

# Supplementary Materials: The Effects of Spatiotemporal Changes in Land Degradation on Ecosystem Services Values in Sanjiang Plain, China

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**Table S1.** Percentages of unchanged land areas to the corresponding land areas in 1954 (%).

Type	Paddy	Dry Farmland	Forest	Grassland	Water	Settlement	Marsh	Other
%	42.16	56.92	64.34	0.29	52.75	43.12	9.74	4.61

**Table S2.** Percentages of land degradation of different LULC types in different years.

Type	Paddy	Dry Farmland	Forest	Grassland	Water	Settlement	Marsh	Other
One-step	0.09	2.32	5.69	6.93	0.39	0.12	10.01	0.02
Two-steps	0.15	1.18	3.82	3.35	0.31	0.07	12.46	0.01
Three-steps	0.06	0.93	2.41	2.78	0.49	0.05	6.99	0.02
Four-steps	0.02	0.60	0.80	0.58	0.27	0.02	1.96	0.02

**Table S3.** Percentages (>0.06%) of one-step changes by codes, 1954–2005 (%).

Code	%										
11112	0.02	26666	0.44	33366	0.01	44443	0.01	61111	0.01	77744	0.43
12222	0.05	27777	0.02	33444	0.05	44888	0.01	62222	0.09	77755	0.03
16666	0.01	28888	0.01	33666	0.02	45555	0.02	63333	0.01	77771	0.22
21111	0.47	31111	0.03	34444	0.15	46666	0.13	71111	0.72	77772	0.25
22111	0.05	32222	2.03	36666	0.11	47777	0.08	72222	3.39	77773	0.01
22211	0.35	33222	1.05	37777	0.14	48888	0.01	73333	0.90	77774	0.23
22221	0.46	33311	0.01	38888	0.01	51111	0.02	74444	0.13	77775	0.02
22223	0.02	33322	1.50	41111	0.09	52222	0.05	75555	0.14	77778	0.07
22226	0.09	33331	0.01	42222	3.49	53333	0.03	76666	0.12	77788	0.10
22228	0.03	33332	0.25	43333	2.52	54444	0.01	77111	0.41	77888	0.02
22266	0.05	33334	0.09	44111	0.05	55558	0.02	77222	1.08	78888	0.09
22666	0.12	33336	0.01	44222	0.48	55588	0.03	77444	0.16	41111	0.09
23333	0.16	33337	0.06	44411	0.01	55888	0.01	77555	0.03	47777	0.08
24444	0.01	33338	0.02	44422	0.02	57777	0.18	77711	0.55	77778	0.07
25555	0.03	33344	0.15	44442	0.01	58888	0.03	77722	0.93	33337	0.06

**Table S4.** Percentages (>0.08%) of two-steps changes by codes, 1954–2005 (%).

Code	%										
72211	1.69	42221	0.50	77422	0.29	77112	0.17	44221	0.13	77447	0.10
72221	1.44	77877	0.49	77411	0.29	77441	0.15	33221	0.12	44122	0.09
77221	1.05	77721	0.45	34222	0.22	44211	0.15	77177	0.12	71112	0.09
77211	1.00	33233	0.43	77741	0.22	22212	0.14	77227	0.11	77727	0.09
33433	1.00	33422	0.43	77322	0.20	73222	0.14	37222	0.11	73322	0.08
77377	0.61	74222	0.42	72111	0.19	22122	0.14	33733	0.10	32211	0.08
77477	0.56	77277	0.39	77712	0.19	77742	0.14	22622	0.10	22322	0.08
42211	0.52	77122	0.32	47222	0.18	77244	0.14	32221	0.10	33722	0.08



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