CHAPTER II

NATURAL GEOGRAPHY
Natural Geography is the life-blood of every nation's history. It determines decisively the historical and cultural evolution of the people of an area. The internal policies and the external relations of a country or a region are governed largely by their geographical factors. It is said to be, "an analysis of the whole natural equipment of a region or some element of it, in terms of its resources and potentialities for human use."

A study of natural geography in terms of society, religion, economy, and polity is now gaining momentum in the world of scholars. Such a study naturally provides a solid foundation for assessing precisely the importance of cultural or human geography. The physiognomy of the land's surface, rivers, hillocks, mountains and particular places on the earth's surface help us to a very great extent in this connection.

"There are physical and chemical processes developing the forms of the land's surface, the shapes of the ocean basin and differing characteristics of water and climate. There are processes by which plants and animals are spread over the earth in complex and real relation to the physical
features and to each other. And there are economic, social and political processes by which mankind occupies the world's lands. As a result of all these processes the face of the earth is marked off into distinctive areas. Geography seeks to interpret the significance of the likeness and differences among places in terms of causes and consequences.²

Geography not only deals with the physical features of the earth-land and sea but also atmosphere. Geology, Oceanography, Climatology and Meteorology are the other facets of physical geography.³

It would thus appear from the above that geography occupied a position of paramount importance. It conditions the evolution of civilizations. It shapes the socio-economic patterns. It determines political policies, both internal and external. It moulds the religious thinking of the people. Hence special significance is attached to the study of geography.

The coastal Andhra Pradesh is the region selected for the present study. This region is geographically located between 18° 20'–19° 10' and 13° 31'–15° 51' of northern latitude, 83° 01'–84° 54' and 79° 15'–80° 15' of eastern longitude. This region which stretches from the Srikakulam district to Nellore district of Andhra Pradesh, with its south-eastward slope looks like a waxing crescent moon. This
area covers a wide expanse of low land between the Bay of Bengal and the Eastern Ghats intersected by rivers and rivulets and indented by creeks and coves. In some places it is extremely picturesque with long stretches of rice fields and river mouths. Ancient port cities and trade emporiums lie scattered along the long coast-line. The social, economic religious and political history of this part of Andhra Pradesh is in large measure shaped and influenced by its geography.

The width of this coastal plain is only 3.7 Kms. in the Srikakulam district but extended afterwards to 72 Kms in delta and thereby paving the way for good agricultural activities. Again, the plain's area is gradually reduced from 3 to 2.2 Kms, in the Prakasam and Nellore districts which form the southern most tip of the Coastal Andhra Pradesh.

The Coastal Andhra Pradesh is covered by several mountain ranges and hillocks. The Eastern mountain ranges start from the district of Srikakulam and extend towards south-west upto the Godavari district. They are nearly 610 to 1206 metres high from the sea level. From the district of Krishna these mountain ranges or the Eastern Ghats travel with breaks and they are known locally by several names, like Palkondu, Velikondalu, Yerramala, Nallamala, Ratnagiri and Seshachalam.
The Eastern Ghats are referred to in the epigraphs and the Markandeya purāṇa as Mahāndragiri or Mahāndrāchala.¹

The Eastern Ghats run roughly parallel to the sea from the north-east to south-west and join the Western Ghats at Nilagiri hills in the Tamilnadu. The Eastern Ghats are not as high as the Western Ghats nor do they form a continuous chain of hills like the latter. There are several breaks and this resulted in the formation of independent hillocks having local importance and names. Further, the breaks provided big valleys which accorded fertile opportunity for the promotion of agrarian economy. Some of these hillocks became flourishing religious centres for both heterodox and orthodox religions. This is very well attested by the epigraphs found at Kalinganagara,² Simhachalam, Vijayawāda, Mangalagiri and Srisailam.³

The Eastern Ghats are for the most part bare and rocky. "The Eastern Ghats are not watershed and the rivers of the peninsula break through them. Their geological formation is granite and gnesis and nice slate, with clay slate, horn blende, and primitive lime stone over laying. They do not exercise any great effect on meteorology, but still to a certain extent they break the force of the north-east monsoon, preventing it from penetrating in to land."⁴

The Eastern Ghats divided the Coastal Andhra Pradesh
into two distinct regions, viz; the table land on the west and the coastal strip on the east.

The geographical setting of South India is such that it slopes down east-wards to the sea board from the Western Ghats and the rivers, Gōdāvari, Krishṇa and Pīnākini which originate there, drain to the east piercing the Eastern Ghats and flow down to the Bay of Bengal.

The Eastern Ghats and their surrounding regions are the treasure houses for some minerals which promoted the trade and commerce. Eg. Khondalites (Sillimanite - gneisses) in Srikakulam, Manganese ores, Graphite, Alluvium and different sand stones for building construction, lime stone in Viṣakhapāṭṭam and Vizianagaram districts, silicate rocks, crystalline, lime stone, sand stone, graphite, mica, mineral pigments and clay in East Gōdāvari district. Building stones known as Lower Gondwana, rocks-sulphur iron ore, chromite, china clay, kyanite, gypsum, mica and lime stone are available in plenty in the Krishṇa and Nellore districts. Thus a bewildering variety of mineral wealth is available in the Coastal Andhra Pradesh. It should be noted here that this mineral wealth is neither exploited in the ancient and mediaeval nor in modern times. However during the rule of the East India Company, marginal attempts were made in tapping the mineral resources. There is sufficient evidence to show that this region witnessed hectic building activity in the ancient and mediaeval periods. The fine quality of sand
stone, lime stone and horn blend, available in the Eastern Ghats were exploited by the architects and sculptors for the construction of *stūpas* temples and *mandapas* and for carving sculptured Buddhist and Brahmanical reliefs. The ancient and mediaeval monuments and sculptures that are sprinkled throughout the length and breadth of Coastal Andhra Pradesh bear an evidence to this.

The Coastal Andhra Pradesh may be rightly styled as the land of rivers. The most notable of them is the Gōdāvari which is referred to as the river of the Dākshinā Patha. It originates in the Western Ghats and runs across the Deccan peninsula, and joined by several tributaries, it enters into the Coastal Andhra Pradesh through Pāpi-konḍalu range. After passing this point the river Gōdāvari widens out and flows by Pōlavaram, Gūṭa, the picturesque Mahanaḍīsvaram and Pattisam in the East Gōdāvari district. At Dowlēswaram the Gōdāvari river divides into two main streams, viz; Gautami Gōdāvari and Vāsishtha Gōdāvari. The eastern or Gautami Gōdavari, flowing past Injaram and Nīlapalli, enters the sea near Point Gōdavari. The western or Vāsishta Gōdavari flows nearly due south and enters the sea at point Narasāpur.

The course of the Gōdāvari river is such that flowing past Rajahmundry, it opens out and forms a series of broad reaches studded with low alluvial islands styled *Lankas*. The
Brahmāṇḍapurāṇa refers to this river and states that it reaches the sea by seven branches. These branches are named after the great seven sages viz; Vāsishtha, Vāmadēva, Gautama, Bhāradvāja, Ātreya, and Jamadagni. Thus it is called **Sapta - Gōdāvari**. Out of these seven branches the Bhāradvāja, Visvāmiṭra and Jamadagni no longer exist. The Hindus attach immeasurable religious importance to this river.

Numerous islands, i.e., Lankas or a permanent character stand in various parts of the East Godavari region. Very often the river branches form new and temporary islands modifying the physical features of the old ones.

The river Krishna is the other important one. It is referred to in the epigraphs as Kannabennā, Krishna-vennā, Krishna-venṇa, Krishna-vēṇi, and Pērēru. The river Krishna literally means 'of black hue', as its waters are said to be black in colour. It takes its origin in the Western Ghats and flows across the peninsula from west to the east. In length, the river Krishna is shorter about 160 Kms than the Gōdāvari river. But its catchment basis is about 1,56,160 square Kms which includes its tributaries. After watering a considerable area in Maharāṣṭra and Mysore, it enters into Āndhra Pradesh, in Mahaboobnagar district and flows down separating Guntūr and Nalangoṇḍa districts. On reaching the chain of the Eastern Ghats, the river turns sharply south-east and flows for about 160 Kms,
between the Krish\ta and Gunt\ur districts, flowing through the classic land between the cities of Amar\avati and Vijayav\da, it finally enters the sea by two principal mouths. It is in this last part of its course that this river is largely utilised for irrigation. It is reported that "the enormous mass of silt it (Krish\na) carries which has been estimated to be sufficient in flood time to cover daily an area of 8 square Kms to a depth of one foot has consequently in course of ages been deposited in the form of wide alluvial delta which runs far out into the sea and slopes gradually away from either bank of the river with the average fall of 18' to mile."  

The Penn\ar is the third principal river of the region. It also known as Penn\ru, and Pin\kini. It rises in the Na\didurga hills in the Karn\ataka state and after a course of 456 Kms, it enters into the coastal district of Nellore through a fine gorge in the Velugon\lu at S\masila in the \tmakur taluk. It flows through \tmakur taluk, towards eastern direction and receives water from two tributaries, viz; the Bog\ru and Birap\ru at Sangam. Sangam is a small town at present where all the three merge, and where an ancient Sangame\vara temple is still in existence. It is also referred to in the epigraphs. The Penn\ar river debouches into the Bay of Bengal by several mouths at \luku\ru, located at about 29 Kms north-east of the town of Nellore.
Besides the above referred major rivers there are several minor water resources in the region which are mentioned below. These water resources like the principal ones, also played a vital role in shaping the cultural history of the Coastal Andhra Pradesh. They are:

Vamsadhāra, Nagāvali, Suvarnamukhi, Veṅgasvati, Mahendra-ratanaya, Gomukha, Champāvati, Bahuda, Kumbikōṭa-gedda, Māchikund (known as Pālēru), Śarada, Varāha, Gostani, Champāvati, Tāndava, Sarugudugedda, Mēghādri-gedda, Yēleru, Pampa, Byneru, Yerrakāluva, Gundēru, Tammila-ru, Muniyēru, Budamēru, Jayanti, Kattalēru, Ippala vāgu, Upplēru, Ballalēru, and Naḍimēru, are found in the Srikakulam, Visakhapatnam, Vizianagaram, West Godavari and Krishna districts.

Ongeru, Chandravanka, Guntālakamma, Mūsi, Pālēru, Mannēru, Kandalēru, Swarnamukhi, Jayamaṅgalam, Chitrāvati, Khandēru, Sāgilēru, and Cheyyūru are the minor water resources that are found in the Guntūr, Prakasam and Nellore districts.

These minor water resources promoted agriculture. They not only feed the minor irrigation tanks but also facilitate irrigation directly wherever it is possible. It may be stated here that the rivulets or the minor rivers of the Guntūr, Prakasam, and Nellore districts usually dry up for a
major part of the year and carry heavy floods during the rainy season or whenever there is a good rain fall on the hills. The numerous minor streams are little more than mountain torrents and their beds lie so low beneath the adjoining lands that their water is seldom available for irrigational purposes. Thus the economic utility of the minor streams of the Guntur, Prakasam and Nellore Districts is insignificant.

It is of considerable interest to note that there are important lakes in the region under study. On the north-eastern boundary of the Coastal Andhra Pradesh, i.e., at the northernmost tip of Srikakulam district, there is a salt-water lake. It is separated by sea by sand banks. This is known as the Chilaka-sarassu, (Chilaka lake) or Chilaka samudra. This forms a natural boundary between the modern Orissa state and Andhra Pradesh. This was the part and parcel of the Kalinga kingdom and witnessed the rule of many dynasties right from the ancient period. This is bounded on the east and the south by a low sandy ridge, in some places a little more than 200 yards wide, which separates it from Bay of Bengal and north-west by the mountains which extend from the Mahanadi to the Godavari. It covers an area of 640 sq. Kms. This vast area with its deep fathom served for naval anchorage and as a call of port.
The Kolléru lake is considered to be the largest fresh water lake in the country. It covers an area of 901 Sq. Kms. This lake is formed by the natural depression of land between the Gódāvari on the east and the Ka Jinga on the west. One third of the lake is in the Krishną district and the remaining part is in the West Gódāvari district. It receives water through the Budamēru, the Tammīlēru, the Pammīlēru and the Gunderu. This vast lake with many inlets has only one outlet in the form of Upputēru to the Bay of Bengal. This lake is referred to in the inscriptions by several names, like Kunāla, Kolanu, Sarassu. It was the part and parcel of the ancient Vengi-Mandalam.

The Pulicat lake which is formed by the back waters of Bay of Bengal along the Coromandal coast is the other prominent one located in the region under our survey. It is a shallow salt water lagoon. It is 59 Kms in extreme length and with a breadth varying from 5 Kms to 18 Kms. The greatest depth is about 14 to 16 feet. The Pulicat shoal served as a trading port in the east coast. Towards the extreme south-east of the coast is a low sandy tract lying between Pulicat lake and sea (Srīhari Kōta region) which is 56 Kms. long and 10 Kms broad. The very back of this region is covered with thick forests and mostly inhabited by the Yēnadis, a scheduled tribe. Large tracts of area in this region is used for the manufacture of salt, an important economic commodity. In the modern times rich deposits of
silica have been discovered and this has enhanced the economic value of the lake. Further this is a paradise for fishermen, for several varieties of fishes are available in this lake.\textsuperscript{29}

The vast and long line of the Coromandal coast is very well endowed with rich soil resources which ultimately paved the way for the promotion and preservation of socio-economic and cultural developments. The nature of the rocks, physical traits of the land, climate, flora and different variety of soils played a very important part in shaping the natural geography of the east coast of Andhra Pradesh. Each soil has its own physical properties like its colour, texture, structure and fertility. The soil of the east coastal strip is alluvial, the regar or the black cotton and red ferruglous series. Near the hill ranges the red varieties derived from a large admixture of the peroxide of iron are predominant but towards the coast the soil becomes finer and in the valleys there is fertile black clay. This fine clay soil has small pore spaces and hence the rate of passage of water to its lower levels is very slow. In other words this type of soil is more water retentive and heavy for ploughing. Loamy texture of the soil is the best for the plant growth and its ploughing is easier at the same time. Out of loams sandy loam is the most favoured by the farmers.

The coastal taluks of Visakhapatnam, Vizianagaram, East-Godavari, Krishna, Guntur, Prakasam and Nellore
districts have large arenaceous areas to a certain extent. Islands, known as lankas, are unique to east and west Godavari districts and are covered by the silt during floods which render them very fertile and fit for tropical crops. The westward elevation and the nature of the slope of the area also influenced the formation of the soil. Much of the soil is carried from the hill slopes by transporting agents like rivers and wind, towards the valley bottoms and flat lands as alluvium. Such soil is very fertile because it is derived from different kinds of rocks from over a wide catchment. This is amply supported when we compare density of the population per square kilometre of the Coastal taluks, viz., Narasannapeta of Srikakulam, Bobbili, Elamanchili and Bhimipatnam of Vizianagaram district, Razole, Kothapeta, Amalapuram, Ramachandrapuram, Kakinada, Pithapuram and Rajahmundry of East Godavari district, Vijayawada, Machilipatnam and Gudlvada of Krishna district, Tenali, Baptla and Repalli of the Guntur district, Ongole of the Prakasam district and Nellore and Kovur taluks of the Nellore district bear an evidence to it. The upland taluks are sparsely populated. This variation in population can be attributed solely to the fertility of the soil. Thus it is evident that the demography is conditioned by the natural geography.

The climatic conditions of this region vary considerably. Coromandal coast may be classified as tropical, since the
climatic conditions are extreme with hot summers and cold winters. The upland taluks of the region experience very hot climate. In the taluks which are very near to the sea and the deltaic taluks of Visakhapatnam, East and West Godavari, Krishna, Gunjūr, Prakāśam and the Nellore districts the climate is tolerable to some extent as the sea breeze renders it moderate. Because the upland area is considerably away from the sea and near to the hills the climate is extremely chilly during winter while in the delta adjoining the coast the sea renders it more tolerable. The rain fall of the Coromandal coast depends entirely on the monsoons. These monsoons play an important part in the economy of the area. The fertility of the upland taluks and other regions is due to these monsoons. Though the south-west monsoon sets in the month of April-May of the year, its effect is felt more in the west-coast of India than in the Coromandal coast. However, except the Nellore district, other districts get more quantity of rain during the south-west monsoon. On the whole the rain fall is very scanty in the Srikakulam and major parts of the Nellore districts and this factor largely contributes to the near famine conditions in these regions.

On the east-coast, on the other hand, it is the north-east monsoon which brings the rain from the Bay of Bengal. Though the temperature falls in other parts of the country as soon as the rains set in June and July, the
eastern part, that is the Coromandal coast and its adjoining region in the north-east, receives little rain and during the mid-year months mercury does not come down. In all the eastern coastal districts, showers and small storms from the north-west occur occasionally in the hot months. With the onset of the rains temperature starts falling. The coromandal coast is a notable exception, in that the bulk of the rain fall is received during October and November. It is caused mainly by the retreating monsoon currents which pick up moisture while crossing the Bay of Bengal. The rain fall of the east coast has therefore a distinctive character.

It may be stated here that the temperature of the dry seasons throughout the year is determined by the direct action of the Sun and wind direction.

Throughout the rainy season the course of the isotherms is mainly determined by the quantity of the rain fall and the directions of the rain-bearing winds, the former running more or less at right angles to the latter and indicating a gradual increase of temperature from the west to the east coast.

Thus the climate and the rain fall exercise an all embracing and unifying influence on the weather conditions of the east coast of Andhra Pradesh. However, it should be noted here that the rain fall of this region is different from
the other parts of the State, as well as the other States of the peninsular India. Besides two seasonal monsoons which give sufficient rain fall, sometimes cyclonic storms occur during the later part of the year bringing with them a deluge of rain which goes to swell the averages. Along the coast the rain fall in Machilipatnam and Divi taluks of the Krishna district is comparatively heavier than in other parts of the State.

Climate, rain fall and the nature of the soil are the active agents for the distribution of the flora over an area. Large extent of vegetation is not only useful in preventing soil erosion and in helping to stabilise the climatic conditions but it also serves as a good reserve for fuel, pasture and timber. The east coast is entirely within the tropical zone. Two periodical winds, namely, south-west and north-east monsoons effectively influence the rain fall. The Coastal Andhra Pradesh is within the rainfed region. This region is remarkable for its affinities with the flora of the surrounding areas. But there is a difference between the vegetation of the dry taluks or upland taluks and the very moist or watered region, i.e., coastal taluks. Certain parts of the Srikakulam, Visakhapatnam and the East Godavari districts are covered with deciduous, irregular and open forests. These areas are known as Agency taluks. They show much diversity in the representation and combination of the main species. The species that are met with in the mixture
are *Terminalia tomentosa* (tani), *Xylia xylocarpa* (kondatangōdu), *Pterocarpus marsupium* (yēgisa), *Anogeissus latifolia* (chiru mānu), *Chloroxylan swietenia* (billūdu), *Cleistanthus collinus* (odisa), *Adina cordifolia* (bangāru), *Robusta* (guggilam), *Anogeissus acuminata* (panchamānu), *Pterocarpus marsupium* (yēgisa), *Soymida febrifuga* (sumi), and *Dendrocalamus strictus* (gaṭṭi vedūru), in Srikākulamm, Vizianagaram and Viṣakhapāṭna districts. The West Godāvari has a very large extent of Agency area covered with fuel forests and timber forests. The main species of the forest are *Chloroxylon swietenia* (billūdu), *Erythroxylon monogynum* (adivi gōrenta), *Zizyphus xylopyrus* (gotti), *Albizziaramara* (nalla reṅga), *Cassia fistula* (rēla), *Bauhinia racemosa* (āri), *Wrightia tinctoria* (aṅkūdu), *Zizyphus jujuba* (rēgu), *Caesalpinia coriaria* (divi divi), *Acacia leucophloea* (tellathumma), *Embilica officinalia* (pedda vussiri), *Anogeissus talifolia* (chiru mānu), *Lagerstroemia pavriflora* (chinangi), *Terminalia tomentosa* (tāni) and *Cleistanthus collinus* (odisa) are available. Along the sandy shore of the Krishna district the usual sand binders are found, viz., *Spinifex squarrosus* (ravāṭāṣura misālu) and *Impomaea* (samudra pāla). The most common trees are *Pterocarpus* (erra chandanam), *Terminalia tomentosa* (tāni), *Anogeissus latifolia* (chirumānu) and *Lagerstroemia pavriflora* (chinangi). The flora of the district presents no special characteristics and the district has no worth mentioning forests. Only Markāpuram and Giddalur taluks of the Kurnool district
which are included in the newly carved out Prakasam district have thick and dense forest tracks. The hilly region of these taluks are quite green throughout the rainy season. Datepalms (īta), Palmyra (tāṭi) and Tamarind (chiṅta) groves are common. Except for these two taluks the rest of the district is barren. The Nellore district is also of the same type. But on the Velligonda range of hills which separates the district on the western side from the Cuddapah and Kurnool districts, trees of large size grow abundantly. It is possible that this tract (Prakasam and Nellore districts) was to a certain extent uninhabited till comparatively recent times and formed part of the so called desert of Danḍaka. Throughout the district of Nellore the Margosa (vēpa), flourishes well in the laterite soil and also with different species of the Ficus (marri). The Tamarind (chiṅta) and the Mango (māmidi) also form the principal trees of this region.

The fauna or the animal life of this region is remarkably varied. The east coast forms part of the zoological region, known as the oriental or Indian.

Amongst the fauna the mammals constitute the highest group and are of special interest as these include man himself. Dr. Jerdon, states that the mammalian fauna of Southern India is characterised by the possession of a peculiar lemur, the little Lories. The other genera found in this region and also the characteristic of the oriental region are Presbytis and Macacus, species of monkeys, Viverricula, a civet cat, Paradoxurus, the toddy or tree cat, Cuon the
the wild dog and *Platacanthomy*, a dormouse.\(^{35}\)

The coastal region of Andhra Pradesh is rich in *quadrumana* (koti), best known as monkey. This species is commonly used for exhibition on account of its tricks and agility. A very common shrew is that which is improperly termed the muskrat, viz., *Sorex coerulescens*. A small hedgehog - *Erinaceus microphus*, a species of *Tupala* a Malayan genus, exists in the Eastern Ghats. The most notable beasts of prey are the tiger, the leopard and cheetah. It seems probable also that the lion at one time existed, as figures of it are commonly found in the Buddhist sculptures of the coastal Andhra Pradesh. Figures of lion were also found on the Vishnukundin coins and seals and on some of their Copper plate charters. Often the kings are praised for their lionine valour. The tiger abounds throughout the whole of South India, but it is gradually being pushed back by the reclamation of land and extension of cultivation. The leopard *Felis paradus* (Chiruta) is more common than the tiger. Its impudence is unbounded as it often enters villages and even houses to carry off dogs and goats. A distinct species is the cheetah or the hunting leopard - *Felis jubata* (chiruta). Animals belonging to this family of cats also exist such as leopard cat (*janguru pilli*), rusty spotted cat (*gandu pilli*), and the common jungle cat. (*agavi pilli*). Mongoose (*Mungeresa*) is found in the Coromandel coast. The other notable
carnivora are the red lynx - Fellis, caracal, the hyaena (Hyaena striata) and the members of the dog tribe, viz., cuon rutilans (the wild dog - vēṭa kukka), canis pallipes (the Indian wolf - tōgēlu), Canis aureus (the universal jackal - nakka) and Vulpes Bengalensis (the Indian fox - nakka) Rodentia animals like squirrels (vuḍata), rats (eluka), hares (kundēlu) and the Procupine sciuride (muṭṭa pandi) are common in South India and are noticed in the Coastal Āndhra Pradesh, too. The best known of these is squirrel. The other more remarkable species are the mole rat (eluka) and the tree rats (chetṭu eluka).

The hoofed mammals constitute an important group of animals because of their economic utility. The hoofed animals are of two types, viz., even toed or odd toed. The odd toed forms are the horse and elephant and they are notable for the part played in the numerous battles fought on the soil. We have also their depictions on many hero-stones of Āndhra Pradesh. The even toed forms are cattle, sheep, goats, deer, the boar and pigs. The cattle include, besides domestic forms, the bison and the wild buffalo. The bison abounds in the dense forests of the Western Ghats and north of Krishna river along the Eastern Ghats to Cuttak in Orissa. It is evident from the epigraphs that the donors donated liberally a large number of sheep, goats, cows and bulls either to the temples for maintaining perpetual lamps or to the learned Brahmins. This conclusively
proves the abundance of cattle wealth during the ancient and medieval periods in Andhra Pradesh. This cattle wealth in turn paved the way for the development of agrarian economy and rural industries like oil.

The bird life of India has attracted the attention of many Ornithologists due to its remarkable variety and wide range of distribution. The distribution of birds in India is not, however, homogenous. Migration of birds is a well known fact, but in India the migratory birds are few in number and the few that migrate into coastal region come from the north only. 37

South India as regards its birds possesses little or no ornithological affinity with the neighbouring regions. A large number of the genera consists of species which are either confined to, or are prevalent in the oriental region. Mainly Raptorens or birds of prey, i.e., vultures, eagles, falcons, hawks, buzzards, harriers and kites and various owls are common in this region. Scansores which are very beautiful, viz., parrots, wood-peckers, barbets and cuckoos are represented not only in the east coast but also in South India. Conirosters are the most familiar bird forms, such as the crows, mynas, starlings, sparrows and larks. A remarkable bird belonging to this species is Ploceus baya, the weaver bird, whose marvellous nest is the admiration of every one. Of pigeon and doves and blue rock pigeon is the most common one. 38 The species of pea-fowl, jungle-fowl and
spur-fowl are found in the regions under study. The bustard, a game bird, now scarce was prevalent in the east coast. Ducks, flamingos, geese, grebes, gulls, terns, pelican, cormorants and the darter which belong to the family of Natatores are represented on the east coast.

Of the reptiles the snakes and crocodiles are the most notable ones. Lizards, tortoises and turtles may also come under this class. Three species of crocodiles that are found in South India are noticed in less number in the eastern coast of Andhra Pradesh. They are very destructive to man and beast. Although snakes are common and the number of species considerable, fortunately the larger proportion of them are non-poisonous. Of poisonous snakes the most notable are the cobra, the Krait, the Bungarus, the Caerulous and Bungarus fasciatus and are found in hills, forests and plains. The common non-poisonous snakes are the rat snakes, the carpet snake, the grass snake and the water snake. The consecration of nāga pillars and snake worship referred to in the inscriptions indicate the cult of snake veneration in the Coastal Andhra Pradesh.

The fish fauna available in the east coast is simply remarkable. This may be classified under three heads, viz., fresh water fishes, brackish water fishes and sea water fishes. There are about 155 species of fresh water fishes available in the South Indian waters. Of the most notable brackish water fishes belong to the Percidae, Lates,
Lutianus, Ambassis, Rapon and Sciaena types. At the same time it must be stated here that it is somewhat difficult to draw the line in speaking of brackish water fish as some of them at times live entirely in the sea while others occasionally reside in freshwater. These species are in good number in the Kolleru and Pulicat lakes. As regards edible species, the native population consumes nearly all the species available in the sea and in some of the inscriptions the right of fishing in tanks is mentioned.

The Molluscs or shelled animals are found in fresh and coastal waters as well as in the open seas around. However in the Coromandel coast the surf is generally too heavy to admit the location of many shells and it pounds the delicate species to pieces. These molluscan shells provide materials for the preparation of the lime and until the beginning of the 20th century cowries were used as money.

The gastropod shells commonly known as cowries are available in the South coast of India. They are not found in the Coromandel coast. Among the sea species anthropods, the largest group of animals noticed in the coromandel coast are prawns, shrimps, lobsters different types of crabs and the numerous crustaceans.

Amongst insects that are found in the Coastal Andhra Pradesh the various forms of ants, wasps, hornets, honey-bees, the cockroaches, white ants, numerous forms of butterflies and moths, dragon flies and libellulidae may be
seen hovering over the water. These insects are destructive. But the honey-bee is of great benefit as a producer of honey and wax. Since there is an abundance of vegetation in the east coast the insects, particularly the butterflies, play an important part in bringing about pollination and the dispersal of seeds.¹¹

The spiders, scorpions and mites which belong to the Arachnida group and cause much harm to the human beings are found in the hilly regions and upland taluks of the coastal districts of Andhra Pradesh. It is evident from the administrative or the territorial units that are found scattered in the literary works and epigraphs that fauna has its influence in naming them. Some times even the place names also derived their names from the local fauna.

Graphite is a mineral available in Krishna, Godavari, Vizianagaram and Visakhapatnam districts. Lead is available in plenty at Karimpudi of Guntur district. It is reported that old lead mines are found on the north-east side of this village. It is evident from the geological survey conducted in the year 1880 that iron deposits are noticed in Nellore, Krishna, Godavari and Visakhapatnam districts. Gypsum is found only in Nellore district out of the eastern coastal districts. Crystals of great purity are found in this region. Very large prisms of rock crystals are reported in the bed of the Godavari to the west of Rajahmundry. It is evident from the administrative or the territorial units, that are
found in the epigraphs that metals had their influence in naming the administrative units. The ancient coinage and metals mentioned in the epigraphs attests the mining operations in the coastal region.

Garnet sand is reported to have been available in the rivers and rivulets of Nellore district. The metamorphic rocks more commonly known as garnetiferous are more available all along the eastern coast than in the other parts of the peninsula. 45

Salt is obtained in the east coast exclusively by sea-board evaporation, not like north Punjab where it is quarried. Salt manufacturing activity is reported all along the eastern coast, which is 960 kms in length. Salt preparation was a royal monopoly during the Satavahana period. It seems the preparation of salt pans - *Uppuvāmulu* usually commences early in January and it is continued till the start of the rainy season. Salt was a great source of income to the kings of the ancient and mediaeval periods. 46 It is known from the epigraphical evidence that salt pans were prevalent in Prakasam and Gunṭūr districts. China Gaṅjam and Peda Gaṅjām were great centres of manufacturing salt in the mediaeval period. 47

The course of history of the Coastal Āndhra, like most other parts in the country, has been profoundly influenced
by its natural geography. This thorough investigation of the physical features of the coastal Andhra, namely mountain ranges, hilly regions, rivers, river valleys, coastline that is washed by the waters of Bay of Bengal, the flora and fauna and its rich geological resources has revealed how they have shaped the course of the history of this region and the adjoining regions.

In Andhra Pradesh almost all the river valleys bear the evidence of the existence of prehistoric man. The material remains in the shape of stone implements have been recovered from different parts of Andhra Pradesh, for the last one century. The prehistoric investigations were carried out first in Andhra Pradesh by a number of geologists, civil officers and missionaries. It is only in the second quarter of the 20th century that trained archaeologists carried prehistoric investigations. Nevertheless, the contributions by R.B.Foote to the study of prehistoric culture of Andhra Pradesh stands as a pioneering work. The earliest record of prehistoric studies dates back as far as 1843 when Newbold discovered ash mounds in this region. Then followed the discoveries by W.King, Bruce Foote, Henry Foot Oldham, Macleod Sewell, Moir, Brackenbury, Cammiade and Burkitt, Manley and Ayyappan.

Bruce Foote has explored the lower and upper reaches of the Mannar river in the Nellore district and collected...
Palaeoliths comprising mainly of broad, oval and pointed implements. He has reported Palaeoliths and Neoliths from the Cuddapah, Kurnool and Anantapur districts.

Considerable areas of the coastal regions of Guntur and Nellore districts are covered by this superficial deposits of laterite forming part of the band of sedimentary strata. To the south of this, Bruce Foote had discovered the chipped Palaeolithic implements from the beds of shingle and gravel while further to the south, W.King observed that not only laterite deposits are spread over the surface of Nellore plateau, but also found them scattered in patches all over the region. The finds of pre-historic remains from Krishna district to the north of Guntur is exceedingly small. The laterite conglomerate of Ramapatnam (Nellore district) area includes many angular quartz fragments and a number of poorly made chipped implements and flakes. From Kandukur area (Prakasam district), several fine implements were obtained to the east and west of Kandukur itself.

It is only in the recent times, that systematic regional studies have been undertaken by Prof. Sankalaia and his students and also the Department of Anthropology of Andhra University, the Archaeological Survey of India and the Department of Archaeology, Government of Andhra Pradesh. Especially the whole of Cuddapah, Chittoor, Nellore, Guntur and Nalgonda districts have been thoroughly
explored. Traces of Palaeolithic cultures have been recorded in Mahaboobnagar, Medak, Karimnagar, Adilabad, Krishna, East Godavari and Visakhapatnam districts. All these works reveal the earliest evidence of man's existence, in the form of stone tools, recovered from the bouldery or pebbly gravel laid down on the tertiary rocks by different rivers and their tributaries and several open air stations, belonging to Lower Palaeolithic period.

The relics of the Middle Palaeolithic or the Middle Stone age in Andhra Pradesh have been recovered in many places. River Gundlakamma and its tributaries (Prakasam District) have stratified sections bearing tool-types of this cultural phase. Yelésvaram in the Krishna district has produced artefacts of this period from a gravel layer below the Ikshavāku deposits. There is a marked departure in the use of raw material in the Middle Palaeolithic industries of this region from the rest of the Indian sub-continent. In the whole of Cuddapah basin, fine grained quartzite of different shades, forms the source of raw material except at the few sites where the silicious rocks are used. The Middle Palaeolithic industry near Visakhapatnam is based on vein quartz, and coarse grained quartzite. From this, it is clear that the use of raw material differs from region to region within Andhra Pradesh and broadly different from the Indian pattern. This is primarily due to the impact and influence of natural geography. Recent investigations in
Andhra Pradesh have brought to light a well defined blade-burin industry succeeding the Middle Palaeolithic. This represents Upper Palaeolithic phase. These industries are not as widespread as the two preceding stages, viz., the Lower and Middle Palaeolithic phases. Traces of this phase are noticed in the Nāgārjunakonda area of the Krishna district apart from Kurnool and Chittoor districts.

The discovery of cultural traits of neolithic period was first made by Bruce Foote. The important Neolithic sites in the coastal Andhra Pradesh are Nāgārjunakonda, Jāmi, Madhuravāda, Yeleśvaram, Chēbrōlu, etc. The Neolithic phase is characterised by ground and polished stone implements, the raw material being mostly 'trap' in the place of quartzite used in the Palaeolithic. However, chert is preferred around Viśākhapatnam region. The new technological innovation indicates a distinct cultural stage of food production as opposed to food gathering which is the means of subsistence in pre-neolithic stages. The Neolithic cultural remains including pits, the plan of an oblong house, blunt-butted axes, fabricators, pot-sherds and crystal microliths found at Nāgārjunakonda confirm the site to be typically Neolithic in nature.

The Neolithic phase is succeeded by the Megalithic stage. Yeleśvaram and Nāgārjunakonda in the Krishna District and Jāmi and Madhuravāda in the Viśākhapatnam
district yielded evidence for Megalithic phase. It is thus evident from the above discussion that the Coastal Andhra Pradesh witnessed all the phases of Prehistory. Not like the upper parts of the Andhra Pradesh the coastal districts have a separate socio-economic and cultural development in their long history. This is because the natural geography of this region, as stated above, sharply differs from the other parts of the state in many a way.

This historic phase of South India, like North India started with the advent of the Aryans. It has been held that the Aryans penetrated into Deccan in small groups and settled there. This might have occurred in the first millennium B.C. This is the starting point of the thin Aryanisation of the tribals of Deccan in particular and the South Indians in general. The reason is the geographical proximity of the Deccan to North India.

The Sixth century B.C., the "Age of Buddha" further brought the Deccan and South very close to North India. It is evident from the Buddhist work, Suttanipata that a Kosala Brahmin by name Bavari migrated to Deccan and settled near the head waters of the Godavari river. This was due to the impact of the process of Aryanisation of Deccan.
The dark clouds hovering over the historical horizons of North India were cleared by the establishment of the Mauryan empire in the fourth century B.C. by Chandragupta Maurya. He was responsible for the realisation of the political unification of almost entire India except Tamilnādu and Kērala. Gradually the Mauryans way extended over Deccan during the time of Chandragupta and his son Bindusāra. It was during the time of the Mauryans that the entire Andhra Pradesh (including the coastal region) became part and parcel of the Mauryan empire. The Mauryans inaugurated a new phase in the realm of religion. Brahmanical religion received a check and heterodox religions like Buddhism and Jainism gained currency. It was during this period that Jainism and Buddhism penetrated into the coastal Andhra and Karnāṭaka regions. The Mauryans disappeared from the political map of India by the second century B.C.

The Sātavāhanas, the subordinates of the Mauryas, rose to power and ruled the Deccan and Āndhradesa for four hundred years. The Sātavāhanas took very keen interest in developing agriculture. The cultivable land lying waste was brought under plough. The inscriptions of the Sātavahās found in the Coastal Andhra Pradesh record gifts of villages to Buddhist monasteries and Brahmanās. It is known from the Gāthasaptasati that rice and wheat, and pulses like the redgram, and oil
seeds like gingly and castor, and fodder seeds like hemp, and cash crops like cotton and sugarcane were the main crops in the Deccan.\textsuperscript{65} The Satavahanas not only brought the political unification of the Deccan and Andhradesa which received a set back with the collapse of the Mauryan empire, but also maintained hectic international trade with the Roman empire. The Roman gold freely flowed into the Satavahana empire. The Buddhism and Brahmanical religion received equal patronage from the Satavahanas. The numerous monuments in the form of stupas, Viharas, chaityas, that are distributed throughout the length and breadth of Deccan and Andhradesa speak volumes of their contribution to architecture and art.\textsuperscript{66}

The fall of the Satavahanas saw the end of the political unification of Deccan in general and that of the Andhradesa in particular. The Ikshavakus, the Pugiyas, the Abhiras, the Salankayanas, the Brihatpalayanas, the Pallavas, the Vishnukundins, were among the local dynasties that rose to power. They literally divided the Andhradesa into many small pockets and ruled over them independently. Thus Andhra was balkanised.

The rise of the Eastern Chalukyas to power in the 7th century A.D., and later the Cholas, restored political stability in the Coastal Andhra Pradesh. But in the presence of the powerful feudatories like the Velanadu Cholas, the Matsyas, the Kota, the Kolanu
The advent of the Kākatiyas heralded a new era in the annals of mediaeval Andhradesa. Rudradēva, Gaṇapatidēva, Rudramadēvi and Pratāparudradēva were the greatest representatives of this dynasty. The Kākatiyas were the next after the Sātavāhanas to realise the political unification of Andhradesa. Their power at one time even extended up to the city of Kanchi. During their energetic rule, agriculture was developed to a very great extent. Several irrigational works like tanks, dams, dykes and canals were undertaken and completed. The agricultural surplus in turn promoted the trade and commerce considerably. The internal trade was in the hands of the trade guilds like Nānādēsi, Teliki-1000, Pekkaṅgṛu and Ayyavall-500. This period also witnessed international trade. The Mōḻupalli abhayasasana of Gaṇapatidēva bears an evidence to it. Thus the glory of the Coastal Andhra Pradesh reached its meridian splendour during this period.

The most important economic aspect of this period i.e. from the Sātavāhanas up to the fall of the Kākatiyas (the period under our study), is the land grants. They are of two types. In the first type the kings used to assign lands to the officials in lieu of the services rendered and
those going to be rendered to the state in future. In this case there is an element of liability. In the second type, the land was granted to a brahmin or a group of brahmins for their learning, knowledge and the services rendered in the past. In this case there is no liability.

A large number of inscriptions under our survey record land assignments and grants. It is also observed that in some cases villages were granted to the brahmins and temples and they are generally termed as *agrahāra* and *devadāna* villages. They are generally exempted from taxation. The donees were allowed to enjoy unlimited powers and privileges in these villages. It is very interesting to note here that in some cases the kings, queens and the powerful *samantas* used to donate to the donees land under cultivation and land cultivable but lying waste. The underlying idea being that the donee was expected to bring the cultivable land lying waste under plough. This is one of the reasons that the *agrahāra* and villages were exempted from taxation. Besides, the brahmins and the temples were also provided with cattle wealth in the form of sheep, cows and bulls. This naturally involved the reclamation of vast areas of forests adding to the already existing lands under cultivation. Sometimes the deforestation of wild jungle led to the foundation of new villages on the reclaimed land. During the Kākatiya period it is said that they had cleared the forest land near Kocherlakōṭa of Prakasam
district and built a new village by name Duppipādu i.e. modern Dūpādu.69

M.S.Sarma states that agriculture was limited to the regions devoid of forests. He further states that during the middle centuries there were great forests both in the coastal plains and in the mountain regions. From Trilochana Pallava to the Kāktiya Pratāparudrādēva, each and every local dynasty brought great patches of land under cultivation and increased the extent of arable land. Growing auspicious trees in the gardens, along with the agriculture was also practised.70

Expansion of the cultivation resulted in agricultural surplus, which improved the material condition of the people of the region. Industries based on the agriculture like weaving tantuvāya71 and perfumes flourished. It is known from the Bhimasēna - jātaka72 that craftsmen-Avasēnikas-73 produced fine textiles and other goods in the coastal Āndhradēsa. The artistic talent of these artisans was unsurpassed since the varieties of the gold flowers and jewels found in the relic caskets at Bhaṭṭiprôḷu, Śālihuṇḍam, Ghanṭāśāla, Gummadidurru, Amarāvati and Nāgārjunakōnda, and a beautiful casket of pure gold in the form of stupa found at Amarāvati, bear an evidence to it. Gold, the raw material must have been imported from the west coast of India, since this metal is scarce in the eastern coast.
It is known from the epigraphs of the Satavahanas that all these industrial craftsmen were organised into guilds. These guilds acted as corporate bodies protecting the interests of its members. Towards the end of the first century A.D., the eastern Deccan seems to have entered into a period of great industrial and commercial activity which reached its climax towards the end of the second century A.D. These guilds were stable enough to induce members of the royal family to invest their money in it. These guilds were governed by śreni-dharma the laws of the guild. They enjoyed judicial powers and were empowered to punish the members of the guild whenever they violated śreni-dharma. They enjoyed full freedom and generally showed least interest in politics. The kings also never interfered in the internal matters of the guilds.

The coastal Andhradesa experienced brisk internal and external trade in the ancient and mediaeval periods. The development of trade depended upon trade routes, port cities, transport facilities, agricultural surplus and goods, forests and mineral wealth, industries, guilds and above all on the patronage extended by the rulers.

Several trade routes radiated from the coastal Andhradesa and some of them are noted here. The country of Vengi was a great meeting place of several prominent trade routes. From Vengi one trade route led to Kalinga,
i.e. towards north-east. It passed through ARUGÖLU, PİTHAPURAM, KOÇAVALLI, RAMATİRTHAM and SÅLİHUNÇAM on the east coast. The second route led to south cuts through GUĐIVADA, GHANŢASAŁA, BHATTİPRÖLU, BUDDHÅNI, CINNA and PEDDA GÅNJAMS and KANUPÅRTI. The third one led to KARNAŠAKA VIA, ALURU, RÅMIREDÇIPALLI, and JAGGAYYAŞTA. The last one led to KÔSALA. This started from VÊNGI and led to the centre of INDIA VIA GUNTUPALLI and NÅGAPUR. G.J. Dubreuil who thoroughly studied the course and nature of these trade routes concluded that the commerce of INDIA with the Far East and South-East Asian countries was carried from VÊNGI on the east-coast, but not from TAMRAALIPTI or from the ports of ORISSA.

The coastal ANDHRADESA was also endowed with flourishing sea ports in the ancient and mediaeval periods. Referring to the eastern ports the PERIPLUS OF THE ERYTHRIAN SEA states that MASALIA (MACHILIPÂTNAM) was “the sea board of country extending far in land.” Here immense quantities of fine muslins were manufactured. Machilipatnam was connected by land routes with DHÅNYAKÅTAKA or AMARÅVATI as well as PAITHAN or PRATISHTHÅNA — the capital of the SÅTAVAHANAS. GHANŢASSÅŁA (KARNATAKASAILA) was the other important port and it is located 20 Kms from MASALIA, and at the mouth of the KRISHNA river. The river Krishna was navigable enough to carry goods to great distances inland.
the wide sea could also be used for trade expansions Koddura, i.e. the present Guḍūru in the Krishna district, was another trade centre and it is not far away from Gḥantasāla. Ptolemy gives more information regarding the ports of Coastal Andhradesa. The mouth of the Pinākinī-Manarphā, the mouth of Manneru in Prakasam District, Koṭṭīsa (Allur-Kottapatnam in Guntūr district) the mouth of the Krishṇa, Kontakosalya, (i.e. Gḥantasāla) Allosgyna, the point of departure for Chryse are some of the ports and marts mentioned by the Greeks.

The list of ports that were referred to by the foreign seamen proves that the maritime trade was conducted through the river transport and over-seas from the east coast. Further this is attested by the discovery of Roman coins at Vinukonda in the Guntūr district, Nellore in the Nellore district, Nāgārjunakonda and Vijayawāda in the Krishna district.

Dhānyakataka won considerable importance industrially and commercially towards the beginning of the east coast entering first century A.D. Textile industries in the west and central India must have been served by the maritime districts of the east coast entering round Dhanyakataka from which there was easier transit by sea to ports like Kalyan, Sopra, etc.
There was a great sea board extending from the submerged Kaḷiṅgapatṭanam to lake Pulicat in the south. A number of small rivers like the Rishikulya, Vaṃśadhāra, Nāgavalli, Śārada, Tāṅdana, Gundakamma, Pīṇaktī and Svarnamukhi offered safe anchorage at their mouths for the vessels bound to the east and to crown it the Gōdvāvari and Krishna were navigable for a long distance into the inland. Dr. J.F. Fleet states that there was an early trade route which started either from Vinukonda or from Masulipatnam and reached Broach via Golcoṇḍa, Ter and Paithan. The trade route from Masulipatnam took not only the local traffic from the coastal districts of the north of the Krishna, but also the sea-borne traffic from the Far East. The other route which started from Vinukonda in the southern part of the Guntur district served admirably as a collecting centre for the local products of the sea side country on the south of the Krishna. The roads from these two places i.e. Vinukonda and Masulipatnam, joined each other at a point about 40 Kms. towards the east by south from Hyderabad, or perhaps at a point about 38 Kms. further in the same direction, and from that point the single road ran in the most natural manner through easy country, via Hyderabad, Kalyan, Ter, Paithan and Daulatabād to Chandore and Markinda in the west of Nasik district.
The fertile alluvial lands, the perennial rivers, salubrious climate, agricultural surplus, trade routes, navigable rivers, the lengthy coast line, port cities, and flourishing agrarian industries, paved the way for the development of trade and commerce in the Coastal Andhradesa. Monetization of economy also gave further stimulation for fostering commercial activities of this region. The Šatavāhanas, Ikshavākus, Vishnukundins, Eastern Chālukyas and the Kākatiyas issued coins in various metals. This does not mean that barter system was not favoured in the internal and international trade.

The flourishing commercial activities paved the way for the urbanisation of the Coastal Andhradesa. This is very well supported by the rise of cities like Vēngi, Ghanṭasāla, Dhanayakataka, Vikramasimhapuri, Masulipatnam, Vinukonda, Koddura, Kottapaṭnam, Vijayapuri, Vijayavāda, Śālihuṇḍam, Gōli, and Jaggāyyapeta. It is of interest to state here that this shows that mercantile community evinced keen interest in patronising religion and raising monuments of architectural and artistic excellence.

The flourishing agriculture, prosperous trade and commerce and the forest and mineral wealth of the coastal Andhradesa became a bone of contention between kings. Thus the early Chālukyan king Pulakēśin II invaded the coastal region with the sole intention of occupying the
Vengi maṇḍala in the first quarter of the seventh century A.D. He succeeded in establishing the early Chalukyan supremacy over the Coastal Andhradesa. He appointed his brother Kubja Vishnuvardhana as the governor of the Vengi region who was subsequently allowed by him to enjoy an independent royal status. This was starting point of a new dynasty, viz; the Eastern Chalukyas of Vengi. Later the Cholas maintained their control over the Vengi-maṇḍala till the Kākatiyas established their supremacy on this region. Thus it is evident that the rulers of the Deccan (Chalukyas of Bādami) South (the Cholas who later on became Cholas from the time of Kulottunga I) and the Andhradesa (the Kākatiyas) realised fully the economic importance of the east coast and hence tried their best to bring it under their control.

The long coast line, the alluvial deposits, the river valleys and the flourishing agriculture, trade and commerce of the east coast not only made the ambitious kings to cast their eyes on that region but also tempted many to migrate to that region. The Aryan migration was the first which the Coastal Andhradesa, along with the Deccan and South India, witnessed. The Aryans introduced new agricultural methods and iron technology which brought agrarian revolution. The Aryan migration was followed by the Aryanisation of the native people. This caused ethnic, social, religious, economic, and political
changes. In the field of society it introduced the four fold division of the society based on Varna. Family was organised on patriarchal basis. Aryan political patterns and religious ideas gradually started influencing the natives. The rise of the Sātavāhanas gave a new direction and momentum in this connection. The Sātavāhana kingdom lay in between the south and north and hence it has been styled and 'the bridge kingdom'. They were in active touch with the north as well as the south. Thus became the active transmitters of Aryan ideals and institutions into south and Vice Versa. The Sātavāhana kings were the upholders of the Brahmanical religion. The various Vedic sacrifices performed by them bear an evidence to it. Besides, Gautamiputra Sātakarṇi boasts of having prevented the contamination of the four castes and of having been the true supporter of Brahmanas. The non-Aryan religious beliefs and traditions were rationalised and accepted.

After the fall of the Sātavāhanas, the east coast in general and that of the Coastal Āndhradesa in particular lost political stability. The region was divided into many watertight compartments and ruled over by petty dynasties like Vishṇukundins, Śalankayans, Ānandagotrins, Chālukyas, Pallavas, Brihatpalāyanas and a host of the petty chiefs. In the fourth century A.D. coastal Āndhradesa experienced the invasion of Samudragupta. This invasion brought a radical revolution in the realm of
society and religion. The Varna divided society was stabilized. Brahmanical religion overshadowed the heterodox Buddhism. It was during this time that several Sthala-purāṇas were composed. People from Magadha (Magadhakaḷas, the people of Magadha) were settled in the coastal region to revive Brahmanical religion. It is of importance to note that some of the Buddhist reliefs of the fourth century A.D. contain the representation of fire altars and ilīgās. This clearly show how gradually the Brahmanical religion was penetrating into the strongholds of Buddhism.

Grierson, regarding the penetration of Aryanism into eastern Deccan and South India, remarks that "we have the process before our eyes. Animism is discovered to be orthodoxy. Local aboriginal deities are discovered to be identical with Siva or some other member of the Brahmanical pantheon and the distinction of cast is conferred upon the converts. In other respects the aboriginal customs and beliefs are at first left untouched and are allowed to develop themselves into one or the many branches of modern Hinduism."

The migration of Brahmins and the Vedic religion to the Āndhra-dēśa from North India is also supported by the Buddhist literary works. As already stated above the Suttanipata relates the story of migration of a Brahmin by name Bāvari from Kōsala to south of Gōdāvari. Even the king of Kalingā honoured him by giving a large
amount of money for building his ārāma. 

The emergence of the Eastern Chājukyas of Vēngi, the Chōlas and the Kākatiyas to Warangal gave a migration boom to the Coastal Āndhradesa. The merchants and the trade guilds of Tamilnādu, Karnātaka, and the other parts of Āndhradesa started migrating to the Coastal Āndhradesa on a mass exodus. The reasons are not far to seek. The rich alluvial deposits, the flourishing trade and commerce and the relatively peaceful conditions that prevailed in the region were mainly responsible for the migration. The change of place names and the personal names attest amply to this impact. This aspect is discussed in detail elsewhere in thesis.

It is evident from the above discussion that the natural geography of Coastal Āndhra Pradesh has substantial significance, the long and unending Eastern Ghats with occasional breaks, minor mountain ranges and hillocks, the rivers, rivulets, minor water resources, minor valleys, diversified climatic conditions, and the bewildering wealth of Flora and Fauna form the very core of the natural geography of the region, under our survey. It shaped the society, conditioned the agrarian economy, fostered agrarian industries, determined the internal and external policies of the rulers and finally promoted both internal and international trade and commerce. In fine the society, economy, religion, polity and the cultural
patterns, of the coastal Andhradesa were determined and directed by the natural geography of that region.
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Besides, this island is now turned into a launching centre for space rockets by the Government of India. Thus the strategical importance of the region gained a new momentum and direction. The Buckingham canal, the gift of the East India Company, skirts its whole length. This further increased the trade and commercial value of the lake Nellore District Census report - 1961 p i ff.

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