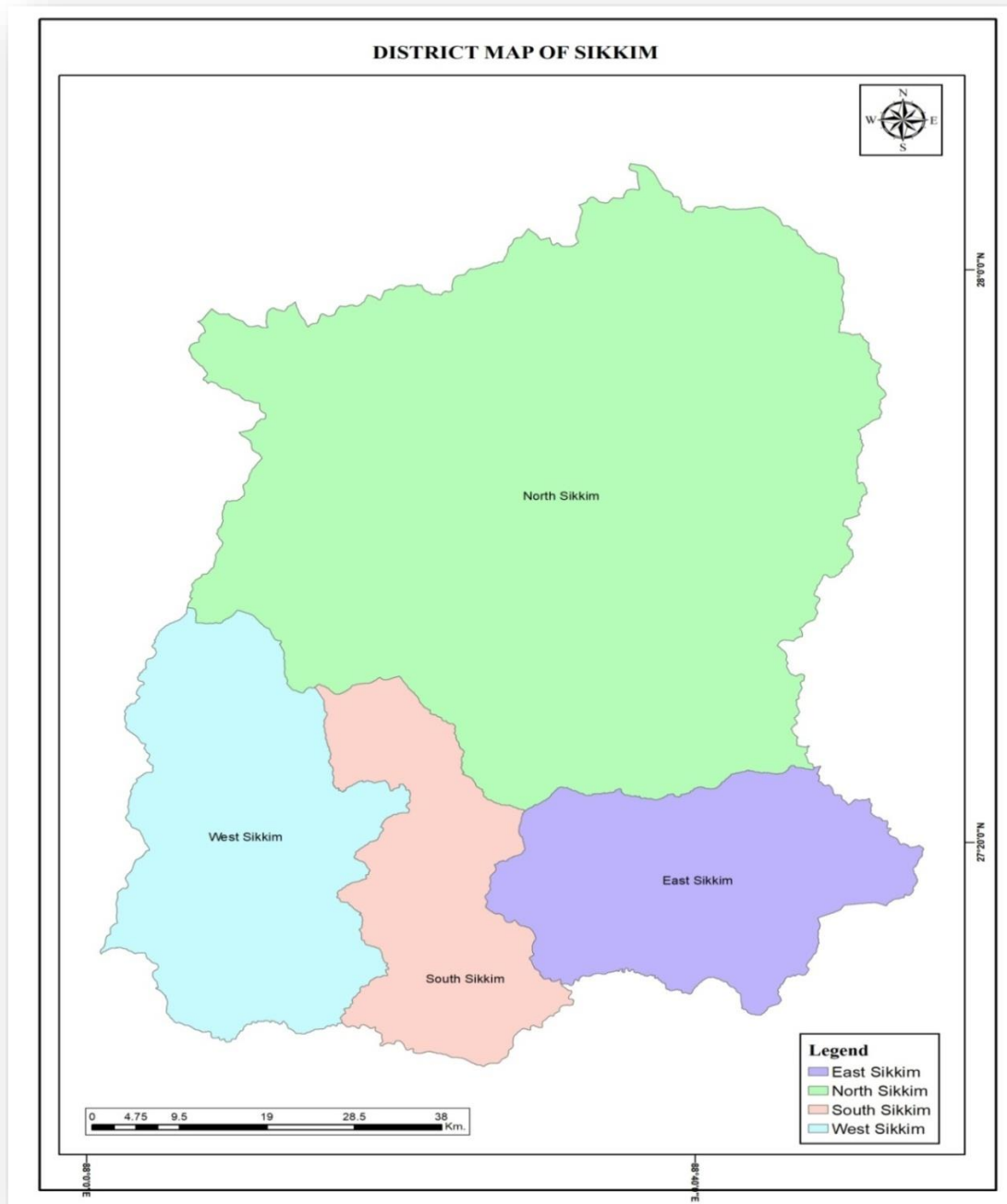


## State Environment Plan for Sikkim



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Govt. of Sikkim

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## STATE PROFILE

Sikkim is the 2<sup>nd</sup> smallest and the least populous 22<sup>nd</sup> state of India covering a geographical area of 7096 sq.km, extending approximately 114 kms from north to south and 64 kms from east to west. Sikkim ranks 27<sup>th</sup> in terms of area coverage and its density is 86 per sq km which is lower than national average 382 per sq km. It is a landlocked state in the north-eastern region of India and shares international borders with China, Nepal and Bhutan, and state boundary with West Bengal. The state falls in the 1.4 Meso Regions, namely North Eastern Himalayas of the Macro Region 1, the Northern Mountains of the Natural Division of India. It includes four micro regions i.e., 1.4.1, 1.4.2, 1.4.3 and 1.4.4 and lies between latitude of 27°5' N to 20°9' N and longitude of 87°59' E to 88°56' E (the state being in the inner Eastern Himalayan Mountain region), the elevation of the mountainous terrain ranges from 280 meters above sea level (asl) to 8585 meters asl; and has the third highest peak in the world located in the northern part of Sikkim Himalaya, the Mount Khangchendzonga. Nearly two third of the hilly regions of the state are montane perpetually covered with snow and are the sources of glaciers like Talung, Zemu, Lhonak, etc.

Owing to its location in the Himalayan mountain regions, the topography of Sikkim is diverse with an array of ecological variations of different climatic conditions from warm tropical in the south to the cold desert in the north which determines the varied vegetation patterns. The rich diversity and its elegant beauty of flora and fauna, waterfalls, lakes, holy caves, hot springs make the state as one of the biodiversity hotspots in the Eastern Himalayas. These water bodies especially the lakes of high altitude are the transitory halting habitats of a large groups of migratory waterfowls.

### a. State Administrative Set-up Profile

The district administration of Sikkim is setup in 4 districts – East Sikkim, West Sikkim, South Sikkim and North Sikkim. Each of these districts is headed by a State Government appointee, the District Collector, who oversees the overall administration of civilian areas of the district and coordinates the functioning of all other state government departments and PSUs within the district. The District Collector is supported by Additional District Collector. Sub-divisional Officers are the supporting and the heads of respective departments. The office of District Collector & Magistrate is known as District Administrative Centre (DAC) or District Collectorate. These districts are divided into 12 sub-divisions:

North district is the largest of the four districts of Sikkim and is divided into 4 sub-divisions namely Mangan (district capital), Dzongu, Kabi and Chungthang. The district has 5 Nagar Palika under Mangan Nagar Panchayat (MNP) namely Lower Mangan Bazaar, Power colony, Rinzing Namgyal, Pentok and Upper Mangan Bazaar.

East district also has 4 sub-divisions namely Gangtok, Pakyong, Rongli, and Rangpo which are headed by the respective Sub-divisional Magistrates and 10 Gram Panchayat Units headed by respective Gram Vikas Adhikaris. Gram Vikas Kendras comprise of various Gram Panchayat Units (GPUs) each having its own Panchayat Wards at the lowest level. There are 52 GPUs and 290 villages under East district. District Collectorate of East Sikkim houses office of District Collector and several other offices including Superintendent of Police, Additional District Collector (Development), SRDA, Pay and Accounts office, etc. Beside the Collectorate, DAC complex also houses the Zilla Panchayat Building. The District Court for North and east District are also situated in the same complex.

The West District sub-divisions are Soreng and Dentam and have its head quarter at Gyalshing.

Namchi and Ravangla are the sub-divisions of South district and Namchi, Jorethang, Melli and Ravangla are important towns of the district. South district has 8 Assembly Constituencies, 2 Municipal Councils, 14 Municipal Wards, 28 Zilla Territorial Constituencies, 48 Gram Panchayat Units and 283 Wards.

An official announcement was made by the Hon'ble Chief Minister, Shri. Prem Singh Tamang, to create two new districts, Pakyong and Soreng, by carving out the existing west and east districts by 2022 for which a technical committee has been formed to work out the required intricacies.

#### **b. Urban Local Bodies**

Sikkim has 7 Urban Local Bodies (ULBs) which has been constituted since 2010 – 2011 under Sikkim Municipalities Act 2007 in the towns of Gangtok, Rangpo, Singtam (Gangtok Municipal Corporation, Rangpo Nagar Panchayat and Singtam Nagar Panchayat in East district), Mangan (Mangan Nagar Panchayat in North district), Gyalshing (Geyzing Nagar Panchayat in West district), Nayabazaar – Jorethang (Nayabazaar – Jorethang Nagar Panchayat) and Namchi (Namchi Municipal Council in South district). These ULBs are primarily responsible for the management of municipal solid waste management (MSW).

At present, 89% source segregation of MSW have been achieved so far through training and IEC activities at cluster / ward wise phased manner by the ULBs. Separate bins are being provided to residents for source segregation by ULBs. The segregated wastes collected thereafter are being taken to the landfill where degradable items are being used for composting and non-degradable items are being recycled through scrap dealers and remaining inert waste are disposed at landfill. Gangtok Municipal Corporation and Mangan Nagar Panchayat are composting their partial amount of bio-degradable waste within the ULBs itself. A hundred percent door-to-door collection of waste has been achieved in all the 7 ULBs. In North district, under Mangan Nagar Panchayat, all the vegetable waste of the marketing center is being into compost through Organic Waste Convertor that has been installed by the ULB. MSW from south and west districts is also being collected and sent to scientific landfill under construction at Sipsu in West district.

#### **c. Natural Resources**

The state is bestowed with abundant a natural resource that makes Sikkim a biodiversity hotspot and the UNESCO World Heritage Site. Forest is one of the richest natural resources of Sikkim and forestry is the major land use in the state of Sikkim. Sikkim is rich in biodiversity and is endowed with 26% of flowering plants found in the country i.e., over 4500 flowering species of which more than 400 are identified medicinal plants, 500 orchid varieties, 450 species of trees of which 11 species are Oak, and 39 species of Rhododendron. Sikkim has 150 species of mammals, 550 species of birds, 650 species of butterflies and moths. Of these 19 species of mammals, 11 species of birds and 65 species of plants are threatened and endangered. Conservation of these species and their habitat warrants special attention in the State, especially in the context of climate change. About 72% of the Indian species of Rhododendrons are found here and hence Sikkim is called the cradle of Indian Rhododendrons. Sikkim also harbors an enormous amount of medicinal and rare, endemic and threatened (RET) species from the humid river valleys to the cold trans-Himalayan regions. Being rich in biodiversity, Sikkim also has cultivated cash crops, such as the medicinal plants which are indigenous to this region, exotic orchids, the Sikkim big cardamom, Sikkim mandarin, and livestock products such as milk and cheese. Changes in climate pose a threat to the production and productivity of these cash crops and livestock products, which are significant from the point of view of the livelihoods it provides to the people. Livestock sector in the state also contributes towards high income generation along with the agriculture contributing about 15.36% of the total geographical area of the state. Fisheries are important areas of natural economic activity enabling the rural people to derive an additional income to improve the livelihood.

Other resources are water resources, human resources, livestock resources, hydro-electric potential, tourism, agricultural, horticulture etc. In forest, non-wood forest produce has a vast potential like sand, boulders and other materials. Under economic geology the minerals like copper, iron, lime, dolomite/limestone, coal, quartzite and tale, silicate & graphite are available in the state. Garnet is abundant in the gneiss and mica schists at places. Large cardamoms production is very high in the state. The basic information on various natural resources is

either not available or if available it is not adequate and up to date. There is a vast potential for hydro-electric power generation. Tourism development deserves consideration to add to the economy of the region.

Sikkim has a wide network of stream and rivers which are well distributed throughout the state. Ratey Chu is a river in Sikkim that is the main source of water for the state capital, Gangtok. Ratey Chu emerges from the glacier-fed lake Tamze at an elevation of 3,800 metres (12,500 ft) above sea level. Ratey Chu is tapped for drinking water at an elevation of 2,500 metres (8,200 ft). From this tapping point or water supply head work, water is transported for 17 kilometres (11 mi) to the Selep Water Treatment Plant site. The Rangeet and Teesta rivers are the main channels of drainage originating from Zemu glacier in the north and Rathong glacier in the north respectively. Rangeet joins the Teesta River in the south and forms tributaries of Hongbo chu, Poke chu, Umran chu, Dikchu, Rangphap chu, Rongni chu and Rongpo chu. River Teesta flows from north to south. River Rangeet originates from Rathong Glacier which also flows north to south and then after west to east direction. Kayam chhu, Rongdung chhu, Relli chhu, Rathang chhu, Kalej khola, Rishi khola, Ramam khola are the important tributaries of river Rangeet. The river Rangeet with its deep green and crystal-clear water gushes in and meets the forceful mountain stream Teesta at a point called Triveni between Teesta at a point called Triveni between Teesta bazar and Melli bazar. The water bodies have cultural, religious, ecological significance and are one of the most important wetland and bird area of Sikkim.

#### **d. Geography and Demography**

##### **Distribution of population in rural and urban areas**

Being the 2<sup>nd</sup> smallest and the 22<sup>nd</sup> state of India, Sikkim covers a geographical area of 7069sq.kms. As per the Sikkim Census 2011, Sikkim is the least populous state with a total population of 610,577 with 323,070 males and 287,507 females. Out of this total population, 25.15 per cent of the state population lives in urban areas while 74.85 per cent of the state population lives in the rural areas. However, according to the Unique Identification Aadhar India updated on 31<sup>st</sup> December, 2020, the estimated population is 7 lakhs.

**North district** is the largest in terms of area with 4226 sq. km and a total population of 43,709 which is an accumulation of 22,274 males and 2,456 females. As per the Census 2011, out of total population of North District, 10.62% people lived in urban regions while 89.38% in rural areas. The total figure of population of urban population was 4,644 out of which 2,456 were males while remaining 2,188 were females. In rural areas of North District, male population was 22,274 while female population was 16,791.

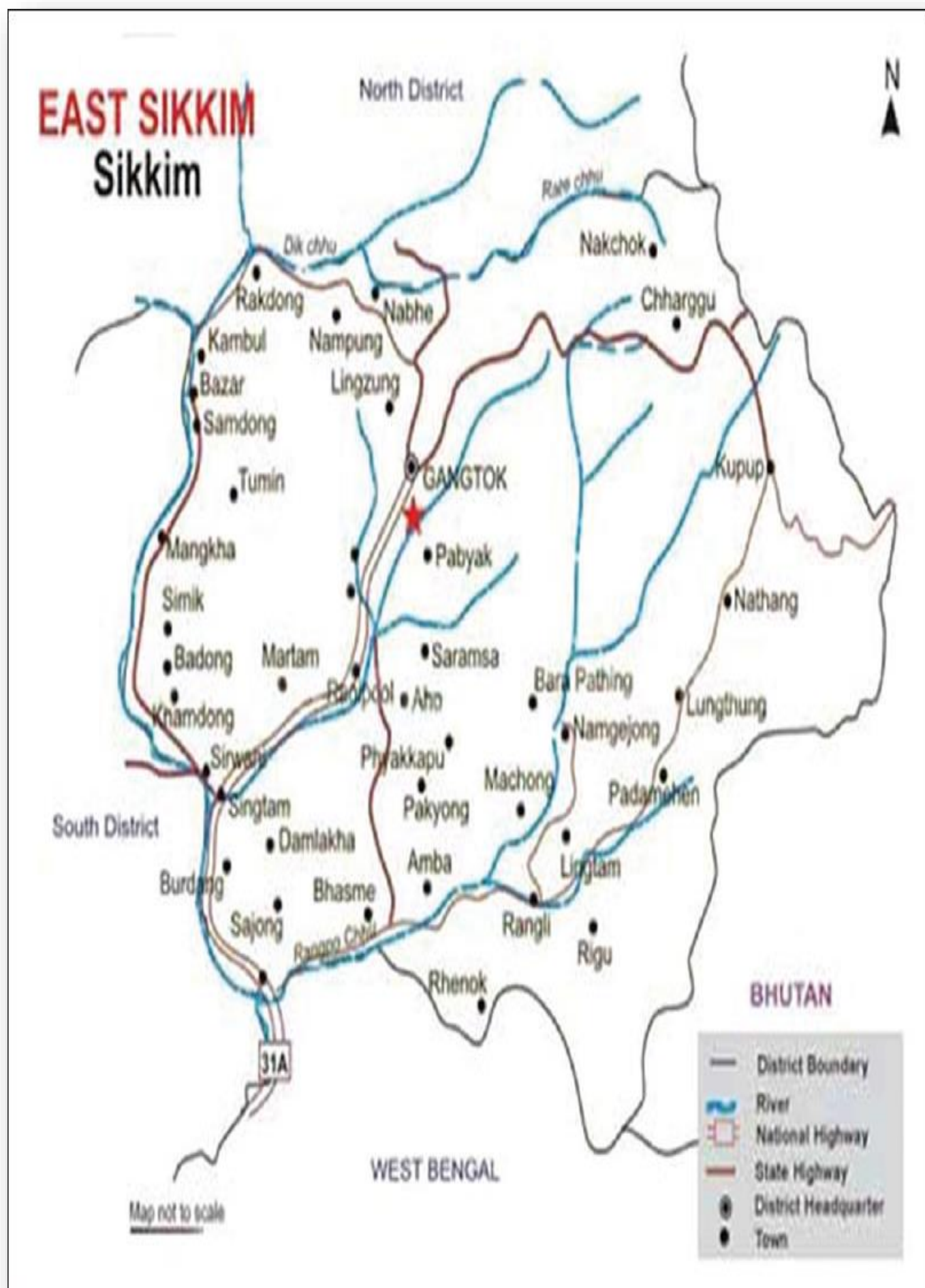
**West District** is the second largest district in area (1166 sq. km.) but in terms of population, it is the third highest (136,435) with (77.39) per cent of literacy rate and stands at the fourth rank. West district also has the third highest proportion of scheduled caste (5,935) and second highest Scheduled Tribes (57,817) population. The district has an urban population of 5,248 which is 3.42 % of its total population.

**East district** is the third largest district in area with 954 sq. km. and the highest population of 283,583 of which male and female were 151,432 and 132,151, respectively, which constitute 45.3 % of the total population of the state of Sikkim. As per the Census 2011, out of total population of East District, 43.19% people lived in urban regions while 56.81% in rural areas. The total figure of population of urban population was 122,487 out of which 64,285 were males while remaining 58,202 were females. In rural areas of East District, male population was 87,147 while female population was 73,949. The district has a population density of 295 inhabitants per square kilometer (760 /sqkm) and a sex ratio of 872 females for every 1000 males, and a literacy rate of 84.67%. East Sikkim District population constituted 46.45 percent of total Maharashtra population. In 2001 census, this figure for East Sikkim District was at 45.31 percent of Maharashtra population. There was change of 15.73 percent in the population compared to population as per 2001. In the previous census of India 2001, East Sikkim District recorded increase of 37.31 percent to its population compared to 1991.

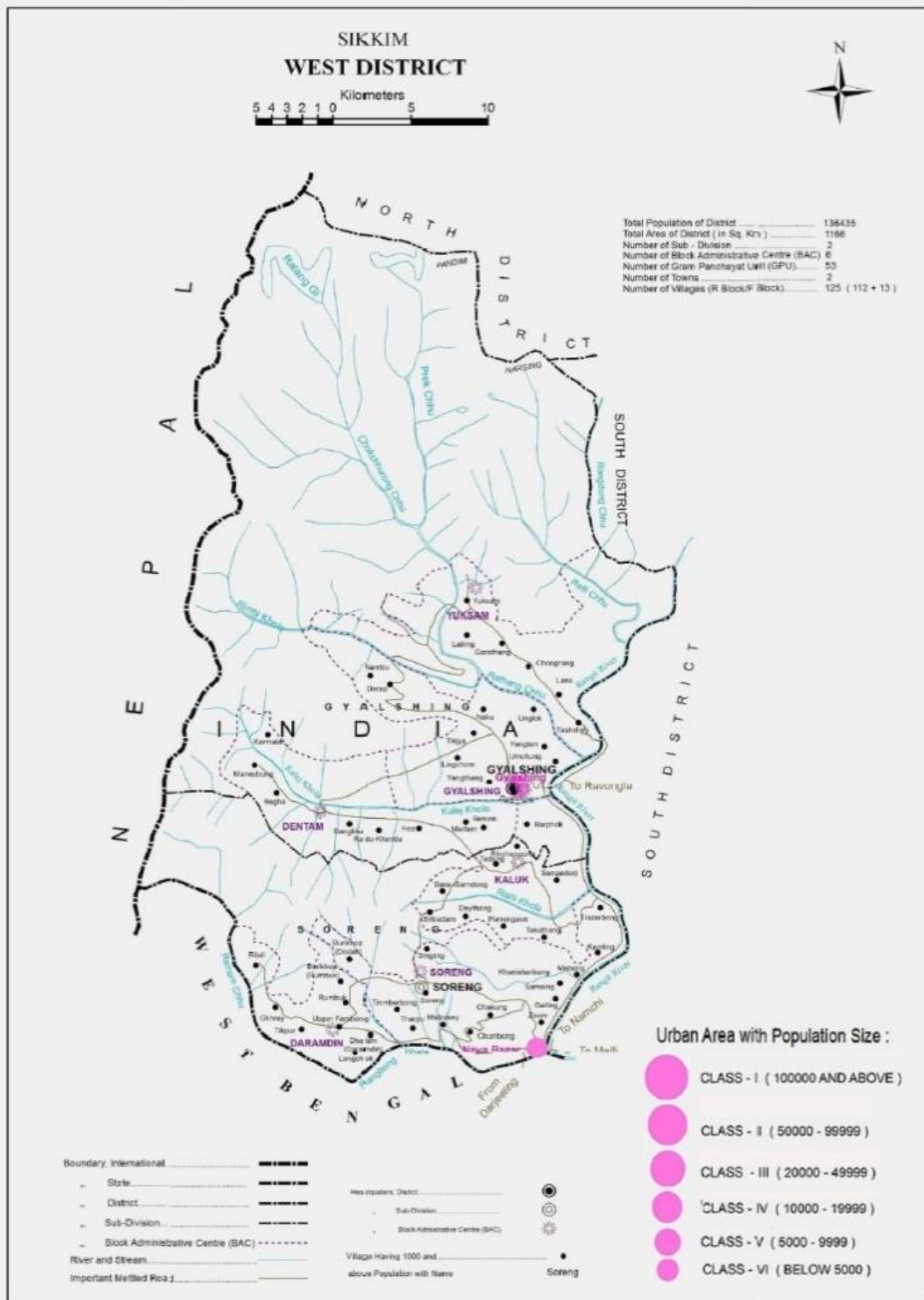
**South District** is the least (750 sq. km.) in area but in terms of population and literacy rate, the state is positioned the second highest with 146,850 and 81.42 per cent in the district level during 2011 census. South district also recorded the second highest proportion of Scheduled Caste (6,053) and third highest in Scheduled Tribes (41,392) population in 2011 census.

**Table below shows decadal change in population for Sikkim**

| S. No |                                    | North                | West                  | East                  | South                  |
|-------|------------------------------------|----------------------|-----------------------|-----------------------|------------------------|
| 1     | Area                               | 422,600 Hectare      | 116,600 Hectare       | 95,400 Hectare        | 75,000 Hectare         |
| 2     | Population                         | 43,709 (2011 census) | 136,435 (2011 census) | 283,583 (2011 census) | 1,46,850 (2011 census) |
| 3     | Rural Population                   | 39,065               | 131,187               | 161,096               | 125,651                |
| 4     | Urban Population                   | 4644                 | 5248                  | 122,487               | 21,199                 |
| 5     | Decadal Growth Rate                | 5.67                 | 10.69%                | 14.8                  | 11.65%                 |
| 6     | Decadal variation urban population |                      | 187.72%               |                       |                        |
| 7     | Decadal variation rural population |                      | 8.03%                 |                       |                        |
| 8     | Sex Ratio                          | 767                  | 942                   | 873                   | 915                    |
| 9     | Scheduled Caste Population         | 982                  | 5935                  | 15,305                | 6053                   |
| 10    | Scheduled Tribe Population         | 28,715               | 57,817                | 78,436                | 41,392                 |
| 11    | Literacy Rate                      | 78.01%               | 77.39%                | 83.85%                | 81.40%                 |

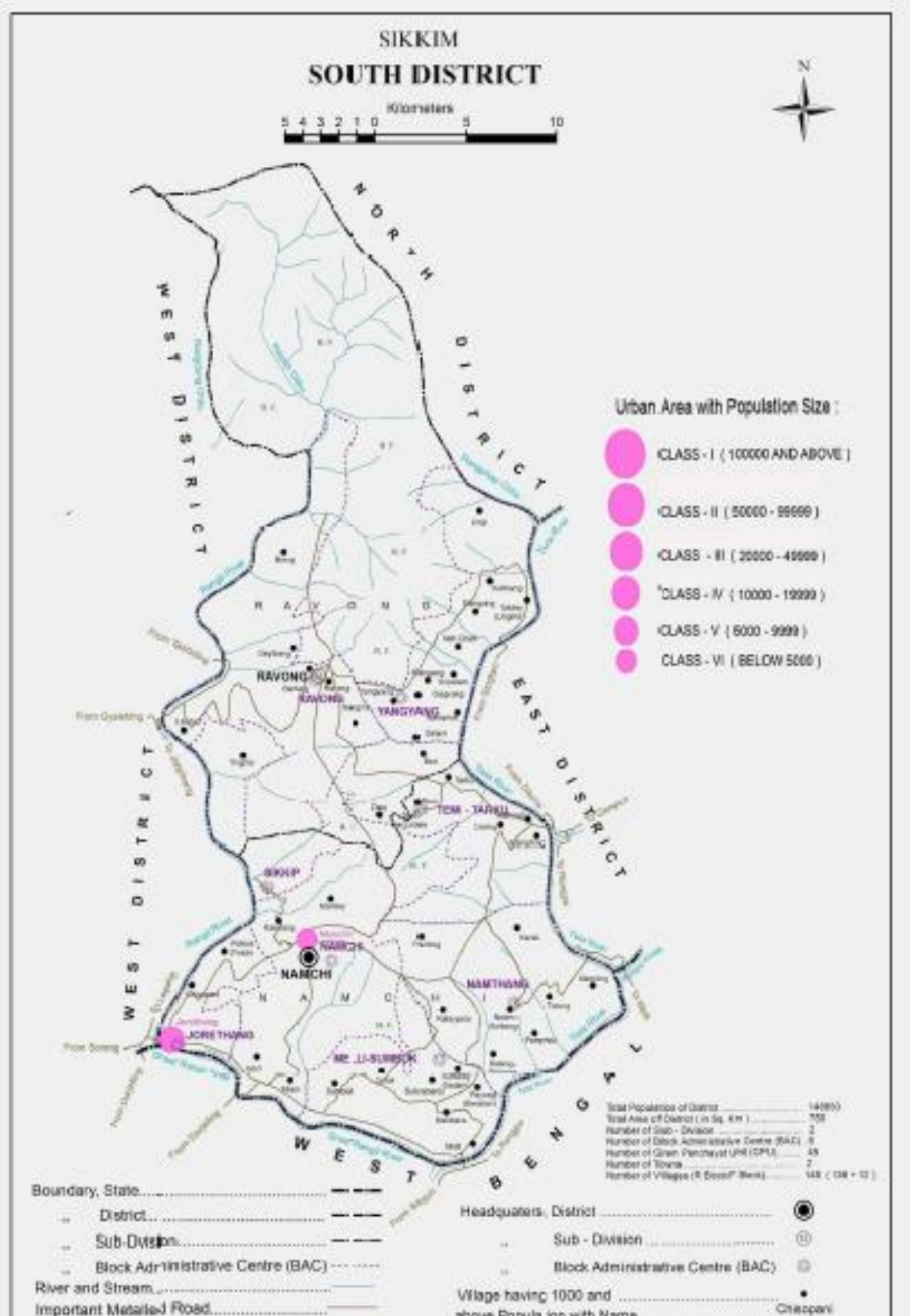










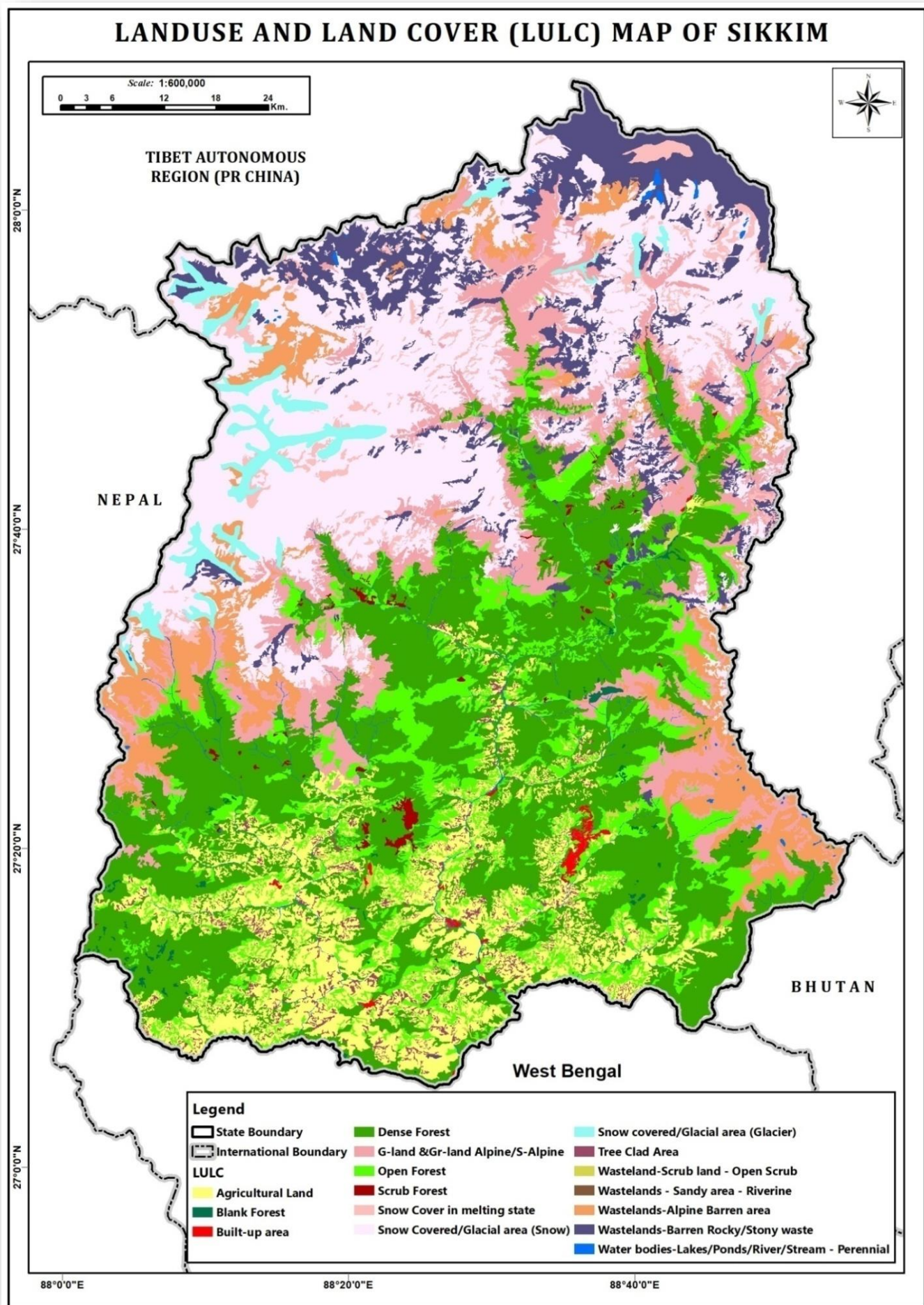


#### **e. Land-use Pattern**

Majority of the land of Sikkim is under forest cover and nearly 82.31% of the geographical area of the state is under the administrative control of the State Forest Department. The forest cover of the state is 47.62% of the total geographical area of the state (82.31%). The Protected area network of the state constitutes about 30.77% of the total geographical area with Khangchendzonga National Park (KNP) and Khangchendzonga Biosphere Reserve (KBR), and 7 Protected Areas of Shingba Rhododendron Sanctuary, Barsey Rhododendron Sanctuary, FambongLho Wildlife Sanctuary, Maenam Wildlife Sanctuary, Pangolakha Wildlife Sanctuary, Kitam Bird Sanctuary and Kyongnosla Alpine Sanctuary. An orchid conservation zone at Tinkitam has been declared as the Sling Dong Fairrieanum Orchid Conservation Reserve for the conservation of a rare Lady's Slipper orchid *Paphiopedilum fairrieanum*. Agriculture is the primary activity of the people of Sikkim and thus forms the major economy of the state. About 15.36% of the total geographical area of the land is utilized for agriculture. Sikkim accounts for the largest share of cardamom production in India and has the major tourist spots in the north-eastern region of India.

#### **f. Climate, Rainfall and Temperature**

The climate of Sikkim is extremely varied largely due to altitudinal variation. The topography of Sikkim thus ranges from low belt (tropical climatic zone) up to high alpine belt (Trans-Himalayan climatic zone). Because of this great variation in landscape, Sikkim experiences a diverse range of rainfall and temperature. Low temperature, high rainfall on windward slopes, comparatively dry on the leeward side and heavy precipitation in the form of snow at the mountain top are the main features of the climate. The monsoon winds dominate the climate and thus experiences seasonal climatic conditions resulting in four seasons prevalent on the basis of the monsoon circulation over the state: 1. The cold weather season - December to February; 2. The spring weather season - March to May; 3. The south-west monsoon - June to September; 4. The period of retreating monsoon - October to November. The mean annual rainfall of Sikkim varies from 2000 mm. to 4000 mm. with intensity of rain from drizzling showers in lower altitude to torrential rains in higher altitude. There are two maximum rainfall areas (i) South-East region and (ii) South-West region. The annual rainfall of Sikkim is 2739 mm. The temperature varies with the altitude and slope aspect. The mean temperature in the lower altitudinal zone, it varies from 1.5 degree centigrade to 9.5 degree centigrade. The maximum temperature is usually recorded during July-August which varies from 21<sup>0</sup> Celsius to 26<sup>0</sup> Celsius and minimum during December-January between 6<sup>0</sup> Celsius and 8<sup>0</sup> Celsius. Climatic factors are influenced by altitude.



## 2.0 Action Plans for complying with Waste Management Rules

### (i) Solid Waste Management

#### (a) Current Status related to Solid Waste Management

| S. No | District | Urban Local Bodies                                      | No. of Wards | No. of Households | Population | Solid Waste Generated per day |
|-------|----------|---|--------------|-------------------|------------|-------------------------------|
| 1     | East     | Gangtok Municipal Corporation                           | 17           | -                 | 1,00,286   | 50 TPD                        |
| 2     | East     | Singtam Nagar Panchayat                                 | 5            | -                 | 5,868      | 2.5 TPD                       |
| 3     | East     | Rangpo Nagar Panchayat                                  | 5            | -                 | 10,450     | 10 TPD                        |
| 4     | West     | Municipal corporations (Nagar Nigamor Mahanagar Palika) | -            | -                 | -          | -                             |
| 5     | West     | Municipalities (Nagar Palikas)                          | -            | -                 | -          | -                             |
| 6     | West     | Nagar Panchayats (Town area Councils)                   | 5            | 881               | 4013*      | 3.5 TPD                       |
| 7     | South    | Municipal corporations (Nagar Nigamor Mahanagar Palika) | -            | -                 | -          | -                             |
| 8     | South    | Municipalities (Nagar Palikas)                          | 7            | 3860              | 13503      | 4.0 TPD*                      |
| 9     | South    | Nagar Panchayats (Town area Councils)                   | 5            | 2107              | 11286      | 5.0 TPD*                      |
| 10    | North    | Mangan Nagar Panchayat                                  | 5            | 1054              | 4644       | 700kg per day                 |

| S. No | Local Bodies                  | No. of Village Panchayats / Blocks | No. of Households | Population | Solid Waste Generated per day |
|-------|-------------------------------|------------------------------------|-------------------|------------|-------------------------------|
| East  |                               |                                    |                   |            |                               |
| 1     | Block/Taluk/ Mandal Tehsils   | 10                                 |                   |            |                               |
| 2     | Village/Gram Panchayats       | 51                                 |                   |            |                               |
| North |                               |                                    |                   |            |                               |
| 3     | Block/Taluk/ Mandal Tehsils   | 4                                  | 8629              | 35273      | 1127.00 kg/day                |
| 4     | Village/Gram Panchayats       | 25                                 | 8629              | 35273      | 1127.00 kg/day                |
| West  |                               |                                    |                   |            |                               |
| 5     | Block /Taluk / Mandal Tehsils | 10                                 | 24,646            | 121,764**  | 11.987 TPD                    |
| 6     | Village/Gram Panchayats       | 348/61                             |                   |            |                               |
| South |                               |                                    |                   |            |                               |
| 7     | Block /Taluk / Mandal Tehsils | 8                                  | 23,327            | 1,35,003   | 7.815** TPD                   |
| 8     | Village/Gram Panchayats       | 150                                |                   |            |                               |



**(b) Identification of Gaps and Action Plan:**

| S. No.    | Action points for villages / blocks/ town municipalities / City corporations | Action Plan  | Responsible agencies   | Timeline for completion of action plan |
|-----------|--|--|--|--|
| <b>1.</b> | <b>Segregation</b>   |  |  |  |
| (i)       | Segregation of waste at source   | <ol style="list-style-type: none"> <li>100% segregation of wet, dry and hazardous waste at source should be implemented.</li> <li>Segregation units for different types of waste to be distributed to households.</li> <li>Mass awareness program, sensitization, incentives to be considered.</li> </ol>  | Urban Development Department,<br>Rural Development Department,<br>District Administration,<br>Block Administrative Centres,<br>Gram Panchayat Units. | 2025                                   |
| <b>2.</b> | <b>Sweeping</b>  |  |  |  |
| (i)       | Manual Sweeping  | <ol style="list-style-type: none"> <li>Man power / skilled labour / technicians should be increased because COVID-19 pandemic has introduced a new set of environmental challenges in the solid waste management system therefore scheduled cycle of cleaning systems to be introduced.</li> <li>Sweeping schedule to be determine by the ULBs and initiated accordingly in <i>Exterior</i>: parks, gardens, religious places and <i>Interior</i>: laboratories, office buildings, complexes.</li> <li>Strict regulation on the workers to be framed for following the waste management procedures at source keeping in mind their own health and also to avoid dust pollution.</li> <li>PPE suits, goggles, gloves, boots to be provided to all manual workers and proper health checkups to be done routinely to check for any profession related health risks.</li> </ol> | Urban Development Department,<br>Rural Development Department,<br>District Administration,<br>Block Administrative Centres,<br>Gram Panchayat Units. | 2023                                   |

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|          |  |  |  |                    |
|----------|--|--|--|--------------------|
| (ii)     | Mechanical Road Sweeping & Collection                | <ol style="list-style-type: none"> <li>1. Mechanical sweeping and collection machines /equipment should be implemented to make it a smart and clean city.</li> <li>2. Due to rapid urbanization, great demand for building materials have arisen in the urban areas causing greater Solid waste particle problems, which could be address by Mechanical cleaning.</li> </ol> | Urban Development Department/DAC   | 2023               |
| <b>3</b> | <b>Waste Collection</b>                              |  |  |                    |
| (i)      | 100% collection of solid waste                       | <ol style="list-style-type: none"> <li>1. Providing eco-friendly/conventional composting bin system for wet waste and maintaining them in hygienic manner.</li> <li>2. Aerobic bins for organic waste.</li> <li>3. 100% collection of solid waste from household to be achieved.</li> </ol>  | Urban Development Department, Rural Development Department, District Administration, Block Administrative Centres, Gram Panchayat Units. | 2023               |
| (ii)     | Arrangement for door-to-door collection              | <ol style="list-style-type: none"> <li>1. Planning to install huge bins and identify to those uncovered areas.</li> <li>2. Awareness at grassroots level.</li> </ol>   | Urban Development Department, Rural Development Department, District Administration, Block Administrative Centres, Gram Panchayat Units. | Continuous process |
| (iii)    | Waste Collection trolleys with separate compartments | <ol style="list-style-type: none"> <li>1. At least 5 nos. of collection trolleys per bazaar area to be procured and utilized.</li> <li>2. Trolleys to be provided at specified population cluster and distance for public disposal convenience.</li> <li>3. Detailed mass awareness program.</li> </ol>  | Urban Development Department, Rural Development Department, District Administration, Block Administrative Centers, Gram Panchayat Units. | 2023               |
| (iv)     | Mini Collection Trucks with separate compartments    | <ol style="list-style-type: none"> <li>1. Compartmentalized mini trucks to be procured. Custom designs to be provided to companies if necessary.</li> <li>2. Quantity/number of trucks to be determined by the District Authorities as per population clusters.</li> <li>3. Trucks to be under Administrative Control</li> </ol>   | Urban Development Department, Rural Development Department, District Administration, Block Administrative Centers, Gram Panchayat Units. | 2025               |



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|                           |  | UDD, GOS.   |   |                    |
|---------------------------|--|---|---|--------------------|
| (v)                       | Waste Deposition Centres (for domestic hazardous wastes) | <ol style="list-style-type: none"> <li>1. Domestic hazardous wastes to be designated in all the districts in consultation with Urban Development Department.</li> <li>2. Awareness for e-waste &amp; hazardous waste should be generated to the public mandated by District authorities.</li> <li>3. Authorized agency for DHW collection to be assigned in the district in consultation with SPCB.</li> <li>4. Collection and deposition through authorized agency to facilitate collection of domestic hazardous waste hence reducing the chances of hazardous wastes ending up in landfills</li> </ol> | State pollution Control Board, Urban Development Department, Rural Development Department, District Administration, Block Administrative Centres, Gram Panchayat Units.               | 2023               |
| <b>4. Waste Transport</b> |  |   |   |                    |
| (i)                       | Review existing infrastructure for waste Transport.      | Mandatory procurement and utilization of compartment trucks.  | Urban Development Department, Rural Development Department, District Administration, Block Administrative Centres, Gram Panchayat Units.  | 2025               |
| (ii)                      | Bulk Waste Trucks  | <ol style="list-style-type: none"> <li>1. Procurement of more trucks in all the districts as per requirements.</li> <li>2. Bulk waste collection to be regularized in urban areas.</li> <li>3. Biodegradable waste can also be used as manure for plantation during the plantation season by concerned departments.</li> <li>4. Such manure produced by locals can be utilized through proper regulated markets.</li> </ol>   | Urban Development Department, Rural Development Department, Silviculture Sector under Forest Department, District Administration, Block Administrative Centres, Gram Panchayat Units. | 2025               |
| (iii)                     | Waste Transfer Points                                    | Segregated waste to be deposited by carriers directly at their designated sites.  | Urban Development Department, Rural Development Department, District Administration, Block Administrative Centres,  | Continuous process |

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|          |   |   |   |      |
|----------|---|---|---|------|
|          |   |   | Gram Panchayat Units.   |      |
| <b>5</b> | <b>Waste Treatment and Disposal</b>   |   |   |      |
| (i)      | Wet-waste Management: On-site composting by bulk waste generators(Authority may decide on requirement as per Rules) | <ol style="list-style-type: none"> <li>1. Shall be installed, if necessary, after survey and identification.</li> <li>2. On-site composting by bulk waste generators installation to be done concerning effects on public health and environment safety.</li> <li>3. Storing of Bulk Waste generated from premises separately in own premises and carry out composting in compost pits within the premises.</li> <li>4. In case of unavailability of land, dispose of as per the direction of ULBs from time to time.</li> </ol>  | State Pollution Control Board, Urban Development Department, Rural Development Department, District Administration, Block Administrative Centres, Gram Panchayat Units. | 2022 |
| (ii)     | Wet-waste Management: Facility(ies) for central Biomethanation / Composting of wets waste.                          | <ol style="list-style-type: none"> <li>1. A mandatory policy to adopt composting wet waste at household level rather than depositing them in landfills.</li> <li>2. This will be strategy to reduce waste deposition at landfills and also alternate source of energy can be explored.</li> <li>3. Specified in the action plan. Under SBM(G) Mission Phase II all 32 blocks of the state is under the process of setting up community compost pits</li> </ol>  | Urban Development Department, Rural Development Department, District Administration, Block Administrative Centres.  | 2023 |
| (iii)    | Dry-Waste Management: Material Recovery for dry-waste fraction  | <ol style="list-style-type: none"> <li>1. To setup RRC in all the districts.</li> <li>2. All district to install Dry-Waste Management; Material Recovery for dry-waste fraction.</li> <li>3. Attachment of <i>kabbadiwallas</i> to Labour department with proper registration and identification to improve their job profile.</li> <li>4. In addition to RRC and RDF, systematic centers for <i>kabbadiwallas</i> could be setup at local level before transporting them to deposition centers.</li> <li>5. Maintenance of systematic and authentic/regular data on waste generation and its composition.</li> <li>6. Model villages to be selected</li> </ol> | Labour Department, Urban Development Department, Rural Development Department, District Administration, Block Administrative Centres, Gram Panchayat Units.             | 2023 |

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|       |  |  |   |                    |
|-------|--|--|---|--------------------|
|       |  | for setting up of RRC in all districts which could later be extended to the entire district.<br>7. Selection of RDF firm for the state is under process by UDD, Govt. of Sikkim.   |   |                    |
| (iv)  | Disposal of inert and non-recyclable wastes: Sanitary Landfill | <ol style="list-style-type: none"> <li>1. Dumpsite located at Sipsu. Currently the State Government is under process to convert the same into a sanitary landfill facility in West district.</li> <li>2. In North district SWM sites has been granted environmental clearance and it's in process of establishment/installation.</li> <li>3. Similar landfill facilities to be installed in the remaining two districts.</li> <li>4. Restoration of dumpsite depending on the volume of waste generated.</li> <li>5. Solid waste management options like RDF and Waste to Energy be explored and implemented as applicable.</li> <li>6. Enabling early use of land with a semi-aerobic landfill structure (Compared to anaerobic landfill, the semi-aerobic landfill technology quickly stabilizes landfill sites after the land has completed its role as landfill, enabling it to be used for parks and open space for sports).</li> </ol> | State Pollution Control Board, Urban Development Department, Rural Development Department, District Administration. | 2025               |
| (v)   | Remediation of historic / legacy dumpsite                      | <ol style="list-style-type: none"> <li>1. Phytoremediation to be initiated/ explored.</li> <li>2. Maintenance of dumpsite by plantation of natural or planted vegetation on landfill sites has an important role in erosion control and removal of contaminants, and may also be used in leaching treatment.</li> <li>3. Afterlife of sanitary landfills to be converted into usable facilities like parks, gardens and open space for sports.</li> <li>4. NGOs in the districts to be involved.</li> </ol>  | Forest & Environment Department, Urban Development Department.  | Continuous Process |
| (vi)  | Involvement of NGOs  | Training to be given to locals and upcoming NGOs in waste management techniques with the help from District Administration.  | Urban Development Department, Rural Development Department, District Administration.                                | Continuous Process |
| (vii) | EPR of Producers: Linkage with Producers /Brand                | 1. Based on data from SPCB, the district major Producer/Distributors/Brand owners  | Urban Development Department,   | Continuous process |

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|        |  |  |  |           |
|--------|--|--|--|-----------|
|        | Owners   | of the district to be identified and EPR to be assigned accordingly by UDD/ Municipal Corporations.<br><br>2. Producers/Distributors to be sensitized on waste generation issues of the district and extend EPR. The SPCB-Sikkim has initiated registration of single use plastic manufacturers and producers in the state as per the new SOP prepared by CPCB. Licensing authorities have been directed to prepare inventory of brand owners of authorized dealers. | Rural Development Department, District Administration, Block Administrative Centres, State Pollution Control Board-Sikkim. |           |
| (viii) | Authorization of Waste Pickers                           | 1. Proper sanitary facilities to be provided to all waste pickers.<br>2. Regulation of job profile and schedule of jobs to be done.<br>3. Awareness and Sensitization.<br>4. Waste / rag pickers to work in association with NGOs.   | Urban Development Department, Rural Development Department, Block Administrative Centres                                   | Completed |
| (ix)   | Preparation of own by-laws to comply with SWM Rules 2016 | 1. If the need is felt by the district, additional annexure akin to local conditions can be notified in accord with the SWM Rules, 2016.<br>2. By-laws to be prepared by Forest and Environment sector to better deal with the solid waste situation in the state in conjunction with SWM Rules 2016.  | Urban Development Department & Rural Development Department<br><br>Forest & Environment Department,                        | 2023      |

**(ii) Plastic Waste Management**

**(a) Current Status related to Plastic Waste Management**

| S. No | District | Urban Local Bodies                                       | Estimated Quantity of Plastic Waste Generated per day |
|-------|----------|--|---|
| 1     | East     | Gangtok Municipal Corporation                            | 100 kg  |
| 2     | East     | Singtam Nagar Panchayats                                 | 55.47 kg  |
| 3     | East     | Rangpo Nagar Panchayats                                  | 2.19 kg   |
| 4     | East     | Nagar Panchayats(Town Area Councils)                     | 0.19 (for whole state)                                |
| 5     | West     | Municipal Corporations (Nagar Nigam or Mahanagar Palika) |   |
| 6     | West     | Municipalities (Nagar Palikas)                           |   |

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|    |       |  |                            |
|----|-------|--|----------------------------|
| 7  | West  | Nagar Panchayats (Town Area Councils)                    | 15.06 kg/day               |
| 8  | South | Municipal Corporations (Nagar Nigam or Mahanagar Palika) |                            |
| 9  | South | Municipalities (Nagar Palikas)                           | 40 kg/day*                 |
| 10 | South | Nagar Panchayats (Town Area Councils)                    | 4.1 kg/day*                |
| 11 | North | Municipal Corporations (Nagar Nigam or Mahanagar Palika) | 0.19 (for the whole state) |
| 12 | North | Municipalities (Nagar Palikas)                           | 0.19 (for the whole state) |
| 13 | North | Nagar Panchayats (Town Area Councils)                    | 0.19 (for the whole state) |

\*As per the annual report 2020-21

| S. No | District | Local Bodies                  | Plastic Waste Generated per day |
|-------|----------|-------------------------------|---------------------------------|
| 1     | East     | Block/Taluk/ Mandal Tehsils   | Not available                   |
| 2     | East     | Village/Gram Panchayats       | Not available                   |
| 3     | West     | Block /Taluk / Mandal Tehsils | Not provided                    |
| 4     | West     | Village/Gram Panchayats       | Not provided                    |
| 5     | South    | Block /Taluk / Mandal Tehsils | Not provided                    |
| 6     | South    | Village/Gram Panchayats       | Not provided                    |
| 7     | North    | Block/Taluk/ Mandal Tehsils   | 0.07 (for the whole state)      |
| 8     | North    | Village/Gram Panchayats       | 0.07 (for the whole state)      |

**(b) Identification of Gaps and Action Plan:**

| S. No. | Action points for village Panchayats/ blocks/municipalities /corporations                   | Action Plan   | Agencies Responsible   | Target time for Compliance |
|--------|---|---|--|----------------------------|
| 1.     | Door-to-Door collection of dry waste including Plastic Waste (PW)                           | <ol style="list-style-type: none"> <li>1. Awareness regarding segregation and collection of plastic waste at source extremely necessary.</li> <li>2. Collection of PW once a week door-to-door.</li> <li>3. Or collection through <i>kerbside</i> collection.</li> <li>4. Involvement of NGOs could be explored.</li> </ol> | Urban Development Department, Rural Development Department, District Administration, Block Administrative Centres, Gram Panchayat Units. | Continuous process         |
| 2.     | Facilitate organized collection of PW at Waste transfer point or Material Recovery Facility | <ol style="list-style-type: none"> <li>1. Plastic waste collection centers to be established in every district.</li> <li>2. PW to be utilized / recycled extensively in road construction, building constructions, household goods, etc.</li> </ol>   | State Pollution Control Board, Urban Development Department, Rural Development Department,   | 2023                       |

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|    |                       |   |  |      |
|----|-----------------------|---|--|------|
|    |                       | <ol style="list-style-type: none"> <li>3. Plastic Recycling plants to be established in every district.</li> <li>4. Creation of Smart District App. to locate the nearest collection point.</li> <li>5. Installation of aerobins / aerobic bins for waste treatment.</li> <li>6. Creation of sufficient domestic markets for more recyclable materials.</li> <li>7. Assistance and support to the households on waste treatment at source.</li> <li>8. Notifications banning plastic usage across different items have been effective in the state (Notification enclosed).</li> <li>9. SPCBs/PCCs should develop laboratory facility for testing of thickness of plastic carry bags and plastic materials in the sachets/pouches.</li> <li>10. Plastic recycling rates to be increased.</li> <li>11. Ban on burning of waste has been notified.</li> <li>12. Ban on use of packaged during water in government function/ meetings have been notified.</li> <li>13. Ban on Sale and Use of Styrofoam products/cutlery has been notified.</li> </ol> | <p>Forest &amp; Environment Department</p> <p>District Administration,</p> <p>Block Administrative Centres,</p> <p>Gram Panchayat Units.</p> |      |
| 3. | PW collection centers | <ol style="list-style-type: none"> <li>1. PW collection center to be installed per bazaar by brand owners under EPR assignment by DAC/SPCB, thereby, providing employment opportunities.</li> <li>2. Innovative schemes of Zero-waste system to be improvised such as local Zero-waste shopping service, incentivize</li> <li>3. Deposit-refund schemes (DRS) to be enacted by EPR.</li> <li>4. Implementation of Reverse vending machines / smart machine for plastic bottle disposal at public places by building a prototype focusing on reduction in energy consumption.</li> <li>5. Incentivized collection of PET bottles at public places and bazaar areas.</li> <li>6. The SPCB-Sikkim has initiated registration of single use plastic</li> </ol>  | <p>State Pollution Control Board, Urban Development Department,</p> <p>Rural Development Department</p>                                      | 2023 |

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|    |  |   |  |                    |
|----|--|---|--|--------------------|
|    |  | <p>manufacturers and producers in the state as per the new SOP prepared by CPCB.</p> <p>7. Licensing authorities have been directed to prepare inventory of brand owners of authorized dealers in order to implement the provisions of Rule 9 i.e. Responsibilities of producers, Manufacturers and Brand Owners under the Plastic Waste Management Rules, 2016.</p>  |  |                    |
| 4. | Awareness and education program implementation | <ol style="list-style-type: none"> <li>1. Create awareness among all stakeholders about their responsibilities including house holders or owners or occupiers.</li> <li>2. Community campaign to be initiated by the environment sector of the Forest Department.</li> <li>3. Use of banned plastic items still observed within the State, strict regulatory orders to be issued against it by authorities.</li> <li>4. Improved Zero-waste system to be strictly followed in the tourist destination spots.</li> <li>5. Intensive research in the state regarding plastic waste, its effect and its mechanism to be implemented on scientific level.</li> <li>6. All education institutes (Schools, Colleges, etc.), GPUs to be involved in the awareness program of the various departments.</li> </ol> | State Pollution Control Board, Urban Development Department, Rural Development Department, Forest & Environment Department, District Administration, Block Administrative Centres, Gram Panchayat Units. | Continuous process |
| 5. | Access to Plastic Waste Disposal Facilities    | <ol style="list-style-type: none"> <li>1. Plastic waste disposal facility to be created in every district.</li> <li>2. Plastic waste collected at plastic waste collection center can be disposed: <ol style="list-style-type: none"> <li>A. At the disposal facility after segregation,</li> <li>B. Selling the waste to recycling units in each district,</li> <li>C. Use of plastic waste in feedstock/chemical recycling, down gauging.</li> <li>D. Use extensively in construction of roads, building and housing, household goods.</li> </ol> </li> </ol>   | State Pollution Control Board, Urban Development Department, Rural Development Department  | 2023               |

**(iii) C & D Waste Management****(a) Current Status related to C & D Waste Management**

| Details of Data Requirement  | Present Status                           |               |               |               |
|--|--|---------------|---------------|---------------|
|  | East                                     | West          | South         | North         |
| Total C & D waste generation in MT per day(As per data from Municipal Corporations/Municipalities) | State policy under process for approval. | Not available | Not available | Not Assessed  |
| Does the District have access to C & D waste recycling facility?                                   | State policy under process for approval. | No            | No            | Not available |

**(b) Identification of Gaps and Action Plan**

| S. No. | Action points for blocks/town municipalities/City corporations  | Action Plan  | Responsible agency   | Timeline for completion of action plan |
|--------|---|--|--|--|
| 1.     | Arrangement for separate collection of C&D waste to C&D waste deposition point.   | 1. C&D waste deposition points to be earmarked by the Forest Department.<br>2. Muck dumping sites to be notified.  | Forest & Environment Department.                                     | 2023                                   |
| 2.     | Whether local authority have fixed user fee on C&D waste and introduced permission system for bulk waste generators who generate more than 20 tons or more in one day or 300 tons per project in month? | Forest & Environment Sector to levy fees on bulk waste generators who generate more than 20 tons or more in one day or 300 tons per project in month.  | Forest & Environment Department.                                     | Continuous process                     |
| 3.     | C&D recycling Facility  | SPCB, UDD, GOS to explore the need and plan the C&D recycling Facility in the state.   | SPCB, UDD, GOS   | 2023                                   |
| 4.     | Usage of recycled C&D waste in non- structural concrete, paving blocks, lower layers of road pavements, colony and rural roads.   | All Govt. Departments to explore avenues to use/recycle C&D wastes in non- structural concrete, paving blocks, lower layers of road pavements, colony and rural roads.<br>Domestic/Household waste recycling can be regulated by UDD & SPWD, GOS.<br>Usage/Recycling of C&D wastes in Projects/Companies established | All Govt. Departments. UDD & SPWD, GOS. Commerce & Industries Deptt. | 2023                                   |



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|    |                               |   |    |  |
|----|-------------------------------|---|----|--|
|    |                               | in the state to be made mandatory.<br>Rules to be framed by UDD.<br>Regulation to be followed up by<br>Commerce & Industries Deptt. |    |  |
| 5. | ICE on C & D waste management | NA  | NA |  |

**(iv) Biomedical Waste Management**

**(a) Current Status related to Biomedical Waste**

| Inventory of BMW in the District   | Quantity       |              |               |  |
|--|----------------|--------------|---------------|--|
|  | East           | West         | South         | North  |
| Total no. of Bedded Healthcare Facilities                                | 10             | 8            | 8             | 103  |
| Total no. of non-bedded HCF  | 96             | 47           | 47            | 5  |
| No. of HCFs authorized by SPCBs/PCCs                                     | 106            | 55           | 55            | 108  |
| No. of Common Biomedical Waste Treatment and Disposal Facilities(CBWTFs) | nil            | nil          | nil           | nil  |
| Capacity of CBWTFs   | Not available  | NA           | NA            | NA   |
| No. of Deep burials for BMW if any                                       | 33 nos.        | 30 nos.      | 41 nos.       | 1 = District Hospital,<br>5 = PHC,<br>19 = PHSC<br>Total =25           |
| Quantity of biomedical waste generated per day                           | 336.034 kg/day | 41.32 kg/day | 78.169 kg/day | 31 kg per day<br>(11225 kg per annum) approx.                          |
| Quantity of biomedical waste treated per day                             | 336.034 kg/day | 41.32 kg/day | 78.169 kg/day | 5 Kg/day for recycling, rest disposed of in incinerator and sharp pit. |

**(b) Identification of Gaps and Action Plan:**

| Sl. No. | Action points for blocks/town municipalities/City corporations | Action Plan  | Responsible agency   | Timeline for completion of action plan |
|---------|--|--|--|--|
| 1.      | Inventory and Identification of Healthcare Facilities          | 1. More HCFs can be set up or strengthened considering the current situation of COVID19 pandemic.<br>2. The DAC may identify the crises points in the district HCF and | Department of Health & Family Welfare, State Pollution Control Board | 2023                                   |

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|    |  |   |   |                    |
|----|--|---|---|--------------------|
|    |  | <p>requirements strengthening the same.</p> <p>3. More specialty HCFs to be developed in the state.</p> <p>4. Training program to be conducted in schools and educational institutes of the state in basic healthcare &amp; hygiene issues.</p>   |   |                    |
| 2. | Adequacy of facilities to treat biomedical waste | <p>1. Primary Health Centres to be equipped to treat biomedical wastes within premises.</p> <p>2. Government should introduce new rules for the safe disposal and treatment of household sanitary wastes (like diapers and sanitary napkins) as they have made for solid or biomedical wastes.</p> <p>3. Appropriate policy and legal framework is necessary for the management of menstrual wastes.</p>  | Department of Health & Family Welfare, Department of Commerce & Industries<br>SPCB – Sikkim | 2023               |
| 3. | Tracking of BMW                                  | <p>1. Common Bio Medical Waste Treatment Facility to be made operational in all districts.</p> <p>2. The same to be extended to rural PHCs.</p>   | Department of Health & Family Welfare   | 2024               |
| 4. | Awareness and education of healthcare staff      | <p>1. Mass awareness and education about BMW at household and educational institutions required to ensure proper segregation of BMW including contagious wastes like COVID.</p> <p>2. Installation of BMW bins.</p> <p>3. Installation of incinerators or female hygiene bins at educational institution, public toilets, HCFs and community level.</p> <p>4. At household level, low-cost pre-marked sanitary disposal bags to be produced in bulk by the state and distribute to the GPUs for free and make available at markets at low cost.</p> <p>5. Involvement of NGO, pharmacist, private diagnostic centers.</p> <p>6. Capacity building, awareness and training has been conducted for all healthcare workers to ensure proper management of BMW in the HCFs including COVID19 waste.</p> | Department of Health & Family Welfare, SPCB – Sikkim  | 2024               |
| 5. | Adequacy of funds                                | Funding to be done by the respective departments as the Action Plan assigns.  | All departments, Govt. of Sikkim.   | Continuous process |
| 6. | Compliance to Rules by HCFs and CBWTFs           | Specified in Action plan  | Department of Health & Family Welfare   | Continuous process |

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|    |                                     |   |  |                    |
|----|-------------------------------------|---|--|--------------------|
| 7. | District Level Monitoring Committee | Formation of the committee and advisory body notified by State Government   | Department of Health & Family Welfare  | Continuous process |
| 8. | Waste water treatment               | <ol style="list-style-type: none"> <li>1. Pre-feasibility reports for wastewater treatment plants are planned for Mangan and Geyzing-Pelling (*Source: PHED).</li> <li>2. Require Wastewater treatment plant (WTP) at other urban areas of every district.</li> <li>3. As establishment of pharmaceutical industries are rising and still more developments are underway, there will be a rise in population and so does demand for land use and water. Hence, there might be a need for STPs in the district and future management must be planned.</li> </ol> | Department of Health & Family Welfare, Public Health Engineering Department, Govt. of Sikkim | 2023               |

**(v) Hazardous Waste Management**

**(a) Current Status related to Hazardous Waste Management**

[Major source of hazardous waste (HW) is industries and facilities located in the districts, who are required to be regulated under Water (P&CP) Act 1974, Air (P&CP) Act 1981 and E(P) Act, 1986 and the Hazardous & Other Wastes (Management & Trans-boundary Movement) Rules, 2016 and the rules notified thereof. Many commercial establishments like automobile repair shops, paint workshops, stores, etc. may also generate small quantities of hazardous waste. The district administration should be aware of the type of hazardous waste generation in their district and adequacy of facilities for safe handling and disposal within or outside District. Linkage of district administration with common TSDFs in the State is necessary to establish system for safe disposal of domestic hazardous waste. However, since no CHWTSDF has been established in the state, the SPCB-Sikkim has initiated agreements & facilitated transport & disposal of HW generated in the state to TSDF & recycling plants in West Bengal and Cement Plants in Assam & Meghalaya].

| Details of Data Requirement                 | Present Status |      |           |            |
|---|----------------|------|-----------|------------|
|   | East           | West | South     | North      |
| No. of Industries generating HW             | 29             | Nil  | 20        | [Nos.]     |
| Quantity of HW in the district              | 1302.73        | Nil  | 419.69 MT | [MT/Annum] |
| (i) Quantity of incinerable HW              | 1543.67 MT     | Nil  | 419.69 MT | [MT/Annum] |
| (ii) Quantity of land-fillable HW           | Nil            | Nil  | Nil       | [MT/Annum] |
| (iii) Quantity of Recyclable/ utilizable HW | 17.4 KL        | Nil  | Nil       | [MT/Annum] |
| No. of captive/common TSDF                  | Nil            | Nil  | Nil       | Nil        |

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|   |     |     |     |       |
|---|-----|-----|-----|-------|
| Contaminated Sites or probable contaminated sites | Nil | Nil | Nil | [Nos] |
|---|-----|-----|-----|-------|

**(b) Identification of Gaps and Action Plan:**

| Sl. No. | Action points   | Action Plan   | Responsible agency  | Timeline for completion of action plan |
|---------|---|---|---|--|
| 1.      | Regulation of industries and facilities generating Hazardous Waste    | <ol style="list-style-type: none"> <li>SPCB/PCC should ensure that all hazardous waste industries are authorized and a system of safe disposal in place.</li> <li>Inventorization of industries that may require authorization is completed and online authorization process has been initiated for Hydro Electric Power Plants, which are the only industries located in the district.</li> </ol>  | State Pollution Control Board                                 | Continuous process                     |
| 2.      | Establishment of collection centres                                   | <ol style="list-style-type: none"> <li>Distribution of specific HW segregation units to households.</li> <li>Household level awareness and training programs to be conducted.</li> <li>Common Hazardous waste treatment storage – disposal facility to be established in the district.</li> <li>Trolleys to be provided at specified population cluster and distance for public disposal convenience.</li> <li>All HW generated in the state is transported to:                             <ol style="list-style-type: none"> <li>West Bengal Waste Management Ltd., Haldia, West Bengal for incineration;</li> <li>Calcom Cement, Assam for co-processing; and</li> <li>Kundu Refinery, West Bengal for recycling.</li> </ol> </li> </ol> | State Pollution Control Board                                 | 2023                                   |
| 3.      | Training of workers involved in handling / recycling / disposal of HW | <ol style="list-style-type: none"> <li>The SPCB –Sikkim during grant of authorization ensures that the Emergency Response Procedure has been prepared by the occupier. It has also been specified in the Specific conditions of the authorization to ensure safety of the people handling HW, procure spillage kits and provide PPEs. Compliance to the provisions of the Hazardous Waste (Management &amp; Trans boundary Movement) Rules, 2016 and authorization is verified in every inspection conducted by SPCB officials.</li> <li>Detailed mass awareness program related to HW handling.</li> <li>Implementation of program to prevent or reduce or minimize the generation of hazardous wastes.</li> </ol>                         | State Pollution Control Board, Department of Labour, Occupier | 2023                                   |
| 4.      | Availability / Linkage with common TSDF or disposal                   | As per the directions of the Hon'ble NGT in the matter of O.A. 804 of 2017 Rajiv Narayan & Anr Vs. Union of India & Ors, all states were directed to set up Common Hazardous Waste Treatment Storage Disposal facility (CHWTSDF) for disposal of HW.  | State Pollution Control Board, Occupier                       | Complied                               |

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|    |                    |   |             |                      |
|----|--------------------|---|-------------|----------------------|
|    | facility           | <p>The SPCB-Sikkim in co-ordination with the Department of Industries &amp; Commerce, Govt. of Sikkim have completed site selection and acquisition of the same is under process (Source* Annual report 2019-2020. State Pollution Control Board).</p> <ol style="list-style-type: none"> <li>1. The recyclable waste oil generated from the state is transported to M.K. Industries in Haryana.</li> <li>2. All HW generated in the state is transported to: <ol style="list-style-type: none"> <li>A. West Bengal Waste Management Ltd., Haldia, West Bengal for incineration;</li> <li>B. Calcom Cement, Assam for co-processing; and</li> <li>C. Kundu Refinery, West Bengal for recycling</li> </ol> </li> </ol> |             |                      |
| 5. | Contaminated Sites | No area in the State of Sikkim has been listed in the 112 Contaminated sites and 168 Probable contaminated sites in the country.  | SPCB-Sikkim | Action not necessary |

(vi) E- Waste Management

(a) Current Status related to E-Waste Management

| Details of Data Requirement                               | Present Status   |  |   |                            |
|---|--|--|---|----------------------------|
|   | East   | West   | South   | North                      |
| Inventory of E-Waste in MT/year                           | 5921 nos. in 2020-21                                   | Gyalshing Nagar Panchayat submitted NIL report of E-Waste during 2019-20 | Namchi Municipal Corporation & Nayabazar-Jorethang Nagar Panchayat submitted NIL report of E-Waste during 2020-21 | Data not available MT/Year |
| Collection centers established by ULBs in the District    | 1  | 1 Nos.   | 2 Nos.  | 1                          |
| Collection centers established by Producers or their PROs | 2 under verification by SPCB                           | NIL  | NIL   | NIL                        |
| No authorized E-waste recyclers / Dismantler              | None in the state. Sent to J.S. Pigments, West Bengal. | NIL  | NIL   | NIL                        |

**(b) Identification of Gaps and Action Plan:**

| <b>S. No.</b> | <b>Action Points</b>                                      | <b>Action Plan</b>   | <b>Responsible Agency</b>   | <b>Timeline for Completion of Action Plan</b> |
|---------------|---|--|---|---|
| 1             | Inventory / Generation of E-Waste / Bulk-waste generators | <ol style="list-style-type: none"> <li>1. Inventory preparation has been delayed as many of the bulk consumers do not provide information.</li> <li>2. Information Education &amp; Communication (IEC) Plan from Information Technology Department is awaited for completion of inventory.</li> <li>3. To strictly follow-up the inventory management procedures for e-waste reduction.</li> <li>4. Survey and investigation to be conducted.</li> </ol>     | Information Technology Department With SPCB.                      | 2025  |
| 2             | E-Waste collection points                                 | <ol style="list-style-type: none"> <li>1. In each bazaar, e-waste collection points to be established.</li> <li>2. Till date no collection Centre has been set up by producers in the district or has submitted proposal for EPR of such kind to the authorities.</li> <li>3. Licensing authorities have been directed to prepare inventory of authorized dealers in order to implement the ERP provisions of the E-waste Management Rules, 2016.</li> </ol> | Gangtok Municipal Council & Rangpo, Singtam Nagar Panchayat. UDD. | 2025  |
| 3             | Linkage among Stakeholders to channelize E-Waste          | <ol style="list-style-type: none"> <li>1. Till date no collection Centre has been set up by producers in the district or has submitted proposal for EPR of such kind to the authorities.</li> <li>2. All e-waste generated in the state is transported to Authorized recycling Centre, M/s J.S. Pigments located in West Bengal.</li> </ol>  | Gangtok Municipal Council & Rangpo, Singtam Nagar Panchayat. UDD. | Regular activity.                             |
| 4.            | Regulation of Illegal E-Waste recycling /dismantling      | <ol style="list-style-type: none"> <li>1. No such action has been observed or reported till date.</li> <li>2. Regular monitoring by District Administration/UDD/RDD/SPC B.</li> </ol>  | District Administration, UDD,RDD,SPCB                             | Regular activity.                             |

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|   |                                |   |   |                   |
|---|--------------------------------|---|---|-------------------|
| 5 | Integration of informal sector | <ol style="list-style-type: none"> <li>1. E-waste recycling in the informal sector provides jobs to thousands of people and supports the formal waste management agencies like municipalities.</li> <li>2. All e-waste generated in the state is collected and transported to authorized recycling facility. Informal sector for the same is not practiced in the state.</li> <li>3. IEC plan awaited from IT Department, Govt. of Sikkim.</li> <li>4. Mandatory</li> </ol> | UDD, RDD, IT Department, Govt. of Sikkim.   | Regular activity. |
| 6 | Awareness and Education        | Conducted by SPCB-Sikkim in coordination with UDD, RDD, MSME, NIELIT, Krishi Vigyan Kendra and District Authorities.  | District Administration, UDD, RDD, SPCB, MSME, NIELIT, Krishi Vigyan Kendra and District Authorities. | Regular activity. |

**(vii) Air Quality Management:**

**(a) Current Status Related to Air Quality Management**

| Details of Data Requirement   | Present Status  |  |  |  |
|---|---|--|--|--|
|   | East  | West   | South  | North  |
| Number of Automatic Air Quality monitoring stations in the district.<br>- Operated by SPCB / State Govt. / Central govt./PSU agency:<br>- Operated by Industry:                     | 1 no. nearing completion by October 2021.<br>Nil                                    | Nil  | Nil  | Not Available                                  |
| Number of manual monitoring States operated by SPCBs  | 3 nos. at Gangtok, Rangpo and Singtam   | 01 at Pelling  | 2 nos. at Ravangla & Namchi  | Nil  |
| Name of towns/cities which are failing to comply with national ambient air quality stations   | None  | None   | None   | Mangan   |
| No. of air pollution industries   | 66 not including DG sets  | Nil  | Nil  | Nil  |
| Prominent air polluting sources [Large Industry] / [Small Industry] / [Unpaved Roads] / [Burning of Waste Stubble] / [Brick Kiln]/ [Industrial Estate]/[Others](Multiple selection) | Industrial units, Vehicular Emission, Dust arising from construction, Stone Crusher | Vehicular Emission, Dust arising from construction, Stone Crusher Units, Hot Mix Plants, | Industrial units, Vehicular Emission, Dust arising from construction, Stone Crusher Units, | Burning of waste is prohibited in State Sikkim |

|  |  |          |                             |  |
|--|--|----------|-----------------------------|--|
|  | Units,<br>Hot Mix<br>Plants,<br>DG Sets. | DG Sets. | Hot Mix Plants,<br>DG Sets. |  |
|--|--|----------|-----------------------------|--|

**(b) Identification of Gaps and Action Plan:**

| S. No. | Action Points   | Indicative Action Plan  | Responsible agency   | Timeline for completion of action plan |
|--------|---|---|--|--|
| 1.     | Identification of prominent air polluting sources?              | Inventorization of air pollution source in the district.  | SPCB in co-ordination with District Administration Forest & Environment Department | 1 year.                                |
| 2.     | Ambient Air quality data?                                       | Ambient air quality data available in the website: <a href="http://www.spcb.sikkim.gov.in">www.spcb.sikkim.gov.in</a>   | SPCB   | Regular activity.                      |
| 3.     | Setting up of Continuous Ambient Air Quality Monitoring Station | Proposal for setting up of Continuous Ambient Air Quality Monitoring Station shall be submitted in consultation with District Administration.   | SPCB with District Administration  | 1 Year.                                |
| 4.     | District Level Action Plan for Air Pollution                    | District Level Action Plan shall be prepared as per the guidelines of CPCB and MoEF&CC.   | SPCB in coordination with District Administration                                  | 1 Year                                 |
| 5.     | Hotspots of air pollution in District                           | Burning of waste (agricultural & solid) has been banned vide Notification No. 191/FEWMD dated 05/01/2015. In case of non-compliances byelaws have been notified for imposition of fine from GPU level | SPCB in coordination with District Administration                                  | 1 Year                                 |
| 6.     | Awareness on Air Quality  | Air quality index of the State is readily available in the website: <a href="http://www.spcb.sikkim.gov.in">www.spcb.sikkim.gov.in</a> further planning shall be done for more awareness.             | District Adm. & SPCB   | Regular activity.                      |



## (viii) Water Quality Management

## Water Quality Monitoring

## (a) Current Status Related to Water Quality Management

| Details of Data Requirement |                          | Present Status |  |                     |           |                     |           |  |  |  |  |
|-----------------------------|--------------------------|----------------|--|---------------------|-----------|---------------------|-----------|--|--|--|--|
|                             |                          | East           |  | West                |           | South               |           | North  |  |  |  |
| Rivers                      | Rangphap Chu             | 9.2405         |  |                     | 3.902825  | Kali Khola          | 8.28725   | Rafong stream,<br>Rang- Rang chu stream,<br>Namdousa stream,<br>Plum chu stream,<br>Lachen stream. |  |  |  |
|                             |                          | 6.490092       |  |                     | 4.102349  | Rabi Khola          | 7.266455  |  |  |  |  |
|                             |                          | 4.511739       |  | Rani Khola West     | 3.19664   | Seti Khola          | 5.853974  |  |  |  |  |
|                             | Dikling Khola            | 7.497241       |  | Riyong Khola West   | 4.721164  | Hiu Khola           | 3.85448   |  |  |  |  |
|                             | Pachey Khola             | 6.673768       |  | Ribdi Khola West    | 11.699194 | Ralu Khola          | 5.756566  |  |  |  |  |
|                             | Ralong Khola East        | 5.354104       |  |                     | 5.134036  | Manpur Khola        | 12.758834 |  |  |  |  |
|                             | Kue Chu                  | 5.794536       |  |                     | 5.235226  | Tangsang Khola      | 1.834892  |  |  |  |  |
|                             | Nathang Chu              | 9.039726       |  | Kali Khola West     | 4.479806  | Bhari Khola         | 4.113066  |  |  |  |  |
|                             | Lungze Chu               | 12.92797       |  | Lingsur Khola West  | 6.904465  | Rungdung Khola      | 2.022259  |  |  |  |  |
|                             | Rongni Chu or Rani Khola | 27.67255       |  | Pale Khola West     | 8.393374  | Dong Khola South    | 3.885091  |  |  |  |  |
|                             | Taksam Chu               | 13.81428       |  | Rangsang Khola West | 8.087139  | Rinji Khola South   | 5.891118  |  |  |  |  |
|                             | Rora Chu                 | 18.73835       |  | Hi Khola West       | 5.503003  | Pokche Khola South  | 4.841446  |  |  |  |  |
|                             | Martam Khola             | 5.164812       |  | Dentam Khola West   | 6.465309  | Chimche Khola South | 2.325578  |  |  |  |  |
|                             | Sang Khola               | 6.63205        |  | Bega Khola West     | 8.38344   | Torl Khola South    | 3.126286  |  |  |  |  |
|                             | Pagla Khola              | 4.342761       |  | Simchar Khola West  | 6.593134  | Kanam Khola         | 4.268697  |  |  |  |  |
|                             | Rangchang Khola          | 6.665891       |  |                     |           | Kapre Khola South   | 3.197242  |  |  |  |  |
|                             | Ghatte Khola             | 5.075452       |  |                     |           |                     |           |  |  |  |  |

|                        |          |                      |           |                                  |           |
|------------------------|----------|----------------------|-----------|----------------------------------|-----------|
| Samdong Chu            | 5.101335 | Sigeng Khola West    | 6.869404  | Kalej Khola South                | 9.390051  |
| Lay Khola              | 3.644772 |                      | 2.87873   | Seti Khola Near Dong Busty South | 3.24003   |
| Rani Khola             | 5.569741 |                      | 1.931377  | Pagla Khola                      | 4.036335  |
| Liyung Kyong Chu       | 2.729298 |                      | 2.335269  |                                  | 2.555026  |
| Malten Chu             | 3.262861 | Pareng Khola West    | 2.134619  | Papung Khola South               | 7.266584  |
| Richu Khola            | 4.214647 | Mardom Khola West    | 2.477253  | Rayong Khola South               | 5.676387  |
| Chhatrey Khola         | 2.906992 | Pharik Khola West    | 3.576297  | Ranglo Khola South               | 4.831173  |
| Chhito Khola           | 2.467972 | Barmo Khola West     | 3.934741  | Ramek Khola South                | 3.844019  |
| Rare Chu               | 2.674665 | Lungman Khola West   | 3.768423  | Ringpi Chu South                 | 8.013432  |
| Navey Chhu             | 3.844672 | Thar Khola West      | 5.563501  | Rangpo Khola                     | 11.892766 |
| Rankey Chhu            | 3.090855 | Chhamam Chhu West    | 4.990884  | Bania Khola                      | 5.753646  |
| Soge Chu               | 3.635955 | Pongmirang Chhu West | 7.479933  | Sangrung Khola                   | 6.744036  |
| Subaney khola          | 6.34347  | Phamrung Chhu West   | 8.498266  | Chil Khola                       | 6.655599  |
| Hante Khola            | 5.445081 | Dhap Chhu West       | 7.536994  | Bermeli Khola                    | 6.592902  |
| Di Chhu Jaldhaka       | 8.663529 | Yangsa Chhu West     | 5.594141  | Raphu Khola                      | 5.451004  |
| Lingtam Khola          | 3.675784 | Heri Khola West      | 7.372909  | Niya Khola                       | 3.734244  |
| Khari Khola            | 3.056301 | Nambu Khola West     | 4.947928  | Kau Khola                        | 6.621653  |
| Chunabhatti Khola      | 4.038463 | Taphel Khola         | 4.606338  | Lungdung Chu                     | 5.826292  |
| Sawa Khola             | 3.235209 | Chisung Khola        | 2.471671  | Karsangla Chu                    | 6.186156  |
| Kali Khola             | 2.365582 | Prek Chu             | 2.075887  | Rangit Chu                       | 11.627976 |
| Kayong or Kali Khola   | 2.168032 | Choktsering Chu      | 18.671229 | Barshe Chhu                      | 4.689483  |
| Rongdu Khola           | 4.057335 | Rungji Chhu          | 6.926286  | Phong Khola                      | 2.749051  |
| Chhuba Khola           | 4.125814 | Koklung Chhu         | 6.1178    | Tiri Khola                       | 3.902865  |
| Re chu                 | 8.052638 |                      |           | Pao Khola                        | 3.019623  |
| Ramitey or Mendu khola | 5.297199 |                      |           |                                  |           |
| Yali chu               | 6.676595 |                      |           |                                  |           |
| Chhange chu            | 2.437768 |                      |           |                                  |           |

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|                                    |  |  |                            |  |                     |           |  |
|------------------------------------|--|--|----------------------------|--|---------------------|-----------|--|
|                                    | Sano chhange   | 2.547566   | Reli Chhu                  | 7.224099   | Ranka Khola         | 4.98506   |  |
|                                    | Andheri Khola  | 5.382125   | Rungdung Khola             | 8.129047   | Kali Khola          | 1.913524  |  |
|                                    | Namphe Khola   | 1.597958   | Dadar Khola                | 2.261764   | Chaure Khola        | 1.878316  |  |
|                                    | Richu Khola  | 4.0074   | Ledo Khola                 | 2.735261   |                     | 3.001929  |  |
|                                    | Ralong Khola   | 6.564159   | Chokchurang Chu            | 4.548425   | Brum Khola          | 3.158701  |  |
|                                    | Selele Khola   | 3.543441   | Tikip Chuu or Tikibla Chhu | 10.104184  | Majuwa Khola        | 5.582777  |  |
|                                    | Arithang Chu   | 2.14956  | Rishi Khola West Skm       | 9.077016   | Seti Khola South    | 3.066422  |  |
|                                    | Lah chu  | 3.050999   | Bholujhoreni Chhu          | 15.164426  | Andher Khola South  | 1.365207  |  |
|                                    | Bechulangpa chu  | 1.361007   | Gomathang Chhu West        | 6.876574   | Kamrang Khola South | 4.058447  |  |
|                                    | Reshi khola  | 4.052675   | Simpok Khola               | 11.127628  |                     | 4.466564  |  |
|                                    | Aksu khola   | 2.651158   |                            | 9.102377   | Daring Khola        | 2.695125  |  |
|                                    |  | 1.974  |                            | 4.646668   | Kali Khola          | 1.995189  |  |
|                                    |  | 1.766696   | Nar Khola West             | 5.36257  |                     | 10.119913 |  |
|                                    |  | 2.086253   |                            | 5.786  | Rangdang Chu        | 2.316792  |  |
|                                    |  | 2.801224   |                            |  |                     |           |  |
|                                    | Chhange khola  | 3.054628   |                            |  |                     |           |  |
|                                    | Thekabong khola  | 3.795467   |                            |  |                     |           |  |
|                                    | Gop chu  | 2.565411   |                            |  |                     |           |  |
|                                    | Buthang khola  | 2.963485   |                            |  |                     |           |  |
|                                    | Simana khola   | 3.580237   |                            |  |                     |           |  |
|                                    | Rishi khola East skm   | 8.903434   |                            |  |                     |           |  |
|                                    | Danak khola East   | 4.200068   |                            |  |                     |           |  |
| Length of Coastline(if any)        | NA   | NA   | NA                         | Not Available  | [in Km]             |           |  |
| Nalas/Drains/Creeks meeting Rivers | 13 (in Gangtok) Inventorization under process for other 2 ULBS | Not Available  | Nil                        | All the creeks eventually meet up at rivers. Data on specific numbers not available. |                     |           |  |
| Lakes/Ponds                        | 234.2575   | 55 nos of lakes and ponds with total area of 139.8917 ha | Information not available  | [Nos] and [Area in Hectares]   |                     |           |  |

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|   |  |   |  |         |
|---|--|---|--|---------|
| Total Quantity of sewage from towns and cities in District                          | 18.24 MLD  | Information not available   | Nil  | [MLD]   |
| Quantity of industrial waste water  | 1.776 MLD  | Nil   | Information not available  | [MLD]   |
| Percentage of untreated sewage  | Information not available  | Information not available   | Nil  | [100 %] |
| Details of bore wells and number of permissions given for extraction of groundwater | 11   | Nil   | NA   | [Nos]   |
| Groundwater polluted areas if any   | Nil  | NA  | Adarsh Gaon to Melli in the Melli-Chungthang polluted stretch and Jorethang to Triveni in the Rangeet River NHPC Dam site to Triveni polluted stretch. As per the CPCB standard for having Bio Chemical Oxygen Demand more than 3mg/ltrs. Hence falling under priority V category. | Nil     |
| Polluted river stretches if any   | Adarsh Gaon to Melli in the Melli – Chungthang polluted stretch. Namli to Singtam stretch in Rani Chu polluted stretch. Adampool to Burtuk stretch in Maney Khola stretch. | Rangeet River Stretch (appx 50km) NHPC Dam site to Triveni. As per the CPCB standard for having Bio Chemical Oxygen Demand more than 3mg/ltrs. Hence falling under priority V category. |  | Nil     |

**(b) Identification of Gaps and Action Plan for Water Quality Monitoring**

| <b>S. No.</b> | <b>Action Points</b>                    | <b>Action Plan</b>  | <b>Responsible Agency</b>   | <b>Timeline for Completion of Action Plan</b> |
|---------------|---|---|---|---|
| 1.            | Inventory of water bodies               | <ol style="list-style-type: none"> <li>1. Inventory of water bodies is being monitored by Department of Forest &amp; Environment. SPCB-Sikkim conducts regular monitoring of river water quality under the NWMP program and the analyzed data is available in the SPCB website.</li> <li>2. River Rejuvenation Committee has been notified as the State Nodal agency to ensure compliance to the environmental norms and monitor the actions of the implementing departments. RRC is also undertaking the Inventorization of water bodies.</li> </ol> | Department of Forest & Environment, SPCB-Sikkim, Department of Water Resources & River Development, Department of Public Health & Engineering | Continuous activity                           |
| 2.            | Quality of water bodies in the district | <ol style="list-style-type: none"> <li>1. SPCB Sikkim has been continuously monitoring the industrial activities by ensuring continuous operation of Effluent Treatment Plant (ETP). Further, SPCB Sikkim has made Zero Liquid Discharge (ZLD) mandatory so that the treated water meeting the prescribed standard is recycled and reused for gardening, flushing, cleaning and cooling purposes.</li> <li>2. Conducted by SPCB-Sikkim.</li> </ol>  | SPCB-Sikkim   | Continuous activity                           |
| 3.            | Hotspots of water contamination         | RRC has been setup and report for delisting of the 4 identified river stretches has been submitted to the CPCB.   | Department of Forest & Environment, SPCB-Sikkim, Department of Water Resources & River Development  | Continuous activity                           |
| 4.            | Protection of river/lake water front    | Action plan prepared and bye laws have also been notified for implementation.   | District Administration, SPCB UDD RDD Forest & Environment.   | Continuous activity                           |
| 5.            | Inventory of sources of water pollution | Prepared  | Forest & Environment, SPCB  | Continuous activity                           |

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|    |   |   |   |                     |
|----|---|---|---|---------------------|
| 6. | Oil spill disaster management (for coastal districts) | N/A   | N/A   | N/A                 |
| 7. | Protection of floodplains                             | N/A   | N/A   | N/A                 |
| 8. | Rejuvenation of groundwater                           | <ol style="list-style-type: none"> <li>1. Ground water abstraction for domestic purposed is not practiced in the district.</li> <li>2. Industrial units who have installed bore wells have obtained NOC from Central Ground Water Authority (CGWA)</li> <li>3. In order to prevent future challenges in the district due to natural and manmade disruptions, rejuvenation of groundwater must be considered.</li> </ol> | Department of Forest & Environment, Department of Water Resources & River Development, CGWA | Continuous activity |
| 9  | Complaint's redressal system                          | Available at District Administration and SPCB-website   | District Adm. & SPCB  | Continuous activity |

(ix) Domestic Sewage

(a) Current Status Related to Domestic Sewage

| Details of Data Requirement   | Present Status       |   |  |         |
|---|----------------------|---|--|---------|
|   | East                 | West  | South  | North   |
| No of Class-II towns and above  | Nil                  | Nil   | Nil  | Data NA |
| No of Class-I towns and above   | 1                    | Nil   | Nil  | Data NA |
| No of Towns STPs installed  | 3                    | Nil   | 1  | Data NA |
| No of Towns needing STPs  | 1 – Gangtok Zone III | 2   | 2  | Data NA |
| No of ULBs having partial underground Sewerage network                        | 3                    | Nil   | Nil  | Data NA |
| No of towns not having sewerage network                                       | NIL                  | 2   | 2  | Data NA |
| Total Quantity of Sewage generated in District From Class II cities and above | 18.24                | Class II cities not present in the district. As per 2011 census and assuming 100 lpcd average water consumption the estimated sewage generation in the district will be 10.91MLD. | Class II cities not present in the district. As per 2011 census and assuming 100 lpcd average water consumption the estimated sewage | Data NA |

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|   |   |   |   |         |
|---|---|---|---|---------|
|   |   |   | generation in the district will be 11.75MLD.  |         |
| Quantity of treated sewage flowing into Rivers(directly or indirectly)    | 18.24 (including on Class III cities/towns) | All households are required to construct a septic tank for sewage management. In implementation of Swacch Bharat Mission Gramin Phase II, installation of septic tanks for individual households in 64 villages is under process. | All households are required to construct a septic tank for sewage management. In implementation of Swacch Bharat Mission Gramin Phase II, installation of septic tanks for individual households in 64 village are under process. | Data NA |
| Quantity of untreated or partially treated sewage(directly or indirectly) | NIL   | Not available   | Not available   | Data NA |
| Quantity of sewage flowing into lakes                                     | NIL   | Nil   | Nil   | Data NA |
| Total available Treatment Capacity  | 21.52 MLD                                   | STPs have not been set up. Survey and investigation for the same under process.   | STPs have not been set up. Acquisition of land under process.   | Data NA |

**(b) Identification of Gaps and Action Plan for Treatment of Domestic Sewage:**

| S. No. | Action Points                  | Action Plan   | Responsible Agency                     | Timeline for Completion of Action Plan |
|--------|--------------------------------|---|--|--|
| 1.     | Sewage Treatment Plants (STPs) | <ol style="list-style-type: none"> <li>1. Mandatory for establishment of STPs.</li> <li>2. Decentralized Sewerage has an enormous significance by way of incremental sewerage and sanitation especially in newly developing peri-urban and rural settings, where conventional sewerage needs time to qualify itself physically and financially.</li> <li>3. STPs have not been set up. Survey and investigation for the same under process.</li> <li>4. Action Plan for setting up of STPs in the state has been prepared.</li> </ol> | Public Health & Engineering Department | 2028                                   |
| 2.     | Underground sewerage network   | <ol style="list-style-type: none"> <li>1. Proper underwater sewerage network to be mapped.</li> <li>2. All old SW networks to be checked and</li> </ol>   | Public Health & Engineering Department | 2028                                   |

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|  |  |  |  |  |
|--|--|--|--|--|
|  |  | maintained.<br>3. Clogging and overflowing of drains to be checked.<br>4. If possible, digitization of maps and documents. |  |  |
|--|--|--|--|--|

**(x) Industrial Waste Water Management**

**(a) Current Status related to Industrial Waste Water Management**

| Present Status   | East                                    | West  | South   | North |
|--|---|---|---|-------|
| Number of Red, Orange, Green and White industries in the district        | Red – 4 (HEP), 1 (Brewery); Orange - 33 | NIL, Water based industries have not been established in West District. | 17-category – 1 Red – 2 (HEP) 1; (Brewery) Orange- 25 | Nil   |
| No of Industries discharging wastewater                                  | 34                                      | Nil   | Nil   | Nil   |
| Total Quantity of industrial waste water generated                       | 1.079 MLD                               | Nil   | 1.079 MLD   | Nil   |
| Quantity of treated industrial waste water discharged into Nalas/ Rivers | Nil                                     | Nil   | Nil   | Nil   |
| Common Effluent Treatment Facilities                                     | Nil                                     | Nil   | Nil   | Nil   |
| No of Industries meeting Standards                                       | 34                                      | NA  | NA  | Nil   |
| No of Industries not meeting discharge Standards                         | 34                                      | NA  | Nil   | Nil   |

**(b) Identification of Gaps and Action Plan for Industrial Waste Water:**

| S. No. | Action Points                               | Action Plan  | Responsible Agency  | Timeline for Completion of Action Plan |
|--------|---|--|---|--|
| 1.     | Compliance to discharge norms by Industries | <ol style="list-style-type: none"> <li>Industrial units' namely pharmaceutical industries have installed Online Continuous Effluent Monitoring System as per the directions of the SPCB. So that real time compliance to pollution parameters can be verified remotely.</li> <li>Industries of various categories are inspected by SPCB on timely basis as specified by the CPCB category wise viz., Red, orange, green.</li> <li>Zero liquid discharge is to be maintained in all water-based industries in the state.</li> <li>CCTV is installed in all storm water</li> </ol> | Dept. of Forest & Environment, State Pollution Control Board. | Continuous activity                    |



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|    |                            |  |                             |                     |
|----|----------------------------|--|-----------------------------|---------------------|
|    |                            | outlets of the pharmaceutical industries and footage is submitted to SPCB on weekly basis. Third Party Environmental Monitoring is on conducted quarterly basis by NABL accredited laboratories under supervision of SPCB and the reports are submitted as well. |                             |                     |
| 2. | Complaint redressal system | Available at District Adm. website and SPCB Sikkim Website.  | District Adm. & SPCB-Sikkim | Continuous activity |

**(xi) Mining Activity Management Plan**

**(a) Current Status related to Mining Activity Management**

| Details of Data Requirement                      | Existing Mining Operations                           |  |  |   |
|--|--|--|--|---|
|  | East   | West   | South  | North   |
| Type of Mining Activity                          | Temporary collection of loose boulders, sand & stone | Temporary collection of loose boulders, sand & stone | Temporary collection of loose boulders, sand & stone | Name of mines – list may be enclosed]<br>[Sand Mining] / [Iron Ore]/[Bauxite] / [Coal]/Other[specify] |
| No of licensed Mining operations in the district | 70   | 12   | 32   | [Nos]   |
| % Area covered under mining in the district      |  | 0.0046%  | 0.0021%  |   |
| Area of Sand Mining                              | 964 sq. km   | 0.05371 km <sup>2</sup>                              |  | [SqKm]  |
| Area of sand Mining                              | River reserves                                       | River banks  | River reserves                                       | [Riverbed]/[Estuary]/<br>[Non -river deposit]   |

**(b) Identification of Gaps and Action Plan:**

| Sl.No | Action Points                             | Action Plan   | Responsible Agency  | Timeline for Completion |
|-------|---|---|---|-------------------------|
| 1.    | Monitoring of Mining activity             | <ol style="list-style-type: none"> <li>1. Strict and timely monitoring of any illegal and other mining activities to be conducted.</li> <li>2. In coordination with SPCB (Forest and Environment Department) and District Administration.</li> <li>3. District Expert Appraisal Committee has been formed.</li> </ol> | Department of Mines & Geology<br>SPCB (Forest and Environment Department) and District Administration | Continuous activity     |
| 2.    | Inventory of illegal mining if any mining | <ol style="list-style-type: none"> <li>1. Action plan to identify illegal sand and other mining activity in the district through surveillance, patrolling and enforcement.</li> <li>2. District Level task Force may be constituted for control of illegal</li> </ol>   | Department of Mines & Geology,<br>Forest & Environment Department,<br>SEIAA/SEAC.                     | Continuous process      |

State Environment Plan [Sikkim]

|    |   |  |  |                    |
|----|---|--|--|--------------------|
|    |   | mining activity.   |  |                    |
| 3. | Environment compliance by Mining industry | Action plan for periodic verification of compliance to environmental conditions stipulated by SPCBs/PCC, MoEF & C, Department of Mines etc. SPCBs/PCC may be involved in this activity. Mandatory. | Department of Mines & Geology,<br>Forest & Environment Department. | Continuous process |

(xii) Noise Pollution Management Plan

(a) Current Status related to Noise Pollution Management

| Details of Data Requirement  | Measurable Outcome   |                      |                      |  |
|--|----------------------|----------------------|----------------------|--|
|  | East                 | West                 | South                | North  |
| No. of noise measuring devices available with various agencies in district | SPCB Sikkim – 3 nos. | SPCB Sikkim – 3 nos. | SPCB Sikkim – 3 nos. | None of the 5 Police Stations in North District have any device. |

(b) Identification of Gaps and Action Plan:

| S. No. | Action Points                             | Action Plan  | Responsible Agency  | Timeline for Completion of Action Plan |
|--------|---|--|---|--|
| 1.     | Availability of Sound/Noise Level Meters. | <ol style="list-style-type: none"> <li>Regulation of Statutory Regulatory guidelines to be planned considering noise sensitive zones.</li> <li>Scientific research focusing on noise pollution in different types of environments and proposing different types of solutions to address the problem.</li> <li>Procurement of Sound/noise level meters in process.</li> </ol> | District Administration, Police Department & SPCB-Sikkim      | 2023                                   |
| 2.     | Ambient Noise Level Monitoring.           | <ol style="list-style-type: none"> <li>Control at source</li> <li>Control in the transmission path</li> <li>Using protective equipment</li> <li>Various sensitive zones such as protected areas, hospitals, etc., have been declared as silent zones.</li> <li>Noise monitoring during festival season is conducted by SPCB-Sikkim</li> </ol>                                | UDD, District Administration, Police Department & SPCB-Sikkim | 2023                                   |
| 3.     | Signboards in Noise zones                 | <ol style="list-style-type: none"> <li>Mandatory signboards with increased number and size displayed at prominent sites.</li> <li>District administration may ensure that adequate number of sign boards installed at sensitive zones in towns / cities in towns and cities. An action plan may be prepared by district authority.</li> </ol>                                | District Administration                                       | 2023                                   |
| 4.     | Complaint redressing system               | Redressal portal has been set up in District Adm. & SPCB website<br>Mandatory  | UDD, District Administration, Police Department & SPCB-Sikkim | 2023                                   |