The district of 24-Parganas is located in the southern part of Bengal Basin in Ganges Delta proper. The belt is extended from 21°-30' N. to 23°-15' N. latitude and from 88°-5' E. to 89° E. longitude, covering an area of 13,786 sq.km. and total population of 84,49,482 according to 1971 Census report. Being located well within the Tropics, the belt has warm tropical climate. Rainfall is also fairly high as to support the agriculture, particularly in the northern part of the district. The Southern portion is, however, covered by mangrove forest, typical of any estuarine saline marshy tract. Here this forest is called 'Sundarbans'.

The district encloses the Metropolitan City of Calcutta, Capital of the State of West Bengal. Alipur, a suburb of Calcutta, is the district headquarters of 24-Parganas. For administrative purpose, the district is divided into six Sub-divisions and each sub-division is placed in charge of a Sub-Divisional Officer (the S.D.O.). The Police administration of the Sub-division lies in a Sub-Divisional Police Officer (the S.D.P.O.) who works in closer co-operation with the S.D.O. The District Magistrate stands at the apex of the district administration.

The six Sub-Divisions of the 24-Parganas district are: (1) Sadar or Alipur; (2) Bongaon; (3) Barasat; (4) Basirhat; (5) Barrackpur; and (6) Diamond Harbour. Each Sub-division has its
headquarters at the towns bearing their respective names.

There are, according to 1971 Census, forty-five Police Stations and seventy municipal towns in the district.

The district derives its name from the number of 'parganas' or fiscal divisions, comprised in the Zamindary of Calcutta, ceded to the East India Company in 1757 by Mir-Jafar, the then Nawab Nazim of Bengal.

The 24-Parganas, which lies within the limits of the Gangetic delta, has a long and varied past. The Mahabharata, the Raghuvamsa and some of the Puranas contained references to this portion of the Gangetic delta. It is said that Ptolemy's map of the Second Century A.D., shows the south of the delta. In the 7th Century A.D., the district may have formed part of the land of 'Samatata'. The Chinese pilgrim Heuen Tsiang described 'Samatata' as a low-lying country bordering on the sea and rich in crops, fruits and flowers. 'Samatata' is also mentioned in the inscription of Samudragupta (360 A.D.).

In 1495 a'Ben^ali poet, Bipradasa, referred to several riverside villages from Bhatpara to Baruipur of the present 24-Parganas district. The 'Ain-i-Akbari', which embodied the rent-roll drawn up by Todar Mal in 1582, also contained references to the district. Sagar Island of the district, history tells us, was the most important seat of Hindu maritime power of Bengal during the rule of Pratapaditya, one of the Chiefs known

collectively as 'Barah Bhuiyas', who were nominally vassals of the Mughal Emperor, but actually enjoyed independence. Pratapaditya defeated the Mughal navy in a battle fought at the confluence of the Adi Ganga and Bidyadhari of 24-Parganas.

The English, the Portuguese and the Dutch settled in the district and fought several wars against each other. The Britishers, however, succeeded in establishing its hegemony in the district and then in the whole of Bengal. The district has, therefore, tremendous importance from the Geo-Political standpoint.

The industrial landscape of the district is particularly the gift of the Hooghli river. This river not only built up this region in the past, but also was helpful for industrial development on its sides by providing transportation facilities. Calcutta, capital of West Bengal and one-time capital of India (upto 1911), always had a centripetal attractive force for countrymen and foreigners to invest money in different industries. Transportation network always helped this belt to be well-connected with the coal-belt of Raniganj-Asansol and markets throughout India.

Agriculture, industry, forestry and other activities, all being important in this district, contribute to be one of the most interesting subject matters from the socio-economic point of view.

But the economic or social activities are largely influenced by the environment, directly or indirectly. The physical
environment, namely, relief, drainage system, coast-line, soil, forest and climate have some control over the socio-economic activities of man. In 24-Parganas District, it will be apparent in our study of the subject.

Geographically this district is a part of the Delta, formed by the Hooghli river. This is a vast low-lying plain having gentle slope towards the Bay of Bengal. The elevation of the terrain ranges from 15'—25' above sea level in the northern part of the district while in the Sundarbans, the tract low enough to be inundated by tidal flow. The landscape is monotonous as a whole excepting the man-made embankments along the banks of the rivers and along the railways or roadways. But elevation of the land is, to a certain extent, higher on the level by the side of the Hooghli river than the belts further away. However, the district can be divided into two physical units based on the degree of land-development. They are as follows:

(a) Mature delta, and (b) Active delta.

(a) Mature delta: The northern portions of the district are included in this belt. The river Hooghli and its distributaries have deteriorated to such an extent that new silt deposition, or in other words, land-development has become insignificant. The rivers here still carry a good deal of water from the local rain but, as a whole, are becoming more and more brackish or saline during dry weather.
(b) **Active delta**: The boundary between the active and mature delta is the line of the belts running east from Calcutta. The whole belt of the Sunderbans is included in active section of the delta. The rivers and creeks here are much more active for the aggravation of silts for the development of land. There is some debate as to whether the delta is still advancing seawards, or whether it is losing by marine erosion more than it gains. Local erosion undoubtedly exists but on the whole it would seem that accretion predominates.

The whole belt of active delta is cris-crossed by drainage lines in the Sundarban area and has a number of islands—big or small. Most important among them are—

(i) Sagar island in the mouth of the Hooghli;
(ii) Lothian island on the mouth of the Saptamukhi;
(iii) Bulcheri or Baluchari island between Jamira and Matla rivers;
(iv) Holiday island on the mouth of Matla; and
(v) Dalhousi island between Matla and Gosaba rivers.

The principal drainage outlet of this region is the Hooghly river running from north to south along the western boundary of the district. Other rivers of the region are the Ichhamati, Bidyadhari, Adiganga, Nadi, Jamuna, Piyali of which the Ichhamati is still noteworthy in its southern reaches while others are almost dead as drainage channels. In the Sundarban area, number of drainage channels are numerous. Matla, Raimangal, Gosaba, Haribhanga, Saptamukhi, Jakuran are other rivers, which owe their existence to tidal action.
The river Hooghli, once a formidable river, is no longer in its usual form as it happened to be even in the 16th Century. During that period, the Hooghli was the main channel of the Ganges and Jamuna, a left bank off-shoot of the main stream (between Kanchrapara and Kalyani) along with its spill-channels, Nawi, Sunti, Bidyadhari, Piyali responsible for the growth of the district. But sometime, Padma and as such Jamuna as its spill channels dried up. The conditions of the rivers have become such that all of them have been deprived of head-waters. Even the "take-off" of the Bhagirathi has been heavily silted to such a degree that it is connected with the Ganges only during the rainy months. The case is same with the Ichhamati. The discharge of the Hooghli is only dependent on Jalangi, Mathabhanga and Ajoy in the summer months while the Damodar water, after the construction of dams on it, is not a useful supplier of water for the trunk-stream. As a result, all the rivers of the district including the Hooghli has now been dependent on tidal flow. Though water is now coming from the Ganges through Farakka Feeder Canal belt, it is not significant in comparison with necessity.

The impact of the drainage problem on the socio-economic life of the people of the area is tremendous. Calcutta was a first class port even in the last century, but now the river Hooghly has become a problem and a main headache to the Calcutta Post Commissioners for keeping the navigation channel open.
throughout the year with continuous dredging involving great expenditure. As a result, other parts of India are getting preference over Calcutta for international trade.

The district of 24-Parganas is located within the tropical area and comes under the influence of South-West Monsoons during the summer. Rainfall is sufficiently high over the belt. Sagar island has total average annual rainfall of 174.75 cm. while Calcutta, in the central part of the district, has 160 cm. Rainfall is heavy from June to September. The winter months are almost rainless. Summer rain is sufficient for the growth of 'khariff' crops, particularly rice, in all parts of the district and jute in the northern part. The winter drought necessitates irrigation for 'rabi' crops. Rainfall decreases northwards from the south. Temperature also increases northwards in the summer. In the south, the influence of the ocean keeps the temperature down and as such, the temperature in May at Sagar island is 29.6°C while in Calcutta it is 30.3°C. Winter temperature is moderate. In January, average temperature in Sagar island is 19.2°C but in Calcutta, further north, it is 19.4°C. In the months of April-May and October, cyclonic activities occasionally strike the coast of the district and bring about destruction of crops, houses, etc.

In the northern part of the district, the soil is loamy - either sandy loam or claying loam. This is a fertile soil, yielding good harvest of rice, jute, etc. In the southern part, the marshy tracts are low enough to get saline water during high tide and the belt has become saline. This is true about the
whole of Sundarbans, Greater part of western Sundarbans has been reclaimed up to Freaserganj - Sagar island area by erecting earthen embankments along the banks of the rivers preventing the penetration of saline water inside the territory. But actual forested area of the Sundarbans is too saline and mangrove is the typical species of vegetation.

Broken coast line is always helpful for economic development. The coast line of the district is really asset to West Bengal. The Port of Calcutta, Canning and Diamond Harbour have been developed. Calcutta is still world-famous in spite of its present difficulties. Port Canning and Diamond Harbour are comparatively of little significance. In the estuarine portion, the lack of sufficient depth of water and forested unhealthy tract are not the good sites for port. So the inland river ports like Calcutta and Haldia have been given preference over others.

The Sundarbans are the main forested tract of the district covering an area of 3,089 sq. miles. Out of 3,089 sq. miles, 1,629 sq. miles are Reserve forest which includes the creeks and canals of about 732 sq. miles. Out of remaining 1,460 sq. miles, 1,000 sq. miles have been reclaimed for cultivation and settlement. Naturally, the actual forested area covers only a meagre of 897 sq. miles as Reserve forest and 460 sq. miles as other forests. The entire territory is the playground of the tidal currents bringing salinity in the top soil of the area and as such, the Sundarban forest is unsuitable for other various species of monsoon forest, but the mangroves can well adopt with such environment.
From time immemorial, Sundarban timbers are in practical use. The name 'Sundari' was as famous as the Royal Bengal Tigers, the royal fauna of the locality. But continuous and uneconomic exploitation of this forest resource have caused tremendous change in the layout of the forest which is continuously shrinking and giving place to agriculture.

Although the whole belt is markedly saline soil, the belt between the Matla and the Muriganga receives silt-laden fresh water and is fairly saline while the belt, east of the Matla, has the advantage of more active head-waters and is less saline. The less saline areas have Sundari. Sundari is found with better growth in Basirhat Range but decreases towards the west. Sundari is a very good building timber. These are supplied in abundance to Calcutta market specially for making umbrella-handles.

The more saline areas have low mangrove forest. Sundari and 'Golpatta' are almost absent. Growth of other species are also poor.

The use of the forest resources, as in the past, is still in indigenous form. Large-scale exploitation in a more scientific way is still lacking. For hundreds of years Sundari, Garan or Hintal woods, etc., are utilised as sticks, poles, roof-frames for 'kachha' houses and as fuel and are marketed at Hingalganj, Hasnabad, Basirhat, Port Canning, and Diamond Harbour, besides Calcutta. All these centres (excluding Calcutta) are not far away from the Sundarbans. It is apparent that due to high
salinity of the area, it may not be feasible to grow better mangrove varieties at the present moment, and as such, efforts are being taken to utilise the existing mangroves in a better way.

The barks of the Garan bushes, rich in tan, are potentially valuable. The other species like Pessur, Shundal, Kakra, Garjan, Math-goran are also rich in Tanning in their barks but Garan with as such as 37% tan in their barks are found every­where in the Sundarban. Tanneries in Calcutta have been using the Goran-barks for sometime though the quality is not maintained. Sundarban with its potential yield of 5,000 tonnes of mangrove bark can easily absorb a good number of workers in the trade. The demand of tan-stuff in Calcutta is 20,000 tonnes, maximum portion of which can be easily met from the Sundarban belt.

Agriculture is the dominant form of land use in the dis­trict of 24-Parganas excepting in the Sundarbans, where forestry play most important role. It is well-known that agriculture depends on climate, physiography and soil etc. Here in the dis­trict soil plays more vital role as climatic and other physical factors are almost similar everywhere. In the northern part, soil is fertile loam, which is most suitable for rice and jute culti­vation. In fact, in the northern part of the district, particu­larly in Bongaon, Barasat Sub-divisions and Baduria-Swarupnagar area of Basirhat, rice and jute are cultivated in large scale as summer crops. In winter, pulses, oilseeds and vegetables are also grown.
Towards the south, there is a tendency of mono-cultivation. This is particularly true in the reclaimed lands of the Sundarban area. Here rice is the dominant crop and only crop. At best, in the elevated portion, vegetables are grown to some degree during winter season.

The Sundarbans are divided into a number of 'lots' in 1830 for the development of reclaimed works, although first attempt to reclaim the land and settle the outskirts of the forested belt was taken up in 1770.

By 1887, the Sagar island was reclaimed and settled. Since 1915 'lots' were claimed by colonisation under Khasmahal management of Government directly. Mousini and Patibonia in Kakdwip Police Station were reclaimed in 1915.

Agricultural growth attracted early settlers to come over to this area and they got good returns from the reclaimed Sundarban belt. But their crops were really at the risk of being inundated by saline water. So attempts were made to erect embankments along the margin of creeks and channels. Such embankment system grew up rapidly since 1830. In such attempts, cultivators were liberally helped by the 'lotdars' and the Government. The growth of the embankment system was so rapid and popular that at present the total length of the embankments in 24-Parganas is about 2,200 miles. Not properly designed, the maintenance of these embankments have posed a serious problem and a breach here and there are but normal features.

It is seen that the embankments were really good for reclamation works in the past and agricultural returns were lucrative.
but the evil effects of immature reclamation has now come up in most places. The natural phenomena of land development has been checked by these embankments. The silt deposition has been confined to stream beds and as such, they are raised over the adjoining belts behind the embankment, where there is no silt deposition. During the high tides, water level of the tidal creeks goes to even 15'—17' above the sea level while the level of the ground is 10'—12' above sea level. Thus, it is understood that the land would be submerged if there were no embankments.

This system has affected the river-regime badly.

It is now well-recognised that these unscientific embankments must be replaced by some modern system. Under Sundarban Delta Project, West Bengal Government has planned to reduce the length of the embankment drastically—specially in the immature sections, and to construct the encircling dykes across the sastuaries between the Saptamukhi-Curzon Creek and Thakuran. They are expected to provide adequate protection of the sea tide to go inland and to convert the rivers to fresh water bodies. This plan is yet to be implemented.

Apart from Sundarban Delta Project, there are two other projects of West Bengal Government to be implemented shortly with a view to developing agricultural production. They are:

(1) East Magrahat Basin Project —In this project, the stagnant water of East Magrahat area is to be drained. For this, Barasat-Kata canal, Habra canal, Surjapur canal and Piyali river which have now been silted upto a great extent, are to be re-excavated. There would be sluice-gate at the confluence of Piyali
with Matla river. This basin, if completely drained, would bring green revolution. This is the expectation of the planners.

(2) Bil Balli Project — In the north of Basirhat Sub-division, Bil Balli area had an outlet in Bangladesh. But this outlet was closed by a dam across the Indian border during Pakistani regime. As a result, the water of the Bil has become stagnant and it is inundating adjoining agricultural belts during monsoon. In this project, a canal would be dug up south of Tentulia to drain out the water of the Bil and thereby to help agriculture.

Industries play a vital role in the economy of the people. The adjoining belt of Calcutta is particularly important for the development of diversified types of industry. In 24-Parganas district proper, this industrial region is stretching from Kalyani in the north to Birlapur in the south along the bank of the river Hooghli. It is needless to say that this river is mainly responsible for this elongated industrial belt on its banks. The economic infrastructure of the region is too helpful for such development. For example, (a) coal is brought from Raniganj, (b) railway and roadway networks afford easy transportation, (c) cheap labourers are always available, (d) raw materials are also available, (e) port facility is provided by Calcutta, and (f) supply of capital. For all these reasons industries began to develop at a rapid pace in the adjoining belt of Calcutta and by the side of the Hooghli river.
There are numerous jutemills from Naihati in the north to Birlapur southwards. Kakinara, Halisahar, Bhatpara, Jagatdal, Khardah, Panihati, Kamarhati, Baranagar, Budge-Budge etc. are other important industrial centres. Among the cotton-textile mills of this belt, Bhatpara, Garulia, Dum Dum, Panihati and Kamarhati are worth mentioning. Besides, there are paper mills at Halisahar, Alambazar, Titagarh, Kankinara, Ordnance factories at Ichapur, Glossipur, Dum Dum, Textile machinery building industry at Belghoria and engineering industries in South Suburban area and Dum Dum. Apart from all these, there are several types of light engineering works, electrical works, plastic and ceramic workshops, glass works, motor workshops, chemical works, match factories, saw mills and tanneries.

Virtually this belt has now become an important part of the great 'Hooghly Industrial Complex'.