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Table 3.1. The studied landslides and slopes and their characteristics
Tab. 3.1. Die untersuchten Erdrutsche und Böschungen mit ihren Eigenschaften

mon = monsoon, dry = dry season, sl = slide, disp = disposal

Study plot	Transect No.	Vegetation type of anchor	Altitude a.s.l.	Aspect 0-400°	Slope %	Type	Occurred	Stabilization measures
1	1- 3	mesohygrophilous forest	1120	375	65	slide	mon 80	technical/fence/ Alnus
2	4- 6	mesohygrophilous forest	1180	375	68	slide	mon 77	technical
3	7	xerophilous forest	1450	225	80	cut/sl	mon 80+81	technical/ Alnus + Eupatorium
4	8	shrubland	1690	150	70	disp	dry 76/77	technical/fence/ Alnus
5	9	shrubland	1690	200	70	disp	dry 76/77	-
6	10	mesohygrophilous forest	1810	250	80	cut/sl	mon 81+82	technical
7	11	Pinus patula-afforestation	1970	300	85	slide	mon 81+82	-
8	12-13	hygrophilous forest	1990	350	90	slide	mon 79	-
9	14	shrubland/hygrophilous forest	1990	75	90	cut/sl	dry 77/78	-
10	15	shrubland/hygrophilous forest	2010	400	75	disp/sl	dry 77/78 mon 80	technical/fence/ Alnus
11	16-18	shrubland/hygrophilous forest	2040	250	85	disp	dry 77/78	technical/ Alnus
12	19	shrubland/hygrophilous forest	2040	200	75	slide	ca. 1955	-
13	20	shrubland/hygrophilous forest	2090	250	80	cut/sl	dry 77/78 mon 78	technical/ Alnus + point turfing
14	21	hygrophilous forest	2120	25	65	slide	mon 78	-
15	22	hygrophilous forest	2170	325	95	cut/sl	mon 78-80	technical/ Alnus + var. seeds
16	23	pasture land	2570	250	75	disp	dry 77/78	-
17	24	pasture land	2620	100	90	cut	dry 78/79	fence/ point turfing
18	25	pasture land	2560	125	78	cut	dry 78/79	technical
19	26-27	pasture land	2500	150	90	disp/sl	dry 78/79	-
20	28	pasture land	2500	150	85	disp	dry 78/79	Alnus
21	29	pasture land	2530	150	95	cut	dry 78/79	technical/ Alnus
22	30-31	mesohygrophilous forest	2550	275	73	slide	mon 82	technical/ Alnus
23	32	mesohygrophilous forest	2440	275	90	disp	dry 78/79	Alnus
24	33	mesohygrophilous forest	2350	200	70	slide	mon 82	technical/ Alnus
25	34	shrubland	2100	50	80	cut	mon 78/79	technical/ Alnus + point turfing
26	35	shrubland	2100	125	73	cut/sl	dry 78/79 mon 79	technical/ Alnus
27	36-37	shrubland	1975	175	50	slide	ca. 1970	technical/fence/ Alnus
28	38	shrubland	1950	210	70	slide	mon 83	technical/fence/
29	39	shrubland	1890	250	85	disp	dry 82/83	Alnus
30	40	shrubland	2050	290	95	cut	dry 78/79	point turfing
31	41	shrubland	2020	300	75	disp	dry 78/79	-
32	42	shrubland	1800	175	70	disp	dry 78/79 dry 82/83	Eupatorium + Alnus
33	43	shrubland	1750	200	112	cut	dry 78/79	technical/ var. seeds
34	44	mesohygrophilous forest	1730	200	80	disp	dry 78/79	Alnus + Eupatorium
35	45	mesohygrophilous forest	1730	300	80	disp	dry 78/79	Engelhardtia

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Table 4.1. Plant composition and frequency, group 1, last survey (October 1985)

Tab. 4.1. Zusammensetzung und Frequenz der Pflanzenarten auf den Untersuchungsflächen der Gruppe 1, letzte Aufnahme (Oktober 1985)

○ = Slide section, △ = transition section, □ = anchor section
+ = plant frequency of 1%
1 = plant frequency up to 2.5%, 2 = 5%, 3 = 7.5%, 4 = 10%, 5 = 20%
6 = 30%, 7 = 50%, 8 = 70%, 9 = 100%

PLANT COMMUNITY	TRANSECT NO	1	1	1	2	2	3	4	5	6	4	5	4	7	2	1	7	7	4	4	1	2	5	7	7
	SECTION NO	2	3	4	2	3	1	3	1	1	4	2	2	3	4	5	2	4	1	5	1	1	3	1	5
	SECTION SYMBOL	○	○	○	○	○	○	○	○	○	○	○	○	○	△	△	△	△	□	□	□	□	□	□	□
	NO. SPECIES																								
general slide community rather unstable	357 VANDELLIA SP.	5	2	3	5		1							+						3					
	79 CYPERUS ROTUNDUS		3				1	1																	
	72 CROTALARIA SESSILIFLORA		2		3		+																		
	4 ALNUS NEPALENSIS (cult.)	7	8	7	5	7	7							5											
	93 DIGITARIA SP.				3			1	2	1	+			1											
	84 DESMODIUM CONCINUUM	2	2	7	5					1	3	2							3						
	119 ERIGERON FLORIBUNDUS/MULTICAULIS					3	1			1				+											
	69 CRASSOCEPHALUS CREPIDIOIDES				3	1	1		1		+														
	214 CERATODON PURPUREUS	4	3		1	+	2					1	2												
	273 POGONATUM JUNGHUNNIANUM		2	7		+	1	2	1	4	5														
	191 PHILONOTIS TURNERIANA					5	1		2	5	2												5		
general slide community rather stable	306 JAMESONIELLA SP?	5	5	8		5	5		3	5	6	5			5					2	2				
	313 SCHIZACHYRIUM BREVIFOLIUM	2	7	6	5	5	6	5	7	6	7	2		5	8				1	5					
	240 OSBECKIA NEPALENSIS	4	6		7	5	5	5	5	6	5		5	5	4		5		2		3				3
	225 MURDANNIA NUDIFLORUM		2				1	5	6	6	2		2	1	6				5	2					
	234 OLDENLANDIA CORYMBOSA		2	3			2							1							2			3	
	17 ARTHRAXON LANCIFOLIUS			5				2	5	4	+								3	2	2	2			
	154 GLOCHIDION VELUTINUM				3			2		+									3			3	3		
	46 CAPILLIPEDUM ASSIMILE			3	3		1			+					7				6		6				
	312 SCHIMA WALLICHII			3		+	1			+				9						7	7				
	138 FIMBRISTYLIS DICHOTOMA					+	3	6	6	6	6		2						2		2				
	194 KYLLINGA BREVIFOLIA					+		2	1	1									5						
	359 VERNONIA CINEREA/CONYZA JAPONICA					2	2	4	2	5	1		2	1					1	5	3	5			3
	302 SACCIOLEPIS INDICA						2	1	5	1	1		7	6			5		2						6
	217 MELASTOMA NORMALE					+	4	5	4	+	4			+					3						
	318 SELAGINELLA SP.					+	1	2	1	+		2							5						
	219 MICROMERIA BIFLORA							2	1	2			2			6								1	3
	248 PASPALUM SCROBICULATUM					+	2	2	3				5						2					3	5
older slide community rather wet	101 DRYMARIA DIANDRA					+	7	7	4	1		4													
	18 ARTHRAXON QUARTINIANUS						3	2	3	+											2				
	77 CYPERUS ARISTATUS						1	3	3	3					5										
	40 BULBOSTYLIS CAPILLARIS						2	1	2				2												
	121 ERIOCAULON NEPALENSE						2	2	2	1															
	147 GENTIANA CAPITATA						2		3	2															
	171 HYPERICUM JAPONICUM							2	5	2				5											
	85 DESMODIUM CONFERTUM								2	2	4	6							2						
anchor group, aspect NW shrubs, overexploited forest	132 DRYOPTERIS MARGINATA									+	3	2							1	2	2	2			
	48 CAREX CRUCIATA										1								3	5					
	345 SYZYGIUM CUMINI											5							2		3				
	90 DICRANOPTERIS LINEARIS				5						+	2									7	9			
	22 ARUNDINELLA NEPALENSIS						1	1		1				1					1		5	2			
	324 SHUTERIA INVOLUCRATA						+														2	2			
	99 DIOSCOREA GLABRA					2				2					5				2		2	3			
	242 OSYRIS ARBOREA										+									2	5	6			
	111 ENGELHARDTIA SPICATA				5				1		1	5									6	7			
	367 WOODFORDIA FRUTICOSA						1				2		5									3	3		
	52 CASTANOPSIS INDICA							4		5						7							5		
	349 THELYPTERIS MULTILINEATA									1											2		5		
	352 ORCHIDACEAE SP.										+								2				5		
	146 GENIOSPORUM COLORATUM						+			1	2												3		
	128 EURYA ACUMINATA								1	2		5											3		
	300 PTYCHANTHUS SP.							1		3	4		2						5	4			3		
	281 PTERIDIUM AQUILINUM				3					3				+			7	7	3	5		5	6	5	
	170 HYPERICUM CORDIFOLIUM				3		+		3		5	4	2	5			5	7	5	2	4	6	7	3	
anchor group, dry Pinus roxburghii	279 PRUNELLA VULGARIS				5									3			5	7			4	2		6	6
	258 PINUS ROXBURGHII													6			7	9						6	9
	96 DIGITARIA SP.													5				5						5	3
	181 INULA CAPPA										+			1			5							4	5
	35 BIOPHYTUM SENSITIVUM													5			7	5						8	
	127 EUPHORBIA HIRTA				3									1			5	7	5					5	3
basic species group	188 INDIGOFERA DOSNA			3	+	3	5	5	4	4		4	6			6	9	5						7	8
	3 AGERATUM CONYZOIDES	2			1	4	4	4	+				1		5	7	7		2	2	2	2		7	
	177 IMPERATA CYLINDRICA	5		6	3	5	6	6	6	3			+						1	7	8	8	3	7	
	57 CHEILANTHES FARINOSA	5	5		+	4	1		+	5	6	7	2			5	7		5	4	5	6	6	7	7
	126 EUPATORIUM ADENOPHORUM	5	8	9	7	8	8	9	9	9	9	8	8	7	9	9	8	7	9	8	6	6	7	9	7
	262 POGONATHERUM CRINITUM/PANICEUM	9	9	9	9	9	9	8	7	9	9	9	7	7	8	9	7		9	9	9	9	9	7	
	38 BRACHIARIA VILLOSA	2	3	3	5	5	4	2	4	2	+		2	6		6	8	5	2		4	3		6	7
	156 GONOSTEGIA HIRTA		7	6	5	6	2	6	5	4		5	5	1	5	8			3	5	2	5	6	5	
	385 POGONATUM SEMINUDUM		3	5	3	2	5	6	6	6	7	8	8	5	6					6	3	2	6		
	253 PHYLLANTHUS PARVIFOLIUS		5	5	3		2	5	6	7	8	8	5	1		5			5	7	4	5	8		
	232 NEPHROLEPIS CORDIFOLIA		2		5		1	5	5	6	5	8	5		7				8	8	3	7	8		
	210 LYONIA OVALIFOLIA			7	5	2				2	5	7							5	7		5	7		
	336 SPOROBOLUS PILIFERUS		3	3			1		1					2			5		1					1	7
	233 BORRERIA STRICTA		5	5			1				3					6	7	8		4				7	5
	354 TRIUMFETTA PILOSA		3				+								+		4	7						5	3
	158 HACKEOCHLOA GRANULARIS		5			+	1															2		8	
unspecific or rare species	34 BIDENS PILOSA		2							+														2	
	28 BARLERIA CRISTATA		2												5						3				
	293 RHUS JAVANICA	5		3				2		2										2		5			
	316 SCUTELLARIA DISCOLOR					+			1										2	2					
	94 DIGITARIA ASCENDENS						+		1											2					
	102 DRYOPTERIS CHRYSOCOMA							2		1	+														
	222 MICROSTEGIUM VIMINEUM								2		2								3						
	117 ERAGROSTIS UNIOLOIDES								1	+	+														
	237 OPLISMENUS COMPOSITUS/BURMANII									+									3	2					
	325 SHUTERIA VESTITIA									+				1					1						5
	33 BIDENS BIPINNATA													1			5				2	2		7	
	320 SETARIA PALLIDE-FUSCA													2			5							7	
	188 JUSTITIA PROCUMBENS																	5	2						3
	SECTION GROUPS	slide group													transition				anchor group						
	CHARACTERISTICS OF SECTION SUBGROUPS	younger aspect NW/ techn.stabilization Alnus cult.						older aspect NW/ wet Drymaria Cyp.arist. Eriocaulon						aspect SSW/ dry					shrubl. asp.NW/ over-exploit. Engelh. Schima Osyris Hyp. c. Pterid.						Pinus roxburghii-forest aspect SSW/ dry

Species only found in one or two sections:

Anchor: Castanopsis tribuloides, Quercus glauca, Maoutia puya, Eriocaulon nepalense, Gerbera sp., Indigofera atropurpurea, Labiatae 2, Taxithelium sp?, Chlorophytum nepalense, Dioscorea bulbifera, Smilax sp., Clematis sp., Labiatae 1, Stephania sp., Commelina paludosa, Cyperus globosus, Eragrostis papposa, Oxalis corniculata, Laggera alata, Sonchus asper, Premna sp., Calaminthe umbrosum, Crotalaria humifusa, Desmodium microphyllum, Sida rhombifolia, Eriosema chinensis, Scutellaria repens, Borreria latifolia

Transition: Viola serpens, Cynoglossum sp., Scutellaria repens, Borreria latifolia, Labiatae 2

Slide: Arthromeris sp., Hedyotis scandens, Pavetta tomentosa, Gerbera sp., Polygonum capitatum, Mouttia puya, Crotalaria albida, Taxithelium sp?, Indigofera atropurpurea, Quercus glauca, Dioscorea bulbifera, Eragrostis atrovirens, Rubus ellipticus, Isodon striatus, Sporobolus fertilis, Equisetum diffusum, Anaphalis triplinervis, Osbeckia stellata, Lycopodium clavatum, Litsea polyantha, Digitaria violascens, Cyperus sanguinolentus, Anaphalis contorta, Ficus cunia, Oreocnide fruticosa, Zornia gibbosa, Oxyspora paniculata, Roscoea purpurea, Fraxinus floribundus, Chrysopogon aciculatus, Onychium siliculosum, Eragrostis papposa, Sonchus asper, Calaminthe umbrosum, Desmodium microphyllum, Cynoglossum sp., Sida rhombifolia

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Table 4.2. Plant composition and frequency, group 2, last survey (Oct. 1985) (for legend see Table 4.1)

Tab. 4.2. Zusammensetzung und Frequenz der Pflanzenarten auf den Untersuchungsflächen der Gruppe 2, letzte Aufnahme (Okt. 1985) (Legende siehe Tab. 4.1)

PLANT COMMUNITY	TRANSECT NO	1	1	3	3	4	4	4	3	3	3	3	3	3	3	4	3	3	3	4	4	4	1	1	4	1	3	3	3	4	4	3	3	4	1	1
	SECTION NO	1	1	5	9	4	5	1	9	9	8	7	6	6	6	6	7	9	3	4	5	8	2	0	0	1	2	5	5	2	2	8	1	5	5	4	0	1	0	7	8	5	2	4	5	4	8	1	1	1
		3	4	4	2	3	3	2	3	1	1	2	2	4	1	3	3	1	1	3	3	2	4	2	1	1	3	2	5	3	3	4	2	4	3	5	2	1	1	1	6	1	5	5	5	4	4	1	6
	SECTION SYMBOL	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	△	△	△	△	△	△	△	△	△	△	△	△	□	□	□	□	□	□	□	□	□	□	□
	NO. SPECIES																																															
dispersed slide community with variation of region	225 MUROANNIA NUDIFLORUM												2	1	2		1		+		2													5													
	69 CHASSUCEPHALUM CREPIDIOIDES		1										5	+	+		1	3	2	2	5									5	2									1								
	33 BIDENS BIPINNATA												6	3	1						2	1		+																3		3							
	194 KYLLINGA BREVIFOLIA												+	2			1	5	3	2	1	+		4		1		+	2												4							
	298 RUBUS ELLIPTICUS			2																	+	1	6	+	1		+	+	2										2		6							
	234 OLDENLANDIA CORYMBOSA				+												1	1				2	5			+	1	+	3										2	3								
	144 GALIUM SP.																1		4		2	2				1					5								5	1					6		
	68 CHRYSOPOGON GRYLLUS																7	5	2	2	4	7	5	7	1				2										7								
	301 SACCHARUM SPONTANEUM																5	7	7	2	5	7	3	5	4														7								
	46 CAPILLIPEDUM ASSIMILE																1	5		4	7	2						+											4						2	
	119 ERIGERON FLORIBUNDUS/MULTICAULIS																1		3		+	1		1		+												5								
	80 CYPERUS SANGUINOLENTUS																1	5	2	2		2																									
	42 CALAMAGROSTIS PSEUDOPHRAGMITES																2		5	5	5																										
	34 BIDENS PILOSA				2		2	5													+																										
	79 CYPERUS ROTUNDUS				4																1	1		2																							
	264 POLYGONUM CAPITATUM								3	6											+									7											3							
	68 CONYZA STRICTA				2			+					2								+				+	+												2									
	3 AGERATUM CONYCOIDES							2	5												1				5	+								5		6	3										
	170 HYPERICUM CORDIFOLIUM								3	5															3						6	2			6	8	6								5		
	243 OXALIS CORNICULATA						1	3		+	1										3	1			3	4	+			5			2		2				2								
	77 CYPERUS ARISTATUS																							2	6		+	4		5																	
	54 CENTELLA ASIATICA							3											1			2	2	4			5		7		2	4							3					2		
	115 ERAGROSTIS ATROVIRENS			4		2	1			+	2										+	4	1	3	3		4	5	2		5		2	4											2		
	266 POLYGONUM NEPALENSIS				5	1	2														1	+	1		2		2	4			6	2													5		
	283 PYRACANTHA CRENULATA	4			2												1			+	2		1	1		+	1	+								9		2	3								
	94 DIGITARIA ASCENDENS				3	+	4	2	+					1	+	5											6	3		5 6					7		5			2							
	353 TRIPOGON FILIFORMIS	3							+				3	2	+						2				3											5			5								
general slide community	359 VERNONIA CINEREA/CONYZA JAPONICA				5	3			1						+	+	1	2	+	1	1	+	2	2	2								2					3	2				5				3
	171 HYPERICUM JAPONICUM				4	4			+	4			3		1		2	3	1	4		5	2	1														2	2								
	116 ERAGROSTIS PAPPOSA/NIGRA				+	3			1				2	1		2	+	3	5			2	+	5		5							2					1	5							3	
	74 CYANOTIS VAGA/AXILLARIS				1	1		5	6	5	1		2			4	4	1			4	1	3		5		6							5			5	3	4	4						4	
	350 VANDELLIA HUMMULARIFOLIA		4	2	1		5		2						+	1	3	3	3	3	+	5	1	+		5		5										3	3	1						4	
	138 FIMBRISTYLIS DICHOTOMA				1	1			1				1		6	4	+	+	4	1		1	4	+		+								2				5	2	1							
	313 SCHIZACRYRIUM BREVIFOLIUM			3			4						2		2			5	6	2	3	1		8	1					5	5			5					9	2	3							
	17 ARTHRAXON LANCIFOLIUS			1				7	3	5	5	1	3	2	2		5	8		4	2	+	2	4	+	1	7	5								7		4	3	6							
	181 DRYMARIA DIANDRA				5	1		8	5	2	1	7	3	9	5	4	8	2		5	5	5				6		5	7									7	7							3	
	219 MICROMERIA BIFLORA													1					6	+			4	6	2											7		3	5	5							
transition commun.	240 OSBECKIA NEPALENSIS				3	4	4		5	6	1	5	8	4	7	6	+	5		2		5	+	2	+		3	2		4	5	2		5		3				4							
	248 PASPALUM SCROBICULATUM				2	3	2	5	3	1	3			3		4	2	1		3	+	5	1	5	3	5	6	6	3		5	4					5	7		4							
	6 ALNUS NEPALENSIS (partly cult.)	2	7	4		8	7				7	6	9	7	7	7	9	6	5	2	6	7	+	+		4	7	8		8		6	2						9						3		
	40 BULBOSTYLIS CAPILLARIS			2		5	6		8	+	2	5	4	6	5	6		5	6	3	2	5	4	1	6	2		5	5	6	4	2				6		5	1	5		5					
	9 ANAPHALIS CONTORTA	6	8	2	4		7		+		7	4	5	4	5	1	2	5	7	4	4		5	9	7		9	9		6	4	7	7	7	8	8	5	4						2		
	214 CERASTODON PURPUREUS	5	6			5	1			+	+	1	5	2	5	4	1	+	5	1	5	1	+		2		4		2								2	2					7	3		
	273 POGONATUM JUNGHUHNIANUM	9	7	9	5	3	5	7	7		1	5		5	1	2	2		2	8	8			6	9	8		7	8		5	7	8		7	5	3	6	3	1		2	7	6				2
anchor community	30 BERBERIS ARISTATA/ASIATICA					1	1					1		2		1	+	2	2	5	+	1		1				7	9	4						2		5	5	3		6	8	2		
	241 OSBECKIA STELLATA			4		1		+											1	2	2		1	2				6		4	4		5	3	2		2	4	5				7		4	5	
	318 SELAGINELLA SP.								2				2		2		+	+		3		2	2	+				7	4			7	5		3	8	8	7					7	4	2	3
	312 SCHIMA WALLICHII												1															3							2							5		5	2	5
	128 EURYA ACUMINATA									+														4				7			5				5			7							7	5
	292 RHODODENDRON ARBOREUM							2							+				1												7	2										6	7	7		2
	308 BRACHYTHECIUM VELUTINUM																								+					5														8	8	2	6
	281 PTERIDIUM ADDILINUM									2	4																																	3	4		2	3
	57 CHEILANTHES FARINOSA										2	1				+																2							5							2	3
	90 DICRANOPTERIS LINEARIS															1																			8	8	6			9					8	7
	339 STROBILANTHES ATROPURPUREUS	4																																	8	8	5								7	8
	289 WAHDIA TETRASPERMA																																			5							9	4	5	
	181 INULA CAPPA																									+										2									4	5	
	295 ROSCOEA PURPUREA	3																		1		+	+													4					4		5	7	2	3
	58 CHLOROPHYTUM NEPALENSE																									+															4		5		4	
	48 CAREX CRUCIATA															+		1		3																				5			8	4	7	2
	252 PHYLLANTHUS FLUEGGEIFORMIS																			2																			5	5				6	6		
	24 ATHYRIUM ATKINSONI															+																										8		2		
basic species group	126 EUPATORIUM ADENOPHORUM	4	4	2	8	9	9	9	8	9	8	8	9	7	9	9	7	8	8	9	5	4	7	9		9	9	9	8	9	9	5	5	7	8	6	9	9	4	8		9	8	4	7	
	305 POGONATUM SEMINUDUM	2	5		2	6	7	4	7	3	5	1	2	6	4	4	+	1	1	1	4		5	5	2	2	6		7	3		4	9		7	4	5		2	7			2	6	
	262 POGONATHERUM CRINITUM/PANICEUM	5	8					1	5	4	1	6	6	6	3	3		3	3		5		+	2	+			3	3	8	6		5	5		8	3	6	5	3		9	8	5		9	5	9
	22 ARUNDINELLA NEPALENSIS	7	9	5		6		1		8	7	6	7	6	7	3		6	3	7			7	2	3		6		9	7	5			5	7	5	5	8	9					9	7	4	5	6
	336 SPOROBOLUS PILIFERUS			6	7	9	9	6	6	5	7	8	5		4	1		7	7	5	3	1	8	7	7	6	8	8	7	7		4	5	7	2		9		7	7	6	2	7		5		3	
	38 BRACHIARIA VILLOSA			1	7	6	8	6	7	3	5	4	6		2	+	6	2	5	2	1	5		4	6	7	5	6	6	3	2	6	5	2		5		7	2	5	4	6						
	302 SACCIOLEPIS INDICA			4	3	2	4	2	5		5	5	7	8	6	7	7	6	2	4	5	6	5	2	1		6	5	9	7		2		5		5	2	5	7	5	2		6	5	2		
	177 IMPERATA CYLINDRICA					7	6				+	5	6	6		+	7	5	2	4	2			+	7	3	1		4	2	5		2			9	7	8	1		5			3	6		
	156 GONOSTEGIA HIRTA				2	1		5		3						2	3	1	1	3		1	2	2				5	2	7		8	9	5	7	7	7	7	6			4	8		5	
	189 CAMPYLOPUS SP.	2	7		2	5	8	2	5		1						2					2	8	1					7	4		8	7	5							5			4	6	
	210 LYONIA OVALIFOLIA	4	5			2			+	3	3		2	1			+	1	3									3	5	7	5	6						5	4		9	9		7	5	5
	145 GAULTHERIA FRAGRANTISSIMA	2	6	1				+					1						1	3			4	1		5	5		8				5	7	5			7		7	9	3	9	7	5	
	253 PHYLLANTHUS PARVIFOLIUS	5	3			5		1										7				3	+		+		5	4	2		9	5		7			7	7				5	8	2	
	145 SEMTIANA CAPITATA	5	5						2		2		2						+	1		+	3	+			5							4		5										3	
unspecific or rare species	130 EURYA JAPONICA	2																					+																								2
	244 OXYSPORA PANICULATA		3									3			1																																
	125 EULALIA SP.		3																																							5					
	110 ELSHOLTZIA PILOSA		6																	2							6												1								
	331 SMITHIA CILIATA		4															+	5	2							7												1								
	143 GALINSOGA PARVIFLORA/CILIATA								7									1																					5								
	320 SETARIA PALLIDE-FUSCA					1				+								1							2						2	5															
	166 HETEROPOGON CONTORTUS									1								+																							2						
	70 CROTALARIA ALBIDA											4				+																						3									
	159 ANTHOCEROS SP.					3							1	1		1		2													6															
	335 SPOROBOLUS PILIFERUS									+								2																					3								
	4 AGROSTIS PILOSULA												1			+			1																												
	163 HEMARTHRIA COMPRESSA										2							1			3																		3								
	87 DESMODIUM MICROPHYLLUM											5						1	2						1														3	1							
	71 CROTALARIA HUMIFUSA					1						2								3	1		1													2											
	269 POLYGONUM SPHAEROCEPHALUM											5															5												3	4							
	137 FICUS HEMORALIS																	1	1				+																3					2	2	
	16 ARTEMISIA SP.																	1	+			1		1																							
	18 ARTHRAXON QUARTINIANUS																		2																				2	5							
	114 ERAGROSTIELLA BIFARIA																		8								5														2						
	180 INDIGOFERA DOSWA																		5			+																			2		8				
	10 ANAPHALIS MARGARITACEA				2														+	2											2																
	49 CAREX DALTONII/LONGIPES																		2	1		+	2													2											2	2
	284 PYRUS PASHIA																		2		1			2			8									5											
	342 SWERTIA SP.																			1	5																										2
	173 HYPERICUM URALUM																			1		+					6													8							
	267 POLYGONUM UNCINATUM				2															1	3																		2	4			2				
	26 ATHYRIUM SP.								3											1																			4			2				
	184 ISODON STRIATUS																					+							2						2												
	54 LABIATAE 1					1	1																																			5	6				
	229 MYRSINE CAPITELLATA																													5	5											6	8				
	SECTION GROUPS											slide group															transition group											anchor group								
	CHARACTERISTICS OF SECTION SUBGROUPS	unspecific poor in species unstable or poor ground,rather dry										typical more stable or better soil rather wet Polygonum,Eragrostis,Vandellia Drymaria,Arthraxon															Osbeckia nepalensis Anaphalis contorta Paspalum scrob.											pasture-shrubland-poor forest Berberis Osbeckia st Eupatorium									shrubl.-forest Schima Eurya							
												variation of region: Saccharum Chrysopogon Calamagrost.																																				

Species only found in one or two sections:

Anchor: Pinus patula (Sp.no 257), Eurya cerasifolia (Sp.no 129), Eriobotrya dubia, Lepisorus bicolor, Gerbera maxima, Vitis lanata, Viburnum corneaceum, Quercus lanata, Desmodium confertum, Viburnum stellatum, Castanopsis tribuloides, Sphenomeris chinensis, Leucostegia immersa, Smilax menospermoidea, Orchidaceae sp., Begonia sp., Rhus succedanea, Strobilanthes sp., Leucas mollissima, Rhododbryum giganteum, Melothria heterophylla, Neillia thyrsiflora, Crypsinus ebenipes, Flacourticaceae sp., Shuteria involucrata, Pavetta tomentosa, Polystichum squarrosum, Microstegium nudum, Carex atrata, Arisaema costatum, Symplocos crataegoides

Transition: Polygala triphylla, Eulalia sp., Melastoma normale, Hedyotis scandens, Pavetta tomentosa, Erianthus rufipilus, Shuteria vestitia, Zingiberaceae sp., Prunella vulgaris

Slide: Polygala triphylla, Leucas mollissima, Elsholtzia blanda, Eulalia sp., Melothria heterophylla, Shuteria involucrata, Taraxacum sp., Shuteria ferruginea, Pinus roxburghii, Glochidion velutinum, Chrysopogon aciculatus, Plantago major, Myriactis nepalensis, Dryopteris chrysocoma, Scutellaria discolor, Fraxinus floribundus, Marchantia sp., Cyrtococcum sp., Hydrocotyle nepalensis, Digitaria sp., Buddleja asiatica, Lycopodium clavatum, Viola serpens, Lipocarpha chinensis, Laggera alata, Eragrostis unioloides, Agave americana, Pennisetum clandestinum, Zornia gibbosa, Maesa macrophylla, Erianthus rufipilus, Prunus cerasoides, Cynodon dactylon, Desmodium heterocarpon, Impatiens racemosa, Cassia mimosoides, Borreria stricta, Equisetum diffusum, Oplismenus compositus, Juncus prismatocarpus, Crotalaria sessiliflora, Biophytum sensitivum, Prunella vulgaris, Tetrastigma serrulatum, Eriocaulon nepalense

Veröff.Geobot.Inst.ETH,Stiftung Rübel,Zürich, 93 (1987)
R. SCHAFFNER: Vegetation of stabilizing and eroding slopes in eastern Nepal.

Table 4.3. Plant composition and frequency, group 3, last survey (Oct. 1985) (for legend see Table 4.1)

Tab. 4.3. Zusammensetzung und Frequenz der Pflanzenarten auf den Untersuchungsflächen der Gruppe 3, letzte Aufnahme (Okt. 1985) (Legende siehe Tab. 4.1)

| PLANT COMMUNITY | TRANSECT NO | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1

Veröff.Geobot.Inst.ETH,Stiftung Rübel,Zürich, **93** (1987)

Table 4.4. Plant composition and frequency, group 4, last survey, (Oct. 1985) (for legend see Table 4.1)

Tab. 4.4. Zusammensetzung und Frequenz der Pflanzenarten auf den Untersuchungsflächen der Gruppe 4, letzte Aufnahme (Okt. 1985) (Legende siehe Tab. 4.1)

| PLANT COMMUNITY | NO. | SPECIES | | |

Veröff.Geobot.Inst.ETH,Stiftung Rübel,Zürich, 93 (1987)
P. SCHAMPHER: Vegetation of stabilising and eroding slopes in eastern Nepal.

Table 4.5. Stable areas: Plant composition and abundance
Tab. 4.5. Intakte Gebiete: Zusammensetzung und Häufigkeit der Pflanzenarten

+ = scarcely or only 1% of the area
1 = covering less than 5% of the area
2 = covering 5 to 25% of the area
3 = covering 25 to 50% of the area
4 = covering 50 to 75% of the area
5 = covering 75 to 100% of the area

D = Daphniphyllum-forest
G = Imperata-grassland
P = Pinus roxburghii-forest
Q = Quercus semecarpifolia-forest
S = Eupatorium-shrubland
SCH = Schima wallichii-forest with Ilex aquifolium

STABLE AREA NO		1	2	3	4	5	6	7	8	9	10	11	12	13
TYPE OF VEGETATION		G	S	P	SCH	D	D	D						
TREE LAYER INCL. REGENERATION IN SHRUB LAYER (5) AND HERB LAYER (H)														
DAPHNIPHYLLUM HIMALAYENSE											2	2	4	4
DAPHNIPHYLLUM HIMALAYENSE	S											2	2	
DAPHNIPHYLLUM HIMALAYENSE	H											2	2	2
SYMPLOCOS CHAYSANDRIAE											3	3	3	3
SYMPLOCOS CHAYSANDRIAE	S								+		3	3	3	3
SYMPLOCOS CHAYSANDRIAE + 1	H			+				+	+		2	2	2	2
ALNUS NEPALENSIS											2	2	+	
RHUS SUCCEDANEA											+	+	+	
EURYA JAPONICA	S										+	1		
EURYA JAPONICA	H										1	1	1	+
CRYPTOMB EBRAYNES												+	1	
SYMLAGROVE												1	1	
VIBURNUM STELLATUM											1	1	+	1
MEDIOMA NEPALENSIS											+		+	
MEDIOMA NEPALENSIS	S											1	1	
MEDIOMA NEPALENSIS	H									+		2	2	
EURYA CERASIFOLIA	S											+	1	
EURYA CERASIFOLIA	H												2	
EURYA CERASIFOLIA												+	2	
LEUCOSCEPTRUM CANUM												+	1	
LEUCOSCEPTRUM CANUM	S											+	1	
LEUCOSCEPTRUM CANUM	H											+	1	
MYRSINE SEMICRENATA	H											+	1	
MEMORIANIA LANCEOLA												1	+	
DRILLA MENSPERMOIDES													+	1
ANNAMITESIA SP.													+	1
LEPISORUS BICOLOR											1	1	1	
ACEROS SENECAPORTULIS														1
RHODODENDRON ARBOREUM								2	3	2				2
RHODODENDRON ARBOREUM	S									2				2
RHODODENDRON ARBOREUM	H		+							1		1	+	
LYONIA BALFOURIA								+	1	3	3	2	2	1
LYONIA BALFOURIA	S								1	1	2	1	2	
LYONIA BALFOURIA	H	+	1					2	+	1			+	
BERBERIS ARISTATA/VEHATIUM										1	1			
PYRUS PASHIA	S		+	2										
PYRUS PASHIA	H		+							+				
MYRSINE CAPITELLATA	S			2				2	2					
MYRSINE CAPITELLATA	H			1	1				+	2				
EURYA ACUMINATA	H			+				2	1	2				
ENGELHARTIA SPICATA					3					3				
ENGELHARTIA SPICATA	H							+		1				
CASTANOPSIS TRIBULOIDES	S									3				
CASTANOPSIS TRIBULOIDES	H							+	+	+				
BUXUS SAHEDA	S								+	3				
BUXUS SAHEDA	H								+	+				
RHUS JAVANICA	S								+	1				
RHUS JAVANICA	H								+	3				
RHUS JAVANICA	H								1	1				
ERIOBOTRYA DUBIA	S								+	1				
ERIOBOTRYA DUBIA	H								+	1				
PRUNUS CERASOIDES									+	1				
MAHONIA TERNATA	S								+	1				
MAHONIA TERNATA	H								+	+				
SCHIMA WALLICHII					+	1	+		1	2				
SCHIMA WALLICHII	S	2		+ +		1	2	2						
SCHIMA WALLICHII	H					+	1	2	+	1				
PRUNUS SP.	H				+	+								
PINUS ROXBURGHII						3	2							
PINUS ROXBURGHII	S					+	1							
PINUS ROXBURGHII	H					+	1							
SHRUB LAYER INCL. REGENERATION IN HERB LAYER (H)														
VIBURNUM ERUBESCENS											2	2	1	2
VIBURNUM ERUBESCENS	H										1	1	1	
DAPHNE BHOLUA											1	2	1	1
DAPHNE BHOLUA	H								+		1	1	1	1
HYPERICUM UMBLUM									+		+	1	+	2
HYPERICUM UMBLUM	H										1	1	1	1
THESPESIA SPP											+	+	+	+
THESPESIA SPP	H										+	+		
RUBUS PANICULATUS	S										+			
RUBUS PANICULATUS	H										+	+	1	
VIBURNUM STELLATUM											1	1	1	
VIBURNUM STELLATUM	H									+		1	+	
ARGEMONE MEXICANA									+	1	1	1	1	
BRUCKEICA PRUNIFORMIS	H				+				+	2	2	2	1	
POLYGONUM MOLLE											+	1	1	
POLYGONUM MOLLE	H										1	1	1	
SENECIO TRILINEATO											+	2	1	
SENECIO TRILINEATO	H											2	1	
ELMOLITIA PRATICOLA											1		+	
PYRUS WALLICHIANA													+	
PYRUS WALLICHIANA	H												+	1
HIDEOTHAMNUS CAMERONS	H										1	+		
ZEYPOUNE EBENYES											+	+		
LEPISORUS BICOLOR											1		+	
INCOSPIRON CYLINDRICA	H											1		+
VIBURNUM COTINIFOLIUM									+					
LAGUNTAE 1									1	1				
BIONANOPTERIS LINEARIS									+	1				
DEPRESSIA CONFERTIFOR	H								+	2	1			
DEPRESSIA CONFERTIFOR	H							+						
COLONOMIRA CRECENSA	H							+		1				
ELOCOCCUS VELUTINUM	H							+	+	1				
MELASTOMA NORMALE					+			+		1				
MELASTOMA NORMALE	H							+	+	1				
DRILAN ASPERA					+					1				
DRILAN ASPERA	H				+					1				
SMILAX ASPERA	H		+		+			1	+	1				
HYPERICUM DEBNA	H	+	+		1	+		+						
HYPERICUM CORDIFOLIUM		1	+		+			+						
HYPERICUM CORDIFOLIUM	H	1	1		+			2	1					
PHYLLANTHUS PARVIFOLIUS		+	2	2				2	1	2				
PHYLLANTHUS PARVIFOLIUS	H	1	1	1	1			1	2	2				
OSMORIA STELLATA			+	1				+	1					
OSMORIA STELLATA	H	1	1	1	1			2	1					
RUBUS ELLIPTICUS														
RANDIA TETRAGYNA	H	+		+		2		+					+	2
PHYLLANTHUS FLUEGGEIFORMIS	H	1	+										1	+
BERBERIS ARISTATA/VEHATIUM	H	1	1	2		+	1	1	1	1	1	1	1	
GAULTHERIA FRAGRANTISSIMA	H		2					1	1	1	+	+	+	+
PYRACANTHA CRENULATA		+		+										
RUBUS ELLIPTICUS			+	+										
HERB LAYER INCL. MOSS LAYER (M)														
RUBIA CHANRAFILIA									+	+	1	1	+	
VALERIANA HARDWICKII										+	+	1	1	1
ACONITUM ATRINORE											1		1	2
DRILAN HEMISPERMOIDA										1	+	1	1	+
STEREOLANTHUS SP.										2	2	2	2	2
HEDYCHRADIA HETEROPHYLLUM											1	1	+	1
ARISAEMA SP.												+	1	1
ARISAEMA CONTORTUM								+			1	1	1	
ELLISOPHYLLUM PINNATUM										+	1	2	2	
CAMPANULA COSTATUCA										+	1	2	3	
ANAPHALIS MARGARITACEA										+	+		+	
EUPATORIE EIDIANTUS										+	+	1	1	
AGAPETES SERPENS										+		1		
AGAPETES SERPENS										+	+	2		
MAHONIELLA VIRTILLIN										+	+			
INPATIENS DIGOLOR											1	1	1	
PANGAMIA SP.											1		+	
ATHYRIUM SP.					+					1	2	2	2	
PIERIS WALLICHIANA												+	1	
CHORTA ORTICIFOLIA												1	2	
RUBUS ELLIPTICUS											+	+	1	
ACTINIDIA SP.											+	+	1	
CLYTOCIBA SP.	M											+		
ARTHROCDOE SP.	M									+			+	
THUIDIUM SP.	M									2		1	1	
POLYTRICUM SUBAPROSUM									+			1	1	+
LEPISORUS BICOLOR												+	+	
MONOSIRIS LANCEOLATA								+						+
ACTINOSTEMMA METALDIOIS/PENNATUM								+			+	+	+	
HELOSTEMMA MERRYMILLA								+				+	+	
PSEUDOLAN HAELLEMER		+						2		1	+	2	+	
SARES SACTRATILIBOUYES		+		+								+	1	
ARTABOTRA OBORNIENS					+	+		1	1	1				
ARTABOTRA SAKATIVANUS				1				1		1	+	1	2	
TAXITHELIUM SPP (HYMENOCARP)	H	+		1						2	+	1	1	
BUCEOSPIRON ELEMATIEUM	H	+		+				+	1	1	+	1	1	
CYCLOSPORUM ATRALIANUS		+		+				+	1	1	+	+	+	+
LITER LANDER								+	1					
HEPHOLOPIS CANDIFOLIA				2						2				
JAMESONIELLA SP.	H									2				
MARSANNIA NEBIFLORUM				1	+	+								
VILLINGA BRACHYFOLIA			+	+	2	1		1					+	
DEMOSOLIM METEOSCAMPON		+		+	2	+	1	1						
PANGAMIA ELLIN ESTRATIA		1	+	2	+	+								
PANGAMIA ELLIN ESTRATIUM		1	+	2	+	+								
BRACHIANIA VILLOSA		1	+	1	+	+	+							
SIDA RHOMBIFOLIA		+		+	+	+	+							
DETAPTA MALLIE-FUSCA		1	+		1									
EUPHORBIA HIRTA		1	1	1	1	2								
DEPRESSIA DIANDRA		2	+											
SARES SACCATA			+				+	+	1	2	2	2	2	2
ANAPHALIS TRIPLINERVIS			+						+	+	+		1	
ACTINIDIA SP.			+				+						1	
VIOLA SERPENS			+								1	1	1	1
ARTABOTRA LANCEOLATUS		2	2	1	1	2	+	1	1					2
ANAPHALIS CONTORTA		+	2	+	+	+		2	+					2
EUPATORIUM ADENOPHORUM		+	1	3	2	4	3	2	2	3		1	2	2
INPATIENS CYLINDRICA		3	3	1	1	2	3	+	2	+	1			
BULBOTILIS CAPILLARIS		1	1		+				+					
ARGEMONELLA MENALDOIS		2	2	+	2		1	1	1					
PSEUDOLEPTOPUS DIOSCLEPS/MRECCEM		1	2	2	+	1	3	2	1	2				
ARISAEMA SP.		1	1	+	+	1	1	1	1	1				
UMBELLIN MAMMELAKTIFLIA		1	1	+	+	1	+		1					
CHARDOCEPHALUS CRIPTIDIOIDES		+	1						+					
CHELIANTHES PARVIDA		1		+	1	2	2	+	2					
EONOSTEEIA HEXTA		+	1	1	2		2	1	1					
CHARDOSTIS PATRIA-VIGIN		1					1		+					
CONTAURIN NEPALENSIS		2	+			+	+	+						
CONTAURIN NEPALENSIS/FLIER		3	2	+		3	2							
CHARDOSTIS ATRATIVIRA		+	1	1		1	+							
VERONICA CHAMAEDRYS JAPONICA		+	1	+	+	+	1	+						
AGERATUM CONYZOIDES		1	+				+							
CRITALARIA MERTONIA		+	1		1	+	+							
BORREIA STRICTA		2		+		1								
SPIRORELLIN PILIFERUS		2	1	1	+		2							
FIMBRISTYLIS DICHOTOMUM		2	1	+	+		2							
FIMBRISTYLIS DICHOTOMA		+	1	+	+	2	1							
EMILIA CORNIGLANTA		1	1	+	+	1	1							
HYPERICUM JAPONICUM		1	2			+								
SPATHIA CILIANTA		1	1		+	2								
EUCERON FLORIBUNDUS/MULTIGALIS		+			+	+								
ZOTILLIA PRUCEMBUM						2								
ARTABOTRA ATRATIVIRA		1	1	+	+	+								
CYANOTIS VAGANTILLARIS		1	1		+	1								
TARAXACUM SP.		+	+		+									
MEDIOMERIA DIFLORA		1	1	+	+									
POLYGONUM NEPALENSIS		+	+	1										+
TIDEON STRIATUS		+		+	1		1	1	1	1	1	1	1	
ROSCOEA PURPUREA		+	1		+				+	1		+	1	+
BRACHYNE LANCEOLATA		2	1	+			1	1	2	1	2	2	2	
BRACHYNE LANCEOLATA			+	+	+				1	1	2	1	2	2
PTYCHOMPANE STRIATUS	M		1		1				2	2	2	2	2	2
PODONITIM JUNGERMANNIANUM	M		+		1		2	2	+	2	1		1	2
PODONITIM DENDRIDEON	M		+	+	1	2		2	1	1	+		1	
DRIMANITIUM LATIFOLIUM	M		+				2	1	2	2	1		1	1
MYRACTIS NEPALENSIS				+						+		+		1
DRYOCERAS MACDONALDIANA														2
GLAMITIUM FLUSA							+							1
SCAPIS SP.		+												
BALDERNIA PARVIFOLIATELLATA				+									+	
SPLIMENUS COMPOSITUS/RUPRANCI							1				1			
LEUCOTERIA TMMERIN					+							+		
SHUTERIA INDOLENCEA							+					+		
PHYLLANTHUS DETOCULATUS												3	+	
MARCHANTIA SP.	M	1					1		1					
DRILAN LANCEOLATA			+		+		+							
DRILAN LANCEOLATA					+									
DISCOGRAN BLANNA					+									
CAPILLIPEDUM ASSIMILE							1	+						
CLEMATIS SP.							+	+						
TRIANETTA FLUSA							+	+						
MERRITTIS SCANDENS									2					
CAMPANULA VERTITIA				+				+						
GERALIN SP.								1						
ZONNIA BIBRON								1						
CAMPYLOPUS SP.	M						2							
ATHYRIUM SP.							2							
STEREOLANTHES ATROPURPUREUS							2							
THELYPTERIS SP.							2							
ARISAEMA CONTORTISM						2								
BYRRIS HUBRA								+						
POLYGRAM CAPITATUM					+			+						
ELEPHANTOPUS SCABER								+ +						
LABRERA ALATA						+								
SCUTELLARIA DISCOLOR						+								
TRIPSON FILIFORMES				+		+								
CONYZILLA ARIATICA		1		3										
BLOOMLANDIA CRIPPEDEN				+	1									
PHANOPETIS SAGITTIFER			2	+										
FLEOCHEIRA STRUBILIFERA		1	+											

Species found with abundance of + or 1 in only one area:

Tree layer:

Area 4 : Mendlandia coriacea, Rhus wallichii, Perus pashia, Phyllanthus emblica, Osyris arborea, Smilax aspera, Quercus glauca, Hedrotis scandens
Area 5 : Labiatae 1
Area 12a: Viburnum coriaceum, Rubus paniculatus
Area 12b: Vitis lanata, Rubia chanrafolia, Polygonum molle, Melothria heterophylla, Clematis sp.
Area 12c: Tetrastigma serrulatum, Selaginella sp., Prunus nepalensis, Ilex diyprena
Area 12d: Thespesia spf, Shuteria ferreginea

Shrub layer:

Area 1 : Pinus roxburghii, Celastraceae?
Area 4 : Prunus cerasoides, Ficus nemoralis, Quercus glauca, Fraxinus floribundus, Osyris arborea, Euphorbiaceae?, Hypericum cordifolium, Hedrotis scandens, Smilax lanciflolius, Capillipedum assimile
Area 5 : Rhus wallichii, Quercus lanata, Engelhardtia spicata
Area 6 : Flacourtiaceae sp., Clematis sp., Arundinella nepalensis
Area 7 : Osbeckia nepalensis
Area 8 : Fraxinus floribundus
Area 12a: Wickstromia canescens, Herminium lanceum
Area 12b: Carpogeja longifolia, Selaginella sp., Codonopsis viridis
Area 12c: Ilex diyprena, Shuteria ferreginea, Aspartes serpens, Smilax menispermoidea, Melothria heterophylla, Achyranthes bidentata
Area 12d: Pyrillanthus flanggeiformis, Tetrastigma serrulatum
Area 13 : Arundinaria aristata, Litsea sp.

Herb layer:

Area 1 : Berreria latifolia, Indigofera atropurpurea, Gerbera sp., Eriosema chinensis, Crotalaria sessiliflora, Burleria cristata, Triumfetta rhomboidea, Woodfordia fruticosa, Wrightia antidysenterica
Area 2 : Eulalia sp., Chrysopogon aciculatus
Area 3 : Digitaria ascendens, Bidens biponata
Area 4 : Schefflera venulosa, Cryptinus ebenigee, Clematis sp., Arthromeris himalayensis, Dryria arborea, Scrophulariaceae?, Euphorbiaceae?, Herb sp., Labiatae 2, Orchidaceae sp., Vitis parviflora
Area 5 : Desmodium concinnum
Area 6 : Flacourtiaceae sp., Dioscorea bulbifera, Carpogeja longifolia, small shrub, Polygala persicariaefolia
Area 7 : Polygonum sphaerocephalum, Digitaria cruciata
Area 8 : Prunus cerasoides, Ficus nemoralis
Area 9 : Spiranthes sinensis, Maxus japonicus, Bothriochloa intermedia, Cynodon dactylon
Area 10 : Sporobolus piliferus, Lycopodinsae sp.
Area 11 : Conyza stricta
Area 12a: Fimpinella diversifolia, Thelypteris multilineata, Lycopodium clavatum
Area 12b: Smyloces sp., Dichromacrpus sp., Pratia nummularia, Polypodium argutum
Area 12c: Achyranthes bidentata, Boeninghausenia albiflora, Dichroa febrifuga, Elastochema obtusum, Microstegium vimineum, Polygonum uncinatum, Parochetus communis, Campylandra aurantica, Zanthoxylum sp., Gleichenia gigantea
Area 12d: Ilex diyprena, Elaholtia fruticosa, Codonopsis viridis, Dryopteris lepidopoda, Tetrastigma serrulatum, Scrophularia urticaefolia
Area 13 : Potentilla fulgens, Labiatae?, Janeus elegans, Dryopteris chrysocoma, Desmodium elegans, Campanula colorotum, Agrostis piliosula, Carex atrata, Arundinaria aristata

Moss layer:

Area 4 : Leucobryum sp., other moss spp.

Veröff.Geobot.Inst.ETH,Stiftung Rübel,Zürich, **93** (1987)

Table 4.6. Change of plant frequency during the postmonsoon records (1983, 1984, 1985), group 1
Tab. 4.6. Entwicklung der Frequenzen der Pflanzenarten nach dem Monsun (1983, 1984, 1985) auf den Untersuchungsflächen der Gruppe 1

Season: 1 = 1983, 4 = 1984, 7 = 1985; section symbols as Table 4.1; for relevé group compare Fig. 4.34

	RELEVÉ GROUP NO	1	1	1	1	2	2	2	3	3	3	3	4	4	4	4	4	4	4	4	4	4	4	5	5	5	5	5	6	6	6	6	6	6	7	7	7	7	7	7	7	7	7	7	7	7	8	8	8	9	9	1	1	1	1	1	1	1	1	1
	TRANSECT NO	7	7	7	7	7	7	7	7	7	7	7	1	1	1	2	2	2	3	2	2	1	1	3	1	3	1	2	1	1	1	1	1	1	4	4	5	5	5	4	4	4	6	6	4	6	2	2	2	2	1	4	4	4	5	5	5	5	4	4
	SECTION NO	4	4	4	5	3	3	3	2	1	2	2	2	2	2	2	2	2	1	3	3	3	4	1	3	1	3	3	4	4	5	5	5	5	3	3	1	1	1	3	4	4	1	1	4	1	4	4	4	1	1	2	2	2	2	2	2	3	5	1
	SEASON	7	4	1	7	4	1	7	7	7	4	1	4	1	7	7	1	4	7	7	4	7	7	4	4	1	1	1	4	1	4	1	7	7	7	4	4	7	1	1	4	1	7	4	7	1	7	4	1	7	7	7	4	1	4	1	7	7	7	7
	SECTION: SYMBOL	△	△	△	□	○	○	○	△	□	△	△	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	△	△	△	△	○	○	○	○	○	○	○	○	○	○	○	○	○	△	△	△	□	□	○	○	○	○	○	○	□	□	□
NO	SPECIES																																																													
253	PHYLLANTHUS PARVIFOLIUS						1									3	5		2			5	5	1	2	4	2	2	5		5	4	5	5	5	5	5	6	5	4	7	6	7	7	8	7				5	4	5	5	5	7	8	8	8	7	5
232	NEPHROLEPIS CORDIFOLIA															5	5	6	1		1	2		+				+								5	5	5	2		5	5	6	6	5	5	7	5	4	7	3	5	4	5	8	7	8	8	8	8
210	LYONIA OVALIFOLIA															5	3	3		2			7					+	5								5		5	1	5	3	2	2	5	1				5					7	7	7	7	7	5
305	POGONATUM SEMINUDUM					3	5	5			4		2			3	7	5	5	2	1	3	5	4		1	2	2								6	5	7	6	5	7	5	7	6	2	7	1	6		2	3	8	7	9	6	4	8	6	6	
138	FIMBRISTYLIS DICHOTOMA					1	2	2			4	4					5	3	3	+	2			2		5		4			6	4				6	6	7	6	5	6	5	4	6	7	6	6		2			2		2					2
177	IMPERATA CYLINDRICA						+	+		7			2			6	5	3	5	3	1	5		5	5	5	5				4					6	4	4	6	4	4	3	3	6	5	3	5			8	8			2	2		3	7	1
313	SCHIZACHYRIUM BREVIFOLIUM					2	1	5						2	2	5	5	3	6	5	5	7	6	7	7	7	7	4	3	5	5	4	8			5	6	6	7	5	6	7	7	6	6	7	6						6	5			2		5	1
156	GONOSTEGIA HIRTA					+	+	1		5				2		6	3	5	6	2	2	7	6	6	6	5	6	1	5	5	7	7	8			5	5	5	4	4	5	6	5	5	5	5	2	5		2	3	5	4	4	2	4		6	5	5
6	ALNUS NEPALENSIS					5	2	5					5	5	7	5	5	5	7	7	7	8	7	7	8	7	5	7	8	6																															
273	POGONAT JUNGHUHNIANUM					1	1						7	5			3	3	1	+	5	2	7	2	6	2	5	5	9	9						2		3	1	2	4	5	3	4	5	5	5		4												
214	CERATODON PURPUREUS					1							5	6	4				5	+	1	5	3	6	5	5	2	5	9	3	7	7				2	4	2		1		7	7		7	1	5		4	5					7	7	2					
258	PINUS ROXBURGHII	9	9	7	9	4	1	6		6																					5	5	7																													
180	INDIGOFERA DOSNA	9	7	8	8	2	4	6	6	7	4	4				3		3	3	+	3			2												5	5	4	5					6	5	4															5
57	CHEILANTHES FARINOSA	7	5	7	7	1		2	5	7	4							4	+		5	5		5			3		3		5	5				1					5	2	+	1	5	1				6	5	7	6	4	5	5	6	6	4	5
302	SACCIOLEPIS INDICA	5		5	6	6	4	6										2		1																1	2	3	5		1	2		1	+	1	+						7	2	5						2
127	EUPHORBIA HIRTA	6		5	3	2	2	1	7	5	6	8				3								+		+					4	6	5					1														2							
354	TRIUMFETTA PILOSA	7	7	5	3		+	+	4	5								+			3				2		3																																	
279	PRUNELLA VULGARIS			7	5	4	5	3	7	6		9				5																	5																	2	4								
281	PTERIDIUM AQUILINUM	7	7				1	+	7	5	4	6				3	5	3																								1	3	1		2				5							6	5	3
35	BIOPHYTUM SENSITIVUM	5	5			5	1	5	7	8																																																	
233	BORRERIA STRICTA	8			5	6	5	7	7	7		4					5		1			5	5							5		6										4			3													4	
158	HACKEOCHLOA GRANULARIS				8	1		2											5	1	+	+	5	1		+																										2									
111	ENGELHARDTIA SPICATA															5	6	5																				1				2	+		2	1	1				7	6				5				
90	DICRANOPTERIS LINEARIS															5	5	6			+																					+				+			4		9	7				2				
225	MURDANNIA NUDIFLORUM					+	1	1			4		2				3	3	1		+	2		+		5	5	2				4	6		5	3	5	6	5	1	1	1	6	5	2	3						2		2				2	5
359	VERNONIA CINEREA/CONYZA JAPONICA				3			1										2	2	2				1	2		2			4						4	1	1	2			+	+	5	5	1				5	3	2						5	1
217	MELASTOMA NORMALE							+										3	+		+															4	5	5	5	2	3	1	2	4	2	+	2		4					2		4			3
300	PTYCHANTHUS SP.																				3			+												1	1	4				1	+	3	6	4	2						2		2		3	4	5
77	CYPERUS ARISTATUS												2											+		1		+		3		6	5	1	5		3	3	5	+	+	3	3	3	3							2						
52	CASTANOPSIS INDICA																																7	4	2				3		1	5	5		3											5		
318	SELAGINELLA SP.																		+					1		+		1						1		3	2					1	1	+							2							5
194	KYLLINGA BREVIFOLIA					+														+														2	2	1	1		1			1	1		1													5
334	TAXITHELIUM SP.																																	1	1					+			1										2					3
286	QUERCUS GLAUCA																																			2	2			+	+																		3
238	OREOCNIDE FRUTICOSA																													3						1	2	3			1																	
237	OPLISMENUS COMPOSITUS/BURMANII																																					5	5	2	3	+				+					2								3
17	ARTHRAXON LANCIFOLIUS					+							5								+		5											2	5	5	5	5				4	3	+						2	2						2	3
298	RUBUS ELLIPTICUS																																			1	5	5			+	2	1		1		4											
264	POLYGONUM CAPITATUM																																	2	1				1	4	2			3														
147	GENTIANA CAPITATA																																	2	2				1	2	3	3	2	2														
121	ERIOCAULON NEPALENSE																																	2	2		2		1			2	1	1														
40	BULBOSTYLIS CAPILLARIS(=DENSA)						+																											2	2		1					2	1							2		2						
102	DRYOPTERIS CHRYSOCOMA																																	2	5				4	+	+	1	1	+														
97	DIGITARIA VIOLASCENS																									1													2			1	1		+													
128	EURYA ACUMINATA																																				3	1			+		2	2		1												
132	DRYOPTERIS MARGINATA																																								1		+	+	3					2	2			4		2		2	1
19	ARTHROMERIS SP.																																								1	+			1									5		5			
248	PASPALUM SCROBICULATUM				5	5	4	5		3	5	4							+			+		+		2		+						2	2	1	2	3	1		+	3	3		1													2
96	DIGITARIA SP.	5			3		1	5		5		4																																																
34	BIDENS PILOSA		5							2		4										2																						+	1								2							
358	VANDELLIA NUMMULARIFOLIA				3	+	5		4										+				3														1		1			+		+		+				2									2
219	MICROMERIA BIFLORA				3	2	1	2	6	1	6	4																										2			1		1	1	2													
76	CYNOGLOSSUM SP.							+	4		4																																	+															
181	INULA CAPPA				5	+	+	1	5	4																																	+																
106	ELEPHANTOPUS SCABER							+	4	2									2	+							2																			1													
171	HYPERICUM JAPONICUM					3	2	5				4																									2	2	3				5	4	2	2												
320	SETARIA PALLIDE-FUSCA					2	2	2	5	7	4													+												2	1		1		+	+		+															
33	BIDENS BIPINNATA							1	5	7														+							4																					2	2							
317	SCUTELLARIA REPENS						+		4	6	4																																																	
326	SIDA RHOMBIFOLIA					+		1		5																																																		
325	SHUTERIA VESTITIA						+	1		5																																	+																		1
333	SONCHUS ASPER						1	+		1																																																		
119	ERIGERON FLORIBUNDUS/MULTICAULIS					1	+	+					2						1	3	3			+		1		2				4							1		+	1	1		1															
69	CRASSOCEPHALUS CREPIDIOIDES						+										3		1	1	+			+	2		3	4				4						1						+																
234	OLDENLANDIA CORYMBOSA					1		1		3								5	2			2	3	1	2			2	5	3	4	4													+							2								
70	CROTOLARIA ALBICA					1	1									2					+	2																																						
117	ERAGROSTIS UNILOIDES					+																		+							4						1	1		1			+	1	+	1														
293	RHUS JAVANICA												4	2	5								3						5	3				2	2								2	2		2											5	2		
191	PHILONOTIS TURNERIANA																		1	5																																				5			
306	JAMESONIELLA SP.															5			5	5		5	8										5			1	3			+		5		6						2			4		5		2	
84	DESMODIUM CONCINNUM															2	5					2	7		2		2													2		1		3									2	2	2			3
154	GLOCHIDION VELUTINUM																3														7	7		2					2			+			+		3					2	2		3		3
46	CAPILLIPEDUM ASSIMILE																3		1				3	+		+			3	3	7	6	7			2						+						6											6
79	CYPERUS ROTUNDUS																	3	1		+	3		+		+		+						1																										
72	CROTOLARIA SESSILIFLORA					1											3		+		2	2			2			+												1																				
150	GERBERA SP.																					4			2		2																													2			
316	SCUTELLARIA DISCOLOR					1	1													+				+	2											1		1														2					2		
93	DIGITARIA SP.							1									3																	1			2					1		+															
188	JUSTICIA PROCUMBENS	5			3		+											5	3							1	3			3		4				1					+												2						2
22	ARUNDINELLA NEPALENSIS					1	+	1										5		1				1		+								1	1	2						1								2	5		2					1
357	VANDELLIA SP.							+						5	5	5	5		1			2	3		2	2	2	1												1											3									
18	ARTHRAXON QUARTINIANUS													6													3							3			2					3	2	+				2											
324	SHUTERIA INVOLUCRATA												4	2					+					+																									2										
367	WOODFORDIA FRUTICOSA																		1					1																	+						2			3	5	4			3		
85	DESMODIUM CONFERTUM																									+									2						+	1	2	3	2	2					6	5	4	2	2	4		2
146	GENIOSPORUM COLORATUM																		1							4		3														2		1	1	2							2				3		
136	FICUS CUNIA							+																+																				1	+							4							
312	SCHIMA WALLICHII					1	+												1	+	3		3	1				3	3	3						1					+		+	1		+	9	9	9		7							7	
48	CAREX CRUCIATA																																			2		2		1					1									2	5		5	3
222	MICROSTEGIUM VIMINEUM																											5									2								2	1												3
349	THELYPTERIS MULTILINEATA																									+																	+	1		1					2			2		5		
352	ORCHIDACEAE																																											1	+										4		5		2
99	DIOSCOREA GLABRA																				2	2		+				1															2	2			5	6		3	2							2
28	BARLERIA CRISTATA																						2																								5		3									
242	OSYRIS ARBOREA																																						3		1			+					6	5						2		
240	OSBECKIA NEPALENSIS	5			3	3	2	5					5	4	4	7	7	5	5	5	4	6		6	5	6	4	2			4			5	5	4	5	6	6	4	5	6	6	5	6		4	4	6	3		5	4	5	4			2	
126	EUPATORIUM ADENOPHORUM	7	8	8	7	8	8	7	8	9	7	6	4	2	5	7	7	7	8	8	8	8	9	9	9	8	9	7	9	9	8	9	9	9	9	9	9	9	8	9	9	8	9	9	9	8	9	9	8	6	6	8	8	7	7	7	8	7	8	9
262	POGONATHERUM CRINITUM/PANICEUM					5	4	7	7	7	8	4	9	9	9	9	9	9	9	9	8	9	9	8	7	6	6	6	9	9	9	9	9	8	8	8	7	7	7	8	8	9	9	9	8	8	9	8	9	9	9	9	9	9	9	9	9	9	9	9
336	SPOROBOLUS PILIFERUS	5	5	5	7	1	2	2		1				4			5	3	1			3	3	3	3	1	4	+	3	6		4			1			1				1	+									2					1
38	BRACHIARIA VILLOSA	5			7	5	5	6	8	6	5	7	2		2	5	6	3	4	5	5	3	3	3	4	4	3	5	5		7	5	6	2	3	2	4	3	1	3	1	2	2	+	+		4	4	3	4	2							2
170	HYPERICUM CORDIFOLIUM					4	1	5	7	3	9	7				3			+										3		5	4	5			2	3	3		4	3		2	5	+				6	4	2	4	2	2	2	4	7	2	5
335	SPOROBOLUS PILIFERUS																																	1									1	1															
11	ANAPHALIS TRIPLINERVIS																																								1		1		+													
189	CAMPYLOPUS SP.																																			1		5							2									2				
87	DESMODIUM MICROPHYLLUM				3			+																																				+															
249	MARCHANTIA SP.																					+		+		+																																	
98	DIOSCOREA BULBIFERA																		+												4															+													3
215	MAZUS JAPONICUS																											2										2								3													
115	ERAGROSTIS ATROVIRENS					+										3																													1													
9	ANAPHALIS CONTORTA																																									+	+	+	+													
241	OSBECKIA STELLATA																											1						1	1								+																

Table 4.7. The most represented species in the three sections of the four groups
Tab. 4.7. Die häufigsten Pflanzenarten in den drei Sektionen der vier Gruppen

Group	Anchor	Transition	Slide
Group 1 Low altitude	Engelhardtia spicata Schima wallichii Pinus roxburghii Indigofera dosna Hypericum cordifolium Imperata cylindrica Oplismenus compositus Cheilanthes farinosa Dicranopteris linearis Pteridium aquilinum	Schima wallichii Osbeckia nepalensis Phyllanthus parvifolius Lyonia ovalifolia Eupatorium adenophorum Pogonatherum spp. Imperata cylindrica Brachiaria villosa Hackeochloa granularis Bidens bipinnata Borreria stricta Biophytum sensitivum Euphorbia hirta Triumfetta pilosa Nephrolepis cordifolium Pogonatum seminudum	**Alnus nepalensis (cult.)** Osbeckia nepalensis Eupatorium adenophorum Desmodium concinuum Schizachyrium brevifolium Pogonatherum spp. Vandellia sp. Gonostegia hirta Pogonatum junghuhnianum Jamesoniella sp. Ceratodon purpureus
Group 2 lower middle altitude generally southern aspect	Schima wallichii Lyonia ovalifolia Rhododendron arboreum Eurya acuminata Gaultheria fragrantissima Arundinella nepalensis Pogonatherum spp. Carex cruciata Roscoea purpurea Strobilanthes atropurpureus Dicranopteris linearis	Alnus nepalensis Schima wallichii Berberis aristata/asiatica Osbeckia nepalensis Osbeckia stellata Eupatorium adenophorum Arundinella nepalensis Capillipedum assimile Pogonatherum spp. Imperata cylindrica Bulbostylis capillaris Anaphalis contorta Gonostegia hirta Selaginella sp. Pogonatum seminudum	Brachiaria villosa Sporobolus piliferus Arthraxon lancifolius Eragrostis atrovirens Paspalum scrobiculatum Fimbristylis dichotoma Vandellia nummularia Polygonum nepalensis Hypericum japonicum Gentiana capitata Pogonatum junghuhnianum Ceratodon purpureus Campylopus sp.
Group 3 higher middle altitude generally northern aspect	Daphniphyllum himalayense Alnus nepalensis Eurya cerasifolia Eurya japonica Myrsine semiserrata Randia tetrasperma Neillia thyrsiflora Viburnum stellatum Arundinella nepalensis Carex cruciata Strobilanthes sp. Ellisophyllum pinnatum Roscoea purpurea Lycopodium clavatum Selaginella sp. Pteridium aquilinum Athyrium sp. Ptychanthus striatus Rhodobryum giganteum Gollania sp.	Alnus nepalensis Gaultheria fragrantissima Phyllanthus parvifolius Eupatorium adenophorum Eulalia mollis Agrostis pilosula Microstegium spp. Pogonatherum spp. Artemisia sp. Ellisiophyllum pinnatum Isodon coetsa Myriactis nepalensis Galium spp. Carex daltonii/longipes Selaginella sp. Dicranella sp. Marchantia sp.	Alnus nepalensis Eupatorium adenophorum Chambainia cuspidata Centella asiatica Drymaria diandra Anaphalis contorta Dennstaedtia appendiculata Pogonatum junghuhnianum Pogonatum seminudum Dicranella sp.
Group 4 high altitude	Quercus semecarpifolia Rhododendron arboreum Edgeworthia gardneri Berberis wallichiana Arundinella hookeri Oryzopsis lateralis Carex cruciata Commelina paludosa Cyanotis vaga Roscoea purpurea Anaphalis triplinervis Anemone rivularis Chambainia cuspidata Fragaria sp. Valeriana hardwickii Viola serpens Selaginella sp. Ectropothecinus sp.	Rubus nepalensis Agrostis pilosula Arundinella hookeri Arthraxon lancifolius Eragrostis papposa Tripogon filiformis Carex atrata Bulbostylis capillaris Anaphalis contorta Elsholtzia pilosa Gonostegia hirta Hemiphragma heterophyllum Impatiens racemosa/serrata Potentilla fulgens Pogonatum microstomum Campylopus sp.	Arthraxon lancifolius Anaphalis contorta Impatiens racemosa/serrata Pogonatum junghuhnianum Pogonatum seminudum Dicranella sp.

Table 4.8. Plant frequency at the end of the dry season 1985 on selected plots of group 1 and 2 (for legend see Table 4.1)

Tab. 4.8. Frequenz der Pflanzenarten am Ende der Trockenzeit 1985 auf ausgewählten Untersuchungsflächen der Gruppen 1 und 2 (Legende s. Tab. 4.1)

	TRANSECT NO	4			4	4	4	4	4	4	
		4	8	6	0	0	4	4	4	4	
	SECTION NO	3	1	1	1	2	2	4	1	5	
	SECTION SYMBOL	○	○	○	○	△	△	△	□	□	
NO	SPECIES										
171	HYPERICUM JAPONICUM	+	1	4							
281	PTERIDIUM AQUILINUM		5	3							
6	ALNUS NEPALENSIS	6	6								
170	HYPERICUM CORDIFOLIUM		2	2							
237	OPLISMENUS COMPOSITUS/BURMANII		1	1							
264	POLYGONUM CAPITATUM		5								
148	GENTIANA PEDICELLATA			5							
232	NEPHROLEPIS CORDIFOLIA			7							
321	SCHIMA WALLICHII			2							
293	RHUS JAVANICA			2							
217	MELASTOMA NORMALE			3							
52	CASTANOPSIS INDICA			3							
115	ERAGROSTIS ATROVIRENS	+	+		+						
11	ANAPHALIS TRIPLINERVIS	+			+						
124	EULALIA SP.				2						
22	ARUNDINELLA NEPALENSIS		1	1	7						
194	KYLLINGA BREVIFOLIA		1	5	+	3					
177	IMPERATA CYLINDRICA		+	5	7	9					
219	MICROMERIA BIFLORA			1	3	2					
248	PASPALUM SCROBICULATUM		1	1		2					
9	ANAPHALIS CONTORTA				7	7					
145	GAULTHERIA FRAGRANTISSIMA				1	7					
48	CAREX CRUCIATA					3					
284	PYRUS PASHIA					5					
241	OSBECKIA STELLATA				2	2					
243	OXALIS CORNICULATA				1	2					
30	BERBERIS ARISTATA/ASIATICA						7				
359	VERNONIA CINEREA	1		5		2	5				
240	OSBECKIA NEPALENSIS	1	3	6			7				
111	ENGELHARDTIA SPICATA			1			8		9		
156	GONOSTEGIA HIRTA		+	2	+			5			
210	LYONIA OVALIFOLIA			2				5		9	
90	DICRANOPTERIS LINEARIS							8		7	
229	MYRSINE CAPITELLATA							5		7	
56	LABIATAE ?									5	
360	VIBURNUM CORIACEUM									5	
292	RHODODENDRON ARBOREUM									5	
120	ERIOBOTHRYA DUBIA									7	
262	POGONATHERUM CRINITUM/PANICEUM		3	9	2	2		5		7	
126	EUPATORIUM ADENOPHORUM	6	5	8	3	3	5	7	9		
273	POGONATUM JUNGHUHNIANUM			+	5	2			4		
253	PHYLLANTHUS PARVIFOLIUS			6	+					6	
349	THELYPTERIS MULTILINEATA			1							
302	SACCIOLEPTIS INDICA			1							
300	PTYCHANTHUS SP.			1							
298	RUBUS ELLIPTICUS			1							
128	EURYA ACCUMINATA			1							
102	DRYOPTERIS CHRYSOCOMA			1							
77	CYPERUS ARISTATUS			1							
57	CHEILANTHES FARINOSA			1							
18	ARTHRAXON QUARTINIANUS			1							

Species found scarcely (freq. 1%) in only one slide section:

Cyanotis vaga, Oxyspora paniculata, Lycopodium clavatum, Litsea polyantha, Desmodium confertum, Desmodium concinuum, Capillipedum assimile, Maesa macrophylla, Saccharum spontaneum, Prunus pashia, Flemingia strobilifera, Conyza stricta

Table 4.9. Plant frequency at the end of the dry season 1985 on selected plots of group 3 and 4 (for legend see Table 4.1)

Tab. 4.9. Frequenz der Pflanzenarten am Ende der Trockenzeit 1985 auf ausgewählten Untersuchungsflächen der Gruppen 3 und 4 (Legende s. Tab. 4.1)

	TRANSECT NO	2	2	2	2	2	2	2	2	3	2	2	2	3	3	2	2	2	3
		1	1	1	1	1	3	3	7	3	1	1	3	3	3	1	1	3	3
	SECTION NO	4	6	7	3	5	3	4	1	3	8	2	2	2	4	1	9	1	5
	SECTION SYMBOL	○	○	○	○	○	○	○	○	○	△	△	△	△	△	□	□	□	□
NO	SPECIES																		
198	LEDANTHUS PEDUNCULARIS	5		1															
169	HYDROCOTYLE NEPALENSIS			3	3	5	3	3											
205	LITSEA CUBEBA				1	1													
260	PLANTAGO MAJOR				3		2												
83	DENNSTAEDTIA APPENDICULATA				3	1	1												
21	ARUNDINELLA HOOKERI							1	5										
74	CYANOTIS VAGA				1					1									
281	PTERIDIUM AQUILINUM								2	1									
263	POLYGALA TRIPHYLLA			9							7								
6	ALNUS NEPALENSIS		5		7	3				5		4							
9	ANAPHALIS CONTORTA						7	8	7	4				7					
141	FRAGARIA SP.				2	2	2	3						5					
47	CAREX ATRATA			8		1	2	5	6	1				5	5	3			
116	ERAGROSTIS PAPPOSA			3			3	5	5	7				5	7	6			
227	MYRIACTIS NEPALENSIS			5				1		3				5	2				
273	POGONATUM JUNGHUHNIANUM					2	1		4						4				
210	LYONIA OVALIFOLIA						3	5							7				
243	OXALIS CORNICULATA									7					4	2			
276	POTENTILLA FULGENS							2	1						2	2			
156	GONOSTEGIA HIRTA								1	2						5			
43	CALAMINTHE UMBROSUM			5			3	1		4						5		7	
164	HEMIPHRAGMA HETEROPHYLLUM					1	5	7	5	6			5	7	2			2	
182	ISACHNE ALBENS						1						7						9
194	KYLLINGA BREVIFOLIA												5						4
48	CAREX CRUCIATA						1	2	+			5				5			4
304	SAMBUCUS ADNATA											7					2		
364	VIOLA SERPENS											4					2		
361	VIBURNUM ERUBESCENS					2											5	4	5	4
294	RHUS SUCCEDANEA															4				9
149	GERANIUM NEPALENSE															2		4	
82	DAPHNIPHYLLUM HIMALAYENSE																	8	
87	DESMODIUM MICROPHYLLUM																		7
104	EDGEWORTHIA GARDNERI																		9
292	RHODODENDRON ARBOREUM																			7
288	QUERCUS SEMECARPIFOLIA																			9
55	CHAMBAINIA CUSPIDATA	3	8		7	8	7	6	+	4	9	4	8	7			9	7	9	5
337	STELLARIA PATENS			3	2	3	3		+	1						2	5		4	
126	EUPATORIUM ADENOPHORUM				5	5	1	1		1				7	3		5			7
144	GALIUM SP.					3	6	1		6				6	7			6		4
298	RUBUS ELLIPTICUS				5	2						4					4			
4	AGROSTIS PILOSULA				1				+	5						2		2		4
319	SENECIO DENSIFLORUM									5						6				4
267	POLYGONUM UNCINATUM				4	5				6		6		5	5		6	5		5
173	HYPERICUM URALUM				6	1				2		8		2			4			
107	ELLISIOPHYLLUM PINNATUM			5	5	5						8					5	8		
221	MICROSTEGIUM NUDUM		5		7	8		1		6		9		6	7		4	8		4
340	STROBILANTHES SP.						2	5									4			7
50	CAREX NUBIGENA			6					2									2		
8	ANAPHALIS BUSUA				1					4						2				
5	AJUGA LOBATA			5		5					5							4		
23	ASTILBE RIVULARIS				2												2			
342	SWERTIA SP.						1			1						2			4	
249	MARCHANTIA SP.				5								5						4	
299	RUBUS NEPALENSIS/FOCKEANUS						8	7					9						5	

Species found only in one section:

Anchor: Tetrastigma serrulatum, Phyllanthus flueggeiformis, Pratia nummularia, Elsholtzia flava

Transition: Boenninghausenia albiflora, Dryopteris lepidopoda, Rubia charaefolia, Centella asiatica, Arundinella nepalensis

Slide: Sonchus asper, Impatiens racemosa, Conyza japonica, Scirpus sedateus, Mazus japonicus, Sporobolus piliferus, Conyza stricta, Carex daltonii, Bulbostylis capillaris, Anaphalis triplinervis, Leucosceptrum canum, Zanthoxylum acanthopodium, Cyperus rotundus

Table 4.10. Plant frequency in early monsoon 1985: Group 1 (for legend see Table 4.1)

Tab. 4.10. Frequenz der Pflanzenarten am Anfang des Monsuns 1985 auf den Untersuchungsflächen der Gruppe 1 (Legende s. Tab. 4.1)

TRANSECT NO	1	1	5	2	1	2	3	4	4	4	5	6	7	1	2	7	7	1	2	4	4	5	7	7
SECTION NO	2	4	2	2	3	3	1	2	3	4	1	1	3	5	4	2	4	1	1	1	5	3	1	5
SECTION SYMBOL	○	○	○	○	○	○	○	○	○	○	○	○	○	△	△	△	△	□	□	□	□	□	□	□
NO SPECIES																								
6 ALNUS NEPALENSIS	7	8		5	8	7	7						5											
84 DESMODIUM CONCINUUM	2	5			2					1		+												
79 CYPERUS ROTUNDUS	2				2							+												
273 POGONATUM JUNGHUHNIANUM		7			3	2	1		2	5	1	3												
306 JAMESONIELLA SP.		5	8			1	2			5	2	3												
214 CERATODON PURPUREUS				3			2	2				+	+											
336 SPOROBOLUS PILIFERUS						2	2			+		+											1	
94 DIGITARIA ASCENDENS						+				+	1									1				
136 FICUS CUNIA							+	2				1												
222 MICROSTEGIUM VIMINEUM									3	1	2	1								3				
171 HYPERICUM JAPONICUM										2	3	4	3											
217 MELASTOMA NORMALE									1	+	5	2	+											
298 RUBUS ELLIPTICUS									1		5	1												
119 ERIGERON FLORIBUNDUS						3	1	2	2			3	1	4										
313 SCHIZACHYRIUM BREVIFOLIUM					5	3	6	2	1	6	5	3		4										
240 OSBECKIA NEPALENSIS	5	3		6	6	4	5	5	5	5	4	6	3	4	4		5		3		2			3
33 BIDENS BIPINNATA						+			1	+			1			5			5	3				
312 SCHIMA WALLICHII					2	3	+			1		+			9			7			7			
352 ORCHIDACEAE						+															5		1	3
354 TRIUMFETTA PILOSA						1							+			4	5						3	5
49 CAREX DALTONII/LONGIPES							+												2	1	2			
48 CAREX ATRATA			2							+		1								3	4			
286 QUERCUS GLAUCA										1	2									3	5			
132 DRYOPTERIS MARGINATA										+		+						2	5	2	5	3		
242 OSYRIS ARBOREA										+								4	6			3		
281 PTERIDIUM AQUILINUM												2				4	5		3	2	2	5	3	
116 ERAGROSTIS PAPPOSA													+					2					2	
181 INULA CAPPA													1					3		1			3	
233 BORRERIA STRICTA													4			6							6	
35 BIOPHYTUM SENSITIVUM													2			7	5						7	
127 EUPHORBIA HIRTA													1	6		6							3	3
96 DIGITARIA SP.													4			4	5						5	3
258 PINUS ROXBURGHII													5	5			9		3				7	9
325 SHUTERIA VESTITIA																				2			4	3
126 EUPATORIUM ADENOPHORUM	4	7	6	5	7	8	8	5	8	7	8	8	5	6	8	7	5	5	5	8	2	5	6	5
262 POGONATHERUM CRINITUM/PANICEUM	9	9	9	9	8	9	8	9	8	8	7	9	5	9	9	6		9	9	8	9	9	7	
57 CHEILANTHES FARINOSA		5	4		3		3	6		4	1	1	1			4		5	6	5		5	6	7
17 ARTHRAXON LANCIFOLIUS	2			5		1	3		1	+	1	2	2			6		3	3				6	7
38 BRACHIARIA VILLOSA				3		2	2			+	4	3	5	4		7		3		1			7	5
177 IMPERATA CYLINDRICA				6	5	1	6		6	3	6	5	1					8	8		6	3	5	
170 HYPERICUM CORDIFOLIUM			4	3		1		4		5	2		4			8		4	5	4		6	2	
99 DIOSCOREA GLABRA			4			2	1		3	1	2	3			4			2	5	5	5	7	2	
232 NEPHROLEPIS CORDIFOLIA			8	3		4	+	4	5	5	5	6			6				6	8	8	8		
253 PHYLLANTHUS PARVIFOLIUS			8		5		1	2	6	7	5	6		4				5	2	6	7	5		
210 LYONIA OVALIFOLIA		5	8	5		+			2	5		2							5	5	6	7		
138 FIMBRISTYLIS DICHOTOMA				3	3	5	2		6	6	7	7								5	4			
146 GENIOSPORUM COLORATUM			6		2					1	1	2								2	4	3		
293 RHUS JAVANICA	2	3							2			1									2	5		
156 GONOSTEGIA HIRTA			4	5	6	2	5	5	6	5	3	3	+	6				2		5	2	3		
180 INDIGOFERA DOSNA					3				2		3					5				2	2		3	3
248 PASPALUM SCROBICULATUM					2	1	+		2	1	5	4	5							3		3	1	3
305 POGONATUM SEMINUDUM							1	6	5	3	2	+	1			4			2	1			4	3
194 KYLLINGA BREVIFOLIA						1	1		2		2	1	1				5			2			3	
302 SACCIOLEPIS INDICA							1	2	1	1	2	2	2										5	3
219 MICROMERIA BIFLORA										1	1	1	1			4							1	5
40 BULBOSTYLIS CAPILLARIS											1	2												3
225 MURDANNIA NUDIFLORUM				5		+	1		5		5		+	4		4			5	3				
46 CAPILLIPEDUM ASSIMILE				5			1							8					5	5				
359 VERNONIA CINEREA						2	2				3	6							2		2			
98 DIOSCOREA BULBIFERA					5	1	1					1		7				5	2					
22 ARUNDINELLA NEPALENSIS	4						2	4	1		1		1					3	5					
111 ENGELHARDTIA SPICATA			5	6						2		1						6	6					
300 PTYCHANTHUS SP.									2	4	4	2								2	2	5		
154 GLOCHIDION VELUTINUM				5					2			+						2	2	3		3		
85 DESMODIUM CONFERTUM			5					2	2	1		+						3		1				
324 SHUTERIA INVOLUCRATA	4						+							4					2					
52 CASTANOPSIS INDICA									2			4						4			2			
345 SYZYGIUM CUMINI			5															2		1				
28 BARLERIA CRISTATA					2	+													2	1				
367 WOODFORDIA FRUTICOSA							1	2		+									2					
331 SMITHIA CILIATA						2	1				1	4							2					
90 DICRANOPTERIS LINEARIS			2							+								7	8					
349 THELYPTERIS MULTILINEATA			4								1	+						2						
275 LITSEA SP?			2							1								2						
316 SCUTELLARIA DISCOLOR											2		1					2						
128 EURYA ACUMINATA			5								1	1												
237 OPLISMENUS COMPOSITUS/BURMANII									3			1								5				
334 TAXITHELIUM SP.									1		1									3				
143 GALINSOGA PARVIFLORA/CILIATA							1					+											5	
70 CROTALARIA ALBIDA						+							+										1	
320 SETARIA PALLIDE-FUSCA							1				2	1	1										2	
106 ELEPHANTOPUS SCABER							1					+	+			4							1	

Species only found in one or two sections:

Anchor: Bidens pilosa, Polygonum sp?, Maoutia puya, Triumfetta rhomboidea, Premna sp., Labiatae 2, Maoutia puya, Castanopsis tribuloides, Clematis buchanania, Smilax sp., Oxalis corniculata, Selaginella sp., Litsea polyantha, Gonatanthus pumilus, Arisaema erubescens, Castanopsis tribuloides, Zingiberaceae, Cynoglossum sp., Laggera alata, Justicia procumbens, Hypoxis aurea, Cyanotis vaga, Vandellia nummularifolia, Sida rhombifolia, Scutellaria repens, Hackeochloa granularis

Transition: Gerbera sp., Labiatae 2, Scutellaria repens

Slide: Pavetta tomentosa, Gerbera sp., Bidens pilosa, Polygonum uncinatum, Labiatae 1, Impatiens racemosa, Philonotis turneriana, Oxalis corniculata, Dryopteris chrysocoma, Indigofera atropurpurea, Polygonum capitatum, Oxyspora paniculata, Anaphalis triplinervis, Impatiens racemosa, Philonotis turneriana, Drymaria diandra, Oreocnide fruticosa, Arthromeris sp., Hedyotis scandens, Clematis sp., Berberis aristata, Indigofera atropurpurea, Litsea polyantha, Anaphalis triplinervis, Hemarthria compressa, Eulalia sp., Digitaria violascens, Drymaria diandra, Cynoglossum sp., Sphenomeris chinensis, Sida rhombifolia

Table 4.11. Soils, parent materials and landforms of Lamosangu-Kharidhunga area (after ESPINOSA 1975)
Tab. 4.11. Böden, Muttergestein und Relief im Gebiet von Lamosangu-Kharidhunga (nach ESPINOSA 1975)

Parent materials	Soil series	Main landform characteristics
Metamorphosed sandstone in situ	Guchchhe, Lapse	Steep to very steep hills. Severe soil/rock creep in places
Soil material derived from metamorphosed sandstone in situ	Lapse	nearly level bench terraces on or near hill summits
Phyllite in situ	Deorali, Golme Danda	Steeply dissected ridges with some undulating summits
Soil material derived from phyllite in situ	Golme Danda, Kharka, Parebha, Sunkhani	Nearly level bench terraces in steep mountainous areas
Alluvium/colluvium derived from metamorphosed sandstone and phyllite	Bhalukhop, Birta Besi Birta Pakhar, Timbure	Nearly level bench terraces on moderately steep to steep colluvial slopes
Rock/soil creep material: metamorphosed sandstone and phyllite	Kaping	Very steep, dissected hills
Soil material derived from metamorphosed sandstone and phyllite in situ	Dhuseni, Kathaike, Mesipo, Pedku, Ratankot	Nearly level bench terraces in steep hilly areas
Augen gneiss (feldspatic schist) in situ	Sarai Danda	Steep to very steep, dissected mountains. Severe soil/rock creep in places
Colluvium derived from augen gneiss (feldspatic schist)	Girke Danda	Nearly level bench terraces on steep, dissected colluvial slopes
Soil material derived from augen gneiss (feldspatic schist) in situ	Chanaute, Chitre, Pakha Deb, Sarai Danda Sarangthali, Tauthali	Nearly level bench terraces in steep to very steep mountainous areas
Soil material derived from carbonaceous slate in situ	Burana	Ditto
Soil material derived from metamorphosed limestone in situ	Onchi	Ditto
Magnesite with talc lenses in situ	Kharidhunga	Steep to very steep, dissected mountainous areas
Alluvium/colluvium derived from chlorite schist; talc and iron oros	Khari, Mane	Nearly level bench terraces in rolling basin, probably of a synelinorium type

Note: Golme Danda, Lapse and Sarai Danda series occur on both bench terraces and non-terraced slopes.

Table 4.12. Soil classification of Lamosangu-Kharidhunga area (after ESPINOSA 1975)
Tab. 4.12. Klassifikation der Böden im Gebiet von Lamosangu-Kharidhunga (nach ESPINOSA 1975)

USDA SOIL CLASSIFICATION, 7th APPROXIMATION				Soil series	Legend of the FAO/UNESCO Soil Map of the World
Order	Suborder	Great Group	Subgroup		
Entisols	Aquents	Haplaquents	Typic Haplaquents	Timbure	Dystric Gleysols
	Orthents	Udorthents	Typic Udorthents	Girkha Danda	Dystric Regosols
Inceptisols	Aquepts	Haplaquepts	Typic Haplaquepts	Birta Besi	Dystric Gleysols
			Fluventic Haplaquepts	Birta Pakhar	Dystric Gleysols
	Ochrepts	Dystrochrepts	Typic Dystrochrepts	Dhuseni, Lapse,	Dystric Cambisols
				Khari, Kathaike	Dystric Cambisols
			Aquic Dystrochrepts	Balukhop, Kharka	Dystric Gleysols
			Fluventic Dystrochrepts	Chitre, Mesipo, Pedku	Dystric Cambisols
			Lithic Dystrochrepts	Kaping, Pakha Deb	Dystric Cambisols
			Rhodic Dystrochrepts	Deorali 1	Dystric Cambisols
		Eutrochrepts	Dystric Eutrochrepts	Onchi	Eutric Cambisols
	Umbrepts	Haplumbrepts	Typic Haplumbrepts	Guchchhe, Sarangthali	Humic Cambisols
			Cumulic Haplumbrepts	Burana , Chanaute	Humic Cambisols
				Mane, Ratankot	
Alfisols	Udalfs	Hapludalfs	Typic Hapludalfs	Golme Danda 2	Orthic Acrisols
				Parebha 2	
				Sunkhani 2	Orthic Acrisols
				Thautali 2	
			Mollic Hapludalfs	Sarai Danda	Humic Acrisols
				Kharidhunga	Humic Acrisols

1 Integrade between Dystrochrepts and Rhodustalfs
2 May be ultic Hapludalf if base saturation is less than 60% at 125 cm below the top of the argillic horizon, or in a layer above hard rock if shallower.

Veröff.Geobot.Inst.ETH,Stiftung Rübel,Zürich, 93 (1987)
R. SCHAFFNER: Vegetation of stabilizing and eroding slopes in eastern Nepal.

Table 4.13. Soil survey of study area
Tab. 4.13. Ergebnisse aus den Bodenuntersuchungen im Untersuchungsgebiet

A1 anchor/position in transect
T2 transition/position in transect
S1 slide/position in transect

1) 1 = 0.0356 mg P_2O_5/100 g dry soil

2) 1 = 1.0 mg K_2O/100 g dry soil

* for CEC-value see Table 4.14

Plot No	Transect No	Section	Altitude a.s.l.	Aspect 0-400° (estimated)	Texture/Humus	pH (Hellige)	pH (H_2O)	P_2O_5 1)	K_2O 2)	Texture/Humus (measured) Clay%	Silt%	Sand%	Humus%	CEC	Soil Serie ESPINOSA	Vegetation Type
1	2	A 1	1130 m	375	sandy loam with little humus	5.0	6.0	4.0	6.3						Kaping series: dystric Cambisol	overexploited broadleave forest
1	2	S 1	1130 m	375	sandy loam with little humus	5.0	6.0	4.0	1.5	10.6	36.6	49.7	3.1		dystric Regosol	
1	2	T 2	1130 m	375	sand poor in humus		6.1	1.5	3.4						dystric Regosol	
1	3	S 1	1130 m	375	sand poor in humus	5.0	6.2	0.6	0.9						dystric Regosol	
2	4	A 1	1180 m	375	loamy sand with little humus	5.0	6.1	2.1	2.7						Kaping series: dystric Cambisol	overexploited forest/shrubland
2	4	A 2	1180 m	375	loamy sand with little humus		5.8	2.6	2.1						dystric Cambisol	overexploited forest/shrubland
2	4	S 1	1180 m	375	sand poor in humus		6.1	1.2	0.5						dystric Regosol	
2	4	S 2	1180 m	375	loamy sand poor in humus	5.0	6.3	1.5	1.1						dystric Regosol	
3	7	A 1	1450 m	225	sandy loam poor in humus	5.0	6.0	0.2	2.5						Lapse series: dystric Cambisol	Pinus roxburghii forest
3	7	A 2	1450 m	225	sandy loam poor in humus	5.0	5.9	0.6	2.0						dystric Cambisol	Pinus roxburghii forest
3	7	S 1	1450 m	225	loamy sand poor in humus	5.0	5.8	0.2	1.2	11.6	36.6	51.5	0.7		dystric Regosol	
4	8	S 1	1690 m	150	sand poor in humus	5.0	5.7	0.1	0.5						dystric Regosol	
4	8	A 2	1690 m	150	sandy loam with little humus	5.0	5.6	0.6	0.5						Golme danda s: orthic Acrisol	uncultivated terrace
5	8	S 1	1680 m	200	loamy sand poor in humus	5.0	6.4	5.2	2.4						dystric Regosol	
6	10	A 2	1800 m	250	loamy sand poor in humus	5.0	5.4	0.9	2.2						Golme danda s: orthic Acrisol	broadleave forest
6	10	S 1	1800 m	250	sand poor in humus	5.0	5.7	0.3	0.3						dystric Regosol	
6	10	T 1	1800 m	250	loamy sand poor in humus		5.6	0.2	0.6						dystric Regosol	
7	11	A 1	1980 m	300	loamy sand with humus	4.5	5.6	0.5	0.8	12.0	34.6	48.0	5.4		Guchchhe s: humic Cambisol	afforested with Pinus patula
7	11	A 2	1980 m	300	sandy loam with humus		5.4	1.6	0.9						humic Cambisol	afforested with Pinus patula
7	11	S 1	1980 m	300	sand poor in humus	4.8	5.5	0.1	0.4	6.8	31.8	60.7	0.7		dystric Regosol	
8	12	A 1	1990 m	350	sandy loam with humus		5.2	2.0	1.8						Guchchhe s: humic Cambisol	overexploited broadleave forest
8	12	A 2	1990 m	350	sandy loam with little humus	4.5	5.5	1.6	1.7						humic Cambisol	overexploited broadleave forest
8	12	S 1	1990 m	350	sand poor in humus	4.5	5.4	0.2	0.2						Lithosl	
9	14	A 1	1990 m	75	loamy sand poor in humus		5.5	0.1	0.4						dystric Regosol	shrubland
9	14	S 1	1990 m	75	loamy sand poor in humus	5.0	5.6	0.1	1.3						Lithosol	
10	15	A 1	2010 m	400	loamy sand with little humus		7.0	0.5	2.3						Golme danda s: orthic Acrisol	shrubland
10	15	A 2	2010 m	400	loamy sand poor in humus	4.5	7.2	0.1	0.4						orthic Acrisol	shrubland
10	15	S 1	2010 m	400	loamy sand poor in humus	5.0	7.6	0.3	1.1						dystric Regosol	
11	16	A 2	2040 m	250	sandy loam with humus	6.0	6.7	0.9	0.6						Golme danda s: orthic Acrisol	overexploited broadleave forest
11	17	A 1	2040 m	250	sandy loam poor in humus		7.5	0.4	3.0	10.0	29.6	58.6	1.8		orthic Acrisol	grassland
11	18	S 1	2040 m	250	sand poor in humus	5.0	7.8	0.3	0.3	2.0	23.2	74.3	0.5		dystric Regosol	
12	19	S 1	2030 m	200	sandy loam poor in humus	7.5	7.7	0.2	1.0						Golme danda s: calcaric Regosol	
13	20	S 1	2100 m	250	sandy loam with little humus	5.0	5.7	0.2	0.4						Golme danda s: dystric Regosol	
14	21	A 1	2130 m	25	sandy loam poor in humus		6.1	0.5	0.9						Burana series: humic Cambisol	overexploited broadleave forest
14	21	A 2	2130 m	25	sandy loam with humus	5.0	5.5	0.6	2.1						humic Cambisol	broadleave forest
14	21	S 1	2130 m	25	loamy sand with humus	5.0	6.6	0.2	0.6						dystric Regosol	
14	21	S 2	2130 m	25	sandy loam with little humus	4.8	6.5	0.7	0.6						dystric Regosol	
15	22	A 1	2180 m	325	sandy loam with little humus		5.5	0.3	0.4						Burana series: humic Cambisol	shrubland
15	22	R 2	2180 m	325	sandy loam poor in humus	5.0	5.0	1.1	4.4						Lithosol	
15	22	A 1	2180 m	325	sandy loam with humus	4.0	4.5	0.8	0.7						Burana series: humic Cambisol	overexploited broadleave forest
16	23	A 1	2570 m	250	loamy sand with little humus	4.5	5.4	0.6	0.5						Sarai danda s: humic Acrisol	shrubland
16	23	S 1	2570 m	250	sand poor in humus	5.0	4.5	0.6	0.8						dystric Regosol	
17	24	A 1	2620 m	100	sandy loam with little humus	4.5	4.9	0.2	0.6						Sarai danda s: humic Cambisol	
17	24	A 2	2620 m	100	sandy loam with humus		4.6	0.7	1.3						humic Cambisol	grassland
17	24	S 1	2620 m	100	sandy loam poor in humus	5.0	5.3	0.0	0.2						Lithosol	
18	25	A 1	2560 m	125	sandy loam with little humus	5.0	5.3	0.4	1.1						Chitre series: dystric Cambisol	uncultivated terrace
18	25	A 2	2560 m	125	sandy loam with humus		5.0	0.6	0.8						dystric Cambisol	shrubland
18	25	S 1	2560 m	125	sandy loam poor in humus	4.8	5.3	0.1	0.2						Lithosol	
19	27	A 1	2500 m	150	sandy loam with humus	4.3	4.9	0.6	0.9						Chitre series: dystric Cambisol	shrubland
19	27	S 2	2500 m	150	sandy loam with little humus	5.0	4.5	0.1	0.4						dystric Regosol	
20	28	S 1	2500 m	150	sand poor in humus	5.0	5.6	0.1	0.4						dystric Regosol	
21	29	A 2	2530 m	150	loam with humus	4.7	5.1	0.2	0.2	24.4	45.0	22.2	8.4		Chitre series: dystric Cambisol	grassland
21	29	S 1	2530 m	150	loamy sand poor in humus	5.0	5.6	0.0	0.4	12.4	13.8	73.3	0.5		Lithosol	
22	30	A 1	2590 m	275	sandy loam with little humus		5.0	0.3	1.1						Sarai danda s: humic Acrisol	overexploited Quercus semecarp.forest
22	30	A 2	2590 m	275	loam rich in humus	4.5	5.9	1.3	0.5	20.3	31.7	36.2	11.8		humic Acrisol	overexploited Quercus semecarp.forest
22	30	S 1	2590 m	275	sandy loam with humus	4.5	5.0	0.2	0.6	10.4	30.0	52.3	7.3		Regosol	
22	30	S 2	2590 m	275	loamy sand poor in humus	5.0	5.5	0.3	0.2						Regosol	
23	32	A 2	2450 m	275	sandy loam with little humus	4.5	5.2	0.9	1.5						Sarai danda s: humic Acrisol	shrubland
23	32	S 1	2450 m	275	loamy sand with little humus	5.5	5.0	0.2	0.6						dystric Regosol	
24	33	A 1	2350 m	200	sandy loam with little humus		5.3	2.0	1.3						Sarai danda s: humic Acrisol	shrubland
24	33	A 2	2350 m	200	sandy loam with little humus	4.5	5.2	1.5	2.7						humic Acrisol	overexploited broadleave forest
24	33	S 1	2350 m	200	sandy loam with humus	5.0	5.6	1.3	1.9						Regosol	
25	34	A 1	2100 m	50	loam poor in humus		5.4	0.1	1.1						Golme danda s: orthic Acrisol	grassland
25	34	A 2	2100 m	50	sandy loam poor in humus	4.5	5.5	0.5	1.3						orthic Acrisol	shrubland
25	34	S 1	2100 m	50	loam with little humus	4.7	5.2	2.3	0.2						dystric Regosol	
26	35	A 1	2090 m	125	loamy sand poor in humus		4.9	0.3	2.0						Golme danda s: orthic Acrisol	grassland
26	35	A 2	2090 m	125	loam rich in humus	4.5	4.6	0.4	0.8	25.2	45.0	19.5	10.3		orthic Acrisol	shrubland
26	35	S 1	2090 m	125	sand poor in humus	5.5	5.5	0.1	0.2						dystric Regosol	
26	35	S 2	2090 m	125	sandy loam poor in humus	5.0	5.3	0.2	0.2	12.8	30.0	55.6	1.6		Lithosol	
27	36	S 3	2000 m	175	sand poor in humus		6.1	0.3	0.4						dystric Regosol	
27	37	A 1	2000 m	175	loamy sand with little humus	4.5	5.2	0.3	1.1						Golme danda s: orthic Acrisol	cultivated terrace
27	37	A 2	2000 m	175	loamy sand poor in humus		5.4	0.2	2.2						orthic Acrisol	cultivated terrace
27	37	S 1	2000 m	175	loamy sand poor in humus		5.6	0.1	0.6						dystric Regosol	
27	37	S 2	2000 m	175	loamy sand poor in humus	5 0	5.4	0.2	0.9						dystric Regosol	
28	38	A 1	1950 m	210	loamy sand with little humus	4.5	5.5	0.8	2.0	10.4	21.4	63.2	5.0		Girka danda s: dystric Regosol	grassland
28	38	A 2	1950 m	210	sand with little humus		5.3	0.5	1.4	9.0	23.4	64.8	2.8		dystric Regosol	shrubland
28	38	S 1	1950 m	210	sand poor in humus	5.0	6.1	0.3	0.4						dystric Regosol	
29	39	A 1	1890 m	250	loamy sand poor in humus	4.5	5.5	0.5	2.4						Guchchhe s: humic Cambisol	overexploited broadleave forest
29	39	S 1	1890 m	250	loamy sand with little humus	5.0	5.4	0.4	0.9						dystric Regosol	
29	39	S 2	1890 m	250	sand poor in humus		5.6	0.1	0.3						dystric Regosol	
30	40	A 2	2050 m	290	loamy sand with little humus	5.0	5.4	0.5	0.7						Sarai danda s: humic Acrisol	grassland
30	40	AB	2050 m	290	loamy sand with little humus	5.0	5.4	0.9	2.2						humic Acrisol	shrubland
30	40	S 1	2050 m	290	loamy sand poor in humus	5.0	5.5	0.0	0.2						Lithosol	
31	41	A 2	2020 m	300	loamy sand poor in humus	4.5	5.5	0.2	1.1						Guchchhe s: humic Cambisol	shrubland
31	41	S 1	2020 m	300	loamy sand poor in humus	5.0	5.3	0.1	0.5						Regosol	
32	42	S 1	1800 m	175	sand poor in humus	5.0	5.8	0.3	1.4						dystric Regosol	
32	42	S 2	1800 m	175	sand poor in humus		6.0	0.4	0.6						dystric Regosol	
33	43	AB	1750 m	200	loamy sand poor in humus	5.5	5.9	1.3	3.4						Deorali s: chromic Cambisol	shrubland
33	43	S 1	1750 m	200	sand poor in humus	5.0	6.0	0.2	0.8						Lithosol	
34	44	A 2	1730 m	200	loamy sand with humus	5.0	5.7	0.6	3.7	14.4	20.4	56.2	9.0		Deorali s: chromic Cambisol	overexploited broadleave forest
34	44	S 1	1730 m	200	sand with little humus	5.0	5.6	0.1	0.7	5.2	21.3	73.1	0.4		Regosol	
35	45	A 1	1730 m	300	sand with little humus		5.8	0.5	3.8						Deorali s: chromic Cambisol	overexploited broadleave forest
35	45	S 1	1730 m	300	sand with little humus	5.0	6.0	0.1	0.8						Regosol	
s 1				225	sandy loam poor in humus	5.0	5.9								Lapse series: dystric Cambisol	Pinus roxburghii forest
s 2			1570 m	225	loamy sand poor in humus	5.0	5.8	0.3	2.1						Lapse series: dystric Cambisol	Pinus roxburghii forest
s 3			1700 m	225	sandy loam poor in humus	5.0	5.7	0.3	0.8	11.6	34.2	52.2	2.0	*	dystric Regosol	shrubland
s 4			1710 m	300	loam with humus	4.5	5.3	0.9	3.0	23.8	35.2	35.4	5.6	*	Guchchhe s: humic Cambisol	broadleave forest
s 5				250	loamy sand poor in humus	5.0	5.7								Deorali s: chromic Cambisol	broadleave forest
s 6			1800 m	200	loamy sand with little humus	5.0	5.8	1.2	2.0						Deorali s: chromic Cambisol	shrubland
s 7				175	loamy sand poor in humus	5.5	5.9								Deorali s: chromic Cambisol	shrubland
s 8			1800 m	250	loamy sand with little humus	5.0	5.4	0.7	1.8						Golme danda s: orthic Acrisol	broadleave forest
s 9			2050 m	150	silt with humus	5.0	5.8	1.0	3.1	27.6	52.0	12.3	8.1	*	Guchchhe s: humic Cambisol	grassland
s10				300	loamy sand with little humus		5.4								Guchchhe s: humic Cambisol	shrubland
s11			2100 m	200	loamy sand with humus	5.6	5.6	0.2	0.4	19.0	36.8	38.1	6.1	*	Golme danda s: orthic Acrisol	grassland
s12a			2280 m	400	loam rich in humus	4.2	5.3	2.2	4.8	23.8	31.2	30.9	14.1	*	Guchchhe s: humic Cambisol	broadleave forest
s13				250	loam rich in humus	4.5	4.9								Sarai danda s: humic Acrisol	overexploited Quercus semecarp.forest

Parent materials	Soil series	Main landform characteristics
Metamorphosed sandstone in situ	Guchchhe, Lapse	Steep to very steep hills. Severe soil/rock creep in places
Soil material derived from metamorphosed sandstone in situ	Lapse	nearly level bench terraces on or near hill summits
Phyllite in situ	Deorali, Golme Danda	Steeply dissected ridges with some undulating summits
Soil material derived from phyllite in situ	Golme Danda, Kharka, Parebha, Sunkhani	Nearly level bench terraces in steep mountainous areas
Alluvium/colluvium derived from metamorphosed sandstone and phyllite	Bhalukhop, Birta Besi Birta Pakhar, Timbure	Nearly level bench terraces on moderately steep to steep colluvial slopes
Rock/soil creep material: metamorphosed sandstone and phyllite	Kaping	Very steep, dissected hills
Soil material derived from metamorphosed sandstone and phyllite in situ	Dhuseni, Kathaike, Mesipo, Pedku, Ratankot	Nearly level bench terraces in steep hilly areas
Augen gneiss (feldspatic schist) in situ	Sarai Danda	Steep to very steep, dissected mountains. Severe soil/rock creep in places
Colluvium derived from augen gneiss (feldspatic schist)	Girke Danda	Nearly level bench terraces on steep, dissected colluvial slopes
Soil material derived from augen gneiss (feldspatic schist) in situ	Chanaute, Chitre, Pakha Deb, Sarai Danda Sarangthali, Tauthali	Nearly level bench terraces in steep to very steep mountainous areas
Soil material derived from carbonaceous slate in situ	Burana	Ditto
Soil material derived from metamorphosed limestone in situ	Onchi	Ditto
Magnesite with talc lenses in situ	Kharidhunga	Steep to very steep, dissected mountainous areas
Alluvium/colluvium derived from chlorite schist; talc and iron oros	Khari, Mane	Nearly level bench terraces in rolling basin, probably of a synelinorium type

Note: Golme Danda, Lapse and Sarai Danda series occur on both bench terraces and non-terraced slopes.

Veröff.Geobot.Inst.ETH,Stiftung Rübel,Zürich, 93 (1987)
R. SCHAFFNER: Vegetation of stabilizing and eroding slopes in eastern Nepal.

Table 4.15. Monthly rainfall, runoff and soil loss at Dandapakhar (1984/ 1985) and Bonch (1985)
Tab. 4.15. Monatlicher Niederschlag, Abfluss und Boden-Abtrag in Dandapakhar (1984/1985) und in Bonch (1985)

Testplots Dandapakhar

Experiment	1984 / Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
Rainfall	Amount (mm)	20	31	9	126	274	555	958	529	436	53	0	8	2999
	Erosivity (10^{-2} Joules.m^{-2}.cm.h^{-1})	-	-	-	?	189.8	378.0	461.4	281.7	138.8	21.8	-	-	1471.5
Plot 1 (bare)	Runoff ($m^3.h^{-1}$)													5598
	Runoff (% rainfall)	-	-	-	?	21.7	24.6	24.1	19.5	6.8	-	-	-	18.7
	Soilloss ($t.ha^{-1}$)	-	-	-	?	10.3	3.2	1.8	0.8	0.1	-	-	-	16.2
Plot 2 (over-grown)	Runoff ($m^3.h^{-1}$)													5303
	Runoff (% rainfall)	-	-	-	?	24.9	25.7	22.9	14.0	5.9	-	-	-	17.7
	Soilloss ($t.ha^{-1}$)	-	-	-	?	2.7	0.4	0.2	0	0	-	-	-	3.3

Experiment	1985 /Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
Rainfall	Amount (mm)	17	13	2	30	120	425	1048	839	440	252	11	54	3251
	Erosivity (10^{-2} Joules.m^{-2}.cm.h^{-1})	-	-	-	-	78.8	300.2	430.6	532.1	187.2	92.3	-	-	1621.2
Plot 1 (bare)	Runoff ($m^3.h^{-1}$)													2454
	Runoff (% rainfall)	-	-	-	-	3.9	16.9	5.6	7.8	8.6	4.0	-	-	7.8
	Soilloss ($t.ha^{-1}$)	-	-	-	-	1.3	2.4	1.4	0.3	0	0	-	-	5.4
Plot 2 (over-grown)	Runoff ($m^3.h^{-1}$)													277
	Runoff (% rainfall)	-	-	-	-	0	2.1	0.9	0.2	1.3	0.4	-	-	0.9
	Soilloss ($t.ha^{-1}$)	-	-	-	-	0.1	0.1	0.2	0	0	0	-	-	0.4

Testplots Bonch

Experiment	1985 / Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
Rainfall	Amount (mm)	15	25	7	93	246	420	910	1000	605	268	8	64	3661
	Erosivity (10^{-2} Joules.m^{-2}.cm.h^{-1})	-	-	-	50.8	94.5	178.6	375.2	767.9	338.8	107.1	-	-	1912.9
Plot 1 (bare)	Runoff ($m^3.h^{-1}$)													9001
	Runoff (% rainfall)	-	-	-	22.4	23.7	17.1	18.6	36.2	26.4	21.9	-	-	25.1
	Soilloss ($t.ha^{-1}$)	-	-	-	13.7	15.5	7.2	7.8	11.5	9.0	1.9	-	-	66.6
Plot 2 (over-grown)	Runoff ($m^3.h^{-1}$)													2466
	Runoff (% rainfall)	-	-	-	21.1	13.9	10.1	6.0	6.6	3.8	3.2	-	-	6.9
	Soilloss ($t.ha^{-1}$)	-	-	-	2.7	0.9	0.1	0	0	0	0	-	-	3.7