Minimum Forest cover in the state –**

Minimum Forest

Area			Percent		
1. Churu	-	78 KM²	1. Jodhpur	-	0.48%
2. Hanumangarh	-	93 KM²	2. Churu	-	0.56%
3. Jodhpur	-	109 KM²	3. Nagaur	-	0.84%
4. Sri Ganganagar	-	115 KM²	4. Jaisalmer	-	0.42%

- **According to the latest forest census, Maximum Increase / Decrease in forests –**

Highest Increase	Highest Decrease
1. Barmer	1. Udaipur
2. Jaisalmer	2. Pratapgarh
3. Dungarpur	3. Jhalawar

- **Note :-** Total Recorded Forest in Rajasthan

Recorded Forest

Percent	Area
9.60%	▪ 32864 KM² (2021-22) ▪ 32869 KM² (2022-23) ▪ 32921 KM² (2023-24)

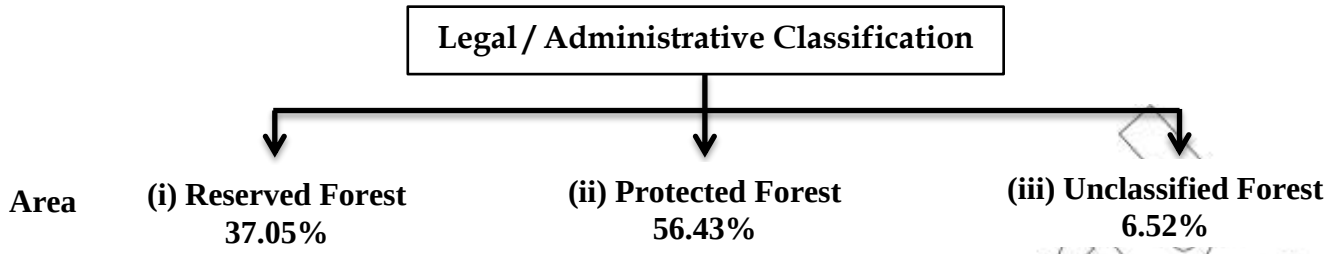
(3) Classification of Forest

Classification of Forest

(a) Legal / Administrative Classification	(b) Geographical Classification

(a) Legal/ Administrative Classification :-

- Under the State Forest Act 1953, the forests are divided into 3 parts on Administrative basis.



(i) Reserved Forest :-

- Forest woods cutting, Cattle Grazing & Hunting are Completely banned.
- These forests are most spread in Udaipur.

(ii) Protected Forest :-

- There is limited exemption on wood cutting and Cattle Grazing in these forests.
- These forests are most spread in Baran.

(iii) Unclassified Forest :-

- There is no restriction on wood cutting and Cattle Grazing in these forests.
- These forests are most spread in Bikaner.

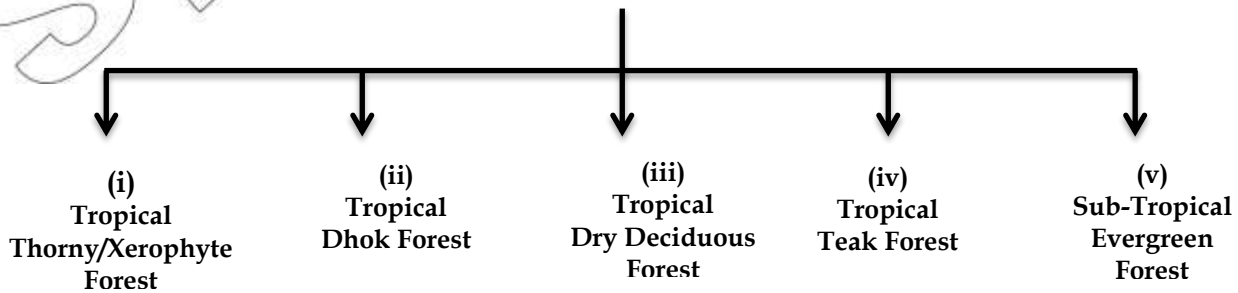
Springboard ACADEMY

(B) Geographical Classification:-

- Geographical classification of forests is done on the basis of temperature and rainfall.



- **On the basis of geographical classification, forests are divided into five parts-**



(i) Tropical Thorny/Xerophyte Forest :-

- Rainfall **–** 0 – 30 cm.
- Forest Area **–** 6%
- Extension- Arid desert areas (Jaisalmer, Bikaner, Barmer, **Balotra** and Jodhpur)
- Main Forests **-** Cactus, Aloevera, Thorny bush
- Importance **-** In preventing desertification.

(ii) Tropical Dhok Forest :-

- Rainfall – 30 – 60 cm.
- Forest Area – 58%
- Extension – Semi-arid desert region (Luni-Basin, Nagaur, Shekhawati, Karauli and Sawai Madhopur)
- Main forests - Khejri, Rohida, Acacia/Babool, Ber and Kair.
- Importance **-** Fuel wood is obtained.

(iii) Tropical Dry Deciduous Forest :-

- Rainfall – 50 – 80 cm.
- Forest Area – 28%
- Extension - Alwar, Bharatpur, Karauli, Dholpur, Udaipur, Chittorgarh, Bhilwara and Rajsamand
- Main forests - Sal, teak, rosewood (Shisham), Mango and Sandalwood**.**
- **Importance** - The economic importance of these forests is highest. **Example-** In the form of Timber.

(iv) Tropical Teak Forest

- Rainfall – 75 – 110 cm.
- Forest Area – 7%
- Extension- Banswara, Dungarpur, Pratapgarh, Kota and Jhalawar.
- Main Forests – Gular, Mahua and Tendu.
- Importance - Useful in industrial sector.

(v) Sub-Tropical Evergreen Forest:-

- Rainfall – 150 cm.

- Forest area - 1%
- Extension- Mount Abu
- Main Forests – Dicliptera abu ansis (Ambarstari), Jamun and Bamboo.
- Importance - Most biodiversity is found in these forests.

(4) Important Forest and Grass-

(i) Khejdri -

- **Scientific Name** - Prosopis Cineraria (**Maximum –** Western Rajasthan)
- **Other Names :–**
  - ☞ State Tree (1983AD.)
  - ☞ Proud of State
  - ☞ Shami tree
  - ☞ Kalpvraksh of state
  - ☞ Jaanti (Local Language)
- **Note:-** Khejdi is worshiped on the occasion of Vijayadashami/Dussehra.

(ii) Rohida –

- **Scientific Name –** Tecomella Undulata (**Maximum –** Western Rajasthan)
- **Other Name :-**
  - ☞ State flower (1983)
  - ☞ Teak of Desert.

(iii) Mehua –

- **Scientific Name -** Maduca longifolia (**Maximum –** Dungarpur)
- It is called the "Kalpavriksha of Tribes".
- Mahua flower is used in making liquor.

(iv) Palash/Dhak/Khakra :–

- **Scientific Name -** Butea monosperma (**Maximum -** Rajsamand)
- It is also known as **'The Flame of Forest'**

(v) Dicliptera Abu ansis/Ambertari :-

- It is a medicinal plant found only in Mount Abu in the world.

(vi) Khair- (Maximim – Udaipur, Chittorgarh)

- **In** Udaipur, Chittorgarh, "Katha" is prepared by the Kathori tribe from the bark of this tree.

(vii) Mulberry/Shahtoot – (Maximum – Udaipur)

- Silk is produced from the silkworm on this tree.
- This rearing is called Sericulture.

(viii) Tendu – (Maximum – Pratpgrah, Chittorgarh and Hadoti)

- It's leaves are used for making Bidis**.**
- It's leaves are called "Timru".
- The Timru tree was nationalized in 1974.

(ix) Jamun (Blackberry) - (Maximum - Mount Abu, Ajmer)

- Useful in treatment of Diabetes.

(x) Teak – (Maximum – Banswara)

- It's wood is mainly used for making furniture.

(xi) Main Gross –

(a) Sewan/Leelon Grass-

- Scientific Name - Lasiurus Scindicus (Maximum **–** Jaisalmer)
- Useful as animal feed**.**
- It is also called as the shelter of Godavan.

(b) Dhaman –

- Scientific Name **–** Cenchrus Setigerus (Maximum - Jaisalmer)
- Useful for milch animals.

(c) Bamboo –

- Scientific Name - Bambusa Vulgaris, (Maximum- Banswara)
- This is the longest grass which is also called "Green Gold" of the tribes.

(d) Khas Grass

- Maximum - Bharatpur, Sawai Madhopur, Tonk and Ajmer)
- It is a fragrant grass.

- Which is useful in making syrup and making perfume.

(e) Bur Grass

- Maximum - Bikaner
- It is a fragrant grass.

(f) Mochia Grass

- Maximum - Churu
- It is found in Talchhapar Sanctuary.

(5) Afforestation Programmes

(1) Desert Afforestation programme

- Started - 1977-78
- District – 10
- Financial Cooperation **:–**Centre : State = 75 : 25

(2) State Forest Action Plan (SEAP)

- Started **-** 1996-2010 (20 Years Programme)

(3) Aravali Afforestation Plan

- Started **-** 1992
- Financial Cooperation – Japan

(4) Rajasthan Forest and Biodiversity project

- Assistance - Japan International Cooperation Agency (JICA)
- Started **-** 2003

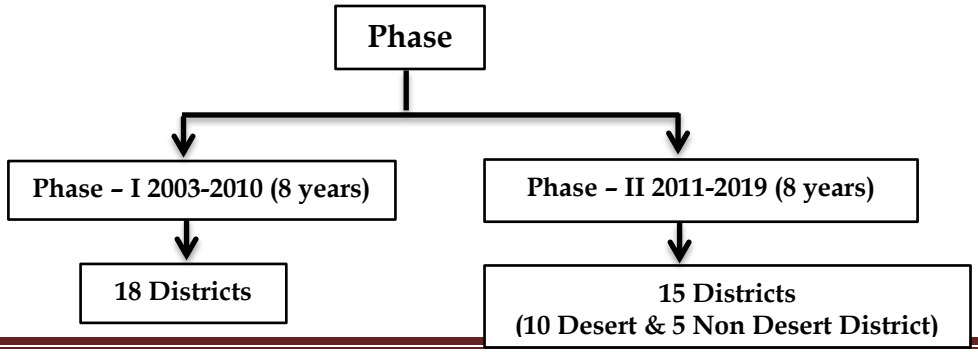
➢ **Objective –**

(1) To increase forests and biodiversity.

(2) Soil and underground water conservation.

(3) Poverty Alleviation and Livelihood Programme

Note:-
Desert Development Programme
- Started - 1977-78
- District – 16
- Financial Cooperation **:–**
  Centre : State
  75 : 25



Note:- Jaipur, Sirohi, Banswara, Dungarpur and Bhilwara have been included in Phase-II in non-desert districts.

(5) Harit Rajasthan Yojna – (Duration = 2009-2014)

- This is a Five year forestry plan .

(6) Van Dhan Yojna – 12 Aug. 2015

➢ **Objective**

(1) To reduce the dependency on forest for those people who live near the forest.

(2) To provide employment opportunity

(3) To conserve wild Animals

(6) Forest Conservation 'Awards'

1. Amrita Devi Bishnoi Award

- Started – 1994

➢ Objective - Given for excellence in

(i) Afforestation

(ii) Forest conservation

(iii) Willd life conservation

This award is given at 3 level

Individual
Forest Protection
Amount- 50 Thousand

Om Singh Rajawat
(2018)

Individual
Wildlife Protection
Amount- 50 thousand

Satnam Singh Rajawat
(2018)

Institutional
Forest Protection and Management
Amount- 1 lakh

1. Wonder Cement Company RK Nagar (Chittorgarh)
2. Forest Protection and Management Committee – Udaipur (Patiya)
3. Manav Utthan Sewa Samiti – Hanumangarh (Talwada)

(1) Individual Forest Protection

☞ Amount- 50 Thousand

- 2018 - Om Singh Rajawat
- 2019 - Narayan Lal Kumawat
- 2020 - Shyam Sundar Paliwal (Rajsamand)
- 2021 - Abhilasha (Sikar)
- 2022 - 1. Bacchu Singh Verma (Bharatpur)
  2. Pawan Kumar Jain (Kota)

(2) Individual Wildlife Protection

☞ Amount - 50 thousand

- 2018 - Satnam Singh Rajawat
- 2020 - Gajendra Singh Manjhi (Nagaur)
- 2021 - Padam Singh Rathore (Udaipur)
- 2022 - 1. Mohit Sharma (Jaipur)
  2. Divya Sharma (Jaipur)

(3) Institutional Forest Protection and Management

☞ Amount- 1 lakh

- 2020 - Sati Ki Chori Forest Protection and Management Committee Udaipur

2. Indira Priyadarshini Vraksh Mitra Puruskar

- This Awards are given by Ministry of Environment and forests of Government of India to Individuals and Institutions who have done pioneering and exemplary work in the filed of afforestation and wasteland development.
- Amount - 2.5 Lakh

3. Rajeev Gandhi Environmental Conservation Award

- Started – 2012 (5 June)

4. Kailash Sankha wildlife Conservation Award

- Amount - 50 thousand rupees (for the protection of wildlife))
- Kailash Sankhala is known as **"Tiger Man of India"**

5. Vanpalak Award

- This award is given to officers, forest protectors and other workers of forest Department.

6. Act Related to Forest and Wildlife Conservation

(1) Wildife Protection Act – 1972
(2) Tiger Protection Act – 1973
(3) Crocodile Protection Act – 1975
(4) Forest conservation Act – 1980 (1988)
(5) Environment conservation Act - 1986
(6) Elephant conservation Act – 1992
(7) Biodiversity Conservation Act – 2002
(8) Dolphin Conservation Act – 2009
(9) Camel Conservation Act – 2014
(10) Godawan Conservation Act – 2014

Note:- Rajasthan State Biodiversity Board was formed on 14 September 2010 in Jaipur.

Important Days -

(1) 14 Jan. - 31 Jan. - Animal fortnight
(2) 2 February - Ramsar / World Wetland Day
(3) 21 March - World Forestry Day
(4) 22 March - World Water Day
(5) 22 April - World Earth day
(6) 22 May - International Biodiversity Day
(7) 5 June - World Environment Day
(8) 1st July – 7th July - Van Mahotsavl forest week.
(9) 16 September - Ozone day
(10) Ist Oct-7th Oct. - Wildlife week

Theme 2024

- Earth Day - The Planet vs. Plastics
- Water Day - Water for peace

- Biodiversity Day - Build Back Biodivesity: From Agreement to action
- World Environment Day - Land restoration, desertification and drought Resilience

Other Important Facts

(a) Related Institutions of Forests:-

1. **CAZRI :-** Central Arid Zone Research Institute
   - ☞ Establishment - 1959 Jodhpur
2. **AFRI** :- Arid Forest Research Institute
   - ☞ Establishment - 1988 Jodhpur

(b) Biological parks of Rajasthan

(1) Sajjangarh - Udaipur

(2) Machia Safari – Jodhpur

(3) Nahargarh - Jaipur

(4) Abheda – Kota (Nanta) – Under Construction

(5) Marudhara – Bikaner (Beechwal) – Under Construction

(c) Other Parks of Rajasthan

(1) Nature Park - Churu, Sikar

(2) Cactus Garden - Kuldhara (Jaisalmer)

(3) Butterfly Valley - Jaipur

(4) Bougainvillea Park - Jaipur, Udaipur

(5) Biodiversity Park – Gamdhar (Udaipur)

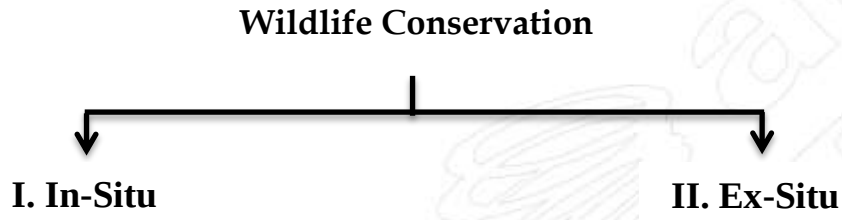
Note – Monkey Valley of Rajasthan – Galta Ji (Jaipur)

Springboard ACADEMY

Wild Life and Conservation

- Rajasthan is considered important in India from the point of view of wildlife.
- After Assam, Rajasthan holds the second rank in wildlife.
- Before independence, Rajasthan was known as "Hunters' Paradise".
- After independence, due to uncontrolled felling of trees and poaching, both the central and the state government are working jointly for forest and wildlife conservation.

➢ **Wild Life can be protected in two ways -**



I. **In-situ conservation :-** Preserving organisms in their natural habitat.

Example :–

A. National Park
B. Wildlife Sanctuary
C. Tiger Conservation Project
D. Ramsar Site
E. Conservation Reserve
F. Hunting Prohibition Area and Biosphere

II. **Ex-Situ conservation** :- Conservation of organisms outside their natural habitat. Example **:-**

1. Zoo
2. Deer Park
3. Animal Gene Bank
4. Aquarium

I. In-Situ Conservation :-

A. **National Park :-** There are total 3 National parks in Rajasthan which are as follows

1. Ranthambore :-

- Establishment **–** 1980
- Extension **-** Sawai Madhopur
- Area **-** 393 km^2

➢ **Special :-**

- Rajasthan's first and largest national park of the state
- Trinetra Ganesh Temple, Jogi Mahal and Dog Valley is located here.
- Rajasthan's first tiger project (1974).
- It is called the "**Home of Tigers**" because this national park has the largest number of tigers in Rajasthan.
- Machli Tigress (T-16) - It is also called the queen of Ranthambore.

2. Keoladeo/Ghana Bird Sanctuary

- Established – 1981
- Extension – Bharatpur
- Area **-** 29 km^2. (Smallest National Park in Rajasthan)

➢ **Special :-**

- The only natural heritage of the state included in the UNESCO Heritage List in 1985.
- Ajan Dam (Banganga) is situated here.
- The working place of Dr. Salim Ali.
- Siberian cranes come here in winter.
- This is the only bird conservation site in the state which is called "Paradise of Birds".
- In 1981 AD, it has been included in the Ramsar site.

3. Mukundara Hills

- Established – 9 January, 2012

- Extension - Kota, Chittorgarh
- Area - 199 sq. km.

➢ **Special :-**

- Latest National Park of the State
- Famous for Gagroni parrot
- Third tiger project of the state (1st - Ranthambore, 2nd - Sariska).
- The palace of Abali Meeni (Kota) is situated here.

B. **State Sanctuaries:-** There are total 27 sanctuaries in Rajasthan which are as follows –

State Sanctuaries - 27

Largest			**Smallest**		
1. National Desert Park	-	$3162KM^2$	1. Sariska - 'A'	-	$3KM^2$
2. Keladevi Sanctuary	-	$677KM^2$	2. Sajjangarh Sanctuary	-	$5KM^2$
3. Kumbhalgarh Sanctuary	-	$611KM^2$	3. Talchapar Sanctuary	-	$7KM^2$

➢ **Main Wild Life Sanctuary**

1. **Sariska Sanctuary :-**

- Establishment – 1955
- Extension – Alwar

➢ **Special –**

- Peacocks and green pigeons are found in this sanctuary.
- Tiger Den Hotel is located in this sanctuary which is operated by RTDC.
- The second tiger project of Rajasthan was started here (1978).
- Bhartrihari Temple, Pandupol Temple, Neelkanth Mahadev Temple are located in this sanctuary.
- Kankanwadi and Kranska plateau are located in this sanctuary.

2. **Sariska 'A' Sanctuary :-**

- Location – Alwar

- Special :–
  - Rajasthan Smallest Sanctuary
  - Rajasthan's smallest and newest sanctuary

3. **Talchappar Sanctuary**

- Establishment – 1971
- Location **–** Churu
  - **Special –**
    - It is famous for black buck and kurja bird (domoiselle crane).
    - Mochia grass is found in this sanctuary.
    - The ashram of Guru Dronacharya is located here.

4. **National Desert Park**

- Establishment – 1980
- Location **-** Jaisalmer, Barmer
  - **Special –**
    - It is the largest sanctuary in the state.
    - Savan grass and Xerophytes vegetation is found the most in this sanctuary.
    - Godavan Bird (Great Indian Bustard) and Chinkara are found more in this sanctuary.
    - Fossil Park is located in this sanctuary, where the remains of Jurassic period wood are found.

5. **Jamwaramgarh Wildlife Sanctuary :-**

- Establishment – 1982
- Location – Jaipur
  - **Special –**
    - Dhok forests are found here.
    - Jamwai Mata Temple is situated here.

6. **Nahargarh Wildlife Sanctuary**
   - Establishment – 1980
   - Location – Jaipur
     - **Special –**
       - It has been developed as a biological park of Rajasthan.
       - It will be set up as an exotic park.
       - The Bear Rescue Center is located here.
       - Jaipur zoo has been shifted here. In which hippopotamus and white tiger are famous.
       - Lion Safari has been started in this sanctuary.
7. **Bandh Baretha Wild Life Sanctuary :-**
   - Establishment – 1985
   - Location – Bharatpur
     - **Special –**
       - Keoladeo's birds take refuge in this sanctuary.
       - That's why it is also called "the house of birds".
8. **Ramsagar Wild Life Sanctuary :-**
   - Establishment – 1955
   - Location - Dholpur
9. **Van Vihar Wild Life Sanctuary :-**
   - Establishment – 1955
   - Location – Dholpur
10. **Kesar Bagh Wildlife Sanctuary :-**
    - Establishment - 1955
    - Location – Dholpur
      - **Special -** It was made by last ruler of Dholpur Udaybhan Singh.

11. Keladevi Wild Life Sanctuary :-

- Establishment – 1983
- Location **–** Karoli, Sawai Madhopur
  - **Special –** Dhok forests are the most found here.

12. National Chambal Alligator Sanctuary

- Establishment – 1979
- Location **–** Rajasthan, Uttarpradesh, Madhyapradesh
  - **Special –**
    - It is extended in five districts of Rajasthan – Dholpur, Karoli, Sawai Madhopur, Bundi and Kota.
    - It is famous for Alligator, Gangetic Sus (Dolphin)

13. Sawai Mansingh Wild Life Sanctuary :-

- Established **-** 1984
- Location **-** Sawai Madhopur

14. Sawai Madhopur Sanctuary :-

- Establishment - 1955
- Location - Sawai Madhopur
  - **Special -** At present it is overlat with Ranthambore National Park.

15. Ramgarh Vishdhari Wildlife Sanctuary :-

- Established - 1982
- Location **–** Bundi
  - **Special -**
    - Python/Python are found in this sanctuary.
    - The Mej river flows through this sanctuary.
    - Sandalwood tree and turmeric plant are found in this sanctuary.
    - The Kanak Sagar/Dugari Dam is located here.

16. Jawahar Sagar Wild Life Sanctuary :-

- Establishment – 1975
- Location **–** Bundi, Kota, Chittorgarh
  - **Special–** Famous for Alligators

17. Shergarh Wildlife Sanctuary :-

- Establishment– 1983
- Location **–** Baran
  - **Special –** It is famous for snakes, Shergarh fort and Parvan river.

18. Kumbhalgarh Wild Life Sanctuary :-

- Established – 1971
- Location **–** Udaipur, Pali and Rajsamand
  - **Special –** It is famous for wolves and Ranakpur Jain temple.

19. Sitamata Wildlife Sanctuary :-

- Established – 1979
- Location **–** Pratapgarh, Chittorgarh and Udaipur.
  - **Special –**
    - Mother land of chital.
    - Famous for flying squirrel, chausingha and pangolin (Adahula).
    - The Jakham River (Jakham Dam), Karmoi and Nalesar Rivers flow through this sanctuary.
    - Maximum biodiversity is found here.
    - Here teak forest and medicinal plants are found the most.

20. Bhensrodgarh Wildlife Sanctuary :-

- Established - 1983
- Location **–** Chittorgarh
  - **Special –**

- Famous for Alligators
- This sanctuary is located on the bank of Chambal and Brahamani rivers.

21. Bassi Wildlife Sanctuary :-

- Established - 1988
- Location **–** Chittorgarh
  - **Special –** Jaleshwar Mahadev Temple is situated in this sanctuary.

22. Phulwari Ki Naal Sanctuary :-

- Established - 1983
- Location - Kotada (Udaipur)
  - **Special –** The Som, Mansi and Wakal rivers flow in this sanctuary.

23. Jaisamand Wildlife Sanctuary :-

- Establishment - 1955
- Location - Udaipur
  - **Special -** It is known as colony of "aquatic animals ".

24. Sajjangarh Wildlife Sanctuary :-

- Establishment - 1987
- Location - Udaipur
  - **Special -**
    - The first biological park has been built in this.
    - It is the second smallest sanctuary of Rajasthan.

25. Todgarh Raoli Wildlife Sanctuary :-

- Establishment – 1983
- Location **-** Ajmer, Pali, Rajsamand

26. Mount Abu Wildlife Sanctuary :-

- Establishment – 2008
- Location **-** Sirohi

- **Special -**
  - It is famous for Eublepharis lizard and wild chicken.
  - The "Dikalptera abu ansis" flora is found in this sanctuary.

27. Darrah Wildlife Sanctuary :-

- Establishment - 1955
- Location **-** Kota and Jhalawar
  - **Special -** It is famous for Gagroni Parrot.

C. **Tiger Project :-** There are total 4 tiger projects in Rajasthan which are as follows -

S. No.	Tiger Project	Establishment	Extension	Area Km^2	Covered Area
1.	Ranthambore	1974	Sawai Madhopur, Karauli, Bundi, Tonk	1411	Ranthambore National Park, Sawai Madhopur Sanctuary, Keladevi Sanctuary, National Chambal Sanctuary
2.	Sariska	1978	Alwar, Jaipur	1213	Sariska Sanctuary, Sariska - "A" Sanctuary and Jamwaramadh Sanctuary
3.	Mukundra Hills	2013	Kota, Bundi, Jhalawar, Chittorgarh	760	Mukandra Hills National Park, Darrah Sanctuary, Chambal Sanctuary, Jawaharsagar Sanctuary
4.	Ramgarh Vishdhari	2021	Bundi, Bhilwara	1050	Ramgarh Vishdhari

D. Ramsar Site / Wetland Land :-

- Those wetlands where animals and birds get protection.
- It has been declared as Ramsar site.
- At present there are two Ramsar sites in Rajasthan.

(1) Keoladeo (1981) - Siberian Cranes

(2) Sambhar (1990) - Kurja and Flamingo

E. Conservation Reserve – 36

- At present there are **36** conservation reserves in the state.

S.No.	Conservation Reserve	Location
1	Jorbeer Garh Wala	Bikaner
2	Jawai Dam Leopard – I	Pali
3	Jawai Dam Leopard – II	Pali
4	Beed	Jhunjhunu
5	Bansyal – Khetri	Neem Ka Thana
6	Bansyal - Khetri Bagor	Neem Ka Thana
7	Mansa Mata	Jhunjhunu
8	Bisalpur	Tonk
9	Sundha Mata	Jalore, Sirohi
10	Shakambhari	Sikar, Jhunjhunu
11	Gagelav	Nagaur
12	Rotu	Nagaur
13	Gudha Vishnoyan	Jodhpur
14	Ummedganj Pakshi Vihar	Kota
15	Shahbad Conservation	Baran (largest in the state)
16	Beed grass fullia khurd	Bhilwara
17	Bagdara Crocodile	Udaipur
18	Rankhar	Sanchore
19	Shahabad – Foothills	Baran
20	wadakheda	Sirohi
21	Annually-Amagarh.	Jaipur
22	Ramgarh.- Key- Sunwas	Baran
23	Arwar Village (Khadmor)	Ajmer
24	pulling (kurja)	Jodhpur
25	Hamirgarh	Bhilwara

26	bamboo acid	Baran
27	Sorsan-I	Baran
28	Sorson – IL	Baran
29	Sorsan-III	Baran
30	mahseer	Udaipur
31	Beed. Fatehpur	Sikar
32	Beed. Estuary – A	Jaipur
33	Beed. Estuary-B	Jaipur
34	Amarkh Mahadev Leopard	Udaipur
35	Balasore	Sikar and Neem police station
36	Ganga Bhairav Valley	Ajmer

F. Hunting Prohibited Region – 33

- There are a total of 33 Prohibition Areas in Rajasthan.
- Maximum hunting prohibition area - Jodhpur (7)
- Largest - Kotsar Samvatsar - Churu – Bikaner
- Smallest – Kanaka Sagar (Bundi)

➢ **Other Major Hunting Prohibition Areas:-**

S.No.	Name	-	Place
1.	Jawai Dam	-	Pali
2.	Rotu	-	Nagaur
3.	Gudha Vishnoi	-	Jodhpur
4.	Ramdevra	-	Jaisalmer
5.	Jod Beed	-	Bikaner
6.	Deshnok	-	Bikaner

II. Ex – Situ:-

A. Zoo :- There are total 5 Zoo in Rajasthan.

1. **Jaipur Zoo :-** This is the first zoo house of the state which was established by Ram Singh-II in 1876 at Ram Niwas Bagh. Which is presently shifted to Nahargarh Sanctuary. Crocodile breeding center is located in it.
2. **Udaipur Zoo :-** This is the second zoo in the state. Which was established in 1878 at Gulabbagh (Udaipur).
3. **Bikaner Zoo :-** It was established in 1922. It is currently closed.
4. **Jodhpur Zoo :-** It was established in 1936 the zoo and Godavan breeding center are located here.
5. **Kota Zoo :-** It was established in 1954.

B. Deer Park - There are total 7 deer parks in Rajasthan.

S.No.	Deer Park	-	Location
1.	Ashok	–	Jaipur
2.	Sanjay	-	Jaipur
3.	Amrita Devi	-	Jodhpur
4.	Machiya Safari	-	Jodhpur
5.	Pushkar	-	Ajmer
6.	Sajjangarh	-	Udaipur
7.	Durg	-	Chittorgarh

➢ **Other Important Points :-**

(a) Main Wild Life –

1. **Chinkara –**
   - Declared as State Animal in 1981.
   - Scientific Name – "Gazella Gazella"
   - Antelope species of Chinkara are found in Rajasthan.
   - Nahargarh Sanctuary and National Desert Sanctuary are famous for Chinkara.

2. Godawan -

- Declared as State Bird in 1981.
- Scientific Name – "Ardeotis Nigriceps"
- It is also called "Great Indian Bustard" and "Son Chidiya".]
- It is mostly found in Jaisalmer (Desert Park), Ajmer (Sankhlia) and Baran (Sorsan).
- Godawan breeding centers are located at Jodhpur, Jaisalmer and Baran (Sorsan).
- It is included in the category of threatened species.
- The Godawan Conservation Act has been passed by the state government in 2014 for its protection.

3. Gagroni Parrot–

- Scientific Name - Alexandrine Parakeet.
- It is also called Hiraman parrot.
- It is a bird that imitates the human voice.
- It is found mostly in Mukundra Hills National Park in Rajasthan.

(b) Wildlife Mascot :- The Forest Department has declared one wildlife mascot for each district in March, 2016.

SNo.	District	-	Mascot
1.	Ajmer	-	Kharmor Bird
2.	Bhilwara	-	Peacock
3.	Alwar	-	Sambhar Deer
4.	Banswara	–	Bronze Winged Jacana
5.	Baran	-	Crocodile
6.	Barmer	-	Fox
7.	Bikaner	-	Batbar/Sand grouse

8.	Bharatpur	-	Siberian Crane
9.	Bundi	-	Golden Pheasant
10.	Chittorgarh	-	Four horned antelope (Chousingha)
11.	Churu	-	Blackbuck
12.	Jhunjhunu	-	Black pheasant
13.	Dausa	-	Rabbit
14.	Dholpur	-	Panchira (Indian Screamer)
15.	Dungarpur	-	Painted Stork (Jhanghil)
16.	Hanumangarh	-	Chhota Kilkila (King Fisher)
17.	Jaisalmer	-	Godawan
18.	Jalore	-	Bear
19.	Jhalawar	-	Gagroni Parrot
20.	Jodhpur	-	Kurja Bird
21.	Karauli	–	Alligator
22.	Kota	-	Otters (Udbilao)
23.	Nagaur	–	Flamingo
24.	Tonk	-	Swan
25.	Pali	–	Leopard
26.	Pratapgarh	-	Flying Squirrel
27.	Rajsamand	-	Wolf
28.	Sawai Madhopur	–	Tiger
29.	Sri Ganganagar	–	Chinkara
30.	Sikar	-	Shahin (Hawk)
31.	Udaipur	-	Tomb Brock
32.	Sirohi	-	Wild Chicken
33.	Jaipur	-	Chital (Spotted Deer)

❖ **Kailash Sankhala :-**

- It is related to Jodhpur in Rajasthan.
- Those who have been related to the conservation of wildlife (tigers).
- He is called "Tiger Man of India".
- He was awarded the Padma Shri award in 1992 and the Rajasthan Ratna in 2013.
- Famous Books of Kailash Sankhala - Tigerland, The Tiger, Return of the Tiger.

AGRICULTURE

- Agriculture is know as **"Gamble of Monsoon"**
- The plains are most fertile, where agricultural production is high. For this reason it is called **"the heart of agriculture"**.
- Agro climatic region in Rajasthan is - 10 while in India Agro climatic region – 15

❖ Importance of Agriculture :-

(1) Contribution in Employment

(a) India - 54.6%

(b) Rajasthan - 62%

(2) Contribution in International Trade

(a) Export - Edible Oil

(b) Import - Food Grains

(3) Contribution in GSVA (Gross State Value Added)

At Fixed Prices		At Current Prices	
Year	**Percent**	**Year**	**Percent**
2020 - 2021	30.45	2020 - 2021	30.98
2021 - 2022	28.85	2021 - 2022	30.23

(4) Contribution to Industries - Agro-based industry is about 15 percent, in which the largest industries are Cotton Textiles and Sugar Industry.

Springboard ACADEMY

❖ **Classification of agricultural crops :–**

A. Depending on the season

B. Depending on the usages

A. Depending on the season

1. Kharif / Syalu Crops –

☞ **Time** - June - July to September – October (Short day plant)

☞ **Crops :-**

- **Cereals** - Millet, Jowar, Rice, Maize, Ragi
- **Pulses** - Moong, Mauth, Chanwla, Arhar (Toor) Urad
- **Oilseeds**- Sesame, Soyabean, Groundnut, Castor, Sunflower,
- **Cash/Trade crops** - Cotton, Sugarcane, Guar, Jute (Golden fibre)

2. Rabi / Unalu Crops :–

(i) Time - October - November to March - April (Long day plant)

☞ **Crops :-**

- **Cerals –** Wheat, Barley
- **Pulses –** Lentils, Gram, Pea
- **Vegetable Format –** Mustard, Cumin, Fennel, Garlic, Onion, Ginger, Chilli Spice crops, Fenugreek
- **Cash crops** – Taramira, Isabgol, Opium, Tobacco, Linseed.

3. Zaid Crops :–

(i) Time - March - April to May – June

☞ **Crops :-** Muskmelon, Watermelon, Vegetables, Cucumber, Animal fodder.

B. Depending on the usage :-

1. Food Grains –

- Crops that are used as food crops.
  - **Kharif –** Bajra, Rice, Maize, Jowar
  - **Rabi -** Wheat , Barley, etc.
- **Note :-** The major food grain crop of Rajasthan is millet whereas the major food grain crop in the country/world is rice.

Springboard ACADEMY

2. **Pulses / Land Fertile Crops :–** crops that grow on agricultural land

Increases fertility, they are called pulse crops**.**

- **Kharif** – Moong, Mauth, Chanwla, Urad.
- **Rabi** – Gram, Lentils, Peas

- **Note:-** Arhar dal reduces the fertility of the land.

3. **Cash / Merchant Crops -**

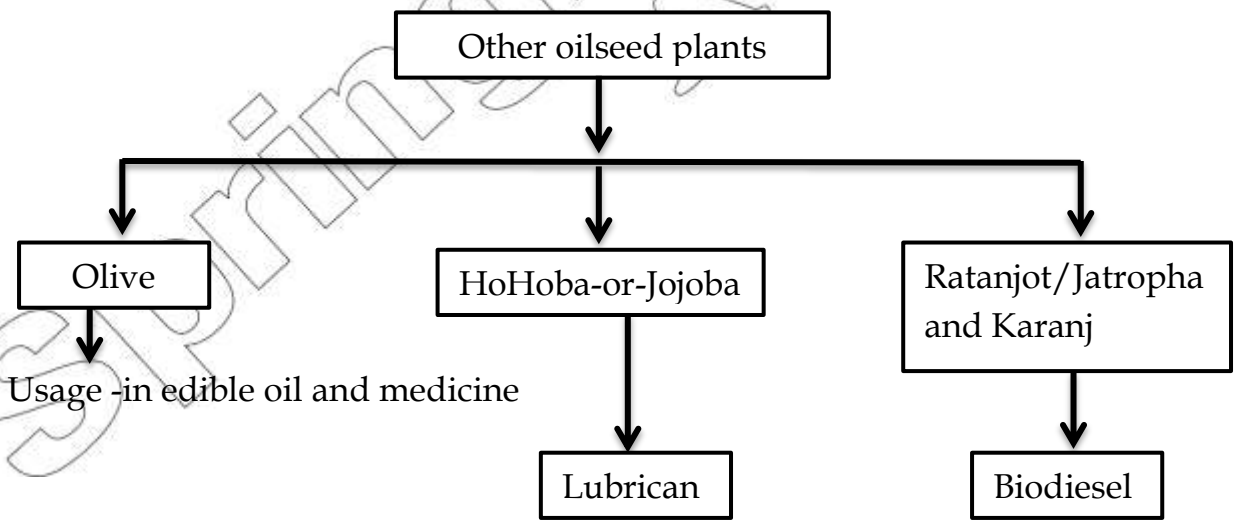
- Those crops which are used as raw material in industries.
- **Example -** Cotton, Groundnut, Mustard, Guar, Sugarcane

  Note :- The main commercial crop of the country or state is cotton.

4. **Oilseed Crops –**

- The crops from which oil is produced.
- **Example -** Sesame, Groundnut, Mustard, Taramira, Sunflower, Soyabean etc.

  Note :- The main oilseed crop of Rajasthan is mustard.



5. **Fibrous Crops –**

- The crops from which fiber is obtained.
- **Example -** Cotton, Jute etc.

6. Beverage Crops –

- Crops that are used as drink (drinking).
- **Example -** Tea, Coffee, Tobacco etc.

❖ Names of Major Crops

1.	Cotton	-	White Gold and Bania
2.	Opium	-	Black Gold
3.	Hohoba/Jojoba	-	Yellow gold/Golden of Desert
4.	Bamboo	-	The Green Gold of the Tribals
5.	Jowar (Sorgum)	-	The Bread of the Poor
6.	Isabgol	-	Horse Cumin
7.	Jute	-	Golden Fiber
8.	Peanuts	-	Poor's Almonds
9.	Maize	-	The Queen of Grains

❖ Physical conditions favorable to major agricultural crops

S.No.	Crop Name	Temperature	Rainfall Amount	Soil
1.	Millet	30^0 - 35^0 cm.	25 - 50 cm.	Sandy Soil
2.	Maize	21^0 - 27^0 cm.	50 - 80 cm.	Red Clay
3.	Barley	15^0 - 20^0 cm.	50 - 80 cm.	Alluvial
4.	Wheat	15^0 - 20^0 cm.	50 - 100 cm.	Alluvial
5.	Cotton	21^0 - 27^0 cm.	50 - 100 cm.	Black Soil
6.	Sugarcane	21^0 - 30^0 cm.	125 - 150 cm.	Alluvial
7.	Rice	21^0 - 28^0 cm.	150 - 200 cm.	Alluvial

Springboard ACADEMY

☑ Efforts being made for agricultural development –

(1) Agricultural and other revolutions –

S. No.	Name	The Product	S.No.	Name	The Product
1.	Green Revolution	Food Grains (Wheat, Rice)	8.	White Revolution / Operation Flood	Milk Production
2.	Yellow	Oilseeds Production	9.	Blue Revolution	Fish Production
3.	Red Revolution	Meat/Tomato	10.	Silver Revolution	Egg Production
4.	Amrit Kranti	Water/River Linking Project	11.	Kali/Krishna Revolution	Petroleum
5.	Round Revolution	Potato Production	12.	Gray Revolution	Cement Production
6.	Badami Revolution	Related to Spices	13.	Rainbow Revolution	All Food Related
7.	Sunrise Revolution	Tech Industry	14.	Golden Revolution	Horticulture

(2) Agricultural and Forest Research Center

S.No.	Name		Place
1.	Tabiji (Related to algebraic spices)	-	Dumada – Ajmer (2000)
2.	National Research Centre on Reepesed Mustard (NRCRM)	-	Sewar - Bharatpur (1993)
3.	Arid Horticulture Research Center	-	Beechwal - Bikaner (1993)
4.	Plum Research Center	-	Bikaner
5.	Date Research Center	-	Beechwal – Bikaner
6.	Millet Research Center	-	Barmer
7.	Rice Research Center	-	Banswara
8.	Maize Research Center	-	Banswara
9.	Jowar/Sorghum Research Center	-	Vallabh Nagar – Udaipur
10.	Isabgol Research Center	-	Jodhpur
11.	Rajasthan Agricultural Research Center (RARI)	-	Durgapura - Jaipur (1943)

Note :- Sewar, Tabeeji and Beechwal are the research center of ICAR.

(3) Special commodity/variety of agricultural crops –

S.No.	Name	-	Variety
1.	Millet	-	Raj. - 171, Tbth - 2, Tbth - 911, Tbh – 30
2.	Wheat	-	Kalyan Sona-1482, Sonalika, Malvika, Kohinoor, Mangala, Ganga Sunhari, Durgapura-65, Chambal-65, Maxion, Lal Bahadur, Sharbati, HD-3226
3.	Barley	-	Karan, Kailash, Kedar, Jyoti
4.	Maize	-	Mahi Kanchan, Mahi Dhaval, Pusa HM - 4, Pusa HM - 8, Pusa HM - 9, Arun, Kiran, Prabhat
5.	Cotton	-	Narma, Bikaneri Narma, RST-9, PST-9, Veeranar, Varaha Lakshmi
6.	Sugarcane	-	Co-419, Co-449, Co-1007, Co-1111, Co-0238 (Karan - 4)

☑ Major programmes of Agricultural Development –

1. National Horticulture Mission -

- **Launched Year -** 2005 - 06
- **Objective -** To increase horticulture agriculture.
- **Cooperation –** Center : State (60 : 40)
- Includes 24 districts of the state.

2. National Micro Irrigation Mission / On Farm Water Mission -

- **Launched Year -** 2005 - 06
- **Objective -** To promote drip and sprinkler irrigation system for effective and proper use of water resources.

3. National Agricultural Development Scheme -

- **Launched Year -** 2007 - 08
- **Objective -** To increase investment under the agriculture sector.
- **Cooperation -** Center: State (60: 40)

4. **National Bamboo Mission -**
   - **Launched Year -** 2007 - 08
   - **Objective -** To increase the production of bamboo crop.
   - **Note :-** Bamboo Mission is operating in 15 districts in the state which includes Karauli, Sawai Madhopur, Udaipur, Chittorgarh, Rajsamand, Bhilwara, Banswara, Dungarpur, Pratapgarh, Sirohi, Baran, Jhalawar, Sriganganagar, Bikaner and Jaisalmer.

5. **Project Golden Rays 2009 -**
   - 11th Five Year Plan to increase the production of maize in Udaipur, Banswara with very little improved varieties there.

6. **National Medicinal Plants Mission / AYUSH Mission -**
   - **Launched Year** - 2009 - 10
   - **Objective -** To promote medicinal plants.

7. **Soil Health Card -**
   - **Launched Year - February 19, 2015 (Suratgarh, Sri Ganganagar)**
   - **Objective -** To make proper use of fertilizers in the land.

8. **Prime Minister's Agricultural Irrigation Project (Theme-Per Drop More crop)-**
   - **Launched Year -** 2015 – 16
   - **Funding Pattern -** Central Government : State Government (60 : 40)
   - **Objective -** To provide water supply for irrigation to every farmer and every farm till 2020 and to adopt drip and sprinkler technology for irrigation.

Springboard ACADEMY

9. **Pradhan Mantri Fasal Bima Yojana –**
   - **Launched Year** - January 2016
   - **Theme -** One Nation One Scheme
   - **Premium Amount -**
     - Rabi - 1.5 percent
     - Kharif - 2 percent
     - Horticulture - 5 percent
     - In the next 3 years, with the expenditure of Rs.8800 crore on this scheme, the target of covering 50 percent of the farmers.
     - This scheme is mandatory for KCC (Kisan Credit Card) holders.

10. **Pradhan Mantri Kisan Samman Nidhi Yojana -**
    - Launched Year - February 1, 2019
    - **Amount -** Rs.6000 (Rs.2000 per 4 months)

11. **Mukhyamantir Beej Swavalamban Yojana -**
    - Launched Year – June 2017 (Kota, Bhilwara, Udaipur)
    - Note :- From 2018-19, the scheme is being implemented in all 10 agro-climatic zones (33 districts) of the state.
    - **Objective –** To promote the production of quality seeds by the fasrmers in their own fields.

☑ **Agricultural University –**

1. Swami Kesavanand Rajasthan Agricultural University – Bikaner (1987 AD)
2. Maharana Pratap University of Agriculture and Technology – Udaipur (1999)
3. Shri Karan Narendra Agricultural University - Jobner (Jaipur) (2013)
4. Jodhpur Agriculture University - Mandore (Jodhpur) (2013)
5. Agricultural University - Borkheda (Kota) (2013)

☑ Agricultural Policies –

1. **Latest Agriculture Policy of the State - 26 June 2013**
   - ➢ **Provisions –**
     - The target rate of the latest agriculture policy has been kept at 4%.
     - Note:- Target rate of agriculture in 12th five year plan is 3.5%.
     - Doubling the production of food grains in 10 years.
     - To increase the annual plan expenditure of agriculture from 6 percent to 10 percent.
2. **"Organic Agriculture Policy" of Rajasthan -**
   - Launched Year - June 2017
   - Objective - To do organic farming on 1 lakh hectare of agricultural land.
   - First organic district of Rajasthan - Dungarpur
   - First organic village of Rajasthan - Ghati village (Udaipur).

☑ Other Important Facts –

1. **K-3(Krishak Kalyan Kosh)/(Farmer Welfare Fund) –**
   - A farmer welfare fund of 1000 crores will be formed (17 Dec. 2019).
   - This fund will be used to get the farmers a fair price for their products.
   - Total Fund -75,000 Crores
2. **GRAM – Global Rajasthan Agritech Meet –**
   - It is an agricultural investment program, in which investment is made in agriculture, horticulture, animal husbandry, dairy and food processing.
   - ☞ **GRAM – I -** Jaipur (November 2016)
   - ☞ **GRAM – II -** Kota (June 2017)
   - ☞ **GRAM – III -** Udaipur (November 2017)
3. **An agricultural year -** from 1 July to 30 June.

SPRINGBOARD ACADEMY

☑ **Center of Agricultural Excellence-**

Excellence Center		District
1. Dates	-	Sagra Bhoj Ka (Jaisalmer)
2. Millet	-	Jodhpur
3. Fig	-	Sirohi (Proposed)
4. Citrus plants/spice and medicinal plants-	-	Jhalawar
5. Citrus plants	-	Kota
6. Vegetable	-	Bundi
7. Custard Apple	-	Chittorgarh
8. Guava	-	1st- Devdavas - Tonk 2nd- Sawai- Madhopur
9. Apiculture	-	Tonk (Proposed)
10. Flowers	-	Sawai- Madhopur
11. Pomegranate	-	Bassi (Jaipur Rural)
12. Dragon fruit	-	Bassi (Jaipur Rural)
13. Olive	-	Bassi (Jaipur Rural)
14. Amla, Mango, Olive	-	Khaimri (Dholpur)

Springboard Academy

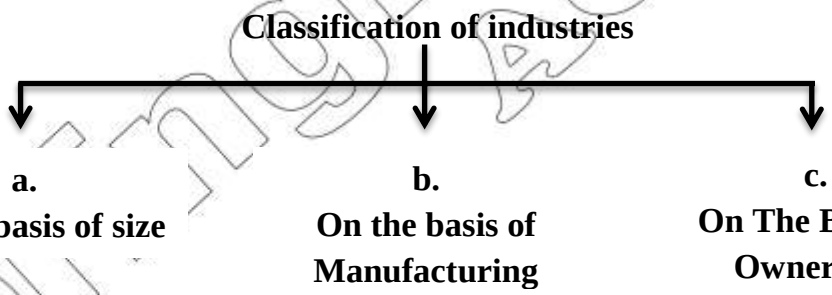
INDUSTRY

A. General Introduction
B. Classification of Industries
C. Industrial Development
D. Other Important Facts

A. General Introduction

- Rajasthan is a backward state of the country in terms of industries.
- The main reason for this is considered to be underdevelopment of infrastructure and climate.
- Kota is called the industrial city of Rajasthan due to rapid industrial development.
- Rajasthan ranks 10th in the country in terms of industries.
- Presently in Rajasthan :-
    1. **Jaipur** has the highest Industries / Factories in rajasthan.
    2. **Alwar** has the highest number of big industries in rajasthan

B. CLASSIFICATION OF INDUSTRIES :-



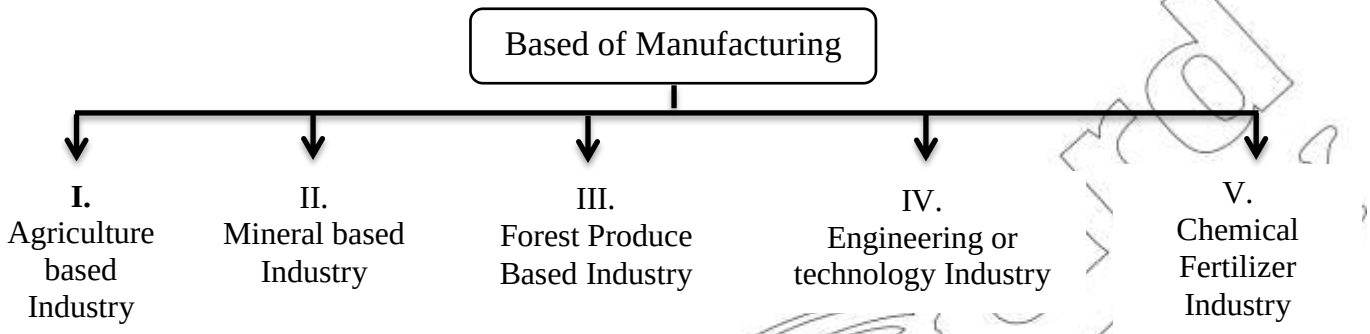
(a) **On the basis of size :-**

- On the basis of size, industries are divided into 3 parts, whose basis is capital and turnover.

	Industry	Capital/Investment	Turnover
1.	Micro Industries	1 crore	5 crore
2.	Small Industries	1 crore to 10 crore	5 – 50 crore
3.	Medium Industries	10 to 50 crore	50 – 250 crore

- **Cottage Industry :-** Low technology based industries whose purpose is to make a living rather than to get profit.

(b) **On the basis of manufacturing :-** On the basis of manufacturing industries are classified on the basis of raw material.



I. **Agriculture based Industry : –**

1.Cotton Textile Industry

2. Sugar Industry

3. Wool Industry

4. Vegetable Ghee and Mustard Oil Industry

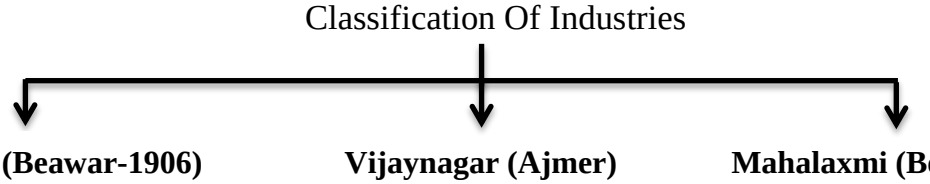
5. Dairy Industry

6. Biodiesel

7. Olive Oil Industry

1. Cotton Textile Industry :-

- Raw Material - Cotton
- First cotton textile mill - **The Krishna Cotton Mill**
  - Establishment - 1889 (Beawar, Ajmer)
  - Founders - Seth Damodar Das Rathi and Colonel Dixon



Rajasthan Co-operative Cotton Textile Mill

- **Rajasthan Co-Operative Spinning Mill, Gulabpura (Bhilwara-1965)**
- **Gangapur Co-Operative Spinning Mill (Bhilwara-1981)**
- **Sri Ganganagar Cooperative Spinning Mill (Hanumangarh-1978)**

❖ **SPINFED (Rajasthan State Cooperative Spinning and Ginning Mills Federation Limited)**

- Established – 1 April, 1993
- It is a union of cooperative cotton textile mills.
- In which all three cooperative cotton textile mills and Gulabpura Spinning Cooperative Textile Mill are included.

➢ **Other important facts :-**

1. The cotton textile industry is the largest agro-based industry.
2. It is a traditional industry.
3. Women are mostly employed in this industry.

➢ **Maharaja Umaid Mills Limited** :-

- Established -Pali (1942)
- which is the largest cotton mill of Rajasthan.

Note:- Bhilwara is called Manchester / Textile City of Rajasthan.

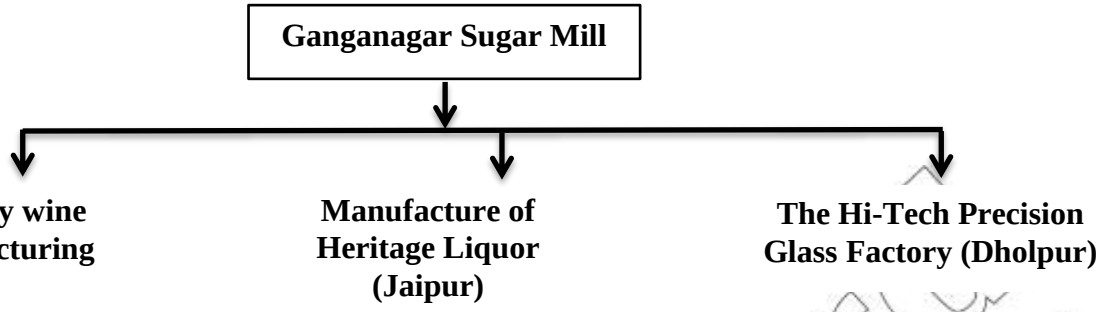
2. Sugar Industry :-

- Raw Material - Sugarcane and Beetroot

Sugar Mills in Rajasthan

- Mewar Sugar Mill (1932) Chittorgarh
  First - Private Sugar Mill
  Udaipur Sugar Mill (1976)
- Ganganagar Sugar Mill (1937) Sriganganagar
  First - Public Sugar Mill
- Keshoraipatan Sugar Mill (1965 Bundi)
  First - Co-operative Sugar Mill

Note :- Ganganagar Sugar Mill is the only sugar mill. Where sugar was made from sugarcane and beetroot (1968). Currently it is closed. It currently operates three ventures.



3. Wool Industry:-

- Rajasthan (34.46 percent) ranks first in the country in wool production.
- **Major wool industry -**
  1. Central Wool Board – Jodhpur
  2. Highest wool production in Rajasthan – Jodhpur
  3. Largest wool market in Rajasthan – Bikaner
  4. Wool Testing Laboratory – Bikaner
  5. State Wool Mill – Bikaner
  6. Wool Training Center – Jaipur
  7. Central Sheep and Wool Research Center - Avikanagar (Tonk)

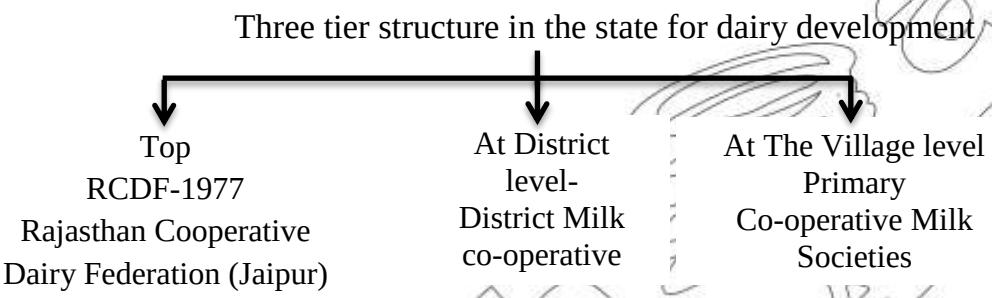
4. Vegetable Ghee and Mustard Oil Industry:-

- First Vanaspati Ghee Factory in Rajasthan - Bhilwara (Established 1964)
- Presently highest production of vegetable ghee - Jaipur
- Production of mustard oil highest - Jaipur
- **Major factories of Mustard oil -**
  1. Chambal – Jaipur
  2. Veer Balak – Jaipur
  3. Netaji – Jaipur
  4. Engine Mark – Bharatpur

SPRINGBOARD ACADEMY

5. Dairy Industry:-

- The maximum development of dairy industry in Rajasthan has happened in Jaipur.
- First Dairy of Rajasthan - Padma (Ajmer) 1938
- Rajasthan State Dairy Development Corporation was established in 1975 in Jaipur in collaboration with the World Bank.
- Three tier structure has been made in the state for dairy development.



➢ RCDF (Rajasthan Co-Operative Dairy Federation) It was created in place of Rajasthan Dairy Development Corporation.

➢ **Note:- Major Dairy operating in Rajasthan:-**

1. WRMUL - Western Rajasthan Milk Union Ltd. ranslated (Jodhpur)
2. URMUL) - Uttari Rajasthan Milk Union Ltd. (Bikaner)
3. Gangmul - Ganganagar Milk Union Ltd. (Ganganagar)
4. Metro Dairy – Govindgarh (Jaipur Rural)
   - Capacity - 11 lakh liters
5. Camel Milk Dairy
   - 1st Johadbeed (Bikaner-2009)
   - 2st Pokaran (Jaisalmer-2021)

✓ The center of marketing of camel milk has been established in Jaipur.

- Capacity - 2100 liters/day

6. Biodiesel :-

- Raw Material – Ratanjot / Jatropha and Karanj
- Biodiesel Refinery - Kaldwas (Udaipur)
- Biodiesel Plant - Jhamar Kotra (Udaipur)

7. Olive Oil :-

- Raw Material - Olive
- Olive Refinery - Lunkaransar (Bikaner)
- Note:- Olive Tea – Plant has been established in Bassi (Jaipur)

II. **Mineral based Industries:-**

1. Cement Industry
2. Glass Industry
3. Salt Industry
4. Marble Industry
5. Granite Industry
6. Asbestos Industry

1. Cement Industry :-

- Raw Material - Limestone, Gypsum and Silica
- First cement factory in Rajasthan 1912 - 1913 – ACC (Associate Cement Company)
- Location - Lakheri (Bundi)

➢ **White Cement Factory:-**

1. JK White Cement Factory - Gotan (Nagaur)
2. JK White Cement Factory - Mangrol (Chittorgarh)
3. Birla White Cement Factory - Khariakhangar (Jodhpur)

➢ **Major units of cement production:-**

1. JK Cement Factory - Nimbahera (Chittorgarh)
2. Ultratech Cement Factory - Chittorgarh
3. Chetak Cement Factory - Chittorgarh
4. Lafarge Cement Factory - Chittorgarh

5. Associate Cement Company - Lakheri (Bundi)
6. Bangar Cement Factory - Pali
7. Binani Cement Factory - Pindwara (Sirohi)
8. Shree Cement - Beawar (Ajmer)
9. Shri Ram Cement - Shriram Nagar (Kota)
10. Grasim Cement Factory - Kotputli (Jaipur)
11. Mangalam Cement Factory - Modak (Kota)
12. Jaipur Cement Factory - Sawai Madhopur

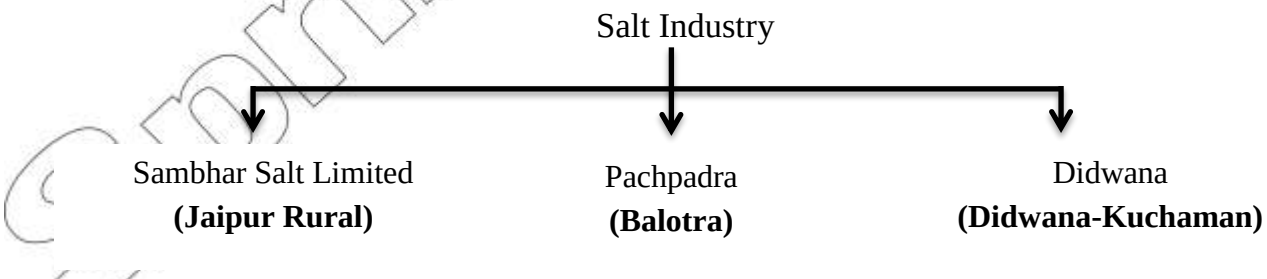
2. Glass Industry :-

- Raw Material:- Silica sand, sodium sulphate, saltpeter (obtained from sugar industry)
- Highest development of glass industry in Rajasthan – Dholpur

Major Glass Factory

Dholpur	Kota	Alwar
1. Dholpur Glass Factory	1. Samcor Glass Factory	1. Saint Gobain Glass Factory
2. The Hi-tech Precision Glass Factory		

3. Salt Industry - The main base of this industry is the salt water lakes of Rajasthan.



4. Marble Industry :-

- Rajasthan is considered to be the first in this industry in the country.
- Marble is produced the most from Rajsamand. Because here marble production/processing units are maximum.

- Kishangarh (Ajmer) is the largest center of marble market.
- The white marble of Rajasthan (**Makrana- Didwana-Kuchaman**) is considered world famous.

5. Granite Industry :-

- Most of this stone is produced from Jalore, Barmer, Sirohi region of Rajasthan.
- Jalore is known as the Granite City in Rajasthan.

6. Mica Industry:-

- Mica Brick Factory in Rajasthan - Bhilwara
- Bhilwara is also known as mica city.
- Use - This product is used to make electronic equipment.

III. Forest Produce Based Industries:-

- Wood Carved Furniture - Barmer
- Gum Production (Chauhatan-Barmer)
- Tussar Silk Production (Programme - 1986) operated in Udaipur, Banswara, Kota

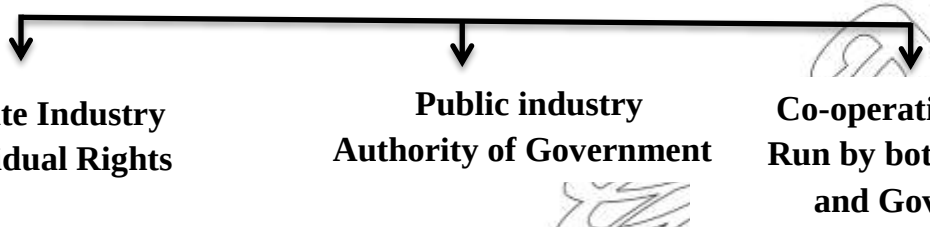
IV. The engineering or technical industry:-

Industry	Product	Location
National Engineering Company	Ball and Bearing	Jaipur
Jaipur Metals	Electricity Meters	Jaipur
Capstan meter	water meter	Jaipur, Pali
Rajasthan Electronics Corporation	T.V.	Jaipur
Mann Industries	Iron Door & Tower Construction	Jaipur
Cable Industries	Cable	Kota
Instrumentation	Equipment/Machine	Kota
J & K Electronics	TV	Kota
Florespar Plant	Iron Mixing Plant Construction	Dungarpur
CIMMCO Wagon Factory (1957)	Railway Coach	Bharatpur

V. Chemical Fertilizer Industry :-

1. Chambal Fertilizers and Chemicals – Gadepan (Kota)
2. National Chemicals and Fertilizers (DAP – Diammonium Phosphate) - Kapasan (Chittorgarh)
3. Rajasthan State Chemical Works - Didwana (Nagaur)

c. On the basis of ownership –

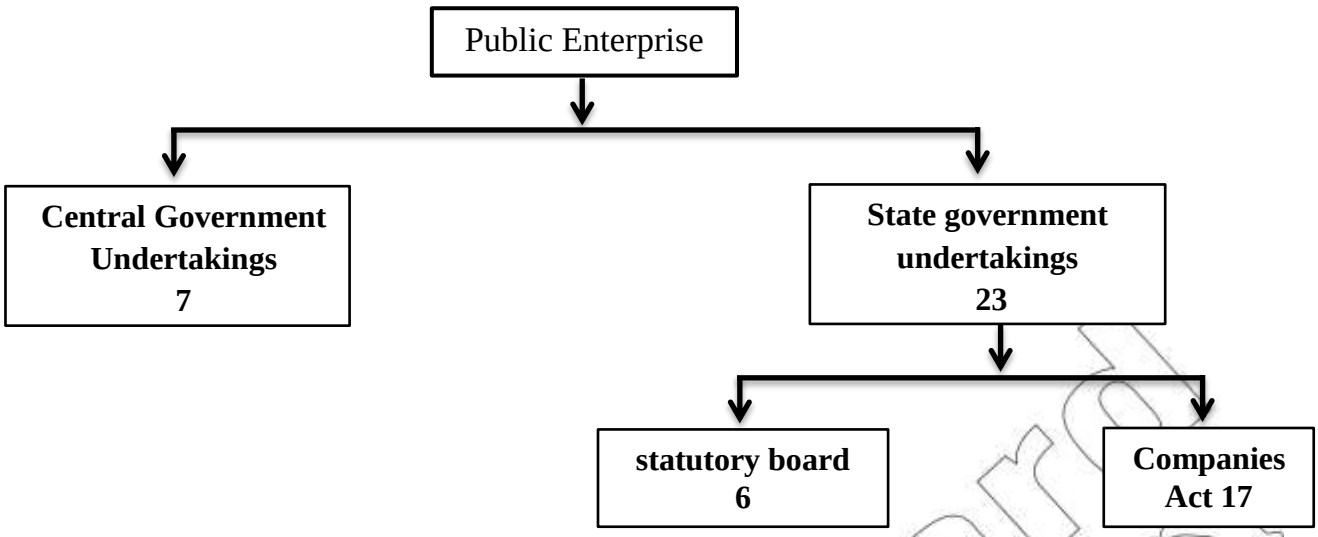


Private Industry
Individual Rights

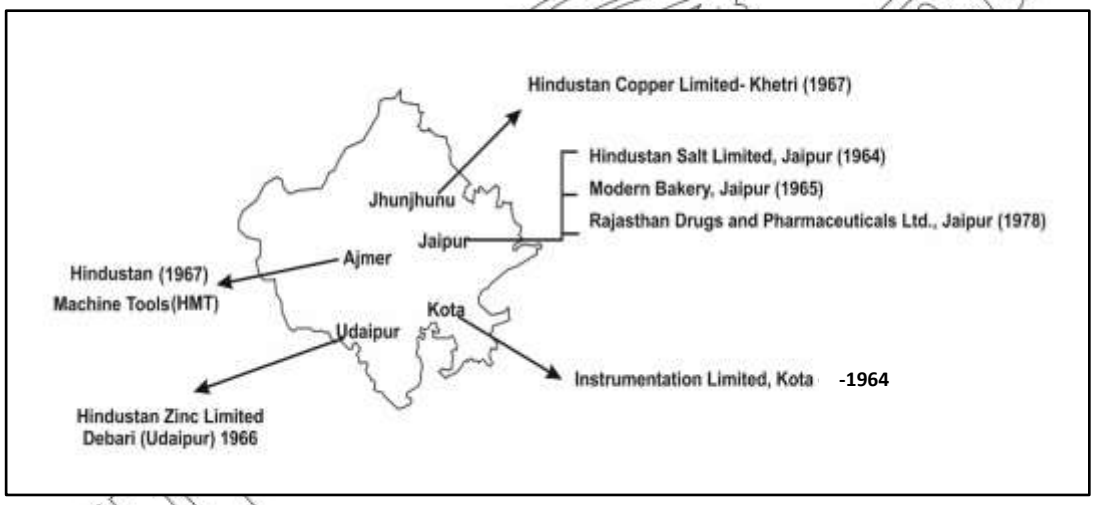
Public industry
Authority of Government

Co-operative industry
Run by both individual and Government

Springboard ACADEMY



- **Central Government Undertakings/Industries :- 7**



- **State Government Undertakings :-**
  - **Statutory Board - 6**

1955	-	Rajasthan Finance Corporation
1957	-	Agricultural Warehousing Corporation
1st October, 1964	-	Rajasthan State Road Transport Corporation (RSRTC)
1970	-	Rajasthan Housing Board Corporation - (RHB)
1974	-	State Agricultural Marketing Board
1975	-	State Land Development Corporation

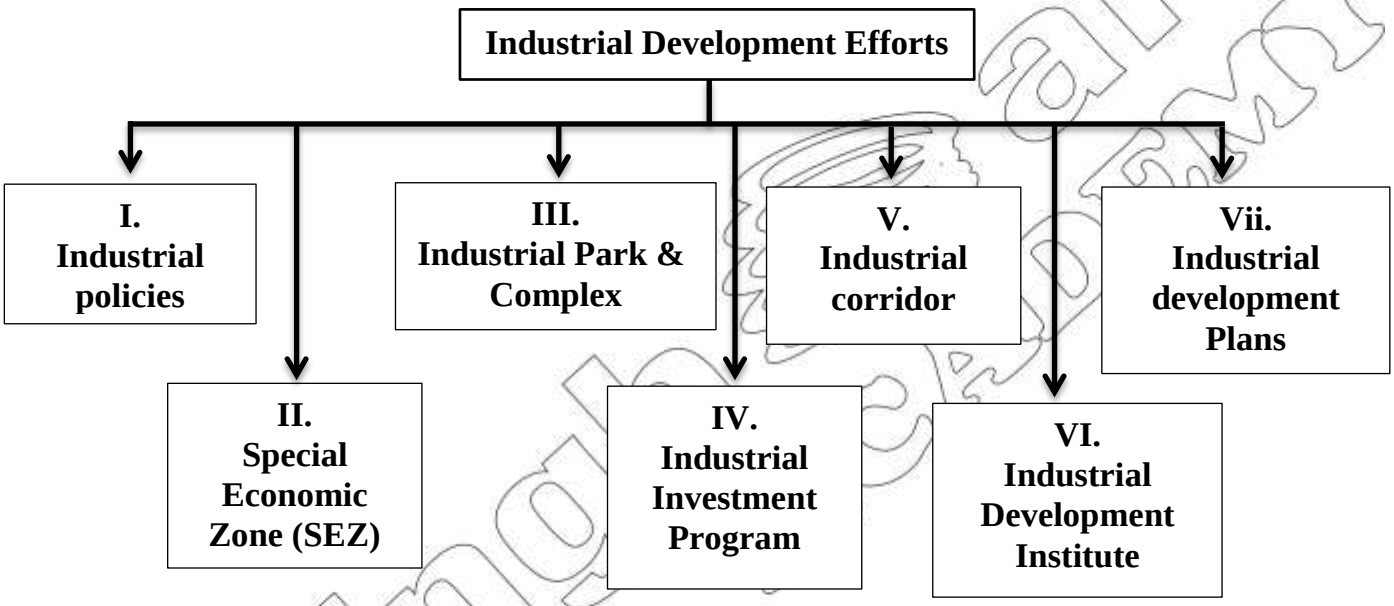
➢ **Companies Act – 17**

Note -

➢ Undertakings operated under the Companies Act of Rajasthan - 17 of which the main

1. RSMML - Raj State Mines & Minerals Ltd. (1974) - Udaipur
2. State Electricity Distribution Corporation - Jodhpur, Ajmer, Jaipur
3. REIL – Rajasthan Electronics & Instruments Ltd. Kanpur (Jaipur)

C. Industrial Development Efforts :-



I. Industrial policies :-

➢ **General Policies**

1. 1978
2. 1991
3. 1994
4. 1998
5. 2010
6. 1st July 2019 Latest Industrial Policy.

➢ MSME Policy :–

- Micro Small Medium Enterprises Policy was issued on 20 November 2015.
- 17 September, 2022

➢ Handicrafts Policy :- 17 September, 2022

II. Special Economic Zone (SEZ) :–

- The SEZ programme in the state is run by RIICO.

➢ **Major SEZs of Rajasthan :–**

S.No.	SEZ	Related Area	Status
1.	Boranada SEZ	Guargum, Handicraft	Jodhpur(Mansarover)
2.	Sitapura SEZ	Gems & Jewellery	Jaipur
3.	Mahindra SEZ	IT, Handicraft	Jaipur (Kalwara)
4.	Somani SEZ	Hardware and Software	Alwar
5.	RNB SEZ	Textile	Bikaner
6.	Vatika SEZ (Proposed)	I.T.	Jaipur

III. Industrial Park and Complex :-

1. Japanese Park (JETRO– Japan External Trade Organization)
   - ☞ 1st Neemrana (Alwar
   - ☞ 2nd Ghilot (Alwar)
2. Korean Park (GWJT) - Ghilot (Kotputli- Bahror)
3. Ceramic Zone – Ghilot (Kotputli- Bahror)
4. Agro Food Park
   - ☞ Sri Ganganagar
   - ☞ Jodhpur
   - ☞ Kota
   - ☞ Alwar
5. Mega Food Park
   - ☞ Roopangarh - Ajmer
   - ☞ Mathania - Jodhpur (Proposed)
6. Information Technology Park (IT Park)
   - ☞ Jaipur
   - ☞ Kota
   - ☞ Udaipur
   - ☞ Jodhpur

Springboard ACADEMY

7. Spices Park (Chhapbam Chant)
   - ☞ 1st Mathania – Jodhpur
   - ☞ 2nd Ramganj Mandi - Kota
8. Garment Park / Apparel Park
   - ☞ Jagatpura (Mahal Road), Jaipur
9. Stone Park
   - ☞ Mandore, Jodhpur
   - ☞ Masalpur, Karauli
   - ☞ Vishnoda, Dholpur
   - ☞ Mandana, Kota
10. Software Park
    - ☞ Kanakapura, Jaipur

    (REIL-Rajasthan electronics Instrument Limited)
11. Flower Park
    - ☞ Khushkheda (Khairthal -Tijara)
12. Hosiery Park
    - ☞ Chaupanki (Khairthal Tijara)
13. Export Promotion Industrial Parks
    - ☞ Sitapura (Jaipur)
    - ☞ Boranada (Jodhpur)
    - ☞ Neemrana (Kotputli- Behror

Note :- Country's first export promotion industrial park - Sitapura, Jaipur (1997)

☑ Complex

1. Wool complex :-
   - ☞ Khara (Bikaner)
   - ☞ Beawar (Ajmer)
   - ☞ Gohna (Ajmer)
   - ☞ Narbadkheda (Ajmer)

Springboard ACADEMY

2. Ceramic Complex :-
   - ☞ Khas (Bikaner)
3. Leather complex
   - ☞ Manpura- Machedi (Jaipur Rural)
4. Petro Complex
   - ☞ Balotra

IV. Industrial Investment Program

1. Resurgent Rajasthan First – 2008
2. Resurgent Rajasthan Second – 19 - 20 November, 2015
3. Nivesha/Invest Rajasthan Summit,2022
4. Rising Rajasthan Global Investment (2024) – (9 to11 December,2024)

- Among all the above programmes, maximum investment has been made in the **'Energy sector'**
- **Rajasthan Rising figures are yet to come. (Update)**

Note:- Nodal agency to organize the investment programme – B.I.P.
- Bureau of Investment Promotion
  - ☞ Formation - 1991
  - ☞ Objective - Industrial investment of more than 10 crores

V. Delhi-Mumbai Industrial Corridor (DMIC – Delhi Mumbai Industrial Corridor)

- Technical and economic cooperation in this project has been done by "Japan".
- The extension of this project is from Dadari (Uttar Pradesh) to Jawaharlal Nehru Port (Mumbai-Maharashtra).
- The total length of this industrial corridor is 1504 km. Of which 38 %(570 Km.) will be in Rajasthan.
- Mainly 7 districts of Rajasthan are included in this industrial corridor while 22 districts have been included in its area of influence.

- In this industrial corridor, 24 industrial areas and 8 industrial investment zones will be made. In which 3 industrial areas and 2 industrial investment areas of Rajasthan have been included.

➢ **Investment Area :-**

1. Kishangarh Investment Zone – Ajmer-
2. Khushkheda - Bhiwadi - Neemrana – Alwar

➢ **Industrial Area :-**

1. Jaipur - Dausa Industrial Area
2. Rajsamand - Bhilwara Industrial Area
3. Pali-Marwar Industrial Area



VI. Industrial Institute:-

A. RFC
B. RAJSICO
C. RIICO
D. RUDA

A. RFC (Rajasthan Financial Corporation) –

- Established - January, 1955
- Headquarters – Jaipur
- Objective :-
    - To provide short term loan to Micro small and medium industries. (Loan amount 2000-20 crores)

➢ **Schemes of RFC :-**

1. **Flexi Loan Scheme -** Under this scheme, to provide loans to Micro, small and medium industries at affordable rates.
2. **Top Up Scheme -** Scheme for providing loans to small scale industries for technical and machinery development.
3. **SEMFEX SCHEME (Self Employed for Ex-Serviceman Scheme) -** Scheme to help ex-servicemen to set up industries.

B. RAJSICO – Rajasthan Small Industries Corporation Limited

- Established – June , 1961
- Headquarters – Jaipur
- Objective :-
    - To provide training in tribal areas.
    - To provide raw material, machinery and technical facilities to small scale industries.
    - RAJSICO does the work of marketing the goods produced from small scale industries.

C. RIICO-Rajasthan State Industrial Development and Investment Corporation Limited –

- Established in 1969, while reorganization was done in 1980.
- Headquarters – Jaipur

➢ **Objective :-**

- To provide long term loan to small, medium and large scale industries.
- Providing land for industries.
- This is the apex body of industries in Rajasthan.

D. RUDA – Rual Non-farm / Agriculture Development Agency -

- Establishment – 1995
- Headquarters – Jaipur
- **Objective:-**
  - To provide training related to various sectors in non-agriculture sectors.
  - The training areas of RUDA are related to wool and textile industry, leather industry, minor minerals.

VII. Industrial Development Schemes :-

(i) Mukhya Mantri Swavalamban Yojana –

- Launched – 2013
- **Objective :–** Under this scheme, to provide loan up to Rs 10 lakh to hand based and artisans to set up their own industry.

(ii) Mukhya Mantri Yuva Udhyamita Protsahan Abhiyan

- Launched – 2013
- Purpose - To provide financial support and loans to the youth who have a plan to set up industry.

Note - Eligibility for this scheme

- Age - 18-45 years
- Qualification - 10^{th} + ITI or Graduate
- Loan amount - 25 lakhs - 5 crores

(iii) Start- up Scheme –

- This is a scheme of the Central Government.
- Launched - 9 October 2015 in Rajasthan
- Under this scheme, to give financial support to the entrepreneurs who set-up industrial plans.

Note - Rajasthan is the 5^{st} state of the country under this scheme. (Karnataka, Kerala, Andhra Pradesh, Gujarat)

(iv) Aside Scheme -

- Scheme launched to promote industrial exports.
- Launched - March 2002

➢ **Other important points related to industries -**

i. For industrial development -

☞ **At District Level :–**

- District Industries Center - 36
- Sub Station – 8

ii. Single Window Clearance Act – 2011

iii. E-Governance and IT Policy - November 2015

iv. Special Industrial Institutes of the State -

✓ Computer Aided Carpet Design Center – Jaipur

✓ Computer Aided Textile Design Center - Bhilwara

✓ Brahmagupta Research and Development Institute - Jodhpur

✓ Foot Wear Design Center - Mandore (Jodhpur)

✓ NIFT (Naional Insitute of Fashion Technology) - Jodhpur

✓ Ceramic Research & Development Center - Bikaner

Springboard ACADEMY

ENERGY

A. Energy Production
B. Classification of Energy
C. Schemes related to Energy
D. Institutions related to Energy

- Energy plays an important role in Industrial, Economical and Infrastructural development of a state.
- At the time of independence, the total installed power capacity in Rajasthan was 13.2 MW.
- At present the total installed power capacity in Rajasthan is **24783.64 MW** (Till March).

A. **Currently Producing Energy :-**

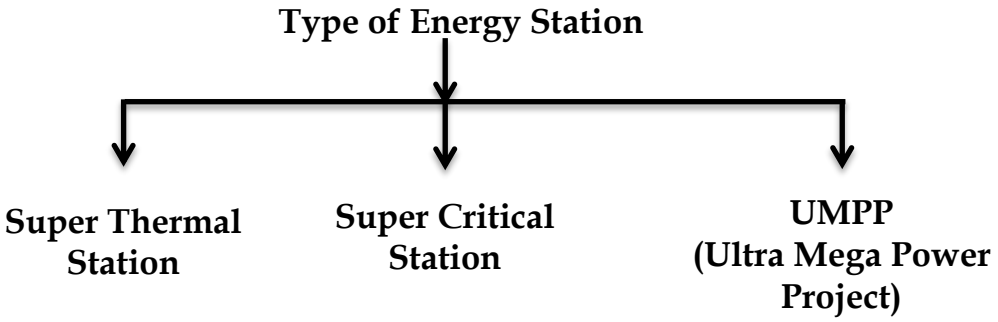
(MW)

S. No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
1. State Owned projects/ Shared projects						
(a)	Thermal	6510.00	7170.00	7830.00	7830.00	7830.00
(b)	Hydel	1017.29	1017.29	1017.29	1017.29	1017.29
(c)	Gas	603.50	603.50	603.50	603.50	600.50
Total (1)		**8130.79**	**8790.79**	**9450.79**	**9450.79**	**9447.79**
2. Allocation to State from Central Sector projects						
(a)	Thermal	1870.46	1903.46	1947.41	1916.37	1916.37
(b)	Hydel	740.66	740.66	740.66	740.66	740.66
(c)	Gas	221.10	221.10	221.10	0.00*	0.00
(d)	Atomic	456.74	456.74	456.74	456.74	456.74
Total (2)		**3288.96**	**3321.96**	**3365.91**	**3113.77**	**3113.77**

S. No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
3. RREC, RSMML and Private Sector Wind/ Biomass/ Solar projects						
(a)	Wind	3734.10	3734.10	3734.10	3730.35	4359.63
(b)	Biomass	101.95	101.95	101.95	109.95	109.95
(c)	Solar (with KUSUM PPA)	2178.10	2288.10	3057.60	3362.10	4010.50
(d)	Thermal/Hydel	3742.00	3742.00	3742.00	3742.00	3742.00
Total (3)		**9756.15**	**9866.15**	**10635.65**	**10944.40**	**12222.08**
Total (1+2+3)		**21175.90**	**21978.90**	**23452.35**	**23508.96**	**24783.64**

1. Thermal energy contributes is maximum in energy.
2. Coal contributes is maximum in thermal energy.

B. Type of Energy Station



(i) Super Thermal Station

- If the total Capacity of a power station is more than 1000 MW then it is called "Super Thermal Power Station."
- **Example :-**
  - Suratgarh Super Thermal Station
  - Kota Super Thermal Station
  - Chabda Super Thermal Station

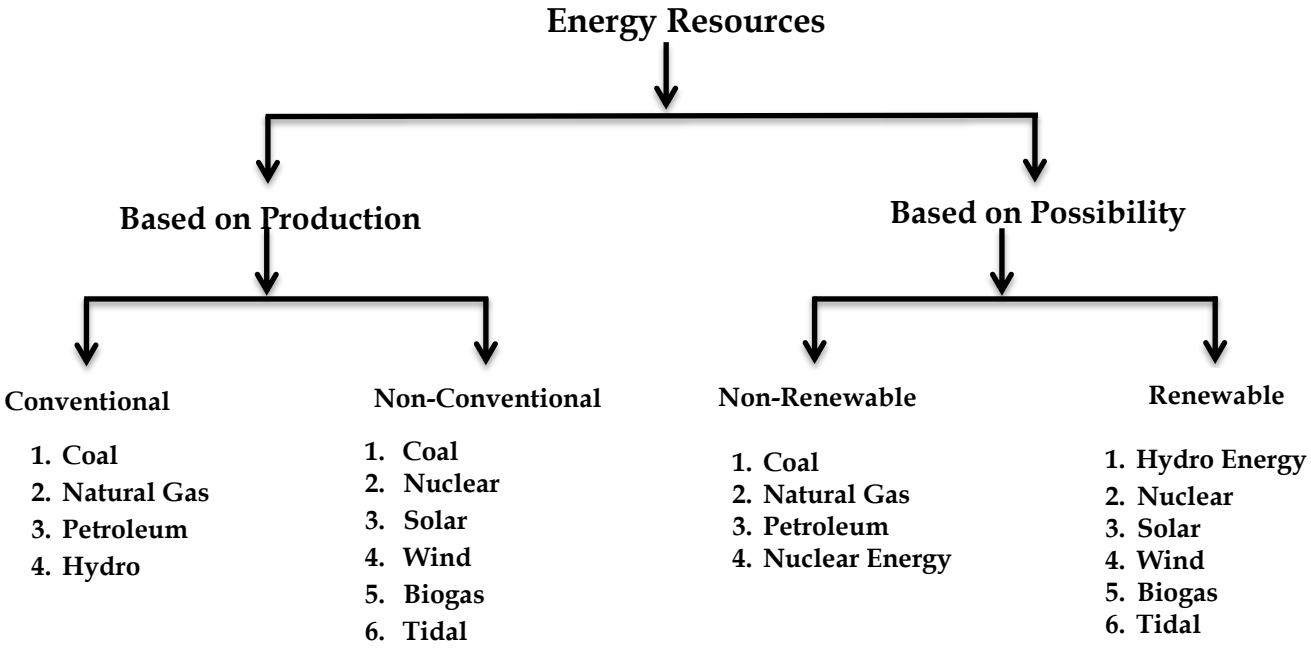
(ii) Super Critical Station

- If the generation capacity of one unit of power station is more than 500 MW, then it is called "Super Critical Power Station."
- Example **:-**
  - Chabda (Baran)

(iii) UMPP (Ultra Mega Power Project)

- Each Power Station with a capacity of 4000 MW or above.

C. Classification of Energy Resources



(a) Conventional Energy Resources

- These energy resources which are being consume since a long time and does not require new technologies to get energy from them are called conventional energy resources.
- **Example :–**

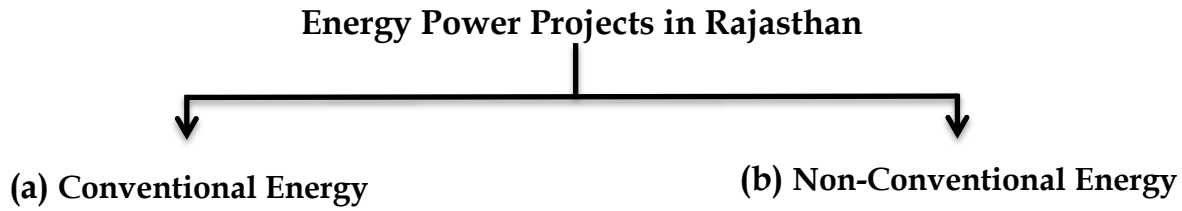
  1 Hydro Power,
  2 Thermal Power **:–**
    1. Coal
    2. Gas
    3. Petroleum

(b) Non-Conventional Energy Resources

- These energy resources which are relatively new and which utilized advanced technology obtain energy from them are called Non-Conventional energy resources.
- **Example :–**

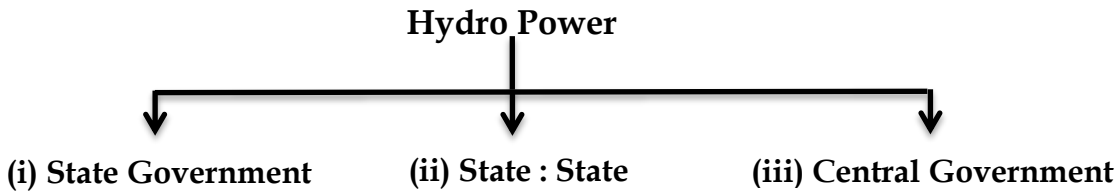
  1 Nuclear Energy
  2 Wind Energy

3 Biogas Energy
4 Biomass Energy
5 Tidal Energy



(a) Conventional Energy :-

(I) Hydro Energy :-



(i) STATE GOVERNMENT'S HYDRO POWER PROJECTS

1. **Jakham Small Hydro Power Project** – Pratapgarh
   Production Capacity - 5.4 MW
2. **Anas Hydro Power Project –** Banswara
   Production Capacity - 140 MW
3. **Indira Gandhi Small Hydro Power Project**
   Production Capacity - 23.85 MW

(ii) STATE : STATE RUN HYDRO POWER PROJECT

1. Bhakhra – Nangal Hydro Electric Project

☞ State Getting Benefit :–

1. Rajasthan
2. Punjab
3. Haryana

- Production Capacity - 1493 MW
- Share of Rajasthan **-** 15.2% (227 MW)

2. Vyas Hydro Electric Project

- States getting benefit –
    1. Rajasthan
    2. Punjab
- Rajasthan's Share **-** 422 MW

3. Mahi–Bajaj Sagar Hydro Electric Project

- States Getting Benefit - Rajasthan and Gujarat (45 : 55)
- This project has been built in two phases.
    (i) 2 Unit x 25 MW = 50 MW
    (ii) 2 Unit x 45 MW = 90 MW
- 100% Electricity Generated in this project should be consumed in Rajasthan only.(140 Mw.)

4. Chambal Hydro Electric Project -

- Joint Scheme of Rajasthan and Madhya Pradesh.
- Contribution of Rajasthan and MP in the scheme is equal (50 **:** 50)
- Three dams will produce a total of 386 MW of hydro power in this project.
    1. Gandhi Sagar - 23 MW x 5 Unit = 115 MW
    2. Rana Pratap Sagar - 43 x MW x 4 Unit = 172 MW
    3. Jawahar Sagar - 33 MW x 3 Unit = 99 MW

5. Rahughat Project (Karauli)

- Proposal Project :-
    1. On Chambal River
    2. Joint Scheme of Rajasthan and M.P.
    3. Production Capacity = 79 MW

(iii) HYDRO POWER PROJECTS OF CENTRAL GOVERNMENT

1. **Salal Project -** Jammu and Kashmir
   - ☞ This project is run on Chenab river
   - ☞ This project is run by NHPC (National Hydro Power Corporation)
   - ☞ J&K, Rajasthan, Uttar Pradesh, Punjab, Haryana, Delhi and Chandigarh gets benefit from this project

2. **Dulhasti Project -** Jammu and Kashmir
   - ☞ This project is run by NHPC.
   - ☞ This project is run on Chenab River
   - ☞ Jammu and Kashmir, Rajasthan Uttar Pradesh, Punjab, Haryana, Delhi and Chandigarh gets benefit from this project.

3. **Uri Project -** Jammu and Kashmir
   - ☞ This project is run on Jhelum River.
   - ☞ This project is run by NHPC.
   - ☞ Jammu and Kashmir, Rajasthan, Uttar Pradesh, Punjab, Haryana, Delhi and Chandigarh gets benefit from this project.

4. **Parvati Project -** Himachal Pradesh
   - ☞ This project is run on Parvati River.
   - ☞ This project is run by NHPC.
   - ☞ Gujarat, Rajasthan, Haryana, Delhi, Himachal Pradesh gets benefit from this project.

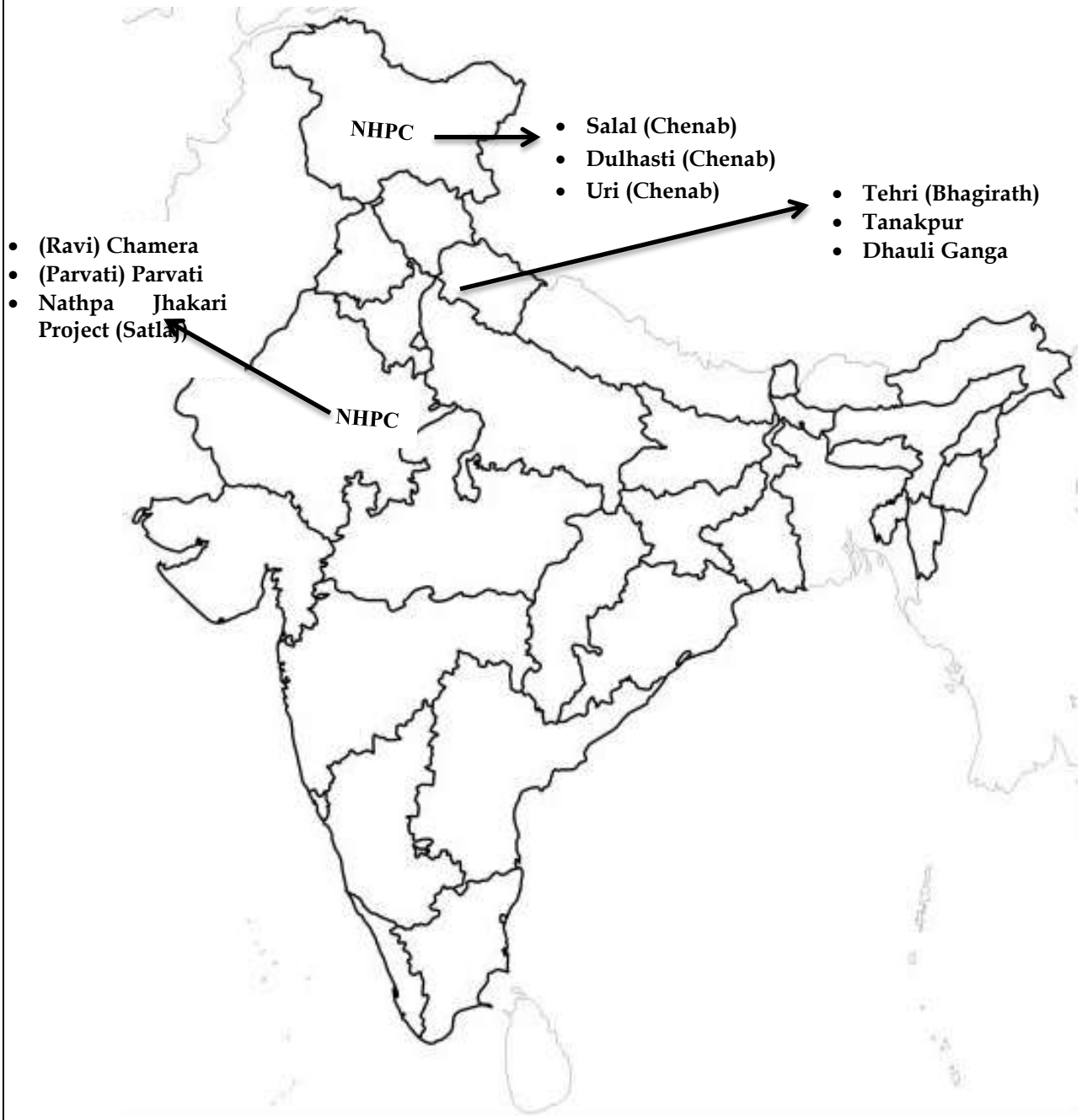
5. **Chamera Project -** Himachal Pradesh
   - ☞ This project is run on Ravi River by NHPC.
   - ☞ Jammu and Kashmir, Rajasthan, Uttar Pradesh, Punjab, Haryana, Delhi and Chandigarh gets benefit from this project.

6. **Nathpa Jhakari Project -** Himachal Pradesh
   - ☞ This project is run on Satlaj River by NHPC.
   - ☞ Uttarakhand, Rajasthan, Uttar Pradesh, Punjab, Haryana, Delhi, Himachal Pradesh gets benefit from this project.

7. **Tehri Project -** Uttarakhand
   - ☞ This project is run on Bhagirath by Tehri hydro power development corporation limited.
   - ☞ Rajasthan, Madhya Pradesh, Uttarakhand gets benefit from this project.

8. **Tanakpur Project – Uttrakhand**
   - ☞ This project is run on River Sharda (Kali) by NHPC
   - ☞ Jammu and Kashmir, Rajasthan, Uttar Pradesh, Punjab, Haryana, Delhi, Himachal Pradesh and Chandigarh gets benefit from this.

9. **Dhauli Ganga Project –** Uttarakhand
   - ☞ This project is run on river Dhauli Ganga by NHPC.
   - ☞ Jammu and Kashmir, Rajasthan, Uttar Pradesh, Punjab, Haryana, Delhi, Himachal Pradesh and Chandigarh gets benefit from this project.



☞ **Note–** Rajasthan gets 57.68 million units of electricity from Tala (Bhutan) hydro electric project.

☑ **Conclusion -** There is need for more development and planning in hydro electricity projects so that energy security can be increased in Rajasthan by increasing energy production.

☑ THERMAL ENERGY

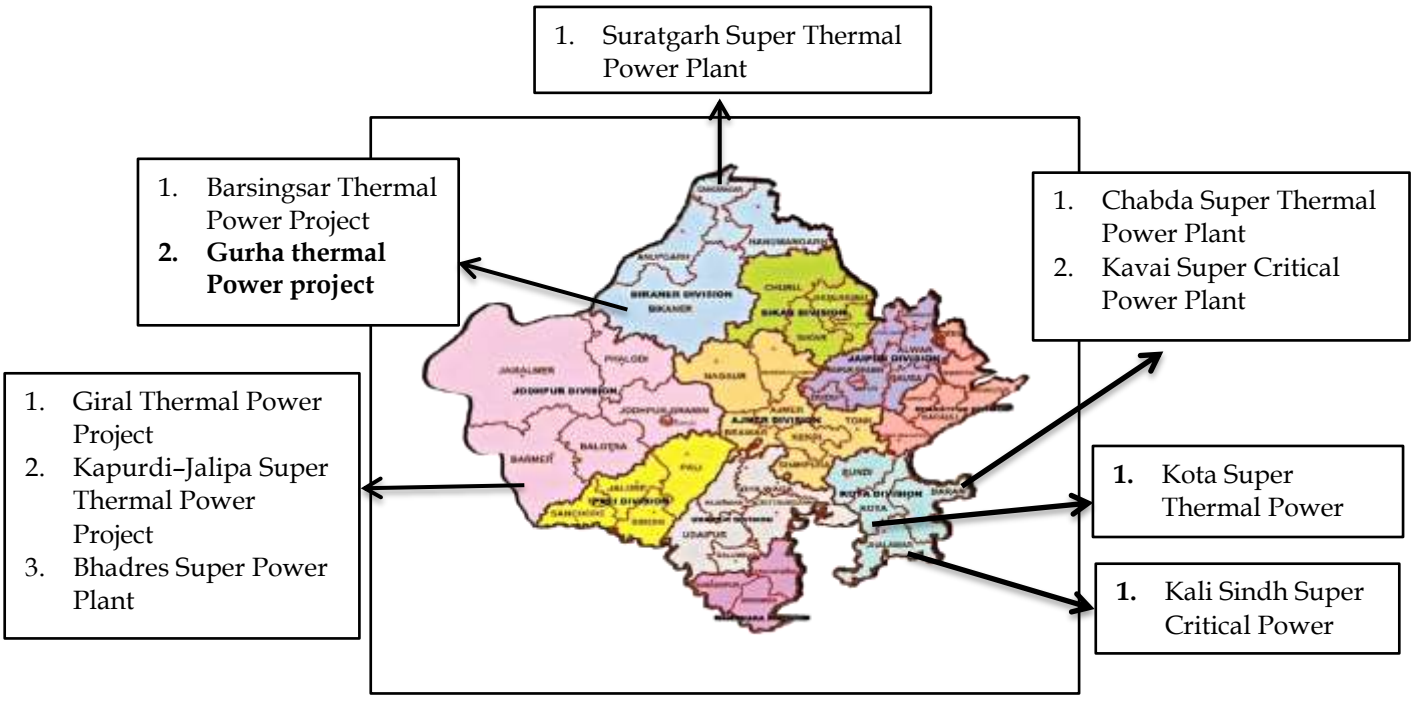
- Thermal Energy have the maximum share in Electricity Generation.
- Main source of this energy is Coal, petroleum, Nephta.
- Contribution of coal is maximum in electricity generation through Thermal energy project.

☑ Coal / Lignite Based Thermal Power Projects :-

Coal / Lignite Based Projects

- **State Government Schemes**
- **Central Government Schemes**

A) State government schemes



1. **Suratgarh Super Critical Thermal Power Plant –** Shri Ganganagar

- It is a Rajasthan's first super thermal power plant.(2002)
- It is currently (2024) the largest power project in Rajasthan.
- A total of 2820 MW electricity is produced from 8 units of five phases of Suratgarh Thermal Power Plant.

चरण	इकाईयाँ	उत्पादन क्षमता
I	Unit-1st	250 MW
	Unit-2nd	250 MW
II	Unit-3rd	250 MW
	Unit-4th	250 MW
III	Unit-5	250 MW
IV	Unit-6	250 MW
V	Unit-7	660 MW
	Unit-8	660 MW

2. **Kota Super Thermal Power Plant -** Kota

- It is a first coal dependence thermal power plant.
- It is a first coal thermal power plant and 2nd super thermal power plant of Rajasthan.
- A total of 1240 MW electricity is produced from 7 units in five phases of the thermal power plant.

चरण	इकाईयाँ	उत्पादन क्षमता
I	Unit-1st	110 MW
	Unit-2nd	110 MW
II	Unit-3rd	210 MW
	Unit-4th	210 MW
III	Unit-5	210 MW
IV	Unit-6	195 MW
V	Unit-7	195 MW

3. **Chabda Super Thermal Power Plant -** Baran

- Production Capability **-** 2320 MW
- This is the first thermal power project of Rajasthan.

चरण	इकाईयाँ	उत्पादन क्षमता
I	Unit-1st	250 MW
	Unit-2nd	250 MW
II	Unit-3rd	250 MW
	Unit-4th	250 MW
III	Unit-5	660 MW
	Unit-6	660 MW

4. **Kavai Super Critical Power Plant -** Baran

   - Production Capability - 1320 MW
   - **Cooperation –** Adani Group

चरण	इकाईयाँ	उत्पादन क्षमता
I	Unit-1st	660 MW
	Unit-2nd	660 MW

5. **Kali Sindh Super Critical Power Plant -** Jhalawar

   - Production Capability **-** 1200 MW
   - Proposed – 800 MW (Ultra Power Project)

6. **Bhadres Super Power Plant -** Barmer

   - Production Capability **-** 1080 MW

7. **Kapurdi – Jalipa Super Thermal Power Project -** Barmer

   - Production Capability **-** 1080 MW

8. **Giral Thermal Power Project - Thumbali Village** (Barmer)

   - Production Capability **-** 250 MW (125 x 2)
   - **Cooperation -** Germany

9. **Danpur Super Thermal Power Project -** Banswara

   - Production Capability **-** 1600 MW

10. **Barsingsar Thermal Power Project –** Bikaner

    - Production Capability **-** 250 MW (125 x 2)
    - It is operated by Neyveli Lignite Corporation (Government of India).

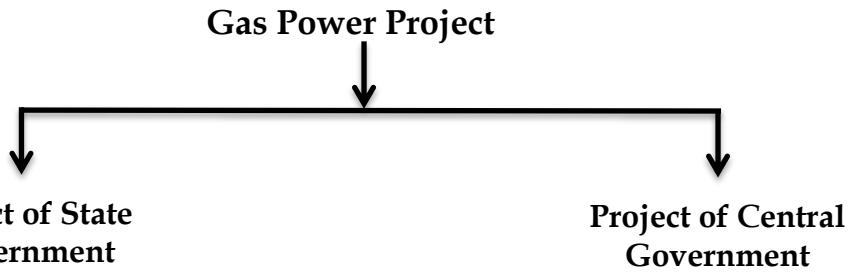
B) State: State Projects

1. Satpura Thermal Power Project
   - Location – Betul (Madhya pradesh)
   - **B**eneficiary state – Rajasthan + Madhya Pradesh

C) Central Government Scheme

	Project	Place	Run By
1.	Singrauli Thermal Plant	U.P	NTPC
2.	Rihad Super Thermal Power Plant	U.P	NTPC
3.	Unchahar Super Thermal Power Plant	U.P	NTPC
4.	Kahal Gaanv Super Thermal Power Plant	Bihar	NTPC
5.	Talchar Super Thermal Power Plant	Odisha	NTPC

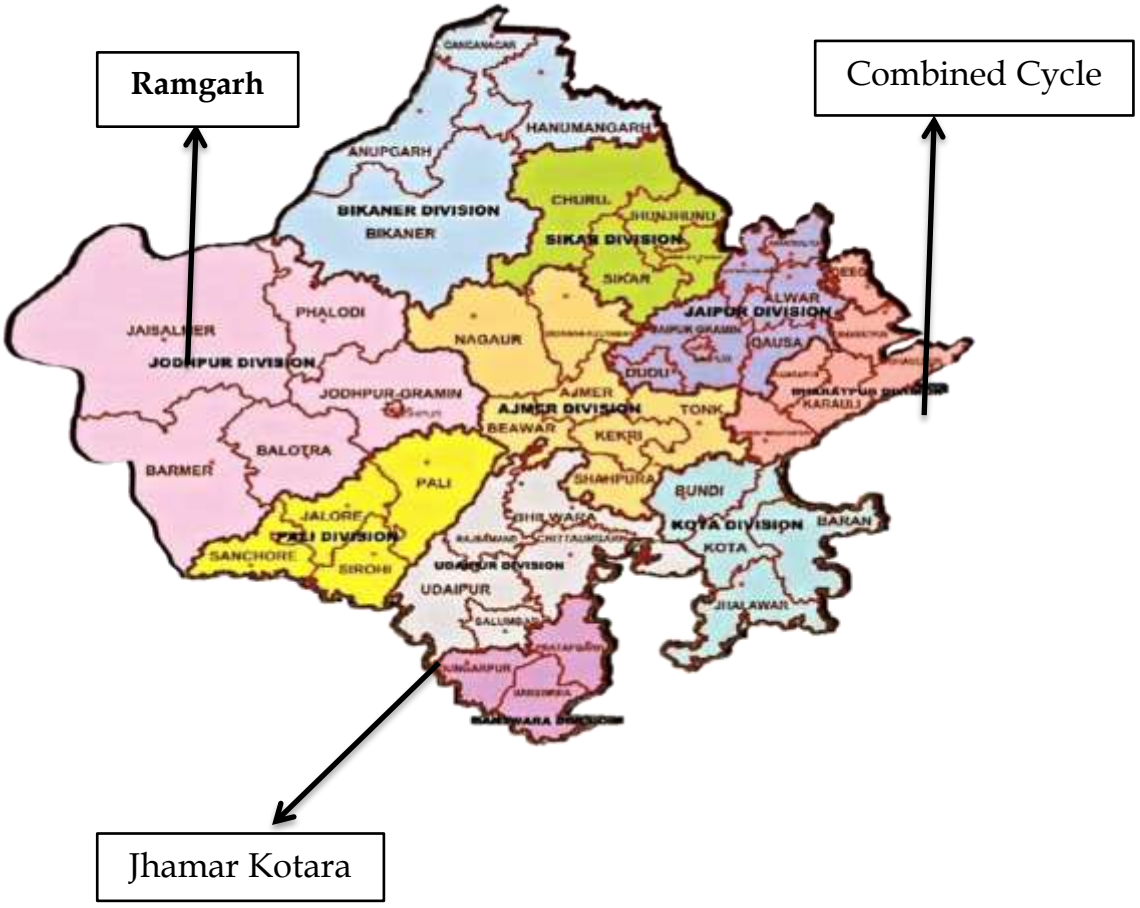
☑ Gas Power Project :-



➢ Project of State Government :-

1. Ramgarh – Jaisalmer
2. Combined Cycle power plant – Dholpur
3. Jhamar Kotara – Udaipur

Note:- Rajasthan government first gas power plant Project (1996) – Ramgarh



1. **Rajasthan Gas Power Plant Project – Ramgarh (Jaisalmer)**

Stage	Unit Number	Installed Capacity (MW)	Turbine type
1	1	35.5	Gas Turbine
2	2	37.5	Gas Turbine
2	3	37.5	Steam Turbine
3	4	110	Gas Turbine
3	5	50	Steam Turbine

2. **Comand Cycle Gas Power Plant Project – Dholpur**

Stage	Unit Number	Installed Capacity (MW)	Turbine type
1	1	110	Gas Turbine
1	2	110	Gas Turbine
1	3	110	Steam Turbine

➢ **Project of Central Government**

1. Anta Gas Power Station – Baran
   - Production Capacity – 419.3 MW
2. Dadari – Uttar Pradesh
   - Production Capacity – 829.79 MW
3. Oraya – Uttar Pradesh
   - Production Capacity – 652 MW

- **Central Government first gas power plant –** Anta Gas Power Plant (Baran)
- **Rajasthan's first gas power plant project –** Anta Gas Power Station (Baran)

1 **Anta Gas Power Plant – Baran**

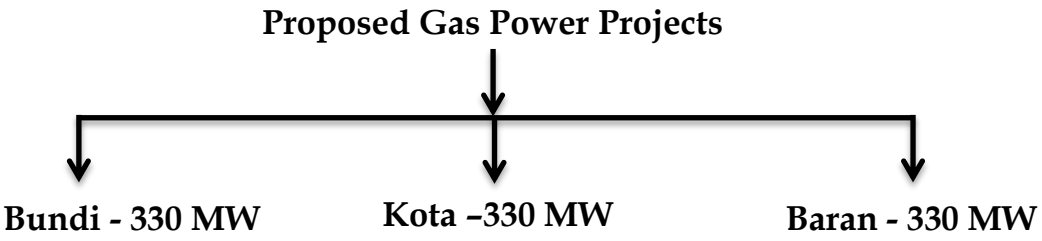
Stage	Unit Number	Installed Capacity (MW)	Date of Commissioning	GT / ST
1st	1	88.7	1989 January	ST
1st	2	88.7	1989 March	ST
1st	3	88.7	1989 May	ST
1st	4	153.2	1990 March	GT
Total	Four	**419.3**		

2 **Dadari Gas Power Plant – Uttar Pradesh**

Stage	Unit Number	Installed Capacity (MW)	Date of Commissioning	GT / ST
1st	1	130.19	1992 March	GT
	2	130.19	1992 May	GT
	3	130.19	1992 June	GT
	4	130.19	1992 November	GT
	5	154.51	1993 February	ST
	6	154.51	1993 March	ST
Total	six	**829.78**		

3 **Oraya Gas Power Plant – Uttar Pradesh**

Stage	Unit Number	Installed Capacity (MW)	Date of Commissioning	GT / ST
1st	1	130.19	1992 March	GT
	2	130.19	1992 May	GT
	3	130.19	1992 June	GT
	4	130.19	1992 November	GT
	5	154.51	1993 February	ST
	6	154.51	1993 March	ST
Total	six	**829.78**		



☑ **Liquid Fuel / Neptha Based Projects :-**

1. **Dholpur Power Plant :– Dholpur**

- First Phase = 330 MW
- Second Phase = 372.7 MW

Total Installed Capacity = 702.7 MW

2. **Keshoraipatan Thermal Power Plant – Bundi**

- Production Capacity = 166 MW

(b) Non–Conventional Energy Resources –

1. **Nuclear Energy :-**

- Rajasthan Nuclear Power Project - Rawat Bhata (Chittorgarh)
- Established - 30th November, 1972
- Start up – December,1973
- Cooperation - Canada
- Operated / Run By - NPCIL (Nuclear Power Corporation of India Limited)
- Total installed capacity of this plant is 1180 MW.

Units	**-**	**Generation**
First Unit	-	100 MW
Second Unit	-	200 MW
Third Unit	-	220 MW
Fourth Unit	-	220 MW
Fifth Unit	-	220 MW
Sixth Unit	-	220 MW
Total Install Capacity	**-**	**1180 MW**

- 700 MW x 2 Units are proposed in Rawatbhata nuclear power plant.
- Rajasthan gets nuclear power from Rawatbhata (Rajasthan) and Narora (U.P.).
- The second nuclear power plant in Rajasthan is proposed in Banswara.

2. **Solar Energy :-**

- In India, Rajasthan have the maximum potential for solar power.
- In Rajasthan, Jodhpur have the maximum solar potential for solar power.
- Reasons for maximum solar energy potential Rajasthan are following –

  (**1**) High Intensity of Solar Radiation.

  (**2**) State has around 325 clear sunny days in a year.

  (3) Investors invest more in solar energy projects.

  (**4**) Due to higher desert expansion, high temperature is received.

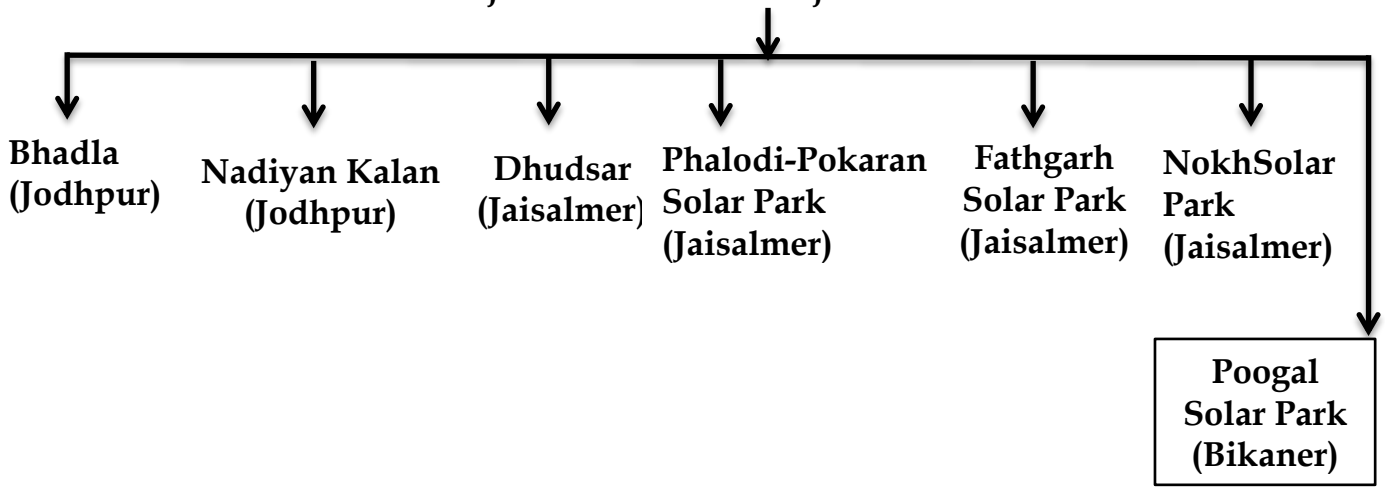
- **Note –** Rajasthan has the capacity to receive 142 GW (1,42,000 MW) of solar power from solar sources as per the assessment of Ministry of New and Renewable Energy, Government of India.

➢ **Steps taken for solar energy development in Rajasthan**

1. Solar Park Construction Scheme –

- Jodhpur, Barmer, Jaisalmer, Bikaner has been selected in Rajasthan for this scheme.
- Under the agreement between Clinton foundation and the state government in 2010, Clinton foundation will provide necessary assistance for the development of solar park.
- Asia's largest solar park project is proposed in Jodhpur.

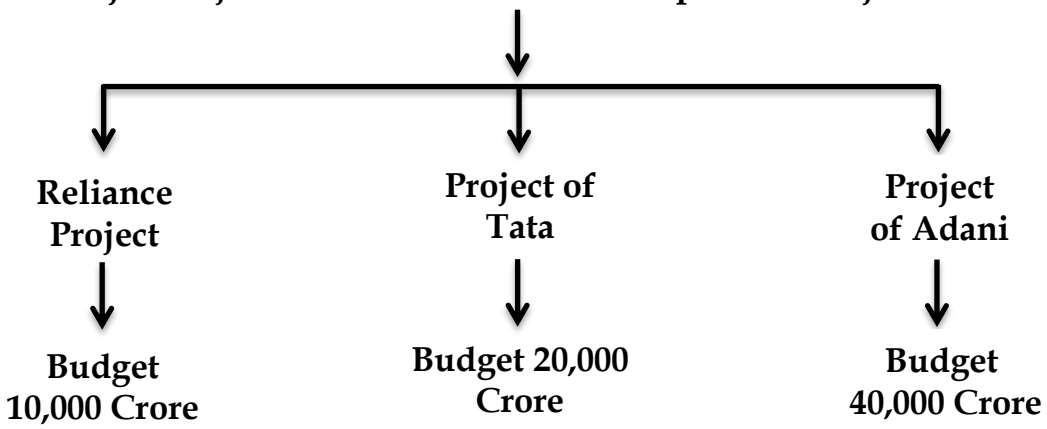
Major Solar Parks in Rajasthan



➢ **Bhadla (Jodhpur) :-**

- Solar Park of 2245 MW Capacity have been commission in 4 Phases at Bhadla.

Major Project of Solar Park that are Proposed in Rajasthan



➢ Rajasthan's first private sector solar project has been started by Reliance in Khinvsar (Nagore).

Bhadla Solar Park Phases

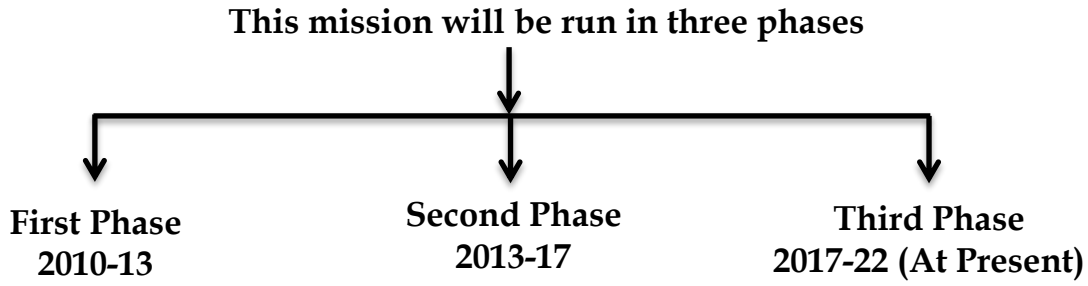
Phase		**Energy Capacity**	Cooperation
Phase – I	-	65 MW	Rajasthan solar park development Co. Ltd.
Phase – II	-	680 MW	Rajasthan solar park development Co. Ltd.
Phase – III	-	1000 MW	IL & FS+ State Government
Phase – IV	-	500 MW	Maisars Adani

1. **Solar rooftop power generation scheme :-**
   - Rooftop Solar Programme were issued by MNRE (Ministry of New and renewable Energy) Govt. of India on 20th August, 2019.
   - This scheme is being implemented in the state by distribution companies (DISCOMs).
   - Under this scheme the ministry is providing 40% subsidy the first 3 KW and 20% subsidy beyond 3 KW and upto 10 KW of Solar panel Capacity.

2. **Construction of Solar City :-**
   - The cities which have maximum solar power capacity will be developed as solar cities.
   - This includes Jaipur, Ajmer, Jodhpur.
   - Proposed districts – Pushkar (Ajmer), Jaisalmer

3. **SEEZ (Solar Energy Enterprising Zone)**
   - Where all the condition for generation of solar power are favorable, that area is called SEEZ.
   - SEEZ area in Rajasthan includes Jodhpur, Jaisalmer and Barmer.

4. **Solar Energy Mission :-**
   - Jawaharlal Nehru National Solar Mission was started in the country for the development of solar energy.
   - Started - January, 2010
   - Goal - 1,00,000 MW solar power generation by 2022.
   - This mission will be run in three phases

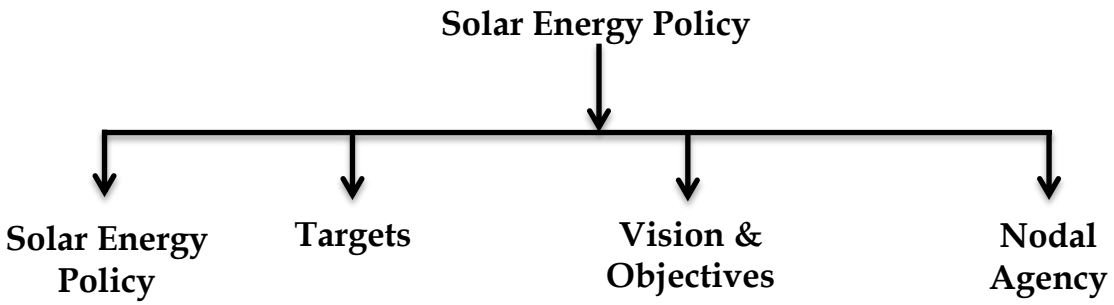


5. **Resurgent Rajasthan Summit :-**
   - Organized - 19th - 20th November, 2015
   - Place – Jaipur (Sitapura)
   - In this summit, maximum investment to place in solar energy sector.
   - In which 9 companies did agreement on investing 1,90,000 Crore.
   - Major investors are Adani groups, Reliance Power, Tata, M/s Azure, Sun Edison.

6. **Solar Energy Policy**

- The first solar energy policy in Rajasthan was released in 2011, the second 2014 and the latest solar energy policy in 18th December, 2019.

☑ 1st 2011
☑ 2nd 2014
☑ New – 18 dec. 2019



➢ **Solar Energy Policy –**

- This Policy will be known as Rajasthan Solar Energy Policy, 2019.
- The Policy will come into operation with effect from 18.12.2019 and will remain in force until superseded by another Policy.
- New Solar Energy policy was released on 18, Dec. 2019.

☞ **Target –**

- The Policy aims to achieve a target of 30,000 MW Solar Power Projects up to 2024-25 in the State as under:
- To Provide a conclusive frame work to the prospective investors in the field of solar power generation.
- To ensure energy security at the National Level.
- To meet the goals like facing the challenges of climate change.

S.No.	Particulars	Capacity
1.	Utlity/Grid Scale Solar Parks	24,000 MW
2.	Distributed Generation	4,000 MW
3.	Solar Rooftop	1,000 MW
4.	Solar Pumps	1,000 MW

➢ **Vision and objectives :-**

- To be a major contributing State for achieving the national target of 100 GW capacity of solar energy as a part of global commitment.
- To develop solar power sector in the State with **"stakeholder-driven"** policy.

Renewable Energy Target

- **Solar -** 10000 MW
- **Wind -** 60 GW
- **Biomass -** 10 MW
- **Hydro -** 5 GW
- To achieve **"optimal energy mix"** of conventional and renewable power. Ensuring energy security of the State, efficient grid management and protecting interests of all stakeholders.
- To promote new technologies in solar energy generation and storage to make solar energy more cost competitive and reliable source of energy for consumers.
- To facilitate development of infrastructure in generation, transmission, distribution and manufacturing sector of renewable energy.
- Create better atmosphere to innovate and invest for micro, small and medium enterprises for harnessing solar energy.
- Human resource development with particular reference to renewable energy and generation of employment opportunities.

Nodal Agency

- Registration of projects
- Approval of projects
- Development of Solar Parks
- Facilitating allotment of Government land

3. **Wind Energy**
   - According to a study done by ministry of new and renewable energy government of India at an attitude 100 meters, Rajasthan has wind power generation capacity of about 18770 MW.
   - Indian institute of tropical metallurgy has identified 26 locations for the development of wind power in the state.
   - Rajasthan is ranked 5th in wind power generation.
     - **1st** - Tamilnadu
     - **2nd** - Gujarat
     - **3rd** - Maharashtra
     - **4th** - Karnataka
     - **5th** - **Rajasthan**

Note:- In Rajasthan state Jaisalmer has Most possibility for wind energy.

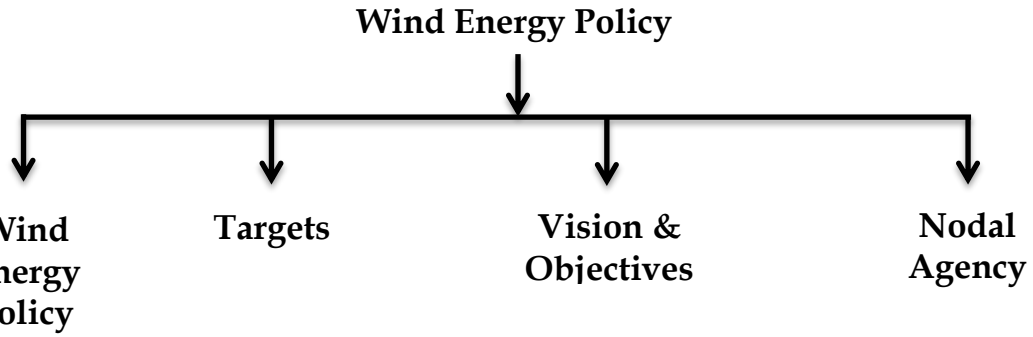
➢ **Main Wind Energy Power Plants**

Power Plant	-	**Place**
1. Amar Sagar	-	Jaisalmer (1st in Rajasthan)
2. Sodha Bandhan	-	Jaisalmer
3. Pohra	-	Jaisalmer
4. Aakal	-	Jaisalmer
5. Hansua	-	Jaisalmer
6. Devgarh	-	Pratapgarh(2nd in Rajasthan)
7. Bithadi	-	Phalaudi(3rd in Rajasthan)
8. Harsh Parvat	-	Sikar
9. Bada Bag	-	Jaisalmer
10. hybrid wind power plant	-	Jaisalmer

Note –

- M/S Kalani Industries, established the first private sector wind energy project in Bada Bagh (Jaisalmer).
- Rajasthan largest wind park is located in Jaisalmer.
- State's first wind power plant of Railways was established in Kodiyasar.

- In Rajasthan Suzlon Energy contributes the most to wind energy.



Wind Energy Policy –

- This Policy will be known as Rajasthan Wind and Hybrid Energy Policy, 2019.
- The Policy will come into effect from 18.12.2019 and will remain in force until superseded by another Policy.

Target -

➢ The policy aims to achieve a target of 3,500 MW wind and Hybrid Projects up to the financial year 2024-25 in the State as under :

S.No.	Particulars	-	Capacity
1.	Hybridization of existing Wind/Solar Plants	-	200 MW
2.	New Wind-Solar Hybrid Projects	-	2,000 MW
3.	Wind-Solar Hybrid with Storage Systems	-	500 MW
4.	Hybridization of existing Conventional Plants	-	800 MW

➢ **Vision and objectives :–**

- To promote Wind Power Projects and required Storage Systems.
- Promotion of "Repowering" of Wind Power Projects.
- Strengthening of Transmission and Distribution Networks in the State for Renewable Energy integration.

- Promotion of Wind Resource Assessment Programme.
- To promote industries in manufacturing of wind energy equipment.
- Hybridisation of Wind & Solar technologies to meet the challenges of grid security and stability along with optimum utilisation of land resources and transmission systems.

➢ **Nodal Agency**

- Registration of projects
- Approval of projects
- Development of Solar Parks
- Facilitating allotment of Government land

4. **Biomass Energy –**

- Main sources of Biomass energy in Rajasthan is Mustard oil, Julie flora, Rice Bran.
- Maximum possibilities of Biomass energy is in Shri Ganganagar District.

➢ **Major Biomass Power Plants**

Biomass Plant	**-**	**Place**
1. Padampur	-	Shri Ganganagar
2. Khatoli	-	Uniyara, Tonk
3. Rangpur	-	Kota
4. Chanderiya	-	Chittorgarh
5. Sangaria	-	Hanumangarh
6. Kachela – Bagsari	-	Sanchore, Jalore

5. **Biogas Energy :-**

➢ Main source of Biogas Energy -

1. Cow Dung
2. Maximum possibility of Biogas energy is Udaipur district.
    - Chemical Composition of Biogas is :-
        - Methane **-** 65%
        - Carbon dioxide **(CO_2) -** 30%
        - Hydrogen **-** 5%

6. **Biofuel / Biodiesel Energy :-**

- Biofuel fuel in diesel form is considered important.
- Main source of biodiesel is "Jetropha."
- For the development of Biodiesel in Rajasthan, a biodiesel refinery has been established in Kalrawas (Udaipur).
- In state, a biodiesel plant has been established in Jhamar – Kotra, Udaipur.

Energy Related Institutions :–

1. **Rajasthan Renewable Energy Corporation –**

Object -

- To develop and conserve non-corporation energy source in state.
- **Established -** 9th August, 2002.
- Rajasthan renewable energy corporation was established by Merging REDA and RSPCL.

(1) REDA – Rajasthan Energy Development Agency 1985

(2) RSPCL – Rajasthan State Power Corporation Limited 1995

2. **Rajasthan State Power Generation Corporation – Jaipur**
3. **Rajasthan State Power Transmission Corporation - Jaipur**
4. **Rajasthan State Power Distribution Corporation - Jaipur**
5. **Rajasthan State Power Distribution Corporation - Ajmer**
6. **Rajasthan State Power Distribution Corporation - Jodhpur**

☑ **Energy Related Major Schemes**

1. Ujjawal Discom Assurance Yojana :-

- This scheme was started on 5 November, 2015 by the ministry of Power, Government of India.
- To ensure a sustainment permanent solution to the problem.
- In long– term affordable and accessible 24*7 power for all.
- Under the scheme, Government of India signed a triangular MOU with the state government and each discom of state on 27th January, 2016.
- According to MOU signed on 27th January, 2016, State shall take 75% of DISCOM debt for a period of two years. 50% of Discom debt shall be taken over in 2015-16 and 25% in 2016-17.

2. Deendayal Upadhyay Gram Jyoti Yojna :–

- Under this scheme main schemes for rural area are

1. Separated three phase feeder for villages having population more than 3000 and less than 4000.
2. Replacement of faulty feeder metering devices.
3. Strengthening the energy distribution system.
4. Rural electrification scheme Rajeev Gandhi Grameen Vidyutikaran Yojna has been subsume in Deendayal Upadhyay Gram Jyoti Yojna.

3. Chief Minister Rural Household Connection Scheme (Mukhymantri Gramin Gharelu Connection Yojna)

- This scheme has been started from Oct, 2016 in order to provide electricity to domestic consumes in non-populated areas and disperse land.
- In its first phase till November 2016, interested villagers are included in this scheme by taking a registration fee of Rupees 100.

4. Kusum Scheme

- Kisaan Urja Surkasha Evam Uttam Yojna.
- **Started -** 2018-19
- **Target -** 25-50 MW
- **Budget -** 34422 Crore
- Under this scheme 3 crore solar pump will be installed by 2022.

➢ **Object –**

(i) Provide energy security to farmer.

(ii) Extra energy can be supply to greed.

➢ **Important Days Related Energy**

- **20th August –** National Renewable Energy Day
- **14th December –** World Energy Conservation Day
- **Earth Hour Day -** It was started from Australia to deliver the message of environment protection and energy saving which india joined in 2009. On this day an appeal is made to discontinue all equipment's except the necessary equipment Earth hour day is celebrated on any day of March between 8:30 PM to 9:30 PM.

4. **Saubhagy Yojna / Paradhan Mantri Sahaj Bijli Harghar Yojna –** 25th September, 2017

   - Object of this scheme is to reached for able electricity to every house of every village.
   - Free connection of electricity to poor people.
   - **Budget -** 16320 Crore
   - **Every House –** 5 LED Bulb, 1 Fan, 1 Battery.

POPULATION

➢ History of Census -

- Ancient period - Arthashastra - Chanakya (Maurya period)
- Medieval period - Ain-i- Akbari - Abul Fazl (Mughal period)
- Modern period - 1872 by Lord Mayo

Note -

- Systematic and decadal census was started in 1881 during the period of Lord Ripon.
- The census is a subject of the Union List. It is included in the 7th schedule of the constitution.
- In 1948, the Population Census Act was passed.
- The National Population Commission was constituted in 1993.
- The census is conducted by the Census Department of the Ministry of Home Affairs.

➢ Census 2011 -

- According to Serialwise – 15th
- Settled / Decadal – 14th
- After Independence – 7th
- 21stCentury – 2nd
- 15th Census Budget - 2200 crores
- Cost per person - Rs 18.19
- Total Districts included in Census 2011 - 640 (Rajasthan -33 Districts)
- Census Mascot –Lady Enumerator
- Census **Motto** -"Our Census, Our Future"

❖ Important Facts –

- The National Population Register has been created for the first time.
- Census of houses for the first time
- The Transgender were included for the first time in Census and they were counted in the male category.
- Firs paperless census.

Springboard ACADEMY

- The caste census was conducted for the Second Time in 2011. (First Time - 1931)
- Census 2011 was conducted in Two Phases –
  - Phase I – 15thMay to 30th June, 2010
  - Phase II – 9th Feb. 28th Feb. 2011

1. Total Population –

- Total Population of India - 121.085 Crore

Total Population of Rajasthan - 6.85 Crore (Male-51.86% and Female-48.14%)

Maximum		Minimum	
1. Jaipur	- 66.26 lakh	1. Jaisalmer	- 6.69 lakh
2. Jodhpur	- 36.87 lakh	2. Pratapgarh	- 8.67 lakh
3. Alwar	- 36.74 lakh	3. Sirohi	- 10.36 lakhs
4. Nagaur	- 33.07 lakh	4. Bundi	- 11.10 lakh
5. Udaipur	- 30.68 lakh	5. Rajsamand	- 11.56 lakh

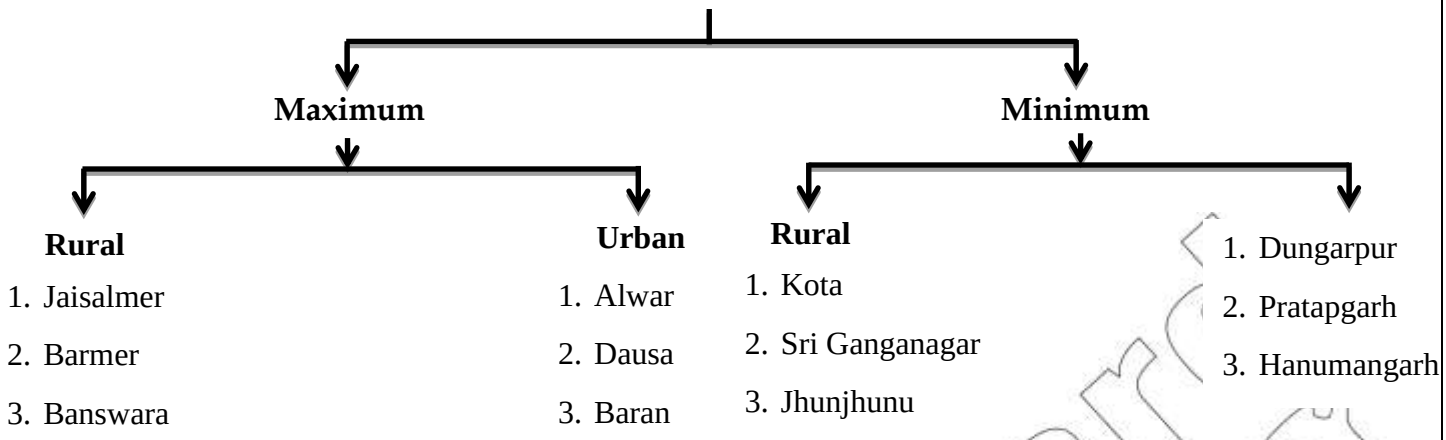
- Rajasthan has 5.67 % of the total population of India and about 1 % of the total population of the world.
- As of 2011, it occupies the 8th position in terms of population. But at present Rajasthan holds the 7th position in India.
- Child population (0-6 years) is 15.54% of the total population of Rajasthan.

2. Population Growth Rate:-

Population Growth Rate - 21.30%

Maximum		Minimum	
1. Barmer	- 32.5%	1. Sri Ganganagar	- 10%
2. Jaisalmer	- 31.8%	2. Jhunjhunu	- 11.7%
3. Jodhpur	- 27.7%	3. Pali	- 11.9%
4. Banwara	- 26.58%	4. Bundi	- 15.4%

Rural and Urban Population Growth Rate



- The highest negative population growth rate was in the decade of 1911-21 (-6.29 percent) in Rajasthan. This is called the "Demographic Divide decade".
- In Rajasthan 1911-21, the reason for the decrease in population in the decade -
  1. Disease (Plague Epidemic)
  2. World War I
- 3. Public Movement
- Highest growth rate recorded in the growth rate of population of Rajasthan - 1971-81 (32.97%).
- Highest growth in the population of Rajasthan was recorded in 1991-2001.

3. Population Density:-

Population Density 200

Maximum			Minimum		
1. Jaipur	-	595	1. Jaisalmer	-	17
2. Bharatpur	-	503	2. Bikaner	-	78
3. Dausa	-	476	3. Barmer	-	92
4. Alwar	-	438	4. Churu	-	147

❖ **Districts with population density less than 100 -**Jaisalmer, Bikaner, Barmer

- The desert districts (West Rajasthan) have the lowest population density.

4. Sex Ratio –

- The number of females per thousand males is called sex ratio.

Overall Average Sex Ratio - 928

Maximum

1. Dungarpur – 994
2. Rajsamand - 990
3. Pali - 987
4. Pratapgarh - 983

Minimum

1. Dholpur - 846
2. Jaisalmer - 852
3. Karoli - 861
4. Bharatpur - 880

Sex Ratio in the State

Rural 933

Maximum

1. Pali - 1003
2. Rajsamand - 998
3. Dungarpur - 996

Minimum

1. Dholpur - 841
2. Karauli - 856
3. Jaisalmer - 859

Urban 914

Maximum

1. Tonk - 985
2. Banswara - 964
3. Pratapgarh - 963

Minimum

1. Jaisalmer - 807
2. Dholpur - 864
3. Alwar - 872

Reason behind minimum and maximum sex ratio

Maximum

1. Low per capita income.
2. Lack of technical knowledge and facilities.
3. Low literacy rate.
4. Joint family.
5. Dowry system is not prevalent.

Minimum

1. Higher per capita income.
2. To have more technical facility and knowledge.
3. High literacy rate.
4. Nuclear family.
5. The practice of dowry system.

- **Child Sex Ratio :-**

Child Sex Ratio

Maximum

1. Banswada – 934
2. Pratapgarh – 933
3. Bhilwara – 928
4. Udaipur – 924

Minimum

1. Jhunjhunu – 837
2. Sikar – 848
3. Karoli – 852
4. Ganganagar – 854

Child Sex Ratio in the State

Rural 892

Maximum

1. Banswara - 937
2. Pratapgarh - 936
3. Bhilwara - 933

Minimum

1. Jhunjhunu - 832
2. Sikar - 843
3. Karauli - 850

Urban 874

Maximum

1. Nagaur - 907
2. Bikaner - 906
3. Bhilwara - 904

Minimum

1. Dholpur - 841
2. Ganganagar- 842
3. Dausa - 847

Note:-

- Sex ratio in all the districts of Rajasthan is less than 1000.
- The average sex ratio of Rajasthan (928) is less than the average sex ratio of India (943).
- Districts having below average sex ratio in normal sex ratio in Rajasthan is - 15.
- Districts having less than average child sex ratio in child sex ratio in Rajasthan is - 12.

5. Literacy:-Person above 6 years of age having knowledge of alphabets. He is called literate.

Literacy Rate – 66.1%

Maximum		Minimum	
1. Kota	- 76.6%	1. Jalore	– 54.9%
2. Jaipur	- 75.5%	2. Sirohi	- 55.3%
3. Jhunjhunu	- 74.1%	3. Pratapgarh	- 56.0%
4. Sikar	- 71.9%	4. Banswara	- 56.3%

Male Literacy Rate – 79.2%

Maximum		Minimum	
1. Jhunjhunu	- 86.9%	1. Pratapgarh	– 69.5%
2. Kota	- 86.3%	2. Banswara	– 69.5%
3. Jaipur	- 86.1%	3. Sirohi	– 70.0%
4. Sikar	- 85.1%	4. Jalore	– 70.7%

Female Literacy Rate – 52.1%

Maximum		Minimum	
1. Kota	– 65.9%	1. Jalore	– 38.5%
2. Jaipur	– 64.0%	2. Jaisalmer	– 39.7%
3. Jhunjhunu	– 61.0%	3. Sirohi	– 39.7%
4. Ganganagar	– 59.7%	4. Barmer	– 40.6%

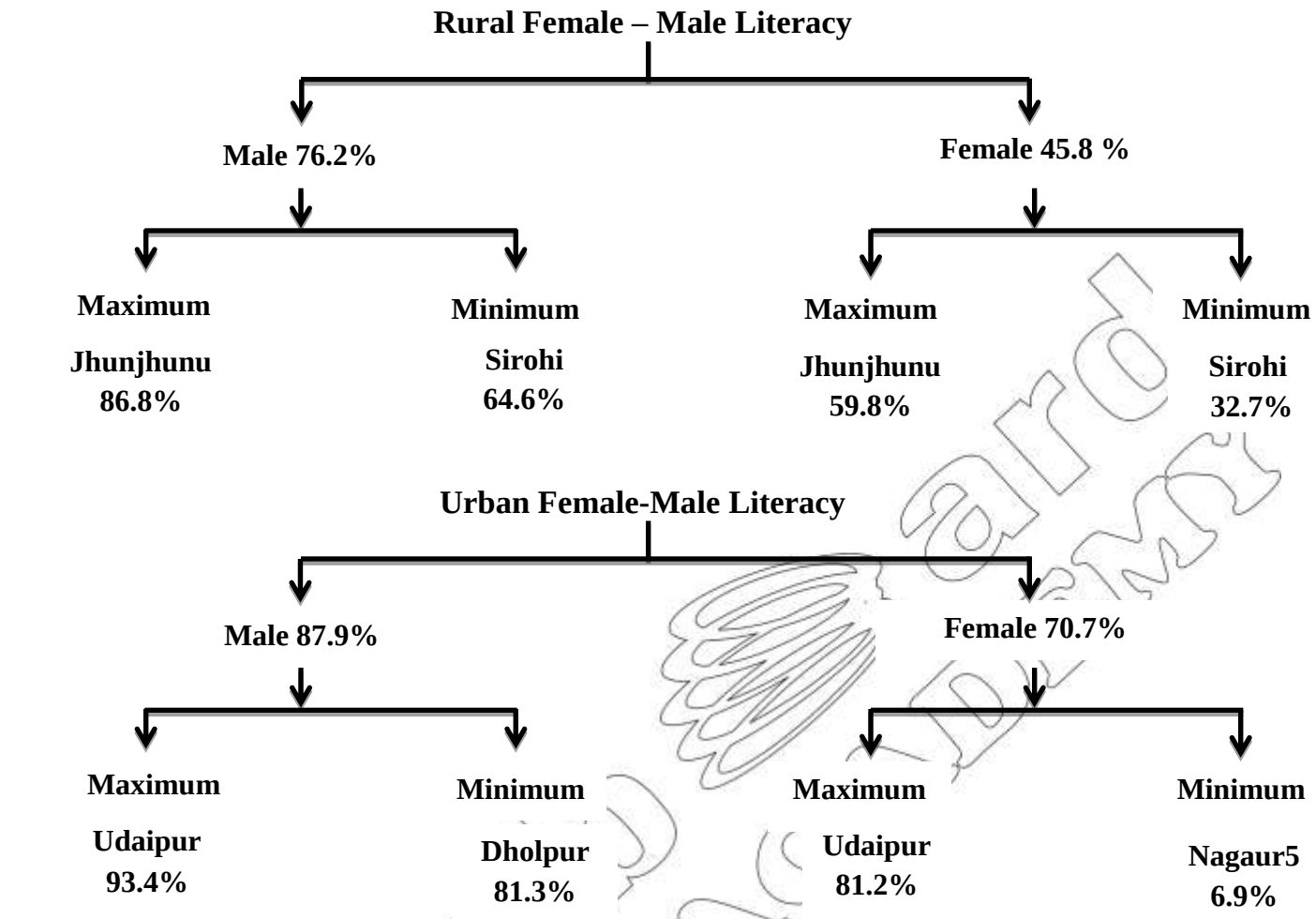
Rural and Urban Literacy

Rural 61.4%

Maximum	Minimum
Jhunjhunu	**Sirohi**
73.3%	**49.0%**

Urban 79.7%

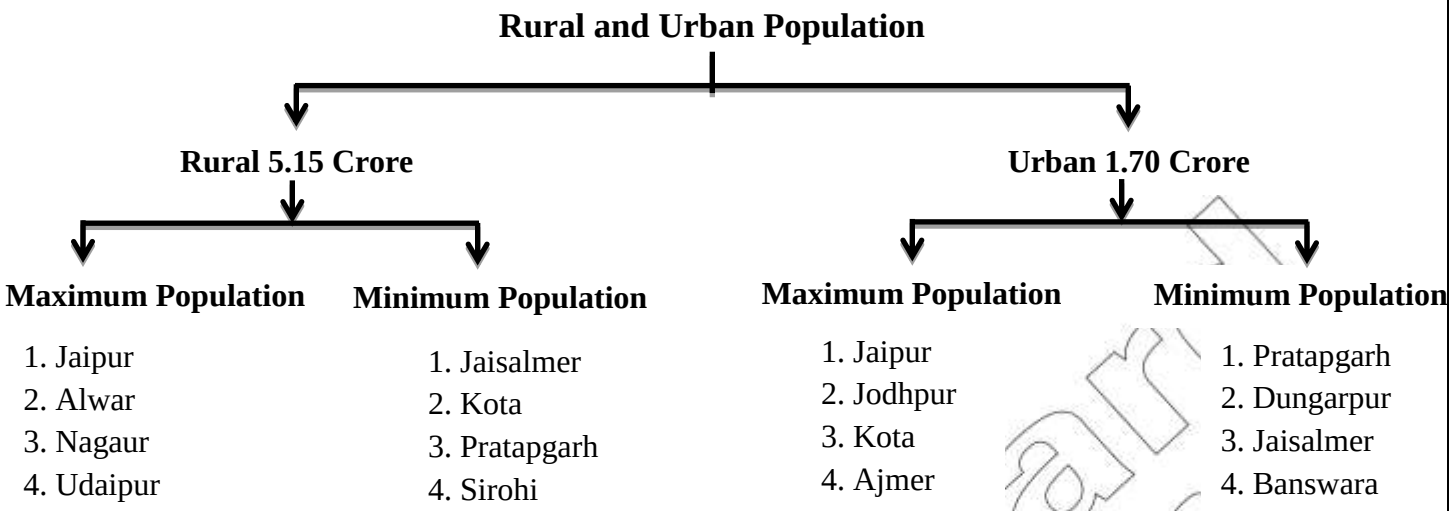
Maximum	Minimum
Udaipur	**Nagaur**
87.5%	**70.6 %**

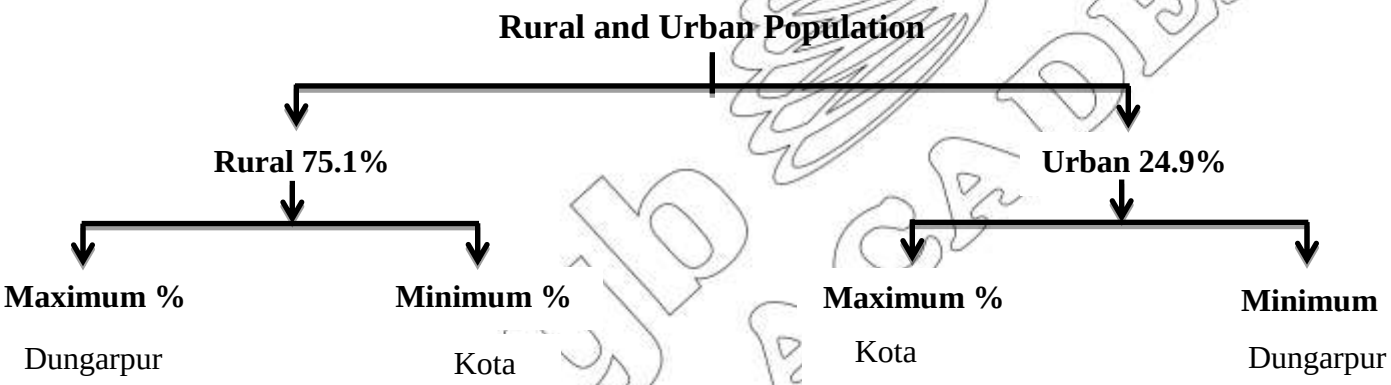


Note:-

- Literacy rate has decreased in Barmer and Churu, all remaining districts have increased literacy rate.
- The gap between male and female literacy rate is highest in Rajasthan.
- The districts with literacy below average literacy (66.1 percent) in Rajasthan are - 19.

6. Rural and Urban Population





7. Scheduled Castes and Scheduled Tribes in Rajasthan –

	SC	ST
Percentage	17.8 %	13.5 %
Total Population	122.21 Lakh	92.38 Lakh
Maximum Population	1. Jaipur 2. Sri Ganganagar	1. Udaipur 2. Banswara
Maximum Percentage	1. Sri Ganganagar 2. Hanumangarh	1. Banswara 2. Dungarpur
Lowest Number	1. Dungarpur 2. Pratapgarh	1. Bikaner 2. Nagaur
Lowest percentage	1. Dungarpur 2. Banswara	1. Nagaur 2. Bikaner
Sex Ratio	923	948

8. Population of different religions in Rajasthan

Population of different religions in Rajasthan			
Religion	**Percentage**	**Maximum Population**	**Maximum Percentage**
Hindu	88.49 %	Jaipur	Dausa
Muslim	9.07%	Jaipur	Jaisalmer
Sikh	1.27%	Sri Ganganagar	Sri Ganganagar
Jain	0.91%	Jaipur	Udaipur
Christian	0.14%	Banswara	Banswara
Buddhist	0.02%	Alwar	Alwar

✓ **Note –**

- Population Policy of Rajasthan State - **January 20, 2000**
- Population Policy in India - **February 15, 2000**

Springboard ACADEMY

TOURISM

Tourism

I.	II.	III.	IV.	V.	VI.	VII.
Introduction	Tourist Arrival	Tourism circuit	Tourist Spot	Tourism Policies	Tourism Plans	Tourism Institute

I. Introduction -

- Tourism was given industry status on March 4, 1989, on the recommendation of the Mohammad Yunus Committee.
- Tourism was given the status of **"People-Industry"** in 2004-05.
- There are 4 tourism divisions in Rajasthan –
  1. Jodhpur
  2. Ajmer
  3. Udaipur
  4. Kota
- Rajasthan Tourism's tag line -
  "Rajasthan - Incredible State of India"
- Slogan of the tourism department - **"Padharo Mhare Desh"**
- The symbolic animal **"Camel"** is depicted with the tourism slogan.

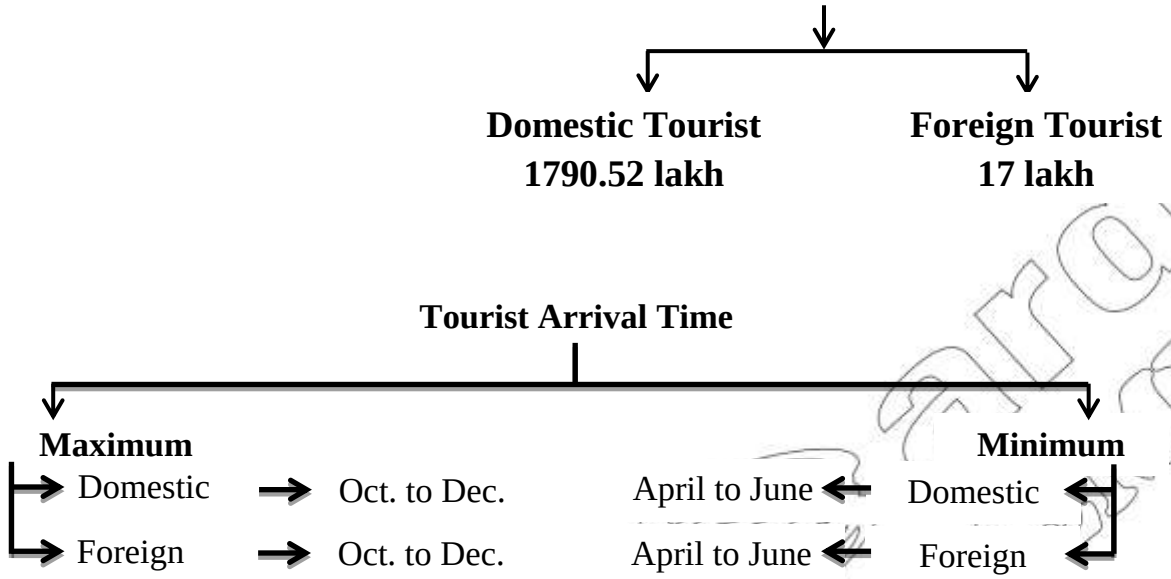
RAJASTHAN
The Incredible State of India !

II. Tourist Arrival -

- Total tourist arrivals in Rajasthan in the year 2022-23 – **986.32 Lakh**

Domestic Tourist	Foreign Tourist
983.24 lakh	**3.08** lakh

- Total tourist arrivals in Rajasthan in the year 2021 - **1807.52 lakh**



➢ **Note -**

- Highest arrival of domestic tourists in Rajasthan -**I**st - Ajmer **II**nd - Pushkar
- Highest arrival of foreign tourists in Rajasthan - **I**st - Jaipur **II**nd- Udaipur **III**rd - Jodhpur

III.Tourist Circuit -

A. General Tourist Circuit
B. Archaeological Circuit
C. Eco Adventure Circuit
D. Wild Life Circuit
E. Tribal Tourism Circuit
F. Spiritual Circuit

A. General Tourist Circuit -

- On the basis of tourism development, Rajasthan is divided into 10 tourist circuits.

1. Shekhawati - Churu, Sikar, Jhunjhunu
2. Alwar Circuit - Alwar (Siliserh-Sariska)
3. Bharatpur Circuit - Bharatpur, Deeg, Dholpur
4. Dhundhar Circuit - Jaipur, Amer, Samod, Ramgarh, Abhaneri (Dausa)

5. Ranthambore Circuit - Ranthambore, SawaiMadhopur - Tonk
6. Hadoti Circuit - Kota, Bundi, Jhalawar
7. Mewar Circuit - Udaipur, Chittorgarh, Kumbhalgarh, Nathdwara
8. Mount Abu Circuit - Mount Abu, Ranakpur, Jalore
9. Merwara Circuit - Ajmer, Pushkar, Nagaur, Merta
10. Desert Triangle - Bikaner, Jaisalmer, Jodhpur

- **Note:**-Golden Triangle - Jaipur, Delhi, Agra tourist centersare called as golden triangle.

B. Archaeological Circuit -

- The seven divisional headquarters of Rajasthan have been made an archaeological circuit.

1. Jodhpur Circuit
2. Ajmer Circuit
3. Jaipur Circuit
4. Bikaner Circuit
5. Udaipur Circuit
6. Kota Circuit
7. Bharatpur Circuit

C. Eco Adventure Circuit -

- In this 10 districts of Rajasthan have been included which include Jaipur, Alwar, Dholpur, Kota, Udaipur, Chittorgarh, Rajsamand, Jaisalmer, Jodhpur, Sirohi.

D. Wild Life Circuit -

- Alwar, Karauli, Dholpur, Jaipur, Sirohi, Rajsamand and Pratapgarh have been included in this.

E. Tribal Tourism Circuit -

- Banswara, Dungarpur, Pratapgarh and Udaipur have been included in this.

F. Spiritual Circuit -

1. Buddha Circuit –

- Places related to Buddhism have been developed in Jaipur, Jhalawar districts to attract Buddhist tourists.

2. **Krishna Circuit -**

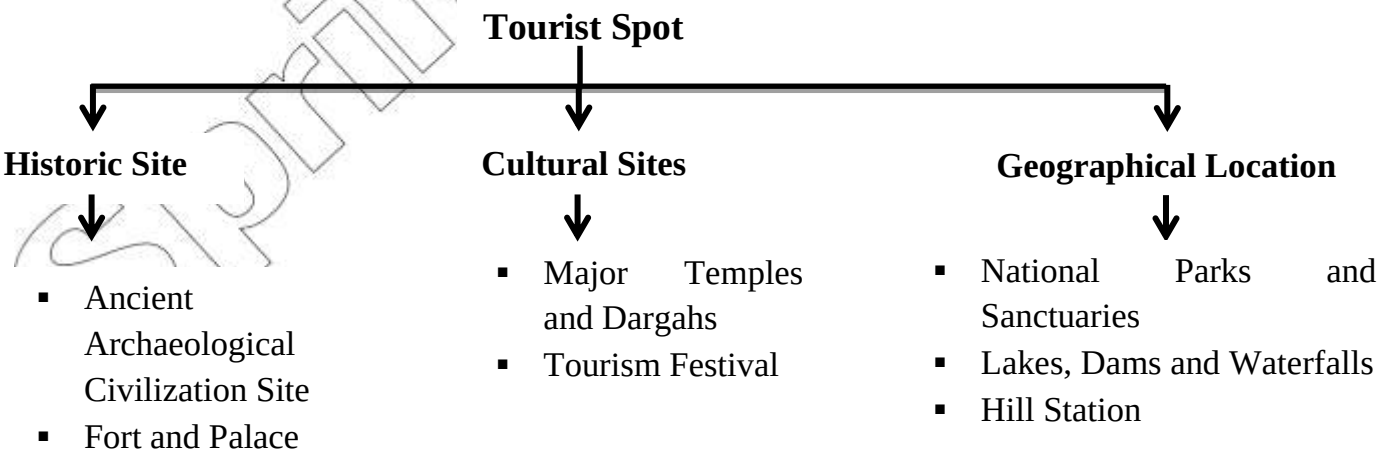
- **Swadesh** Darshan Yojana 2014-15 According to the Union Ministry of Tourism, 12 Krishna sites in 5 states (Uttar Pradesh, Haryana, Rajasthan, Gujarat, Odisha) will be developed from the point of view of tourism.
- **Temples included in Rajasthan -**
  - Rajsamand - Shrinathji
  - Jaipur - GovindDevji, GaltaJi, Kanak Vrindavan
  - Sikar – Khatushyamji

3. **Balaji Circuit -**

- Major temples included in Balaji circuit in Rajasthan -
  - Salasar – Churu
  - Pandupol – Alwar
  - Mehandipur - Dausa
  - Samod Veer Hanuman Mandir – Jaipur

4. **Pilgrim Circuit -** Ajmer, Pushkar, Nathdwara and MahavirJi (Karauli) have been included in this.

IV. Tourist Spot -



Note - Major Tourism Festivals -

January		
▪ Camel Festival		Bikaner
▪ Jaipur Literature Festival		Diggi Palace (Jaipur)
February		
▪ Beneshwar Fair		Dungarpur
▪ Maru Festival		Jaisalmer
▪ Udaipur World Music Festival		Udaipur
March		
▪ Braj Festival		Bharatpur
▪ Dhulandi Festival		The day after Holi
▪ Rajasthan Festival		March 27 to 30
April		
▪ GangaurFestival		Famous of Jaipur
▪ Mewar Festival		Udaipur
May		
▪ Summer Festival		Mount Abu
August		
▪ Teej Festival		Shravan Shukla Tritiya (Jaipur)
▪ KajaliTeej		Bhadrapada Krishna Tritiya (Bundi)
▪ **October**		
▪ Rajasthan Kabir Yatra		In Bikaner Region
▪ Abhaneri Festival		Dausa
▪ MarwarUtsav (MandUtsav)		Jodhpur
October November		
▪ Dussehra Festival		Kota
▪ Pushkar Festival		Ajmer
▪ Kolayat Fair		Bikaner
▪ Matsya Festival		Alwar
▪ Chandrabhaga Festival		Jhalawar
▪ Bundi Festival		Bundi
December		

▪ Kumbhalgarh Festival		(1-3 December) Rajsamand
▪ RanakpurUtsav	–	(21-22 December) Pali
▪ Winter Festival	–	(29-30 December) Mount Abu

V. Tourism Policies -

- Rajasthan is the first state in the country to issue tourism policy.
- Tourism Policies of Rajasthan - (1) 2001 (2) 2007 (3) 2015 (4) 9 September 2020
- Eco-tourism Policy of Rajasthan - **1st** - 4th February 2010, 2nd - 15th July, 2021
- Rajasthan Hotel Policy – 2006

A.Tourist Related Schemes -

1. Paying Guest Scheme -

- Launch - 27 September 1991
- In 2012, it was implemented in the entire state.

2. Heritage Hotel Scheme -

- In 1991, the new category of heritage hotel was recognized by the Government of India.
- Required Conditions For Heritage -
  - Buildings older than 50 years such aspalaces, havelis and forts are built.
  - Heritage hotels are classified into three categories on the basis of service and facilities - 1. Heritage 2. Heritage Classic 3. Heritage Grand etc.
- Note -In Rajasthan 'AjitBhawan (Jodhpur)' was made the first heritage hotel of the country.

3. Mewar Complex Yojna/Mewar Complex –

- On the 400th death anniversary of Maharana Pratap (1997), development of places related to his life (Gogunda, Chavand, Diver, Haldighati) from the point of view of tourism.

4. HridayYojna (HRIDAY-Heritage City Development and Augmentation Yojana) -

- Launch – 2015
- Purpose - A scheme run for the development and promotion of national heritage sites of the country.

- Ajmer of Rajasthan was included in this.

5. **Prasad scheme (PRASHAD-'Pilgrimage Rejuvenation And Spiritual Augmentation Drive')**
   - Launch - January 2015
   - Launched by the Ministry of Tourism, Government of India.
   - It started for the development of pilgrimage sites, spiritual and heritage sites.
   - Under this scheme Ajmer-Pushkar will be developed in Rajasthan.

6. **Senior Citizen Pilgrimage Scheme** -
   - Launched by Devasthan Department.
   - Beginning year of this scheme - 2013

B. Tourism Institute -

1. Tourism Department-

- Established - 1956 (Jaipur)
- For conducting tourism related activities.
- Training institute run by tourism department for human resource development -
  1.Institute of Tourism Management - Jodhpur, Udaipur, Jaipur
  2. Food Craft Institute - Ajmer, Sumerpur (Pali)
- Tourism Department has tourist reception/information centers outside the state in 4 major metros in the country- 1. Delhi 2. Kolkata 3. Chennai 4. Mumbai
- The number of information centers of the tourism department in the state is 42.
- **Institute operated under tourism department - 4**

1. Rajasthan State Hotel Corporation Limited (RSHC) -

- Established - 7 June 1965 (Jaipur)

2. Rajasthan Tourism Development Corporation Ltd.(RTDC) -

- Established -1st April, 1979 (Jaipur)
- Objective - To provide accommodation, food and transport facilities to the tourists.

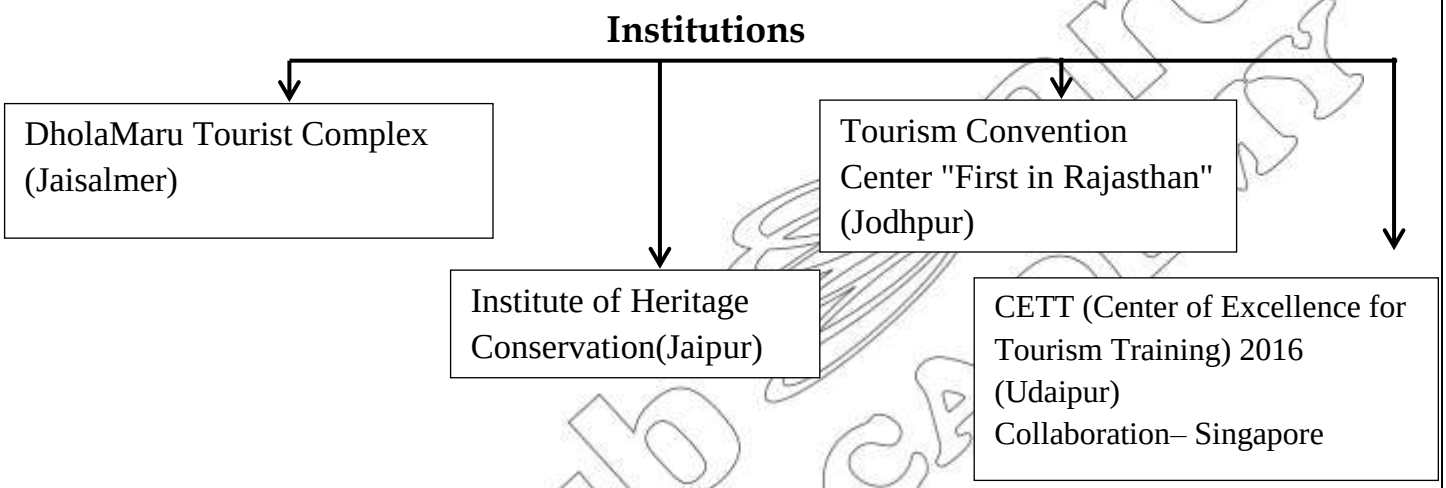
3. Rajasthan Institute of Tourism and Travel Management(RITTMAN)

- Established - April 29, 1996 (Jaipur)
- Objective - To develop resources to increase tourism activities and to provide latest information related to tourism.

4. **State Fair Authority –**
   - Formed in 2011 under Devasthan Department.
   - As of December 2019 42 fairs have been registered.

(C) Other Important Points -

- Tourism contributes 15 percent to the economy of Rajasthan.
- Tourism Development Fund of 500 crores was created in the budget 2020-21 which has been increased to 1000 Cr in Budget 2021-22



- **Note -** World Tourism Day - **27 September**

UNESCO Geo Park

1. UNESCO
2. Geo-park and geo-heritage site concept
3. Possibilities in Rajasthan
4. Conclusion

1. UNESCO – United Nations Educational, Scientific and Cultural Organization.

- Establishment – November 16, 1945 (London, Britain)
- Headquarters – Paris (France)
- India became a member of UNESCO in 1946 AD.

2. Geo-park and geo-heritage site concept

☑ Geopark :-

- The concept of 'geo-park' was given by UNESCO in 2001.
- Is a single integrated geographical area, where sites and landscapes of international geo-scientific importance are managed by UNESCO with an overall concept of protection, education and sustainable development**.**
- The bottom-up approach involves local communities (landowners, community groups and tourism service providers) in the sustainable development and conservation of these sites.
- Till date, 213 areas in 48 countries have been given the status of Global Geopark by UNESCO.
- Currently, the first proposed Geo Park in India '**Lamheta Ghat**' will be established in Madhya Pradesh. This place is famous for dinosaur fossils and ancient rocks.
- UNESCO gives the status of Global Geo-park to a site for 4 years.
- A field mission is conducted by 2 evaluators to assess the functioning and quality of the Geo Park.
- Following the mission the evaluator prepares a progress report on the Global Geopark,

- On the basis of which the card is issued, in which -
    1. **Green Card** – On fulfilling the criteria, it is included in the Geo Park list again for 4 years.
    2. **Yellow Card** – If does not meet the criteria then you will be informed to take appropriate action.
    3. **Red Card** – If the criteria are not met within 2 years after the Yellow Card, the site will lose the status of Geo Park.

✪ **Four basic features of UNESCO Geopark :–**

1. Geological heritage site at the global level - To make an area a geopark, it is necessary that the site should be a site of geological importance at the international level.
2. **Management** - The work of Geo Park management will be done by the local statutory organization.
3. **Visibility** – To enhance sustainable local economic development through geotourism.
4. **Network** – To exchange information about natural and cultural sites at local level as well as at global level.

☑ **Geo Heritage Site -**

- The World Heritage Site concept was adopted by UNESCO in 1972.
- Under this concept, UNESCO promotes the conservation of natural, cultural sites and intangible arts.
- Currently, 43 sites in India are included in UNESCO 'Geo-Heritage Sites'.
- Which includes Rajasthan's –
    - ☞ Cultural Heritage - Jantar Mantar (2010 AD)
    - ☞ Natural Heritage - Keoladeo National Park, Bharatpur (1985 AD)
    - ☞ Abstract Art – Kalbelia Dance (2010 AD)
    - ☞ 6 Durg (2013 AD)
        1. Amer - Jaipur
        2. Gagron – Jhalawar
        3. Sonargarh - Jaisalmer
        4. Ranthambore - Sawai Madhepur
        5. Chittorgarh Fort – Chittorgarh
        6. Kumbhalgarh Fort – Rajsamand.

✪ **Possibilities in Rajasthan -**

- 12 sites of Rajasthan have been declared as Geo Heritage Sites by the Geological Survey of India.

1. Jawar Udaipur
2. Stromatolite Jhamar Kotra (Udaipur)
3. Stromatolite Bhojunda (Chittorgarh)
4. Great Boundary Fault Satur (Bundi)
5. Ramgarh Meteorite Crater Ramgarh (Bundi)
6. Jodhpur Malani Group Igneous Rocks, Jodhpur
7. Welded Tough Jodhpur
8. Sendra Granite Poly
9. Bar Conglomerate Beawar
10. Akal Wood Fossil Park Jaisalmer
11. Gosan Rajpura Dariba Rajsamand
12. Nepheline Syenite Kishangarh (Ajmer)

✪ **Conclusion :-**

- To conserve natural cultural sites and intangible arts and to increase the possibilities of economic development and tourism in collaboration with UNESCO and the local community.

✪ **INTACH – Indian National Trust For Art & Cultural Heritage.**

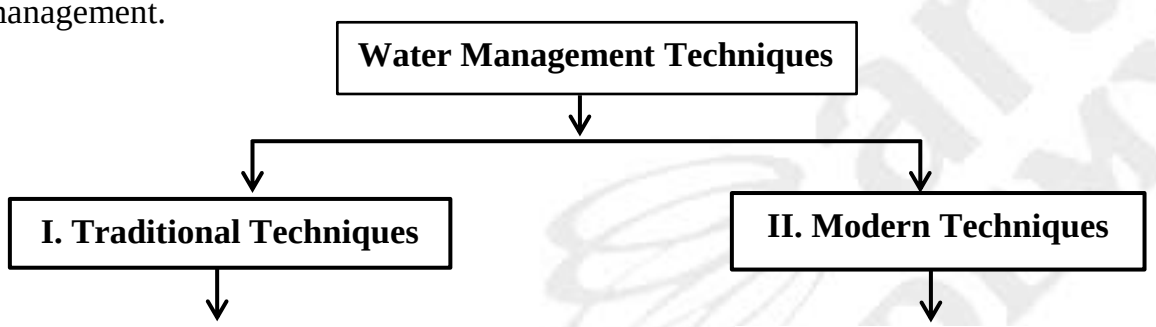
- Established - January 27, in the.
- Headquarters - New Delhi.
- Objective - To promote heritage conservation and awareness.

WATER CONSERVATION

A. Water Conservation
B. Water Conservation Techniques
C. Other Important Points

A. Water Conservation: -

- Controlling the wasted running water and limiting the use of used water is called water management.



1. Nadi
2. Toba
3. Bawdi
4. Jhalra
5. Khadeen
6. Beri/Kui
7. Tanka/Kund
8. Johad
9. Pond
10. Lake

1. Dam
2. Canal
3. Drip and Sprinkler Technique

I. Traditional Techniques :–

1. Nadi

- There is a kind of water reservoir/pond. In which rainy water is stored.
- This water conservation technique is prevalent in western Rajasthan.
- The first Nadi of Rajasthan was created in 1520.

2. **Toba**
   - These are the sources of deep water harvesting from the Nadi in which rain water is stored.
   - The water stored in these is used for drinking water and limited irrigation.
3. **Bawdi (Stepwells)**
   - The stepwells are circular and artistic step wells.
   - For water, they are dependent on wells and rainy water.
   - Most of the stepwells are located in Bundi. Which is called the **"City of Step Wells"**.

➢ **Major Stepwells -**

• Navlakha Stepwell	Dungarpur	• Doodh Stepwell	Sirohi
• Lahini stepwell	Sirohi	• Trimukhi stepwell	Udaipur
• Bhoot Baori	Jodhpur	• Rani Ki Bawdi	Bundi
• Anarkali stepwell	Bundi	• Gulab stepwell	Bundi
• Chand Baori	Dausa (Abhaneri)	• Hadi Rani Stepwell	Todarai Singh (Tonk)
• Big stepwell, small stepwell	Dausa	• Nomanjila Bawdi	Alwar (Neemrana)

4. **Jhalra**
   - Rectangular pool constructed for water storage which receives water from a lake or pond.
   - The water of Jhalra is used for bathing in religious rituals.
   - Its water is not used for drinking water.
5. **Khadeen**
   - In western Rajasthan, the lakes which was built by the Paliwal Brahmins for water storage/conservation is called khadeen.
   - It is located in the northern Jaisalmer.
6. **Berry (Kui)**
   - Small, circular and less deep pit made for water storage in western Rajasthan / International border areas (Jaisalmer, Bikaner) is called Beri (Kui).
   - It is dependent on ponds and johad for water.

7. Tanka/Kund

- Tanks are mainly constructed for the purpose of drinking water in homes or public places. In which rainy water (palar water) is stored.
- For the purity of water, it is covered from above.

8. Johad

- In rural areas, the rainy water flowing towards the slope is collected in the low land which is called johad.
- It is more prevalent in Shekhawati where they are called raw wells of water.
- The credit for reviving the Johad system goes to Shri Rajendra Singh (Alwar), known as **"Johad Wale Baba"**, He was awarded the **"Ramon Magsaysay Award**".

9. Pond

- It is a type of artificial or natural reservoir. Whose expansion is between one square meter to two hectares.
- In which water is available for at least four months in a year.
- **Major Pond -**
  1. Padam Talab, Junglee Pond, Kala Talab, Sukh Talab – **Ranthambore**
  2. Sareri, Khari Talab – **Bhilwara**
- **Note:-** In Rajasthan, the maximum use of ponds for irrigation is in Bhilwara.

10. Lake

- Water basin formed by rainy water and river water which is mainly surrounded by terrestrial part. It is called a lake.
- Udaipur (Lake City) has the largest number of lakes in Rajasthan.
- Note **:-**
  - National Lake Conservation Project - it started - on 2001.
  - It includes 6 lakes of Rajasthan
    1. Pichhola Lake (Udaipur)
    2. Fateh Sagar Lake (Udaipur)
    3. Nakki Lake (Sirohi)
    4. Pushkar Lake (Ajmer)
    5. Aanasagar Lake (Ajmer)
    6. Mansagar Lake (Jaipur)
  - Budget - Centre: State (60:40)

II. Modern Techniques -

1. Dam Project

- Dams are constructed to fulfill various purposes (irrigation, drinking water, hydroelectricity) by stopping the flowing waste water.

2. Sprinkler and Drip Irrigation Techniques –

- This technique has been compulsorily implemented in the Narmada canal area in Rajasthan.
- This water conservation technique have been adopted from Israel.

☑ Other Important Points

➢ Major schemes

1. Swajal Dhara Project –

- **Started –** 2002
- This project was started by the central government for the supply of drinking water in rural areas.

2. Jal Swavlamban Yojana -

- Started on 27 January 2016 from Gardankhedi (Jhalawar).
- **Objective -** Improvement in the water level of ponds and wells in rural areas, expansion of pastures, to increase agricultural production.
- **Jal Swavlamban Yojana was run in 4 phases -**
  Phase I - 27 January 2016 **Phase II -** 9 December 2016
  Phase III - 9 December 2017 **Phase IV -** 3 October 2018

3. Rajiv Gandhi Water Harvesting Scheme:-

- Begins 20 August 2019
- **Purpose:-** Supply of drinking water in rural areas, collection and conservation of rain water, increase in ground water level, increase in cultivable area.
- **Note**: - This scheme has been run in two phases.
- **Phase I**- 20 August 2019, **Phase II** – 22 March 2023 (For 2 year)

4. Atal Ground Water Scheme: -

- Begins 1st April 2020
- **Purpose:-** To stop the falling level of ground water, and better management of ground water.
- **Cooperation**:- Government of India and World Bank (50:50)

- This scheme has been started in seven states of the country. Which are the following- Rajasthan, Haryana, Uttar Pradesh, Madhya Pradesh, Gujarat, Maharashtra and Karnataka.

➢ **State Water Policy -**

- 18 February 2010
- According to this policy, the order of priority of water availability - human drinking water, animal drinking water, water supply for domestic works and agricultural work has been kept.

➢ **According to the Ground Water Resources Assessment - 2022, there are a total of 302 "water-blocks" in Rajasthan. in which –**

S.No.	Area	Water Use	Number
1.	Over Exploited	More than 100%	219
2.	Critical/Odd	90-100%	22
3.	Semi – Critical/Semi Odd	70-90%	20
4.	Safe	Less than 70%	38
5.	Saline	-	3

☞ **International Water Day-** 22 March (Theme – 2023 "Accelerating the change to solve the water and sanitation crisis.)

☞ **The Water (Prevention and Control of Pollution) Act – 1974**

LIVE STOCK

A. Introduction

B. Animal census

C. Major breeds of animals

D. Animal Research Center

E. Major diseases related to animals

F. Animal Fair

G. Animal related schemes

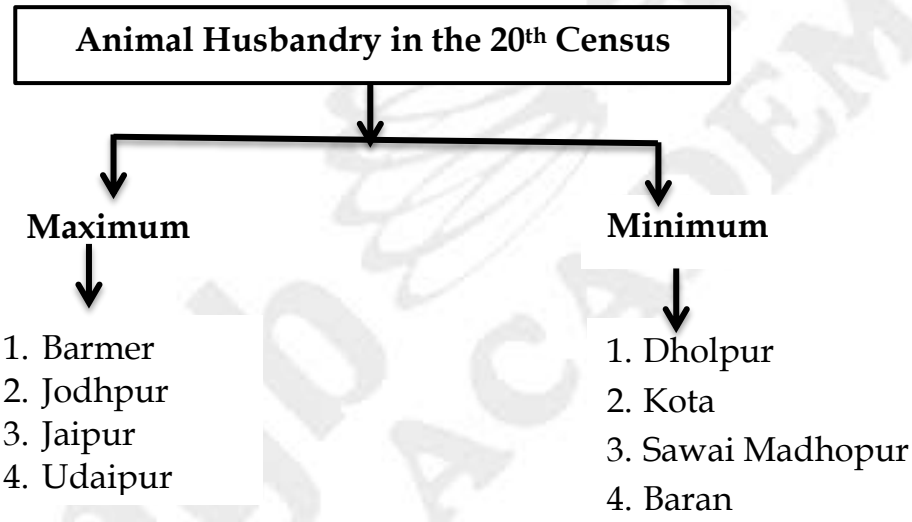
A. Introduction

- Livestock is a primary sector in the Livestock economy which forms an important part of mixed and dry farming.
- The share/contribution of livestock sector in agriculture and related sectors in the economy is 48 : 58 percent.
- The contribution of animal husbandry in the gross domestic product of the state is about 10.99%.

> ➢ Agriculture related areas-
>
> 1. Agricultural crops = 44.53%
> 2. Livestock 48.58%
> 3. Forestry sector = 6.40%
> 4. Fishing area = 0.49%

B. Livestock Census

- Department - Revenue Board (Ajmer)
- Livestock census occurs once every five years.
  - First Census – 1919-20
  - Latest Census – 2019 (20th)
- Total livestock as per latest livestock census – 567.75 lakhs (as of 2012 = 577 lakhs)
- In the latest livestock census, the number of animals has decreased - 1.61%(9.31 lakhs)
- Animal Husbandry in the 20th Census

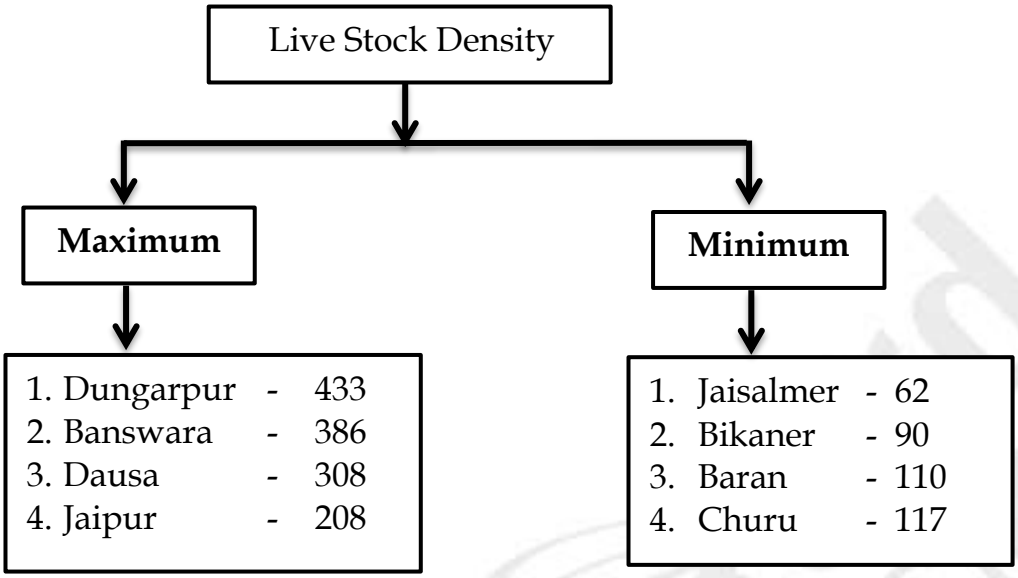


- Rajasthan holds 10.60% of the total animals in India.
- According. to 20th Livestock Census, Animals which are found maximum in Rajasthan.

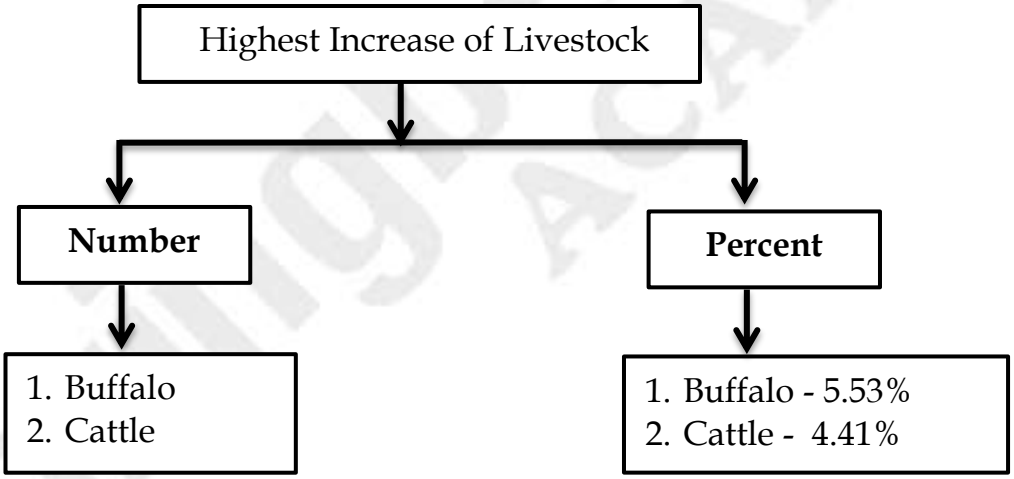
Ist	-	Goat	=	36.70%
IInd	-	Cow	=	24.50%
IIIrd	-	Buffalo	=	24.11%
IVth	-	Sheep	=	13.92%

Note:- India's Live Stock in which Rajasthan is first - camel, donkey, goat etc.

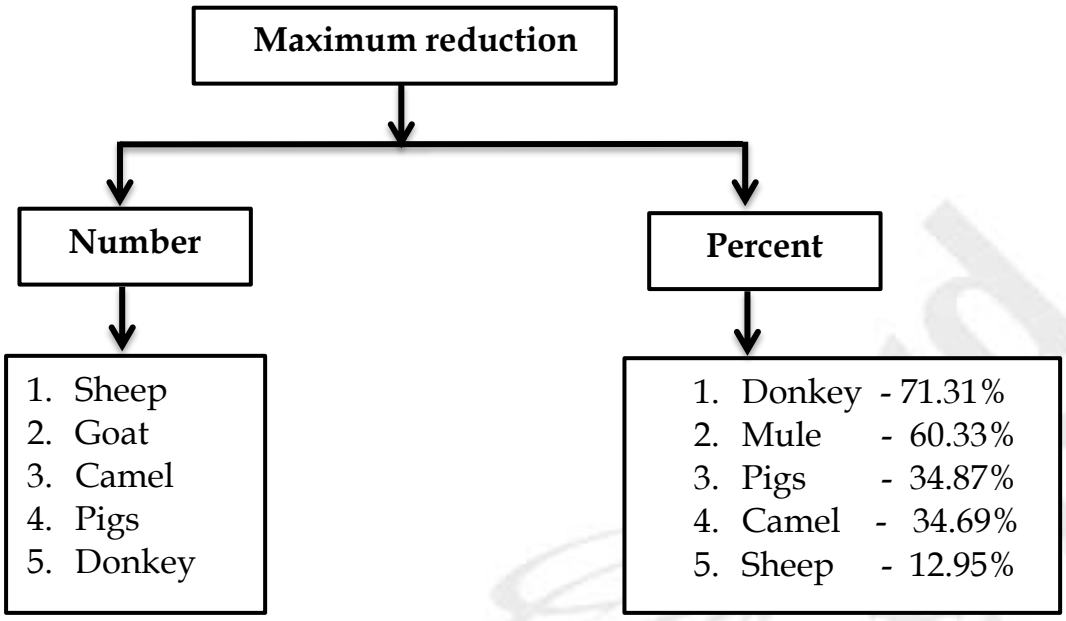
- Live Stock Density in Rajasthan - 166 (Acc. to 20th – Live Stock Census)



- Highest Increase of Livestock in 20th Census.



- **Maximum reduction in 20th Animal Census**



C. Breeds of Animal in Rajasthan

- 18th Livestock census (2007) was done for the 1st time on the basis of breeds of animals.

1. Goat – Maximum – Barmer

Minimum - Dholpur

- Goat is called a poor man's cow or a walking refrigerator.

S.No.	Breed of Goat	Area	Special Features
1.	Marwari and Lohi	North – West Rajasthan	Famous for meat
2.	Jakhrana / Alwari	Alwar, Bahror	Maximum Milk producing breed of goat
3.	Shekhawati	Sikar, Jhunjhunu	Goat without horns this breed is developed by CAZARI scientists
4.	Parbatsari	Nagaur, Ajmer, Tonk	This breed produces good quality milk
5.	Barbari	Easter Rajasthan	Most beautiful breed of Goat
6.	Sirohi	Sirohi, Jalore	Famous for Meat
7.	Jamanapari	Hadoti	Famous for its meat and milk

Note:- The Goats of Varun village (Nagaur) are considered to be of the best breed.

2. **Cow –** Maximum – Bikaner, Jodhpur
   Minimum - Dholpur

S.No.	Breed of Cow	Area	Special Features
1.	Rathi	Bikaner, Shri Ganganagar, Jaisalmer	Produces maximum milk, therefore it is called "Kamdhenu of Rajasthan."
2.	Tharparkar	Jaisalmer, Barmer, Jodhpur	**Origin Place-** Sindh State (Pakistan)
3.	Gir	Ajmer, Bhilwara, Chittorgarh	Breed of Gujarat
4.	Nagauri	Naguar	This breed is considered best in terms of running carrying wads and also for agriculture purpose.
5.	Kankrej	Barmer, Jalore	**Origin Place –** Gujarat
6.	Mewati	Alwar, Bharatpur	Useful for carrying wads
7.	Hariyanvi	Sikar, Jhunjhunu	Origin Place – Haryana
8.	Malvi	Southern– Eastern Rajasthan	**Origin Place –** Malwa (Madhya Pradesh)
9.	Sanchori	Jalore, Sirohi	

Foreign Breeds

1. **Jersey –**
   - **Place of Origin –** America
2. **Redden –**
   - **Place of Origin –** Denmark
3. **Holstein –**
   - **Origin Place -** Holland and America
   - **Features -** Black and white spots on the body.
   - Maximum Milk producing / highest milk yield.

4. **Buffalo –** Maximum – Jaipur

Minimum **-** Jaisalmer

S.No.	Breed of Buffalo	Area	Special Features
1.	Murrah (Khundi)	Eastern Rajasthan	This breed is found in highest number in Rajasthan and maximum milk producing breed.
2.	Surti	Udaipur	**Origin Place –** Gujarat
3.	Jafarabadi	Southern Western Rajasthan	**Origin Place -** Gujarat
4.	Mehsana	Southern Western Rajasthan	**Origin Place –** Gujarat
5.	Bhadawari	Eastern Rajasthan	**Origin Place -** U.P It's milk contain highest quantity of fats.

5. **Sheep –** Maximum – Barmer

Minimum **-** Banswara

S.No.	Breed of Sheep	Area	Special Features
1.	Malpuri	Jaipur, Tonk, Sawai Madhopur	Due to its thick wool, it is used in rugs and Blanket.
2.	Chokla	Jhunjhunu, Sikar, Bikaner	High quality. It is also known as **"Indian Merino"**.
3.	Sonadi/ Chanothar	Udaipur, Dungarpur, Chittorgarh	It has longest ears.
4.	Nali	Hanumangarh, Shri Ganganagar	It is found near the bank of Ghaggar river in Hanumangarh.
5.	Pugal	Bikaner	
6.	Magra	Bikaner	It is known as Bikaneri Chokla.
7.	Marwari & Kheri	Jodhpur, Barmer, Naguar	This breed is found in maximum number in Rajasthan.

8.	Jaisalmeri	Jaisalmer, Jodhpur	This breed provides highest Quantity of wool.

Foreign Breeds of Sheep -

1. **Russian Marino -** Tonk, Jaipur, Sikar
2. **Rambull –** Tonk
3. **Dorset –** Tonk
4. **Corriedale –** Chittorgarh

6. **Camel –** Maximum – Jaisalmer

Minimum - Dungarpur

S.No.	Breed of Animal	Area	Features
1.	Bikaneri	Bikaner	Useful for Carrying Wad.
2.	Nachana	Jaisalmer	This breed is famous for running and beauty, Best breed.
3.	Gomat	Jodhpur	Famous for Camel Riding

Note :- Other Breeds - Sindhi, Kachhi, Mewati, Mewadi

6. **Horses –** Maximum - Bikaner

S.No.	Breed of Animal	Area	Features
1.	Malani	Barmer	Best Breed of Horse
2.	Marwari	Western Rajasthan	
3.	Kathiyawari	Barmer, Jalore	Head of this breed's horse is similar to Arabic Horse.

7. **Donkey : Maximum –** Barmer
8. **Hens : Maximum -** Ajmer, Udaipur
9. **Pig : Maximum –** 1. Jaipur, 2. Bharatpur
10. **Mule : Maximum –** Alwar

D. Famous Animal Fairs of Rajasthan :-

	Animal Fair	Place	Cattle Breed
1.	Sri Baldev Cattle Fair	Medta (Nagaur)	Naguri
2.	Shri Tejaji Cattle Fair	Nagaur	Naguri
3.	Shri Ramdev Cattle Fair	Manasar (Nagaur)	Naguri
4.	Shri Mallinath Cattle Fair	Tilwada (Barmer)	Tharparkar Kankrej
5.	Chandra Bhaga Cattle Fair	Jhalarapatan (Jhalawar)	Malvi
6.	Shri Gomtisagar Cattle Fair	Jhalarapatan (Jhalawar)	Malvi
7.	Jaswant Cattle Fair	Bharatpur	Haryanvi
8.	Gogamedi Cattle Fair	Hanumangarh	Haryanvi
9.	Shivratri Cattle Fair	Karauli	Hariyanvi
10.	Kartik Cattle Fair	Pushkar	Gir / Ajmera / Renda

E. Animal Breeding and Research Center :-

Breeding and Research Center = Location

1. National Research Center on Camel = Jodbeed (Bikaner)
2. Central Animal Research Center = Suratgarh (Ganganagar)
3. Sheep and Wool Research Center = Avikanagar (Tonk)
4. Buffalo Research Center = Vallabh Nagar (Udaipur)
5. Buffalo Breeding Center = Dag (Jhalawar), Kumher (Bharatpur)
6. Bull Mother Farm = Chandan Village (Jaisalmer)
7. Goat Breeding Center = Ramsar (Ajmer)
8. Pig Breeding Center = Alwar
9. Horse Breeding and Research Institute = Keru (Jodhpur)

F. Major Schemes and Institute related to Animal Development

1. Gopal Scheme –

- Started - 2nd October, 1990
- Objective – To improve the breeds of animals by involving rural youth for economic development of livestock rearers and provide employment opportunities to youth.

2. Kaamdhenu Scheme –

- Started - 1997 – 1998
- Objective - To established animal breeding farms based on bovine related techniques.

3. ADMAS (Animal Diseases Monitoring and Surveillance) Scheme –

- Started - 1999
- **Objective -** To make the breeds of cow and buffalo as disease free through ICAR (Indian council for agriculture research)

4. Rajiv Gandhi Agriculture and Animal Husbandry Development –

- Started - 19th January, 2010
- Objective - To fulfill the objects laid down in Animal development policy.

5. Mukhymantri Livestock Free Drug Scheme -

- Started - 15th August, 2012
- Objective – To provide essential medicines free of cost for animal development by state government.

6. Avika Kavach Yojna -

- Started – 2004, 2009 and 2018
- Objective - This scheme is for sheep insurance through which SC / ST and BPL would be provided 80% subsidy on insurance premium. For other livestock breeders, 70% subsidy would be provided.

7. Bhamashah Animal Insurance Scheme –

- The insurance in this will be one or three years.
- 70% subsidy will be given to BPL / SC / ST and 50% to the remaining cattle rearers in the sum assured
- Sum Insured Cow - Rs. 40000
- Buffalo – Rs. 50000
- Sheep / Goat / Pig (10 units) – Rs. 50000

- Camel / Horse / Donkey – Rs. 50000
- A family can insure a maximum of 5 large and 50 small animals.

8. **Kamdhenu Insurance Scheme :-**
   - Launch **- 6 September, 2023**
   - For Milk animals (cow, buffalo)
   - Free Insurance – 40,000 per animal (Maximum 2 Animals in a family)
   - If a cattle owner has more than two cows or buffaloes, then the relatively more milk and healthy animals will be insured.
9. **Gaushala Biogas Partnership Scheme :-**
   - Starting from April 1, 2018
   - Objective - To make the cowshed self-reliant
   - A biogas plant will be installed in a cow shed.
   - For this, grant up to 50% of the cost or maximum Rs. 40 lakhs.
10. **Chief Minister Milk Producer Sambal Yojana :-**
    - Starting from June 1, 2019
    - Subsidy amount = 2 ₹ /Litre to '5 ₹ /Litre (On delivery in Saras Dairy)
11. **Nandi Gaushala Public Participation Scheme :-**
    - Start – August 29, 2019
    - Government assistance in 90:10
    - 16 Nandi Gaushalas have been established.
12. **Chief Minister Mangala Animal Insurance Scheme :-**
    - Rs 5 lakh - Milk Cow, Buffalo, Sheep, Goat
    - 1 lakh rupees - Camel
    - Increase in grant amount from 50% to 75%

Other Important Facts :-

1. **Animal Husbandry Development Fund = 250 Cror ₹**
2. **Camel :-**
   - Camel Conservation and Development Mission
   - Amount of rearing a newborn camel: Rs 10,000 ₹ -20,000 ₹
3. **Rajasthan Animal Development Board -** 25-03-1998 (Jaipur)
4. **Rajasthan University of Veterinary and Animal Sciences -** Bikaner, 2010
5. **Himkart Veerya Bank –** Bassi – Jaipur (14 Aug. 2007)
6. **Cow–** Urine Refinery – Pathmeda (Jalore)