



Japan International Cooperation
Agency (JICA)
Nepal Office, Kathmandu



Nepal Electricity
Authority
Kathmandu, Nepal

**The Basic Study for the Rural Electrification
through Small Hydropower Development in
Rural Hilly Areas in Nepal**

FINAL REPORT

VOLUME: 2

APPENDIX – A: Review and Screening of SHP Projects
APPENDIX – B: Study of Ghami Khola SHP Project

SSF

JR

03-077

JICA LIBRARY



1175322(5)

Kathmandu, March 2003

Submitted by:



ITECO Nepal (P) Ltd.

Panchakanya Marg - 96

P.O. Box 2147

Min Bhawan, New Baneshwor

Kathmandu, Nepal

Tel: 4 493 764 (Hunting Line),

Fax: +977-1-4 482 298

E-mail: iteco@mos.com.np

Web site: www.scaef.com/iteconepal

in association with



Butwal Power Company Ltd.

P.O. Box 11728

Kumaripati, Lalitpur

Kathmandu

Tel: 5 535 595, 5 538 404

Fax: +977-1-5 527 901

E-mail: bpc@hydroconsult.com.np



Japan International Cooperation
Agency (JICA)
Nepal Office, Kathmandu



Nepal Electricity
Authority
Kathmandu, Nepal

**The Basic Study for the Rural Electrification
through Small Hydropower Development in
Rural Hilly Areas in Nepal**

FINAL REPORT

VOLUME: 2

APPENDIX – A: Review and Screening of SHP Projects

APPENDIX – B: Study of Ghami Khola SHP Project

Kathmandu, March 2003

Submitted by:



ITECO Nepal (P) Ltd.

Panchakanya Marg - 96

P.O. Box 2147

Min Bhawan, New Baneshwor
Kathmandu, Nepal

Tel: 4 493 764 (Hunting Line),

Fax: +977-1-4 482 298

E-mail: iteco@mos.com.np

Web site: www.scaef.com/iteconepal

in association with



Butwal Power Company Ltd.

P.O. Box 11728

Kumaripati, Lalitpur

Kathmandu

Tel: 5 535 595, 5 538 404

Fax: +977-1-5 527 901

E-mail: bpc@hydroconsult.com.np



1175322{5}

The Basic study for the Rural Electrification through Small
Hydropower Development in Rural Hilly Area in Nepal

FINAL REPORT

VOLUME 1
Main Report

VOLUME 2

APPENDIX – A: Review and Screening of SHP Projects
APPENDIX – B: Study of Ghami Khola SHP Project

APPENDIX – A

LIST OF CONTENTS

GENERAL INFORMATION

- Glossary of Data and Documents
- VDC-wise Power Demand and Prioritization of Load Centers
- Existing Major Hydropower Projects
- Existing Major Diesel Power Plants
- Existing Small Hydropower Projects
- Existing Micro Hydropower Projects (NEA)
- Project Location
- Accessibility of Small Hydropower Projects
- Transmission Line Network
- Protected Areas
- Geological Map
- Summary of Project Features
- Mean Annual Precipitation Map
- Monsoon Wetness Index Map
- Hydrometric Stations with Published Data
- Summary of Relevant Meteorological Records
- Summary of Project Cost Estimate

PROJECTS FEATURES

- Maiwa Khola Small Hydropower Project
- Leguwa Khola Small Hydropower Project
- Sabha Khola Small Hydropower Project
- Molung Khola Small Hydropower Project
- Ghami Khola Small Hydropower Project
- Mojkot Khola Small Hydropower Project
- Galwa Gad Small Hydropower Project
- Gandi Gad Small Hydropower Project
- Jamadi Gad Small Hydropower Project
- Nilgarh Gad Small Hydropower Project

SOCIO ECONOMIC RESULTS

- Summary Result of Economic / Financial and Social Analysis
- Socio Economic Data
- Affordability Ratio and Willingness to Pay Ratio
- Energy Consumption in Nepal
- Gross Domestic Product
- Energy Consumption Regional 1995 /1996
- District wise Per Capita Income

GENERAL INFORMATION

APPENDIX – A

LIST OF CONTENTS

GENERAL INFORMATION

- Glossary of Data and Documents
- VDC-wise Power Demand and Prioritization of Load Centers
- Existing Major Hydropower Projects
- Existing Major Diesel Power Plants
- Existing Small Hydropower Projects
- Existing Micro Hydropower Projects (NEA)
- Project Location
- Accessibility of Small Hydropower Projects
- Transmission Line Network
- Protected Areas
- Geological Map
- Summary of Project Features
- Mean Annual Precipitation Map
- Monsoon Wetness Index Map
- Hydrometric Stations with Published Data
- Summary of Relevant Meteorological Records
- Summary of Project Cost Estimate

GLOSSARY OF DATA AND DOCUMENTS

S. No.	Name of Reports	Region	Published by:
1.	Inventory Study Report of Sabha Khola, SHP Project, Sankhuwasabha District	Eastern Region	SHP/NEA
2.	Inventory Study Report of Gandi Gad, SHP Project, Doti District	Western	SHP/NEA
3.	Inventory Study Report of Leguwa Khola SHP Project, Dhankutta District	Eastern Region	SHP/NEA
4.	Final Report Feasibility Study of Hetauda - Bardghat 220 kV Transmission Line, Makawanpur District	Central Region	Nepalconsult
5.	Final Report Detailed Engineering Design of Galwa Gad SHP project, Humla District	Mid Western	Soil Rock and Concrete Laboratory, NEA
6.	Final Design Report (Vol. I: Main Report) Feasibility Study of Ghami Khola SHP Project, Mustang District	Western	Soil Rock and Concrete Laboratory, NEA
7.	Rural Energy for Sustainable Development. Annual Report 2001		UNDP
8.	Reconnaissance Study Report of Maiwa Khola SHP Project, Taplejung District	Eastern Region	PPL - SHPD (Gtz)
9.	Reconnaissance Study Report of Jamadi Gad SHP Project, Baitadi District	Far Western Region	PPL - SHPD
10.	Reconnaissance Study Report of Nilgarh Gad SHP Project, Baitadi District	Far Western Region	PPL - SHPD
11.	Final Report on Detailed Engineering Design of Molung Khola SHP Project. Okhadhunga District (Volume I: Main Report)	Eastern Region	D. E. Consultant - ITECO N
12.	Small Hydropower Master Plan of Nepal Main Report Phase I and II (Draft)	All Regions	PPL and SHPD
13.	District Energy Situation, Baitadi District Draft Report	Far-Western Region	DDC, REDP
14.	Feasibility Study Report of Mujkot Khola SHP Project Volume I Main Report, January 1997	Mid Western Region	Masina – Silt JV
15.	Civil works guidelines for Micro-Hydropower in Nepal		BPC Hydroconsult and ITDG
16.	Methodologies for estimating hydrologic characteristics of ungauged locations in Nepal		DHM/WECS
17.	Hydrological records of Nepal		DHM
18.	Climatological records of Nepal		DHM

19.	Update and Completion of Energy Resources and Consumption Profile of Nepal Final Report volume I: Main Report		WECS
20.	Economic Survey fiscal year 2001/2002		HMGN
21.	Nepal Electricity Authority fiscal year 2001/2002 a year in review		NEA
22.	Socio-economic study of solar home systems target Groups, Impact of SHS and SHS user survey 1999		AEPC/DANIDA
23.	Energy Resource and Consumption Profile of Far-Western Development Region of Nepal Final Report volume 1: Main Report		WECS
24.	Energy Resource and Consumption Profile of Western Development Region of Nepal Final Report main text		WECS
25.	Energy Resource and Consumption Profile of the Central Development Region of Nepal Final Report volume I Main Text		WECS
26.	Energy Resource and Consumption Profile of the Eastern Development Region of Nepal Final Report volume I Main Text		WECS
27.	Energy Resource and Consumption Profile of the Mid-Western Development Region of Nepal Final Report volume I Main Text		WECS
28.	Energy Resource and Consumption Profile Eastern Development Region of Nepal		WECS
29.	Population of Nepal village Development Committees/Municipalities Population Census 2001 – selected tables far –western development region.		CBS
30.	Population of Nepal village Development Committees/Municipalities Population Census 2001		CBS
31.	Population of Nepal village Development Committees/Municipalities Population Census 2001 – selected tables eastern development region.		CBS
32.	Population of Nepal village Development Committees/Municipalities Population Census 2001 – selected tables western development region.		CBS
33.	Population of Nepal village Development Committees/Municipalities Population Census 2001 – selected tables mid-western development region.		CBS
34.	Statistical Information on Nepalese Agricultural 2000/200		CBS
35.	Statistical Year Book of Nepal 2001		CBS
36.	Nepal Living Standards Survey Report 1996 Main Findings volume two		

37.	Statistical Pocket Book Nepal 2002		CBS
38.	Report on Household Budget Survey Urban Nepal		NRB
39.	Quarterly Economic Bulletin of Nepal Rastra Bank		NRB
40.	Monthly Report main economic indicator		NRB
41.	Yearly Statistical (pratibedan) 2057/058		CBS
42.	Basic Socio-Economic Indicators of Nepal December 2001		CBS
43.	Nepal Rastra Bank Economic Report 2000/01		NRB
44.	Sustainable Development in a dynamic World Transforming Institutions, Growth, and Quality of Life		WB
45.	Power System Master Plan for Nepal Load Forecast Final Report		Norconsult

Table 1 VDC-wise power demand forecast and prioritization of load centers

District Taplejung, EDR

S. No.	VDC name	Total population	Number of households	Population growth rate	Power demand in kW	Households involved in industries	Households involved in trade / business	Households involved in services	School attendance above 6 yrs.	Score for power demand (10)	Score for Industries (5)	Score for Trade / Business (5)	Score for Services (5)	Score for School Attending (5)	Total Score (30)
1	Phungling	11912	2400	1.14%	443	15	308	412	3477	10.0	5.0	5.0	5.0	5.0	30.0
2	Dhungesanghu	4254	792	1.14%	149	17	32	18	1091	9.6	5.0	2.7	1.1	4.4	22.7
3	Dokhu	3914	724	1.14%	137	16	29	23	1121	8.8	5.0	2.4	1.3	4.5	22.1
4	Hangdewa	3763	682	1.14%	130	4	13	108	1208	8.3	1.9	1.1	5.0	4.9	21.2
5	Hangpang	4345	811	1.14%	153	6	13	34	1488	9.8	2.9	1.1	2.0	5.0	20.8
6	Nankholyang	4015	730	1.14%	138	6	19	29	1222	8.9	2.9	1.6	1.7	4.9	20.0
7	Phulbari	4076	792	1.14%	149	2	33	22	1327	9.6	1.0	2.7	1.3	5.0	19.6
8	Thechambu	3772	698	1.14%	133	3	21	42	1309	8.5	1.5	1.7	2.5	5.0	19.2
9	Change	4720	850	1.14%	159	1	19	11	1147	10.0	0.5	1.6	0.6	4.6	17.3
10	Phakumba	4144	733	1.14%	137	7	3	14	1007	8.8	3.4	0.2	0.8	4.1	17.3
11	Santharka	2861	518	1.14%	101	18	2	35	644	6.5	5.0	0.2	2.0	2.6	16.3
12	Khokling	3658	650	1.14%	123	0	15	32	1046	7.9	-	1.2	1.9	4.2	15.2
13	Sangu	4087	730	1.14%	138	1	5	12	1121	8.9	0.5	0.4	0.7	4.5	15.0
14	Khewang	3039	538	1.14%	103	2	8	36	827	6.6	1.0	0.7	2.1	3.3	13.7
15	Lelep	2319	457	1.14%	86	5	24	22	534	5.5	2.4	2.0	1.3	2.1	13.4
16	Ankhop	2540	457	1.14%	86	4	16	33	660	5.5	1.9	1.3	1.9	2.7	13.4
17	Ambegudin	3018	528	1.14%	102	1	13	14	969	6.5	0.5	1.1	0.8	3.9	12.8
18	Thinglabu	2806	526	1.14%	102	2	7	37	607	6.5	1.0	0.6	2.2	2.4	12.7
19	Sawalakhu	2501	455	1.14%	86	4	9	31	633	5.5	1.9	0.7	1.8	2.5	12.6
20	Thumbedin	2638	489	1.14%	94	3	7	27	724	6.0	1.5	0.6	1.6	2.9	12.6
21	Tiringe	2003	383	1.14%	76	7	5	23	577	4.9	3.4	0.4	1.3	2.3	12.4
22	Linkhim	2281	405	1.14%	78	6	20	1	608	5.0	2.9	1.7	0.1	2.4	12.1
23	Sinam	2210	414	1.14%	80	4	8	21	757	5.1	1.9	0.7	1.2	3.0	12.0
24	Mehele	2384	426	1.14%	82	4	16	5	734	5.3	1.9	1.3	0.3	3.0	11.8
25	Liwang	1746	332	1.14%	65	0	12	72	529	4.2	-	1.0	4.2	2.1	11.5
26	Dummrise	1981	356	1.14%	69	7	4	8	572	4.4	3.4	0.3	0.5	2.3	10.9
27	Limbudin	2284	379	1.14%	74	4	15	14	491	4.7	1.9	1.2	0.8	2.0	10.7
28	Thukima	2772	521	1.14%	101	0	13	5	648	6.5	-	1.1	0.3	2.6	10.5
29	Tellok	2350	438	1.14%	84	0	22	10	655	5.4	-	1.8	0.6	2.6	10.4
30	Papung	1570	280	1.14%	56	34	9	2	185	3.6	5.0	0.7	0.1	0.7	10.2
31	Phurumbu	2605	455	1.14%	86	0	12	17	666	5.5	-	1.0	1.0	2.7	10.2
32	Pedang	1843	317	1.14%	62	4	5	30	391	4.0	1.9	0.4	1.8	1.6	9.7
33	Sanwa	2587	473	1.14%	89	0	5	18	551	5.7	-	0.4	1.1	2.2	9.4
34	Khejenim	2642	470	1.14%	90	0	4	10	593	5.8	-	0.3	0.6	2.4	9.1
35	Lingtep	1823	350	1.14%	69	5	1	9	383	4.4	2.4	0.1	0.5	1.5	9.0
36	Khamlung	1420	293	1.14%	58	0	27	17	439	3.7	-	2.2	1.0	1.8	8.7
37	Sikaicha	2503	465	1.14%	89	0	7	0	577	5.7	-	0.6	-	2.3	8.6
38	Nidhuradin	2837	501	1.14%	95	0	2	1	532	6.1	-	0.2	0.1	2.1	8.5
39	Surumakhim	1911	336	1.14%	65	2	7	13	451	4.2	1.0	0.6	0.8	1.8	8.3
40	Nalbu	1894	368	1.14%	72	0	7	13	521	4.6	-	0.6	0.8	2.1	8.1

Table 2 VDC-wise power demand forecast and prioritization of load centers

District Sankhuwasabha, EDR

S. No.	VDC name	Total population	Number of households	Population growth rate	Power demand in kW	Households operating Industries	Households running trade / business	Households involved in services	School attendance above 6 years of age	Score for power demand (10)	Score for Industries (5)	Score for Trade Business (5)	Score for Services (5)	Score for School Attendance (5)	Total Score (30)
1	Khandabari NP	21789	4624	1.18%	847	123	296	402	6440	10.0	5.0	5.0	5.0	5.0	30.0
2	Madimulkharka	6850	1230	1.18%	229	77	82	37	2186	7.6	4.7	4.0	1.6	4.8	22.7
3	Kharang	5849	1085	1.18%	202	147	135	51	1644	6.7	5.0	5.0	2.2	3.6	22.5
4	Tamafok	7069	1425	1.18%	264	21	143	76	1812	8.8	1.3	5.0	3.2	4.0	22.3
5	Chainpur	5745	1173	1.18%	216	24	85	134	1328	7.2	1.5	4.2	5.0	2.9	20.7
6	Ankhibhui	8090	1478	1.18%	273	7	67	39	2249	9.1	0.4	3.3	1.7	5.0	19.4
7	Bana	5635	1046	1.18%	194	6	103	61	1487	6.4	0.4	5.0	2.6	3.3	17.7
8	Madirambeni	5326	1047	1.18%	194	3	29	90	1272	6.4	0.2	1.4	3.8	2.8	14.7
9	Mamling	4151	807	1.18%	151	16	54	79	1032	5.0	1.0	2.7	3.3	2.3	14.3
10	Jaljala	5748	1067	1.18%	199	3	23	82	1223	6.6	0.2	1.1	3.5	2.7	14.1
11	Dhupu	4662	906	1.18%	169	17	30	74	1249	5.6	1.0	1.5	3.1	2.8	14.0
12	Siddhakali	5661	1046	1.18%	194	31	20	15	1790	6.4	1.9	1.0	0.6	4.0	13.9
13	Diding	3113	605	1.18%	114	103	12	48	1105	3.8	5.0	0.6	2.0	2.4	13.8
14	Barhabise	3464	636	1.18%	121	79	25	24	786	4.0	4.8	1.2	1.0	1.7	12.8
15	Baneswor	4259	800	1.18%	150	18	52	53	830	5.0	1.1	2.6	2.2	1.8	12.7
16	Chepuwa	1916	406	1.18%	78	89	63	19	498	2.6	5.0	3.1	0.8	1.1	12.6
17	Syabun	6543	1186	1.18%	220	6	27	18	1206	7.3	0.4	1.3	0.8	2.7	12.4
18	Hatiya	3096	624	1.18%	118	86	25	6	798	3.9	5.0	1.2	0.3	1.8	12.2
19	Makalu	3768	768	1.18%	144	1	61	33	873	4.8	0.1	3.0	1.4	1.9	11.2
20	Pathibhara	3150	640	1.18%	121	22	16	69	939	4.0	1.3	0.8	2.9	2.1	11.1
21	Siddhapokhari	3870	696	1.18%	132	10	30	42	1305	4.4	0.6	1.5	1.8	2.9	11.1
22	Mangtewa	2207	424	1.18%	82	53	6	72	508	2.7	3.2	0.3	3.0	1.1	10.4
23	Pawakhola	3092	509	1.18%	97	164	7	3	521	3.2	5.0	0.3	0.1	1.2	9.8
24	Sitalpati	4967	1031	1.18%	192	0	2	9	1294	6.4	-	0.1	0.4	2.9	9.7
25	Nundhaki	2910	557	1.18%	105	22	39	23	699	3.5	1.3	1.9	1.0	1.5	9.3
26	Bala	3006	587	1.18%	110	46	3	0	755	3.6	2.8	0.1	-	1.7	8.3
27	Matsyapokhari	4075	786	1.18%	147	2	4	9	1074	4.9	0.1	0.2	0.4	2.4	7.9
28	Tamku	2987	578	1.18%	110	20	8	8	779	3.6	1.2	0.4	0.3	1.7	7.3
29	Mawadin	3783	698	1.18%	132	0	1	0	1022	4.4	-	0.0	-	2.3	6.7
30	Yafu	2663	542	1.18%	103	1	7	18	807	3.4	0.1	0.3	0.8	1.8	6.4
31	Num	3161	587	1.18%	110	1	5	1	848	3.6	0.1	0.2	0.0	1.9	5.9
32	Sabhapokhari	3105	553	1.18%	105	7	3	2	652	3.5	0.4	0.1	0.1	1.4	5.6
33	Sisuwakhola	2981	563	1.18%	106	2	0	2	635	3.5	0.1	-	0.1	1.4	5.1
34	Keemathanka	317	53	1.18%	13	41	0	3	56	0.4	2.5	-	0.1	0.1	3.2

41	Ekhabu	2346	412	1.14%	80	0	1	5	588	5.1	-	0.1	0.3	2.4	7.9
42	Tapethok	1545	305	1.14%	60	0	16	3	383	3.8	-	1.3	0.2	1.5	6.9
43	Phawakhola	1457	259	1.14%	51	1	9	5	424	3.3	0.5	0.7	0.3	1.7	6.5
44	Mamankhe	1367	241	1.14%	48	0	6	8	449	3.1	-	0.5	0.5	1.8	5.9
45	Sawadin	1532	281	1.14%	56	0	1	6	249	3.6	-	0.1	0.4	1.0	5.0
46	Chaksibote	1100	205	1.14%	41	0	3	11	357	2.6	-	0.2	0.6	1.4	5.0
47	Sadewa	1147	207	1.14%	41	1	2	3	286	2.6	0.5	0.2	0.2	1.2	4.6
48	Kalikhola	730	115	1.14%	26	4	0	5	154	1.7	1.9	-	0.3	0.6	4.5
49	Yamfudin	761	147	1.14%	31	1	5	4	243	2.0	0.5	0.4	0.2	1.0	4.1
50	Olangchunggola	177	66	1.14%	14	0	23	5	32	0.9	-	1.9	0.3	0.1	3.2

Table 3 VDC-wise power demand forecast and prioritization of load centers

District Dhankuta, EDR

S. No.	VDC name	Total population	Number of households	Population growth rate	Power demand in kW	Households operating industries	Households running trade / business	Households involved in services	School attendance above 6 years of age	Score for power demand (10)	Score for Industries (5)	Score for Trade Business (5)	Score for Seviles (5)	Score for School Attendance (5)	Total Score (30)
1	Dhankuta NP	20668	4789	1.45%	946	41	622	9	5317	10.0	5.0	5.0	0.6	5.0	25.6
2	Marekkatahare	6644	1287	1.45%	257	100	25	102	1810	8.0	5.0	0.8	5.0	4.2	23.0
3	Parewadin	6908	1329	1.45%	266	4	92	96	2102	8.2	0.7	3.1	5.0	4.9	22.0
4	Pakhribas	4584	951	1.45%	191	4	137	91	1540	5.9	0.7	4.6	5.0	3.6	19.9
5	Belhara	5480	1059	1.45%	212	13	47	126	1462	6.6	2.3	1.6	5.0	3.4	18.9
6	Tankuwa	4560	911	1.45%	184	13	39	131	1546	5.7	2.3	1.3	5.0	3.6	18.0
7	Ankhisalla	5648	1083	1.45%	217	8	49	41	1854	6.7	1.4	1.7	2.5	4.3	16.7
8	Hathikharka	5619	1062	1.45%	214	2	14	150	1496	6.6	0.4	0.5	5.0	3.5	16.0
9	Murtidhunga	4085	761	1.45%	155	27	36	31	1115	4.8	4.9	1.2	1.9	2.6	15.4
10	Chhintang	9088	1556	1.45%	311	0	6	8	2647	9.6	-	0.2	0.5	5.0	15.3
11	Sanne	4245	795	1.45%	161	16	20	46	1161	5.0	2.9	0.7	2.8	2.7	14.1
12	Leguwa	4742	943	1.45%	190	15	56	19	1036	5.9	2.7	1.9	1.2	2.4	14.1
13	Ghorikharka	3048	588	1.45%	120	18	29	41	1135	3.7	3.2	1.0	2.5	2.7	13.1
14	Chungwang	4818	968	1.45%	194	10	24	12	1420	6.0	1.8	0.8	0.7	3.3	12.7
15	Arkhaulejipur	4691	940	1.45%	189	4	36	33	1215	5.8	0.7	1.2	2.0	2.8	12.7
16	Bhirgaun	4846	909	1.45%	183	3	4	49	1322	5.7	0.5	0.1	3.0	3.1	12.4
17	Budimorang	3800	796	1.45%	161	5	32	44	1151	5.0	0.9	1.1	2.7	2.7	12.4
18	Rajarani	2789	609	1.45%	124	23	34	18	788	3.8	4.1	1.2	1.1	1.8	12.1
19	Kurule	4766	877	1.45%	177	4	11	30	1548	5.5	0.7	0.4	1.9	3.6	12.0
20	Muga	4534	814	1.45%	164	1	8	43	1398	5.1	0.2	0.3	2.7	3.3	11.4
21	Budhabare	1954	418	1.45%	86	14	47	48	615	2.7	2.5	1.6	3.0	1.4	11.2
22	Vedetar	2753	539	1.45%	111	4	22	64	855	3.4	0.7	0.7	3.9	2.0	10.8
23	Mounabudhuk	2585	507	1.45%	104	2	15	77	825	3.2	0.4	0.5	4.8	1.9	10.8
24	Chanuwa	4028	723	1.45%	146	2	17	42	1139	4.5	0.4	0.6	2.6	2.7	10.7
25	Dandabazar	2977	621	1.45%	126	2	55	32	935	3.9	0.4	1.9	2.0	2.2	10.3
26	Ahale	4318	806	1.45%	163	2	15	19	1317	5.0	0.4	0.5	1.2	3.1	10.2
27	Khoku	4175	768	1.45%	156	2	28	13	1276	4.8	0.4	0.9	0.8	3.0	9.9
28	Mahabharat	4191	839	1.45%	170	1	12	7	1254	5.3	0.2	0.4	0.4	2.9	9.2
29	Falate	3044	559	1.45%	115	10	37	11	816	3.6	1.8	1.3	0.7	1.9	9.2
30	Bodhe	3602	669	1.45%	135	2	10	21	1185	4.2	0.4	0.3	1.3	2.8	8.9
31	Mudebas	3045	587	1.45%	120	1	16	31	705	3.7	0.2	0.5	1.9	1.6	8.0
32	Khuywafok	3141	619	1.45%	126	1	3	11	1004	3.9	0.2	0.1	0.7	2.3	7.2
33	Basantatar	3053	583	1.45%	119	5	5	5	884	3.7	0.9	0.2	0.3	2.1	7.1
34	Telia	2606	500	1.45%	102	1	9	25	793	3.2	0.2	0.3	1.5	1.9	7.0
35	Dandagaun	2134	394	1.45%	82	1	7	6	522	2.5	0.2	0.2	0.4	1.2	4.5
36	Faksib	1900	381	1.45%	80	0	4	2	531	2.5	-	0.1	0.1	1.2	4.0

Table 4 VDC-wise power demand forecast and prioritization of load centers

District Okhaldhunga, EDR

S. No.	VDC name	Total population	Number of households	Population growth rate	Power demand in kW	Households operating industries	Households running trade / business	Households involved in services	School attendance above 6 years of age	Score for power demand (10)	Score for Industries (5)	Score for Trade Business (5)	Score for Sevices (5)	Score for School Attendance (5)	Total Score (30)
1	Rumjatar	2971	691	1.14%	130	99	38	69	640	10.0	5.0	5.0	5.0	3.5	28.4
2	Baruneshwor	3464	753	1.14%	140	13	28	114	723	10.0	3.1	5.0	5.0	3.9	27.0
3	Okhaldhunga	4084	991	1.14%	184	5	22	67	854	10.0	1.2	5.0	5.0	4.6	25.8
4	Barnalu	2866	587	1.14%	110	41	10	92	784	8.4	5.0	2.8	5.0	4.3	25.5
5	Fulbari	3791	729	1.14%	136	2	15	64	896	10.0	0.5	4.2	5.0	4.9	24.5
6	Keluke	2912	575	1.14%	107	11	23	46	718	8.2	2.6	5.0	4.0	3.9	23.8
7	Ubu	3445	685	1.14%	128	15	16	6	1034	9.8	3.6	4.5	0.5	5.0	23.4
8	Thakle	2656	476	1.14%	90	3	29	82	850	6.9	0.7	5.0	5.0	4.6	22.2
9	Khijifalate	3623	657	1.14%	123	1	32	41	703	9.4	0.2	5.0	3.6	3.8	22.1
10	Fediguth	3927	717	1.14%	135	0	9	44	979	10.0	-	2.5	3.9	5.0	21.4
11	Mamkha	3580	699	1.14%	131	4	10	29	867	10.0	1.0	2.8	2.5	4.7	21.0
12	Katunje	4446	885	1.14%	165	3	15	12	1231	10.0	0.7	4.2	1.1	5.0	21.0
13	Mulkharka	3453	648	1.14%	122	2	8	51	721	9.3	0.5	2.2	4.5	3.9	20.5
14	Kuntadevi	2616	555	1.14%	104	1	7	75	901	8.0	0.2	2.0	5.0	4.9	20.1
15	Sisneri	4200	770	1.14%	143	0	0	55	981	10.0	-	-	4.8	5.0	19.8
16	Ragani	3880	729	1.14%	136	2	12	11	1029	10.0	0.5	3.4	1.0	5.0	19.8
17	Chyanam	3109	607	1.14%	113	0	15	26	652	8.7	-	4.2	2.3	3.5	18.7
18	Baksa	2848	509	1.14%	96	0	17	28	754	7.4	-	4.7	2.5	4.1	18.7
19	Balakhu	4223	769	1.14%	143	2	6	11	1272	10.0	0.5	1.7	1.0	5.0	18.1
20	Diyale	2597	512	1.14%	97	1	17	23	642	7.4	0.2	4.7	2.0	3.5	17.9
21	Taluwa	2207	408	1.14%	78	0	14	76	542	6.0	-	3.9	5.0	2.9	17.8
22	Bhussinga	1570	330	1.14%	64	52	5	82	264	4.9	5.0	1.4	5.0	1.4	17.7
23	Palapu	4743	769	1.14%	143	2	4	7	1010	10.0	0.5	1.1	0.6	5.0	17.2
24	Bhadaure	3030	497	1.14%	95	0	2	60	786	7.3	-	0.6	5.0	4.3	17.1
25	Jyamire	2564	526	1.14%	99	1	14	14	735	7.6	0.2	3.9	1.2	4.0	17.0
26	Manebhanjyang	2957	561	1.14%	105	0	8	16	932	8.0	-	2.2	1.4	5.0	16.7
27	Pokali	3090	610	1.14%	113	0	8	25	633	8.7	-	2.2	2.2	3.4	16.5
28	Ragadeep	2154	430	1.14%	82	8	6	44	450	6.3	1.9	1.7	3.9	2.4	16.2
29	Thoksel	2634	508	1.14%	96	1	5	40	657	7.4	0.2	1.4	3.5	3.6	16.1
30	Thuliachhap	3482	708	1.14%	133	0	3	2	963	10.0	-	0.8	0.2	5.0	16.0
31	Harkapur	2679	557	1.14%	105	0	6	18	857	8.0	-	1.7	1.6	4.7	16.0
32	Bilandu	2434	453	1.14%	86	6	6	35	544	6.6	1.4	1.7	3.1	3.0	15.7
33	Yasam	2982	581	1.14%	109	5	5	7	695	8.4	1.2	1.4	0.6	3.8	15.3
34	Gamnangtar	3476	573	1.14%	107	0	6	1	1014	8.2	-	1.7	0.1	5.0	15.0
35	Andherinarayansthan	2670	573	1.14%	107	5	5	7	630	8.2	1.2	1.4	0.6	3.4	14.8
36	Bigutar	2181	486	1.14%	92	1	13	6	559	7.1	0.2	3.6	0.5	3.0	14.5
37	Palte	3637	674	1.14%	126	0	2	14	559	9.7	-	0.6	1.2	3.0	14.5
38	Tarkerabari	2168	410	1.14%	80	1	7	30	578	6.1	0.2	2.0	2.6	3.1	14.1
39	Rawadolu	1815	347	1.14%	66	1	12	19	615	5.1	0.2	3.4	1.7	3.3	13.7
40	Shreechaur	2927	547	1.14%	102	0	6	10	560	7.8	-	1.7	0.9	3.0	13.4

41	Ratmata	3269	480	1.14%	91	0	1	9	877	7.0	-	0.3	0.8	4.8	12.8
42	Betini	2191	395	1.14%	76	2	4	20	658	5.8	0.5	1.1	1.8	3.6	12.8
43	Kaptigaunkhigikati	1847	350	1.14%	67	1	9	26	457	5.1	0.2	2.5	2.3	2.5	12.7
44	Khijichandeshwori	1521	289	1.14%	56	0	14	27	357	4.3	-	3.9	2.4	1.9	12.5
45	Kuibhir	2079	424	1.14%	81	3	5	13	492	6.2	0.7	1.4	1.1	2.7	12.1
46	Narmedeshwor	1692	329	1.14%	63	4	2	37	442	4.8	1.0	0.6	3.2	2.4	12.0
47	Pokhare	1633	341	1.14%	65	0	10	15	450	5.0	-	2.8	1.3	2.4	11.5
48	Moli	2229	407	1.14%	78	0	7	0	631	6.0	-	2.0	-	3.4	11.4
49	Raniban	2024	398	1.14%	76	1	1	21	568	5.8	0.2	0.3	1.8	3.1	11.3
50	Kalikadevi	2139	376	1.14%	72	4	3	10	533	5.5	1.0	0.8	0.9	2.9	11.1
51	Madhavpur	2413	413	1.14%	80	0	1	17	567	6.1	-	0.3	1.5	3.1	11.0
52	Singhadevi	2574	495	1.14%	94	0	3	0	521	7.2	-	0.8	-	2.8	10.9
53	Jantarkhani	1687	346	1.14%	66	1	8	11	396	5.1	0.2	2.2	1.0	2.2	10.6
54	Salleri	1766	371	1.14%	71	0	4	8	453	5.4	-	1.1	0.7	2.5	9.7
55	Serna	1790	331	1.14%	64	1	0	3	443	4.9	0.2	-	0.3	2.4	7.8
56	Prapcha	1384	273	1.14%	53	1	2	5	402	4.1	0.2	0.6	0.4	2.2	7.5

Table 5 VDC-wise power demand forecast and prioritization of load centers

District Jajarkot, MWDR

S. No.	VDC name	Total population	Number of households	Population growth rate	Power demand in kW	Households operating Industries	Households running trade / business	Households involved in services	School attendance above 6 years of age	Score for power demand (10)	Score for Industries (5)	Score for Trade Business (5)	Score for Sevices (5)	Score for School Attendance (5)	Total Score (30)
1	Khalanga	9804	1842	1.60%	292	15	57	78	3383	10.0	1.9	5.0	5.0	5.0	26.9
2	Garkhakot	4200	791	1.60%	128	110	63	45	995	7.2	5.0	5.0	5.0	2.8	25.0
3	Salma	5305	938	1.60%	151	53	35	16	1291	8.5	5.0	5.0	2.4	3.6	24.5
4	Bhoor	5121	878	1.60%	141	16	32	34	1191	7.9	2.0	4.8	5.0	3.4	23.1
5	Jatapur	6476	1126	1.60%	180	6	30	12	2075	10.0	0.8	4.5	1.8	5.0	22.0
6	Dasera	6518	1165	1.60%	185	2	10	50	1786	10.0	0.3	1.5	5.0	5.0	21.8
7	Majhakot	6106	1156	1.60%	184	13	37	8	1220	10.0	1.6	5.0	1.2	3.4	21.2
8	Nayakwada	4702	810	1.60%	131	48	24	5	1348	7.4	5.0	3.6	0.7	3.8	20.5
9	Paink	3499	620	1.60%	102	71	25	15	1013	5.7	5.0	3.8	2.2	2.9	19.6
10	Sakala	4791	839	1.60%	135	17	28	10	1393	7.6	2.1	4.2	1.5	3.9	19.3
11	Jhapra	4471	784	1.60%	127	0	29	47	938	7.1	-	4.4	5.0	2.6	19.1
12	Dhime	5230	967	1.60%	155	20	21	12	977	8.7	2.5	3.2	1.8	2.8	18.9
13	Punama	6638	1133	1.60%	182	0	10	0	2218	10.0	-	1.5	-	5.0	16.5
14	Sima	4464	763	1.60%	123	0	23	6	1561	6.9	-	3.5	0.9	4.4	15.7
15	Lahai	4997	892	1.60%	144	0	8	21	1117	8.1	-	1.2	3.1	3.1	15.5
16	Archhani	2874	552	1.60%	90	35	5	25	582	5.1	4.4	0.8	3.7	1.6	15.5
17	Pajaru	5483	1003	1.60%	161	0	5	12	1341	9.0	-	0.8	1.8	3.8	15.3
18	Dandagaun	5797	1049	1.60%	167	1	2	15	950	9.4	0.1	0.3	2.2	2.7	14.7
19	Karkigaun	5163	927	1.60%	150	1	2	2	1379	8.4	0.1	0.3	0.3	3.9	13.0
20	Khagenkot	3579	675	1.60%	111	2	9	2	1083	6.2	0.3	1.4	0.3	3.1	11.2
21	Ragda	3025	560	1.60%	91	0	2	18	599	5.1	-	0.3	2.7	1.7	9.8
22	Jungathapachaur	4164	685	1.60%	111	0	1	0	1134	6.2	-	0.2	-	3.2	9.6
23	Rokayagaun	2618	481	1.60%	80	0	7	15	637	4.5	-	1.1	2.2	1.8	9.6
24	Thalaraikar	4136	688	1.60%	112	0	2	0	1041	6.3	-	0.3	-	2.9	9.5
25	Daha	3480	658	1.60%	106	3	2	3	827	6.0	0.4	0.3	0.4	2.3	9.4
26	Talegaun	2608	468	1.60%	78	0	15	0	664	4.4	-	2.3	-	1.9	8.5
27	Kortrang	2558	419	1.60%	71	7	4	6	583	4.0	0.9	0.6	0.9	1.6	8.0
28	Suwanauli	2362	409	1.60%	69	11	1	7	414	3.9	1.4	0.2	1.0	1.2	7.6
29	Ramidanda	1818	357	1.60%	61	3	8	1	510	3.4	0.4	1.2	0.1	1.4	6.6
30	Bhagawatitol	2667	499	1.60%	83	0	1	0	182	4.7	-	0.2	-	0.5	5.3

Table 6 VDC-wise power demand forecast and prioritization of load centers

District Humla, MWDR

S. No.	VDC name	Total population	Number of households	Population growth rate	Power demand in kW	Households operating industries	Households running trade / business	Households involved in services	School attendance above 6 years of age	Score for power demand (10)	Score for Industries (5)	Score for Trade Business (5)	Score for Sevices (5)	Score for School Attendance (5)	Total Score (30)
1	Rodikot	2170	385	1.70%	100	49	10	13	369	10.0	5.0	1.9	4.5	4.3	25.7
2	Maila	2997	528	1.70%	136	16	13	5	614	10.0	2.3	2.5	1.7	5.0	21.5
3	Kalika	2430	412	1.70%	108	0	2	17	538	10.0	-	0.4	5.0	5.0	20.4
4	Sarkeedeu	1634	313	1.70%	84	3	1	22	361	8.9	0.4	0.2	5.0	4.2	18.7
5	Simikot	2476	408	1.70%	107	0	9	3	629	10.0	-	1.7	1.0	5.0	17.8
6	Shreenagar	2394	349	1.70%	91	0	3	7	436	9.6	-	0.6	2.4	5.0	17.6
7	Thehe	2165	396	1.70%	105	1	0	0	530	10.0	0.1	-	-	5.0	15.1
8	Limi	987	182	1.70%	49	0	92	9	132	5.2	-	5.0	3.1	1.5	14.8
9	Raya	1599	279	1.70%	74	2	7	9	179	7.8	0.3	1.3	3.1	2.1	14.6
10	Khagalgaun	1277	202	1.70%	53	130	8	0	210	5.6	5.0	1.5	-	2.5	14.6
11	Muchu	1021	172	1.70%	47	0	37	5	202	5.0	-	5.0	1.7	2.4	14.1
12	Gothi	1152	188	1.70%	52	0	0	18	264	5.5	-	-	5.0	3.1	13.6
13	Mimi	976	179	1.70%	49	0	4	19	201	5.2	-	0.8	5.0	2.3	13.3
14	Kharpunath	1308	228	1.70%	60	1	1	12	196	6.3	0.1	0.2	4.1	2.3	13.1
15	Dandafaya	1665	284	1.70%	77	6	4	0	260	8.1	0.9	0.8	-	3.0	12.8
16	Jair	1749	316	1.70%	85	1	0	0	277	9.0	0.1	-	-	3.2	12.4
17	Darma	1611	307	1.70%	81	0	1	1	257	8.6	-	0.2	0.3	3.0	12.1
18	Saya (sama)	907	152	1.70%	43	0	2	26	174	4.5	-	0.4	5.0	2.0	12.0
19	Madana	1283	206	1.70%	56	2	4	4	252	5.9	0.3	0.8	1.4	2.9	11.3
20	Bargaun	1023	145	1.70%	40	18	4	1	278	4.2	2.6	0.8	0.3	3.2	11.2
21	Hepka	1121	189	1.70%	52	0	6	3	236	5.5	-	1.1	1.0	2.8	10.4
22	Syada	1630	261	1.70%	70	1	0	0	198	7.4	0.1	-	-	2.3	9.9
23	Lali	1313	223	1.70%	59	1	2	0	252	6.2	0.1	0.4	-	2.9	9.7
24	Baraigaun	1049	177	1.70%	49	4	0	6	117	5.2	0.6	-	2.1	1.4	9.2
25	Shreemastha	915	157	1.70%	44	0	1	2	125	4.7	-	0.2	0.7	1.5	7.0
26	Chhipra	919	177	1.70%	49	0	0	1	115	5.2	-	-	0.3	1.3	6.9
27	Melchham	768	137	1.70%	38	2	0	0	110	4.0	0.3	-	-	1.3	5.6

Table 7 VDC-wise power demand forecast and prioritization of load centers

District Doti, FWDR

S. No.	VDC name	Total population	Number of households	Population growth rate	Power demand in kW	Households operating industries	Households running trade / business	Households involved in services	School attendance above 6 years of age	Score for power demand (10)	Score for Industries (5)	Score for Trade Business (5)	Score for Sevices (5)	Score for School Attendance (5)	Total Score (30)
1	Dipayalsilgadhi NP	22061	4203	3.93%	1053	87	398	444	5676	10.0	5.0	5.0	5.0	5.0	30.0
2	Daud	5606	1009	3.93%	257	204	15	49	779	8.1	5.0	1.0	2.5	2.3	18.9
3	Banlek	4322	871	3.93%	221	7	23	111	1362	7.0	0.8	1.5	5.0	4.1	18.3
4	Barchhen	5459	816	3.93%	209	10	56	53	1300	6.6	1.1	3.6	2.7	3.9	17.9
5	Laxminagar	4782	777	3.93%	198	16	20	65	1635	6.2	1.8	1.3	3.3	4.9	17.6
6	Gadasera	3599	605	3.93%	158	25	24	106	972	5.0	2.9	1.6	5.0	2.9	17.3
7	Khatiwada	5818	1024	3.93%	260	28	21	25	997	8.2	3.2	1.4	1.3	3.0	17.0
8	Tikhatar	6461	1173	3.93%	298	19	20	6	1221	9.4	2.2	1.3	0.3	3.6	16.8
9	Wagalek	3717	715	3.93%	182	33	29	60	666	5.7	3.8	1.9	3.0	2.0	16.4
10	Durgamadau	3820	754	3.93%	191	31	15	48	975	6.0	3.5	1.0	2.4	2.9	15.9
11	Chhatiwani	3419	595	3.93%	152	9	43	57	1090	4.8	1.0	2.8	2.9	3.3	14.8
12	Kadamadaun	3806	711	3.93%	182	18	21	59	860	5.7	2.1	1.4	3.0	2.6	14.7
13	Toleni	5604	977	3.93%	248	2	9	29	1163	7.8	0.2	0.6	1.5	3.5	13.6
14	Latamandau	5308	984	3.93%	250	0	18	25	1055	7.9	-	1.2	1.3	3.1	13.5
15	Mannakapadi	3569	548	3.93%	143	42	10	15	905	4.5	4.8	0.6	0.8	2.7	13.4
16	Mudabhara	4907	818	3.93%	209	1	2	57	1091	6.6	0.1	0.1	2.9	3.3	13.0
17	Kalikaasthan	4900	905	3.93%	230	1	13	32	947	7.3	0.1	0.8	1.6	2.8	12.7
18	Saraswotinagar	3247	523	3.93%	139	16	21	40	965	4.4	1.8	1.4	2.0	2.9	12.5
19	Pokhari	4128	775	3.93%	201	0	18	36	1054	6.3	-	1.2	1.8	3.1	12.5
20	Kapalleki	4049	705	3.93%	182	8	30	19	925	5.7	0.9	1.9	1.0	2.8	12.3
21	Lamikhali	4074	812	3.93%	208	4	14	23	963	6.6	0.5	0.9	1.2	2.9	12.0
22	Mahadevasthan	4430	759	3.93%	195	0	17	20	1191	6.2	-	1.1	1.0	3.6	11.8
23	Gaguda	3329	572	3.93%	148	7	9	58	702	4.7	0.8	0.6	2.9	2.1	11.1
24	Ladagada	4048	763	3.93%	194	0	18	18	936	6.1	-	1.2	0.9	2.8	11.0
25	Banjakakani	4310	712	3.93%	183	8	10	20	794	5.8	0.9	0.6	1.0	2.4	10.7
26	Bhumirajmadau	4561	831	3.93%	212	0	4	2	1208	6.7	-	0.3	0.1	3.6	10.7
27	Lanakedareswor	3661	576	3.93%	149	19	8	19	742	4.7	2.2	0.5	1.0	2.2	10.6
28	Ghanteswor	2297	367	3.93%	95	14	39	28	673	3.0	1.6	2.5	1.4	2.0	10.6
29	Warpata	3908	678	3.93%	178	0	17	3	1149	5.6	-	1.1	0.2	3.4	10.3
30	Dhanglegau	3883	626	3.93%	161	5	13	16	967	5.1	0.6	0.8	0.8	2.9	10.2
31	Girichauka	3900	665	3.93%	171	2	14	4	880	5.4	0.2	0.9	0.2	2.6	9.4
32	Chawarachautara	3384	522	3.93%	136	8	13	0	988	4.3	0.9	0.8	-	2.9	9.0
33	Khirsain	2898	524	3.93%	139	1	35	7	492	4.4	0.1	2.3	0.4	1.5	8.6
34	Gaihragau	3456	666	3.93%	172	0	2	19	683	5.4	-	0.1	1.0	2.0	8.6
35	Basudevi	3269	597	3.93%	153	0	5	19	758	4.8	-	0.3	1.0	2.3	8.4
36	Mudhegau	2579	448	3.93%	118	0	14	35	634	3.7	-	0.9	1.8	1.9	8.3
37	Simchaur	3031	461	3.93%	121	0	9	30	758	3.8	-	0.6	1.5	2.3	8.2
38	Sanagau	2612	480	3.93%	127	0	20	11	742	4.0	-	1.3	0.6	2.2	8.1
39	Tijali	2044	402	3.93%	105	14	7	17	614	3.3	1.6	0.5	0.9	1.8	8.1
40	Pachanali	3174	578	3.93%	150	0	10	6	736	4.7	-	0.6	0.3	2.2	7.9

41	Jjodamandau	2128	378	3.93%	101	0	11	44	513	3.2	-	0.7	2.2	1.5	7.7
42	Nirauli	2990	496	3.93%	128	0	10	6	822	4.0	-	0.6	0.3	2.5	7.4
43	Chhapali	2978	561	3.93%	145	0	1	1	733	4.6	-	0.1	0.1	2.2	6.9
44	Ranagau	2962	546	3.93%	142	0	7	3	498	4.5	-	0.5	0.2	1.5	6.6
45	Kanachaur	3020	466	3.93%	122	0	3	12	545	3.9	-	0.2	0.6	1.6	6.3
46	Kalena	2420	455	3.93%	117	0	0	0	827	3.7	-	-	-	2.5	6.2
47	Dahakalikasthan	2594	424	3.93%	113	2	4	2	608	3.6	0.2	0.3	0.1	1.8	6.0
48	Ganjari	2243	424	3.93%	113	0	10	0	413	3.6	-	0.6	-	1.2	5.4
49	Satphari	2894	455	3.93%	117	1	5	0	367	3.7	0.1	0.3	-	1.1	5.2
50	Kedarakhada	1996	318	3.93%	85	0	6	3	534	2.7	-	0.4	0.2	1.6	4.8
51	Dhirkamandau	1984	344	3.93%	91	0	0	0	261	2.9	-	-	-	0.8	3.7

Table 8 VDC-wise power demand forecast and prioritization of load centers

District Baitadi, FWDR

S. No.	VDC name	Total population	Number of households	Population growth rate	Power demand in kW	Households operating industries	Households running trade / business	Households involved in services	School attendance above 6 years of age	Score for power demand (10)	Score for Industries (5)	Score for Trade Business (5)	Score for Sevices (5)	Score for School Attendance (5)	Total Score (30)
1	Dasharathchanda NP	18345	3481	2.23%	553	71	189	123	5748	10.0	5.0	5.0	5.0	5.0	30.0
2	Kuwakot	4412	722	2.23%	119	61	49	209	880	7.0	5.0	5.0	5.0	2.7	24.7
3	Dehimandau	3857	734	2.23%	120	12	51	115	1489	7.1	2.6	5.0	5.0	4.5	24.2
4	Rauleswor	3727	750	2.23%	124	22	42	112	726	7.3	4.8	4.6	5.0	2.2	23.9
5	Kotpetara	5483	907	2.23%	149	75	27	49	1053	8.8	5.0	2.9	3.5	3.2	23.5
6	Patan	5651	1075	2.23%	175	4	31	49	2013	10.0	0.9	3.4	3.5	5.0	22.8
7	Siddheswor	4014	729	2.23%	119	21	60	25	1223	7.0	4.6	5.0	1.8	3.7	22.1
8	Sarmali	6375	976	2.23%	159	2	24	39	1597	9.4	0.4	2.6	2.8	4.8	20.1
9	Gurukhola	4017	667	2.23%	110	0	54	69	992	6.5	-	5.0	5.0	3.0	19.5
10	Malladehi	3817	657	2.23%	109	27	12	57	735	6.5	5.0	1.3	4.1	2.2	19.1
11	Shikharpur	4924	793	2.23%	130	5	49	9	1450	7.7	1.1	5.0	0.6	4.4	18.8
12	Dilasaini	5466	909	2.23%	150	6	21	19	1603	8.9	1.3	2.3	1.4	4.8	18.7
13	Gujar	2759	527	2.23%	88	9	23	151	971	5.2	2.0	2.5	5.0	2.9	17.6
14	Raudidewal	3656	727	2.23%	119	1	23	42	1124	7.0	0.2	2.5	3.0	3.4	16.2
15	Durgasthan	3797	659	2.23%	109	3	24	27	1399	6.5	0.7	2.6	1.9	4.2	15.9
16	Gokuleswor	4094	783	2.23%	130	1	37	0	1210	7.7	0.2	4.0	-	3.7	15.6
17	Shibanath	5107	784	2.23%	129	10	5	6	1512	7.6	2.2	0.5	0.4	4.6	15.4
18	Shreekot	3317	599	2.23%	99	1	33	28	1036	5.9	0.2	3.6	2.0	3.1	14.8
19	Udayadeb	4210	661	2.23%	110	1	24	29	955	6.5	0.2	2.6	2.1	2.9	14.3
20	Basuling	3171	565	2.23%	94	7	27	29	714	5.6	1.5	2.9	2.1	2.2	14.3
21	Kataujpani	4333	760	2.23%	126	4	17	6	1175	7.5	0.9	1.9	0.4	3.5	14.2
22	Kotila	3189	542	2.23%	91	3	28	27	929	5.4	0.7	3.1	1.9	2.8	13.8
23	Amchaur	4443	794	2.23%	130	3	6	29	803	7.7	0.7	0.7	2.1	2.4	13.5
24	Rudreswor	3303	569	2.23%	96	4	24	27	763	5.7	0.9	2.6	1.9	2.3	13.4
25	Melauli	4674	688	2.23%	112	0	26	5	1163	6.6	-	2.8	0.4	3.5	13.3
26	Shivaling	3522	588	2.23%	97	0	4	88	648	5.7	-	0.4	5.0	2.0	13.1
27	Bhumeswor	3165	581	2.23%	97	3	15	29	989	5.7	0.7	1.6	2.1	3.0	13.1
28	Gajari	3794	615	2.23%	101	7	13	6	973	6.0	1.5	1.4	0.4	2.9	12.3
29	Sikash	3510	677	2.23%	112	4	8	15	860	6.6	0.9	0.9	1.1	2.6	12.1
30	Dhikasintad / Sintad	4390	673	2.23%	110	0	17	31	379	6.5	-	1.9	2.2	1.1	11.7
31	Mahadevsthan	3277	538	2.23%	91	0	10	32	977	5.4	-	1.1	2.3	2.9	11.7
32	Gwallek	3398	646	2.23%	109	2	16	2	939	6.5	0.4	1.7	0.1	2.8	11.6
33	Salena	3185	538	2.23%	91	1	10	28	954	5.4	0.2	1.1	2.0	2.9	11.6
34	Mahakali	3077	439	2.23%	75	1	7	54	740	4.4	0.2	0.8	3.9	2.2	11.5
35	Nwadeu	3899	660	2.23%	110	2	7	12	935	6.5	0.4	0.8	0.9	2.8	11.4
36	Kaipal	2959	489	2.23%	82	1	8	49	610	4.9	0.2	0.9	3.5	1.8	11.3
37	Sakar	3401	549	2.23%	92	1	7	25	982	5.4	0.2	0.8	1.8	3.0	11.2
38	Thalakanda	2463	416	2.23%	70	40	7	4	329	4.1	5.0	0.8	0.3	1.0	11.2
39	Chaukham	2813	446	2.23%	75	4	10	22	853	4.4	0.9	1.1	1.6	2.6	10.6
40	Dhikarim / Rim	4000	678	2.23%	112	0	7	6	822	6.6	-	0.8	0.4	2.5	10.3

41	Maharudra	4088	656	2.23%	108	3	0	4	981	6.4	0.7	-	0.3	3.0	10.3
42	Bhumiraj	3768	617	2.23%	101	0	7	9	952	6.0	-	0.8	0.6	2.9	10.3
43	Biashpur	3580	566	2.23%	94	2	5	20	707	5.6	0.4	0.5	1.4	2.1	10.1
44	Talladehi	2807	531	2.23%	89	1	20	9	554	5.3	0.2	2.2	0.6	1.7	10.0
45	Nagarjun	2096	411	2.23%	70	3	13	27	585	4.1	0.7	1.4	1.9	1.8	9.9
46	Durgabhabani	2373	433	2.23%	75	11	8	1	709	4.4	2.4	0.9	0.1	2.1	9.9
47	Shankarapur	2149	437	2.23%	74	4	21	2	656	4.4	0.9	2.3	0.1	2.0	9.7
48	Siddhapur	2212	351	2.23%	60	4	12	23	744	3.6	0.9	1.3	1.7	2.2	9.6
49	Kulau	2767	443	2.23%	75	4	19	1	618	4.4	0.9	2.1	0.1	1.9	9.3
50	Bhatana	3363	549	2.23%	92	0	13	2	743	5.4	-	1.4	0.1	2.2	9.3
51	Mathairaj	2852	483	2.23%	81	1	6	21	685	4.8	0.2	0.7	1.5	2.1	9.2
52	Maunali	2835	498	2.23%	84	2	10	12	618	5.0	0.4	1.1	0.9	1.9	9.2
53	Basantapur	2408	453	2.23%	76	0	8	27	617	4.5	-	0.9	1.9	1.9	9.2
54	Giregada	3096	587	2.23%	97	0	10	5	609	5.7	-	1.1	0.4	1.8	9.0
55	Hat	2043	325	2.23%	55	3	12	26	601	3.3	0.7	1.3	1.9	1.8	8.9
56	Pancheswor	3329	560	2.23%	93	1	7	3	690	5.5	0.2	0.8	0.2	2.1	8.8
57	Bijayapur	3784	610	2.23%	101	0	0	5	781	6.0	-	-	0.4	2.4	8.7
58	Nwali	2944	494	2.23%	84	0	2	1	901	5.0	-	0.2	0.1	2.7	8.0
59	Deulek	2142	378	2.23%	65	0	17	8	543	3.8	-	1.9	0.6	1.6	7.9
60	Silanga	2681	440	2.23%	75	1	8	0	726	4.4	0.2	0.9	-	2.2	7.7
61	Shreekedar	2237	378	2.23%	65	1	2	3	681	3.8	0.2	0.2	0.2	2.1	6.6
62	Dhungad	2319	405	2.23%	70	0	7	2	384	4.1	-	0.8	0.1	1.2	6.2
63	Hatraj	1120	179	2.23%	33	0	12	8	383	2.0	-	1.3	0.6	1.2	5.0

Table 9 VDC-wise power demand forecast and prioritization of load centers

District Mustang, WDR

S. No.	VDC name	Total population	Number of households	Population growth rate	Power demand in kW	Households operating industries	Households running trade / business	Households involved in services	School attendance above 6 years of age	Score for power demand (10)	Score for Industries (5)	Score for Trade Business (5)	Score for Services (5)	Score for School Attendance (5)	Total Score (30)
1	Marpha	1550	338	0.50%	286	25	39	35	377	10.0	5.0	5.0	2.9	5.0	27.9
2	Jomsom	1698	429	0.50%	356	5	36	77	479	10.0	2.8	5.0	5.0	5.0	27.8
3	Kagbeni	994	251	0.50%	231	0	22	61	191	9.2	-	3.7	5.0	3.2	21.1
4	Chhonhup	1070	197	0.50%	186	4	22	71	158	7.4	2.2	3.7	5.0	2.7	21.0
5	Tukucho	756	198	0.50%	187	1	26	39	149	7.4	0.6	4.4	3.3	2.5	18.1
6	Lete	1142	241	0.50%	223	0	0	45	272	8.8	-	-	3.8	4.6	17.2
7	Muktinath	990	186	0.50%	181	0	41	11	211	7.2	-	5.0	0.9	3.5	16.6
8	Kunjo	725	152	0.50%	159	5	6	35	180	6.3	2.8	1.0	2.9	3.0	16.1
9	Chhoser	783	174	0.50%	171	0	5	71	174	6.8	-	0.8	5.0	2.9	15.5
10	Kowang	786	188	0.50%	181	0	6	44	155	7.2	-	1.0	3.7	2.6	14.5
11	Lomanthang	848	180	0.50%	177	1	17	4	183	7.0	0.6	2.9	0.3	3.1	13.9
12	Chhusang	668	186	0.50%	181	1	14	16	111	7.2	0.6	2.4	1.3	1.9	13.3
13	Ghami	850	178	0.50%	176	1	10	14	96	7.0	0.6	1.7	1.2	1.6	12.0
14	Charang	661	142	0.50%	153	0	1	0	146	6.1	-	0.2	-	2.5	8.7
15	Surkhang	515	114	0.50%	135	0	7	3	74	5.4	-	1.2	0.3	1.2	8.0
16	Jhong	489	87	0.50%	113	0	0	1	133	4.5	-	-	0.1	2.2	6.8

Existing major hydropower projects

S. No.	Name of the Projects	Installed Capacity in kW.
1.	Trishuli	24,000
2.	Sunkoshi	10,050
3.	Gandak	15,000
4.	Kulekhani No.1	60,000
5.	Devighat	14,100
6.	Kulekhani No.2	32,000
7.	Puwa Khola	6200
8.	Marshyangdi	75,000
9.	Khimti Khola (HPL)	60,000
10.	Modi Khola	14,800
11.	Bhotekoshi (BKPC)	36,000
12.	Kali Gandaki "A"	144,000
13.	Jhimruk (BPC)	12,300
14.	Andhi Khola (BPC)	5,100
15.	Indrawati	7,500
	Total Capacity in kW.	516,050

Existing major diesel power plants

S. No.	Name of the Stations.	Installed Capacity in kW.
1.	Mahendranagar	1,728
2.	Biratnagar	1,028
3.	Hetauda	12,750
4.	Marsyangdi	2,250
5.	Duhabi Multifuel-1	26,000
6.	Duhabi Multifuel-2	13,000
	Total Capacity in kW.	56,756

Existing small hydropower projects

S. No.	Name of the Projects	Installed Capacity in kW.
1.	Pharping	500
2.	Panauti	2400
3.	Sundarijal	640
4.	Phewa	1088
5.	Dhankuta	240
6.	Tinau	1024
7.	Jhurpa	345
8.	Baglung	200
9.	Doti	200
10.	Phidim	240
11.	Jomsom	240
12.	Jumla	200
13.	Seti	1500
14.	Salleri	400
15.	Darchula	300

16.	Taplejung	125
17.	Chaurjhari	150
18.	Syarpudaha	200
19.	Khandbari	250
20.	Terhathum	100
21.	Bhojpur	250
22.	Ramechap	150
23.	Bajura	200
24.	Bajhang	200
25.	Arughat	150
26.	Tatopani	2000
27.	Okhaldunga	125
28.	Rupalgad	100
29.	Surnaiyagad	200
30.	Namche	600
31.	Achham	400
32.	Dolpa	200
33.	Chatara	3200
34.	Kalikot	500
	Total Capacity in kW.	18617

Existing micro hydropower projects (NEA)

S. No.	Name of the Projects	Installed Capacity in kW.
1.	Manang	80
2.	Chame	45
3.	Helambu	50
4.	Dhading	32
5.	Syangja	80
6.	Gorkhe (Ilam)	64
	Total Capacity in kW.	351



Japan International Co-operation Agency (JICA)
and
Nepal Electricity Authority (NEA)

Basic Study for the Rural Electrification
Through Small Hydropower Development
in Rural Hilly Areas in Nepal

PROJECT LOCATION

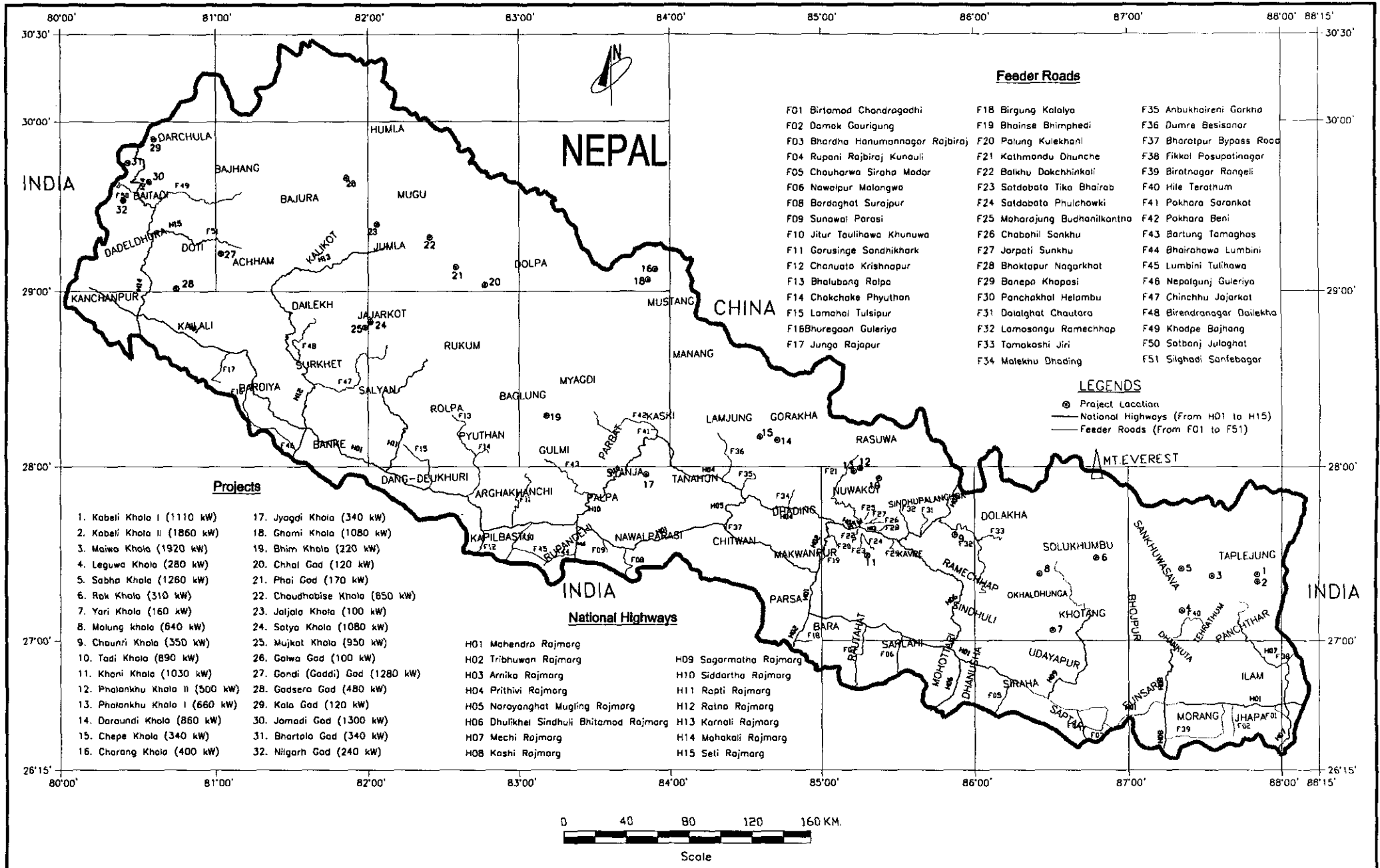
Scale
As Shown

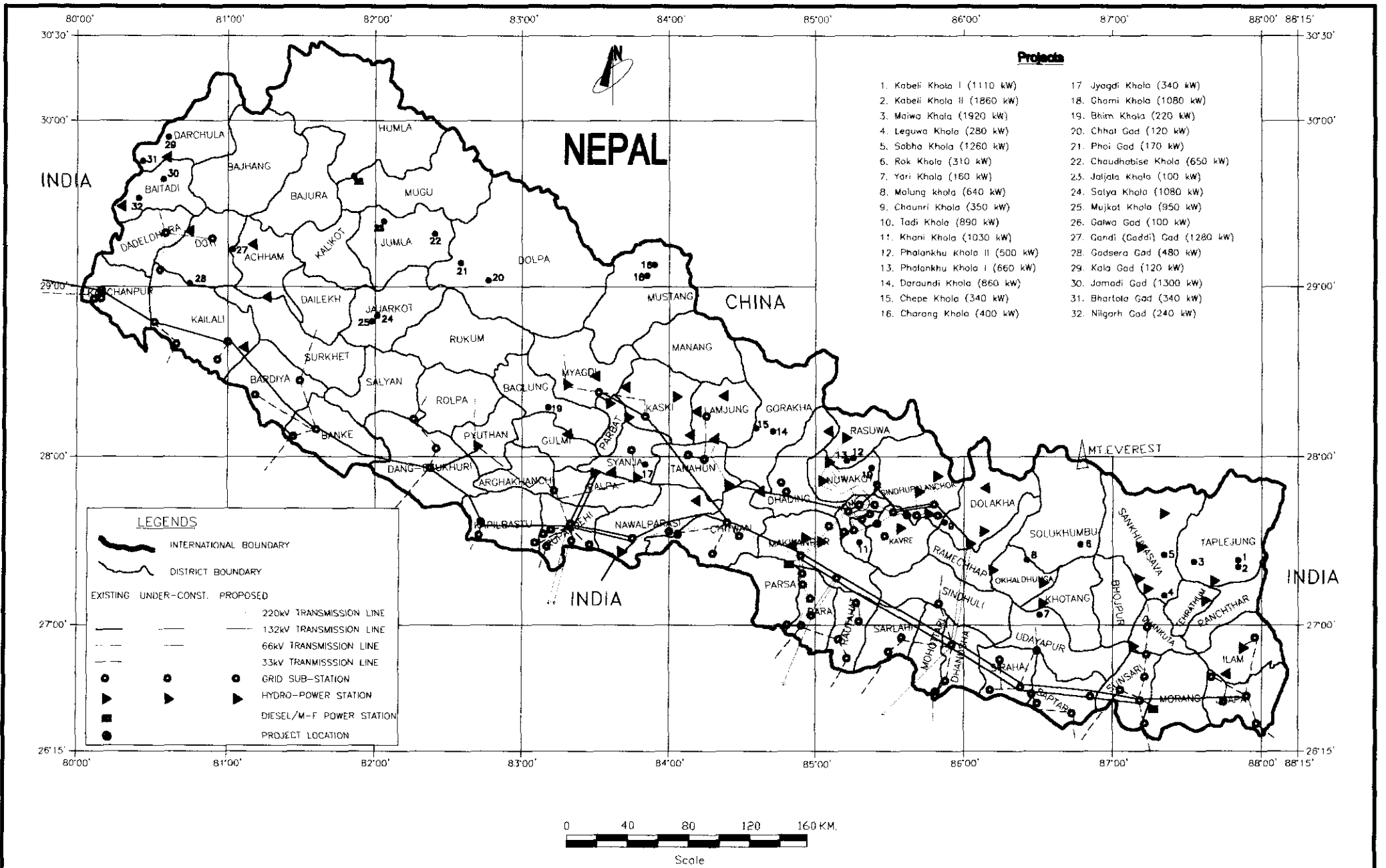
ITECO NEPAL (P) LTD.
P. O. Box No. 2147, Min Bhawan, Kathmandu
Email: iteco@iteco.com.np, Tel: 493784, Fax 482298
Web site: www.iteco.com.np/iteconepal

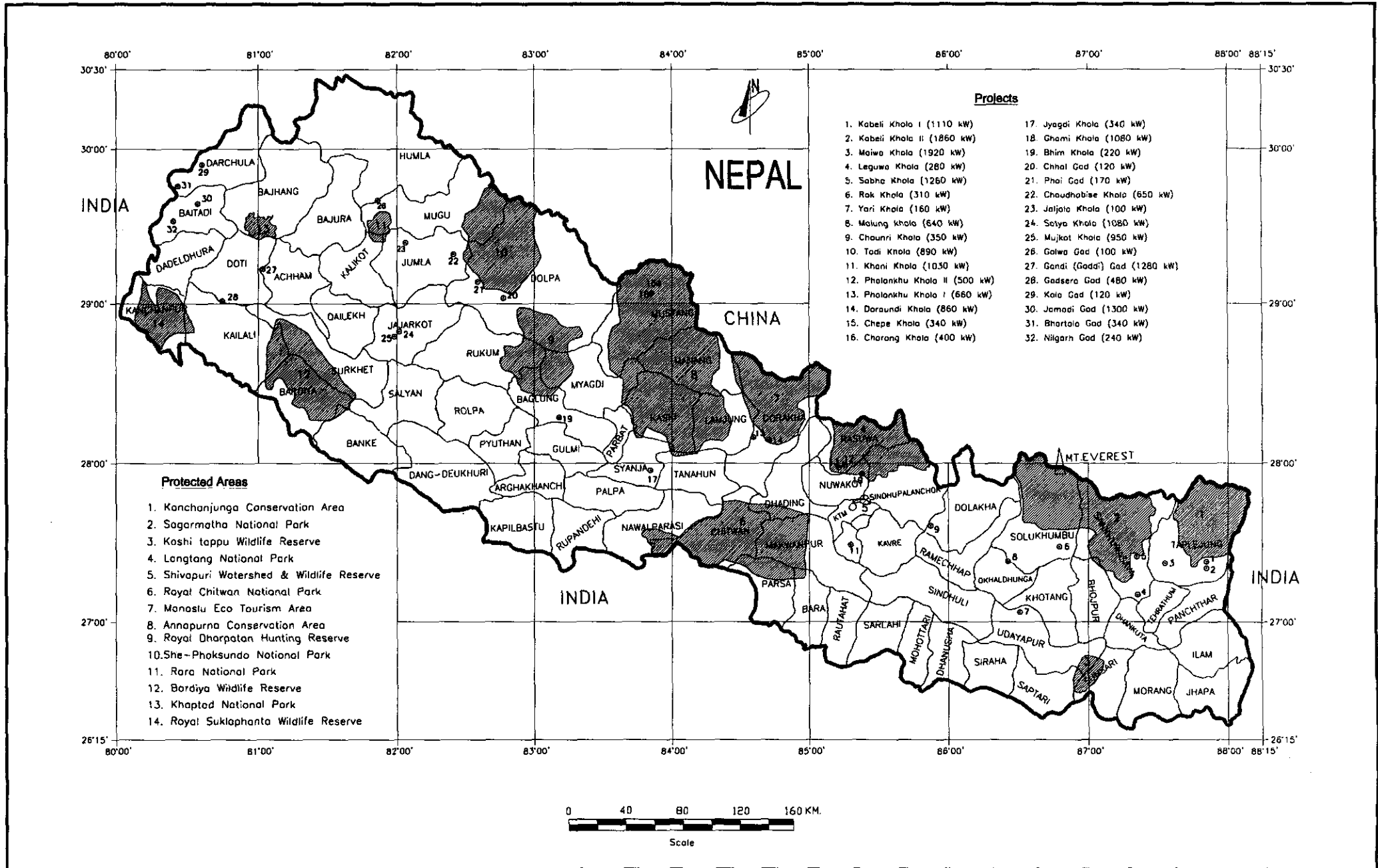
Butwal Power Company Ltd.
P. O. Box No. 11728, Kumarpat, Lalpur
Tel: 535588, Fax 527901
Email: bpo@hydropow.com.np

Prepared:
Checked:
Drawn:

Drawing No.
Sheet No.







Projects

- | | |
|---------------------------------|---------------------------------|
| 1. Kabei Khola I (1110 kW) | 17. Jyagdi Khola (340 kW) |
| 2. Kabei Khola II (1860 kW) | 18. Ghami Khola (1080 kW) |
| 3. Maiwa Khola (1920 kW) | 19. Bhim Khola (220 kW) |
| 4. Leguwa Khola (280 kW) | 20. Chhal Gad (120 kW) |
| 5. Sabha Khola (1260 kW) | 21. Phai Gad (170 kW) |
| 6. Rak Khola (310 kW) | 22. Chaudharia Khola (650 kW) |
| 7. Yari Khola (160 kW) | 23. Jaljala Khola (100 kW) |
| 8. Malung khola (640 kW) | 24. Salya Khola (1080 kW) |
| 9. Chaunri Khola (350 kW) | 25. Mujkat Khola (950 kW) |
| 10. Tadi Khola (890 kW) | 26. Gaiwa Gad (100 kW) |
| 11. Khani Khola (1050 kW) | 27. Gandi (Gaddi) Gad (1280 kW) |
| 12. Phalankhu Khola II (500 kW) | 28. Gadsara Gad (480 kW) |
| 13. Phalankhu Khola I (660 kW) | 29. Kola Gad (120 kW) |
| 14. Doraundi Khola (860 kW) | 30. Jamadi Gad (1300 kW) |
| 15. Chepe Khola (340 kW) | 31. Bhartola Gad (340 kW) |
| 16. Charang Khola (400 kW) | 32. Nilgari Gad (240 kW) |

Protected Areas

1. Kanchanjunga Conservation Area
2. Sogamtha National Park
3. Koshi tapu Wildlife Reserve
4. Longtang National Park
5. Shivapuri Watershed & Wildlife Reserve
6. Royal Chitwan National Park
7. Manasi Eco Tourism Area
8. Annapurna Conservation Area
9. Royal Dharpatan Hunting Reserve
10. She-Phoksundo National Park
11. Rara National Park
12. Bardiya Wildlife Reserve
13. Khaptad National Park
14. Royal Suklaphanta Wildlife Reserve



Japan International Co-operation Agency (JICA)
and
Nepal Electricity Authority (NEA)

Basic Study for the Rural Electrification
Through Small Hydropower Development
in Rural Hilly Areas in Nepal

PROTECTED AREAS

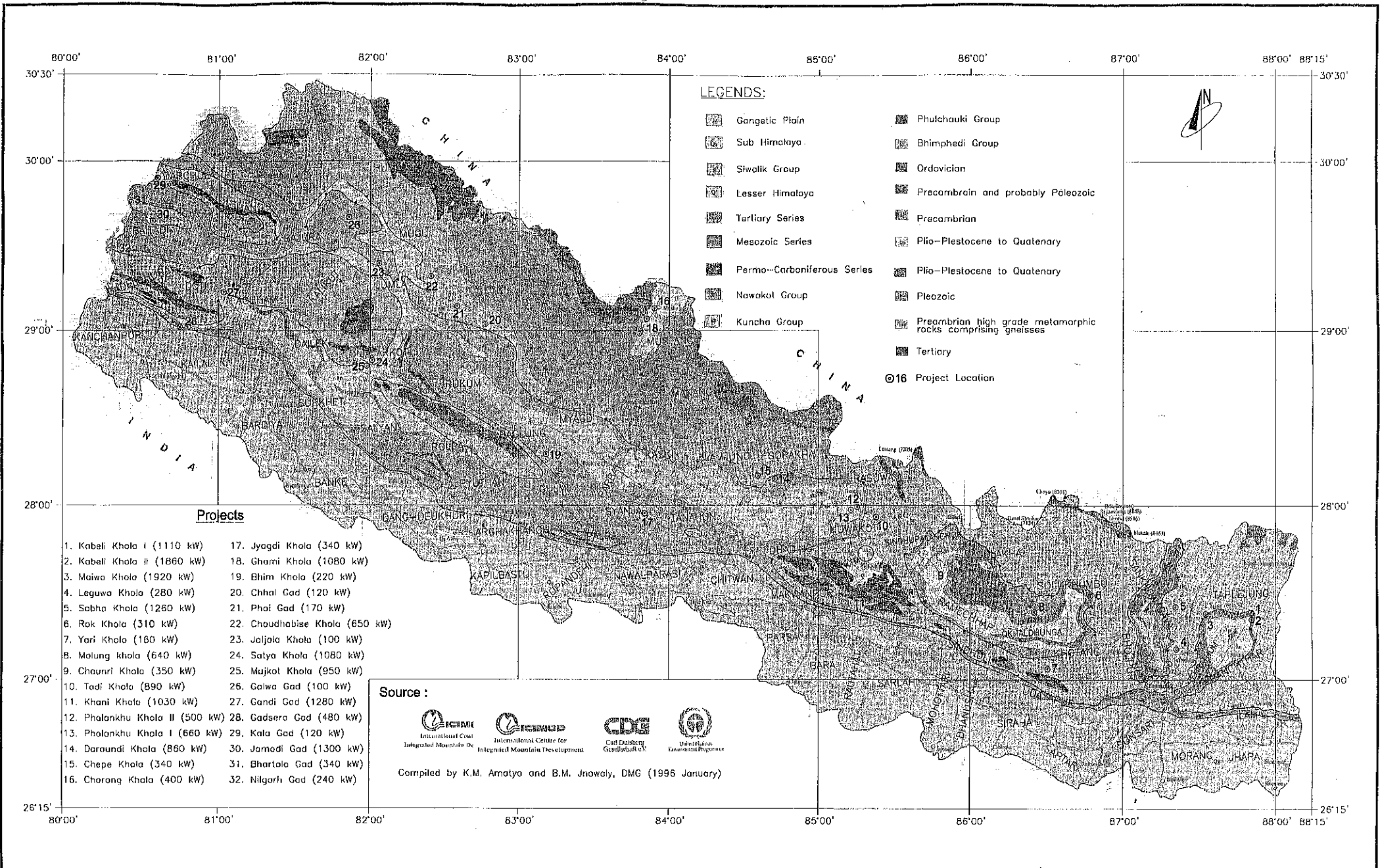
Scale
As Shown

ITECO NEPAL (P) LTD.
P. O. Box No. 2147, Min Bhesan, Kathmandu
Email: iteco@iteco.com.np, Tel: 483764, Fax: 482286
Web site: www.scaaf.com/iteconepal

Buwal Power Company Ltd.
P. O. Box No. 11728, Kumbharpur, Lalpur
Tel: 636595, Fax: 627961
Email: bpc@hydrocoal.com.np

Prepared:
Checked:
Drawn:

Drawing No.
Sheet No.



LEGENDS:

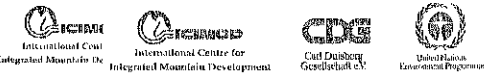
- Gangetic Plain
- Sub Himalaya
- Siwalik Group
- Lesser Himalaya
- Tertiary Series
- Mesozoic Series
- Permo-Carboniferous Series
- Nawalok Group
- Kuncha Group
- Phulchauki Group
- Bhimphedi Group
- Ordovician
- Precambrian and probably Paleozoic
- Precambrian
- Plio-Pleistocene to Quaternary
- Pleozoic
- Precambrian high grade metamorphic rocks comprising gneisses
- Tertiary
- Project Location



Projects

- | | |
|---------------------------------|--------------------------------|
| 1. Kabali Khola I (1110 kW) | 17. Jyagdi Khola (340 kW) |
| 2. Kabali Khola II (1860 kW) | 18. Ghami Khola (1080 kW) |
| 3. Moaiwa Khola (1920 kW) | 19. Bhim Khola (220 kW) |
| 4. Leguwa Khola (280 kW) | 20. Chhal Gad (120 kW) |
| 5. Sabha Khola (1260 kW) | 21. Phai Gad (170 kW) |
| 6. Rak Khola (310 kW) | 22. Choudhobise Khola (650 kW) |
| 7. Yari Khola (180 kW) | 23. Jaljala Khola (100 kW) |
| 8. Malung Khola (640 kW) | 24. Satya Khola (1080 kW) |
| 9. Chaunri Khola (350 kW) | 25. Mujkot Khola (950 kW) |
| 10. Tadi Khola (890 kW) | 26. Galwa Gad (100 kW) |
| 11. Khani Khola (1030 kW) | 27. Gandi Gad (1280 kW) |
| 12. Phalankhu Khola II (500 kW) | 28. Gadsera Gad (480 kW) |
| 13. Phalankhu Khola I (660 kW) | 29. Kala Gad (120 kW) |
| 14. Daraundi Khola (880 kW) | 30. Jamadi Gad (1300 kW) |
| 15. Chepe Khola (340 kW) | 31. Bhartola Gad (340 kW) |
| 16. Chorong Khola (400 kW) | 32. Nilgarhi Gad (240 kW) |

Source :



Compiled by K.M. Amatya and B.M. Jnawaly, DMG (1996 January)

Japan International Co-operation Agency (JICA)
and
Nepal Electricity Authority (NEA)

Basic Study for the Rural Electrification
Through Small Hydropower Development
in Rural Hilly Areas in Nepal

NEPAL
GEOLOGICAL MAP

Scale
0 22.75 68.25 km
1: 11375000

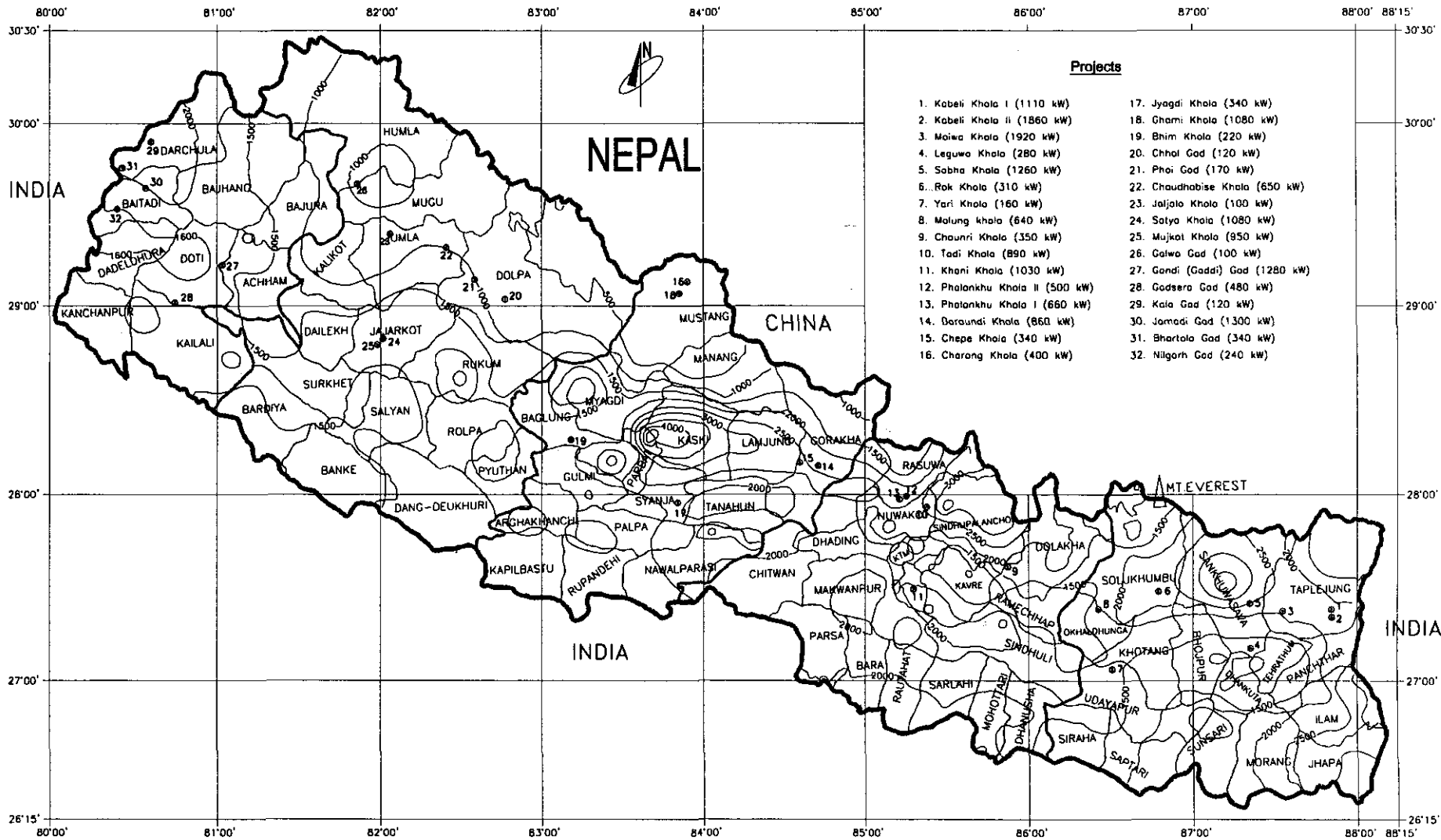
ITECO NEPAL (P) LTD.
P. O.Box No. 2147, Min Bhawan, Kathmandu
Email: iteco@nos.com.np, Tel: 493784, Fax: 492288
Web site: www.iteco.com/iteconepal

Butwal Power Company Ltd.
P. O.Box No. 11728, Kurnaripati, Lalitpur
Tel: 536595, Fax: 527801
Email: bpc@hydroconsult.com.np

Prepared:
Checked:
Drawn:
Drawing No.
Sheet No.

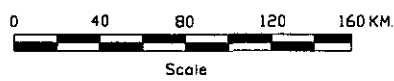
Summary of Project Features

S. no.	1	2a	2b	3	4	5	6	7	8	9	10	
Region	EDR	EDR	EDR	EDR	EDR	WDR	MWDR	MWDR	FWDR	FWDR	FWDR	
Name of basin	Koshi	Koshi	Koshi	Koshi	Koshi	Gandaki	Karnali	Karnali	Karnali	Mahakali	Mahakali	
Name of SHP / river	Mahwa Khola	Leguwa Khola I	Leguwa Khola II	Sabha Khola	Molung Khola	Ghami Khola	Mujkot Khola	Galwa Gad	Gandi Gad	Jamadi Gad	Nilgarh Gad	
District	Taplejung	Dhankuta	Dhankuta	Sankhuwasabha	Okhaldhunga	Mustang	Jajarkot	Humla	Doti	Baitadi	Baitadi	
Geographical coordinates	Intake	87 33 46 27 22 26	87 21 25 27 10 23	87 21 10 27 09 56	87 20 37 27 25 48	86 26 27 27 22 35	83 51 15 29 04 14	81 59 07 28 47 37	81 52 25 29 40 03	80 02 03 29 13 00	80 34 00 29 38 13	80 24 00 29 32 00
	Powerhouse	87 36 51 27 22 17	87 20 10 27 09 56	87 20 04 27 09 37	87 18 58 27 25 49	86 26 19 27 21 49	83 52 20 29 03 58	82 00 59 28 47 03	81 52 44 29 39 32	81 01 14 29 11 34	81 32 16 29 38 13	80 22 00 29 31 43
Distance to road (km)	15	15	15	35	55	150	76	60 km from airport	10	3	15	
Catchment area (km ²)	167	23.53	23.53	109.50	165.90	232.32	260	101	137.09	209.34	37.27	
Design discharge (m ³ /s)	This study	0.95	0.09	0.09	1.39	1.10	1.05	2.62	0.16	1.36	2.42	0.088
	Previous study	1.00	0.10	0.10	2.40	2.00	1.40	3.10	0.67	1.85	1.25	0.20
Gross head (m)	260	400	400	130	83	147	52	77	135	80	400	
Capacity (m)	This study	1920	280	280	1260	640	1080	950	100	1280	1300	240
	Previous study	1800	275	275	2200	1200	990	1200	300	1800	650	500
Annual energy (MWh)	This study	14859	2217	2217	10007	5063	8553	7288	689	10142	10546	1938
	Previous study	N/A	3854	3854	13535	8117	6503	8205	2074	14020	N/A	N/A
Mean annual rainfall (mm)	2100	1250	1250	2500	1800	500	1500	1000	1550	2000	1600	
Intake elevation (m)	920	1540	1141	730	1048	3697	998	1398	625	785	980	
Powerhouse elevation (m)	660	1141	740	600	965	3550	941	1321	490	705	580	
Type of intake	Tyrolean	Tyrolean	Tyrolean	Lateral	Lateral	Lateral	Tyrolean	Lateral	Lateral	Tyrolean	Tyrolean	
Length of weir (m)	25	17		26	17.5	16	30	14	32	20	12	
Length of headrace canal (m)	5350	1800		3800	1766	1750	3008	1324	4400	4600	3700	
Length of penstock pipe (m)	523	700	700	250	244	580	78	175	181	184	685	
Type of turbine	Pelton	Pelton	Pelton	Pelton	Pelton	Pelton	Francis	Pelton	Pelton	Turgo	Pelton	
No. of turbines	4	1	1	4	3	2	3	1	2	2	2	
Length of HV transmission line (km)	67	4.5	4.5	12	50	28	63	10	20	20	8	
Length of LV distribution line (km)	85	6	6	18	53	12	36	9	8	3	3	
Specific project cost	This study	1989	2080	2080	1260	4030	2352	3529	9953	2454	2829	6108
	Previous study	2234	4493	1096	2121	3024	2650	3393	6390	2464	3988	3007
EIRR	6.10	3.40	3.40	-2.60	3.20	-1.10	11.20	-5.20	-1.00	-4.40	-8.60	
B/C ratio	0.75	0.62	0.62	0.43	0.61	0.44	1.04	0.35	0.43	0.36	0.34	
Load centers	Phunglin Dokhu Nangkholyang Change Thechambu Nuguradin Phulbari Hangpang Dhungesangu Sanghu Santharka Khokling Khamlung Hangdewa Phurumbu	Dandagaun Marek Katakare Basantapur	Dandagaun Marek Katakare Basantapur	Barhabise Sabhapokhari Dhupu	Baruneshwor Okhaldhunga Sirchaur Kuntadevi Thulachhap Andheri Jyamire Harkapur Katunje Chyanam Mulkharka Phulbari Phediguth Madhampur Mane Bhanjyang	Lomangthan Charang Ghami	Majkot Garkhakot Sarma Suwanauli Junga Thapachaur Padaru Jhapra Jajarkot Khalanga Dasera	Shreenagar Kalika Jair of Humla and Mihir Natharpu and Dhaina of Mugu	Khirsain Sanagaun Pokhari Ganjari	Dasharath Chanda	Dasharath Chand	
No. of households to be served	14910	2585	2585	2095	9770	3075	8773	1885	2703	3481	3481	
Population to be served	62239	13569	13569	11231	48582	15740	48413	11068	14800	18345	18345	



Projects

- | | |
|---------------------------------|---------------------------------|
| 1. Kabeli Khola I (1110 kW) | 17. Jyagdi Khola (340 kW) |
| 2. Kabeli Khola II (1860 kW) | 18. Ghami Khola (1080 kW) |
| 3. Maiwa Khola (1920 kW) | 19. Bhim Khola (220 kW) |
| 4. Leguwa Khola (280 kW) | 20. Chhal Gad (120 kW) |
| 5. Sabha Khola (1260 kW) | 21. Phoi Gad (170 kW) |
| 6. Rok Khola (310 kW) | 22. Chaudhabise Khola (650 kW) |
| 7. Yari Khola (160 kW) | 23. Jaljala Khola (100 kW) |
| 8. Malung khola (640 kW) | 24. Salya Khola (1080 kW) |
| 9. Chaurri Khola (350 kW) | 25. Mujkot Khola (950 kW) |
| 10. Tadi Khola (890 kW) | 26. Galwa Gad (100 kW) |
| 11. Khani Khola (1030 kW) | 27. Gandi (Gaddi) Gad (1280 kW) |
| 12. Phalankhu Khola II (500 kW) | 28. Gadsera Gad (480 kW) |
| 13. Phalankhu Khola I (660 kW) | 29. Kala Gad (120 kW) |
| 14. Daroundi Khola (860 kW) | 30. Jomadi Gad (1300 kW) |
| 15. Chepe Khola (340 kW) | 31. Bhartola Gad (340 kW) |
| 16. Charang Khola (400 kW) | 32. Nilgarh Gad (240 kW) |



Japan International Co-operation Agency (JICA)
and
Nepal Electricity Authority (NEA)

Basic Study for the Rural Electrification
Through Small Hydropower Development
In Rural Hilly Areas in Nepal

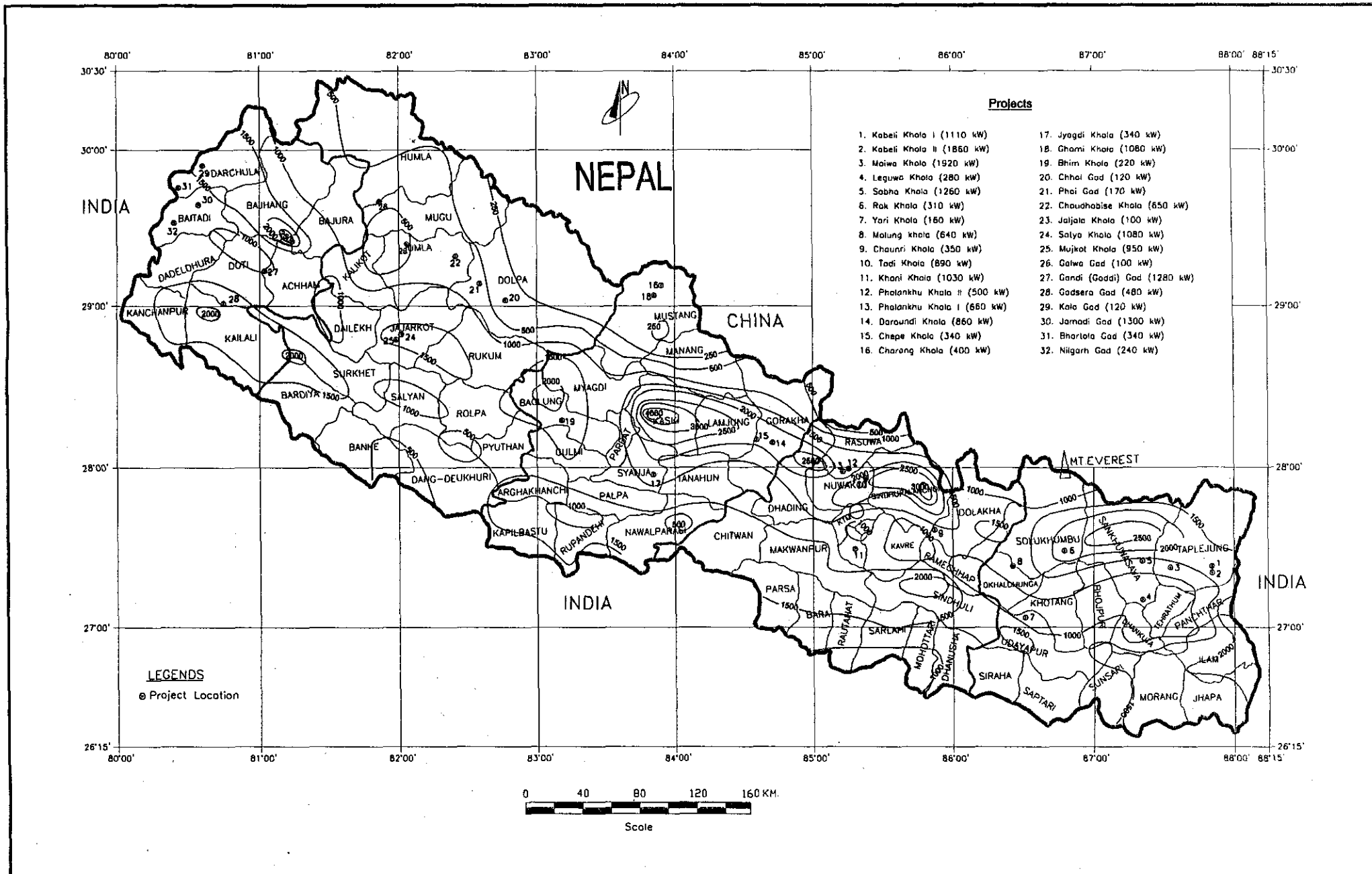
MEAN ANNUAL
PRECIPITATION MAP

Scale
As Shown

ITECO NEPAL (P) LTD.
P. O. Box No. 2147, Min Bhasan, Kathmandu
Email: iteco@moa.com.np, Tel: 463764, Fax 482288
Web site: www.iteco.com/iteconepal

Butwal Power Company Ltd.
P. O. Box No. 11728, Kumarpati, Lalpur
Tel: 636585, Fax 627901
Email: bpc@hydroconest.com.np

Prepared:	Drawing No.
Checked:	Sheet No.
Drawn:	



Japan International Co-operation Agency (JICA)
 and
 Nepal Electricity Authority (NEA)

Basic Study for the Rural Electrification
 Through Small Hydropower Development
 in Rural Hilly Areas in Nepal

MONSOON WETNESS
 INDEX MAP

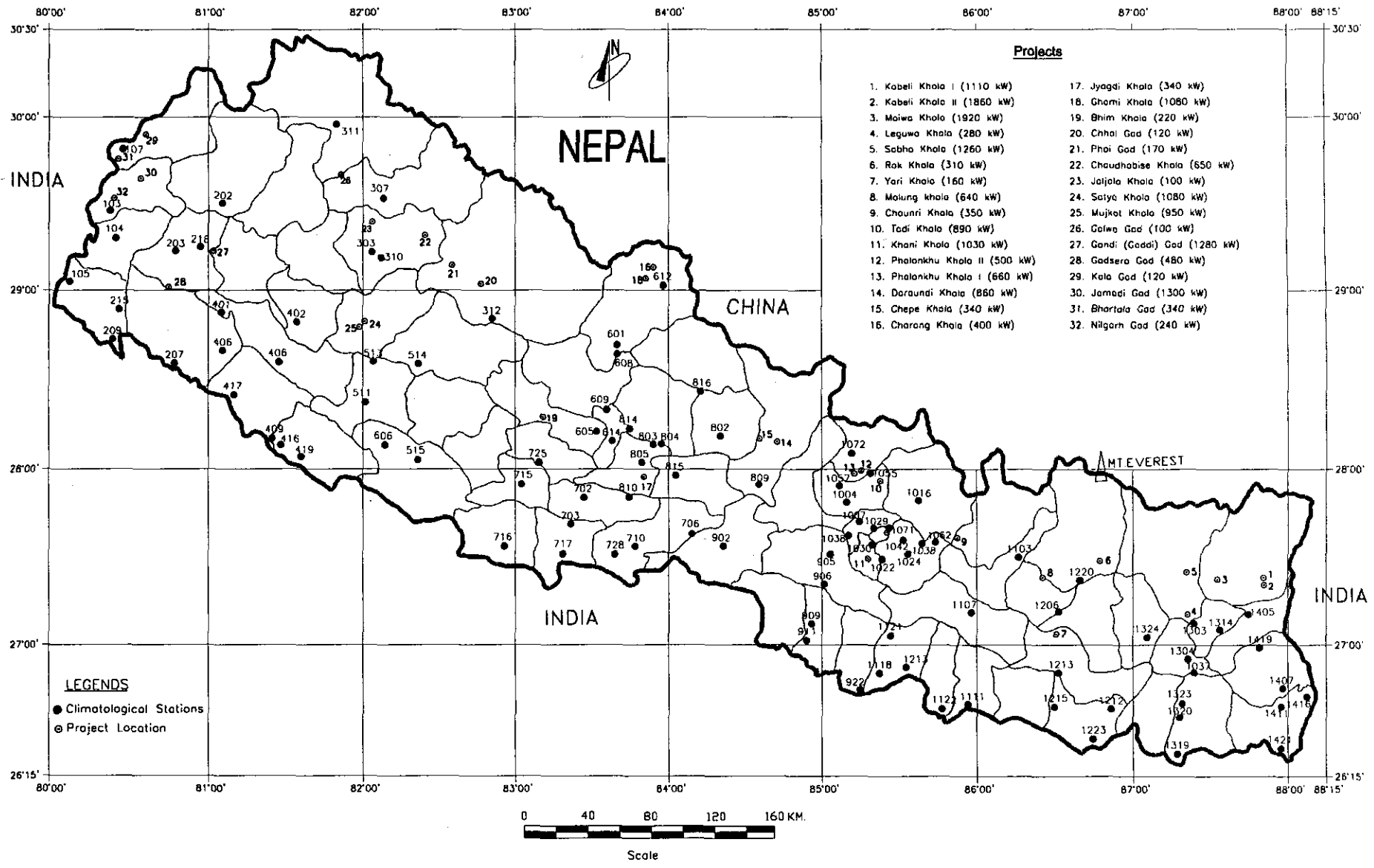
Scale
 As Shown

ITECO NEPAL (P) LTD.
 P. O. Box No. 2147, Min Bhawan, Kathmandu
 Email: iteco@mos.com.np, Tel: 493784, Fax 482298
 Web site: www.scaef.com/iteconepal

Bulwal Power Company Ltd.
 P. O. Box No. 11728, Kirtipur, Lalitpur
 Tel: 635585, Fax 627801
 Email: bpc@hydroconek.com.np

Prepared:
 Checked:
 Drawn:

Drawing No.
 Sheet No.



Japan International Co-operation Agency (JICA)
and
Nepal Electricity Authority (NEA)

Basic Study for the Rural Electrification
Through Small Hydropower Development
in Rural Hilly Areas in Nepal

CLIMATOLOGICAL
STATION

Scale
As Shown

ITECO NEPAL (P) LTD.
P. O. Box No. 2147, Min. Bheran, Kathmandu
Email: iteco@iteco.com.np, Tel: 483784, Fax 482288
Web site: www.iteco.com.np

Buwal Power Company Ltd.
P. O. Box No. 11728, Kumarpat, Lalitpur
Tel: 535595, Fax 527801
Email: bpc@hydroco.com.np

Prepared:
Checked:
Drawn:

Drawing No.
Sheet No.

HYDROMETRIC STATIONS WITH PUBLISHED DATA

SN	Station No.	Name of River	LOCATION		Elevation, m	Drainage Area sq.km	Start of Record	End of Record
			Latitude	Longitude				
1	120	Chamelia River at Karkale Gaon	29 40 20	80 33 30	724	1150	1/1/65	
2	170	Surungad River at Patan near Baitadi	29 27 30	80 33 10	1110	188	5/23/69	
3	220	Tila Nala at Nagma	29 19 00	81 55 00	1935	1870	3/19/64	
4	225	Sinja Kholoa at Diware	29 19 00	81 55 00	1943	824	3/17/64	
5	240	Karnali River at Asara Ghat	28 57 10	81 26 30	629	19260	1/1/61	
6	250	Karnali River at Benighat	28 57 40	81 07 10	320	21240	2/1/63	
7	260	Seti River at Banga Near Bel Gaon	28 57 40	81 08 40	328	7460	2/6/63	
8	262	Thuli Gad at Khanayatal Near Bel Gaon	28 56 10	80 58 00	314	896	6/17/65	
9	265	Thulo Bheri River at Rimna	28 42 30	82 17 30	550	6720	6/18/72	
10	270	Bheri River at Jamu	28 45 20	81 21 00	246	12290	1/23/63	
11	280	Karnali Rivr at Chisa Pani	28 38 40	81 17 30	191	42890	1/1/62	
12	290	Babai River at bargadha	28 25 20	81 22 10	192	3000	7/16/66	
13	330	Mari Khola at Naya Gaon	28 04 20	82 48 00	536	1980	1/1/64	
14	339.5	Jhimruk Khola at Tigra Gaon	28 03 00	82 49 40	762	683	5/22/71	
15	340	Jhrimruk Khola at Kalimati Ghat	28 02 10	82 53 00	692	696	1/1/65	5/21/71
16	350	Rapti River at Bagasoti Gaon	27 54 00	82 51 00	381	3380	5/8/75	
17	360	Rapti River at jalkundi	27 56 50	82 13 30	218	5150	4/8/64	
18	390	Tinau Khola at Butwal	27 42 10	83 27 50	184	554	12/9/63	
19	395	Banganga River at Bangachia	27 49 50	83 06 40	571	347	1/1/66	omitted
20	404.7	Myagdi Khola at Mangla Ghat	28 21 30	83 32 00	914	1112	5/19/75	
21	410	Kali Gandaki at Seti Beni	28 00 30	83 36 10	546	6630	2/21/64	
22	415	Andhi Khola at Dumrichaur, Andhimuhan	27 58 20	83 35 20	543	476	4/6/64	
23	417	Badigad Khola at Rudrabeni, Gulmi	27 58 20	83 28 10	731	1990	5/24/67	
24	420	Kali Gandaki at Kota Gaon	27 45 00	84 20 50	198	11400	4/15/64	
25	428	Mardi Khola at Lahachok	28 18 30	84 20 50	915	160	6/7/70	
26	430	Seti River at Phoolbari	28 14 00	84 00 00	830	582	1/1/64	omitted
27	438	Madi Khola at Shisa Ghat	28 6 00	84 14 00	457	858	2/8/73	
28	439.3	Khudi Khola at Khudi Bazar	28 17 15	84 21 45	990	151	7/4/81	
29	439.7	Marsyangdi River at Bimal Nagar	27 57 00	84 25 48	354	3774	3/31/87	
30	439.8	Marsyangdi River at Gopling Ghat	27 55 35	84 29 42	320	3850	6/1/73	6/24/88

HYDROMETRIC STATIONS WITH PUBLISHED DATA

SN	Station No.	Name of River	LOCATION		Elevation, m	Drainage Area sq.km	Start of Record	End of Record
			Latitude	Longitude				
31	440	Chepe Khola at Garam Besi	28 03 41	84 29 23	442	308	11/20/63	
32	445	Burhi Gandaki at Aru Ghat	28 02 37	84 48 59	485	4270	11/28/63	
33	446.8	Phalandu Khola at Betrawati	27 58 25	85 11 15	630	162	4/24/69	
34	447	Trisuli River at Betrawati	27 58 08	85 11 00	600	4110	4/1/67	
35	448	Tadi Khola at Tadi Pool, Belkot	27 51 35	85 08 18	475	653	6/14/68	
36	450	Narayani River at Narayan Ghat	27 42 30	84 25 50	180	31100	2/10/62	
37	460	Rapti River at Rajaiya	27 26 30	84 58 15	332	579	1/1/63	
38	465	Manahari River at Manahari	27 33 00	84 48 10	305	427	6/13/63	
39	470	Lothar Khola at Lothar	27 35 40	84 43 00	336	169	11/30/63	
40	475	Khageri Khola at Tikauli	27 37 20	84 30 00	195	118	8/1/64	omitted
41	480	Kair Khola at Jurrpani	27 40 40	84 33 40	241	80	1/1/64	omitted
42	485	Buri Rapti at Chitrasari	27 37 00	84 29 15	189	184	1/1/64	7/20/88
43	505	Bagmati River at Sundarijal	27 06 30	85 27 40	1600	17	12/7/62	
44	507	Nagmati River at Sundarijal	27 46 20	85 26 10	1660	13	11/1/63	8/27/92
45	510	Sialmati at Shyamdado	27 46 10	85 25 10	1660	3	11/1/63	8/28/92
46	530	Bagmati River at Gaurighat	27 42 30	85 21 00	1300	68	11/15/64	
47	536.2	Bishnumati Khola at Budhanilkantha	27 46 49	85 21 32	1454	4	5/27/68	8/27/92
48	540	Nakhu Khola at Tika Bhairab	27 34 30	85 18 50	1400	43	11/23/62	4/18/88
49	550	Bagmati River at Chovar	27 39 40	85 17 50	1280	585	7/8/62	omitted
50	560	Thado Khola at Darkot-Markhu	27 36 20	85 09 00	1830	14	1/1/64	omitted
51	565	Kulekhani Khola at Lamichaur	27 36 13	85 09 39	1514	122	7/17/75	12/9/78
52	570	Kulekhani Khola at Kulekhani	27 35 10	85 09 30	1480	126	12/1/62	11/15/77
53	589	Bagmati River at Pandhera Dovan	27 06 20	85 28 30	180	2700	1/28/79	
54	590	Bagmati River at Karmaiya, Mangalpur	27 06 20	85 28 30	177	2720	6/21/64	10/17/84
55	600.1	Arun River at Uwa Gaon	27 36 00	87 20 06	1294	26750	5/11/72	
56	602	Sabhaya Khola at Tumlingtar	27 18 20	87 13 15	305	375	1/2/74	
57	604.5	Arun River at Turkeghat	27 20 00	87 11 30	414	28200	5/23/75	
58	606	Arun River at Simle	26 55 30	87 09 30	152	30380		
59	610	Bhote Koshi at Barabise	27 47 10	85 53 20	840	2410	2/17/65	
60	620	Balaphi Khola at Jalbire	27 48 20	85 46 10	793	629	12/25/63	

HYDROMETRIC STATIONS WITH PUBLISHED DATA

SN	Station No.	Name of River	LOCATION		Elevation, m	Drainage Area sq.km	Start of Record	End of Record
			Latitude	Longitude				
61	627.5	Melamchi Khola at Helambu	28 02 30	85 32 00	2134	84		
62	630	Sun Koshi at Panchuar Ghat	27 33 30	85 45 10	589	4920	3/26/64	
63	640	Roshi Khola at Panauti	27 34 50	85 30 50	1480	87	10/17/63	
64	647	Tama Koshi at Busti	27 38 05	86 05 12	849	2753	1/14/70	
65	650	Khimti Khola at Rasnal Village	27 34 30	86 11 50	1520	313	4/6/64	
66	652	Sun Koshi at Khurkot	27 20 00	86 00 00	455	10000	7/1/67	
67	660	Likhu Khola at Sangutar	27 20 10	86 13 10	543	823	3/24/64	
68	668.4	Taktor Khola at Beni	27 31 45	86 33 30	2350	87	7/6	
69	670	Dudh Koshi at Rabuwa Bazar	27 16 00	86 39 50	460	4100	3/10/64	
70	680	Sun Koshi at Hampuachuwar	26 52 30	86 49 20	200	17600	6/28/65	
71	684	Tamur Majhitar	27 09 30	87 42 45	533	4076	7/82	
72	690	Tamur River at Mulghat	26 55 50	87 19 45	276	5640	3/11/65	
73	695	Sapta Koshi at Chatara-Kothu	26 52 00	87 09 30	140	54100	1/1/77	
74	728	Mai Khola at Rajdwil	26 52 45	87 55 45	609	377	1/1/83	
75	730	Puwa Khola at Sajbote Ilam	26 55 00	87 54 40	802	107	1/18/65	
76	770	Kanakai Mai River at Chepti	26 43 50	87 52 30	140	1150	2/21/64	8/29/74
77	795	Kankai Mai Khola at Mainachuli	26 41 12	87 52 44	125	1148	5/1/71	

Location : Taplejung **LAT :** 27⁰21'
Index No : 1405 **LONG :** 87⁰40'
District : Taplejung **ELEV :** 1732
Nearest Project : Kabeli I Small Hydro Project (1120 kW)
 Kabeli II Small Hydro Project (1860 kW)
 Maiwa Khola Small Hydro Project (1920 kW)

Year	Mean daily air temperature °C													Absolute extreme temp °C	
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Yearly	max	min
1998	8.8	11.3	12.9	16.9	19.9	22.1	21.5	21.0	20.8	19.2	15.2	11.5	16.8	27.8	1.0
1997	8.0	8.5	14.3	15.1	18.2	20.7	21.9	21.1	19.7	15.1	13.0	9.8	15.5	27.4	0.0
1996	8.6	11.2	15.3	17.7	19.0	20.1	21.0	20.9	20.3	17.5	14.1	10.8	16.3	27.5	2.2
1995	7.8	9.6	14.2	17.6	20.6	21.2	21.0	21.1	20.0	17.5	13.8	10.2	16.2	27.8	-0.2
1994	9.8	9.7	14.7	16.9	19.3	21.4	21.7	21.3	20.5	16.8	12.8	10.1	16.3	27.7	-0.7
1993	7.9	11.2	12.5	15.3	17.8	20.3	21.4	21.2	19.8	17.5	13.9	11.3	15.8	27.2	0.3
1992	8.3	8.1	15.5	18.5	17.8	21.3	20.9	21.3	20.2	16.9	13.1	9.6	16.0	28.6	-1.0
1991	8.0	11.6	14.8	17.0	19.0	20.5	21.4	21.0	19.8	17.0	12.4	9.5	16.0	27.3	0.6
1990	10.9	9.8	12.1	15.9	19.0	21.3	21.3	21.2	20.3	16.6	14.2	10.9	16.1	27.3	2.3
1989	7.8	9.1	13.3	17.3	19.4	20.8	20.7	21.0	19.7	17.5	12.8	9.7	15.8	27.5	-0.3
1988	10.0	11.9	13.7	17.7	19.4	20.9	21.5	20.8	20.3	17.7	13.7	11.3	16.5	27.0	2.4
1987	9.8	11.3	13.1	16.3	18.8	21.0	21.4	20.5	20.3	17.0	14.0	11.5	16.2	27.8	1.6
1986	9.3	10.9	14.2	16.1	17.4	21.1	21.1	21.0	19.6	15.6	13.4	9.8	15.8	27.2	2.2
1985	8.8	10.1	15.6	18.4	18.2	20.8	20.1	21.1	19.7	16.8	12.7	10.7	16.1	28.0	2.0
1984	7.6	10.4	15.5	17.5	18.3	20.6	20.1					9.7		27.2	
1983	7.4	8.9	13.5	15.3	18.0	20.9	21.4	21.5	20.4	17.3	13.1	9.1	15.6	26.9	-0.2
1982	10.1	9.2	13.0	15.8	18.8	20.4	21.3	21.4	19.4	16.0	13.2	9.9	15.7	26.8	1.4
1981	8.4	11.4	13.6	15.6	18.2	20.8	21.0	21.2	19.9	17.2	12.9	9.6	15.8	27.4	0.9
1980	8.6	10.4	13.4	18.6	18.2	21.1	21.4	21.2	20.2	16.2	13.3	11.0	16.1	27.2	1.2
1979	10.0		14.2	17.9	20.2	21.2	20.9	20.6	19.4	16.6	14.0	9.6			
1978						20.8	21.2	21.4	19.8	17.4	13.4	10.9			
1977															
1976	8.8	11.0	14.8	17.8	18.1	19.6	20.6	20.2	19.8	16.8	14.2	10.2	18.0	25.9	1.8
1975	6.7	9.4				20.6	20.0	20.9	19.0	18.2	12.7	9.6		2.2	
1974	8.6	10.9	14.3	17.3	18.6	20.4	20.6	20.6	19.2	18.4	12.4	7.0	15.7	26.6	0.5
1973	9.0	11.0	14.0	19.1	18.4	20.2				17.2	13.8	10.4		28.6	2.0
1972	10.0	9.5	15.1	16.5	19.3	20.7	21.2	20.5	19.1	16.7	13.1	10.8	16.0	27.2	2.0
1971	9.2	9.8	14.6	15.5	17.2	20.6	21.0	20.5	20.0	16.9	12.9	10.5	15.7	27.5	1.0
Mean	8.8	10.2	14.1	16.9	18.7	20.8	21.1	21.0	19.9	17.1	13.4	10.2	16.1	28.6	-1.0

Location : Terhathum **LAT :** 27⁰08'
Index No : 1314 **LONG :** 87⁰33'
District : Terhathum **ELEV :** 1633
Nearest Project : Maiwa Khola Small Hydro Project (1920 kW)
 Leguwa Khola Small Hydro Project (280 kW)

Year	Mean daily air temperature °C													temp °C	
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Yearly	max	min
1998	10.9	12.9	14.2	17.7	20.8	22.4	21.7	21.8	21.9	21.5	18.5	15.2	18.3	31.9	1.5
1997	9.8	10.1	15.7	16.1	19.5				20.8	17.5	15.3	12.0			1.0
1996	10.0	12.6	16.7	19.2	20.7	21.2	21.6	21.6	21.5	19.3	16.3	13.4	17.8	29.2	3.7
1995	9.6	11.2	15.6	19.9	22.1	21.9	21.4	22.2	21.3	19.4	16.0	11.7	17.7	29.2	1.3
1994	11.7	11.0	15.9	18.9	21.4	22.3	22.7	22.4	21.3	18.6	15.2	12.0	17.8	23.0	0.7
1993	9.1	12.9	14.5	17.9	20.0	21.6	21.9	21.8	21.0	18.7	15.5	13.1	17.4	28.5	1.7
1992															
1991															
1990	15.5					21.8									
1989				19.7	20.3	20.3	20.3	19.9	17.8	17.7	17.2				
Mean	10.9	11.8	15.4	18.5	20.7	21.6	21.6	21.6	20.8	19.0	16.3	12.9	17.8	31.9	0.7

Location : Rara **LAT :** 29⁰33'
Index No : 0307 **LONG :** 82⁰07'
District : Mugu **ELEV :** 3048
Nearest Project : Jaljala Khola Small Hydro Project (100 kW)
Galwa Gad Small Hydro Project (100 kW)

Year	Mean daily air temperature °C												temp °C		
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Yearly	max	min
1998	2	5	9.5	10.9	14.1	15.6	15.8	15.7	14.9	11.1	7	5	10.6	23.1	-10
1997	4.4	3.2	6.4	7.7	11	14.2	17.1	16.4	12.5						
1996	1	0.5	4.1	14.4	13	15.8	17.3	16.9	14.7	9.8	7.8	4.7	10	24.5	-10.5
1995	-1.2	2.2	5.9	8.7	14.3	15.9	16.8	16	16	15.8	11.4	5.5	10.6	24	-13
1994	2.8	1.4	6.8	9.4	13.4	16.1	17.2	16.9	15.3	11.2	6.6	3.5	10	25.5	-10.6
1993	1.3	4.5	3.4	8.4	12.5	14.7	16.4	16.4	14.5	13.5	7.7	5.1	9.9	24.5	-9.2
1992	2.7	1.1	5.9	8.8	10.4	13.4	15.4	14.2	13.6	9.5	6.3	3.9	8.8	23.7	-10.9
1991	3.8	3.1	5.3	7.9	11.9	14.3	16.1	16.3	15	10.1	5.7	3.5	9.4	24.3	-10.9
1990				8.3	12.1	15.7	16.1	16.4	15.4	9.7	7.4	3.9			
1989	0.6	1.8	6.2	8.7	12.5	14.4	16.4	16.3	15	11	6.6	3.4	9.4	24.6	-12
1988						15.4	16.3	15.9	14.3	10.4	6.9	4.6			-9.5
1987	2.3	3.6	6	8.6	10	15.2	15.6	16.3	14.8	10.2	8.4	7	9.8	23.8	-7.5
1986						15.6	15.7	15.7	13.9	11.9	6.9	4			
1985															
1984															
1983															
1982															
1981															
1980															
1979							16.5	18.4	16.4	15.6	13.8				
Mean	1.97	2.64	5.95	9.2545	12.291	15.1	16.336	16.271429	14.736	11.523	7.8846	4.5083	9.8333	25.5	-13

Location : Dailekh **LAT :** 28⁰51'
Index No : 0402 **LONG :** 81⁰43'
District : Dailekh **ELEV :** 1402
Nearest Project : Satya Khola Small Hydro Project (1080 kW)
Mujkot Khola Small Hydro Project (950 kW)

Year	Mean daily air temperature °C												temp °C		
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Yearly	max	min
1998									19.9	19.0	14.1	11.1		35.8	
1997															
1996	10.4	12.1	16.1	21.4	24.2	24.1									
1995	8.4	14.0	17.0	20.9	24.3	22.5	20.4	22.5	21.5	18.5	15.3	11.0	18.0	38.2	0.1
1994	11.3	12.6	15.7	19.6	23.2	22.7	19.8	21.8	19.3	15.7	13.6	10.3	17.1	35.6	1.4
1993	10.1	13.5	14.5	19.5	22.4	23.0	22.8	22.6	18.0	16.2	15.7	14.0	17.7	32.8	2.2
1992	10.3	11.2	16.9	22.4	22.0	24.2	23.8	23.0	22.4	18.0	15.1	11.5	18.4	33.6	1.2
1991	9.0	13.4	16.0	20.2	24.0	23.7	23.7	23.3	22.3	19.4	14.1	10.9	18.3	32.4	1.4
1990	13.6	12.0	14.5	20.2	22.1	24.6	23.6	23.1	23.0	18.3	16.0	13.1	18.7	31.6	4.2
1989	9.9	11.5	16.9	21.2	23.8	23.8	23.6	23.1			13.7	11.5		33.2	
1988	11.8	13.7	15.4	22.0	23.1	23.9	23.7	23.4	23.1	19.7	15.8	13.0	19.0	33.8	4.5
1987	11.3	13.3	17.3	20.9	22.2	25.5	23.6	23.3	22.8	19.1	15.6	12.9	19.0	33.4	3.4
1986	10.7	12.5	16.8	20.5	21.0	24.2	22.8	23.3	21.4	18.1	14.9	11.1	18.1	32.8	3.2
1985	10.2	12.9	19.1	22.5	23.7	24.4	25.2	23.3	21.6	17.9	14.5	12.5	18.8	33.4	2.2
1984	9.0	11.8	18.5	21.7	24.2	23.3	22.6	23.4	21.5	19.2	14.5	12.1	18.5	32.6	0.2
1983	9.4	10.7	16.2	19.0	22.0	24.9	23.7	23.3	21.9	18.5	14.4	10.7	17.9	33.2	2.1
1982	10.8	11.2	14.4	20.1	22.4	23.8	23.6	22.8	21.5	18.3	14.4	11.4	17.9	32.8	2.9
1981	8.7	13.2	15.6	20.2	22.4	24.4	22.9	23.0	21.8	18.6	14.6	10.2	18.0	32.9	1.2
1980	10.4	13.0	15.7	23.2	24.4	23.6	23.0	22.6	19.8	18.2	15.0	12.0	18.4	32.5	3.5
1979	10.0	10.4	15.6	21.4	23.5	24.2	23.1	23.4	21.6	20.8	16.3	11.2	18.4	32.3	2.3
1978	8.4	10.1	12.8	19.1	23.8	23.0	22.2	22.0	20.4	18.4	13.5	10.5	17.0	33.5	2.1
1977		11.6			19.8	23.6	22.4	22.2	20.8	17.8	14.8	9.9			
1976	9.7	11.6	15.7	19.8	22.4	22.8	22.1	22.3	21.2	17.8	15.0	10.4	17.6	32.2	3.5
1975	9.2	11.2	15.8	21.4	24.0	23.8	22.2	22.4	21.0	19.6	13.2	9.4	17.8	33.5	2.3
1974	9.6	10.4	15.9	20.0	24.5	24.5	22.7	22.6	21.7	20.3	15.0	10.1	18.3	33.1	0.7
1973	10.9	12.4	16.1	23.0	22.9	22.6	23.4	22.9	22.6	18.0	14.5	11.0	18.4	33.3	0.9
1972	14.4	9.9	17.5	20.1	25.8	26.3	23.1	22.9	20.6	17.6	14.5	12.1	18.7	35.1	1.2
1971	10.4	11.5	16.7	19.9	20.6	22.4	21.7	19.2	21.7	19.2	16.5	14.8	17.8	29.1	2.0
Mean	10.3	12.0	16.1	20.8	23.0	23.8	22.9	22.7	21.3	18.5	14.8	11.5	18.2	38.2	0.1

Location : Simikot **LAT :** 29⁰58'
Index No : 0311 **LONG :** 81⁰50'
District : Humla **ELEV :** 2800
Nearest Project : Galwa Gad Small Hydro Project (100 kW)

Year	Mean daily air temperature °C													temp °C	
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Yearly	max	min
1998	0.2	0.3	1.6	8.3	12.1	13.1	14.9	14.2	13.8	11.9	7.3	3.2	8.3	28.8	-13.5
1997	-1.1	-1.4	3.6	5.7	9.0	12.7	15.0	13.6	11.8	4.5	2.1	-2.1	6.1	26.6	-17.5
1996												2.6		26.2	
1995															
1994			7.8	9.3											
1993	1.6	5.7	4.0	9.9	13.8	16.4	17.0	17.0	14.4	11.5	8.1				
1992	2.6	0.9	6.2	10.7	12.3	16.0	17.0	16.7	14.6	10.7	7.8	5.1	10.0	25.2	-10.3
1991									13.0	10.2	6.1	3.4			
1990						16.5	16.6	16.9	15.8	10.7					
1989					15.1	15.3	16.8	15.9	15.4	11.8					
Mean	0.8	1.4	4.6	8.8	12.5	15.0	16.2	15.7	14.1	10.2	6.3	2.4	8.1	28.8	-17.5

Location : Siligadi, Doti **LAT :** 29⁰16'
Index No : 0203 **LONG :** 80⁰59'
District : Doti **ELEV :** 1360
Nearest Project : Gandhi Gad Small Hydro Project (1280 kW)
 Gadsera Gad Small Hydro Project (480 kW)

Year	Mean daily air temperature °C													temp °C	
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Yearly	max	min
1998	11.5	14.5	16.0	20.5	24.6	27.9	25.0	24.7	23.7	20.7	15.8	12.9	19.8	37.5	2.8
1997	10.6	12.8	17.7	19.3	22.6	24.5	25.5	25.0	23.6	18.8	15.5	11.2	19.0	34.3	-0.5
1996	12.0	13.7	18.9	22.3	25.8	25.1	25.3	25.2	24.3	20.3	16.6	13.2	20.2	37.2	3.8
1995	10.0	12.7	16.5	21.5	25.8	27.2	25.7	25.1	24.3	21.3	16.5	12.5	19.9	39.0	0.2
1994	12.2	12.0	19.2	20.2	24.8	26.3	25.2	24.6	24.7	20.7	16.4	13.3	20.0	35.5	0.5
1993	11.1	14.3	14.5	20.9	24.8	24.6	25.3	24.5	22.5	20.5	16.3	12.9	19.4	35.5	3.5
1992	11.0	12.0	18.5	23.0	23.1	24.4	24.8	24.8	23.4	20.3	16.4	12.5	19.5	35.5	1.6
1991	10.7	14.2	16.8	19.6	24.4	24.5	25.1	24.7	23.9	20.2	14.9	11.8	19.2	35.2	1.6
1990	14.5	12.3	14.3	20.6	22.5	25.5	25.0	25.0	24.3	19.5	16.5	12.8	19.4	33.1	4.0
1989	9.8	12.2	17.0	21.4	25.0	24.6	24.4	24.2	23.9	20.7	15.2	12.2	19.2	34.7	0.5
1988	12.5	13.9	16.6	22.4	24.6	25.0	24.9	24.4	23.7	20.5	16.3	12.7	19.8	37.5	3.5
1987	11.7	12.9	17.4	20.5	21.9	26.5	24.9	24.7	24.2	19.8	16.5	13.6	19.5	36.9	4.0
1986	11.0	13.0	16.6	20.7	20.9	24.7	24.0	24.2	22.5	18.8	15.7	11.3	18.6	33.7	2.5
1985	10.7	14.0	20.4	23.3	24.4	25.8	24.0	24.5	22.3	18.7	15.0	12.6	19.6	36.2	2.6
1984	10.7	13.1	20.8	23.4	27.4	25.0	25.1	25.6	23.5	20.6	15.3	12.6	20.3	35.0	1.0
1983	11.8	13.1	17.9	21.1	24.2	26.8	25.8	25.0	24.1	21.6	17.4	12.6	20.1	36.0	4.5
1982	12.6	12.2	16.2	22.4	23.6	25.2	25.7	24.6	24.4	21.8	18.4	13.9	20.1	34.2	3.6
1981	10.9	14.8	17.2	22.2	25.0	26.6	25.0	25.4	24.1	22.2	16.7	12.4	20.2	34.0	3.5
1980	13.0	15.6	17.6	25.6	27.7	25.4	25.0	24.8	24.2	21.0	17.8	14.2	21.0	35.8	5.0
1979	13.0	12.9	17.7	24.9	26.0	26.8	25.6	25.7	25.2	23.2	19.8	13.8	21.2	35.8	5.0
1978	11.9	13.4	15.5	21.9	27.2	25.7	25.0	24.5	23.4	23.0	17.6	14.8	20.4	36.0	3.6
1977	12.4	15.4	21.7	23.0	22.8	25.9	25.2	24.4	24.4	21.4	18.7	14.0	20.8	35.0	5.2
1976			19.2	22.6	25.7	25.3	24.5	24.2	24.4	22.1	18.4	14.0			
Mean	11.6	13.4	17.6	21.9	24.6	25.6	25.0	24.8	23.9	20.8	16.7	12.9	19.9	39.0	-0.5

Location : Chainpur (west) **LAT :** 29⁰33'
Index No : 0202 **LONG :** 81⁰13'
District : Bajhang **ELEV :** 1304
Nearest Project : Gandhi Gad Small Hydro Project (1280 kW)

Year	Mean daily air temperature °C													temp °C	
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Yearly	max	min
1998	10.8	12.9	14.9	20.7	24.3	26.7	25	24.7	24.3	21	16.2	12.7	19.5	36.4	0
1997	9.8		16.2	18.8	22	24.4	25.3	24.5	23.1	17	14.4	10.2			-0.1
1996	11	12.7	17.4	20.5	24.1	25.1	25	24.1	23.5	19.3	15.7	11.6	19.2	36.8	1.0
1995	9.1	11.8	16	19.8	24.7	26.8	24.9	24.1	23.2	20.7	15.2	12	19	37.1	0.1
1994	11.4	11.5	18.5	18.9	23.8	26	25.5	24.4	24.3	19.7	15.2	12.3	19.3	35.3	0.1
1993	10.4	13.6	13.4	19.6	23.1	23.4	24.8	24.6	22.3	20	15.8	11.9	18.5	34.8	1.0
1992	10.8	11.8	16.8	21.4	22.2	24.8	24.7	24.2	22.6	19.2	15.2	11.6	18.8	35.6	-0.7
1991	9.7	13.2	16	19.4	23.7	24.7	24.7	24.1	23.1	19.5	14.3	11.2	18.7	34.4	0.1
1990	13.7	11.8	14.2	19.5	22.8	25.8	24.1	24.1	23.3	18.7	15.4	11.5	18.8	34.4	0.1
1989	9.1	11.7	16.3	20.3	24	24.5	24.6	23.7	23.3	19.4	14.7	11.4	18.6	37.2	-2.0
1988	11.8	12.9	15.8	21.3	24.4	25.4	24.3	24.2	23	19.5	15.2	11.8	17.1	37.0	1.0
1987	11.1	12.9	16.9	19.8	21.1	25.8	25.2	24.5	23.4	19.3	15.2	12.5	19	35.9	1.0
1986	10	12.9	15.9	19.5	20.5	24.7	24	24.3	22.5	18.2	14.9	10.3	18.1	34.1	0.0
1985	10	13.3	19	21.3	23.6	25.8	24	24.2	22.1	18.3	14.2	11.6	19	35.6	0.2
1984	9.1	11.3	18.3	20.2	24.7	24.6	24.2	24.7	22.4	19.7	14.6	11.7	18.8	35.0	0.0
1983	10.1	11.2	15.2	17.6	22.5	23.1	24.6	24.7	22.9	18.6	14.4	10.5	17.9	33.5	0.0
1982	10.6	11	14.1	18.6	21	23.9	25.2	24	22.6	18.6	15.2	11.7	18	33.2	1.8
1981	9.6	13.2	15.4	20.8	22.6	25.4	24.6	24.4	22.6	19.6	14.2	10.2	18.6	35.4	0.6
1980	11.2	12.8	15.6	21.4	24	24.4	24	23.5	22.2	18.7	15.4	11.8	18.8	34.8	0.9
Mean	10.5	12.4	16.1	20.0	23.1	25.0	24.7	24.3	23.0	19.2	15.0	11.5	18.7	37.2	-2.0

Location : Patan (West)

LAT : 29⁰28'

Index No : 0103

LONG : 80⁰32'

District : Baitadi

ELEV : 1266

Nearest Project : Nilgarh Gad Small Hydro Project (240 kW)

Year	Mean daily air temperature °C												temp °C		
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Yearly	max	min
1998	10.7	13.0	15.5	21.3	24.7	26.1	25.2	24.4	24.5	20.8	16.6	12.8	19.6	35.6	1.4
1997												11.0			
1996	10.3	12.4	17.4	21.0	25.0	24.8	24.2	23.6	23.2	20.0	16.3	12.4	19.3	37.4	1.2
1995	8.5	11.0	15.5	20.3	24.4	26.6	22.9	29.5	23.0	20.5	14.5	12.9	18.6	35.4	1.0
1994	11.3	11.4	17.5	18.1	22.1	23.4	24.3	23.4	23.6	22.2	15.4	11.4	18.7	35.0	1.0
1993	10.2	12.9	13.4	20.0	23.5	23.3	23.7	23.3	21.6	20.0	16.2	14.1	18.5	39.4	1.1
1992	10.9	11.3	17.0	21.7	22.8	24.2	24.0	23.8	22.2	19.6	15.1	12.0	18.7	33.0	1.2
1991	9.6	12.6	16.3	20.4	24.3	24.7	24.3	23.7	23.3	19.4	14.3	11.4	18.7	33.4	0.0
1990	14.0	12.0	13.6	19.9	22.3	25.4	23.9	24.0	23.5	19.4	15.6	12.1	18.8	32.0	3.2
1989	9.6	12.0	16.5	19.2	23.4	23.3	24.1	23.5	23.1	20.0	14.9	11.5	18.4	31.4	1.8
1988	11.9	13.3	16.3	21.9	23.0	24.7	24.0	23.9	21.6	19.8	15.7	12.4	19.0	33.4	1.2
1987	11.6	13.3	17.4	20.3	21.7	27.5	25.0	24.1	23.5	19.7	16.2	13.3	19.4	36.4	3.0
1986	10.8	13.0	16.6	20.6	21.9	24.6	23.5	24.1	22.9	18.9	15.5	11.2	18.6	33.2	2.0
1985	10.4	13.1	19.9	22.5	23.5	25.0	23.7	24.1	22.2	18.8	15.5	12.7	19.3	35.0	1.0
1984	9.3	12.3	18.5	20.9	24.1	24.2	23.9	24.3	23.1	20.4	15.1	12.7	19.1	34.0	1.2
1983		11.0	15.8	17.8	21.6	23.8	24.5	24.4	23.0	19.6	14.6	11.0			-2.4
1982	10.2	10.2	13.2	18.6	20.4	23.0	24.0	22.6	21.4	18.0					-2.4
1981	9.9	13.0	15.8	20.5	21.3	23.9	23.2	23.4	22.2	20.3	14.2	9.4	18.1	35.5	0.2
Mean	10.6	12.2	16.2	20.3	22.9	24.6	24.0	24.1	22.8	19.8	15.4	12.0	18.9	37.4	-2.4

Location : Taplejung
 Index No : 1405
 District : Taplejung
 Nearest Project :

LAT : 27°21'
 LONG : 87°40'
 ELEV : 1732

Kabelli Small Hydro Project (1120 kW)
 Kabelli Small Hydro Project (1860 kW)
 Maiwa Khola Small Hydro Project (1920 kW)

Year	Total precipitation mm												Max in 24 hours	Number of rainy days with precipitation in mm						
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		Year	> 1.0	1.0 - 9.9	10.0 - 24.9	25.0 - 49.9	50.0 - 99.9	> 100
1998	8.0	13.0	119.0	190.0	205.0	297.0	358.0	543.0	245.0	102.0	22.0	0.0	2101.0	72.0	154.0	80.0	46.0	24.0	4.0	0.0
1997	31.0	53.0	22.0	178.0	169.0	434.0	388.0	403.0	310.0	47.0	5.0	56.0	2094.0	75.0	160.0	89.0	47.0	19.0	5.0	0.0
1996	60.0	13.0	65.0	126.0	326.0	342.0	497.0	420.0	245.0	66.0	0.0	0.0	2161.0	79.0	154.0	79.0	46.0	24.0	5.0	0.0
1995	17.0	46.0	33.0	72.0	265.0	403.0	507.0	375.0	213.0	58.0	154.0	16.0	2159.0	90.0	141.0	69.0	51.0	14.0	7.0	0.0
1994	44.0	40.0	62.0	106.0	203.0	399.0	288.0	497.0	170.0	15.0	8.0	4.0	1835.0	130.0	140.0	82.0	40.0	13.0	4.0	1.0
1993	32.0	42.0	33.0	209.0	255.0	165.0	376.0	392.0	186.0	40.0	23.0	0.0	1752.0	80.0	149.0	89.0	45.0	12.0	3.0	0.0
1992	7.0	30.0	4.0	58.0	255.0	111.0	392.0	313.0	202.0	105.0	5.0	17.0	1497.0	47.0	124.0	78.0	27.0	19.0	0.0	0.0
1991	45.0	7.0	72.0	143.0	276.0	374.0	359.0	506.0	288.0	5.0	2.0	5.0	2082.0	66.0	137.0	58.0	53.0	22.0	4.0	0.0
1990	0.0	105.0	111.0	142.0	249.0	577.0	419.0	329.0	396.0	108.0	0.0	0.0	2438.0	135.0	159.0	89.0	44.0	16.0	8.0	2.0
1989	64.0	34.0	128.0	98.0	313.0	246.0	441.0	263.0	456.0	43.0	44.0	2.0	2132.0	86.0	154.0	84.0	38.0	29.0	3.0	0.0
1988	10.0	20.0	91.0	111.0	264.0	122.0	410.0	586.0	224.0	25.0	5.0	30.0	1897.0	76.0	142.0	73.0	48.0	16.0	5.0	0.0
1987	2.0	9.0	108.0	182.0	164.0	180.0	373.0	472.0	545.0	207.0	0.0	11.0	2253.0	130.0	144.0	78.0	44.0	11.0	9.0	2.0
1986	0.0	14.0	55.0	197.0	72.0	231.0	400.0	377.0	261.0	132.0	8.0	18.0	1765.0	63.0	153.0	100.0	29.0	23.0	1.0	0.0
1985	1.0	22.0	36.0	101.0	298.0	370.0	675.0	313.0	395.0	146.0	50.0	66.0	2473.0	84.0	161.0	84.0	41.0	27.0	9.0	0.0
1984	11.0	23.0	9.0	188.0	336.0	267.0	537.0	305.0	391.0	56.0	7.0	3.0	2130.0	68.0	150.0	81.0	44.0	20.0	5.0	0.0
1983	23.0	6.0	29.0	93.0	288.0	353.0	359.0	295.0	245.0	58.0	0.0	19.0	1768.0	74.0	147.0	80.0	48.0	17.0	2.0	0.0
1982	0.0	38.0	50.0	203.0	212.0	260.0	334.0	308.0	117.0	68.0	56.0	5.0	1651.0	53.0	160.0	106.0	39.0	14.0	1.0	0.0
1981	36.0	0.0	70.0	190.0	277.0	177.0	408.0	385.0	310.0	10.0	4.0	3.0	1870.0	95.0	135.0	80.0	31.0	19.0	5.0	0.0
1980	1.0	16.0	81.0	262.0	270.0	319.0	403.0	317.0	267.0	106.0	0.0	3.0	1945.0	63.0	159.0	88.0	50.0	20.0	1.0	0.0
1979	7.0		4.0	93.0	119.0	365.0	503.0	472.0	271.0	133.0	26.0	72.0								
1978						494.0	402.0	392.0	396.0	48.0	40.0	13.0								
1977																				
1976	23.0	44.0	0.0	103.0	245.0	380.0	366.0	370.0	155.0	68.0	2.0	0.0	1756.0	69.0	148.0	84.0	45.0	18.0	1.0	0.0
1975	28.0	16.0	8.0	50.0	385.0	345.0	468.0	254.0	508.0	106.0	0.0	5.0	2173.0	74.0	141.0	68.0	47.0	15.0	11.0	0.0
1974	22.0	3.0	35.0	252.0	269.0	290.0	450.0	443.0	277.0	144.0	2.0	7.0	2194.0	79.0	170.0	95.0	49.0	22.0	4.0	0.0
1973	16.0	33.0	43.0	42.0	248.0	351.0				47.0	4.0	0.0								
1972	1.0	34.0	49.0	282.0	277.0	212.0	512.0	268.0	220.0	20.0	25.0	0.0	1900.0	75.0	136.0	75.0	36.0	21.0	4.0	0.0
1971	5.0	9.0	78.0	163.0	218.0	351.0	326.0	304.0	140.0	246.0	24.0	0.0	1865.0	75.0	178.0	116.0	46.0	13.0	3.0	0.0
Mean	19.0	26.7	53.7	147.5	248.4	311.7	421.2	380.8	285.9	81.8	19.1	13.1	1995.4	79.9						

Location : Terhathum
 Index No : 1314
 District : Terhathum
 Nearest Project :

LAT : 27°08'
 LONG : 87°33'
 ELEV : 1633

Maiwa Khola Small Hydro Project (1920 kW)
 Leguwa Khola Small Hydro Project (280 kW)

Year	Total precipitation mm												Max in 24 hours	Number of rainy days with precipitation in mm							
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		Year	> 1.0	1.0 - 9.9	10.0 - 24.9	25.0 - 49.9	50.0 - 99.9	> 100	
1998	0.0	8.0	73.0	102.0	115.0	79.0	217.0	329.0	174.0	3.0	25.0	0.0	1125.0	84.0	79.0	38.0	32.0	7.0	2.0	0.0	
1997	21.0	5.0	13.0	119.0	157.0	156.0	136.0	319.0	262.0	20.0	0.0	62.0	1270.0	125.0	86.0	49.0	22.0	11.0	3.0	1.0	
1996	40.0	9.0	25.0	22.0	182.0	174.0	312.0	222.0	166.0	30.0	0.0	0.0	1182.0	58.0	93.0	54.0	26.0	11.0	3.0	0.0	
1995	10.0	32.0	8.0	70.0	56.0	183.0	233.0	200.0	119.0	7.0	170.0	15.0	1103.0	90.0	88.0	50.0	29.0	7.0	2.0	0.0	
1994	49.0	86.0	14.0	13.0	56.0	147.0	191.0	117.0	151.0	0.0	7.0	2.0	832.0	84.0	70.0	40.0	23.0	6.0	1.0	0.0	
1993		1.0	27.0	115.0	88.0	154.0	330.0	137.0	286.0	28.0	27.0	0.0									
1992																					
1991																					
1990	0.0	26.0				112.0															
1989	9.0	29.0	33.0	18.0	157.0	117.0	270.0	140.0	249.0	14.0	3.0	0.0	1098.0	82.0	75.0	32.0	29.0	12.0	2.0	0.0	
Mean	18.4	24.5	27.6	65.6	115.9	140.3	241.6	214.0	196.1	14.6	33.1	11.3	1101.7	125.0							

Location : Simikot LAT : 29°58'
 Index No : 0311 LONG : 81°50'
 District : Humla ELEV : 2800

Nearest Project : Galwa Gad Small Hydro Project (100 kW)

Year	Total precipitation mm												Max in 24 hours	Number of rainy days with precipitation in mm						
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		Year	> 1.0	1.0 - 9.9	10.0 - 24.9	25.0 - 49.9	50.0 - 99.9	> 100
1998	7.0	49.0	72.0	43.0	44.0	64.0	125.0	196.0	103.0	50.0	46.0	0.0	800.0	24.0	109.0	82.0	27.0	0.0	0.0	0.0
1997	22.0	33.0	51.0	47.0	60.0	64.0	161.0	183.0	86.0	40.0	57.0	55.0	858.0	34.0	119.0	92.0	24.0	3.0	0.0	0.0
1996	45.0	62.0	68.0	53.0	23.0	105.0	198.0	223.0	162.0	88.0	0.0	0.0	1027.0	41.0	121.0	84.0	34.0	3.0	0.0	0.0
1995	53.0	53.0	94.0	38.0	13.0	89.0	77.0	267.0	79.0	18.0	11.0	18.0	810.0	26.0	121.0	93.0	27.0	1.0	0.0	0.0
1994	0.0	29.0	14.0	42.0	38.0	53.0	139.0	169.0	25.0	1.0	0.0	0.0	511.0	19.0	88.0	72.0	16.0	0.0	0.0	0.0
1993	8.0	12.0	38.0	16.0	35.0	86.0	81.0	73.0	150.0	0.0	0.0	0.0	499.0	20.0	74.0	57.0	17.0	0.0	0.0	0.0
1992	42.0	7.0	12.0	0.0	20.0	0.0	69.0	96.0	16.0	8.0	4.0	0.0	274.0	20.0	34.0	22.0	12.0	0.0	0.0	0.0
1991																				
1990	7.0	43.0	69.0	22.0	104.0	25.0	189.0	135.0	111.0	15.0										
1989	0.0	110.0				54.0	189.0	178.0	97.0	37.0	27.0	9.0								
Mean	20.4	44.2	52.3	32.6	42.1	60.0	136.4	168.9	92.1	25.7	16.8	11.0	682.7	41.0						

Location : Stilgadi, Doti LAT : 29°16'
 Index No : 0203 LONG : 80°59'
 District : Doti ELEV : 1360

Nearest Project : Gandi Gad Small Hydro Project (1280 kW)

Gadsera Gad Small Hydro Project (480 kW)

Year	Total precipitation mm												Max in 24 hours	Number of rainy days with precipitation in mm						
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		Year	> 1.0	1.0 - 9.9	10.0 - 24.9	25.0 - 49.9	50.0 - 99.9	> 100
1998	3.0	46.0	86.0	37.0	58.0	243.0	400.0	295.0	147.0	113.0	9.0	0.0	1437.0	75.0	74.0	30.0	22.0	16.0	6.0	0.0
1997	102.0	14.0	7.0	173.0	103.0	86.0	229.0	251.0	160.0	7.0	56.0	129.0	1317.0	76.0	92.0	46.0	30.0	14.0	2.0	0.0
1996	55.0	131.0	33.0	57.0	34.0	176.0	208.0	310.0	118.0	77.0	0.0	0.0	1199.0	56.0	97.0	60.0	21.0	13.0	3.0	0.0
1995	137.0	80.0	101.0	12.0	65.0	197.0	187.0	377.0	105.0	0.0	22.0	3.0	1287.0	117.0	90.0	53.0	20.0	13.0	3.0	1.0
1994	70.0	120.0	3.0	34.0	79.0	138.0	305.0	268.0	70.0	0.0	0.0	0.0	1087.0	67.0	93.0	60.0	22.0	9.0	2.0	0.0
1993	37.0	43.0	107.0	36.0	92.0	295.0	123.0	276.0	385.0	1.0	0.0	0.0	1394.0	129.0	93.0	52.0	25.0	11.0	4.0	1.0
1992	80.0	37.0	11.0	36.0	108.0	242.0	161.0	159.0	110.0	28.0	15.0	4.0	990.0	55.0	71.0	38.0	19.0	13.0	1.0	0.0
1991	35.0	70.0	105.0	67.0	48.0	369.0	376.0	310.0	93.0	0.0	13.0	31.0	1517.0	66.0	93.0	42.0	29.0	17.0	5.0	0.0
1990	0.0	148.0	154.0	15.0	266.0	121.0	277.0	331.0	159.0	49.0	0.0	65.0	1583.0	91.0	101.0	45.0	33.0	20.0	3.0	0.0
1989	114.0	28.0	45.0	1.0	64.0	115.0	456.0	395.0	128.0	156.0	20.0	5.0	1525.0	135.0	98.0	52.0	31.0	10.0	2.0	3.0
1988	0.0	54.0	62.0	60.0	86.0	163.0	357.0	193.0	151.0	0.0	0.0	128.0	1254.0	78.0	92.0	46.0	31.0	12.0	3.0	0.0
1987	22.0	56.0	11.0	82.0	151.0	165.0	298.0	216.0	138.0	31.0	0.0	13.0	1182.0	113.0	77.0	41.0	21.0	10.0	4.0	1.0
1986	2.0	25.0	35.0	68.0	263.0	151.0	402.0	159.0	305.0	100.0	19.0	81.0	1610.0	101.0	107.0	54.0	37.0	11.0	4.0	1.0
1985	34.0	7.0	6.0	29.0	100.0	95.0	300.0	230.0	223.0	322.0	0.0	100.0	1446.0	106.0	105.0	60.0	28.0	15.0	1.0	1.0
1984	41.0	103.0	10.0	43.0	82.0	358.0	207.0	325.0	68.0	8.0	0.0	17.0	1262.0	50.0	92.0	49.0	25.0	16.0	2.0	0.0
1983	59.0	25.0	39.0	143.0	99.0	231.0	201.0	313.0	606.0	207.0	0.0	26.0	1949.0	134.0	120.0	24.0	26.0	10.0	5.0	5.0
1982	84.0	45.0	138.0	54.0	98.0	172.0	335.0	331.0	55.0	6.0	4.0	30.0	1352.0	65.0	109.0	63.0	32.0	13.0	1.0	0.0
1981	77.0	39.0	49.0	18.0	158.0	224.0	312.0	198.0	193.0	0.0	48.0	26.0	1342.0	75.0	99.0	52.0	33.0	9.0	5.0	0.0
1980	14.0	32.0	111.0	13.0	48.0	209.0	308.0	222.0	251.0	29.0	0.0	12.0	1249.0	97.0	94.0	56.0	24.0	11.0	3.0	0.0
1979	42.0	88.0	38.0	44.0	96.0	86.0	223.0	238.0	12.0	44.0	1.0	50.0	962.0	50.0	74.0	37.0	27.0	10.0	0.0	0.0
1978	21.0	77.0	174.0	114.0	76.0	281.0	296.0	209.0	109.0	0.0	28.0	10.0	1395.0	46.0	93.0	48.0	26.0	29.0	0.0	0.0
1977	43.0	15.0	4.0	50.0	119.0	170.0	257.0	201.0	182.0	36.0	6.0	45.0	1128.0	42.0	90.0	47.0	29.0	14.0	0.0	0.0
1976	0.0	84.0	8.0	45.0	99.0	117.0	291.0	262.0	179.0	36.0	0.0	0.0	1121.0	43.0	80.0	41.0	29.0	10.0	0.0	0.0
Mean	46.6	59.3	58.1	53.5	104.0	191.5	283.0	263.9	171.6	54.3	10.5	33.7	1329.9	135.0						

Location : Chainpur (West)
 Index No : 0202
 District : Bajhang

LAT : 29°33'
 LONG : 81°13'
 ELEV : 1304

Nearest Project : Gandhi Gad Small Hydro Project (1280 kW)

Year	Total precipitation mm												Year	Max in 24 hours	Number of rainy days with precipitation in mm					
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec			> 1.0	1.0 - 9.9	10.0 - 24.9	25.0 - 49.9	50.0 - 99.9	> 100
1998	0.0	71.0	117.0	66.0	47.0	185.0	431.0	511.0	158.0	57.0	23.0	0.0	1266.0	92.0	109.0	50.0	39.0	15.0	5.0	0.0
1997	59.0	22.0	20.0	75.0	53.0	162.0	508.0	417.0	240.0	32.0	49.0	132.0	1768.0	88.0	123.0	71.0	29.0	16.0	7.0	0.0
1996	62.0	105.0	49.0	37.0	30.0	120.0	501.0	442.0	217.0	87.0	0.0	0.0	1650.0	85.0	128.0	74.0	34.0	16.0	4.0	0.0
1995	105.0	110.0	64.0	20.0	32.0	173.0	533.0	372.0	207.0	21.0	37.0	3.0	1677.0	78.0	117.0	64.0	32.0	15.0	6.0	0.0
1994	39.0	142.0	2.0	50.0	42.0	211.0	336.0	339.0	129.0	3.0	0.0	5.0	1299.0	80.0	109.0	64.0	34.0	9.0	2.0	0.0
1993	73.0	63.0	154.0	20.0	154.0		184.0	254.0	250.0	0.0	0.0	0.0								
1992	104.0	34.0	31.0	38.0	59.0	105.0	334.0	483.0	201.0	50.0	17.0	0.0	1455.0	70.0	108.0	64.0	23.0	20.0	1.0	0.0
1991	40.0	81.0	116.0	68.0	63.0	221.0	285.0	581.0	164.0	4.0	8.0	28.0	1658.0	72.0	107.0	50.0	37.0	13.0	7.0	0.0
1990	0.0	126.0	192.0	34.0	48.0	175.0	422.0	462.0	277.0	18.0	6.0	44.0	1804.0	88.0	127.0	64.0	38.0	24.0	1.0	0.0
1989	169.0	28.0	48.0	8.0	36.0	140.0	332.0	551.0	203.0	11.0	19.0	4.0	1547.0	67.0	122.0	74.0	25.0	21.0	2.0	0.0
1988	12.0	111.0	110.0	22.0	21.0	95.0	553.0	443.0	116.0	4.0	3.0	118.0	1610.0	71.0	117.0	69.0	29.0	14.0	5.0	0.0
1987	23.0	68.0	28.0	72.0	142.0	65.0	371.0	350.0	190.0	15.0	0.0	26.0	1349.0	72.0	94.0	47.0	25.0	21.0	1.0	0.0
1986	2.0	18.0	70.0	80.0	155.0	125.0	492.0	329.0	186.0	96.0	24.0	85.0	1662.0	100.0	111.0	62.0	29.0	12.0	7.0	1.0
1985	34.0	8.0	4.0	43.0	63.0	77.0	508.0	308.0	270.0	265.0	3.0	92.0	1675.0	107.0	124.0	68.0	35.0	19.0	1.0	1.0
1984	29.0	155.0	40.0	37.0	34.0	345.0	282.0	288.0	262.0	8.0	0.0	17.0	1497.0	87.0	99.0	54.0	25.0	16.0	4.0	0.0
1983	68.0	19.0	65.0	176.0	187.0	172.0	240.0	520.0	437.0	110.0	0.0	12.0	2006.0	103.0	129.0	72.0	33.0	14.0	9.0	1.0
1982	85.0	70.0	192.0	107.0	100.0	113.0	355.0	478.0	97.0	31.0	9.0	26.0	1663.0	55.0	128.0	70.0	38.0	19.0	1.0	0.0
1981	106.0	40.0	78.0	40.0	101.0	149.0	417.0	388.0	338.0	0.0	61.0	27.0	1645.0	75.0	107.0	47.0	42.0	15.0	3.0	0.0
1980	26.0	44.0	99.0	53.0	46.0	315.0	652.0	324.0	291.0	38.0	0.0	23.0	1911.0	80.0	96.0	36.0	39.0	19.0	2.0	0.0
Mean	54.5	69.2	77.8	55.1	74.4	163.8	407.2	412.6	222.8	44.7	13.6	33.8	1619.0	107.0						

Location : Patan (West)
 Index No : 0103
 District : Baitadi

LAT : 29°28'
 LONG : 80°32'
 ELEV : 1266

Nearest Project : Nilgarh Gad Small Hydro Project (240 kW)

Year	Total precipitation mm												Year	Max in 24 hours	Number of rainy days with precipitation in mm					
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec			> 1.0	1.0 - 9.9	10.0 - 24.9	25.0 - 49.9	50.0 - 99.9	> 100
1998	7.0	33.0	54.0	15.0	66.0	219.0	427.0	390.0	91.0	111.0	0.0	0.0	1412.0	76.0	90.0	39.0	32.0	14.0	5.0	0.0
1997	46.0	12.0	3.0	75.0	62.0	104.0	281.0	301.0	67.0	25.0	53.0	137.0	1165.0	106.0	94.0	67.0	14.0	10.0	2.0	1.0
1996	58.0	69.0	19.0	67.0	4.0	219.0	224.0	228.0	67.0	19.0	0.0	0.0	975.0	74.0	97.0	67.0	23.0	6.0	1.0	0.0
1995	90.0	61.0	23.0	0.0	58.0	4.0	379.0	219.0	203.0	0.0	12.0	6.0	1055.0	80.0	53.0	23.0	13.0	12.0	5.0	0.0
1994	54.0	38.0	2.0	105.0	130.0	77.0	342.0	150.0	30.0	0.0	0.0	1.0	929.0	88.0	65.0	31.0	24.0	8.0	2.0	0.0
1993	32.0	24.0	144.0	9.0	78.0	319.0	196.0	263.0	266.0	8.0	0.0	0.0	1337.0	95.0	90.0	48.0	24.0	13.0	5.0	0.0
1992	82.0	44.0	20.0	22.0	122.0	49.0	181.0	226.0	99.0	29.0	0.0	0.0	875.0	91.0	76.0	45.0	22.0	8.0	1.0	0.0
1991	13.0	25.0	90.0	35.0	47.0	217.0	275.0	317.0	86.0	0.0	6.0	29.0	1142.0	80.0	99.0	57.0	32.0	8.0	2.0	0.0
1990	0.0	106.0	136.0	16.0	230.0	92.0	332.0	374.0	166.0	10.0	0.0	52.0	1512.0	138.0	100.0	55.0	26.0	15.0	3.0	1.0
1989	106.0	70.0	75.0	0.0	130.0	55.0	298.0	330.0	65.0	35.0	22.0	7.0	1193.0	81.0	81.0	42.0	25.0	8.0	6.0	0.0
1988	34.0	70.0	74.0	58.0	108.0	183.0	535.0	345.0	133.0	9.0	0.0	80.0	1527.0	89.0	57.0	34.0	30.0	20.0	3.0	0.0
1987	3.0	46.0	3.0	76.0	88.0	14.0	322.0	278.0	95.0	22.0	0.0	0.0	947.0	75.0	68.0	35.0	21.0	10.0	2.0	0.0
1986	2.0	13.0	17.0	50.0	136.0	200.0	508.0	281.0	156.0	45.0	14.0	92.0	1494.0	100.0	88.0	47.0	23.0	13.0	4.0	1.0
1985	52.0	16.0	9.0	56.0	122.0	117.0	400.0	266.0	256.0	257.0	0.0	71.0	1622.0	79.0	100.0	37.0	43.0	16.0	4.0	0.0
1984	16.0	99.0	21.0	90.0	89.0	392.0	299.0	257.0	164.0	10.0	0.0	1.0	1438.0	75.0	84.0	35.0	26.0	20.0	2.0	0.0
1983	75.0	26.0	27.0	191.0	118.0	168.0	215.0	507.0	440.0	70.0	0.0	20.0	1857.0	103.0	109.0	56.0	28.0	17.0	7.0	1.0
1982	58.0	38.0	134.0	62.0	100.0	183.0	259.0	431.0	138.0	15.0	2.0	30.0	1450.0	86.0	102.0	54.0	32.0	12.0	4.0	0.0
1981	58.0	24.0	89.0	32.0	146.0	207.0	319.0	250.0	65.0	0.0	63.0	23.0	1276.0	65.0	78.0	51.0	37.0	6.0	4.0	0.0
Mean	43.7	45.2	52.2	53.3	101.9	156.6	321.8	299.6	143.7	36.9	9.6	30.5	1289.2	138.0						