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PHYSIOGRAPHY AND HABITAT OF MAHENDERGARH DISTRICT (HARYANA)

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Abstract:

The Present paper is an attempt to study the physiography and habitat and it deals particularly about the physical part of the geographical presentation of Mahendergarh District in Haryana. It includes the physical conditions as well as physiographical factors like physiography or topographical factors, habitats, soil type and its characteristics. It is also reflected that the habitat is the result of responsible features of the physical environment.

KEY WORDS:

Physiography , Habitat , physical environment.

INTRODUCTION

General introduction of the study area naturally covers the historical and geographical background, hence, firstly deals about the historical aspect and then geographical.

The district takes its name from the town of Mahendergarh. Previously it was known as Kanaud which took its name from the Kanaudia group of Brahmans. It was founded by Malik Mahdud Khan, a servant of Babar. There is a fort at Mahendergarh which was built by Maratha ruler, Tantia, Tantia Tope during the 17th century. The above fort was named as Mahendergarh in 1861 by Narinder Singh, then ruler of the erstwhile princely State of Patiala, in honour of his son, Mohinder Singh and consequently the town came to be known as Mahendergarh

The district has the spelling of 'Mahendergarh' also which is prevailing from last several decades, hence either Mohindergarh or Mahendergarh- whatever written, both are correct.

Geographical perspective has vast coverage of several factors from descriptive purposes, broadly it may be divided in three parts- Physical, climatic and Biological, this particular study deals about the physical parts of the area.

The term "physical environment" (Eco- physiographical conditions) is applied to non living things i.e. Physical factors (for example- Air, Water & Soil. The salient features of the physical part of geographical perspective. Broadly, physical part of geographical perspective includes the physical conditions as well as physiographical factors for example- physiography or the topographical features, habitats of the study area, soil type and its characteristics. etc.

GEOGRAPHICAL LOCATION :-

As we know that the area under district i.e. Mahendergarh belongs to the State of Haryana, the state of Haryana is located in North Western India as shown in figure 2.1 –A.

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PHYSIOGRAPHY AND HABITAT OF MAHENDERGARH DISTRICT (HARYANA)

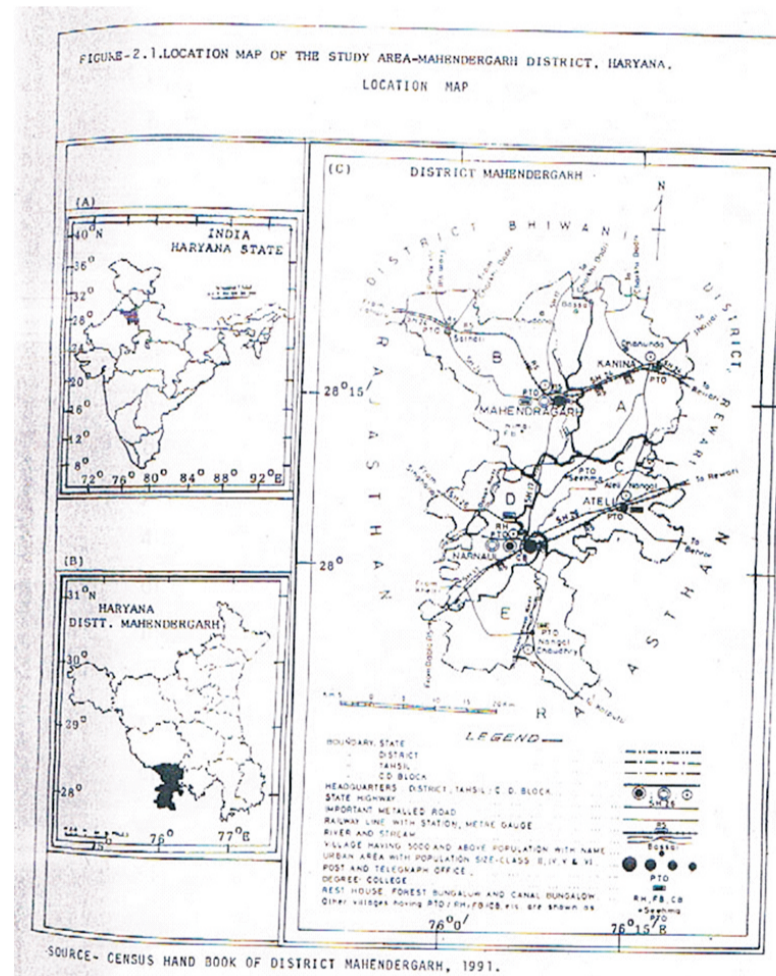
Geographical extension point of view the district has geographical spread from 270 47 to 280 50' N latitude and 750 48' 50" to 760 28' 50" E longitude.

From location point of view Mahendergarh district is bounded by Bhiwani district in North, Rewari district in East and three sides by the districts of Rajasthan state i.e. South-East, South-West and West Tehsil Narnaul of Mahendergarh district penetrates deeply into Rajasthan.

METHODOLOGY

The methodology of the research problem will involve the following studies.

To acquire the Knowledge of Mahendergarh District of year 1990 and Statistical Report of Mahendergarh District of year 1998 was taken; the area under study is covered by five Topographic sheets of RF- 1:50,000 have been studied for getting the details about the selected survey spots or field sites of the district under study; the work of National board of Soil sampling and land Utilisation Programmes, ICAR was consulted; the climatic data of temperatures, rainfall and relative humidity were supplied by the Meteorological Deptt. of Mahendergarh District, Narnaul. The analytic aspect of the soil samples and soil characteristics have been dealt with the consultation from the experts working in the soil Testing Laboratory of Narnaul and Mahendergarh. The quality and depth of under ground water table records were collected from Department which is known as Ground Water Cell (GWC), Narnaul, District Mahendergarh, Haryana. Besides these, field study was carried out on twenty- five scattered survey spots of field sites for the area under study. It is very interesting to mention here that although the district is named by the word Mahendergarh but in spite of Mahendergarh its district head quarter is located in Narnaul city.



PHYSIOGRAPHICAL CHARACTERISTICS

In brief from relief point of view the district abounds in sandy and barren low hills of great Aravalli

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range and the topography shows the rocky surfaces as scattered here and there generally South-West to North-East in direction. Aravalli off shoots are scattered in the forms of rocky outcrops stand out distinctly against sandy developing areas. These bare bold, rounded, formations depict and curiously wind worn topography which illustrates the phenomenon of desert look conditions. The slope of the district is towards North in which direction the rain feeds of the district flow. The geological features of the study area revealed that the geological structure that of Mahendergarh district is formed of Alluvium (Recent) and Delhi group (Middle proterozoic) formations, though the district has not been geologically investigated thoroughly, yet large number of minerals are available in the area.

Physiographic features of any area has it's the most important as well as useful emerged out put is the land forms of that particular geographical area. As far as the aspect of land forms is concerned, the earlier in this regard deals that among overall land forms regions of India, Mahendergarh area falls under the land form type known as "plains with Aravalli hills and sand dunes shown the three district types of land forms in the study area, namely the undulating sandy plains, the sand dunes and scattered stony and rocky areas of Aravalli's system. For better interpretation of physiographic characteristics of Mahendergarh district, the area under study is divided into six physiographic features, these are illustrated in the following paragraphs.

(I) Intermont plain areas :- The particular physiographic formations of the area under study stretches from south to North in Western side of Mahendergarh district by covering both tehsils. Forty percent of the area of particular physiographic formation lies in Mahendergarh tehsil and remaining 60% in Narnaul, respectively. The whole area is comparatively more undulating dune to its foot hills location in Eastern side of the mountains of Aravalli ranges. The intermont area of Mahendergarh tehsil is covered mostly by the vast sandy plains with huge sand dunes at certain places of the area under study and make desert like conditions where as the intermont area in Narnaul tehsil which stretches from North to South and then after it turns to Eastern part by covering Nangal Choudhary block. The intermont plain area covers about 40% of the area under is not covered by huge sand dunes and vast sandy plains like of Mahendergarh tehsil but it is more in stony and compact soil formations in nature. The whole intermont plain areas physiographic formation, altitudely lies inbetween 250 to 300 M.

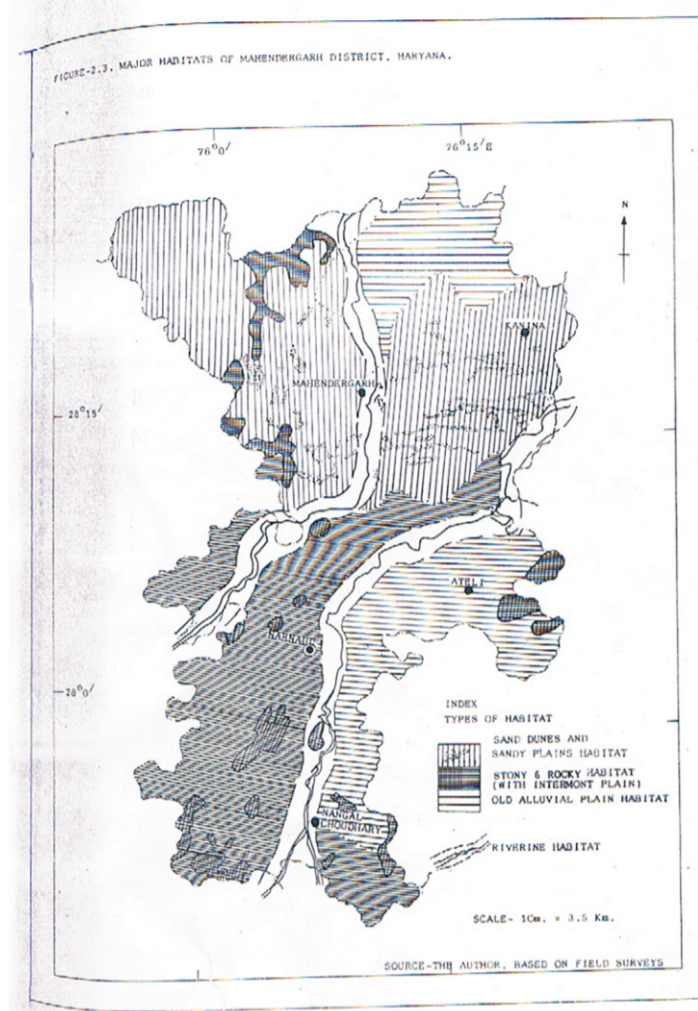
(ii)North West desert plain :- It is situated in the North Western part of the area under study, actually it is hot part and portion of Indian desert where it ends as a desert plain from further extension in the East. The whole part lies under three hundred meter by altitude, it has its location also in western side of Aravalli range. The desert like topographical conditions of this part one can visualize the geographical perspective as desert landscape.

(iii)Old Alluvial plain :- The particular area of physiographic formation is divided in to two parts – the upper one is located in the North of Mahendergarh tehsil as well as district and another is situated in the Eastern part of Narnaul tehsil which is Easterly located to the river Krishnawati. It is worth while to mention here that more or less 70% of this physiographic feature lies under the agricultural fields or agricultural occupies a large part and portion and it has no any sort of natural areas or habitat. It covers one third part of Kanina block and two third part of Ateli, respectively.

(iv)Sand dunes and inter dunal area :- It is one of the important physiographic formations of the study area. The particular part of the study area lies in between earlier mentioned two old Alluvial plains and covers two third area of Kanina block. Among topographic features of the study area sand dunes are the dominant feature in vast sandy plains. The intensity of concentration of sand dunes in Mahendergarh district was found very high i.e. three to four by concentration index by covering North part of Mahendergarh block and North East part of Kanina block, such sand dunes areas cover one third part of this physiographic feature and two third by vast sandy plains, respectively.

(V) Aravalli's Hilly areas :- It is the part of scattered Aravalli's system of stony and rocky hills by achieving the altitude from 300 to 600 M. and covers about 12% of the study area. Two-third part of rocky and hilly areas of this physiographic feature is located in Mahendergarh tehsil where as it is scatterdly found at five main patches of Narnaul tehsil. The rocky areas in Mahendergarh tehsil is stretches from South West to North East in direction as a range popularly known as Madhogarh hills, there are some peaks in this part for example- Mandola (423M), Dhadot (497 M), Nimbi (500 M) Ushamapur (518M), Khundana (525 M), in this way more or

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less the whole hilly area of this tehsil is keeping the height above 400 M. Narnaul Tehsil has the highest peak on Dhosi ka pahar of 652 M of mahendergarh district and it is located Mid-Western part of the area under study. Other peaks of some mountains are of Worth While mention here like Ghotasher (434 M), Khalra (442M), Datal (475M) and Mukandpura ki Dhani (520 M)

(vi) Younger Alluvial plains :- The physical formation covers the drainage pattern of the study area which shows the presence to two rivers i.e. Dohan and Krishnawati which are the important rain fed streams of the district and flows from South to North ward in direction. Dohan river comes from Rajasthan side and passes through North West block of Narnaul and then flows North ward through Mahendergarh district in Eastern side of Mahendergarh city where as Krishnawati river flows passing through the areas of three blocks viz. Nangal choudhary, Narnaul, and Ateli. It is also considered as a flood area and due to this the river basin area shows historical fluctuation, by thus, the rivers have broad, flattened and shallow basins which sudden change as flood area after a small amount of rainfall just above the normal for the area under study, in brief younger alluvial plains of both rivers are of this nature that sudden flood occurs with a surplus water during rainy season.

MAJOR HABITAT :-

“Habitat is a specific set of physical and climatic conditions of (e.g. space, sub- stratum and climate) Which make surroundings of species, association and a vast community”

--- Clement and Shelford, - 1939

In nature we find imbalance distribution of various physical, climatic and biological factors, these all by their appropriate as well as optimum coincidness with the existing habitats. The area under study

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naturally lies in semi-arid climate due to its other related elements of physical environment. In brief the habitat is the result of climaxes of the coincidness of the factors of physical environment.

After an exhaustive field surveys on thoroughly scattered survey spots in the study area, the research scholar investigated that whole area under study can be divided under four major as well as dominant habitats, these habitats with their distribution are shown in figure – 2.3.

(i) Sad Dunes and Sandy Plains Habitat :-

It is one of the major habitat of the study area, it by thus covers more or less one third part and portion of the district. The edaphic factor, with its other associate factors, climatic conditions, these all make desert like conditions. The habitat stretches from the western part of Mahendergarh block of Eastern part of the Kanina block by excluding only one- third Northern part of Mahendergarh Tehsil as well as stony and rocky areas. The habitat supports the plants as well as vegetation which can survive in xeric conditions, in other words to say it supports the thorny scrub vegetation. The habitat covers the North Western Desert plains of Mahendergarh block and also areas of vast sandy plains with sand dunes formations and this formation is divided into two parts, one – it is situated in Western side of river Dohan in Mahendergarh block and another part, -is situated in Eastern side of Dohan river in Kanina block. The area under this habitat of Dohan river in West and East also includes the Dunal and inter dunal physiographic formations which is a unique characteristics of this habitat. In this way the habitat covers desert plains, dunal and interdunal and vast sandy plains. Out of total area under study the particular habitat covers about 34.5%.

(ii) Stony and rocky habitat :-

It is also one of the large but more scattered habitat of the area under study. It extends from Southern part of Western side of Narnaul Tehsil to North Western side of Narnaul Tehsil to North Western side of Dohan river, Mahendergarh block- In Mahendergarh tehsil stony and rocky areas are more uniform as mountainous ranges in Mahendergarh Tehsil were as it shows very scattered distribution in Narnaul tehsil. Most of the area of this habitat i.e. about 77% is situated in Narnaul tehsil. The whole habitat may be divided into two parts, one hilly patches only, such kind of physical formation makes 23% area of this habitat and another intermont plain areas which cover foot hill areas, in other words to say intermont plain areas have their location inbetween two pure hilly and rocky patches. The particular habitat covers about 30% of area under study. The stony and rocky habitat includes some mountains with peak of considerable heights, its description has been already mention in the earlier paragraphs of this chapter.

(iii) Alluvial plains Habitat :-

The habitat is divided into four blocks i.e. Kanina, Ateli, Narnaul and Nangal Choudhary. The habitat is also like vast alluvial plains which are already established during the course of geological history of the earth before the formations of the tracks of a basins of these two rivers i.e. Dohan and Krishnawati. It is very interesting to mention here that the whole area under this habitat is situated in Eastern part of the district. It is also a big habitat and covers about 24% area of the district.

(iv) Riverine Habitat :-

As the name indicates that the particular area naturally covers the basin of two rivers, namely- Dohan and Krishanwati. As we know the formations of these river basin took place after old Alluvial plains as the flood plains as shown in figure – 2.3 of major habitat of area under study. The plants as well as vegetational association occupied the particular habitat are generally of those plants which have distribution on the bank of streams and channels flow during the course of rainy season specially for the area under study where these rivers are seasonal. These rivers as shown in figure -2.3 flows from South to North in direction. The particular habitat covers 12% of the area under study during the course of rainy season, and flood times otherwise in normal conditions the riverine habitat covers only below five percent area of district i.e. Mahendergarh, Haryana.

HABITATS AND THEIR FIELD SITES/SURVEY SPOTS-

Distribution of location of survey spots field sites in Mahendergarh district. The author made an exhaustive surveys during the course of study period as shows in earlier figure. There are total 25 survey spots or study sites scattered through out the area under study in each block and every habitat, in other words

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to say no major part and portion of the block or habitat is left. It also quite obvious from the earlier figure that riverine habitat includes six survey spots of the area under study viz; Sisot, Chitlang, Dhani Bathota, Sagarpur, Mohalra and Nangal Choudhary (table- 1).

Further in this context sand dunes and sandy plains habitat includes nine survey spots i.e. Satnali, Balana, Kanina, Pali, Sisoth, Nimbi, Dulot, Chitlang and Bhojawas.

Stony and rocky habitat of the area under study covers total eleven survey spots namely- Balana, Dholera, Nimbi, Dulot, Kultazpur, Thana, Raghunathpura, Tehla, Islampura, Madhogarh and Prithvipura.

The old alluvial plains habitat of the district covers three survey spots i.e. Akoda/Basai, Bachhod, Prithvipura. Some survey spots have two or more than two habitats in their area as observed during the course of field study, author termed them polyclimax habitat in other words to say that any survey spot which has single habitat may be termed here as monoclimum habitat. Out of 25 survey spots the author find that there are 25% survey spots which have poly climax habitat, namely- Balana, Chitlang, Dulot, Nimbi, Prithvipura and Sisot as illustrated in table-1

Table -1 Distribution of Habitats with field Sites in Mahendergarh District Haryana

S. No.	Name of the Habitat	%	Name and Number of the Field site/Survey spot
1.	Sand Dunes and Sandy Plains Habitat	34.5%	BHOJAWAS (10), Sisoth (5) pali (4) kanina (9) chitlang (11), nimbi (6) dulot (7) Balana (2) Satnali (1)
2.	Stony and Rocky Habitat (Aravalli's Hilly Areas)	29.8%	RAGHUNATHPURA (15), PRTHJPURA (22), THANA (14) KULTAJPUR (13) TEHLA (16), DULOT (7), NIMBI (6), MADHOGARH (3), DHOLERA (18) BALANA (2) ISLAMPUR (17)
3.	Alluvial Plain Habitat (Old Alluvial plains)	23.7%	BACCHOD (21) BASAI (8) PIRTHIPURA (22)
4.	Riverine Habitat (Younger Alluvial plains)	12%	DHANI BATHOTA (20) NANGAL CHOUDHARY (25) SAGARPUR (23) CHITLANG (11) SISOTH (5) MOHALRA (24)
5.	Polyclimax Habitat		BALANA, DULOT, NIMBI, SISOTH, CHITLANG,
	Total	100%	

CONCLUSION :-

Mahendergarh District is a very small District in area i.e. 1683 sq. Kms. But having many differences in physiographical feature and habitats. Northern part of the district have sand dunes and sandy plains, South Western part have stony and rocky habitat and South Eastern part contains old Alluvial plains. 12% area of the district Mahendergarh have younger Alluvial plain and riverine habitat. The major slope of the district is South to Northward. So both rivers Dohan and Krishnawati flows South to Northwards.

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