LIST OF PLATES

NO	PLATE		PAGE
1	III.1	A view of Kusma Quartzite. On the top is seen the village Thana.	76
2	III.2	Ripple marks in Kusma Quartzite.	80
3	III.3A	Field photograph showing the sharp contact between the Bihadi Slates and the overlying Phoksing Dolomite. The contrast in vegetation marks the boundary.	86
4	III.3B	An outcrop showing the relation between cleavage and bedding in Bihadi Slates. The surface over which pen lies marks the cleavage plane.	86
5	III.4A	Field photograph of intraclastic dolomite.	89
6	III.4B	A dolomite specimen showing layers of black chert.	89
7	III.5A	A specimen showing the alternate layers of purple slate and siliceous dolomite in Sumsa Formation.	92
8	III.5B	An exposure of the alternate layers of purple slate and siliceous dolomite in Sumsa Formation.	92
9	III.6	Desiccation cracks in purple slate and siliceous dolomite of Sumsa Formation. The cracks reveal the underlying dolomite.	94
10	IV.1A	Photomicrograph of quartzite(Kusma Quartzite) showing interlocking mosaic of quartz (crossed nicols, x 50).	97

NO	PLATE		PAGE
11	IV.1B	Photomicrograph of quartzite (Kusma Quartzite) showing gritty nature (crossed nicols, x 50).	97
12	IV.2A	Photomicrograph of quartzite (Kusma Quartzite) showing equigranular aggregate of quartz with triple junctions (crossed nicols, x 75).	99
13	IV.2B	Photomicrograph of well foliated micaceous quartzite (crossed nicols, x 50).	99
14	IV.3A	Photomicrograph of gritty quartzose phyllite (Balewa Formation) showing large grain of quartz embedded in a fine matrix of quartz, sericite and chlorite (crossed nicols, x 75).	101
15	IV.3B	Photomicrograph of quartz-sericite-phyllite (Balewa Formation) with well developed puckering (crossed nicols, x 75).	101
16	IV.4	Photomicrograph of phyllite (Balewa Formation) showing alternate layering of quartz-rich and sericite-chlorite-rich bands (crossed nicols, x 75).	104
17	IV.5A	A photomicrograph of slaty rock (Sumsa Formation). Cleavages are conspicuous (crossed nicols, x 50).	109
18	IV.5B	A photomicrograph of phyllite of Sumsa Formation (crossed Nicols, x 50).	109
19	IV.6A	Photomicrograph of phyllite (Sumsa Formation) showing distinct differentiated bands of siliceous layers and phyllosilicate layers (crossed nicols, x 30).	112

NO	PLATE		PAGE
20	IV.6B	Photomicrograph of siliceous dolomite (Sumsa Formation) showing fine grained aggregate of dolomite and quartz (crossed nicols, x 50).	112
21	IV.7	Siliceous dolomite (Sumsa Formation) showing replacement of dolomite by quartz (crossed nicols, x 50).	117
22	IV.8A	Photomicrograph of quartz arenite (Sumsa Formation) with sub-rounded grains of quartz (crossed nicols, x 50).	124
23	IV.8B	Photomicrograph of sublitharenite of Sumsa Formation (crossed nicols, x 50).	124
24	IV.9A	Photomicrograph of sublitharenite (Sumsa Formation) showing overgrowth of secondary quartz in optical continuity with the detrital quartz grain. (crossed nicols, x 50).	128
25	IV.9B	Photomicrograph of sublitharenite (Sumsa Formation) with basic rock fragments (crossed nicols, x 50).	128
26	IV.10A	Photomicrograph of lithic graywacke of Sumsa Formation (crossed nicols, x 50).	132
27	IV.10B	Photomicrograph of felspathic graywacke of Sumsa Formation (crossed nicols, x 50).	132
28	IV.11	Photomicrograph of wacke (Sumsa Formation) showing partial replacement of quartz by sericite (crossed nicols, x 75).	134
29	IV.12	Photomicrograph of dolomitic sandstone (Sumsa Formation) showing detrital grains of quartz cemented by dolomite (crossed nicols, x 50).	138

NO	PLATE		PAGE
30	V.1A	Nearly recumbent isoclinal fold(F_1) in Sumsa Formation. Axis - N 33°E/6°.	147
31	V.1B	Mullions comprising tight isoclinal folds (F_1) with vertical axial planes in slates of Sumsa Formation. Axis - N 20° W/50°.	147
32	V.2A	Recumbent fold (F_1) in Sumsa Formation (Slate). Axis - N 5° E with very low plunge.	148
33	V.2B	Recumbent fold (F_1) in Sumsa Formation. Axis - N 15° W with very low plunge.	148
34	V.3A	Recumbent folds (F_1) in Sumsa Formation. Axis - N 15° W with very low plunge.	149
35	V.3B	Isoclinal-recumbent fold (F_1) in Phoksing Dolomite. Axis - N 10° E with very low plunge.	149
36	V.4A	Isoclinal-reclined folds (F_1) in Sumsa Formation, the fold closures are in the left. Axis - N 20° E/26°.	151
37	V.4B	Mullion structures (L_1) in Sumsa Formation. Axis - N/5°	151
38	V.5A	Quartz stripes (L_1) in Sumsa Formation. Axis - N 20° E with very low plunge.	152
39	V.5B	Striping (L_1) due to cleavage-bedding intersection in Bihadi Slate.	152

NO	PLATE		PAGE
40	V.6A	Fine N-S pucker lineation (L_4).	155
41	V.6B	Photomicrograph of crenulation cleavage in phyllite developed along the crests of N-S puckers (L_4).	155
42	V.7A	A specimen showing domal structure due to the interference of F_3 and F_4 folds. L_1 lineation ~~of~~ conspicuous.	157
43	V.7B	Field photograph of mesoscopic domal and basinal structures in Sumsa Formation due to interference of F_3 and F_4 folds.	157
44	VII.1A	A specimen of intraclastic dolomite with rounded to sub-rounded intraclasts.	218
45	VII.1B	A specimen of intraclastic dolomite with angular to sub-rounded intraclasts.	218
46	VII.2A	Photomicrograph of intraclastic dolomite (Phoksing Dolomite) showing authigenic development of quartz (Q) around the intraclasts. Cementing material is crystalline dolomite (D) (crossed nicols, x 50).	220
47	VII.2B	An intraclast showing depositional laminae of the original rock (crossed nicols, x 50).	220
48	VII.3A	Photomicrograph of intraclastic dolomite showing partial recrystallization of intraclasts (crossed nicols, x 50).	221

NO	PLATE		PAGE
49	VII.3B	Photomicrograph of intraclastic dolomite showing epidiagenetic micro quartz-vein (Q) cutting across the intraclasts. Note also the displacement along the vein (crossed nicols, x 50).	221
50	VII.4A	Photomicrograph of intraclastic dolomite with oolites. Note the concentric and radial structures in the oolite. A partial recrystallization of oolites is conspicuous (crossed nicols, x 85).	223
51	VII.4B	Photomicrograph of intraclastic dolomite with superficial oolites (crossed nicols, x 75).	223
52	VII.5A	Photomicrograph of intraclastic dolomite showing broken oolites. (crossed nicols, x 75).	224
53	VII.5B	Photomicrograph of intraclastic dolomite cemented by fine grained quartz (crossed nicols, x 50).	224
55	VII.6	Photomicrograph of intraclastic dolomite with flambeyant quartz (Q) (crossed nicols, x 50).	227
56	VII.7	Photomicrograph of a composite intraclast (crossed nicols, x 50).	229
57	VII.8A	Field photograph of flat laminated algal mat with conspicuous minor crinkling.	237

NO	PLATE		PAGE
58	VII.8B	Field photograph of flat laminated algal mat with crinkled laminae and spherical heads.	237
59	VII.9A	A stromatolite bioherm.	238
60	VII.9B	A specimen showing conical stromatolite.	238
61	VII.10A	A specimen showing conical stromatolite.	240
62	VII.10B	A cut and polished specimen of conical stromatolite.	240
63	VII.11A	A field photograph of conical and columnar stromatolite.	241
64	VII.11B	A field photograph of columnar stromatolite	241
65	VII.12A	A field photograph of columnar stromatolite.	242
66	VII.12B	A cut and polished specimen of columnar stromatolite.	242
67	VII.12C	A specimen of columnar stromatolite.	243
68	VII.13A	A field photograph of a large-scale domical stromatolite.	245
69	VII.13B	A field photograph of large-scale domical stromatolite.	245
70	VIII.1A	Photomicrograph of spilitic diabase with sub-ophitic texture. The lath of plagioclase is partially enclosed within hornblende (crossed nicols, x 50).	266

NO	PLATE		PAGE
71	VIII.1B	Photomicrograph of spilitic diabase showing intersertal texture (crossed nicols, x 50).	266
72	VIII.2	Photomicrograph of spilitic diabase showing a small lath of plagioclase (P) completely entrapped in a calcite (C) grain (crossed nicols, x 85).	268
73	VIII.3A	Photomicrograph of spilitic basalt with porphyritic texture (crossed nicols, x 85).	273
74	VIII.3B	Photomicrograph of tuff showing fine grained foliated mass of alternate siliceous and chloritic layers (crossed nicols, x 50).	273
75	VIII.4	Photomicrograph of tuffite showing a mixture of volcanogenic material and clastic sediments (crossed nicols, x 50).	275
76	IX.1	A view of the erosional features in T_1 terrace. The comparatively finner material of T_1 is cemented by lime.	345
77	IX.2	A view of the material of T_2 terrace. very coarse, highly unsorted bouldary material.	347
78	IX.3	A panoramic view of three distinct T_1, T_2 and T_3 terraces developed in Phalabas area.	348
79	IX.4	A view of the Kali Gandaki Valley showing development of T_3 terraces. In the background seen T_2 terrace of Kurgha.	349

NO	PLATE		PAGE
80	IX.5	A view of the gravel deposit of Trisuli river. Note the terraced gravel deposit (T) cut by Tadi river (tributary to Trisuli). In the foreground flows a small tributary of Tadi Khola. In the far background lies Nawakot village at the hill top.	361
81	IX.6	A section of lacustrine deposit of Kathmandu valley, exposed in a wide abandoned stream channel; made up of sand, silt and clays.	366