

Chapter 9



ENVIRONMENTAL POLLUTION

AIR AND WATER QUALITY

The Sikkim State Pollution Control Board (SPCB) has a regular Ambient Air and Water Quality Monitoring Programme to assess the status of pollution in the natural environment. These monitoring programmes are funded by the Central Pollution Control Board, Ministry of Environment & Forests, Government of India.

Air Quality Monitoring

To prevent, control and abate air pollution in the country, the Government of India enacted Central legislation called the Air (Prevention & Control of Pollution) Act, 1981 (referred to as the Air Act, 1981). Every polluting industry must obtain a consent from the State Pollution Control Board for the discharge of air pollutants in any form through chimney or otherwise. The State Board may lay down suitable conditions while giving consent to discharge air pollutants in the light of emission

standards developed by the Central Board, subsequently notified through the rules framed under the Environment (protection) Act, 1986 Rules.

Ambient Air Quality Monitoring

The air quality surveillance and monitoring is undertaken to detect any deterioration in air quality arising from industrial, vehicular, residential and natural sources of pollution, as there are large seasonal variations in the concentration of various air pollutants. Air quality monitoring is the measurement of various pollutants to study the pattern and movement of air masses and deterioration of air quality. Monitoring programmes help in estimating the dynamic concentration levels of various pollutants from time to time, based on dispersal mode of original concentration at sources and at receptor end.

AIR QUALITY OF GANGTOK

Air Quality Monitoring of Gangtok town was initiated out under the project "Assessment of Pollution & Formulation of Action Plan" during the year 2000-

2001 and as per the report the air quality of Gangtok town is represented in the table.

Table 9.1 Ambient Air Quality in and around Gangtok (Yearly Avg) in ($\mu\text{g}/\text{m}^3$)

SL.No	Name of sites	Category	SPM	SO ₂	NO ₂
1	Tadong	Residential	108	16.2	15.7
2	Indira bye-pass	Commercial	137	17.4	22.6
3	Deorali	Residential	118	18.6	16.1
4	Bazar area (near Metro Point)	Commercial	145	22.3	20.4
5	Hospital point	Sensitive	122	19.6	18.6
6	Zero point	Sensitive	98	10.2	12.3

Source : State of Environment Pollution Report 2004

❖ Oxides of Sulphur

Eight hourly Sulphur dioxide concentration of the sample shows that Bazar area with 22.3 $\mu\text{g}/\text{m}^3$ has highest concentration on yearly average while the zero point shows minimum concentration with 10.2 $\mu\text{g}/\text{m}^3$. The other stations viz: Tadong (16.2 $\mu\text{g}/\text{m}^3$), Indira bye-pass (7.4 $\mu\text{g}/\text{m}^3$) Deorali (16.1 $\mu\text{g}/\text{m}^3$), and Hospital Point (18.6 $\mu\text{g}/\text{m}^3$). All the values are, however, within the prescribed limit.

❖ Oxides of Nitrogen

The Eight hourly averages of Nitrogen oxides samples were collected and further analyzed in the lab. The result is presented in the table above. The highest concentration of oxides of Nitrogen as NO_2 was recorded from Indira Bye-pass with 22.6 $\mu\text{g}/\text{m}^3$ followed by Bazar area (20.4

$\mu\text{g}/\text{m}^3$), Hospital Point (18.6 $\mu\text{g}/\text{m}^3$), Deorali (16.1 $\mu\text{g}/\text{m}^3$), Tadong (15.7 $\mu\text{g}/\text{m}^3$) and lowest was recorded from zero point with 12.3 $\mu\text{g}/\text{m}^3$. All the values are however, within Indian standard.

❖ Suspended Particular Matter (SPM)

The yearly average of suspended particulate matter is presented in table above. It can be inferred that Bazar area (near metro point) with 145 $\mu\text{g}/\text{m}^3$ of SPM has highest concentration while zero point with 98 $\mu\text{g}/\text{m}^3$ shows minimum concentration of SPM. The highest value in Bazar area is mainly due to heavy vehicular movement in this area. Tadong monitoring site recorded 108 $\mu\text{g}/\text{m}^3$ of SPM and like-wise Indira bye-pass (137 $\mu\text{g}/\text{m}^3$), Deorali (118 $\mu\text{g}/\text{m}^3$) and Hospital point (122 $\mu\text{g}/\text{m}^3$).

VEHICULAR POLLUTION

❖ PETROL DRIVEN VEHICLES

Altogether 83.72% of the petrol driven vehicles were meeting the specified standards and 16.27% of the petrol driven vehicles were not meeting the stipulated standards.

Table 9.2 Petrol driven vehicles monitored for CO%

Sl. no.	Type of Vehicle	Total Vehicle Monitored	CO	
			Total Vehicle Complying the Standards	Total Vehicle Not-complying the standards
1.	Two wheeler	54	48	06
2.	Four wheeler	161	132	29
	Total	215	180	35

Source : State of Environment Pollution Report 2004

❖ DIESEL DRIVEN VEHICLES

A total number of 90 diesel driven vehicles were monitored which included Buses, Lorries, Mini Lorries, Commander jeeps etc., of different

Table 9.3 Diesel driven vehicles monitored for Smoke density in HSU.

Type of Vehicle	Total Vehicle Monitored	Smoke Density (HSU) Total Vehicle Complying the Standards	Total Vehicle Not-complying the Standards
Four wheeler	90	78 (86.66%)	12 (13.33%)

Source : State of Environment Pollution Report 2004

makes at peak hour in commercial and traffic area. It was observed that 78 vehicles (86.66%) were meeting the standards. However, 12 vehicles (13.33%) failed to meet the standards. Details of the above data are shown in the table below.

Table 9.4 MONTHLY UPLIFTMENT OF POL FROM RANGPO DEPOT IN THE STATE OF SIKKIM, (THE UPLIFTMENT INCLUDED WITH LOC, IBP & HPC ONLY)

MONTH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MARCH	TOTAL
1999-00													
MS	576	540	477	405	354	462	483	540	703	366	375	450	5731
SKO	690	1449	1248	1230	1347	1293	1314	1722	1534	1392	1338	1830	16387
HSD	1375	1396	1260	1194	1521	1253	1189	1255	1467	1282	1325	1815	16332
2000-01													
MS	543	462	375	363	339	668	414	435	501	297	240	606	5243
SKO	1098	1344	1158	1161	1121	1392	1671	1698	972	1848	1218	1461	16142
HSD	1264	1502	1269	1058	1114	1234	1088	1302	1257	1300	1135	1439	14962
2001-02													
MS	291	414	516	201	243	348	309	306	240	366	348	460	4042
SKO	1317	1221	876	1056	1029	1095	1242	1239	752	1398	1338	773	13336
HSD	1253	1464	1504	1002	1085	1045	1207	1357	1306	1651	1395	1696	15965
2002-03													
MS	555	543	453	357	312	271	369	469	303	300	387	461	4773
SKO	1410	1338	527	1155	864	1256	1023	1329	1123	993	804	969	12791
HSD	1712	1954	1625	1411	1577	1507	1907	1708	1698	1706	1495	1849	20149

Source : State of Environment Pollution Report 2004

Table 9.5 LPG CONSUMPTION IN SIKKIM

Year	(No. of Cylinders)	Percentage increase %
1998	185213	321%
1999	196150	6%
2000	245756	25%
2001	286585	17%
2002	339077	18%
2003	411895	17%

Source : State of Environment Pollution Report 2004

WATER QUALITY MONITORING

The Central Pollution Control Board, Delhi initiated the National Water Quality Monitoring Programme to consistently monitor the water quality in a systematic manner to know the nature and extent of water quality degradations and the existing quality of water in the water bodies. The national programme is also termed as Monitoring of Indian National Aquatic Resources (MINARS). Under the MINARS programme the State Pollution Control Board, Sikkim collects water samples from River Teesta and its tributaries at nine stations. This program is totally funded by Central Pollution Control Board. The details of sampling Stations are as follows:

Sl. No.	Name of Station (station code)	Location (Latitude & Longitude)
1.	Chungthang (1801)	Lat.88°39'0" Long. 27°36'0"
2.	Dikchu (1802)	Lat.88°31 '30" Long. 27°23'44"
3.	Burtuk (1803)	Lat. 88°31 '30" Long. 27°21 '30"
4.	Adampool (1804)	Lat. 88°35'15" Long. 27°18'30"
5.	Ranipool (1805)	Lat. 88°35'45" Long. 27°17'15"
6.	Singtam (1806)	Lat. 88°29'45" Long. 27°13'45"
7.	Singtam D.S (1807)	Lat. 88°29'44" Long. 27°13'44"
8.	Rangpo (1808)	Lat. 88°31'45" Long. 27°10'8"
9.	Melli (1809)	Lat. 88°37'30" Long. 27°5'15"

WATER QUALITY OF LAKES

Sikkim is bestowed with abundant hydrological resources primarily because of its geomorphology and its location in the Eastern Himalayas. The Himalayas obstruct the rain bearing winds of the south-west monsoon resulting the Himalayas to receive annual rainfall which ranks as the highest in the world, making the Himalayas a source of a large number of mighty rivers perennial streams and snow cover mountains.

The geomorphological conditions providing high amount of rainfall has gifted the state of Sikkim with abundant wetlands. The state presents a picturesque panorama of about 150 lakes situated at different altitudes with varying shape, size and depth. Most of the lakes are regarded highly sacred and attract a large number of tourist and pilgrims.

Of all the Lakes of Sikkim the study on the Environment status of the three revered lakes of East Sikkim, Viz., Changu, Menmoitso, & Kupuk Lakes have been carried out under the Central

sponsored scheme Prevention & Abatement of Pollution. The Changu, Menmoitso, Kupuk Lakes are regarded as extremely sacred & are places of Tourist interest besides military base is situated in their vicinity. These lakes form an important stopover for various ducks besides being home to resident brahminy ducks (*Tendora ferruginea*). These lakes also form the habitat for introduced browntrout (*Salmo trutta*).

The scenic beauty and sanctity of these holy lakes have been drawing large number of tourists and pilgrims. There is heavy movement of different vehicles and also there is biotic interference. Keeping these activities in mind the study was conducted to assess the status of these fragile eco-systems, which fall under the category of high altitude lakes as all of them lie 2500 mtr. above mean sea level belonging to the category of wetland type 14 according to Directory of Indian wetlands 1993. Classification. Comparative Water analysis of lakes is shown in the following table:

Table 9.6 Comparative Study of Physico- Chemical parameters of Three lakes

Sl. No	Parameters	CHANGU		MENMOISTO		KUPUP	
		Ave	Range	Ave	Range	Ave	Range
1	pH	5.8	5.0-6.4	6.7	6.1-7.4	6.8	6.1-7.2
2	Dissolved Oxygen (mg/l)	6.00	3.7-8.6	9.2	6.1-14.1	12.41	7.6-8.2
3	Calcium mg/l	1.57	.890-2.125	1.890	1.025-2.225	1.73	1.00-3.00
4	Sodium mg/l	0.011	0.003-0.022	0.012	0.002-0.037	0.013	0.002-0.023
5	Potassium mg/l	0.023	0.002-0.132	0.069	0.016-0.146	0.039	0.009-0.146
6	Nitrate mg/l	0.966	0.911-14	1.290	0.900-2.025	1.08	0.750-1.475
7	Phosphate mg/l	1.023	0.113-1.720	0.750	0.250-1.025	1.67	0.500-1.800
8	B.O.D mg/l	13.90	8.6-18.6	7.00	4.6-9.2	4.98	6-7.2
9	C.O.D mg/l	56.58	23.1-90.4	27.37	16.10-14.20	34.69	22.5-47.2
10	Total Solid mg/l	484.80	270.1-673.4	328.90	142.10-473.8	299.8	255.9-298
11	Total Kjeldahl Nitrogen mg/l	0.021	0.011-0.037	0.018	0.006-0.025	0.029	0.015-0.050
12	Sulphate mg/l	ND	ND	ND	ND	ND	ND
13	Water Temp °C	3.9°C	2°C-6°C	6.1°C	3°C-8°C	3.4°C	2°C-4°C
14	Air Temp °C	9.7°C	3°C-14°C	5.7°C	1°C-9°C	-	1°C-8°C

Source : State of Environment Pollution Report 2004

COMPARATIVE STUDY OF THE THREE LAKES

- The pH- The annual average pH of Changu was lowest with 5.8 compared to Menmoitso and Kupup which had approximately the same value in average. Lower pH value in Changu may be attributed to religious offerings and the impact of flow of tourists during tourist season whereas in Menmoitso and Kupup flow of tourist is comparatively low:
- **Dissolved oxygen:** The highest annual average of dissolved oxygen was observed at Kupup with 12.41 mg/l and the lowest no. at Changu with 6.00 mg/l. The low no Value of Changu shows the tendency towards eutrophic condition of the lake. In all the sites no content shows a marked seasonality with oxygen levels decreasing during winter months which might be due to cumulative influence of low insulation, low temperature, over turn of lake water and minimal photo synthetic activity.
- Calcium, Sodium, Potassium, Nitrate and Phosphate values are approximately same in all the study sites. The average calcium value of Changu was 1.57 mg/l as that of 1.890 mg/l in Menmoitso and 1.73 mg/l in Kupup. It has been found that calcium concentration increased from summer to winter. Phosphate concentration was highest in Kupup with 1.67 mg/l in average whereas in Menmoitso mg/l and 1.023 mg/l in Changu.
- **B.O.D & C.O.D:** The annual average B.O.D value of Changu was 13.9 mg/l which is comparatively higher than other two study sites. Menmoitso shows 7.00 mg/l whereas lowest ROD. value was observed in Kupup with 4.98 mg/l. More or less the same pattern was followed by C.O.D Changu showed C.O.D 56.5 mg/l followed by Kupup 34.6 mg/l and Menmoisto 27.2 mg/l. Maximum values of B.O.D and C.O.D was observed during rainy season which may be due to heavy input of Variety of nutrients along with eroded material and prevalence of favourable environmental conditions for microbial activities. The highest total solids was found in Changu with 484.8 mg/l followed by Menmoisto 328.9 mg/l and Kupup 299.8mg/l. Total Kjeldal Nitrogen was approximately same at all sites. The higher B.O.D and C.O.D values infer to the pollution potential. Thus it can be inferred that Changu lake has suffered undesirable changu than the other two lakes.

Drinking Water

The surveillance and monitoring of water and waste water quality is very important to evaluate their adverse effect on human health and surrounding environment. The available water may be unfit for drinking purpose due to chemical and micro- biological contaminations and therefore apart from MINARS the SPCB, Sikkim monitors drinking water of Gangtok along with water quality of some high altitude lakes and hot waste springs and water quality of streams encompassing Gangtok town.

The drinking water source of Gangtok is Tarnzey at an altitude of 14,000ft. above mean sea level. The Public Health Engineering Department supplies and maintains the drinkingwater supply to Gangtok. The water from the source Tamzey is stored at 10th & 4th mile Rateychu tank and before distribution it is stored and chlorinated at salap tank (6000 ft.). From this storage and chlorination point water is distributed to Gangtok as per the detailed network.

■ Drinking water quality

Water is the fundamental basis of life. The drinking water has a direct impact on human health and considering this fact the regular monitoring of drinking water supplied to Gangtok town at different localities reveals the following facts. A detail study under taken by Pollution Control Board assesses the quality of the urban water supply network. As a very little work has been carried out on the water quality of the other parts of the State hence the information's provided under are based on the detail study of the water quality of the capital town only. Drinking water is supplied to Gangtok town by the Public Health and Engineering Department. The source of drinking water is at Tamzey at an altitude of 14,000ft. above mean sea level. An army base camp is also situated besides this stream. The water from Tamzey is stored at 10th mile and 4th mile Rateychu tanks and before distribution it is stored at Salep tank(6,000ft.) where chlorination takes place after which the water is supplied

through pipeline network to different parts of the capital town Gangtok. The water quality is under continuous monitoring at various points from where it is used for consumption and for this purpose seven localities have been identified by SPCB which are designated as follows:

- Zone 1: Deorali: (Syari, Panihouse, Deorali bazaar).
- Zone 2: Lall Market(Lall market, Sundari gaon, Old Secretariat, Bishal gaon).
- Zone3: New Market:(Nam Nang, New Market area and Kazi Road).
- Zone 4: Old Market:(Arithang, Old Market area and Kazi Road).
- Zone 5: Hospital Point:(Hospital complex, Diesel Power House,Palzor Stadium complex).
- Zone6: Development Area:(Residential area, TNHS Road, Shopping complex).
- Zone7: Balwakhani Area (Vajra complex, Forest Colony, P&T Colony, Zero point area).

Drinking water samples are collected from the zones specified by State Pollution Control Board (SPCB). At least three samples are collected from each zones on weekly basis. The methodol- 14 ogy for laboratory analyses of the parameters are adopted from the "Standard methods for Examination of water and waste water" 12 18th Edition 1992 prepared and published by American Public Health Association, American Water Works Association and 10 Water Pollution Control Federation. The collected samples after 8 necessary analysis in the water lab of SPCB reveals.....

- **pH:** pH is the negative logarithm of hydrogen ion concentration. pH is used to measure the alkalinity and acidity of water. The pH values of all the stations lie within the Indian standard of 6.5 to 8.5. The pH value is between 6.4 to 8.2. The zone V (Hospital point) shows minimal pH (6.4) whereas in zone IV (old market) pH is 8.2.
- **Conductivity:** The highest conductivity of 540 umhos/ cm² was observed at zone I and zone VII whereas zone V shows lowest.
- **Dissolved Oxygen:** The collected samples are analyzed within 24hrs of collection in lab. of SPCB. The lowest no value was recorded in 11.2 mg/ltr. at zone VI while the highest 13.4 mg/ltr. was observed at zone III. The dissolved oxygen of all the samples is above 6mg/ ltr. Which is the prescribed value.
- **B.O.D (Biochemical Oxygen Demand):** The highest B.O.D value was found to be 2.2 mg/ltr. at zone I and lowest 1.8mg/ltr. at zone V & VI .Three study zones viz zone I, zone II and zone VII shows B.O.D value more than prescribed limit of 2mg/ltr. And other zone lie within the permissible limit. The quality of water is determined by B.O.D value, the higher the value of B.O.D worse the quality of water.
- **Nitrate (NO₃):** All the study zones show that the values of nitrate fall within the prescribed level of 45 mg/ltr. With the lowest nitrate value of 26 mg/ltr. at zone III and highest 41mg/ltr.at zone
- **Magnesium:** The national standard for Magnesium concentration is 30 mg/ ltr. Two study zones viz zone I and zone IV shows concentration more than national standard whereas other zone lies below standard. The highest Mg-concentration of 35 mg/ltr. was recorded at zone IV while lowest 23mg/ltr. at zone III.

- **Free CO₂** The lowest free Co₂ was recorded at zone III with 0.7 mg/ ltr. and highest 1.2 mg/ltr. at zone IV.
- **Chlorides (as chlorine):** The chlorides concentration in all the zones were below the national standard of 250 mg/ltr. The highest concentration of cWoride was found to be l27mg/ltr at zone VI whereas the lowest was recorded at zone I with 105 mg/ltr.
- **Sulphate (SO₄) :** The highest Sulphate content was recorded at zone V (24mg/ ltr.) while lowest value was observed at zone I (l6mg/ltr.). The sulphate content of zone II, zone III, zone V, zone V, zone VI, Zone VII were found to be 19 mg/ltr. 18mg/ltr, 22 mg/ltr 24mg/ltr,18mg/ltr and 17 mg/ltr respectively.
- **Total Hardness (as CaCO₃):** The total hardness value of all the study zones lie within the prescribed national standard of 300 mg/ltr. With highest at zone V(105mg/ltr.) and lowest concentration of 77 mg/ltr. at zone III. In other study zones viz ; zone II, zone Iv, zone VI, and zone VII, 95mg/ltr, 92mg/ltr., 98mg/ltr., 96mg/ltr., and 91mg/ ltr. were observed respectively.
- **Calcium as CaCO₃** The national standard for calcium is 75mg/ltr. In all the study zones the calcium concentration was found to be within the national standard. The highest calcium concentration with 68 mg/ltr. was recorded at zone VI and lowest concentration of 54 mg/ltr. at zone III.
- **T.D.S & T.S.S:** The national standard of total dissolved solids is 500mg/ltr. The total dissolved solids value is the highest in the zone VII with 43 mg/ltr. and lowest at zone III with total dissolved solids value of 26 mg/ltr. Similarly, total suspended solids concentration lies highest at zone II, zone IV, zone VII with 104 mg/ltr. and lowest 1.1 mg/ ltr. at zone I. The analysis of drinking water of Gangtok town shows variation in concentration of some parameters in different study zones. This can be attributed to chances of leakage due to rusting and improper fitting of pipeline network passing through the drains.

STREAM/JHORA WATER QUALITY

A preliminary study on the encompassing, Gangtok was carried out in collaboration with the Department of Zoology, Sikkim Govt. College and the result of is shown in the following tables.

Table 9.7 Physical analysis of water quality of streams and jhoras

Source Name	Source	Set.	Temp. Ai	Temp. wi	pH	Cond	Sal	Odr.	Cor.
Goshkhan ihora	Spring	12.10(pm)	13.5 °C	1tC	5.3	650	0.5 %	Toxic	Blackish
Hospital jhora	Spring	12.20(pm)	10.5 °C	10°C	5.S	300		Toxic	Muddy
Paljor Stadium ihora	Spring	12.10(pm)	17 °C	Wc	5.5	200		Toxic	Yellowish
Fisheries ihora.	Spring	1.00(pm)	15 °C	15°C	5.4	200		Toxic	Darkish
Rani Khola	Stream	1.35(pm)	19 °C	12.5°C	6.1	60	5.3	-	Clear
Adam Pool Khola	Stream	3.10(pm)	19 °C	17°C	6.3	100	5.3	Toxic	Muddy

Source: SPCB, Government of Sikkim

Table 9.8 Chemical Analysis of Water Quality of Streams and Jhoras

Source Name	Source	D.O	D.CO ₂	Cl.	Alk	Aci.	Hard.
Goshkhan ihora	Spring	5.332	89.34	4.496	201.83	49.67	199.460
Hospital jhora	Spring	8.532	20.66	2.596	118.67	15.17	93.476
Paljor Stadium ihora	Spring	8.132	27.34	1.659	84.67	11.33	68.260
Fisheries ihora.	Spring	8.468	7.34	11.418	72.33	4.33	75.436
Diesel Power House jhora	Spring	7.868	11.34	18.907	58.67	6.83	63.844
Rani Khola	Stream	8.468	4.34	6.624	16.33	1.33	14.164
Adam Pool Khola	Stream	6.868	9.34	8.269	20.67	5.33	12.884

Source: SPCB, Government of Sikkim

Table 9.9 METAL ANALYSIS

Source Name	Source	Ca	Mg	Fe	Na	K
GJ	Spring	38.613	ND	2.120	51.155	92.902
H.J	Spring	28.320	ND	0.008	35.478	57.322
P.S.J	Spring	22.709	ND	0.179	41.749	33.603
F.J	Spring	27.118	ND	0.024	37.046	37.556
D.J	Spring	24.713	ND	0.204	28.977	37.556
R.KH.	Stream	4.545	ND	0.139	13.036	9.883
A.KH.	Stream	8.954	ND	10.351	29.868	17.790

Source: SPCB, Government of Sikkim

Table 9.10 Compound Analysis

P ₀₄	N ₀₃	SiO ₄	T.S	T.D.S	T.S.S
67.101	0.0002	25.252	428.0	332.600	95.400
4.111	0.0154	18.499	455.2	384.200	71.000
7.921	0.013	11.601	240.2	202.000	38.200
6.542	0.009	10.997	104.7	83.700	20.660
4.195	0.010	12.952	23008.1	22629.500	378.600
0.248	0.001	13.720	563.0	455.600	107.400
2.431	0.003	131.940	531.6	302.200	229.400

Source: SPCB, Government of Sikkim

NOISE POLLUTION MONITORING

Noise has rapidly become a source of environmental pollution with increasing industrialization, urbanization and the rapid expansion of the means of transportation. The ambient noise level termed as the total noise associated within a given environment and usually comprise of sounds from many sources both near and far.

✚ Noise Monitoring Locations In Gangtok

The measurement of ambient noise level is being using sound Level Meter 2031 A (Cygnet). The measurements which were taken for seven consecutive days in each sites were in three slots i.e., morning 8.00 a.m. -10.00 a.m., afternoon 14.00 p.m.16.00p.m., and night 18.00-20.00p.m. The average measurements are reflected below.

Table 9.11 Average Ambient Noise Level at Various Places in Gangtok.

Sl. No.	Place	Day Average leg. in dB (A)	Night Average leg in dB (A)
SILENCE ZONE			
1.	Hospital Point	62	63
2.	District Court	50	44
RESIDENTIAL ZONE			
1.	Tadong	61	58
2.	Deorali Govl. Quarter	61	57
3.	Development Area	66	50.7
COMMERCIAL ZONE			
1.	M.G. Marg	70	62
2.	Indria Bye-Pass	73	69

Source: SPCB, Government of Sikkim