CHAPTER – II
AN OVERVIEW

2.1. Introduction to the Region :

The Darrang district of Assam extending from 26°9’N to 26°40’ N latitudes and from 91°45’ E to 92°22’ E longitudes embraces the present case study area (Fig. 2.1). The district is surrounded by Udalguri district in the north, Sonitpur in the east, Kamrup in the west and south and Morigaon district in the south. The total geographical area of Darrang district is 1420.51 sq. km with a population of 908,090 in 2011 census. Its area has shrunk when the Udalguri sub division of the earlier Darrang district was upgraded to a separate district, namely Udalguri district on 10th February 2003. The present Darrang district comprises of six revenue circles, six development blocks, 18 Mouzas and 554 revenue villages.

2.1.1. Brief Historical Background :

The mythological origin of the word ‘Darrang’ is believed to be from the word “Dwaram” alluding to gateway to the Himalayas and the vast wilderness around. The present name of the district, Darrang might have been borrowed from the Daflas or Bhutias whose main ‘duar’ (pass) for coming to the plains from the Himalayas lay along the Barang River which they called ‘Duar ganga’ or ‘Duaranga’ leading to the present form ‘Darrang’ (Nath, 2005). Darrang was a part of Kamapitha of the four divisions of ancient Pragiyotish and later Kamrup of eastern countries of ‘zambudip’ or cultural India in epic age. It is to be noted that from 6th century A. D., Darrang was laid within Kamrup and was ruled by
three important dynasties – the Barmans, the Salastambhas and the Palas. Bhaskar Barman (594-650 A. D.) was the greatest monarch of Barman dynasty, during whose reign the Chinese pilgrim Hiuen Tsang visited the Kamrupa and wrote a detailed note appreciating the administration and the people of Kamrupa. Thereafter, different kings of Salastambhas and the Pala dynasties ruled over Kamrupa up to the 12th century A. D. King Joyapala excavated many big tanks on the western part of Darrang district.

Darkness prevailed in the history of Kamrupa including Darrang, after the downfall of the Paladynasty ending in Joyapala (1120-1138 A. D.). Towards the early 13th century, Darrang was administered by kings of Gouda dynasty. In 1498, Hassan Shah, the Nawab of Gauda, attacked Kamrupa and after his departure, Koch kings carved out a principality and king Nara Narayan brought Darrang district under his control in 1546. In 1616, Balinarayan was installed as Darrang- king with the help of the Ahom king PratapSingha under the surname of Dharmanarayan. Thereafter, sometimes with fame and glory and sometimes with distress and sorrow, the Koch kings administered Darrang district till the end of 18th century. But the darkest period of the district as well as Assam, was from 1818 to 1824, when the Burmese invaded Assam and perpetrated a reign of terror all throughout the region. Ultimately in 1826, under the treaty of Yandabu, Assam, including Darrang district came under the British rule. But the people of Darrang could not easily accept the British rule and on the pretext of protesting to pay the enhanced land revenue, they openly revolted against the British Government through a ‘Raij–mel’ (public meeting) in 1894 at Patharughat, where 140 people of different castes and communities shot dead by the British Military.
It was perhaps for this reason that Darrang was utterly neglected by the British Government during the subsequent period, which contributed much towards the backwardness of the district. It is to be noted that the Sipajhar revenue circle of Darrang district is very rich in its folk culture, popularly known as ‘Darrangi Kala Kristi’ which contributes to the richness of culture and civilization of the entire north east India.

2.1.2. The people and Economy:

Darrang District represents the anthropological museum of Assam which formed the main High-way for the people of the north and north east, who pushed into India from the time immemorial. Various intermingling racial elements have turned the place into a melting-pot. The Tibeto-Burmans of the Indo-Chinese stock, the Indo Aryan stock and their sub races mainly constitute the racial composition of people of this area. Thus Darrang district exhibits immense diversity with various socio cultural groups and it is reflected through their various mode of life (Goswami, 1997).

Agriculture is the main occupation of 80% people of the total population in the district. Out of total geographical area, 52.72% is devoted to agricultural activities. Rice is of key importance to the district’s economy and the people. Almost 68% of the grossed cropped area is under rice cultivation.

The kinds of crops cultivated and the amount of land used for agriculture is not uniform in all parts of the district. Darrang district like its counterparts in Assam produces a variety of crops such as food crops, fibre crops, oil seeds, pulses, fruits, vegetables, sugarcane, tea, tobacco and spices. Among them food crops predominate in major parts of the district.
2.1.3. Location of the Case Study Area:

The case study area is Sipajhar Revenue circle (Tehsil) of Darrang District. Being located in the south-western part of the district, it extends from 26° 09’ N to 26° 22’ N latitude and 91° 45’ E to 91° 52’ E longitude. It covers an area of 299.87 km² (29987 ha) comprising 89 villages, 14 Gram panchayats and 3 Mouzas, namely Sipajhar, Lokrai and Hindughopa Mouza. As per 2011 census the total population of the revenue circle is 1,22,937. The Sipajhar revenue circle is surrounded by Patharighat circle in the north, Mangaldai revenue circle in the east, Morigaon and Kamrup district in the south and Kamrup district in the west.

The word ‘Sipajhar’ is derived from the two terms the ‘Sipha’ referring to an ancient river passing through this area and the ‘Jhar’ to the shrubs grown on the bank of that river. Even in Vedic period places can be identified from the
names of certain rivers viz., Chifa, Anjachi, Kulsi and Birpatani. In Sipajhar mouza, the dead river course which now passes through Sipajhar village is believed to be the ‘‘Chifa’’ of Vedic period. The river Kulsi is still flowing through Rainakuchi mouza to the northern part of Sipajhar circle. The river Barnadi, the present western most boundary of Darrang district, might be the river ‘‘Birpatni’’. The present river Ahini in between Barnadi and Kulsi might be the river ‘‘Anjachi’’ mentioned in the Rigveda (Barua, 1973).

The Sipajhar revenue circle is popularly known as ‘rice bowl’ of the district where 70% of the total working population are engaged in farming activities. The net sown area of the circle is 21,217 ha which accounts for 70.75% of its total geographical area. Food crops comprising paddy and maize predominate the circle area. Paddy consists of three varieties of rice - winter rice, summer rice and autumn rice. ‘sali’ and ‘bao’ crops are included in winter variety, whereas ‘ahu’ & ‘Kharma’ are included in the autumn rice and ‘boro’ paddy in spring or summer rice. Paddy cultivation accounts for 82% of the total net sown area. To some extent traditional varieties of winter rice are still grown in the Sipajhar region while summer rice, boro paddy comprises high yielding variety. It is to be noted that indigenous varieties of rice have been traditionally preserved by some peasant communities of certain villages of this circle. Apart from rice, oilseed comprising mustard and seasamum, different varieties of pulses, wheat, sugarcane, vegetables and spices are cultivated by different farming communities of the Sipajhar circle area.
2.1.4. Physical background:

Physiographically, the district Darrang is a part of the Brahmaputra river valley. It consists of the alluvial deposits brought down by the Brahmaputra river and its tributaries originating from the Bhutan and Arunachal Himalayas. In
general, the configuration of the region is that of a large open plain with an average elevation of 75 metres from mean sea level. The plain slopes gradually southwards to the Brahmaputra River. Although it is a plain area, local differences in elevation are found in several mouzas of the district. Among the mouzas, Pub Dalgaon, PachimDalgaon, PachimSialmari and Sambari have higher grounds, while Lokrai, Hindughopa and Rangamati and parts of Sipajhar have more low grounds easily prone to flood. The south western corner of the district lying in SipajharMouza is occupied by some low hills having maximum height of 200m. In general the whole district may be divided into three physiographic units - the active flood plain and char, the marshy and lowlying area with some low hills and the built up region with high and low plains.

The Sipajhar circle comprising the three mouzas i.e.-Lokrai, Hindughopa and Sipajhar and fourteen panchayats consist of part of the all three physiographical units of the district (Fig. 2.2). These are as follows -

(a) The active flood plain and char :

This is a riverine zone lying between the high and low water marks of the Brahmaputra River. There are number of chars (strip of sand bars) formed in this region caused by frequent shifting of the courses of the tributaries at their confluences with the Brahmaputra. Kirakata char is the largest char in the Sipajhar circle. These chars are either government garabad or village grazing reserves. Kirakata, Dhalpur, Aparia etc. are the villages of this physiographic unit which are mostly inhabited by non-indigenous muslim and hindu refugees. The whole of the char area is dotted with many beels and undulating lands. The entire region is covered with alluvial deposits of recent and sub recent origin.
The alluvium of the area are consisted of loosely consolidated sands, clays and silts. Except two isolated low hillocks, namely Dhalpur and Aparia that stand out in the char, the whole unit is physiographically a level plain interspersed with few streams. The digital elevation model (Fig. 2.3) clearly shows the elevation characteristics of the topography of the study area.

(b) The marshy and low-lying area with low hills:

The marshy and low lying areas are lying near the Brahmaputra and to the south west of Sipajhar area. These marshy areas are shallow pools of past depressions formed by the Nanoi and the Barnadi rivers. To the extreme south west of the circle, between the Nanoi and the Barnadi rivers there are some hills and hillocks namely Kurua, Mailata, Ganesh, Baman, Khalihoi, Gakhirkhoa, Silar Chotal and Barar Pahar at Bheheni Chapari, Baman Pathar, Kuwariagaon, Khalihaigaon, Khanapara No.2 and Salmara village. The hills attain a maximum height of 200 metres above mean sea level. About 8km east of Kurua hills there lies Dhalpur hillock in the Char areas.

(c) The middle plain of the built up region:

This region extends over 80 km in length from Barnoi to panchnoi and about 10 km in width in the whole district. The whole Lokrai and Hindughopa mouza and the northern part of Sipajhar mouza constitute the built up region of the Sipajhar circle which is a thickly settled areas of the region. The National Highway No. 15 passes through this built up region of the north bank of the Brahmaputra valley. The plain of built up region is composed of old alluvium soil with high fertility. The region is crossed over by some tributaries of
Brahmaputra River coming down from the Himalayas. These streams deposit sediments every year and thereby make the region a fertile plain.
2.1.5. Drainage and water bodies:

The drainage system of a region has significant impact on the physiography of the area. The immediate south bank of the Brahmaputra being the southern boundary, a portion of this river is included within the Sipajhar region. The total length of the Brahmaputra flows for about 725 km down the Assam valley in a vast sheet of water dotted with numerous sandy islands or *chars*. The two tributaries flowing through the western part of the study area are Barnadi and Nanoi (Fig. 2.1). The Barnadi which originates in the Bhutan hills forms the western boundary of the district as well as the revenue circle draining into the Brahmaputra. During the rainy season the Barnadi inundates a considerable portion of land situated in the western and eastern part of it. The river Nanoi has also its origin in the Bhutan hills and it passes through the central part of the revenue circle and falls into the Brahmaputra. The length of the river within the study area is approximately 20km. Apart from these two tributaries of the Brahmaputra the eastern part of the Sipajhar revenue circle is drained by another major tributary of the Brahmaputra, Saktola river which forms the eastern boundary of the circle.

A number of 'Beels' (shallow pools of water) and marshes are situated in the central and south western part of the Sipajhar region adjacent to the river Brahmaputra. The important beels of the study area are–Pukhuria, Baro, Mailata, Diplinga, Gathia, Batha, Tupurachala and Badiasisa. The beels and marshes are considered to be the creation of shifting courses of the river Brahmaputra and its tributaries.
2.1.6. Climate:

The physical factor, climate determines the agricultural land use and agricultural pattern of farm activity and crop production. The success or failure of the crop cultivation is determined by the climatic condition. Like in other parts of Assam, monsoonal climate prevails in the district. In general, climate plays an important role in agricultural setting and arrangement of crop season in the district. There is heavy rainfall in summer and dry weather in winter. These two seasons are separated by pre monsoon and retreating monsoon which are transitional in characteristics between the former two seasons.

The climate of the study area is influenced by (a) South-west monsoon wind which blows from south-west in summer and (b) The north-east monsoon wind which blows in winter from north-east to the study area. The winter monsoon is mostly dry but the summer monsoon is hot and humid. The summer monsoon rainfall determines the water supply round the year and it effects in the agricultural production of the district. Accordingly two crops – kharif and rabi are closely related to the summer and the winter monsoon seasons respectively. However irrigation is another factor influencing cropping pattern. The dry period comprises from November to May and the wet summer comprises the remaining months of the year, i.e. June to September.

Depending upon the variations of climate, the year may be divided into (a) The Cold Season (December-February), (b) The Hot Season (March-May), (c) The Rainy Season (June-September) and the retreating monsoon (October-November).
(a) The Cold Season (December-February)

The cold season comprises of months from December to February. The temperature of the circle begins to fall from the end of November and is lowest in January. The average rainfall ranges from 0.33 cm in the month of December to 2.25 cm in February. From North-east to South-west cold and dry winds blow over the plain area when relative humidity remains least. The number of rainy days in the season is three to six days only. Sometimes the thunderstorms are accompanied with hails and it affects on rabi crops.

(b) The Hot Season (March-May)

The cold season is followed by a season of thunder storm from March to May, which constitutes the pre monsoon period. The local wind Bordoi/chila blows with great velocity of 30 to 40 Km per hour over the region during the season.

From March to May, the temperature begins to increase and the weather is hot during these months. The mean maximum temperature in May is between 29.8°C and 34.1°C and the mean minimum ranges from 17.5°C to 23.1°C. The weather is hot and dry for high temperature and the relative humidity is comparatively less in this season. In this season amount of rainfall ranges between 3.31 cm to 9.13cm which is erratic in nature with high variation and it is therefore, inconsistent.

(c) The Rainy Season (June-September)

During these months (from June to September) the weather changes abruptly for the monsoon. Due to the increase of rainfall, the temperature falls gradually from June to August. The rainfall rises from April (18.21 cm) onwards
and in the month of June it reaches the peak in amount of rainfall, being 41.08cm. More than 75% of the total annual rainfall is received during the period of south west monsoon.

The ground water level increases during the month of April and May. By end of May rain water accumulates in the dry beds and low lying areas. Heavy and incessant downpour begins from the first week of June and it overflows the rivers and drainages and as a result of which flood occurs in the low lying areas and the active flood plain region of the area. The flood damages the cultivation of *ahu*, Jute and also *sali* paddy. From the month of September the relative humidity decreases with the decrease in rainfall. During this month, low rainfall helps the maturity of *Kharif* crops and growing of *rabi* crops. If the rainfall occurs continuously in the month of September then flood occurs and destroys the standing crops, the life and property.

**(d) The Retreating Monsoon (October–November)**

From the last of September to November, the retreating monsoon starts. The season continues up to the middle of November. In this season, the intensity of rainfall and number of rainy days decrease. The moderate rainfall and temperature favour the sowing of *rabi* crops.

Though the study area is not a big one, the spatial variation of climatic characteristics is distinct. There are also some invariable characteristics of the monsoon which hamper timely operation of agriculture by the farmers in the district. These are as (i) Heavy and delayed monsoon causing damage of *kharif* crops and sowing of *rabi* crops uncertain, (ii) Prolonged breaks of rainy days in the summer damaging crops, (iii) Continuous drought prevailing throughout the
winter months, (iv) Erratic monsoon rain sometimes falling in heavy downpour for several days together leading to flood havoc, soil leaching and soil erosion resulting in the removal of soil fertility, (v) Occasional light and inadequate rainfall. Therefore, it may be said that irrigation is essential for assumed supply of water to the crops for regular supply of water.

2.1.7: Soil and Natural Vegetation:

Soil is one of the most important physical factors for agricultural development. Broadly, the soil of the whole Sipajhar region is constituted by alluvial types of soil. But owing to the action of the drainage, climate and the geological stage of the formation of the landscape, three types of soil are identified. The river Brahmaputra has deposited huge amounts of silts and sediments on the neighbouring areas, particularly towards the south of the study area. So this type of **new alluvium soil** composed of silt, sand, clay and humus is suitable for growing of variety of crops. On the other hand the middle plain of built up region is composed of **old alluvium soil**. The south western corner of the region located in between the Barnadi, Naino and the Brahmaputra in the south is made up of **laterite and black soil**, intermingled with new alluvium. The char areas of the Brahmaputra are occupied by alluvium of recent origin. Every year silts are deposited layer after layer. So this part of the region is most fertile for cultivation of rabi crops. Formerly the area had many vacant places covered with tall reeds and grasses and were used by cattle and buffalos rearing farmers of nearby areas. Now these places have been settled by immigrant peasants.
The natural vegetation of the Sipajhar region is mainly comprised of evergreen and mixed moist deciduous vegetation. The important species of evergreen vegetation found in the study area are Nahar (*Mesuaferrea*), Khair (*acaciaacetechu*), Ajhar (*Lagestraemiaregineee*), Kathal (*Artocarpusinegrifolia*), Sonaru (*Cassia fistula*), Gomari (*Gmelinaarborea*) and Urium (*Bischoffiajavanica*). Apart from these, a number of deciduous species are available in the area. They include species like Bhelu (*Tetramelesmudflora R.Br.*), Udal (*SterculiavillosaRoxb*), Outenga (*DilleniaIndica L*.), Simul (*Bombaxmalabaricum DC*), Koro (*AlbizziaproceraBenth*) etc. Riverine forest are found along the river banks all throughout the region. The important species of this type are Koro and Simul. The swampy tracts and low lying areas are covered with riverine forest, grass, bamboo grooves, canes and reeds.