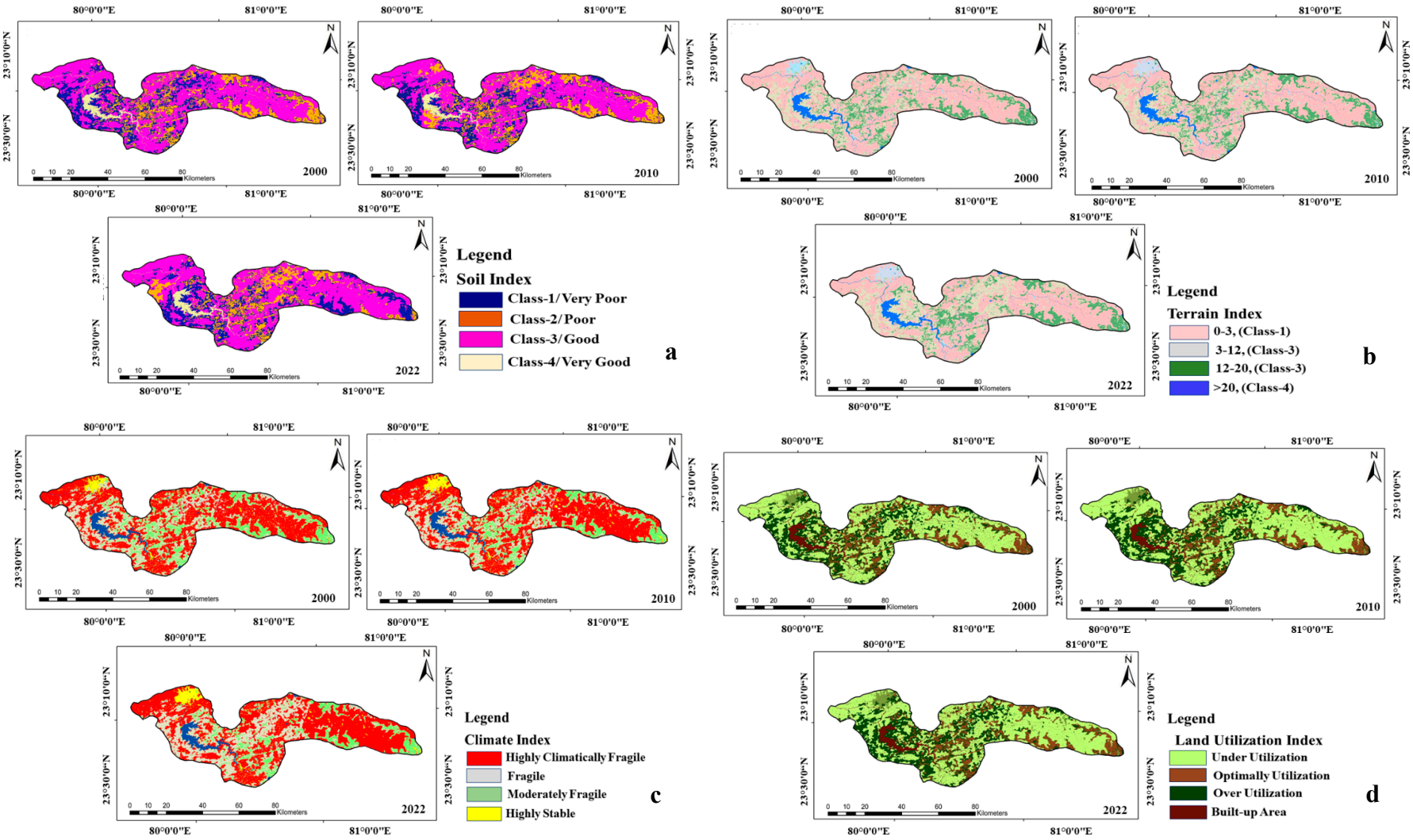

Supplementary Figure S1: (a) Soil Index (b) Terrain Index (c) Climate Index (d) Land Utilization Index (LUI) of the study area for the period of 2000, 2010 and 2022

Supplementary Table

Table S1: Weight score assigned to criteria used for land degradation vulnerability

Index	Weight score	References
Soil Index (SI)	0.24	[56]
Climate Index (CI)	0.16	[56]
Terrain Index (TI)	0.13	[57]
Land Utilization Index (LUI)	0.36	[58]
Vegetation Index	0.11	[59]
Total	1.00	

Table S2: Scores used for individual parameters within influencing land degradation

Index	Scores	Reference
Soil Index (SI)		[60]
D = soil depth;	0.15	[56]
GWD = ground water depth	0.1	[61]
SD = soil drainage	0.28	[56]
E = Erosivity	0.24	[56]
pH	0.23	[56]
Sum.	1.00	
Terrain Index (TI)		[60]
Slope	0.14	[61]
Aspect	0.31	[61]
Drainage	0.13	[62]
Curvature	0.42	[62]
Sum.	1.00	
Climate Index (CI)		[60]
Temperature	0.28	[56]
Rainfall	0.19	[56]
Humidity	0.12	[56]
Wind velocity	0.41	[56]
Sum.	*1.00*	[56]
Land Utilization Index (LUI)		[60]
Vegetation Index	0.17	
Land Capability Index	0.23	[59]
Land use land cover	0.6	[58]
Sum.	*1.00*	
Vegetation Index		[60]
Mean NDVI Vegetated Area	0.49	[59]
Mean NDVI of Bare site	0.51	[59]
Sum.	*1.00*	