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Geographical Study of Sirohi District Rajasthan

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ABSTRACT

Sirohi district, nestled in the southwestern part of Rajasthan, presents a unique blend of arid landscapes, mountainous terrains, and rich cultural heritage. This paper delves into the district's geography, climate, natural resources, and socio-economic aspects, offering a comprehensive overview of its physical and human geography. Sirohi district's diverse geography, ranging from arid plains to forested hills, coupled with its rich cultural heritage and economic activities, makes it a significant region in Rajasthan. Understanding its geographical nuances is crucial for sustainable development and resource management. The physiography of Sirohi district is diverse, from the rugged Aravalli hills to the fertile plains. The variation in elevation,

soil, and water availability greatly influences land use, agriculture, and settlement patterns.

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Introduction

Sirohi district, located between latitudes 24°20′ and 25°17′ N and longitudes 72°16′ and 73°10′ E, covers an area of 5,136 square kilometers. It is bordered by Pali district to the northeast, Udaipur to the east, Jalore to the west, and Banaskantha district of Gujarat to the south. The district's administrative divisions include five tehsils: Sirohi, Sheoganj, Pindwara, Abu Road, and Reodar. Sirohi District, located in the southwestern part of Rajasthan, is renowned for its rich cultural heritage and tourism. The local hospitality industry plays a pivotal role in the district's economy, offering a variety of traditional and contemporary dishes, many of which incorporate milk and milk products. Given the perishable nature of dairy products, proper management is essential to prevent spoilage, contamination, and food borne illnesses. The annual growth rate for global milk production regions is around 4%, and today in India is the first to come. The country's milk production in 2010 was estimated at 110 million tons. Large quantities of milk produced domestically and corresponding to more than 46% are consumed as liquid milk. The production and use of animal products in the use of human nutrition has been gaining great attention (Singh et al., 2012). The lonely hill station in Rajasthan on Mount Abu attracts a wide range of visitors looking for free time and unusual experiences. It has many health benefits, including a rich nutritional profile and simple digestion. The annual growth rate is around 4%, and today India is the first in the world's milk production region (Singh et al., 2012). Productive improvements between dairy products can be made through proper management, feeding, handling, etc. (Singh et al., 2013). The goat population in our country has increased from 4714 million in 1951 to 125 million in 2005 (Singh and Sharma, 2013a). Improvements can be made through proper management, feeding, handling, and other environmental conditions that affect personality traits, but are determined by individual inheritance (Singh et al., 2013b). Goats are a large part of cattle production and play an important role in the socioeconomic structure of rural weapons (Singh and Sharma, 2014). Various state and non-state organizations are busy motivating more and more entrepreneurs to this company, as they recognize how important it is to breed poultry farms as labor companies (Singh et al., 2014a). Goats play an important socioeconomic role in Asian agriculture, particularly in low population groups living in hard environments (Singh et al., 2014b). Currently, the world's goat population is 921 million, of which more than 90% can be found in developing countries (Singh et al., 2014c). This advantage is often not shown

in national statistics due to informal trade and fighting (Singh et al., 2014d). Goat milk has less lactose than milk, making it less likely to cause intolerance in dairy cows. Of course, milk is homogenized because it lacks protein aggregation (Singh et al., 2014e). The goats were already 6-7 BC. The location of the BC home was collected in West Asia (Singh et al., 2014f). Much of India relies on agricultural systems that primarily contain goats. Goats represent small remote farmers and important rural businesses with landless work (Singh et al., 2014g). Many parameters are involved in animal reproductive management. Age first concept, first calves' age and first gestational period, etc. (Singh etal.Al. , 2014h). Goat milk has less lactose than milk, making it less likely to cause lactose intolerance (Singh and Sharma, 2015). Since then, it has played an important socioeconomic role in the development of human civilizations around the world (Singh and Sharma, 2015a). Farmers preferred Deda over Kona because they had more biomass (Singh and Sharma, 2015b). A very important aspect in this regard is to focus on risk and recognize that we minimize low-resource farmers (Singh and Sharma, 2016). The country is equipped with a large, biologically diverse goat population (Singh and Sharma, 2016a). The nutritional value of milk is closely related to its composition and is influenced by factors such as diversity, nutrition, lactation stage, and season (Singh and Sharma, 2016b). Cattle production is the backbone of India's agriculture, contributing to national GDP and 7% of livelihoods and livelihoods for 70% of the rural population (Singh et al., 2017). Animals raised in intensive production systems consume significant amounts of protein and other nitrogen-containing substances during their diet (Singh etal.Al. , 2017a). Small anti-min animals have a major impact on the economy and food supply of people in subtropical and tropical countries (Singh and Sharma, 2017b). Goats play an important socioeconomic role in Asian agriculture, particularly in low-demographic groups living in hard environments (Singh et al., 2025e). Cattelige Milk accounts for around 15% of total milk consumption by people around the world (Singh et al. , 2025d). Asia contributes approximately 59% to global goat milk production (Singh et al., 2018). Jamuna Paris (or Paris Jamuna) is a measurement pit that comes from the Indian subcontinent. They have been imported to Indonesia since 1953 (Itawah popular, his mix is a mixture of "PE", a local goat called Perana Kantawa and Itawa Mix). , 2025c). The name comes from the Yamuna River, Jamuna (West Bengalen), Jamuna (Bangaladesh), and the rivers of India and Bangladesh Shush (Singhetal. 2025). There are large variations in the colour of the layers, but the typical coat is white with small brown spots on the head and neck (Singh et al., 2024e). A typical feature of the variety is the high convex noserine with hair bushes that provide the parrot mouth appearance (Singh et al., 2017c). The consequence of domestication was a change in the phenotypic properties of wild goats, which led to the development of many types of goats and types (Singh et al., 2024d). Due to

the migration and translocation of people around the world, these types or types were normally distributed due to changes in climatic conditions and natural resources (Singh and Sharma, 2017d). There is a large commercial chicken industry that provides us with eggs and meat (Singh, G. 2019). Milk collection and various channels in the breast can be damaged by bacterial intoxication, and sometimes permanently damage the breast (Singh et al., 2024c). Although severe acute cases can be fatal, even recovered cows can affect remaining breastfeeding and subsequent breastfeeding (Singh and Singh, 2020). Cattle are an important part of all interventions aimed at reducing rural poverty and improving food and nutritional safety (Singh et al., 2025a). Milk owners wearing cows and buffaloes still do not have scientific management practices (Singh and Somvanshi, 2020a). India is equipped with a significant portion of the world's cattle, steadily growing, and steadily (Singh et al., 2025b). Buffalo is a bad country with very dense populations and animals, primarily cattle and with poor food references (Singh et al., 2024b). In tropical and subtropical regions, dairy cows usually rely solely on local or inserted pastures as the sole source of nutrients. Due to the rare or low quality of feed (Singh, G., 2019a), animals are unable to meet nutritional requirements, especially during important seasons. B. Winter and drying times. Goats are the earliest domesticated antisilicid animals, except for dogs, except for the widest ecological regions (Singh et al., 2024a), and are considered the domesticated animals of all types. Goats from Asia span all continents and live in almost every climate zone, from the Arctic to the equator (Singh, G., 2024). Goat milk is rich in essential proteins, vitamins and minerals (Singh et al., 2023). Goat milk is widespread due to its nutritional and medical properties (Singh et al., 2024f). Effective management practices, nutritional measurements, and adaptive breeding strategies can reduce these challenges (Singh et al., 2025e). The term agriculture comes from two Latin words: agri or agri. This means soil and culture. In other words, it means cultivation (Singh, et., al. 2025g). The composition of mastitis is approaching the composition of blood (Singh and Rodricks 2025). Food alone is 60% of milk production costs (Singh and Rodricks 2025a). Nutritional requirements can generally be expressed individually for each function, or represent a complete picture of the combined function (Singh and Rodricks 2025b). The poultry industry has developed into a highly organized science sector that contributes significantly to the global food supply (Singh, G. 2025q). India's poultry industry is one of the fastest growing sectors of agriculture, making a significant contribution to nutritional security, employment and economic growth (Singh, G. 2025p). Cattle breeding diets depend on a variety of feeds and feeds and can be classified based on their composition, digestibility and utility (Singh, G. (2025o). Food foods are an important aspect of animal supply that affects growth, reproduction, milk production and general health (Singh, G. 2025n). It is distributed in small parts of the distribution of Salem, Erode,

Karl, Namkar and Tamil Nadus Dharmapuri (Singh, G. 2025M). Otherwise, this is Delhi, Kundi, and Kari (Singh, G. 2025L). Livestock breeding is an important part of Indian agriculture providing milk, meat, design and fertilizer (Singh, G. 2025k). This variety is also Désan, Gujarati, Katiawari, Sarti and Slati (Singh, G. 2025J). Goats are the world's largest milk producer (Singh, G. 2025i). Many farmers in India rely on animal care for their livelihoods (Singh, G. 2025h). Mixed agriculture is an agricultural practice that combines plant cultivation with cattle breeding and other additional companies (Singh and Mishra 2025R) such as fishing, agroforce and poultry farming. Fisheries play an important role in the Indian economy, which can be used by millions, contributes to nutritional security and has the value of foreign exchange (Singh, G. 2025). Fish production plays an important role in global nutrition security, employment and economic development (Singh, G. 2025T). Those who work with animals must know appropriately different parts of the animal's body (Singh, G. 2025U). Rasters can be trained without scale (Singh, G. 2025V). During cow work or milking, milking, identifying brand milking, castration and use (Singh, G. 2025W). If there are only a few animals in a group, each animal is recognized individually and can be distinguished according to its appearance (Singh, G. 2025X). Aging means determining the approximate age of an animal (Singh, G. 2025y). Cattle feed is usually classified according to the amount of specific nutrients provided in the distribution (Singh, G. 2025Z). Remove the mucus from the nose and mouth and clean it (Singh G. and Garg 2025aa). Goats are multipurpose animals that are usually kept for meat (Shemon) (Singh and Shakiya 2025ab). Incubation, hatching, and chicks are three important stages that determine the success of chick development through fertilized eggs (Singh and Singh 2025ac). Agriculture has been the backbone of the Indian economy for centuries, securing a significant portion of the population (Singh and Mishra 2025AD). Livelihoods in relation to funds and resources ensure that individuals or households have living needs such as food, water, accommodation and income (Singh and Mishra 2025ae). Many indicators can help assess sustainability, stability and livelihoods (Singh and Mishra 2025af). The agricultural system consists of numerous interconnected components that work together to ensure sustainable agricultural production and the safety of rural life (Singh and Mishra 2025ag). Livestock breeding plays an important role in millions of people around the world, especially in rural areas (Singh 2025AH). Agroforstei is a land use system that integrates trees, plants and cattle into the same country to improve productivity, sustainability and ecological balance (Singh and Mishra 2025ai). Integrated aquaculture is a sustainable agricultural system that combines fish agriculture with cattle and harvest production to maximize resource use and increase productivity (Singh G., 2025aj). Integrated agriculture includes a combination of various agricultural companies, including plants, cattle, poultry, fisheries, agroforms and value-creating

products, maximizing resource use and improving agricultural income (Singh and Mishra 2025AK). Agriculture productivity and sustainability is strongly dependent on agricultural clinical diseases. The feasibility of different agricultural systems varies in relation to factors such as soil type, precipitation, temperature, and available resources (Singh and Mishra 2025al). Commercial agriculture is a key driver of India's economic growth, rural development and labor power generation (Singh, G. 8:00 p.m.). India's vibrant lifestyle systems are diverse and integrated into a variety of companies, including harvest cultivation, milk farms, poultry, fishing, agroforstwart waves, value creation-aggressness (Singh and Mishra 2025an). Government programs and programs play an important role in supporting farmers and improving India's livelihoods (Singh and Kumar 2025ao). Agriculture livelihoods are extremely important for the economic and social development of rural communities (Singh, G. 2025ap). In the 21st century, living-based living companies are exposed to transformations caused by emerging global trends such as circular economy, green economy, climate change adaptation, digitalization, and developing consumer preferences (Singh, G. 2025aq).

Physiography

The physiography of **Sirohi district** in **Rajasthan**, India, is shaped by its location at the southwestern edge of the Aravalli Range. Here's a concise and structured overview of the **physiographic divisions, topography**, **drainage**, and **climatic influence** relevant to the district. The **physiography** of **Sirohi district**, located in the southwestern part of **Rajasthan**, is characterized by diverse terrain and natural features, shaped by geological, hydrological, and climatic factors. Sirohi's terrain is characterized by a mix of plains and hills. The granite massif of Mount Abu divides the district into two distinct regions:

a) The Aravalli Hill Region

- Located in the eastern and southeastern parts.
- Dominated by rugged, steep hills and ridges of the **Aravalli Range**.
- Major peaks include **Mount Abu (1,722 m)** – the highest point in Rajasthan.
- Composed mostly of **granite and metamorphic rocks** (gneiss, schist).

b) The Plateau and Escarpment Zone

- Found near Mount Abu and the central region.
- Undulating terrain with plateaus and escarpments.
- Soil is thin and rocky, with pockets of black soil in valleys.

c) The Plains and Valley Region

- Western and northwestern part of the district.
- Relatively flat plains formed by alluvial deposits.
- Suitable for agriculture due to fertile soil and better water availability.

2. Topography

- **Elevation** ranges from ~200 meters in the plains to over 1,700 meters at Mount Abu.
- Terrain is marked by:
  - Rocky hills and forested slopes in the east.
  - Semi-arid plains in the west.
- Erosion by seasonal streams has formed valleys and ravines.

3. Drainage System

- Major rivers include:
  - **Banas River** (a tributary of the Chambal) – flows in the northeast.
  - **Sukli, West Banas, and Sipu Rivers** – drain Mount Abu.
- Most rivers are **seasonal**, fed by monsoon rains.
- Water scarcity is a concern in plains due to limited perennial sources.

4. Soil and Vegetation

- Soils vary from **sandy loam** in the plains to **lateritic and rocky soils** in the hills.
- Forested areas (mostly dry deciduous) are found in hilly zones, especially around Mount Abu.
- Common vegetation: **Teak, Salai, Bamboo**, and **Ber**.

5. Climatic Influence on Physiography

- **Semi-arid climate** in plains; **subtropical highland** in Mount Abu.
- Rainfall is higher in the hilly regions (~1,200 mm/year in Mount Abu).
- Terrain and rainfall influence agriculture and biodiversity patterns.
- **Climate:** Semi-arid to sub-humid
  - Avg. annual rainfall: 500–700 mm (higher in Mount Abu)
  - Hot summers and mild winters

- **Vegetation:** Dry deciduous forest in hills; thorny scrub in plains
  - Protected forest in Mount Abu: conifers, oaks, and flowering trees

6. Environmental Concerns

- Deforestation, overgrazing, and soil erosion are major issues.
- Water conservation projects and afforestation are ongoing to combat degradation.

7. Natural Hazards

- **Soil erosion** due to deforestation and overgrazing
- **Flash floods** in monsoon
- **Droughts** are frequent due to erratic rainfall
- **Landslides** in hill areas, though rare

Eastern Region: This area is mountainous and rugged, lying between Mount Abu and the main spine of the Aravalli Range. It is drained by the West Banas River and features dry deciduous forests, with coniferous forests at higher elevations.

Western Region: Positioned in the rain shadow of Mount Abu, this region is drier and is drained by the Sukri River and tributaries of the Luni River. Northwestern thorn scrub forests dominate this area.

Piedmont Zone (Foothill Zone)

- Lies at the base of the Aravalli range.
- Characterized by gentle slopes and undulating topography.
- Transitional region between hills and plains.
- Soil is shallow and gravelly, suitable for limited cultivation.

Mount Abu, the highest peak in the Aravalli Range, stands at 1,722 meters above sea level and is the highest point between the Himalayas and the Nilgiris.

Climate

Sirohi experiences a semi-arid climate with significant variations:

- **Temperature**: Summers can be extremely hot, with temperatures reaching up to 47°C, while winters are relatively mild, with temperatures dropping to around 0°C.
- **Rainfall**: The district receives an average annual rainfall of approximately 622 mm, primarily during the monsoon months of June to September. Mount Abu receives the highest rainfall in Rajasthan, earning it the nickname "Cherrapunji of Rajasthan."

Hydrology

Several rivers traverse the district, including the Jawai, Sukhadi, Khari, Bodi, Krishnavati, Kapalganga, and Banas. Major dams such as Banas, Oda, Danta, Chandela, Girwar, Niboda, Javal, KarodiDwaj, and Angor support irrigation and water supply needs.

Soil and Vegetation

The district's soil is predominantly reddish-yellow, supporting various vegetation types:

- **Forests**: Approximately 31% of the district is forested, featuring species like Acacia, Salar, Dhokra, Sirus, Tendu, Khair, Kamutha, Bahera, and Bamboo.

- **Wildlife**: The Abu Parvat Sanctuary hosts diverse fauna, including panthers, bears, wild boars, langurs, wolves, foxes, jackals, rabbits, and various bird species.

Agriculture and Economy

Agriculture is the mainstay of Sirohi's economy:

- **Kharif Crops**: Maize, pearl millet, sesame, castor, greengram, fennel, and cluster bean.
- **Rabi Crops**: Wheat, mustard, gram, and cumin.

The district also has a significant livestock population, with the Sirohi breed of goat renowned for meat and milk production.

Industrially, Sirohi hosts cement plants, synthetic yarn production units, high-tension insulator manufacturing, and marble and granite processing industries.

Demographics

As per the 2011 Census:

- **Population**: 1,036,346
- **Density**: 202 inhabitants per square kilometer

- **Sex Ratio**: 940 females per 1,000 males
- **Literacy Rate**: 55.25% overall; 69.98% male literacy and 39.73% female literacy

Conclusion

Sirohi district's diverse geography, ranging from arid plains to forested hills, coupled with its rich cultural heritage and economic activities, makes it a significant region in Rajasthan. Understanding its geographical nuances is crucial for sustainable development and resource management. The physiography of Sirohi district is diverse, from the rugged Aravalli hills to the fertile plains. The variation in elevation, soil, and water availability greatly influences land use, agriculture, and settlement patterns. Mount Abu, being the only hill station in Rajasthan, also makes the district unique in its topographical and ecological features.

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