CHAPTER I: PHYSIOGRAPHICAL FEATURES

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CHAPTER I
PHYSIOGRAPHICAL FEATURES OF ANDHRA PRADESH

SECTION: I

General Features:

The present day state of Andhra Pradesh has come into existence as a result of the States Reorganization Act of India, 1956, based on the linguistic division of India into several states.

Topographically it lies between Lat $12^\circ14' - 19^\circ15'$ N and Long $78^\circ50' - 84^\circ45'$ E., covering an area of about $2,74,680^2$ Sq. K.Ms. in extent with a population of about 4.35 crores.

Geographically speaking it may broadly be divided into 3 natural divisions (viz.,) the coastal Andhra, or the cirkar districts, the Râvalasâma, or the Ceded districts, and Telingana or the erstwhile districts of Hyderabad State, of Nizam. There are 23 districts in all, with 9, 4 and 10 respectively in each.

It is endowed with a rich potentiality of natural resources, like vast river basins, as Godavary and Krishna, high mountain ridges like the Eastern Ghats, and a dense forest system, besides a variety of mineral ores, that make it an economically viable and sound state.

It is bounded on the east by Bay of Bengal, with a coast line of over 600 miles long or 965 Km., Tamilnadu and Karnataka in the South, Maharashtra in the West, and Madhya Pradesh in the North.
Telugu is the main language spoken by a majority of the people inhabiting it, while Urdu occupies a second place. With this brief outline of its general features, we shall now proceed to make a study of its physiographical features, like the mountain systems, rivers, climate, geology, and geography etc. which in the words of late Sri K.M. Panikhar "constitute the permanent basis of every nation's history, and are the major determining factors of the historical growth, and evolution of a people". Before doing so, we may first take up a brief historical study of these three different regions, for the sake of convenience, and make a detailed study later.

Coastal Andhra

It comprises 9 districts of Srikakulam, Visakhapatnam, Vijayanagaram, East Godavary, West Godavary, Krishna, Guntur, Prakasam and Nellore, from North to South. Formerly, a major portion of the area is also known as circar region in view of the 5 circars it comprised at one time under the Qutub Shahi rulers of Golconda. They were Guntur, Kondapalle, Ellore, Rajahmundry and Chicacole, with its chief town at Masulipatnam. Subsequently in the year 1750 it was ceded to the French, at first by Muzaffar Zang, the then Subedar of the Deccan. Later on, in the year 1753, his successor Salabat Zang made over the Northern circars to the French. By the year 1765, East India Company came to acquire all the 5 Northern circars through a grant and since 1969 they came under the direct management of the company.
In the year 1823 the claims of the Nizam were finally ended through a payment of money of 116 1/2 lakhs of rupees, and the whole land became a British possession. Since then it formed part of the then province of Madras, until the formation of the Andhra State in the year 1953, and finally merged into the present State of Andhra Pradesh, which came into existence in 1956.

Rāvalasīma

It comprises the districts of Cuddapah, Kurnool, Anantapur and Chittoor, which form the western part of Andhra Pradesh. It is also known as ceded districts, as in the year 1800, the then Nizam of Hyderabad, ceded to the British, in return for a subsidiary force, the then districts of Bellary, Cuddapah and a portion of the present day Kurnool district, comprising 4 taluks the remainder being under the Nawab of Kurnool. This area also finally fell under the British, as the Nawab rebelled and the English annexed it in 1839. Thus the whole area became British possession thence forward.

Telengana:

Consists of 9 districts of Mahaboobnagar, Hyderabad, Medak, Nizamabad, Adilabad, Karimnagar, Warangal, Nalgonda and K.V.Rangareddy district being a remainder of the then State of Hyderabad, as a result of the trifurcation of the former Hyderabad State, into Karnataka, Maharashtra, and Andhra Pradesh. It covers an area of 106,052.4 Sq. miles.
With these general features of the three broad natural divisions of Andhra Pradesh, we shall now proceed to study its physiographical features.

SECTION: II

1. Mountain systems:

Among the chief range of mountain systems that pass through Andhra Pradesh, are several ridges of the famous Eastern ghats, or Tūrpu Kanumalu, as they are known commonly to the local folk. They occupy the whole length and breadth of the entire Telugu country beginning from the borders of Orissa, and then passing along the coast land, parallelly, before merging in to the high plateau of the Nilgiris or Blue Mountains. They pass through almost all the districts that lie in between, and are about 2000 ft. high in elevation. After traversing through the districts of Srikakulam and Visakhapatnam, they turn Southwards, and recede farther in land. Farther south i.e. in Kurnool district the range widens out, so as to form the Nallamalai Hills (Black hills) and still farther in Cuddapah district, they give rise to Pālakondalu and Velikondalu in the western and eastern parts respectively. In between them, lie the Bhānu Kōta malai or Gāndikōta range of hills, an extension of the Erramalais (Red hills). In Chittoor district, near Tirupati, the range is broken, after traversing from South west to North east, through Kuppam, Punganur and Palamaner taluks, and then turning eastward, they enter Chittoor and Chandragiri taluks.
Beyond Tirupati, the range is broken by a valley known as the Māmāṇḍūr. Farther, the ghats follow a north easterly course, touching Kalahasti taluk and enter Nellore district.\textsuperscript{11}

Geologically the rocks of Eastern ghats do not belong to any particular category and vary in structure along with the region through which they pass. Their several ridges are known by several local names (depending up on the region through which they pass). For instance, they are the Erramalai's in Anantapur, and Cuddapah districts, and in the western part of Kurnool, while they are the Nallamalai's in the eastern part of Kurnool district. Similarly, they are Pālakondalu, and Velikondalu, in the eastern and western parts of Cuddapah district, separating it into two well marked natural divisions.

To the west of the Eastern ghats, lies the level upland plain a section of which is known as the Deccan plateau.\textsuperscript{12} The series of the hills that form the eastern flank of the above plateau, are known as the Eastern ghats. This, again has 5 natural sub-divisions (viz.) the western \textsuperscript{13}Hills. The north Deccan plateau, East Deccan plateau, Eastern plateau\textsuperscript{15} and Eastern Hills\textsuperscript{16}. Telingana forms a part of the South Deccan plateau.

\textbf{Nallamalai's (Black Hills):} It is a local name for a range of the Eastern ghats, that pass through western most taluks of the Kurnool district. The range runs North and South for a distance of about 30 miles, from the river Krishna to Pennar, in Cuddapah district and
averages between 1500 to 2000 ft. high. Geologically its rocks consist of a series of Cuddapah system, about 2000 ft. in thickness and contain quartzites.  

SECTION III:

Rivers:

Godāvary and Krishna, are the two major rivers, that flow through this vast expanse of Andhra Pradesh; along with their several tributaries. In fact, these two rivers, account for the economic viability of the State to a large extent, as a consequence of the rich deltaic plains, formed by the two rivers, in the Godāvary and Krishna districts. There are also other rivers of secondary nature like, Tuṅgabhādra, Pennār, Vāṁśadhara, Nāgāvalī, Mūsi etc., and lakes like Kolleru, Pulicat, and Chillaka, besides a number of rivulets, like Bāhuda, Svarnamukhi, Sarada, etc., which are only of local importance.

Godāvary

It rises in the Trayāmbak hills of the western ghats near Nasik in Maharashtra and flows from west to east. It runs for over 900 miles long, and after crossing Paithān, in Aurangabad district, it enters Andhra Pradesh, near Basar in Adilabad district. Then it takes a South easterly course, and traverses for 176 miles long, through Telengana with its tributaries, Fūrpa, Maṅgeera, Maṅēru, Prāmahita, and Waiṅgaṅga. It then enters chanda district in Maharashtra, through Karimnagar and Warangal districts. It leaves Madhya Pradesh, again near
Bhadrachalam, in Khammam district, and is joined by another tributary Sābāri, from where it flows through the flat and mountainous country through the Godavary district, before flowing farther down wards to merge in to the Sea.19

Krishna

The other major river Krishna, also takes its birth in the western ghats, of Maharashtra, near Mahābalēshwar, and flows from west to east. After passing through the Mysore plateau, it enters Andhra Pradesh, near Aṃbāmpet in Mahboobnagar district, thus causing the formation of a doab, by the confluence of its tributaries, Tuṅgabhadra, and Bīma, which became famous as the Krishna-Tuṅgabhadra doab. It became a bone of contention in the late medieval periods of 14th and 15th C. between the Rāyās of Vijayanagar on the one hand, and the Bahmanis of Gulbarga on the other, and thus played a decisive role in the resultant warfare. At this point the river Krishna takes a north easterly course, through the spurs of Nallamalais in Kurnool district, and turns east sharply before entering Krishna and the Guntur basins, where it flows for 100 miles long before entering the Sea. It is joined by Mūsi, another tributary near Wajeerabad in Nalgonda district.20

Tuṅgabhadra

A tributary of river Krishna, it rises in the western ghats, at Gaṅgamula, in Kūḍāli, Shimoga district, Karnataka. It passes through Kurnool district, in Andhra Pradesh and joins Krishna near Kūḍāli Saṅgam, near Alāmpur, in Mahbodnagar district.21
Pennar

Rises in the Nandi Hills, in Kolar district, Karnataka, and runs towards North-west. It enters Andhra Pradesh, in Anantapur district, from where it flows eastward, and enters Cuddapah district, near Jammalamadugu. Its tributaries in Cuddapah district are, the rivulets chitrāvati and Pāpaghni. The former joins it on its right flank and together, this make their way through Gaṇḍikōṭa Hills, for about a mile long, where is formed the famous gorge or Gaṇḍi; after which is named the fort of Gaṇḍikōṭa. Finally it passes through the Eastern ghats and enters Nellore district near Sōmaśīla.22

Besides the above, there are smaller rivers, or rivulets as Mañjeera23, Mañēru24, Prāṇahita25, Dīndi26, Mūsi27, Pālēru28, Muñēru29 tributaries of river Krīshṇa, and Vaṁśadhāra30 and Nāgāvalī31 in Srikakulam district.

Lakes:

In addition to the vast river systems, there are also lakes and springs which are natural formations. Notable among them are the Pulicat situated near the tip of the Southern coast in Nellore district, and Chilka lake at its northern end. In between lies the famous Kollēru or Kūnāla in west Godavary district near Ellore.

SECTION IV;
Geology:

"Human culture is closely related to Geology" says
Sri M. Radhakrishna Sarma, for architecture which is one of the principal expressions of mankind, is closely determined by the physiography of the region. Hence the need for a study of the geological formations of Andhra Pradesh, in order to better understand the forts and fortifications of Andhra Pradesh in their geological background.

The earliest rock formations in Andhra Pradesh are Dharwar series whose age is said to be about 2300 million years. Subsequently, owing to changes in atmosphere, and temperature or humidity, they took the form of Eastern ghats, which yielded rich mineral ores, as mica and gold. A branch of this gold bearing deposits is seen in Guntur and Karimnagar districts, but they are prominent in Anantapur district.

Khondalites, another variety of the Dharwar series, occur largely in coastal area. Similarly granites and black basalt stone are of common occurrence over a large part of Andhra Pradesh.

Next in order come the granites or igneous rocks, styled by Sir Thomas Holland as 'Purāṇas'. These are known by different local names in different regions. In Rāyalasīma, they are called Cuddapah-Kurnool series, in Guntur and Southern parts of Teliṅgāna, as Pālmād stones and in Warangal as Pakhal stones, respectively. Among them, the Cuddapah-Kurnool series are estimated to be about 50 million years old, and extend over the districts of Cuddapah, Kurnool, Bellary and Anantapur districts.
Last, in the order of succession are the Gondwanas,\textsuperscript{36} which are Red Sand stones; available in the river valleys of Godavary and Pain, extending about 50 miles wide. They abound in Telengana.

The last phase of Gondwanas, belongs to some 110 million years old. Further, there are also other kinds of rocks called the Deccan Traps which are available in East and western ghats, and Tertiary rocks available in the deltaic regions which belong to the IIIrd period.

SECTION V:

Climate:

The climate of Andhra Pradesh, presents, a generally uniform picture with little variations; depending upon the proximity of certain regions to the Sea coast, altitude, situation etc. Generally temperature is found to be maximum in May while it is recorded as the lowest in December. The maximum temperature ranges, in summer, between 37°C-44°C. in areas like Guntur, Vijayawada, Rāmagūndā and Bhadrāchalam while the lowest ranging between 16°C-19°C. \textsuperscript{37}

Rainfall:

The rainfall in Andhra Pradesh, is to a large extent uneven as in other regions of India. The main sources of rain fall for Andhra Pradesh, are the monsoons, which blow in the North-west direction and South-west. The average rain fall is about 890 mm. \textsuperscript{38}
Soils, Earth:

The geology of Andhra Pradesh, belongs to the earliest phases of earth formation. It consists of gneiss and granatoid rocks. According to a recent division the soils are divided into red soil, sandy soil and deltaic soil. They are divided on the basis of the colour of the soil. On the basis of the above division, Andhra Pradesh has 8.61/deltaic soils, 50.5/Black soil, 31.4/Red soil and 4.8/sandy soil. Of them Red soil predominates in Nalgonda, Warangal, Medak, Karimnagar and Hyderabad. The deltaic soil is confined to the major rivers i.e. Gōdāvāry and Kṛishṇa.39

Influence of Geography upon history:

History is influenced to a large extent by its geographical features, for, man has conditioned his life by exploiting nature. This influence of geography can be seen not only in its economic prosperity but also in political and military spheres as well. For instance, the economic prosperity of coastal Andhra, drew the attention of less affluent regions like Deccan Plateau and other neighbours. Hence the various invasions of the Vakātakas, Vīshnuvāṃśīs, Chāluṇkyaśas, Raṣṭrakūṭas, Eastern Gāṅgās, Vijayanāgar, Bahamanis, Qutub Shāhis and finally the English. Further the absence of natural barriers to protect it from the onslaughts of others, also accounted for the series of invasions. The different peaks of Eastern Ghats are not as
insurmountable as the Western Ghats or the Vindhyas. River valleys and hill passes provided easy trade-routes and help expand commerce and military activities. Further, there are no such hills in the South and North that present any difficulty worth the name. Hence the migration of peoples from different regions and cultures to the coast land, thus making it a conglomeration of different cultures and Civilizations.

The entire region covered by the Eastern Ghats not only compartmentalise the different regions into separate entities but also made communications difficult. This resulted in preventing the unification of the entire Telugu country under one banner. This is proved by the fact that Telugu country as a whole came under one single rule only on few occasions. To a large extent, the history of Andhra Pradesh may be considered as the history of several petty principalities each centering round a particular hill tract and equipped with a fort on it. Hence it became imperative for all the empire builders to conquer and suppress these local potentates. All most all the major kingdoms that flourished in the Andhra country may be said to have centered round several hill forts like Hanumakonda, Konda, Rachakonda, etc. Further these hill forts also provided safety to the personal wealth of the people who took refuge in it in times of anarchy and disorder. Thus grew several townships in and around these forts like Hanumakonda, Rachakonda, Konda, Gooty, Chandragiri, Penugonda, Gandikota, Udayagiri etc.
REFERENCES

2. Sarma, M.S. Vijnana Sarvagamu, Ed., III p.4
4. Ibid. p.3
5. Panikkar, K.M. "Geographical factors in Indian history" Intr. p. IX
7. Ibid
8. Ibid
11. Imp. Gaz. op. cit. p.145
12. Sarma, M.R. op. cit. p.4
13. Ibid
15. Ibid
17. Imp. Gaz. op. cit. p.147
18. Ibid. p.182
19. Ibid, p.165
20. Ibid
22. A tributary of river Godavary in Telingana region. It takes its birth in the Balaghat hills of Maharashtra and enters Andhra Pradesh in Medak district and flows again in south-west direction and then towards North through Nizamabad district into the river Godavary.
24. Also a tributary of Godavary in Karimnagar district passing through the taluks of Sircilla and Karimnagar and along side Peddapalli and Huzurabad, it merges in Godavary near Mahadevapur in Manthena taluk.

25. A tributary of Godavary that flows in the Adilabad district in its eastern part, touching the taluks of Sirpur and Chinnur. It merges in the river Godavary near Chinnuru.

26. A small rivulet in Nalgonda district.

27. A small rivulet in the same district it merges in river Krishna near Vadapalli in Miryalguda taluk.

28. A small river in Warangal district

29. Rises in Warangal district and flows into the Krishna district and merges into it near Jaggayyapeta.

30. Rises in Jeyapur hills of Orissa and enters Andhra Pradesh near Patapatnam of Srikakulam district and enters the Sea near Kalingapatnam

31. Rises in the Eastern Ghats of Orissa, it enters Srikakulam district near Parvatipuram and flows through the Palakonda taluk via Srikakulam and Chipurupalli taluks before merging into the Sea. In its lower reaches it is known as Languliya.

32. Sarma M.R. op.cit. p.6

33. Sarma, M.S. op.cit. III

34. Ibid

35. Ibid

36. Ibid

37. Krishna Rao, Y.V. op.cit. p.7

38. Ibid p.7

39. Ibid pp.9-10