

CHAPTER - 02

SOCIO ECONOMIC PROFILE

2.1 INTRODUCTION

The project road is between Ranipool to Paykong NH-717-A, in East district of Sikkim State.

Project Location:

- Country : India
- State : Sikkim
- District : East Sikkim
- Road Name : NH-717 (A)
- Project Road Length : 16.539 Kms



Project State: Sikkim

Sikkim State is bordering the eastern Himalayas bordered on the west by Nepal, on the north by Tibet, on the east by Bhutan and the south by Darjeeling district of the West Bengal.

Location	Approx 27 deg. North 88 deg. East
Area	7,096 sq.kms
State Population (As per 2011 Census)	607,688 (Male 3,23,070; Female 2,87,507)
Sex ratio (2011 Census)	957 females/1000 males
Density of population	86 per sq. km
Capital	Gangtok
District, Areas & District Capitals	East District (954 sq. km) -Gangtok, West District (1166 sq. km) - Gyalshing ,South District - Namchi North District (4226 sq.km) - Mangan
No. of Sub-Divisions	9 (Gangtok, Pakyong, Rongli, Namchi, Soreng, Gyalshing, Rabongla, Mangan, Chungthang)
Climate	Tropical, Temperate and Alpine
No. of Zilla Panchayat ward	100
No. of Gram Panchyat	163 units
No. of Revenue Blocks	454
Other Important towns	Jorethang, Singtam, Rangpo, Pakyong,Rhenock, Melli, Chungthang and Soreng
Languages Spoken	Nepali, Bhutia, Lepcha, Limboo, Magar, Gurung, Sherpa, Tamang, Newari, Sunuwar (Mukhia).
Main occupations	Farming, Government and pvt. services
Contractors and Government Employees. Per Capita Income	Rs. 88,137/- (2011)
Domestic product	Rs. 1717 crores (2005-06)
Religions	Hinduism, Buddhism and Christianity

Urban Population	11.07%
% below poverty line	19.2 (in 2005-06)
Death Rate:	4.5 (in 2005-06 per 1000)
Infant Mortality rate	26 (in 2013 per 1000)
State Day (the day Sikkim Became a part of India)	16th May 1975
State Animal	Red Panda (<i>Ailurus fulgens</i>)
State Bird	Blood Pheasant (<i>Ithaginis cruentus</i>)
State Flower	Nobile Orchid (<i>Dendrobium nobile</i>)
State Tree	Rhododendron (<i>Rhododendron niveum</i>)
Percentage of literacy	82.2 % (2011)

2.2 TOPOGRAPHY

The total geographical area of Sikkim State is about 7096 sq. km. The maximum horizontal length from north to south is about 112 Km. whereas the maximum width from east to west is 90 Km. The Tibetan Plateau on the north, Nathula and other passes on the north east, Bhutan on the south east, Darjeeling district of West Bengal on the south and Singalila range of Nepal from the boundaries of this picturesque Himalayan State. It is a hill state having no plain area. The altitude above mean sea level varies from 213 m in the south to over 8500 m in the northwest. The Khangchedzonga, the third highest peak in the world at an elevation of about 8550 m adorns the state with its beautiful range covered with shining snow. Gangtok, the capital is about 1677 m above mean sea level. The northern part of the state is cut into deep escarpments. The northern part is not populated except in Lachung and Lachen valleys. Southern Sikkim is, however, more open and fairly well cultivated.

2.3 RIVERS

The river Teesta is one of the main Himalayan Rivers, which originates in the glaciers of Sikkim at an elevation of over 8500 m above mean sea level. River rises in mountainous terrain and is formed mainly by the union of two hill streams Lachen Chu and Lachung Chu at Chungthang in North Sikkim. After the confluence of Lachen Chu and Lachung chu at Chungthang, the river gradually increases in width and takes a wide flowing down to Singhik, dropping in elevation from 1550 m to 750 m. At Singhik, the river receives one of the its major tributaries, the Talung chug on its right. Talung Chu originates from the Talung glaciers, which are the part of theKhangchendzonga range. From Singhik, the rivers flow towards Dikchu in a very deepvalley and drops from 750 m to 550 m. From Dikchu the river flows in a big curve againdown to the Singtam with a drop of about 200 m. The Rongnichu, which drains theChangu lake area, joins Teesta from left at Singtam and the river receives Rangpo Chu at Rangpo. After Rangpo, Teesta start widening rapidly and is joined by the great Rangit at Melli bazar on Sikkim – West Bengal border.

2.4 CLIMATE

Climate of the study area is of Tropical Monsoon type, with moderate to hot summer, long rainy season and a short spell of cold weather. The maximum and minimum temperatures are 37.4°C and 7.8°C respectively. Maximum and minimum humidity are 89.74% & 58.19%, respectively. The total annual rainfall is around 3200 mm.

2.5 LAND USE

The abutting land use pattern of the project road is predominantly agricultural and/or open land type for throughout the stretch except at a few urban/semi-urban settlements, commercial, industrial areas and BSF camp areas.

2.6 COMMUNICATION

By Air

Bagdogra is the nearest airport for Sikkim. There are regular scheduled flights operated by the Indian airlines and other private airlines between Kolkata & New Delhi, the capital of West Bengal and Bagdogra and also between New Delhi and Bagdogra. Jeep & taxis are available outside Bagdogra airport for Gangtok. Gangtok is 124 kms from Bagdogra and the journey takes about 4 hours by jeep and 5 hours by bus. Sikkim Helicopter Service is also available from Siliguri and other important places in Sikkim.

By Rail/Road

The closest railway stations are Siliguri junction, (Metre Gauge) which is 114km away and New Jalpaiguri (Broad Gauge), which is 125km away. A number of trains are available for Kolkata, Delhi, Guwhati and other important cities of India. Besides jeep taxis, Sikkim National Transport and other private buses ply regularly between Sikkim and Siliguri.

Sikkim Road Network: It consists of 2947.95 kms with road categories mentioned below:

Road Category	Length (kms)
National Highway	309.00
State highways	203.03
Major District roads	740.15
Other District Roads	1131.37
BRO Roads	564.40
Total	2947.95

Details of existing road is given in Table : 2.1 given below

Table : 2.1 ROAD NETWORK IN THE STATE OF SIKKIM				
S/N	NAME OF ROAD	Category	Status	Length (in km)
1	Manpur Namchi	MDR	BT	19.24
2	Namchi Damthang	SH	BT	12.75
3	Namchi Phong	MDR	BT	17.42
4	Phongla Mamring	MDR	BT	25.12
5	Phongla Bermoik	MDR	BT	18.87
6	Melli-Nayabazar	SH	BT	26.96
7	Nayabazar-Namchi	SH	BT	20.06
8	Goskhan Dara-Sirwani Bridge	SH	BT	2
9	Simchuthang-Pabong-Tarku	SH	BT	14
10	Pabong-Simchuthang Yangang	MDR	BT	18
11	Ravangla-Yangang-Makha	MDR	BT	36

12	Sirwani Bermoik	MDR	BT	10
13	Legship-Rabongla	SH	BT	25
14	Tarku-Rabongla (GLVC)	SH	BT	20
15	Tarku-Damthang	SH	BT	19.09
16	Damthang-Rabongla	MDR	BT	12.36
17	Gyalshing-Pelling	MDR	BT	8.22
18	Gyalshing-Tikjuk	MDR	BT	1.8
19	Legship-Gyalshing	SH	BT	14.78
20	Legship (Gangtok more)- Tashiding Gumpa Phatak	MDR	BT	11.51
21	Yuksom Phatak - Tashiding Gumpa Phatak	MDR	BT	18.33
22	Reshi - Legship	SH	BT	9.71
23	Rimbi-Yuksom	MDR	BT	21.62
24	Pelling-Rimbi	MDR	BT	12
25	Rimbi-Khecheperi	MDR	BT	9.33
26	Kaluk- Dentam	MDR	BT	19
27	Pelling - Dentam	MDR	BT	17.39
28	Nayabazar Budang Soreng via Malabasey	MDR	BT	10.12
29	Nayabazar Budang Soreng via Chakung	MDR	BT	24.48
30	Nayabazar Reshi	SH	BT	14.3
31	Soreng Kaluk	MDR	BT	15.51
32	Nayabazar- Daramdin- Pureytar	MDR	BT	28.52
33	Soreng-Sombarey	MDR	BT	17.61
34	Sombarey Hilley	MDR	BT	25.33
35	Rumtek- Rey- Ranka	MDR	BT	9.72
36	Ranka Sichey	MDR	BT	11.21
37	Gangtok Rumtek Sang	MDR	BT	24.33
38	Penlong Tintek	MDR	BT	16.21
39	Gangtok-Rongyek-Bhusuk-Assam Lingzey	MDR	BT	21
40	TNA Upper Gate to Raj Bhawan Gate I	MDR	BT	0.6
41	Zero Point to Raj Bhawan Gate II	MDR	BT	1.24
42	Approach road to Enchey from Mintokgang	MDR	BT	1.37
43	Approach road to Enchey Monastery from JN road via Chandmari	MDR	BT	1.21
44	Roads In and Around VIP Complex	MDR	BT	1.53
45	Approach road to Forest Colony from Farukh Pan Dokan	MDR	BT	0.19
46	Approach road to Hon'ble Chief Justice Bungalow from Farukh Pan Dokan	MDR	BT	0.38
47	Approach road to Tathangchen School from Guards Ground	MDR	BT	0.33
48	Approach road to DGP Bungalow/TTI Boys Hostel from Ridge	MDR	BT	0.85
49	Ribge Park to Bhanu Path via White Memorial Hall	MDR	BT	0.17
50	Palace Gate to Dukit Pan Dokan	MDR	BT	0.06
51	Approach road to Sikkim Press	MDR	BT	0.36
52	Tshuklakhang to Guards Ground	MDR	BT	0.23
53	Approach road to DC's Bungalow	MDR	BT	0.09

54	Approach road to RIR Station/SP's Bunglow	MDR	BT	0.11
55	Sonam Gyatso Marg to NH 31A via High Court	MDR	BT	0.21
56	DC road from Jeewan Theeng Marg	MDR	BT	0.28
57	Palzor Stadium to District Court (Dr. B.R. Ambedkar Road)	MDR	BT	2.15
58	Palzor Stadium to Indira Bye Pass	MDR	BT	1.23
59	Tri Juncyion to Sichey Co-Operative Society at Middle Sichey	MDR	BT	0.93
60	Palzor Stadium to Police Barrack	MDR	BT	0.18
61	Basilal Petrol Pump to Diesel Power House	MDR	BT	0.57
62	Approach Road to Arithang from Shere Punjab Hotel	MDR	BT	1.18
63	Rai Cottage to Arithang	MDR	BT	0.24
64	Power Secretariat to Deorali via Kashiraj Pradhan Marg	MDR	BT	0.84
65	Approach road to Syari Housing Colony from Deorali	MDR	BT	0.84
66	Approach road to Chorten Complex from Deorali	MDR	BT	0.67
67	Approach road to SITCO from NH 31 A below Deorali	MDR	BT	0.09
68	Approach road to Defence Auditorium from NH 31- A	MDR	BT	0.45
69	Approach road to Bhai School from Khangri Petrol Pump	MDR	BT	0.75
70	Approach road to ICAR Complex from Convoy Groung	MDR	BT	0.14
71	Approach road to Store Complex at 5th Mile Tadong	MDR	BT	1.24
72	Pakyong-Machong	MDR	BT	15
73	Rongli-Rorathang	MDR	BT	9.3
74	Singtam - Cheworebotey	MDR	BT	11
75	Cheworebotey - Pendam	MDR	BT	5
76	Rangpo - Duga Pendam	MDR	BT	15
77	Khamdong Linzey - Tintek	MDR	BT	26
78	Sang - Dipudara	MDR	BT	14
79	Approach Road to Goshkhan Dara	SH	BT	0.06

***Notes MDR = Major district road .SH= Sate highway & BT = Black top**

2.7 PROJECT ROAD: NH 717 A

The Project Corridor take-off point at km 78/100 (i.e. located at out skirt of Ranipool town toward Singtam) on Sevok-Gangtok section of NH-10 and runs towards North to South direction passing through a number of towns/villages like Ranipool - Aho - Yangtam - Panchwati - Pakyong within East District.

- The Projected road alignment passes through frequently open land & cultivated land.
- The height of the road at various locations varies from 821 m at Ranipool , 1365 m at Paykong Town, above mean sea level (MSL).
- The list of the habituated places along the road for the commutation & use are presented in Table No. 2.2 given below:

Sr.No.	Existing Chainage		Village Name	Design Chainage		District
	From	To		From	To	
1	0	3000	Ranipool	0	1950	East
2	3440	4500	Aho	2350	3350	East
3	5000	6200	Yangtam	3850	5000	East
4	12550	13200	Panchwati	9000	9650	East
5	14460	19100	Pakyong	10900	16359	East

Table No: 2.2 Lists of Town along & nearby Proposed Road

General Project Area

The alignment of the project road passes through North to South (Ranipool in East District to Paykong in East District) direction. The whole length of the project road will be fresh cutting of mountainous as steep terrain with broken contours. The alignment of the project road traverses through frequently cultivated lands & open land. At some places the project corridor is within few kilometers of natural forest and virgin land of thick undergrowth of evergreen bushes and creeping plants.

The altitude of the project corridor is 821m. – 1365 m from MSL a height from mean sea level at the take off point at Ranipool Town and end point Paykong Town. The average annual rainfall in the project area is 3200 mm and is also within the affected area of cyclonic storm and is frequented by cyclone from Bay of Bengal.

Man power needed for the project implementation will be taken from the area nearby the project. However, skilled labour will have to be taken from other towns and cities. Moreover, the working season for road project work is clash with the harvesting season of the people in the area. More man power may also be needed depending upon the quantum of the requirement. The project road is also a highly malaria infested area; proper medical facilities will be required.

Problems and Challenge Areas

Based on the ground study, reconnaissance & survey and the data collected from PWD Sikkim & other dept. have gained appreciation of the technical and project management problems and have insight of the challenge areas of the project. The general appreciation of the thrust areas are described in the following paragraph.

Accessibility:

To visualize the problems that may be encountered in the development of road network in Sikkim, it is necessary to understand the topographical features of the State with particular reference to its location in the Indian sub-continent. NH-10 under development by Border Roads Organization is the main road link with Siliguri through which the entire need of this State in terms of food grains, construction materials and consumer goods are met.

Seismic Effect: The entire state of Sikkim is earthquake prone and falls under seismic Zone IV with reference to IRC-6. All structures need to be designed with seismic effect as per stipulations in IRC-6.

Land Slide: There is no major potential land slide in the Project road. However, there are four land slides areas.

Plantation: There is thick growth of green vegetation along the Project road.

Stone for Road Construction: While extracting stones for WMM, the quality material should be selectively chosen. If these quarries are used for the complete road, lead for the whole road may be substantial.

Water: In general, water available in the area has been found suitable for use in the road construction work. However, water is not available at all places and has to be transported from the local water points to the construction sites.

Work force: Mostly local people are agriculturists. Road construction requires tradesmen of sorts, skilled labourers and unskilled labourers. Manpower may need to be brought from other part of the country however local manpowers will be utilized for unskilled work such as labour, cook, watchman etc. It requires planning and organization for recruitment, training, induction and maintenance including provision of campage, food supplies, medical, welfare activities, etc. Independent facilities are necessitated to cater for the increased workforce.

Contractors: Though small supply Contractors are available in this part of Sikkim, the bulk of the requirement is initially to be augmented from outside. The stone crushers have to be installed for meeting the project requirements.

2.8 PROJECT AREA SOCIAL LIFE

History of Sikkim:

The culture of any place is often depicted through its cuisine, people, religion, language, art & crafts, music and dance. In Sikkim, a perfect blend of all these attributes to make a distinct culture of its own. Not only this, Sikkim embraces a synthesis of various communities along with their practiced religions. Sikkim culture has also been imbibed from the neighboring countries without compromising on its own individuality.



The modern history of Sikkim begins from 1642 A.D. with the coronation of Phuntsog Namgyal as the first Chogyal or king of Sikkim in a tranquil pine covered hill in Yuksom Norbugang in West Sikkim.

The Namgyals were scions of the Mi-nyak House in Kham in Eastern Tibet. It is said that there were three brothers, chiefs of Kham Mi-nyak. A letter dropped from heaven directed the middle brother to go south towards Sikkim where his descendents were fated to rule. It was in Sakya that his eldest son single-handedly raised the pillars of the Sakya monastery and earned himself the sobriquet of 'Khye Bumsa' (the strength of a lakh of men)

Khye Bumsa also earned himself the hand of the daughter of the Sakya hierarch and settled in Chumbi Valley, which remained, for a long time, the epicenter of the later kingdom of Sikkim.

Long troubled by the fact that he and his wife were issueless, Khye Bumsa sought



the blessings of the Lepcha chieftain Thekongtek who was reputed to be able to grant the boon of progeny. Khye Bumsa's wife subsequently bore him three sons. Later Khye Bumsa and Thekong Tek swore the historic pact of eternal friendship at Kabi Longtsok in North Sikkim.

Khye Bumsa's third son Mipon Rab succeeded his father. He, in turn, was succeeded by his fourth son Guru Tashi who moved to Gangtok. Meanwhile Thekongtek passed away and the Lepchas who started fragmenting into small tribes turned to Guru Tashi for leadership and protection. The Sikkim Coronation book describes Guru Tashi as the 'first ruler of Sikkim who paved way for a regular monarchy'.

Five generations later, it was Phuntsog Namgyal who was consecrated as the first Denjong Gyalpo or the king of Sikkim by the three great Lamas who came from the North, West and South to Yuksom Norbugang in West Sikkim in 1642 A.D. The event, predicted as it was by Guru Rinpoche, was the 'Naljor Chezhi' or the meeting of the four yogic brothers or the four saints or four sages.

It was preordained that three saints of great repute from different parts of Tibet make their way to Bayul Demajong (Sikkim) to discharge their responsibility of upholding and propagating the essence of Dharma in the hidden land of Demajong. Thus it was that Lhatsun Namkha Jigme, Kathog Kuntu Zangpo and Gnadak Sempa Phuntsog Rigzin made their way to Sikkim separately, and through impenetrable routes. This historical congregation of the three holy Lamas is called Yuksom, which in Lepcha means the 'Three Superior Ones'.

Lhatsun Chenpo impressed on the other two that they were all Lamas and needed a layman to rule the kingdom righteously. He further pointed out that, 'In the prophecy of Guru Rinpoche, it is written that four noble brothers shall meet in Demajong and arrange for its government. We were three of those who came from the North, West and South'. As for the East, he quoted the oracular guide book Rinchen Lingpa which mentioned, 'One of my four avatars will be like a lion, the king among beasts, who will protect the kingdom by his bravery and powers'. The book also mentioned that, 'One named Phuntsog from the direction of Gang will appear'.

So Lhatsun Chenpo deputed a hermit called Togden Kalzang Thondup and a layman called Passang to lead a party to Gangtok in invite the person bearing the name of Phuntsog to come to Yuksom Norbugang. After several adventures, the party came to Gangtok where they met Phuntsog milking his cows. Phuntsog invited them in and bade them partake of fresh cow's milk and told them his name was Phuntsog. He saw the invitation of the three Lamas as a most fortuitous event and lost no time in setting out for Yuksom Norbugang with his entire retinue of followers, officers and household establishment.

The coronation took place in the Chu-ta or water horse year in 1642A.D. Thus Phuntsog Namgyal was installed on the throne of Sikkim with the title of 'Chogyal' or king who rules with righteousness, with both spiritual and temporal powers. While the three Lamas spread Buddhism in Sikkim, Phuntsog Namgyal started consolidating his kingdom. Twelve generations of Chogyals ruled over Sikkim for over 300 years. tumultuous change in 1972-73. In 1975 the 16th, 1975 Sikkim was formally inducted as

Sikkim People

Sikkim has an interfusion of diverse communities. A specimen of harmony between people from different communities are the Lepchas, Bhutias and the plainsmen, who have settled there, and

Sikkim Cuisine

Sikkim has a blend of cultures and traditions



of this state. The bizarre combination of various cuisines has resulted into a specific cuisine, which is now called as cuisine of Sikkim. Today, Sikkim boasts of its own dietary culture that comprises food habits and some special recipes.

Sikkim Languages

Language is undoubtedly a crucial medium to communicate. Sikkim is a multi-lingual state, where people of many communities reside harmoniously. Nepali can be termed as the major spoken language in Sikkim. However, English is also frequently used, though it is mainly spoken in municipal areas.

Sikkim Religions

The Sikkimese are highly devout people and religions play a major role in Sikkim. Buddhism and Hinduism are the two major religions of Sikkim. Perhaps, Buddhism comes into view as the predominant religious practice in Sikkim. Though, Hinduism is the actual religion that is followed by the majority of people.

Sikkim Art and Craft

Sikkim is renowned for its dazzling and appealing beauty. The charm of this state is ever enticing and no one can remain abstain from its allure. In fact, Sikkim is resplendent with not only its natural beauty but with its art and craft too. The cultural richness of Sikkim is visible in its quality handicrafts.

Sikkim Dances

The cultural heritage of Sikkim is expressed in its traditional folk dances. Sikkim is domiciled by many ethnic castes and tribes; each of them has its own interesting folk dances. These folk dances and music have become an inseparable part of Sikkim Culture.

