Chapter – IV

District Wise Variation in the Socio-Economic Status and Human Development in Assam

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4.1 Introduction

Socio-economic status is associated with the socio-economic variables income, occupation, literacy, health and other facilities for the living condition. It reflects the position of a person or a society or a region relative to others in terms of socio-economic variables. Different levels of socio-economic variables indicate different level of socio-economic status. The regional variation in terms of socio-economic variables leads to a variation in socio-economic status. Better socio-economic variables of a region represent better socio-economic status. The socio-economic status may be estimated in terms of the Socio-Economic Index (SEI) using various socio-economic variables. The first section of this chapter is an attempt to study the variation of socio-economic status across the districts of Assam. For this purpose, we estimate the SEI of the districts to compare the district level socio-economic status using the method of Principal Component Analysis (PCA) based on secondary data.

Moreover, the regional variation in the socio-economic status may be verified with overall human development to confirm the factors governing socio-economic status in the region. Human Development Index (HDI) is a multidimensional measure of human development measured in terms of socio-economic and demographic variables. More specifically, HDI is a composite index measuring average achievements in three basic dimensions of human development- a long and healthy life, knowledge and a decent standard of living (Human Development Reports, 2003). While calculating HDI, the UNDP investigates all the socio-economic variables as functioning space for estimating the three basic capabilities- longevity, knowledge and living conditions. Thus, the HDI indicators may be used as the units of measurement for analysing the socio-economic status. Therefore, in the next section just after the first section of this

chapter, we compare the district level SEI with their HDI based on secondary information.

Assam is the largest state in terms of population among all eight states of North East India- Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura. The geographical area of Assam is 78,438 sq. km. and it is 2.4 percent of the country's total geographical area of 3287240 sq. km. (Census 2011). According to Census, 2011, Assam had 27 districts. However, at present, Assam has 33 districts including 6 newly created districts viz. Biswanath, Charaideo, Hojai, South Salmara, West Karbi Anglong and Majuli. But this study considers earlier 27 districts based on Census, 2011 due to non-availability of secondary data of newly created districts. Most of the areas of Assam (98.4%) were rural areas. Similarly, most of the population (85.9%) lived in rural areas while only 14.1 percent of the population lived in urban areas. The density of the population in Assam was 398 persons per sq. km (Table 4.1).

4.2 Socio-Economic Variables

Depending upon the availability and accessibility of data at the district level, we have selected twenty socio-economic variables which are stated in Table 3.3 in the methodology Chapter-III. The socio-economic variables have been categorized under three broad categories- demographic variables, social variables and economic variables. Now, we compare district-level secondary information on these socio-economic variables one by one.

4.2.1 Population

According to Census, 2011, the population size of Assam is 3.12crs and it is 2.6 percent of the total population of the country (Table 4.1). The distribution of population among the districts of Assam is not uniform. The co-efficient of variation of the distribution of the population is 46.03 percent across the districts of Assam. Again there is variation between BTAD districts and Non-BTAD districts regarding the distribution of the population. The distribution of population in BTAD districts varies with 23.02 percent of co-efficient of variation

which is relatively lesser than that of 43.89 percent of co-efficient of variation in the Non-BTAD districts.

Table 4.1 District Wise Population in Assam, Census 2011

Districts		Area in Sq. km.	Population 2011	Decadal Growth Rate 2001-2011 (in %)	Share to State Population (in %)	Density of Population
Baksa	BTAD	2457	950075	10.74	3.04	387
Chirang		1923	482162	11.34	1.54	251
Kokrajhar		3296	887142	5.21	2.84	269
Udalguri		2012	831668	9.61	2.66	413
BTAD		**9688**	**3151047**	**8.92**	**10.1**	**325**
Barpeta	Non BTAD	2282	1693622	21.43	5.43	742
Bongaigaon		1093	738804	20.59	2.37	676
Cachar		3786	1736617	20.19	5.56	459
Darrang		1585	928500	22.19	2.98	586
Dhemaji		3237	686133	19.97	2.2	212
Dhubri		2176	1949258	24.44	6.25	896
Dibrugarh		3381	1326335	11.92	4.25	392
Dima Hasao		4888	214102	13.84	0.69	44
Goalpara		1824	1008183	22.64	3.23	553
Golaghat		3502	1066888	12.75	3.42	305
Hailakandi		1327	659296	21.45	2.11	497
Jorhat		2851	1092256	9.31	3.5	383
Kamrup Rural		3105	1517542	15.69	4.86	489
Kamrup Metro		955	1253938	18.34	4.02	1313
Karbi Anglong		10434	956313	17.58	3.06	92
Karimganj		1809	1228686	21.9	3.94	679
Lakhimpur		2277	1042137	17.22	3.34	458
Morigaon		1551	957423	23.34	3.07	617
Nagaon		3973	2823768	22	9.05	711
Nalbari		1052	771639	11.99	2.47	733
Sivasagar		2668	1151050	9.44	3.69	431
Sonitpur		5204	1924110	15.55	6.17	370
Tinsukia		3790	1327929	15.47	4.26	350
Non BTAD		**68750**	**28054529**	**18.06**	**89.9**	**408**
Assam		**78438**	**31205576**	**17.07**	**100**	**398**
CV for BTAD		**22.45**	**23.02**	**26.01**	**23.08**	**21.48**
CV for Non BTAD		**65.99**	**43.89**	**25.24**	**43.88**	**50.92**
CV for Assam		**64.67**	**46.03**	**32.22**	**46.05**	**52.86**

Sources: Statistical Hand Book of Assam, 2019
Note: CV = Co-efficient of Variation

The highest population is found in Nagaon district (2823768) which is 9.05 percent of the state population. On the other hand, the lowest population is found in Dima Hasao district (214202) and it is 0.69 percent of the state population. Usually, the size of the district population depends upon size of the district. Though the Nagaon district is the second largest plain district with 3973 sq km in size next to Sonitpur district (5204 sq km), it is located in the middle of the state and so it may be a suitable location for living that people can easily reach the other places of Assam. Both Dima Hasao (4888 sq km) and Karbi Anglong (10434 sq km) are hilly districts and usually hilly districts have a lesser population than the districts of plain areas.

Table 4.2 Birth & Death in the Districts of Assam, 2016

Districts		Birth Rate	Death Rate	Districts		Birth Rate	Death Rate
Baksa	BTAD	16.3	3.2	Kamrup Rural	Non BTAD	15.0	3.1
Chirang	BTAD	18.0	3.6	Kamrup Metro	Non BTAD	33.2	9.9
Kokrajhar	BTAD	23.6	4.8	Karbi Anglong	Non BTAD	25.2	2.2
Udalguri	BTAD	18.9	2.9	Karimganj	Non BTAD	33.9	4.4
BTAD		**19.3**	**3.6**	Lakhimpur	Non BTAD	19.3	3.2
Barpeta	Non BTAD	28.8	3.5	Morigaon	Non BTAD	31.7	3.4
Bongaigaon	Non BTAD	21.0	4.4	Nagaon	Non BTAD	27.3	3.4
Cachar	Non BTAD	31.3	6.4	Nalbari	Non BTAD	22.8	3.5
Darrang	Non BTAD	18.7	2.6	Sivasagar	Non BTAD	14.2	3.8
Dhemaji	Non BTAD	24.6	2.6	Sonitpur	Non BTAD	21.8	4.7
Dhubri	Non BTAD	25.6	3.0	Tinsukia	Non BTAD	17.9	3.9
Dibrugarh	Non BTAD	19.1	7.2	**Non BTAD**		**24.0**	**4.2**
Dima Hasao	Non BTAD	25.9	3.5	**Assam**		**23.5**	**4.2**
Goalpara	Non BTAD	25.5	4.0	**CV for BTAD**		**16.28**	**23.01**
Golaghat	Non BTAD	19.2	4.0	**CV for Non**		**23.82**	**40.72**
Hailakandi	Non BTAD	25.1	4.0	**CV for Assam**		**24.08**	**39.1**
Jorhat	Non BTAD	18.0	5.0	Note: CV = Co-efficient of Variation			

Source: Birth & Death Annual Report 2016, Directorate of Health Services, Govt. of Assam

The size of the population of BTAD is 31.5 lakh in 2011 which is 10.1 percent of the state population. Among the four districts of BTAD, Baksa district (950075 i.e. 3.02% of the state population) has the highest population and Chirang

district (482162 i.e. 1.54% of the state population) has the lowest population (Table 4.1).

4.2.2 Decadal Growth of Population

The high growth of population may have a negative impact on socio-economic status. It is because in most of the developing countries population growth becomes an obstacle to development.

According to Table 4.1, there is a wide variation in the decadal growth rate of population during the decade 2001 to 2011 with a 32.22 percent co-efficient of variation among the districts of Assam. Similarly, the decadal growth of population varies with 26.01 percent co-efficient of variation in BTAD districts and 25.24 percent of co-efficient of variation in Non-BTAD districts. The decadal growth rates of population in fourteen districts namely Dhubri (24.44%), Morigaon (23.34%), Goalpara (22.64%), Darrang (22.19%), Nagaon (22%), Karimganj (21.9%), Hailakandi (21.45%), Barpeta (21.43%), Bongaigaon (20.59%), Cachar (20.19%), Dhemaji (19.97%), Kamrup Metro (18.34%), Karbi Anglong (17.58%) and Lakhimpur (17.22%) are higher than the state average 17.07 percent. The reason for the high population growth rate may be due to their high birth rate and migration. According to the Annual Report of Director of Health Services, Govt. of Assam 2016, eleven districts of the above mention districts of Assam have relatively higher birth rates than the state average birth rate of 23.5 (Table 4.2). These districts with their birth rates are Karimganj (33.9), Morigaon (31.7), Cachar (31.3), Kamrup Metro (33.2), Barpeta (28.28), Nagaon (27.3), Dhubri (25.6), Goalpara (25.5), Karbi Anglong (25.2), Hailakandi (25.1) and Dhemaji (24.6). The highest decadal growth rate of the population in the Dhubri district (24.44%) may be due to its high birth rate of 25.6 percent and the lowest female literacy rate 53.33 percent among the districts of Assam. A district with a high literacy rate generally has a lower birth rate (Ghosh and Mistri, 2016). Kokrajhar district has the lowest decadal growth rate (5.2%) of the population. Immigration from Kokrajhar district to other parts of Assam may be the cause of it. Because, there was occurred a course of socio-political instability including the outbreak of insurgency problems in the entire BTAD area for a long period of

time since the last three decades. For example, particularly in the Kokrajhar district, the Bodo-Santhal conflict was broke out in 1996 and the same was started again in 1998. In the later period, community-based insurgency activities were exercised with different groups like the National Democratic Front of Bodoland, Bodo Liberation Tigers Front, Adivasi Cobra Force etc. As a result, people were living with panic tension related to their social security in the entire BTAD area.

4.2.3 Density of Population

The density of population is an important factor of social behaviour. An increase in the density of the population creates stress on humans and increases the levels of social disorders like crimes (Wirth, 1938). Thus a high density of population may reduce socio-economic status.

The density of population in the districts of Assam varies with a 52.86 percent co-efficient of variation. But, there is a wide variation between BTAD districts and Non-BTAD districts in terms of density of population. The co-efficient of variation of density of population in BTAD districts (21.48%) is less than the co-efficient of variation of density of population in Non-BTAD districts (50.92%). There are 398 people per square kilometre in Assam. As the metro district, Kamrup Metro has the highest density of population with 1313 people per sq. km. followed by 896 people per sq. km. in Dhubri district. Dhubri district has the second largest population with the highest decadal growth rate and this may cause a high density of population in this district. The lowest density of population is found 44 people per sq. km. in Dima Hasao (Table 4.1). It is because Dima Hasao is a hilly district and it is the third largest district with the lowest population in Assam.

4.2.4 Rural and Urban Population

An urban area always accommodates more facilities than in a rural area. Therefore, urbanization is desirable for better socio-economic status. The percentage of urban population is an indicator of urbanization.

In Assam, the major portion of the population (85.9%) lives in rural areas, whereas only 14.1 percent of people live in urban areas which indicate limited urbanization (Table 4.3). The percentage of the rural population in BTAD districts (95.17%) is relatively more than the state average rural population (85.9%) and the average rural population in Non-BTAD districts (72.92%). There is a wide variation in the case of urbanization in the districts of Assam. The co-efficient of variations of the distribution of urban population in the districts of Assam is 107.95 percent. The highest percentage of urban population (the lowest rural population) is found 82.7 (17.3) percent in Kamrup Metro. Kamrup Metro includes Guwahati, the only metro city of the entire North East India and so, this district has the highest urban population. The lowest percentage of the urban population or the highest rural population is found in Baksa district with 1.29 percent urban and 98.71 percent rural population. Baksa is one of the districts of BTAD which has two semi-urban areas Goreswar and Mushapur and any other town connected to this district is located in the neighbouring district in Barpeta or Nalbari or Kamrup Rural.

The growth of urbanization may be measured in terms of the decadal growth rate of the urban population. The growth of the urban population during the decade 2001-2011 in Assam is only 27.89 percent. In the BTAD districts, the decadal growth of urban population during 2001-2011 (18.23%) is too slow to that of Non-BTAD districts (34.75%). The slow rate of urbanization in BTAD districts is also another feature of the backwardness of the BTAD area. It is observed from Table 4.3 that all the BTAD districts are equally backward in terms of urbanization, because, the co-efficient of variation in the decadal growth rate of urbanization in BTAD districts (88.65%) is lower than that of Non-BTAD districts (119.17%) and state average (120.82%).

Table 4.3 Percentage of Rural and Urban Population in the Districts of Assam, Census 2011

District		Rural		Urban	
		% Share	Decadal Growth Rate 2001-11	% Share	Decadal Growth Rate 2001-11
Baksa	BTAD	98.71	9.31	1.29	NA
Chirang	BTAD	92.67	9.50	7.33	41.30
Kokrajhar	BTAD	93.81	5.11	6.19	6.68
Udalguri	BTAD	95.48	9.44	4.52	13.43
BTAD		**95.17**	**8.21**	**4.83**	**18.23**
Barpeta	Non BTAD	91.3	21.96	8.7	16.15
Bongaigaon	Non BTAD	85.14	22.03	14.86	12.96
Cachar	Non BTAD	81.83	14.28	18.17	56.65
Darrang	Non BTAD	94.02	21.56	5.98	33.07
Dhemaji	Non BTAD	92.96	19.65	7.04	24.34
Dhubri	Non BTAD	89.55	27.05	10.45	5.58
Dibrugarh	Non BTAD	81.62	13.17	18.38	6.69
Dima Hasao	Non BTAD	70.81	17.85	29.19	5.14
Goalpara	Non BTAD	86.31	15.23	13.69	106.36
Golaghat	Non BTAD	90.84	12.02	9.16	20.46
Hailakandi	Non BTAD	92.7	22.53	7.3	9.20
Jorhat	Non BTAD	79.81	5.29	20.19	28.73
Kamrup Rural	Non BTAD	90.62	9.69	9.38	145.16
Kamrup Metro	Non BTAD	17.3	3.57	82.7	21.98
Karbi Anglong	Non BTAD	88.19	16.91	11.81	22.88
Karimganj	Non BTAD	91.07	19.79	8.93	48.54
Lakhimpur	Non BTAD	91.24	15.41	8.76	40.18
Morigaon	Non BTAD	92.34	19.76	7.66	92.95
Nagaon	Non BTAD	86.91	20.52	13.09	32.79
Nalbari	Non BTAD	89.28	4.13	10.72	200.99
Sivasagar	Non BTAD	90.44	9.05	9.56	13.29
Sonitpur	Non BTAD	90.96	17.52	9.04	-1.11
Tinsukia	Non BTAD	80.06	14.80	19.94	18.21
Non BTAD		**72.92**	**16.75**	**27.08**	**34.75**
Assam		**85.9**	**15.47**	**14.1**	**27.89**
CV for BTAD		**2.76**	**24.84**	**54.39**	**88.65**
CV for Non BTAD		**18.54**	**39.6**	**101.7**	**119.17**
CV for Assam		**17.36**	**43.56**	**107.95**	**120.82**

Source: Statistical Hand Book of Assam, 2019

Note: NA = Not Available & CV = Co-efficient of Variation

4.2.5 Life Expectancy

Life expectancy is the most widely used indicator of the health status of the population which reflects the prevailing mortality. According to the AHDR 2014, the life expectancy rate of Assam is only 54.00 even there is a wide variation in the district level life expectancy rates (Table 4.4). The co-efficient of variation in the life expectancies among the districts of Assam is 15.87 percent. The reason behind the low life expectancy in Assam may be due to lack of proper medical facilities and mass illiteracy of people.

Table 4.4 Life Expectancy and Infant Mortality Rates in the Districts of Assam

Districts		[1]Life Expectancy at Birth in 2014	[2]Infant Mortality Rate in 2017-18	Districts		[1]Life Expectancy at Birth in 2014	[2]Infant Mortality Rate in 2017-18
Baksa	BTAD	42.13	20	Kamrup Rural	Non BTAD	71.88	18
Chirang		68.52	29	Kamrup Metro		55.98	29
Kokrajhar		55.04	17	Karbi Anglong		68.27	12
Udalguri		55.00	23	Karimganj		43.39	29
BTAD		**53.20**	**21**	Lakhimpur		59.79	16
Barpeta	Non BTAD	69.93	10	Morigaon		67.42	12
Bongaigaon		54.42	33	Nagaon		58.24	9
Cachar		40.76	20	Nalbari		54.24	10
Darrang		60.27	16	Sivasagar		53.89	20
Dhemaji		51.25	21	Sonitpur		48.89	16
Dhubri		53.12	10	Tinsukia		47.63	8
Dibrugarh		53.68	38	**Non BTAD**		**56.28**	**18**
Dima Hasao		68.62	21	**Assam**		**54.00**	**18**
Goalpara		66.69	21	**CV for BTAD**		**19.53**	**23.02**
Golaghat		55.29	22	**CV for Non BTAD**		**15.65**	**44.17**
Hailakandi		43.82	35	**CV for Assam**		**15.87**	**41.04**
Jorhat		58.17	23	NB: CV = Co-efficient of Variation			

Source: 1. AHDR 2014
2. Economic Survey Assam 2017-18

According to Census 2011, the literacy rate of Assam is only 72.19 percent with a male literacy rate of 77.85 percent and a female literacy rate of 66.27

percent (Table 4.6). In Assam, 85.9 percent of people live in rural areas, but only 69.34 percent of them are literate. On the other hand, only 14.1 percent of people live in urban areas and out of which 88.47 percent of people are literate in urban Assam.

Table 4.5 Population Per-Hospital, Per-Doctor, Per-Nurse and Per-Bed in the Government Hospitals of Assam at District Level, 2018-19

Districts		Population Per-Hospital	Population Per-Doctor	Population Per-Nurse	Population Per-Bed of the Hospitals
Baksa	BTAD	4440	5278	2043	2048
Chirang		3888	3091	1032	1418
Kokrajhar		3925	7992	1837	1876
Udalguri		4595	5940	1848	2100
BTAD		**4230**	**5368**	**1690**	**1883**
Barpeta	Non-BTAD	5101	6514	1051	1742
Bongaigaon		5683	4829	1734	1838
Cachar		5584	7390	2510	1393
Darrang		4380	5627	2077	2091
Dhemaji		5489	4605	1720	2131
Dhubri		6268	13727	1277	2406
Dibrugarh		4737	5436	1881	714
Dima Hasao		2433	2185	574	1020
Goalpara		4756	6262	1040	2127
Golaghat		5471	7567	2164	2425
Hailakandi		5191	8040	1842	2637
Jorhat		5407	4876	2077	1092
Kamrup Rural		3223	5405	1656	1334
Kamrup Metro		16495	5814	2964	593
Karbi Anglong		4688	5465	2446	2125
Karimganj		4619	7776	1561	2637
Lakhimpur		5263	6203	1809	2110
Morigaon		5409	6513	1005	2394
Nagaon		5957	10819	1600	2710
Nalbari		3998	4335	1295	1221
Sivasagar		4201	7830	1476	2034
Sonitpur		5360	8017	2965	2411
Tinsukia		6741	6989	3449	3032
Non-BTAD		**5246**	**6662**	**1682**	**1630**
Assam		**5122**	**6504**	**1683**	**1652**
CV for BTAD		**0.09**	**0.36**	**0.27**	**0.17**
CV for Non-BTAD		**0.47**	**0.35**	**0.38**	**0.35**
CV for Assam		**0.46**	**0.35**	**0.36**	**0.33**

Source: Own calculation from Statistical Hand Book of Assam, 2019

Regarding medical facilities, Assam has limited government hospitals, doctors, nurses and hospital beds. Comparing population of Census 2011 and available hospital facilities of the year 2018-19, it is observed that population per-hospital are 5122, population per-doctor are 6504, population per-nurse are 1683 and population per-bed are 1652 in the government hospitals of Assam (Table 4.5)

The highest life expectancy rate is found in Kamrup Rural district (71.88) and the lowest life expectancy rate is found in Cachar district (40.76). In Kamrup Rural, the medical facilities are relatively better than the state average. According to Table 4.5, in Kamrup Rural, population per-hospital (3223), population per-doctor (5405), population per-nurse (1656) and population per-bed (1334) is relatively lower than the respective state averages. On the other hand, the number of hospitals and doctors is very limited in the Cachar district, because, population per-hospital (5584) and population per-doctor (7390) is greater than the respective state averages. The life expectancies of the districts Barpeta (69.93), Chirang (68.52), Dima Hasao (68.62), Karbi Anglong (68.27), Goalpara (66.69) and Morigaon (67.42) are relatively higher. On the other hand, relatively lower life expectancy rates are found in the districts Baksa (42.13), Karimganj (43.39), Hailakandi (43.82), Tinsukia (47.63) and Sonitpur (48.89). The variations in life expectancy across the districts of Assam are mainly due to the variation in the number of reported deaths at the district level. The co-efficient of variation of the reported death rate is 39.1 percent among the districts of Assam in 2016 (Table 4.2).

The life expectancy in the BTAD district (52.20) is comparatively lower than the average of the Non-BTAD districts (56.28) and state average (54.00). However, the life expectancy of the Chirang district (68.52) is the highest among all BTAD districts. It is found that the medical facilities available in Chirang district are better, because, population per-hospital (3888), population per-doctor (3091), population per-nurse (1032) and population per-bed (1418) are less than the respective state averages and the averages of the Non-BTAD districts.

4.2.6 Infant Mortality Rate

The infant mortality rate is the number of death per 1000 live newborn babies within the age of 1 year. It is one of the best indices of health status. As stated in Table 4.4, regarding the infant mortality rates, the co-efficient of variation is found 41.04 percent among the districts of Assam. Infant mortality rates in 15 districts are more than the state average of 18 per 1000 live births. The districts with relatively high infant mortality rates are Dibrugarh (38), Hailakandi (35), Bongaigaon (33), Chirang (29), Kamrup Metro (29), Karimganj (29), Udalguri (23), Jorhat (23), Golaghat (22), Dhemaji (21), Dima Hasao (21), Goalpara (21), Baksa (20), Cachar (20) and Sivasagar (20). The infant mortality rates of the districts Tinsukia (8) and Nagaon (9) are relatively lower but not zero (0). These variations in the infant mortality rates across the districts may be due to the non-execution of the health policies of the government in time.

4.2.7 Literacy Rate

The educational achievement of Assam was comparatively lower than the national average. According to Census 2011, the literacy rate of Assam is 72.19 percent with a male literacy rate of 77.85 percent and a female literacy rate of 66.27 percent (Table 4.6). While the literacy rate at the national level is 74 percent with an 82.1 percent male literacy rate and a 65.6 percent female literacy rate. The poor rate of literacy rate in Assam is mainly due to the limited educational institutions. There are only 116 and 18 lower primary and upper primary schools respectively for one lakh population in Assam (Table 4.7). The distribution of educational institutions among the districts of Assam is not uniform. The distribution of lower primary schools across the districts varies with a 41.52 percent co-efficient of variation and the same for upper primary schools varies with 54.65 percent of the co-efficient of variation.

Table 4.6 Literacy Rate in the Districts of Assam (in %), Census 2011

District		Total	Male	Female	Male-Female Literacy Gap	Rural	Urban
Baksa	BTAD	69.25	77.03	61.27	15.76	69.18	74.54
Chirang		63.55	70.24	56.65	13.59	62.08	81.28
Kokrajhar		65.22	71.89	58.27	13.62	63.63	87.86
Udalguri		65.41	72.58	58.05	14.53	64.43	85.14
BTAD		**65.86**	**72.94**	**58.56**	**14.38**	**64.83**	**82.21**
Barpeta	Non BTAD	63.81	69.29	58.06	11.23	61.47	86.28
Bongaigaon		69.74	74.87	64.43	10.44	66.42	87.37
Cachar		79.34	84.78	73.68	11.1	77.08	87.39
Darrang		63.08	67.87	58.04	9.83	61.50	85.92
Dhemaji		72.70	79.84	65.21	14.63	71.81	84.02
Dhubri		58.34	63.10	53.33	9.77	55.25	82.28
Dibrugarh		76.05	82.82	68.99	13.83	72.75	88.00
Dima Hasao		77.54	83.29	71.33	11.96	71.13	92.24
Goalpara		67.37	71.46	63.13	8.33	65.93	76.08
Golaghat		77.43	83.56	71.09	12.47	75.94	91.74
Hailakandi		74.33	80.74	67.60	13.14	72.73	92.93
Jorhat		82.15	87.63	76.45	11.18	80.01	72.50
Kamrup Rural		75.55	81.30	69.47	11.83	74.21	87.89
Kamrup Metro		88.71	92.13	85.07	7.06	76.45	90.77
Karbi Anglong		69.25	76.14	62.00	14.14	66.69	87.37
Karimganj		78.22	84.12	72.09	12.03	76.66	92.82
Lakhimpur		77.20	83.52	70.67	12.85	76.22	86.93
Morigaon		68.03	71.90	64.04	7.86	66.6	84.17
Nagaon		72.37	76.51	68.07	8.44	69.96	86.34
Nalbari		78.63	84.36	72.57	11.79	77.22	89.89
Sivasagar		80.41	85.84	74.71	11.13	79.27	90.92
Sonitpur		67.34	73.65	60.73	12.92	64.98	81.65
Tinsukia		69.66	77.19	61.73	15.46	65.05	82.08
Non BTAD		**72.71**	**78.20**	**66.96**	**11.24**	**69.73**	**86.58**
Assam		**72.19**	**77.85**	**66.27**	**11.58**	**69.34**	**88.47**
India		**74**	**82.1**	**65.5**	**16.6**	**68.9**	**85**
CV BTAD		**3.66**	**3.98**	**3.32**	**7.1**	**4.72**	**7.03**
CV Non BTAD		**9.55**	**8.98**	**10.50**	**19.14**	**9.25**	**5.92**
CV Assam		**9.74**	**8.90**	**11.04**	**19.38**	**9.25**	**6.20**

Source: Statistical Hand Book of Assam, 2019.

As a result, a wide variation is observed regarding the literacy rates among the districts of Assam. The highest literacy is found 88.71 percent in Kamrup Metro and the lowest literacy is found 58.34 percent in Dhubri district. Since

Guwahati is the only metro city in Assam and it is under the district Kamrup Metro, this district has the highest male literacy rate (92.13%) as well as the highest female literacy rate (85.07%). While the Dhubri district has the lowest male literacy rate of 63.1 percent as well as the lowest female literacy rate of 53.33 percent (Table 4.4). Dhubri district is located at the extreme part of the western Assam nearby Bangladesh border and it has 313 riverine islands on the bank of the mighty river the Brahmaputra called char area with extremely poor educational infrastructure (Socio-Economic Survey Report, Director of Char Areas Development, Govt. of Assam 2002-03). According to the Statistical Hand Book of Assam 2019, the Dhubri district has only 94 primary schools and 20 upper primary schools per one lakh population.

The gender gap in literacy rate is an issue in socio-economic status. The female literacy rate is an important factor of women empowerment as well as socio-economic development. The male-female literacy gap in Assam (11.58%) is comparatively lower than the national average male-female literacy gap (16.6%). But, the rates of male-female literacy gap in 16 districts of Assam namely Baksa (15.76%), Tinsukia (15.46%), Dhemaji (14.63%), Udalguri (14.53%), Karbi Anglong (14.14%), Dibrugarh (13.83%), Kokrajhar (13.62%), Chirang (13.59%), Hailakandi (13.14%), Sonitpur (12.92%), Lakhimpur (12.85%), Golaghat (12.47%), Karimganj (12.03%), Dima Hasao (11.96%), Kamrup Rural (11.83%) and Nalbari (11.79%) are more than the state average male-female literacy gap 11.58 percent. The average male-female literacy gap of the districts of BTAD (14.38%) is more than the rate male-female literacy gap in Non-BTAD districts (11.24%). Across the districts of Assam, the co-efficient of variation in the male-female literacy gap (19.38%) is more than the co-efficient of variation of the female literacy rate (11.04%) and even the co-efficient of variation of literacy rate (9.74%).

Since BTAD is already recognized as a backward region, it is lagging behind in achieving a literacy rate equivalent to the state of Assam. It has a literacy rate of 65.86 percent which is lower than the literacy rate of Assam (72.19%) and the average literacy rate of the Non-BTAD district (72.71%). The

male literacy rate and the female literacy rate of BTAD are 72.94 percent and 58.56 percent respectively. Those are also lower than the state average. Comparing the literacy rates of four districts of the BTAD area, the literacy rate of Chirang district (63.55%) is found lowest and the highest literacy rate is found 69.25% in Baksa district (Table 4.4). Similarly, Chirang district has the lowest literacy rates for both males (70.24%) and females (56.65%) among the four districts of BTAD. This means that most of the people of Chirang district are illiterate within BTAD area. One of the main causes of the low literacy rate in Chirang district is due to mass illiteracy among the scheduled tribe population. There are only 56.03 percent literate scheduled tribe population with 61.81% literate male ST and 50.26% literate female ST in Chirang district (Census 2011).

4.2.8 School Dropout Rate and Transition Rate

The percentage of dropout students is a serious matter at the LP and UP level because it reduces the transition rates. A cent percent transition rate from a lower class to upper class represents good progress of the students. According to the Statistical Hand Book of Assam 2019, the percentages of dropout students are 3.1 percent and 1.9 percent at LP and UP level respectively in the year 2018-19 in Assam. However, the transition rate from LP to UP level is 100 percent in Assam (Table 4.7). The highest percentage of dropout students at the LP level is found 9.6 percent in Hailakandi district followed by 6.9 percent in Udalguri district. Similarly, the highest percentage of dropout students at the UP level (9.7 percent) is found in the Karimganj district. Hailakandi district has the lowest transition rate (87.1 %) from lower primary to upper primary level due to the highest dropout rate in lower primary level (9.6 %).

The cent percent transition rate from LP to UP is found in 14 districts namely Baksa, Barpeta, Bongaigaon, Dhemaji, Dhubri, Dima Hasao, Goalpara, Jorhat, Karbi Anglong, Lakhimpur, Kamrup, Kamrup Metro, Nalbari and Sivasagar district. Hence, the progress of the students of lower primary classes may be considered as best in these districts compared to the other 13 districts of Assam.

Table 4.7 Schools Per-Lakh Population, Dropout Rate and Transition Rate from Lower Primary to Upper Primary Level in the Districts of Assam, 2018-19

Districts		Schools Per-Lakh Population		Dropout Rate		Transition Rate from Lower Primary to Upper Primary
		Lower Primary	Upper Primary	Lower Primary	Upper Primary	
Baksa	BTAD	139	27	5	0.0	100
Chirang		161	18	7.1	0.7	99.4
Kokrajhar		148	25	4.7	2.8	90.5
Udalguri		130	19	6.9	1.3	96.0
BTAD		**142**	**23**	**5.8**	**1.1**	**95.9**
Barpeta	Non BTAD	98	18	2.2	2.1	100
Bongaigaon		104	22	2.1	0.0	100
Cachar		109	16	3.6	0.6	96.5
Darrang		113	11	2.1	1.3	95.9
Dhemaji		179	21	4.2	2.2	100
Dhubri		94	20	2.0	3.9	100
Dibrugarh		95	14	5.7	4.9	95.2
Dima Hasao		350	64	1.7	1.4	100
Goalpara		136	21	5.1	0.0	100
Golaghat		107	17	2.4	0.7	98.1
Hailakandi		156	44	9.6	8.7	87.1
Jorhat		140	19	0.0	0.0	100
Kamrup Rural		116	15	0.0	0.0	100
Kamrup Metro		36	6	2.3	0.0	100
Karbi Anglong		183	25	2.7	0.0	100
Karimganj		127	21	4.8	9.7	88.6
Lakhimpur		146	34	1.2	5.5	100
Morigaon		122	18	3.8	3.9	99.4
Nagaon		87	15	1.2	5.5	98.8
Nalbari		122	20	5.8	0.0	100
Sivasagar		150	23	3.5	0.6	100
Sonitpur		98	7	2.7	0.3	92.0
Tinsukia		80	10	5.0	3.2	93.7
Non BTAD		**113**	**18**	**2.9**	**2.3**	**97.7**
Assam		**116**	**18**	**3.1**	**1.9**	**100**
CV BTAD		**9.15**	**19.89**	**21.1**	**99.3**	**4.51**
CV Non BTAD		**45.56**	**59.41**	**67.37**	**120.72**	**3.95**
CV Assam		**41.52**	**54.65**	**62.56**	**122.74**	**3.97**

Source: Statistical Hand Book of Assam, 2019.

The co-efficient of variation in school dropout rate in lower primary level is found 62.56 percent which is high. But, too wide variation is found in case of dropout rates in the upper primary with the co-efficient of variation 122.74

percent across the districts of Assam because of the wide variation in the district-wise distribution of upper primary schools per-lakh population (co-efficient of variation 54.65 percent) (Table 4.7).

4.2.9 Households Accessing Pucca House

Access to housing facilities is a basic human need and is also a symbol of socio-economic status. Better housing facilities indicate a higher socio-economic status as well as a better living status of a household. The number of households accessing pucca houses is very limited in Assam because only 22.7 percent of households have pucca houses. The percentages of households with pucca houses vary across the districts with a co-efficient of variation of 51.97 percent. Households using pucca house in 11 districts viz. Kamrup Metro (66.5%), Karimganj (33.1%), Sivasagar (29.9%), Bongaigaon (29.2%), Jorhat (28.5%), Morigaon (26.6%), Tinsukia (25.7%), Dibrugarh (25.5%), Nalbari (25.5%), Cachar (25.1%) and Barpeta (22.8%) are more than state average 22.7 percent (Table 4.8).

4.2.10 Households Accessing Electricity

The source of the lighting of households is a symbol of housing status. According to National Family Health Survey-4, 2015-16, about 78.2 percent of households of Assam used electricity as their sources of lighting. There is not a single district in Assam where a cent percent of households use electricity for lighting. The maximum number of households accessing electricity is found in Kamrup Metro (95.0%) followed by Kamrup Rural (88.8%) and Bongaigaon (88.4%). The lowest number of households accessing electricity is recorded in Hailakandi district (55.4%) which is preceded by Dhemaji district (63.5%). The co-efficient of variation of district wise percentages of households using electricity is 11 percent (Table 4.8).

Table 4.8 Household Amenities in the Districts of Assam (in %), 2015-16

Districts		Households with Pucca House	Electricity	Safe Drinking Water	Improved Sanitation Facility	Clean Fuel for Cooking
Baksa	BTAD	6.7	81.8	82.4	54.3	16.6
Chirang		12.8	72.0	70.8	32.6	18.3
Kokrajhar		12.0	74.1	76.5	39.2	18.3
Udalguri		14.5	84.8	81.2	53.8	14.1
BTAD		**11.2**	**78.9**	**78.6**	**46.6**	**16.7**
Barpeta	Non BTAD	22.8	72.3	97.8	34.9	22.6
Bongaigaon		29.2	88.4	74.0	45.9	27.2
Cachar		25.1	67.5	61.6	37.3	28.8
Darrang		19.2	77.0	97.0	45.6	17.6
Dhemaji		11.6	63.5	91.7	41.4	11.0
Dhubri		14.5	69.4	89.4	33.0	16.7
Dibrugarh		25.5	75.4	98.8	56.6	28.1
Dima Hasao		17.5	79.2	47.7	59.0	24.3
Goalpara		21.1	71.3	87.1	46.2	21.3
Golaghat		14.5	86.8	94.3	59.6	15.7
Hailakandi		16.1	55.4	51.2	36.0	13.8
Jorhat		28.5	87.1	88.1	64.5	34.4
Kamrup Rural		20.0	88.8	93.9	52.6	37.3
Kamrup Metro		66.5	95.0	80.1	61.2	79.0
Karbi Anglong		10.0	81.7	52.4	41.5	14.4
Karimganj		33.1	71.3	62.8	39.5	22.5
Lakhimpur		14.8	77.6	73.4	49.6	18.9
Morigaon		26.6	77.7	98.0	40.1	18.0
Nagaon		20.0	83.0	92.7	45.5	19.0
Nalbari		25.5	84.0	98.4	51.2	35.5
Sivasagar		29.9	78.7	96.2	55.5	26.4
Sonitpur		20.8	79.6	71.2	61.0	22.7
Tinsukia		25.7	76.3	96.0	50.8	26.9
Non BTAD		**24**	**78**	**84.3**	**47.8**	**26**
Assam		**22.7**	**78.2**	**83.8**	**47.7**	**25.1**
CV for BTAD		**29.27**	**7.81**	**6.78**	**24.06**	**11.8**
CV for Non BTAD		**47.95**	**11.61**	**20.62**	**19.47**	**53.91**
CV for Assam		**51.97**	**11**	**19.36**	**19.81**	**53.8**

Source: National Family Health Survey-4, 2015-16

4.2.11 Households Accessing Safe Drinking Water

Safe drinking water mainly depends upon its source. According to National Family Health Survey-4, 2015-16, safe sources of drinking water are tap water from a treated source, tube well or borehole, protected dug well, protected

spring, rainwater and community Reserve Osmosis (RO) plant. Only 83.8 percent of households are recorded as accessing safe drinking water in Assam. The district-wise variation in accessing safe drinking water is found with a 19.36 percent co-efficient of variation. The highest and the lowest number of households accessing safe sources of drinking water are found in Dibrugarh (98.8%) and Dima Hasao (47.7%) respectively (Table 4.8).

4.2.12 Households Accessing Improved Sanitation Facility

An improved sanitation facility is considered when a latrine has the facility of flush to a piped sewer system or flush to a septic tank or flush to pit latrine or ventilated improved pit (VIP) latrine or pit latrine with a slab or twin pit/composting toilet within premises (NFHS-4 2015-16). As stated in Table 4.8, in Assam, a very less number of households are accessing an improved sanitation facility (47.7 Percent). Only 12 districts in Assam are representing a higher percentage of households accessing improved sanitation facilities than the state average. They are Jorhat (64.5%), Kamrup Metro (61.2%), Sonitpur (60.0%), Golaghat (59.6%), Dibrugarh (56.6%), Dima Hasao (59.0%), Sivasagar (55.5%), Baksa (54.3%), Udalguri (53.8%), Kamrup Rural (52.6%), Lakhimpur (51.2%) and Tinsukia (50.8%). The co-efficient of variation of the distribution of the percentages of households using improved sanitation facilities is 19.81 percent among the districts of Assam. Chirang district of Assam has the lowest number of households (32.6%) with improved sanitation facilities. As a result, most of the households of Chirang district are bound to use open space for latrine and this is quite unfortunate.

4.2.13 Households Accessing Clean Fuel for Cooking

Fuel used for cooking food items is another important factor in the living conditions of households. Using electricity or LPG or biogas for cooking purposes is considered a clean fuel. Only 25.1 percent of households of Assam use clean fuel for cooking purposes (Table 4.8). Unfortunately, most of the households (74.1%) use firewood for cooking food items which is responsible for respiratory diseases causing to women and children in Assam (Census 2011). There is an

extreme variation in the distribution of percentages of households using clean fuel among the districts of Assam and the co-efficient of variation in this regard is 53.8 percent. The highest percentage of households using clean fuel is found in Kamrup Metro (79.0%) and the lowest percentage of the same is found in Dhemaji (11%). Only in 9 districts, the percentages of households accessing clean fuel are recorded as higher than the state average. These districts are Kamrup Metro (79%), Kamrup (37.3%), Nalbari (35.5%), Jorhat (34.4%), Cachar (28.8%), Dibrugarh (28.1%), Bongaigaon (27.2%), Tinsukia (26.9%) and Sivasagar (26.4%). The variation of the use of clean fuel among the districts may be due to the lack of awareness among the people of Assam about the health-related benefits of using clean fuel.

Uses of clean fuel for cooking food items at the household level in BTAD districts (16.7%) are very low compared to the Non-BTAD district average of 26 percent and the state average of 25.1 percent. The percentages of households that use clean fuel are more or less equal in all four districts of BTAD. Because the co-efficient of variation of the distribution of households use clean fuel (11.8%) is fairly less than the state-level co-efficient of variation 53.8 percent and Non-BTAD districts level co-efficient of variation 53.91 percent (Table 4.8)

4.2.14 Crime

Crimes of different kinds are much unexpected elements of social life. They pollute the social environment in a society. They reduce the socio-economic status as well as the social security of a society. While analysing the total crime occurred in the year 2018 at the district level, it is found that the maximum number of crimes of all type occurred in Kamrup Metro (18436) followed by Nagaon (9159) and Barpeta (8079). Similarly, the highest number of crime per-lakh population is found in Kamrup Metro (1470.25) followed by Dhubri district (555.82) and Jorhat district (521.65). The law and order situation is the main responsible for it.

Table 4.9 Total Crimes, Crime Per-Lakh Population, Road Length Per-Lakh Population and Per-Capita Income in Assam at District Level

Districts		Total Crime 2018	Crime Per-Lakh of Population 2018	Total Road Length including NH (km) 2019	Road Length Per Lakh of Population (km) 2019	Per-Capita Income 2014
Baksa	BTAD	1590	167.36	1979	208.27	18192
Chirang		1009	209.27	1110	230.21	21504
Kokrajhar		1676	188.92	2333	263	18048
Udalguri		1289	154.99	2410	289.74	20436
BTAD		**5564 (#1446)**	**176.58**	**7832 (#2059)**	**248.54**	**19251**
Barpeta	Non BTAD	8079	477.02	2364	139.59	21828
Bongaigaon		2736	370.33	1177	159.33	25164
Cachar		7354	423.47	1774	102.18	23052
Darrang		3911	421.22	1771	190.71	17892
Dhemaji		1463	213.22	1737	253.1	17568
Dhubri		7749	555.82	1699	87.15	16836
Dibrugarh		4773	359.86	2288	172.51	23364
Dima Hasao		257	120.04	2050	957.26	26604
Goalpara		3241	321.97	1953	191.79	22404
Golaghat		3913	366.77	2609	244.51	19788
Hailakandi		2591	392.99	681	103.23	16632
Jorhat		4825	521.65	2305	211.04	38664
Kamrup Rural		6133	404.14	3545	233.59	23316
Kamrup Metro		18436	1470.25	1229	97.98	63444
Karbi Anglong		1370	207.28	4510	471.55	23076
Karimganj		3327	270.78	1525	124.13	19152
Lakhimpur		3541	339.78	1991	191	22248
Morigaon		3542	369.95	1237	129.24	17196
Nagaon		9159	483.95	3823	135.38	25884
Nalbari		2382	308.69	1213	157.26	27516
Sivasagar		3045	439.75	3462	300.73	37104
Sonitpur		4641	353.84	2823	146.72	27240
Tinsukia		3836	288.87	2271	170.98	23340
Non BTAD		**110304 (#5673)**	**440**	**2346**	**178.27**	**25354**
Assam		**124413 (#4607.89)**	**398.69**	**59848 (#2216.59)**	**185.38**	**24660**
CV for BTAD		**21.85**	**13.3**	**30.42**	**14.48**	**8.71**
CV for Non BTAD		**77.59**	**61.21**	**43.36**	**84.06**	**39.97**
CV for Assam		**84.81**	**65.37**	**41.73**	**76.06**	**39.02**

Sources: 1. Statistical Hand Book of Assam 2019
2. AHDR 2014
3. Own Calculation from Statistical Hand Book of Assam 2019
Note: NH = National Highway and # = Average

The lowest number of crimes is found in Dima Hasao district (257) along with the lowest number of crimes per-lakh population (120.04). Dima Hasao has the lowest population among the districts of Assam and it may be the reason for the lowest crime found there. The co-efficients of variations in the number of crimes and crimes rate per-lakh population across the districts of Assam are found very high at 84.81 percent and 65.37 percent respectively. Among the four districts of BTAD, Chirang district has the highest number of crime per-lakh population (209.27) in the year 2018 (Table 4.9). There may have some low false in law and order situation in Chirang districts.

4.2.15 Road Communication

Road communication is one of the most important socio-economic infrastructures. Enough length of road with the good condition is required for better socio-economic life. Assam is a state of consisting both plain and hilly districts in remote areas and has huge numbers of tributaries of the mighty Brahmaputra and Barak rivers. So, wide variation is found regarding the length of road connectivity among the districts. Relatively longer lengths of roads including national highways are found in 12 districts than the state average road length of 2216.59 km (Table 4.9). These districts are Karbi Anglong (4510km), Nagaon (3828 km), Kamrup (3545km), Sivasagar (3462km), Sonitpur (2823km), Golaghat (2609km), Udalguri (2410km), Barpeta (2364km), Kokrajhar (2333km), Jorhat (2305km), Dibrugarh (2288km) and Tinsukia (2271km). Hailakandi district has the shortest road length (681 km). On the other hand, the longest road length per-lakh population is found in Dima Hasao (957.26km) followed by Karbi Anglong (471.55km). Both of these two districts are hilly districts and they have many remote areas. The shortest road length per-lakh population is found in the Dhubri district (87.15 km). Dhubri district has many roadless char areas.

4.2.16 Per-Capita Income

Income is the most important factor of the socio-economic status of any individual or household or society. A high inter-district variation is observed while studying the per-capita income of the people at the district level in Assam.

According to AHDR 2014, extremely high per-capita income is found for Kamrup Metro (Rs.63444) as because of the metro district and extremely low per-capita income is found for Hailakandi district (Rs.16632) may be due to its dependency on agriculture where 39.53 percent are marginal farmers, 26.62 percent are small farmers and 3.26 percent are medium farmers and they are occupying the area of cultivable land of 32.18 percent, 42.15 percent and 9.60 percent respectively (Census 2011). Only seven districts viz. Kamrup Metro (Rs.63444), Jorhat (Rs.38664), Sivasagar (Rs.37104), Nalbari (Rs.27516), Sonitpur (Rs.27240) Dima Hasao (Rs.26604) and Nagaon (Rs.25884) have a relatively higher level of per-capita income than the state average (Rs.24660). The co-efficient of variation of the distribution of per-capita income in the districts of Assam is 39.02 percent. The inter-district variations of per-capita income in Assam display the disparity in economic development at the district level.

It is found that the people of the BTAD area are relatively poorer than the people of the Non-BTAD area. Because the average per-capita income of the BTAD districts (Rs.19251) is much lower than the Non-BTAD districts average per-capita income (Rs.25354) and state average per-capita income (Rs.24660). All four districts of BTAD have the almost same level of per-capita income with the co-efficient of variation of 8.71 percent. But, the per-capita income in all districts of Assam varies with 39.02 percent of the co-efficient of variation (Table 4.9).

4.3 Socio-Economic Index of the Districts of Assam

To estimate the Socio-Economic Index (SEI) for the districts of Assam, we have applied the method of Principal Component Analysis (PCA) as discussed in the methodology chapter. As stated in the methodology Chapter-III, we have selected 11 socio-economic variables to calculate the district level SEI. Once again these variables are DP = Density of Population, PUP = Percentage of Urban Population, LEB = Life Expectancy at Birth, LR = Literacy Rate, HAEL = Households Accessing Electricity for Lighting (in %), HASDW = Households Accessing Safe Drinking Water (in %), HAISF = Households Accessing Improved Sanitary Facility (in %), HACFC = Households Accessing Clean Fuel

for Cooking (in %), HAPH = Households Accessing Pucca House (in %), CR = Crime Rate per one lakh population, RL = Road Length in km. per-lakh population and PCI = Per-Capita Income in natural logarithmic value.

4.3.1 Descriptive Statistics

Some of the descriptive statistics like mean, 5% trimming mean, skewness, kurtosis and range help us to detect the extreme value and type of distribution of the data (Table 4.10).

Table 4.10 Descriptive Statistics of the Socio-Economic and Demographic Variables of the Districts of Assam

Variables	Mean	5% Trimmed Mean	Skewness	Kurtosis	Range
DP = Density of Population	492.89	492.81	-1.07	2.63	1269
PUP = Percentage of Urban Population	13.85	13.74	1.04	2.49	81
LR = Literacy Rate	72.25	71.57	0.18	-0.28	30
HAEL = Households Accessing Electricity for Lighting (in%)	77.77	77.02	-0.44	0.68	40
HASDW = Households Accessing Safe Drinking Water (in%)	81.66	8058	-0.79	-0.45	51
HAISF = Households Accessing Improved Sanitary Facility (in%)	47.72	47.72	0.04	-1.16	32
HACFC = Households Accessing Clean Fuel for Cooking (in%)	24.05	24.13	3.13	12.62	68
HAPH = Households Accessing Pucca House (in%)	21.65	21.98	2.46	9.27	60
CR = Crime Rate per-lakh population	377.86	478.90	-3.45	15.35	1350
RL = Road Length in km. per-lakh population	220.822	220.812	3.55	14.85	870.11
PCI = Per Capita Income	10.05	10.05	1.79	4.43	1.34

Source: Own Calculation from Secondary Data

The mean and 5% trimming mean of the variables are almost the same. That means the data has no extreme value or free from the effect of extreme values. The distributions of all variables are almost symmetrical. However, some of the variables are slightly skewed either positively or negatively. The kurtosis values of the variables as stated in Table 4.10 have depicted the peakness of the distribution. The range has stated the difference between two extreme values of the distribution of a variable. The descriptive statistics of all variables state the normalcy of the data and we can proceed further.

4.3.2 KMO and Bartlett's Test

According to Table 4.11, Bartlett's test of sphericity has rejected the null hypothesis of variables in the correlation matrix of the population are uncorrelated using chi-square test statistics at significance level 0.000 which is small enough and less than 0.05 to reject the null hypothesis (Krishnan, 2010 and Rezzak, 2015). It means that the relationship among the variables has a strong correlation which is needed for the validity of data for factor analysis. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy is found 0.766 and it is higher than the minimum acceptable 0.5 for factor analysis. This indicates that the data are acceptable for factor analysis.

Table 4.11 KMO and Bartlett's Test for the Socio-Economic Index of the Districts of Assam

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.766
Bartlett's Test of Sphericity	Approx. Chi-Square	256.339
	df	55
	Sig.	0.000

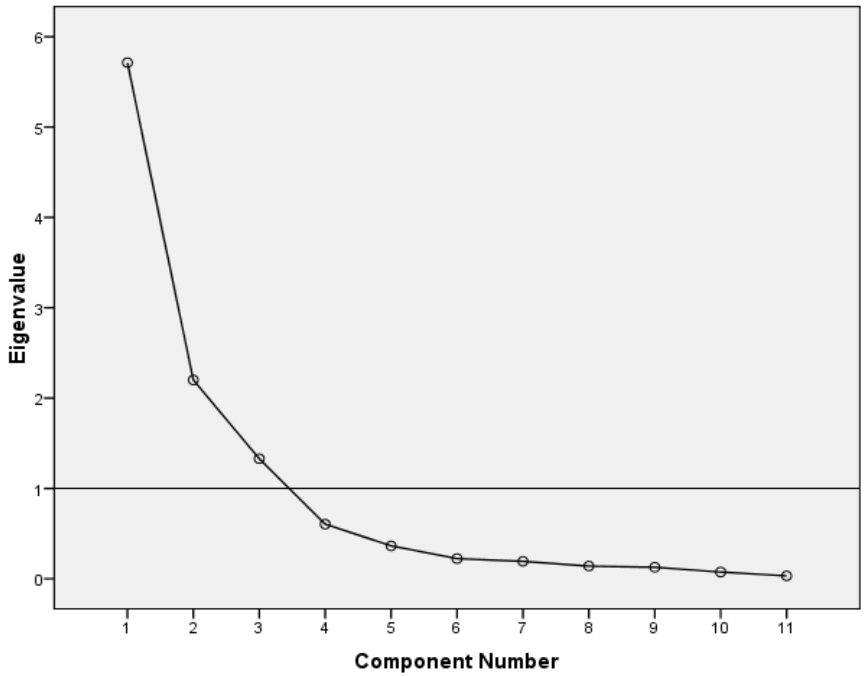
Source: Own Calculation from Secondary Data

4.3.3 Rotated Component Matrix

Table 4.12 displays the factor loading, variables' communalities and eigenvalues of the factors and percentage of explaining variance by the factors of all variables. The factor loadings are the percentage of the variance of the variables explained in the factors. They may be called correlation co-efficients

between observed variables and the factors. Communalities are the sum of the squares of factor loadings of the variables or square of the multiple correlation co-efficients of the variables. All the communality values sufficiently large and they indicate that all the variables are well represented by all factors.

Figure 4.1 Scree Plot



Source: Own Calculation from Secondary Data

Eigenvalues are the explained variances by the factors out of the total variability explained by all factors. Eigenvalues are used to detect the variables to be retained for factor analysis. The rule of thumb of retaining factors states that the factors having eigenvalues greater than one should be retained for factor analysis. The eigenvalues of the first three factors are found greater than one and they are mentioned clearly in the scree plot of the eigenvalues of factors stated in Figure 4.1. They are 4.905, 2.32 and 2.018 for the first three factors Factor-1, Factor-2 and Factor-3 respectively (Table 4.12). Thus, three factors (principal components) have been retained and they explain 84.029 percent of the total variation of the data. The percentages of variation explained by the factors are 44.588 percent by Factor 1, 21.095 percent by Factor 2 and 18.347 percent by Factor 3 (Table 4.12).

Table 4.12 Rotated Component Matrix[a] of the Factor Scores for Socio-Economic Index of the Districts of Assam

Sl. No.	Variables	Factor 1	Factor 2	Factor 3	Communality
1	**DP** = Density of Population	-0.**672**	0.149	0.633	0.874
2	**PUP** = Percentage of Urban Population	**0.918**	0.194	0.103	0.891
3	**LR** = Literacy Rate	0.**637**	0.379	0.276	0.626
4	**HAEL** = Households Accessing Electricity for Lighting (in %)	0.289	**0.813**	-0.119	0.759
5	**HASDW** = Households Accessing Safe Drinking Water (in %)	-0.145	0.397	0.**819**	0.849
6	**HAISF** = Households Accessing Improved Sanitary Facility (in %)	0.221	**0.893**	0.137	0.865
7	**HACFC** = Households Accessing Clean Fuel for Cooking (in %)	**0.899**	0.322	-0.113	0.925
8	**HAPH** = Households Accessing Pucca House (in %)	**0.913**	0.162	-0.204	0.901
9	**CR** = Crime Rate per-lakh population	**-0.887**	-0.064	0.34	0.906
10	**RL** = Road Length in km. per-lakh population	-0.183	0.314	**0.807**	0.783
11	**PCI** = Per Capita Income	**0.769**	0.518	0.078	0.866
Eigen Values		**4.905**	**2.32**	**2.018**	
% of Variance explained by the factors		**44.588**	**21.095**	**18.347**	
Cumulative % of Variance explained by the factors		**44.588**	**65.682**	**84.029**	

Source: Own Calculation from Secondary Data

Note: 1. Extraction Method: Principal Component Analysis.
2. Rotation Method: Varimax with Kaiser Normalization.
3. a = Rotation converged in 12 iterations.

The values of the factor loadings are positive or negative depending on whether the impacts of the variables on socioeconomic status are positive or negative. The variables having positive factor loading reflect a positive impact on socio-economic status. While a variable with a negative association represents its negative impact on socio-economic status. As we have seen in Table 4.12, Factor-1 is highly positively associated with the variables PUP followed by HAPH,

HACFC PCI and LR and it has a high negative association with CR and DP. Factor-2 has a strong positive association with HAISF followed by HAEL. Factor-3 is positively correlated with HASDW and RL. Therefore, 9 variables namely percentage of urban population (PUP), literacy rate (LR), households accessing electricity for lighting (HAEL), households accessing safe drinking water (HASDW), households accessing improved sanitary facility (HAISF), households accessing clean fuel for cooking (HACFC), households accessing pucca house (HAPH), road length per-lakh population (RL) and per-capita income (PCI) have a positive impact on the socio-economic status of the people in Assam. On the other hand, 2 variables density of population (DP) and crime rate per-lakh population (CR) have a negative impact on socio-economic status. It is observed that high population density and high crime rate have a negative impact on socio-economic status because they create several unfavourable situations in a society like a hue and cry, tensions, social insecurity etc.

4.3.4 Factor Scores

Factor scores are the reflected variables corresponding to the factors retained in PCA. Here, three factors have been retained and accordingly we have their factor scores as stated in Table 4.13. Factor scores are either positive or negative. The positive scores are associated with SEI above the average SEI of the districts or state average SEI 25.35 and negative scores are related with SEI below the state average SEI 25.35 (Table 4.14).

According to Table 9.13, the factor scores of Factor 1 are varied from -1.066 to 4.43. Out of the 27 districts, 9 districts namely Kamrup Metro (4.43), Cachar (0.832), Karimganj (0.566), Jorhat (0.481), Hailakandi (0.328), Bongaigaon (0.293), Sivasagar (0.2), Nalbari (0.144) and Dima Hasao (0.094) have a positive value in Factor 1, because, these districts have a relatively higher value in the socio-economic variables PUP, HAPH, HACFC and PCI.

Table 4.13 Factor Scores and Non-Standardised Socio-Economic Index (NSEI) of the Districts of Assam

District	Factor Score-1	Factor Score-2	Factor Score-3	NSEI
Baksa	**-1.066**	0.648	-0.143	-0.434
Barpeta	-0.068	-0.859	-1.195	-0.513
Bongaigaon	0.293	0.092	-0.269	0.12
Cachar	0.832	-1.469	0.723	0.23
Chirang	-0.459	-1.05	0.443	-0.411
Darrang	-0.623	-0.069	-1.023	-0.572
Dhemaji	-0.792	-0.587	0.171	-0.53
Dhubri	-0.173	-1.568	**-1.366**	-0.784
Dibrugarh	-0.08	0.694	**2.603**	0.7
Dima Hasao	0.094	0.866	0.627	0.404
Goalpara	-0.156	-0.364	-0.325	-0.245
Golaghat	-0.774	1.413	-0.208	-0.101
Hailakandi	0.328	**-2.464**	0.89	-0.25
Jorhat	0.481	**1.651**	0.147	0.702
Kamrup Rural	-0.152	1.112	-0.452	0.1
Kamrup Metro	**4.43**	0.563	-0.421	2.4
Karbi Anglong	-0.421	-0.202	1.819	0.123
Karimganj	0.566	-1.31	0.346	0.047
Kokrajhar	-0.707	-0.553	0.294	-0.45
Lakhimpur	-0.149	-0.001	0.328	-0.008
Morigaon	-0.363	-0.34	-1.105	-0.519
Nagaon	-0.02	0.207	-0.843	-0.143
Nalbari	0.144	0.812	-0.788	0.108
Sivasagar	0.2	1.064	0.026	0.379
Sonitpur	-0.226	0.572	0.147	0.055
Tinsukia	-0.188	0.386	-0.389	-0.088
Udalguri	-0.95	0.755	-0.037	-0.323

Source: Own Calculation from Secondary Data
Note: NSEI = Non-Standardised Socio-Economic Index

Kamrup Metro has the highest positive value in Factor 1 because of the highest positive impact of the socio-economic variables PUP, HAPH, HACFC and PCI on socio-economic status. Similarly, the Baksa district has the highest negative value in Factor 1 due to its relatively lower value in the socio-economic variables PUP, HAPH, HACFC and PCI.

In the case of Factor 2, the Jorhat district has the highest positive value because it has the highest HAISF or percentage of households with an improved sanitary facility. This district has a relatively higher HAEL or percentage of households accessing electricity for lighting. Hailakandi district's score in Factor 2 is the highest negative because it has the lowest percentage of households accessing electricity and a relatively lower percentage of households having improved sanitary facilities. Fourteen districts namely, Jorhat (1.651), Golaghat (1.413), Kamrup Rural (1.112), Sivasagar (1.064), Dima Hasao (0.866), Nalbari (0.812), Udalguri (0.755), Dibrugarh (0.694), Baksa (0.648), Sonitpur (0.572), Kamrup Metro (0.563), Tinsukia (0.386), Nagaon (0.207) and Bongaigaon (0.092) have a positive value in Factor 2 due to the relatively higher percentage of households accessing improved sanitary facility and electricity in these districts.

Dibrugarh district has the highest percentage of households accessing safe drinking water and so it has the highest positive score in Factor 3. On the other hand, Dhubri district has the lowest road length per-lakh population and so, it has the highest negative score in Factor 3. Regarding Factor 3, thirteen districts in Assam have positive values due to a relatively more percentage of households are accessing safe drinking water. These 13 districts with their positive scoring in Factor 3 are Dibrugarh (2.603), Karbi Anglong (1.819), Hailakandi (0.89), Cachar (0.723), Dima Hasao (0.627), Chirang (0.443), Karimganj (0.346), Lakhimpur (0.328), Kokrajhar (0.294), Dhemaji (0.171), Jorhat (0.147), Sonitpur (0.147) and Sivasagar (0.026).

Thus, we have got that the positive impact on the socio-economic status come from the socio-economic variables viz. percentage of the urban population, literacy rate, percentages of households accessing electricity for lighting, safe drinking water, improved sanitary facility, clean fuel for cooking and pucca house, **r**oad length in km. per-lakh population and per-capita income. Two variables density of population and crime rate per one lakh population have a negative impact on socio-economic status in the districts of Assam.

4.3.5 Socio-Economic Index (SEI) of the Districts of Assam

The non-standardised SEIs (NSEI) of the districts have been calculated from the scores of the factors retained in the principal component analysis. The NSEIs are either positive or negative. A positive (negative) NSEI represents a higher (lower) socio-economic status than the average socio-economic status of the districts or state average. Only 12 districts out of 27 districts of Assam have higher socio-economic status than the state average socio-economic status because they have positive NSEI scores. The districts with positive NSEI scores are Kamrup Metro (2.4), Jorhat (0.702), Dibrugarh (0.7), Dima Hasao (0.404), Sivasagar (0.379), Cachar (0.23), Karbi Anglong (0.123), Bongaigaon (0.12), Nalbari (0.108), Kamrup Rural (0.1), Sonitpur (0.055) and Karimganj (0.047) (Table 4.13). To make a comparison among the SEIs of the districts, we have standardised the NSEI into a 0 to 100 scale and we have got SEI scores of the districts as stated in Table 4.14. It is observed that the above mentioned 12 districts namely Kamrup Metro (100), Jorhat (46.671), Dibrugarh (46.608), Dima Hasao (37.312), Sivasagar (36.526), Cachar (31.847), Karbi Anglong (28.486), Bongaigaon (28.392), Nalbari (28.015), Kamrup Rural (27.764), Sonitpur (26.351) and Karimganj (26.099) have higher SEI scores than state average SEI score 25.35 (Table 4.14).

There is an inter district variation among the districts of Assam in terms of socio-economic status with the co-efficient of variation of 79.25 percent. Kamrup Metro has the highest socio-economic status with rank 1 followed by Jorhat district (rank 2) and Dibrugarh district (rank 3). According to Table 4.14, the Dhubri district (SEI score is 0 and rank 27) has the lowest socio-economic status preceded by Darrang district (SEI score is 6.658 and rank 26) and Dhemaji district (SEI score is 7.977 and rank 25). The SEI scores of most of the districts of Assam are quite low because their socio-economic variables have compared with the socio-economic infrastructure of Kamrup Metro which is only the metro city of the state. Due to the wide variations as observed in the previous analysis among the districts in terms of socio-economic variables, there are inter-district variations of socio-economic status among the districts of Assam.

Table 4.14 Socio-Economic Index (SEI) of the Districts of Assam

Districts		SEI	Rank	Districts		SEI	Rank
Baksa	BTAD	10.992	21	Kamrup Rural	Non BTAD	27.764	10
Chirang		11.715	20	Kamrup Metro		100	1
Kokrajhar		10.49	22	Karbi Anglong		28.486	7
Udalguri		14.479	19	Karimganj		26.099	12
BTAD		**11.88**	**---**	Lakhimpur		24.372	13
Barpeta	Non BTAD	8.511	23	Morigaon		8.323	24
Bongaigaon		28.392	8	Nagaon		20.132	16
Cachar		31.847	6	Nalbari		28.015	9
Darrang		6.658	26	Sivasagar		36.526	5
Dhemaji		7.977	25	Sonitpur		26.351	11
Dhubri		0	27	Tinsukia		21.859	14
Dibrugarh		46.608	3	**Non BTAD**		**26.86**	**---**
Dima Hasao		37.312	4	**Assam**		**25.35**	**---**
Goalpara		16.928	17	**CV for BTAD**		**14.93**	---
Golaghat		21.451	15	**CV for Non BTAD**		**75.73**	---
Hailakandi		16.771	18	**CV for Assam**		**79.25**	---
Jorhat		46.671	2	NB: CV = Co-efficient of Variation			

Source: Own Calculation from Secondary Data

The average socio-economic status of the BTAD districts (11.88) is too lower than the average socio-economic status of the Non-BTAD districts (26.86) and state average socio-economic status (25.35). In other words, the socio-economic statuses of the BTAD districts Udalguri (14.479), Chirang (11.715), Baksa (10.992) and Kokrajhar (10.49) are lower than the Non-BRAD district average SEI 26.86 and State average SEI 25.53.

4.4 Human Development in Assam

In this section, we study the district wise variation in terms of human development in Assam. First, the Assam Human Development Index (AHDI) was published in the year 2003 and the second one was published in the year 2014 by the Govt. of Assam. Both the Assam Human Development Reports (AHDR) 2003 and 2014, have widely elaborated the dimensional achievements in health,

education and income. They have highlighted many more important aspects of human development in Assam, namely district wise HDI ranking, Gender Development Index (GDI) and Human Poverty Index (HPI). Assam Human Development Reports have extensively investigated the socio-economic conditions of the people of the state.

According to the AHDR 2003, the Infant Mortality Rate (IMR) was used as a measure of health status and used IMR Index to mean health index (Table 4.15). There was an inter-district disparity in the case of the IMR index with the co-efficient of variation of 46.50 percent. The IMR index or health index of 2003 of Assam improved from 0.343 to 0.523 in 2014. Similarly, the co-efficient of variation in the IMR index (46.50%) was reduced to 24.48 percent as health index in 2014, because, lots of health initiatives were taken by the government through the National Rural Health Mission during this period. In 2014, Kamrup district had the highest health index (0.798) followed by Barpeta (0.768) and Chirang (0.746) and the lowest health index was 0.319 for Cachar district.

The Education Index of Assam increased from 0.595 in 2003 to 0.661 in 2014. Regarding the inter-district variation of the education index from 2003 to 2014, there was a reduction in disparity with the reduced co-efficient of variation from 12.5 percent to 8.11 percent. The government initiatives through Sarba Siksha Abhiyan (SSA) may be considered successful to some extent in this regard. In the case of the education index, Jorhat district (0.722) ranked top in 2003 but Kamrup Metro (0.783) became top in the year 2014. However, Kamrup Metro was not created as a district in 2003. Dhubri district was always in the bottom position of the education index securing education index 0.454 in 2003 and 0.579 in 2014. As we have seen in the earlier discussion, Dhubri district has lots of char areas with poor educational facilities which may be the cause of the low educational achievement of this district.

Table 4.15 Dimensional Index of Human Development in the Districts of Assam in 2003 & 2014

District		IMR Index 2003	Health Index 2014	Education Index		Income Index 2003	Living Standard 2014
				2003	2014		
1		**2**	**3**	**4**	**5**	**6**	**7**
Baksa	BTAD	NA	0.34	NA	0.606	NA	0.404
Chirang		NA	0.746	NA	0.677	NA	0.457
Kokrajhar		0.443	0.539	0.474	0.645	0.145	0.402
Udalguri		NA	0.538	NA	0.602	NA	0.441
BTAD		**NA**	**0.51**	**NA**	**0.627**	**NA**	**0.421**
Barpeta	Non BTAD	0.279	0.768	0.527	0.684	0.385	0.462
Bongaigaon		0.129	0.53	0.557	0.667	0.103	0.507
Cachar		0.307	0.319	0.634	0.647	0.266	0.479
Darrang		0.207	0.62	0.514	0.566	0.057	0.399
Dhemaji		0.186	0.481	0.622	0.688	0.026	0.393
Dhubri		0.086	0.51	0.454	0.579	0.102	0.38
Dibrugarh		0.636	0.518	0.654	0.7	0.162	0.483
*Dima Hasao/North Cachar Hills		0.229	0.748	0.65	0.662	0.211	0.525
Goalpara		0.243	0.718	0.536	0.612	0.146	0.47
Golaghat		0.564	0.543	0.65	0.684	0.409	0.431
Hailakandi		0.293	0.366	0.563	0.605	0.234	0.376
Jorhat		0.664	0.587	0.722	0.744	0.564	0.643
Kamrup Rural		0.45	0.798	0.701	0.648	0.573	0.483
Kamrup Metro		NA	0.554	NA	0.783	NA	0.8
Karbi Anglong		0.457	0.743	0.535	0.645	0.491	0.48
Karimganj		0.207	0.36	0.62	0.627	0.078	0.42
Lakhimpur		0.2	0.612	0.657	0.693	0.154	0.468
Morigaon		0.371	0.73	0.551	0.678	0.562	0.386
Nagaon		0.307	0.588	0.583	0.684	0.179	0.516
Nalbari		0.314	0.496	0.641	0.721	0.076	0.535
Sivasagar		0.464	0.521	0.702	0.758	0.242	0.63
Sonitpur		0.45	0.444	0.552	0.615	0.071	0.532
Tinsukia		0.479	0.425	0.571	0.625	0.082	0.483
Non-BTAD		**NA**	**0.555**	**NA**	**0.665**	**NA**	**0.496**
Assam		**0.343**	**0.523**	**0.595**	**0.661**	**0.286**	**0.501**
CV for BTAD		**NA**	**30.66**	**NA**	**5.6**	**NA**	**6.42**
CV for Non-BTAD		**NA**	**24.33**	**NA**	**8.22**	**NA**	**19.88**
CV for Assam		**46.50**	**24.48**	**12.5**	**8.11**	**74.91**	**19.75**
Correlation		**R_{23} = 0.081**		**R_{45} = 0.694**		**R_{67} = 0.197**	

Source: Assam Human Development Report 2003 & 2014

Note: 1. NA = Not Available due to District was newly created in 2003

2. * = Dima Hasao was known as North Cachar Hills in 2003

The Income Index was calculated to study living conditions in 2003 and the dimensional index Living Standard was calculated to study the same in 2014. The income index of Assam increased from 0.286 in 2003 to 0.501 as the standard of living index in 2014. Wide inter-district variation in income index of 2003 with a co-efficient of variation 74.91 percent was reduced to 19.75 percent as the co-efficient of variation in the standard of living index in 2014 (Table 4.15). These were a good sign of economic development that took place in Assam during this period.

Human Development Index in Assam has been rising slowly from 0.407 in 2003 to 0.557 in 2014. The co-efficient of variation of inter-district HDI scores reduced from 28.6 percent in 2003 to 12.55 percent in 2014. But the inter-district disparity in human development is still high in Assam as per AHDR 2014.

The variations in the HDI scores among the districts are due to the variations of the achievements in key dimensions of human development. Performances in key dimensions of HDI reflect the actual picture of basic human capabilities. HDI is the outcome of the dimensional indices namely- health index, education index and living standard index. The health index states the level of achievement in living a long and healthy life towards the desired goal. The educational index is for dimensional achievement in education. And dimensional achievement in income is an index for the standard of living.

In the HDI raking of 2014, Kamrup Metro has secured the top with an HDI score of 0.703, because its scores in the dimension of living standard (0.800) and education dimension (0.783) are the highest than that of other districts. This means that the living standard and education status enjoyed by the people of Kamrup Metro are the highest in Assam. However, a score of the health dimension of Kamrup Metro (0.554) is slightly greater than the state level score of 0.523 (Table 4.15). Hence, the health status of people of Kamrup Metro is more or less equivalent to the state average.

Table 4.16 Human Development Index of the Districts of Assam in 2003 & 2014

District		HDI		Rank	
		2003	2014	2003	2014
1		2	3	4	5
Baksa	BTAD	NA	0.437	NA	26
Chirang	BTAD	NA	0.614	NA	7
Kokrajhar	BTAD	0.354	0.519	15	20
Udalguri	BTAD	NA	0.523	NA	18
BTAD		**NA**	**0.510**	---	---
Barpeta	Non BTAD	0.396	0.624	9	6
Bongaigaon	Non BTAD	0.263	0.564	21	14
Cachar	Non BTAD	0.402	0.463	8	24
Darrang	Non BTAD	0.259	0.519	22	19
Dhemaji	Non BTAD	0.277	0.507	20	21
Dhubri	Non BTAD	0.214	0.482	23	23
Dibrugarh	Non BTAD	0.483	0.56	6	15
Dima Hasao/North Cachar Hills	Non BTAD	0.363	0.638	11	3
Goalpara	Non BTAD	0.308	0.591	18	10
Golaghat	Non BTAD	0.54	0.543	3	16
Hailakandi	Non BTAD	0.363	0.437	11	27
Jorhat	Non BTAD	0.65	0.655	1	2
Kamrup Rural	Non BTAD	0.574	0.63	2	4
Kamrup Metro	Non BTAD	NA	0.703	NA	1
Karbi Anglong	Non BTAD	0.494	0.612	4	8
Karimganj	Non BTAD	0.301	0.456	19	25
Lakhimpur	Non BTAD	0.337	0.583	17	11
Morigaon	Non BTAD	0.494	0.576	4	13
Nagaon	Non BTAD	0.356	0.592	14	9
Nalbari	Non BTAD	0.343	0.576	16	12
Sivasagar	Non BTAD	0.469	0.629	7	5
Sonitpur	Non BTAD	0.357	0.526	13	17
Tinsukia	Non BTAD	0.377	0.505	10	22
Non-BTAD		**NA**	**0.563**	---	---
Assam		**0.407**	**0.557**		
CV for BTAD		**NA**	**13.82**		
CV for Non-BTAD		**NA**	**12.26**		
CV for Assam		**28.6**	**12.55**		
Correlation		**R_{23} = 0.532**			

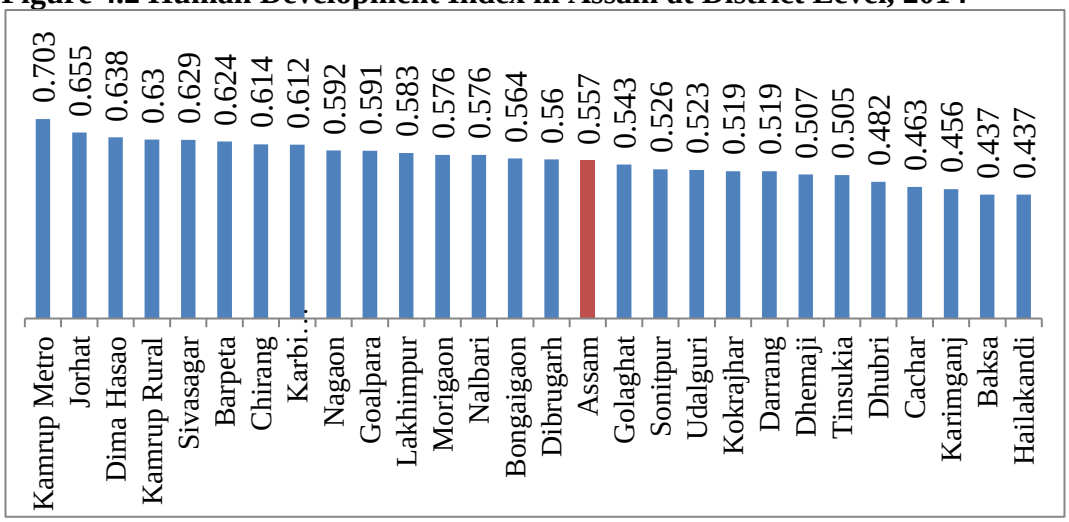
Source: Assam Human Development Report 2003 & 2014

Note: 1. NA = Not Available due to District was newly created in 2003
2. Dima Hasao was known as North Cachar Hills in 2003

According to AHDR 2014, two districts Baksa and Hailakandi have scored the same value 0.437 and it is the lowest score. In the case of dimensions of HDI namely- health, education and living standard, Baksa district has scored 0.340, 0.606 and 0.404 respectively and Hailakandi district has scored 0.366, 0.605 and 0.376 respectively. Both of these two districts have scored low value in the dimensions of health and living standard. This indicates lower health status and living standards than the other districts. Again, comparing dimensional scores, it is found that Baksa district is better than Hailakandi district in two dimensions- education and health, while, Hailakandi district is better than Baksa district in only one dimension i.e. health. That is why, the HDI ranking of Baksa district is 26th and that of Hailakandi district is 27th, though they have the same HDI score of 0.437 (Table 4.16).

It is observed in Table 4.16 that human development in the BTAD area is lower than the human development of the remaining part of Assam. The district average of the HDI of the BTAD districts (0.510) in 2014 is lower than that of the Non-BTAD districts (0.563) and state average HDI (0.557). The HDI of Chirang district (0.614) is better than the state average and its rank is 7th in AHDR 2014. The other three districts of BTAD namely Udalguri (0.523), Kokrajhar (0.519) and Baksa (0.437) secured AHDI ranking 18th, 20th and 26th respectively in 2014 (Table 4.16).

Figure 4.2 Human Development Index in Assam at District Level, 2014



Source: Assam Human Development Report 2014.

It is found that the HDI scores of 15 districts namely Kamrup Metro (0.703), Jorhat (0.655), Dima Hasao (0.638), Kamrup Rural (0.63), Sibsagar (0.629), Barpeta (0.624), Chirang (0.614), Karbi Anglong (0.612), Nagaon (0.592), Goalpara (0.591), Lakhimpur (0.583), Morigaon (0.576), Nalbari (0.576), Bongaigaon (0.564) and Dibrugarh (0.56) are higher than the state average HDI 0.557. On the other hand, HDI of 11 districts Golaghat (0.543), Sonitpur (0.526), Udalguri (0.523), Kokrajhar (0.519), Darrang (0.519), Dhemaji (0.507), Tinsukia (0.505), Dhubri (0.482), Cachar (0.463), Karimganj (0.456), Baksa (0.437) and Hailakandi (0.437) have relatively lower HDI than the state average HDI 0.557 of Assam (Figure 4.2).

According to UNDP's benched mark of HDI specification, human development is said to be poor if HDI is less than 0.500, is said to be moderate if HDI is greater than or equal to 0.500 but less than or equal to 0.799 and is said to be high if HDI is greater than or equal to 0.800. Since the HDI value of Assam (0.557) is greater than 0.500, human development may be considered moderate. It is clear from Figure 4.2 that HDI scores of five districts- Dhubri (0.482), Cachar (0.463), Karimganj (0.456), Baksa (0.437) and Hailakandi (0.437) are less than 0.500. Therefore, these five districts of Assam have poor human development. Again, the HDI values of the remaining 22 districts are greater than 0.500 but less than 0.799 and so, the human development of these districts is moderate. It is also clear from Figure 4.2 that the HDI of 15 districts is greater than the state average.

4.5 Conclusion

In this chapter, as the socio-economic study is the general objective of this study, we have analysed the socio-economic status and human development in the districts of Assam. In order to study the socio-economic status of the people, we have studied different demographic, social and economic variables on the basis of availability and accessibility of secondary data. The variations in the socio-economic variables reflect different levels of socio-economic status and accordingly, we have calculated the Socio-Economic Index of the districts of Assam. On the other hand, HDI is a measure of the general well-being of the people measured in the socio-economic sphere of life. Here, we have found wide variations in the performances of the districts in terms of socio-economic status

and human development. Therefore, the variations of socio-economic variables have reflected as the variations of socio-economic status among the districts of Assam.

While studying the demographic variables, we have found wide variations in the distribution of population, the decadal growth rate of population, the density of population, the share of urban population and life expectancy rate in the districts of Assam. The socio-economic status of the districts has been affected in different ways due to the inter-district variations in demographic variables. Particularly, the density of population has a negative effect and the percentage of urban population has a positive effect on the socio-economic status of the districts.

At the time of studying social variables, we have found that some districts like Kamrup Metro, Jorhat, Dhemaji and Nalbari have better educational status with high literacy rate and good progress of the students. But, some other districts like Hailakandi, Dima Hasao, Chirang, Kokrajhar etc. have poor performance in education. Better performance in education is a symbol of better socio-economic status. The districts with poor performance in education are found to have a lower socio-economic status.

Access to good housing with the pucca house, electricity, sanitary latrine, safe drinking water, using LPG for cooking etc. indicate better socio-economic status. Otherwise, it has a poor socio-economic status. A few districts in Assam like Chirang, Baksa, and Kokrajhar are very poor in household amenities. Even most of the households of these districts do not have a latrine and they are still using open space for latrine which is too unfortunate.

Finally, we have studied the growth of human development in the district of Assam. It is found that the HDI of Assam has increased marginally 0.407 in 2003 to 0.557 in 2014. According to the AHDR 2014, the HDI of Assam (0.557) is found moderate. Similarly, the HDI of most of the districts is found moderate. Assam does not have a single district with high HDI. Human development is found poor in five districts- Dhubri (0.482), Cachar (0.463), Karimganj (0.456), Baksa (0.437) and Hailakandi (0.437). Human development with a high HDI is

represented by the good quality of knowledge, good health and high living status; those ultimately reflect a better socio-economic status of the people. The highest HDI is found for Kamrup Metro (0.703) followed by Jorhat (0.655), Dima Hasao (0.638), Kamrup Rural (0.63), Sibsagar (0.629), Barpeta (0.624), Chirang (0.614), Karbi Anglong (0.612) and all other districts of Assam (Figure 4.2).

But there is a lack of secondary information on socio-economic variables to study the socio-economic status of a particular community. Hence, as one of the objectives of this study, we will study in the next chapter the socio-economic status of the Bodo community in the Chirang district based on primary data.

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