

Geographical analysis of environmental crisis and conservation in Aravali mountain region

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Abstract

Aravalli Range, hill system of northern India, running northeasterly for 350 miles (560 km) through Rajasthan state. Isolated rocky offshoots continue to just south of Delhi. The series of peaks and ridges, with breadths varying from 6 to 60 miles (10 to 100 km), are generally between 1,000 and 3,000 feet (300 and 900 metres) in elevation. The system is divided into two sections: the Sambhar-Sirohi ranges, taller and including Guru Peak on Mount Abu, the highest peak in the Aravalli Range (5,650 feet [1,722 metres]); and the Sambhar-Khetri ranges, consisting of three ridges that are discontinuous. The Aravalli Range is rich in natural resources (including minerals) and serves as a check to the growth of the western desert. It gives rise to several rivers, including the Banas, Luni, Sakhi, and Sabarmati. Though heavily forested in the south, it is generally bare and thinly populated, consisting of large areas of sand and stone and of masses of rose-coloured quartzite.

A 2017 study by the Indian Archaeological Institute said that the part of the Aravali Islands falling in Haryana is the driest forest area in the country. Rapid deforestation and the development taking place there are gradually destroying this unique land area. The situation is also not good in the part of Aravali falling in Rajasthan. Out of 128 buildings falling in this area of Aravali, 31 have been completely destroyed. Land mafia and mining mafia are irresponsible for this.

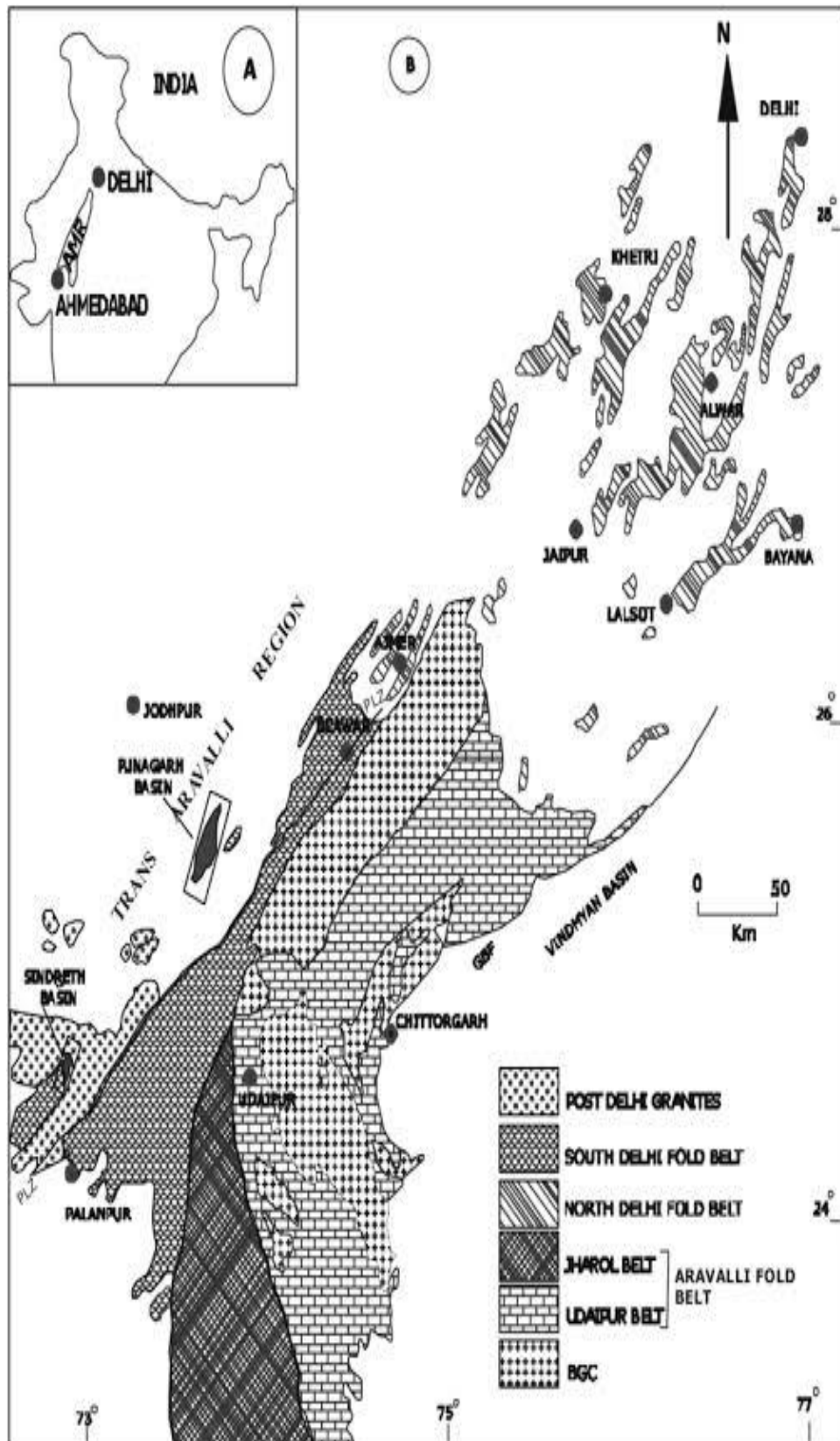
The exotic acacia is not considered right for the environment. In most of the areas of Aravalli hills, there are only exotic acacias. Because of these, the local vegetation is gradually disappearing. Keeping this in mind, this year also local flora will be planted in place of exotic acacia from some areas. A decision will be taken soon on how many acres of land will be planted with local flora. In this article, we shall be discussing various aspects of the Aravalli Ranges and Geographical analysis of environmental crisis and conservation in Aravali mountain region

Keywords: - *Aravalli range, impact on environment, Conservation of Aravalli Range, Challenges and Issues, Conclusion and Suggestions*

I. Introduction :-

The Aravalli Range located in the north-western part of India is one of the oldest fold mountain systems in the world, and in its current form reduced to residual hill ranges. Spanning across four Indian states from Gujarat to Delhi, with an average height of 600 to 900 m, these ranges play a prominent role, affecting the local climate and beyond, directing economic activities, leveraging geographical and environmental resources and biodiversity profiles of the region.

Aravalli is a mountain range located in the western part of India, Rajasthan. In Rajasthan. Also known as Kansan Parvat, Aravalli is the oldest mountain range in the geographical structure of India, which is the existence of Godwana land. It is the oldest mountain range in the world, which divides Rajasthan into two parts from north to south. It originated in the Precambrian era (4.5 million years ago). The highest mountain peak of Aravalli is Gurushankh (1722/1727 m) in Sirohi district, which is in Mount Abu (Sirohi). The Bhil tribe has been living in the areas around the Aravalli ranges for centuries. The estimated age of the Aravalli mountain range is 570 million years. It is an example of a relic mountain with a total length of about 79.49 of the Aravalli mountain range, about 692 km from Gujarat to Delhi. Aravalli range is in Rajasthan,



Rashtrapati Bhawan in Delhi is situated on Raisina hill which is part of Aravalli mountain range, Aravalli average height is 930 m (1000 m according to Chhattisgarh), and the height and breadth of Aravalli south is the highest. The Aravalli or Aravalli is a North Indian mountain range. Some of the rocky hills of this mountain, covering a distance of 550 kilometers, which pass through the northeastern region of the state of

Rajasthan, have gone to the southern part of Delhi. The ridges of the peaks and cuttings, which extend from 10 to 100 km, are generally 300 to 900 m high. The range is divided into two parts – the Sambhar-Sirohi range – which contains most of the highest mountains, including the Guru Shikhar (the peak of the Aravalli range, Mount Abu at a height of (1,722 m) and (5649.606 ft). There are various terrigenous regions. The Aravalli range is full of natural resources (and minerals) and serves to stop the expansion of the western desert. The western part of the Aravalli range is called Marwar and the eastern part is called Mewar. It is the point of origin of several major rivers - Banas, Luni, Sakhi and Sabarmati. The region has dense forests only in the southern region, otherwise it is sparse, sandy and stony (rosy pink) in most areas.

Objective of research :-

1. To conduct a geographical study of the environmental problems of the Aravali mountain region.
2. To study the importance and conservation of Aravalli mountain region.

Research hypothesis :-

1. Due to increasing mining in the Aravali mountain region, the environmental crisis is continuously increasing.

Sources of data :-

Any type of study requires data. Data obtained from primary and secondary sources have been used in this research study. This data has been collected in various departments. Forest and Environment Department, Rajasthan, collected from personal survey, questionnaire, schedule and reports published in newspapers.

About Aravalli Range – The Present Scenario

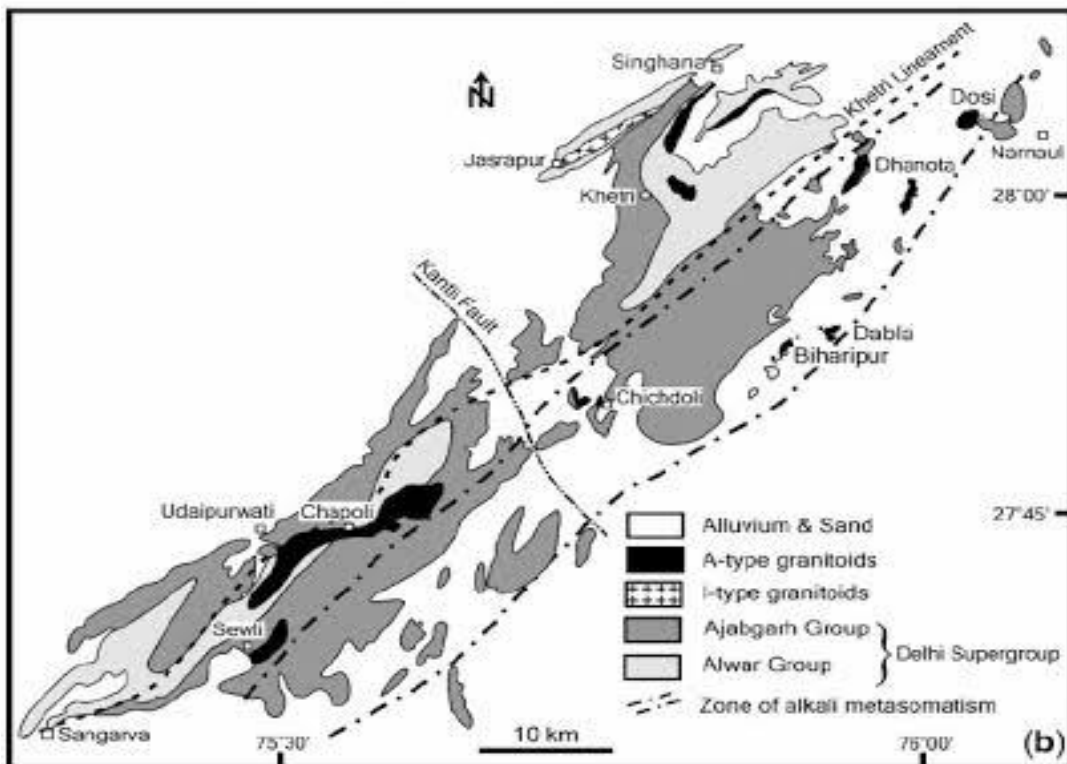
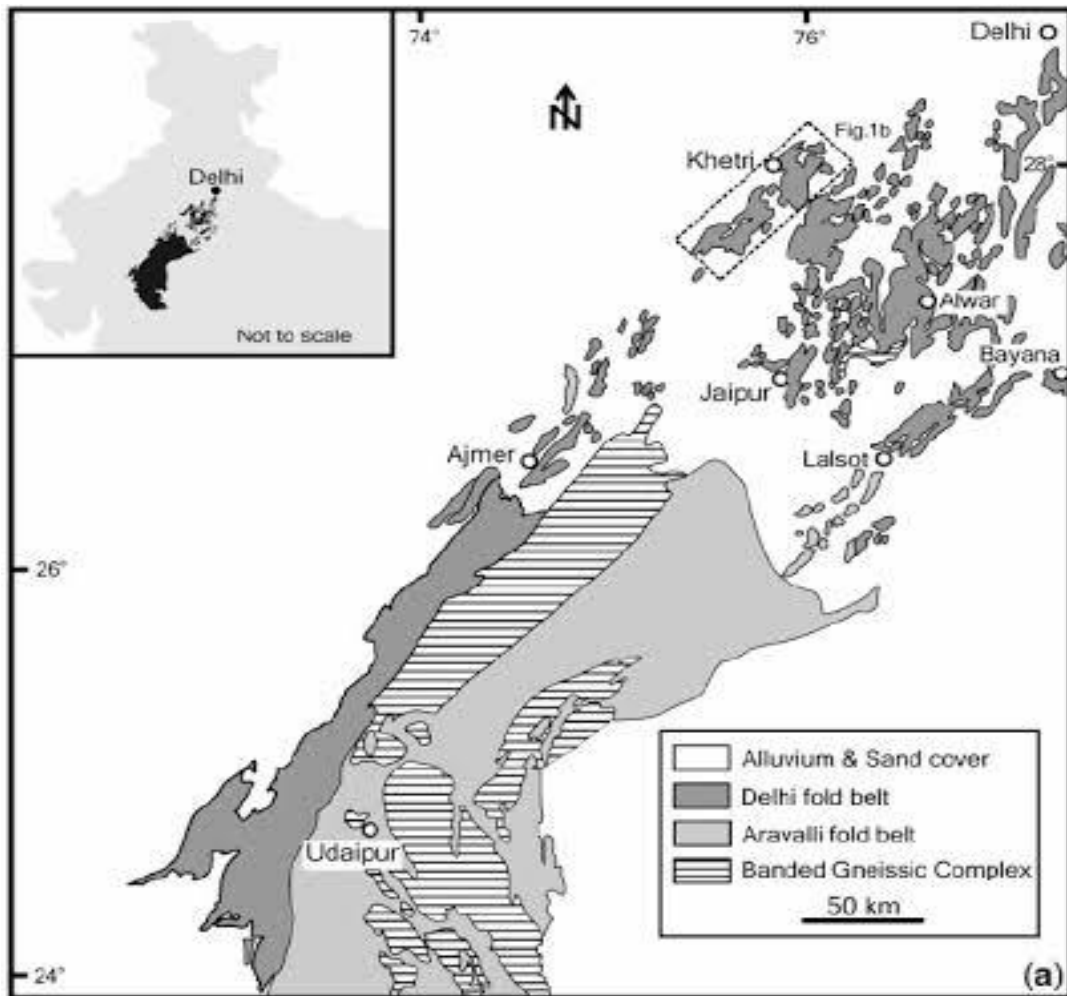
The Aravalli range has been at the receiving end of anthropogenic activities, undergoing rapid deterioration, change in its topography. Of late, mindless pursuit of lopsided development, colossal exploitation of natural resources, quarrying, mining activities and destruction of fragile forest ecosystems, have further degraded the groundwater resources and increased levels of pollution. This has resulted in the loss of critical habitats, rendering the conservation measures ineffective, and in recent years registering an increase in events of human-wildlife conflict. This certainly has thrown upon many questions, the dichotomy of development and conservation, oft-repeated, but yet insufficient to awaken the mass-perils of climate change and its effects in these regions, that housed the cradles of the earliest Indian civilization.

Features of the Aravalli Ranges

The Aravalli Range, formed by folding, an orogenic process, is one of the oldest mountain ranges of the world and predates the formation of the Himalayan ranges.

The fold mountains are formed by the movement of convergent plate boundaries and subsequent folding.

Located in the north-western part of India, the Aravalli stretches from Gujrat to Delhi through Rajasthan and Haryana, with a length close to 692 Km. and an average elevation of 600-900 metres. It is home to several forts, palaces and shares a



chequered history in the development of civilization.

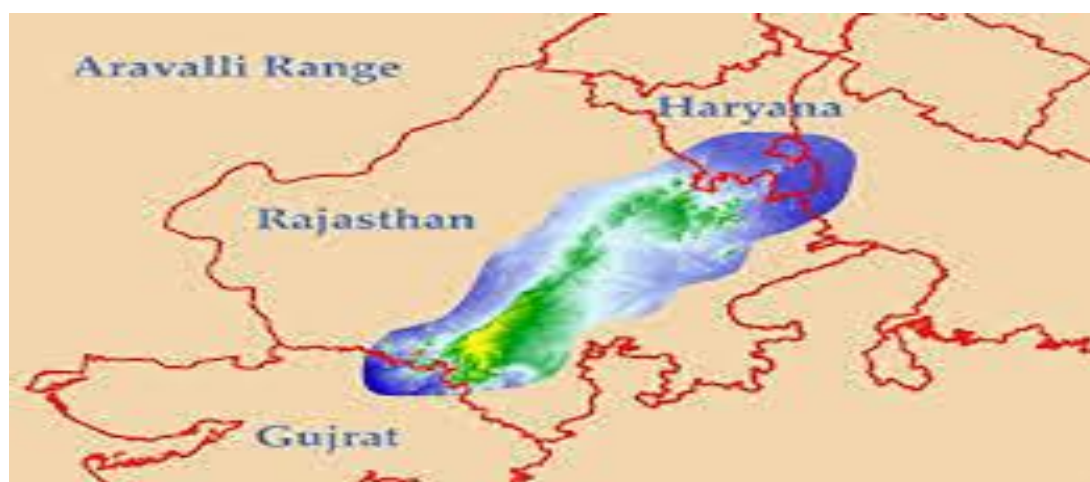
The northern end of the Aravalli Range forms isolated and rocky hills and ridges in between Haryana and Delhi, whereas the south-western range passes through Gujarat and Rajasthan.

The mountains are divided into two main ranges – the Sāmbhar Sirohi Range and the Sambhar Khetri Range in Rajasthan, with an extension of about 560 km. Guru Shikhar is the highest peak of Aravalli with 1722 meters, located near Mount Abu.

The drainage of Ganga and Indus is divided by one extension of the Aravalli, from Delhi to Haridwar.

The earliest evidence of mining of Copper is found as far as the 5th Century BC in the Khetri region.

Aravalli is one of the oldest mountain ranges not only in India but also in the world. Understand this in the same way that if Himalaya is a school going child, then his relationship with Aravalli will be like that of a grandchild. Yes, if we hold it right, our Aravalli is that old! Now, if we move away from stories and understand Aravalli in the language of geography, then it is a folded mountain which is formed by the twisting of the tectonic plates of the earth fighting among themselves. The animation given below will explain this to you more easily.



The approximately 700 kilometer long Aravalli Mountains are spread across 4 Indian states of Haryana, Delhi, Rajasthan and Gujarat. However, by the time it reaches Delhi, it almost turns into a plain near “Majnu Ka Tila”. Even the Raishila Hills on which the Rashtrapati Bhavan of our country is situated is also a part of Aravali. Its highest peak is named Guru Shikhar which is in Mount Abu. The western part of Aravalli was named Marwar and the eastern part was named Mewar and from here the Marwari and Mewari communities also originate.

importance of aravalli

Aravali Biodiversity Park provides home to many types of animals and plants, and Bhil, Damor and Kathodiya tribals also live here. Let us tell you that in the entire Delhi NCR area, Aravali is the only place from where groundwater is recharged.

Due to its position it does not allow the Thar Desert to reach Delhi and western Uttar Pradesh. Otherwise, according to the type of rainfall that occurs in Delhi, it would have become a dry area. Not only this but it does not stop the monsoon winds coming during the rainy season due to its being parallel, this is the reason why the hilly areas of North India receive good rainfall and many rivers are full of water. Water is available.

Not only this, it also protects the entire NCR areas from the dust coming from Rajasthan, which keeps the pollution in the air of Delhi under control.

But for the last few decades, Aravali, which is called the lungs of the North-West, is today breathing smoke of pollution and illegal mining. It is only Aravali due to which Delhi and surrounding cities get ample amount of oxygen, but the matter of concern is that today Aravali itself is on ventilator. There was a time when the Aravali forests were considered the home of tigers and leopards, but according to the survey conducted in 2017, while on one hand the tigers gradually disappeared from the area, on the other hand only 31 leopards are left.



Concerns about Aravali

In fact, the biggest sword on the neck of Aravalli was placed by the one who was supposed to act as its shield. Yes, you are absolutely right, here we are talking about the governments that have become blind in the race of development, especially the governments of Haryana and Rajasthan. You will definitely be surprised to hear this, but till now a total of 31 hills of Aravalli have disappeared in Rajasthan, on this the Supreme Court also reprimanded the Rajasthan government and said, "Have people become Hanuman who are running away with the hills? ? The benefits Rajasthan has gained from this illegal mining cannot bring back the health of the people of Delhi."

Not only this, the limit was reached when after Rajasthan, the Haryana government also made such changes in the law by ignoring the forest rules, after which the way was cleared for cutting trees and construction of buildings in the Aravali hills. In such a situation, the bench led by Justice Arun Mishra of the Supreme Court also reprimanded the Haryana government and said, "We know what your intention is, but no one is above the law, this is a serious matter in which you should follow the orders of the court." Don't try to make a new law against it."



What is the root of this conflict?

Just understand this that Aravalli is actually that part of the country where the people living there neither got any industry or factories nor such land where good earning crops can be cultivated. In such a situation, he had no other option but to work as a laborer in Aravali, which is rich in copper, zinc, silicate, red sand and quartz. For this reason, excessive illegal mining kept destroying Aravali. Not only this, governments also ignored the environment in the blind race for development. Corruption has become so prevalent in the administration that even the eyes are turned away from the truth of illegal mining for the benefit of some businessmen.

The environment is being harmed by illegal mining in the hills of Aravalli ranges. The mining mafia is engaged day and night in extracting silver through illegal mining. The villagers informed the administration and departmental officials several times about the action against illegal mining taking place in the villages, but due to the influence of the mafia, no action is being taken.



Illegal mining in the hills of Aravali mountain range spread in Mandali, Nagana, Newri, Tirsingadi and Thobe areas of the region is causing huge damage to the environment. The hills of the Aravali mountain range are the pride of the region. Apart from being a picturesque place, Bhombhakhar Hinglaj Mata and Nagana Nagnechyan Mata temples are centers of faith.

Where thousands of devotees come throughout the year for darshan and worship. The ancestors had protected this area, from where even cutting wood was prohibited. People have been earning their living from Kair and Kumth trees on these hills. Besides, it has also been a pasture for shepherds and a refuge for wild animals.

It is noteworthy that since the commencement of the refinery work, the demand for gravel, stone, concrete etc. has remained high here. In such a situation, many people have taken lease in Thobe, Asada, Asotra, Bagundi areas, most of them are going outside the lease and doing illegal mining of stones. Seeing no action being taken against illegal mining and in the greed of earning, many mafias are doing illegal mining. Illegal mining is being done by digging huge pits in the mountains.

Along with this, lease holders are also mining at greater depth, ignoring the rules and regulations of the mining department. At the same time, no other work is being done for environmental protection including plantation. The Aravalli mountain range has started losing its existence due to the indiscriminate mining that has been going on for the last several years.

The hills which used to be adorned with lush green trees and grass have been transformed into huge deep ravines. Due to the fierce blasting done to break the rocks, the abundant animals and birds including deer, nilgai, rabbit and peacock have migrated.

Crusher operators make tunnels in hilly areas with illegal gunpowder and get the blasting done using compressors. The sound of the massive explosion has robbed the villagers of their peace. Villagers are always in fear of an accident due to cracks in their houses and water tanks.

Pollution from the explosion, sand particles flying from the crusher, dust flying from vehicles galloping to transport goods are having a negative impact on the health of the common people. No fencing has been arranged anywhere for safety. If a person or animal accidentally goes towards the mine, there is a possibility of some untoward incident.

Excavation is also being done keeping the rules and regulations in mind. Mine owners obtain permission for mining from the Environment Ministry to work as per the rules, but are not working as per the standards. There is no plantation visible anywhere on most of the mines. At the same time, due to lack of action from the responsible Revenue and Mineral Department, the mining mafia is having fun.



Such things hurt the most when on one hand, some selected institutions are working hard to save Aravali, but on the other hand, illegal mining is destroying it at a much faster pace. Although in small numbers, the hard work of those concerned about the environment is definitely bearing fruit, according to the data of Wildlife Institute of India till 2019, the number of leopards has increased from 31 to 45. Keeping in mind the seriousness of the situation, Haryana Government also announced the identification of a place for Biodiversity Park near Gurugram, after which, on the orders of Gurugram District Administration, the team of Gurujal Society with the help of Biodiversity Park and Urban City Forest, the forest area. Gurujal has also set some important targets to save the 420 acre Biodiversity Park in Damdama and Kherla area, such as: –

- (1) Increasing the area of forests
- (2) Saving local animals and plants
- (3) Creating an income model for the surrounding communities
- (4) Protecting natural resources like water and soil
- (5) Promoting eco tourism

It is definitely difficult to make Aravali the same as before but apart from that, there is no other way in sight, what is needed is to control the level of pollution by stopping cutting of trees and mining on mission mode, as well as illegal occupation and irresponsible actions. To stop development works. We will also have to explain its importance to the people around us, because in the end, whether it is good or bad with Aravalli, the first impact will be on them only.

What is the significance of the Aravalli Range :-

Acts as a barrier to prevent additional desertification in Rajasthan's east, and afterwards in the Gangetic plains. If the erosion of the natural barrier known as 'The Aravali' continues unchecked, dust storms may become more powerful and frequent.

Responsible for ensuring enough monsoon rainfall, which in turn supports a diversified flora and fauna, rich biodiversity, livelihood, and agriculture in the member states.

The Aravalli serves as a barrier for clouds to move eastwards to the lower Himalayas, influencing the climate of north India.

The plains are protected from the effects of westerly winds from Central Asia.

Despite its diminishing forest resources, the Aravalli serves as a buffer for the urban landscape, absorbing the strain and shock of increased anthropogenic activity and pollution.

An Aravalli that is greener serves as a groundwater recharge for a region that is experiencing severe water scarcity.



Challenges and Issues :-

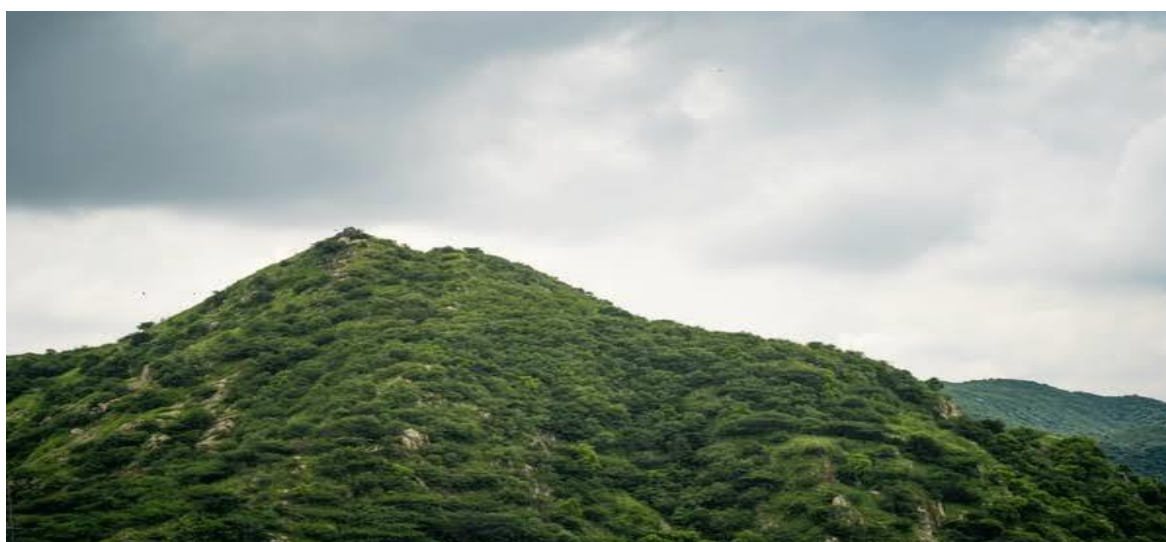
Left-over mines, artificial pit-lakes, falling groundwater levels, loss of biodiversity and disease incidence, insect assaults (Termite), and man-animal conflict in the regions have painted a bleak image throughout the years.

It fundamentally embodies the ills of unthinking exploitation, plunging the Aravalli and its constituent parts into protracted periods of irrevocable ruin.

According to a research published by the Wildlife Institute of India, Aravalli has the most degraded forests in India, necessitating conservation efforts on par with priority conservation regions.

The laws governing the use of natural resources in different states, such as Rajasthan and Haryana, are incompatible with the aims of sustainable development, which are urgently needed. The importance of a greener Aravalli should be emphasised more.

Desertification is a real issue growing east of the Aravalli. In a paper issued by the Wildlife Institute of India, groundwater levels are being depleted and the Aravalli range is being breached owing to anthropogenic topographical change in Haryana, at least in 12 places.



Encroachment of forest land, coupled with dwindling wildlife habitat and dried-up water sources, has driven wildlife to wander into human settlements. Leopards rescued from concrete jungles in Gurugram and other cities attest to this.

II. Conclusion :-

The Aravalli is a key mountain range in our nation, and it is extremely important to the member states, defining their culture, tradition, and history, as well as influencing their environment, climate, and geography, and ensuring the economy and food security of millions of people. Citizens, civic society, and state organisations must band together to achieve a shared objective of safeguarding and restoring the Aravalli through a variety of approaches. For this generation and beyond, protecting and preventing future damage of the Aravalli is critical.

Reference :-

- [1]. Environmental Geography, Savindra Singh, Prayag Pustak Bhawan, Prayagraj New Edition 2021.
- [2]. Geography of Rajasthan, Prof. H.S. Sharma, Panchsheel Publications, Jaipur New Editions 2022.
- [3]. News 18 Report 10 July 2020 Rajasthan.
- [4]. News 18 Report 2 January 2021 Rajasthan.
- [5]. Rajasthan Patrika Report, 5 December 2019.
- [6]. India News, 3 December 2018.
- [7]. Ministry of Forest and Environment, Government of Rajasthan.
- [8]. Drishti IAS Publication 2021.
- [9]. Danik Bhaskar Report march 2021