

Chapter-2

Geographical profile of the Terai region of
Darjeeling and Jalpaiguri districts of West Bengal

2.0 Introduction: the study area encompasses two districts Darjeeling and Jalpaiguri covers a narrow strip of Himalayas foothills. The eastern and western boundary of the study area is demarcated by river Mechi and Teesta. On the other hand, the southward boundary bounded by river Mahananda. Administratively the study area covers six Community Development blocks among them four blocks i.e. Matigara, Naxalbari, Kharibari, Phasidewa fall in Darjeeling district and remaining two blocks i.e. Rajganj and Jalpaiguri Sadar area in Jalpaiguri district. The region covers an area of 1910.28 square km with a total population of 1244635 (Census of India, 2011). The average density of population is 670 persons per sq km. The region also consists of 48 Gram Panchayat and 8 Police Stations. In the study area, the total numbers of register tea gardens are 53 where 46 tea gardens in Darjeeling and the remaining 7 tea gardens in Jalpaiguri.

2.1 Physical set-up

2.1.1 Boundaries: Since Terai located in the foothill of Himalayas. So, the study area i.e. Terai of Darjeeling and Jalpaiguri also located in the foothill. The northern boundary demarcated by Darjeeling hill, Eastern boundary bounded by river Teesta, the western boundary of the region demarcated by river Mechi flowing as a boundary between district Darjeeling and Nepal and the southern boundary demarcated by Mahananda river and Bangladesh boundary. Geographically region bounded toward the east by river Teesta and westward by Nepal followed by a ridge which also demarcated a boundary of the plain (Terai) of the south-west corner of the district (Dash, 1947).

❖ **Natural Configuration:** The territory within the district not marked by any natural feature as a region but its altitude ranges from 300-12000 feet above MSL. Generally, terrain stretches along foothills with a low lying strip. Geographically it belongs to a plain composed neither by alluvium nor rocks of the hills but its great part comprises with alternating beds of sand, gravel and boulders come from the mountain and covered with a forest of *Sal* (*Shorea Robusta*) (O'Malley, 1907).

❖ **Natural Division:** Normally Terai comprises a tract which falls in two administrative districts i.e. Darjeeling and Jalpaiguri characterised by the hills of the ridge and deep valley of lower Himalayas. Yet, it is a low lying belt has numerous rivers and streams flowing down from hills. It covers with an unhealthy, marshy tract, formerly covered by dense mixed jungles. The aboriginal tribes such as

Meches, Dhimals and Koches cleared and cultivated their scanty crops of rice and cotton. Gradually, the jungle is extensively cleared for developing tea garden and settled down. In Terai, the altitude is 300 feet from MSL (Mean Sea Level) where its upper part (loftily spurs) reaches 6000 feet to 10000 feet with top to bottom (O'Malley, 1907). In a high elevated portion of Terai, tea gardens are mostly developed but in a lower portion, cultivated land and homestead with shady groves of Bamboo plantation are developed.

2.1.2 Drainage System: Many rivers flowing over the study area. The Rivers in the study area originated from hills and flows southward where west to East Ridge leads a series of Teesta river tributaries (Dash, 1947). The rivers named Teesta, Mechi, Balason, Mahananda are drained in the study areas. (O'Malley, 1907). A short account of rivers are given below---

❖ **Teesta:** Teesta is the main river in the study area and also demarcated the eastern boundary of the study areas. River Teesta rises from the glacier of North Sikkim which is 21,000 feet above MSL (Dash, 1947) and flows southward and debouches on plains through a gorge known as 'Sivok Gola Pass'. Although it passes along with a short course in Darjeeling-Terai and enters in Jalpaiguri district. Finally joined in river Brahmaputra of Rangpur district of Bangladesh. The important tributaries are Rangpo and Rilli (on the left bank) and Great Rangit, Riyang (on the right bank) (Gruning, 1911).

❖ **Mahananda:** The Mahananda rises near Mahaldiram of Eastern Kurseong. It flows southward at Siliguri and changes its course to the westward and forms a boundary line between Terai and Jalpaiguri as far as Phansidewa which is the extreme south-east portion of Darjeeling district (O'Malley, 1907). Mahananda also passes through Purnea, Maldah and finally falls into river Ganga. The river does not receive any important tributaries in Darjeeling and only imprints its fall volume after leaving the district. Although Mahananda is Bengali name and originated from 'Mahaldi' given by Lepcha. (Gruning, 1911).

❖ **Balason:** The river Balason rises at Lepcha-Jagat a few miles from south-west of Darjeeling station. It flows southward and enters in Terai. Their course divided into two streams new Balason branches off and joins to Mahananda just below

Siliguri. Another stream is old Balason continue flows southward till passing out Terai and finally joins to Mahananda at Purnea. The principal tributaries of river Balason in the hill are Rinchington (on the left) and Rangbang (on the right) and in the plain, Rakti and Rohini (on the left bank) (O'Malley, 1907).

❖ **Mechi:** The river Mechi rises from Rangbang spur of Singalila ranges on Nepal frontiers and flows southward and demarcate the western boundary of the study areas. It enters in Terai and divided into two branches at lower Mechi forest and finally joins to Mahananda in Purnea district (O'Malley, 1907). The extreme western boundary demarcated by Mechi River, with Nepal, whose chief tributary comes from beyond the frontier.

2.1.3 Geology: The Terai is located at the foot of Himalaya which is formed with horizontal layers of unconsolidated sand, silt, pebbles and gravel (Dash, 1947). The northern part of Terai consists with similar layers but comparatively well-cemented and more compact alluvial (i.e. soft, grey and massive sandstones, mudstones, shales, mottled clays, conglomerates and subordinate bands of earthy limestone and lignite). The rocks mostly belong to Tertiary age and Nahan stage of Siwalik Himalaya where materials were laid down along the foothills. The old river systems drained along foothills (Dash, 1947). So, geographically Terai with alluvial deposits, coarse gravels, sandy clay, sand along the course of rivers where fine sandy clay found in the flatter part of the riverbank (Gruning, 1911).

2.1.4 Climate: There is found a variation in climatic condition in the study area and its surrounding. The sub-tropical climate found in foothills but temperate climate reported in higher altitudes. (HADP in Assam & West Bengal, 2010).

A wide variation in a climate found in different parts of Darjeeling and Jalpaiguri districts not only for differences of altitude where temperatures vary 3 degrees Fahrenheit per 1,000 feet in different altitudes of the region and its neighbour mountain which deflect winds and affect on rainfall and temperature. Since Terai of Darjeeling and Jalpaiguri is low altitude so whether directly affected by plains. Although the climate in the northern parts of the study area depends on shape and altitude of local mountainous masses (Dash, 1947). The temperatures also varied with altitudes. In the Terai, the maximum temperature recorded 104.0°F and the minimum is 36.0°F. But in

the northern part at Darjeeling town, the maximum temperature recorded in June (80.1° F.) and a minimum of 19.9° F in February (Dash, 1947).

2.1.5 Forest and Vegetation: There are several forests in the study area which are conserved under forest department. The forest of the study areas are as following

❖ ***Mechi forest:*** Covers an area of 1183 acres with full of Sishu and Khayer trees. This tract found at the bank of the river Mechi comprises a low flat with sandy and stony ground and almost inundated yearly.

❖ ***Loharghar Terai:*** Loharghar Terai forest is at foot of the lohaghar hills. It is a small tract with slight hills comprises sandy soil with heavy grass jungle.

❖ ***Balason:*** Sishu and Khayer forest reported on the bank of river Balason River although not found full of grass and timber while mostly covers Khayer than Sishu. The timber on this tract not found so much and most of the trees are hollow. During the rainy season, flood-carrying down stones and rock which hurt to young trees and knocking off the barks.

❖ ***Garidhara:*** Garidhara is a small patch of sishu and other jungles found. On the bank of the Rakti river. This tract is a flat and sandy piece of land composed of the old bed of river Rakti.

❖ ***Rangmati:*** Rangmati tract extending from Rakti jhora to Sukna a narrow strip of 1850 acres covers with few young sal trees, but not found matured timber of any kind. The widest part of this tract at Sukna composed with dark and rich soil. But at Rakti, the land is low, damp and well-drained full of heavy grass jungle and common jungle trees.

❖ ***Murgao jhar:*** This tract extended from Sukna to Mahananda river at the foot of the hills composed with well-drained land of rich soil. In this tract, heavy grass jungles with a few young sal trees are found but no matured timbers are found due to continuous cutting of trees. Even many patches have been cleared and converted into cultivated land by Meches and uncivilised races. They wander from place to place for their livelihood but not stay more than two years in one place.

❖ ***Champersari Jhar:*** This tract extends from the Mahananda to Sevak on the bank of river Teesta comprises an area of 7557 acres. Although there is no matured timber is found in this track due to cutting full grass trees and timber. Only a few patches of young Sal are found scattered here and there.

❖ **Dhalka jhar:** This tract comprising 5059 acres where a large portion of it is low and swampy land. No timbers are found because of cutting all the matured timber by contractors. Although some patches of brushes and masses of valuable canes-brakes are found in this tract.

2.2 Cultural Set up:

2.2.1 Population: The total population of the study area is 157459 and 181492 according to 2001 and 2011 census respectively. Where the decadal growth rate of the population shows positive i.e. 13.24 per cent. Although the growth rate in the tea gardens of Darjeeling and Jalpaiguri is 18.28 per cent and 7.95 per cent respectively, District Jalpaiguri is much lower than Darjeeling. But decadal growth of female population is higher than the male population in the tea gardens areas of Darjeeling (20.54%) and Jalpaiguri (9.58%). (Table 2.1).

Table 2.1: Population and Decadal growth

Year/Region	Population (2001)			Population (2011)			Decadal Growth Rate (%)		
	T	M	F	T	M	F	T	M	F
Terai	157459	80971	76488	181492	91376	90116	13.24	11.39	15.12
Darjeeling	75992	38606	37386	92992	46119	46873	18.28	16.29	20.24
Jalpaiguri	81467	42365	39102	88500	45257	43243	7.95	6.39	9.58

Source: DCHB of Darjeeling & Jalpaiguri District, 2001 & 2011

T= Total, M=Male, F=Female

The 0-6 population of the study area indicates fertility behaviours as well as population pressure. Although the decadal growth rate of 0-6 population is 11.16 per cent (Table 2.2) whereas the growth rate of male and female is 11.00 per cent and 11.32 per cent respectively.

Table 2.2: Decadal growth rate of 0-6 years population

Year/Region	Population (2001)			Population (2011)			Decadal Growth Rate (%)		
	T	M	F	T	M	F	T	M	F
Terai	22201	11331	10870	24990	12732	12258	11.16	11.00	11.32
Darjeeling	11513	5909	5604	11799	5942	5857	2.42	0.56	4.32
Jalpaiguri	10688	5422	5266	13191	6790	6401	18.98	20.15	17.73

Source: DCHB of Darjeeling & Jalpaiguri District, 2001 & 2011

T= Total, M=Male, F=Female

It is also remarkable that the decadal growth rate is much higher in tea gardens of Jalpaiguri (18.98 per cent) than Darjeeling (2.42 per cent). In Darjeeling, the decadal

growth rate of the female is higher (4.32 per cent) than male (0.56 per cent). But in Jalpaiguri, the decadal growth rate of male is higher (20.15 per cent) compare to female (17.73 per cent).

2.2.2 Ethnicity: Since different religious people are working in tea gardens of Terai so found variation in their ethnicity (Table 2.3). There are found the total population 51.24 per cent and 48.76 per cent total population in the tea gardens of Darjeeling and Jalpaiguri. Although the STs population is higher (37.45 per cent) than SCs (30.49 per cent) and Non-SCs/STs (32.06 per cent). In Darjeeling, the STs population reported more (28.32 per cent) than SCs (5.73 per cent) and Non-SCs/STs (17.19 per cent) population. But in Jalpaiguri, the SCs population is much higher (24.76 per cent) than the Non-SCs/STs (14.87 per Cent) and STs (9.13 per cent).

Table 2.3: SCs and STs Population of Terai region

Region	Population				Population in %			
	Total	SCs	STs	Non-SCs/STs	Total	SCs	STs	Non-SCs/STs
Terai	181492	55338	67963	58191	100.00	30.49	37.45	32.06
Darjeeling	92992	10399	51390	31203	51.24	5.73	28.32	17.19
Jalpaiguri	88500	44939	16573	26988	48.76	24.76	9.13	14.87

Source: DCHB of Darjeeling & Jalpaiguri District, 2001 & 2011

2.2.3 Sex Ratio: Sex Ratio is one of the important demographic features of the population which expressed the proportion of women to men. In India, the sex ratio has been measured by a number of female per 1000 male, where higher the sex ratio indicates the absence of gender disparity and declining on son preferences. In the study area found a tremendous increase in sex ratio from 945 female per 1000 male (2001) to 986 female per 1000 male (2011) where the sex ratio is high in the tea gardens areas of Darjeeling i.e. 1016 female per 1000 male and in Jalpaiguri, it is 955. Although the highest sex ratio is found in Darjeeling district over the West Bengal as per 2011 Census (Table no 2.4).

The child Sex ratio of the study area is less than (963) total sex ratio (986). The higher child sex ratio was found in tea gardens of Darjeeling (986 in 2011) where Jalpaiguri possesses 943 (Table 2.5). Whereas decreased child sex ratio from 2001 (971) to 2011 (943) has been observed in the tea gardens of Jalpaiguri.

Table 2.4: Sex ratio of the study area

Year/Region	Population (2001)			Population (2011)			Sex Ratio	
	T	M	F	T	M	F	2001	2011
Terai	157459	80971	76488	181492	91376	90116	945	986
Darjeeling	75992	38606	37386	92992	46119	46873	968	1016
Jalpaiguri	81467	42365	39102	88500	45257	43243	923	955

Source: DCHB of Darjeeling & Jalpaiguri District, 2001 & 2011

T= Total, M=Male, F=Female

Table 2.5: Child Sex Ratio of the study area

Year/Region	Population (2001)			Population (2011)			Child Sex Ratio	
	T	M	F	T	M	F	2001	2011
Terai	22201	11331	10870	24990	12732	12258	959	963
Darjeeling	11513	5909	5604	11799	5942	5857	948	986
Jalpaiguri	10688	5422	5266	13191	6790	6401	971	943

Source: DCHB of Darjeeling & Jalpaiguri District, 2001 & 2011

T= Total, M=Male, F=Female

2.2.4 Literacy: Education is the main instrument for the overall development of a nation that helps in every aspect of life (i.e. social well being). Education helps women to take proper decision in marriage, health, children health, mobility to go outside etc. So without higher educational attainment, it is not possible to develop society. In the study area (Table 2.6) the overall literacy rate was found 56.21% where the male and female literacy rate was 67.23% and 44.51% which indicates gender disparity where male person or son preferences were emphasised which is reported in the tea gardens of Darjeeling (42.08%) and Jalpaiguri (46.86%). It is also a region found that both male and female literacy was high in Jalpaiguri region compare to Darjeeling of the study areas.

Table 2.6: Literacy rate of the study area, 2011

Region	Literate			Literacy in %		
	T	M	F	T	M	F
Terai	107780	60698	47082	56.21	67.23	44.51
Darjeeling	53900	30266	23634	53.30	64.14	42.08
Jalpaiguri	53880	30432	23448	58.95	70.07	46.86

Source: DCHB of Darjeeling & Jalpaiguri District, 2011

T= Total, M=Male, F=Female

2.2.5 Work Participation Rate: Workforce Participation Rates are useful for understanding people participation in economic activity. The workforce participation depends on stages of economic development of the country in respect of cultures, age groups, gender. But in the study area, the tea industry is labour intensive so work participation is much higher than any other organised industry.

Table 2.7: Work participation Rate

Region	Work participation			Work participation %		
	T	M	F	T	M	F
Total	75355	48397	26958	100.00	64.23	35.77
Darjeeling	39608	23301	16307	52.56	30.92	21.64
Jalpaiguri	35747	25096	10651	47.44	33.30	14.13

Source: DCHB of Darjeeling & Jalpaiguri District, 2001 & 2011

T= Total, M=Male, F=Female

In the study area, male work participation is much more (64.23 per cent) than female (35.77 per cent). In Darjeeling, the work participation is 52.56 per cent whereas the male is 30.92 per cent and remaining 21.64 per cent is female. On the other hand, the work participation rate is 47.44 per cent in Jalpaiguri whereas male and female work participation rate is 33.30 per cent and 14.13 per cent respectively (Table 2.7).

Table 2.8: Work participation in the study area, 2011

Region	Main Workers			Marginal Workers			Non-workers		
	T	M	F	T	M	F	T	M	F
Terai	56622	39889	16733	18733	8508	10225	106137	42979	63158
Darjeeling	29190	18496	10694	10418	4805	5613	53384	22818	30566
Jalpaiguri	27432	21393	6039	8315	3703	4612	52753	20161	32592

Source: DCHB of Darjeeling & Jalpaiguri District, 2011

T= Total, M=Male, F=Female

The pattern of main, marginal and non-workers is expressed by table no 2.8. In the study area, the number of main workers (work more than 180 days) is 56622 whereas the number of males is much more than female. The numbers of marginal workers (works less than 180 days) in a year is 18733 whereas female is higher than male. Among non-workers (who are not yet workers or searching their work) female is higher than male. On the other hand, in Darjeeling number of main and marginal workers are

29190 and 10418 (whereas female workers are much more than male workers). The number of Non-workers is 53384 whereas female and male is 30566 and 22818. In Jalpaiguri, the total number of main and marginal workers is 27432 whereas the male workers are higher than female. On the other hand, the number of Non-workers is 52753 whereas the female workers are higher than male workers.

2.3. Conclusion: The physical setting such as Relief, drainage, climate, soil, vegetation and the cultural settings such as population, religion and work participation of the study areas influence the tea plantation which is the main industry of the region and contributes a lot for developing the regional economy. Since the Terai of Darjeeling and Jalpaiguri belongs to foothills, marshy land with thin and mixed jungles. But after the development of tea gardens, the region becomes more resourceful physically and socio-economically. Since the local indigenous people were unwilling for working in tea gardens because wages were very nominal and they are engaged in agricultures so, labour crisis exists, so planters inclined more for recruiting labours from outsides and labourers are recruited as family basis due to intensive labourers industry which abruptly changed the demographic aspect of the region and most of the people belong to tribal communities. Socio-economically they are mostly backward due to isolated, disadvantaged and weaker section in society. Yet the work participation was high as most of the family members are recruitment although their wage structure is very poor to live.

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