

Table 1: Datasets gathered and utilized for LSI analysis, along with sources

Sl. No	Particular	Type	Resolution/ Scale	Source/Links
1	LULC map	Vector	1:50000	RNR statistic, MoAF
2	Soil Map	Raster	1:5 000000/250 m	ISRIC-World Soil Information
3	Geology	Vector		DGM, MoEA
4	Fault line	vector		DGM, MoEA
5	Digital Elevation Model (DEM)	Raster	30 m	NASA DEM
6	Road Network	Vector		NLCS, RGoB
7	Landslide Inventory	Vector		DGM and Google Earth

Table 2: Classification of lithological unit observed in the study area

Group	Lithological Unit
Group I	Sand, Clay, Conglomerate
Group II	Phyllite, Quartzite
Group III	Dolomite, Limestone, Slate, Quartzite, Phyllite
Group IV	Quartzite, Phyllite, Limestone with gneiss silver
Group V	Phyllite, Quartzite, Slate
Group VI	Augen gneiss, bonded gneiss, mica schist

Table 3: Derivation of Frequency ratio values for each conditioning factor

Sl. No	Category	Landslide pixel	% Landslide in domain	Pixel in domain	% Pixel in domain	FR	Net weight
1. River distance(m)							
	12000 above	0	0.00	246	0.00	0.00	19.2
	10000-12000	13500	0.10	51044	0.02	4.12	
	8000-10000	11700	0.09	201902	0.10	0.90	
	6000-8000	12600	0.09	344868	0.17	0.57	

4000-6000	9900	0.07	433594	0.21	0.36	
2000-4000	1800	0.01	497424	0.24	0.06	
1000-2000	40500	0.30	264078	0.13	2.39	
0-1000	44100	0.33	295464	0.14	2.32	
2. Road distance (m)						
14000 Above	900	0.01	194681	0.09	0.07	9.8
8000-12000	3600	0.03	344000	0.16	0.16	
3000-6000	19800	0.15	435326	0.21	0.71	
6000-8000	10800	0.08	239630	0.11	0.70	
12000-14000	8100	0.06	140978	0.07	0.89	
1500-3000	29700	0.22	295482	0.14	1.57	
0-1500	61200	0.46	438523	0.21	2.17	
3. Slope (degree)						
60 above	0	0.0	6031	0.00	0.00	8.5
50-60	2700	0.0	52649	0.03	0.80	
40-50	13500	0.1	240599	0.12	0.87	
30-40	35100	0.3	602430	0.29	0.91	
20-30	45900	0.3	724623	0.35	0.99	
10-20	27900	0.2	386008	0.18	1.13	
0-10	9000	0.1	76281	0.04	1.84	
4. Soil Types						
Alisols/Vertisols	0	0.00	2725	0.00	0.00	31.8
Luvisols	80325	0.60	1669824	0.80	0.75	
Cambisols	32625	0.24	366764	0.18	1.39	
Acrisols	13725	0.10	32415	0.02	6.59	
Leptosols	7425	0.06	16890	0.01	6.85	
5. TWI						
7-9	18000	0.13	352693	0.17	0.79	6.3
5-7	43200	0.32	635267	0.30	1.06	
2-5	52200	0.39	881616	0.42	0.92	
9-11	15300	0.11	158409	0.08	1.50	
11-16	3600	0.003	47593	0.02	1.18	
16-24	1800	0.01	13042	0.01	2.15	

6. Aspect						
Flat	0	0.00	13487	0.01	0.00	5.8
West	16087.5	0.12	279107	0.13	0.90	
Southeast	17887.5	0.13	282668	0.14	0.99	
Northwest	14287.5	0.11	244077	0.12	0.91	
Southwest	23287.5	0.17	307103	0.15	1.18	
East	20587.5	0.15	266597	0.13	1.20	
Northeast	19687.5	0.15	247610	0.12	1.24	
South	13387.5	0.10	320179	0.15	0.65	
North	8887.5	0.07	127788	0.06	1.08	
7. Landuse landcover						
Meadows/Non-Built up/Alpine Scrubs	0	0.00	31919	0.02	0.00	33.6
Forests	90000	0.67	1864196	0.89	0.75	
Shrubs/Rocky Outcrops	13500	0.10	75858	0.04	2.77	
Cultivated Agriculture	22500	0.17	87916	0.04	3.99	
Water Bodies	6300	0.05	15496	0.01	6.33	
Landslides	1800	0.01	3885	0.00	7.22	
Built up	0	0.00	9350	0.00	0.00	
8. Fault Distance(m)						
500 - 1500	108000	0.81	1210009	0.58	1.39	6.2
1500 - 3000	12600	0.09	430008	0.21	0.46	
3000 - 5000	7200	0.05	345520	0.17	0.32	
5000 - 7500	3600	0.03	77591	0.04	0.72	
7500 - 12000	2700	0.02	25492	0.01	1.65	
9. Geology						
Group I	7200	0.05	55467	0.03	2.02	27.4
Group II	64800	0.48	171300	0.08	5.89	
Group III/V	0	0.00	24584	0.01	0.00	
Group IV	35100	0.26	471009	0.23	1.16	

Group VI	27000	0.20	1366260	0.65	0.31	
10. Profile curvature						
Linear	45900	0.34	844319	0.40	0.85	1.3
Concave	74700	0.56	1036079	0.50	1.12	
Convex	13500	0.10	208222	0.10	1.01	
11. General Curvature (GC)						
Concave	18000	0.13	315351	0.15	0.89	1
Convex	62100	0.46	1011488	0.48	0.96	
Flat	54000	0.40	761781	0.36	1.10	
12. Plan Curvature						
Linear	64200	0.48	870194	0.42	1.15	
Convex	12900	0.10	173259	0.08	1.16	
Concave	57000	0.43	1045166	0.50	0.85	1.4

Table 4: percentage of area on respective susceptibility category for the two models

Category	FR (Sq.Km)	FR (%)	LR (Sq.Km)	LR (%)
Very Low	380	20.22	360	19.16
Low	377	20.06	376	20.01
Moderate	375	19.96	406	21.61
High	374	19.90	362	19.27
Very High	373	19.85	375	19.96