

APPENDIX

Table A1. Structured procedure for evaluating *LE* based on the SPAR-4-SLR framework.

		Activity
Assembling	Identification	<p>Domain: <i>Land Economics (LE)</i>.</p> <p>Research objective: Provide a bibliometric retrospective of <i>LE</i>.</p> <p>Research questions:</p> <ol style="list-style-type: none"> 1) What is the current position of <i>LE</i> in the scientific community? 2) Which are the most cited articles of <i>LE</i>? 3) Which documents does <i>LE</i> cite more frequently? 4) Who are the most productive authors, institutions and countries of <i>LE</i>? 5) How is the co-citation and bibliographic coupling structure of <i>LE</i>? 6) How is the keyword and topical structure of <i>LE</i>?
	Acquisition	<p>Search platform: WoS Core Collection.</p> <p>Search period: 1925-2024. The search was performed in May 2025.</p> <p>Publication Title: <i>Land Economics</i> OR <i>Journal of Land and Public Utility Economics</i>.</p> <p>Results = 5,552.</p> <p>Additional results: JCR (WoS), Sources (Scopus) and SciVal (Scopus).</p>
Arranging	Purification	<p>Filter 1. Exclude 2025 (1925-2024).</p> <p>Number of documents: 5,538.</p> <p>Filter 2: Article & Review & Note.</p> <p>Final number: 4,399 documents.</p> <p>Computer software: VOS viewer, <i>bibliometrix</i>, <i>biblioshiny</i> and Microsoft Excel.</p>
Assessing	Evaluation	<p>Performance analysis:</p> <ol style="list-style-type: none"> 1) Rankings with bibliometric indicators according to the number of articles and citations. 2) Bibliometric indicators: Number of documents and citations, cites per paper, the H-index, cites per year, papers and cites per capita, and temporal classification. <p>Graphical analysis:</p> <ol style="list-style-type: none"> 1) Mapping with VOS viewer and <i>bibliometrix</i> software. 2) Analysis with co-citation, bibliographic coupling, and co-occurrence of author keywords. <p>Agenda proposal method:</p> <ol style="list-style-type: none"> 1) Present a bibliometric review of <i>LE</i> between 1925 and 2024. 2) Analyze the leading and current trends of <i>LE</i>. 3) Study open questions for future research.
	Reporting	<p>Reporting conventions: Explanations with numbers, tables and figures.</p> <p>Limitations:</p> <ol style="list-style-type: none"> 1) The bibliographic information is from May 2025 but changes through time. 2) The weaknesses of the WoS database influence the results of this study. 3) It is not easy to compare the publication and citation characteristics of different subfields.

Table A2. Annual citation distribution of *LE* publications (1925–2024).

Year	TP	TC	≥200	≥100	≥50	≥20	≥10	≥5	≥1	T50
1925	38	71	0	0	0	1	1	3	23	0
1926	33	74	0	0	0	1	1	5	13	0
1927	32	28	0	0	0	0	0	1	13	0
1928	36	38	0	0	0	0	0	1	21	0
1929	34	27	0	0	0	0	0	1	15	0
1930	37	19	0	0	0	0	0	0	12	0
1931	29	21	0	0	0	0	0	0	12	0
1932	35	27	0	0	0	0	0	0	17	0
1933	36	41	0	0	0	0	0	2	17	0
1934	32	25	0	0	0	0	0	1	14	0
1935	57	23	0	0	0	0	0	0	19	0
1936	71	72	0	0	0	0	1	3	33	0
1937	64	29	0	0	0	0	0	2	16	0
1938	71	41	0	0	0	0	0	1	23	0
1939	71	41	0	0	0	0	0	0	28	0
1940	73	79	0	0	0	1	1	2	24	0
1941	66	40	0	0	0	0	1	1	20	0
1942	63	59	0	0	0	0	2	4	18	0
1943	49	40	0	0	0	0	0	2	18	0
1944	36	26	0	0	0	0	0	2	12	0
1945	37	35	0	0	0	0	0	3	12	0
1946	43	37	0	0	0	0	0	2	15	0
1947	40	36	0	0	0	0	0	2	14	0
1948	39	47	0	0	0	0	2	3	13	0
1949	43	100	0	0	0	0	2	7	21	0
1950	42	49	0	0	0	0	0	3	16	0
1951	33	36	0	0	0	0	1	3	10	0
1952	42	67	0	0	0	0	0	4	24	0
1953	34	108	0	0	1	1	2	5	18	0
1954	39	146	0	0	0	2	2	10	26	0
1955	33	85	0	0	0	0	3	6	21	0
1956	40	147	0	0	0	1	5	9	24	0
1957	37	132	0	0	0	1	3	8	18	0
1958	29	102	0	0	1	1	1	3	17	0
1959	27	53	0	0	0	0	1	4	16	0
1960	43	188	0	1	1	1	2	7	23	0
1961	40	125	0	0	0	1	2	8	23	0
1962	36	306	0	1	2	4	6	7	23	0
1963	40	714	1	1	3	5	9	12	25	1
1964	56	202	0	0	1	2	4	15	37	0
1965	57	379	0	1	2	2	7	13	37	0
1966	65	420	0	1	2	5	8	11	37	1
1967	62	262	0	0	0	3	7	16	43	0

1968	63	296	0	0	2	3	8	13	34	0
1969	59	209	0	0	0	0	7	17	43	0
1970	56	247	0	0	0	2	8	17	44	0
1971	53	204	0	0	1	3	4	8	36	0
1972	67	279	0	0	1	2	10	18	41	0
1973	60	396	0	0	2	4	10	24	47	0
1974	62	370	0	0	0	6	10	23	49	0
1975	35	388	0	0	2	6	11	16	30	0
1976	47	684	1	1	2	7	14	26	41	1
1977	43	407	0	1	2	6	9	17	36	0
1978	46	790	0	1	5	11	17	25	42	0
1979	43	571	0	1	3	9	14	21	36	0
1980	38	1,229	1	3	7	17	22	27	36	1
1981	61	1,162	0	3	8	14	22	35	58	0
1982	48	1,200	1	3	6	15	23	32	44	1
1983	44	669	0	2	3	9	16	25	40	0
1984	49	1,184	2	3	4	11	21	31	43	2
1985	52	1,247	0	5	5	17	21	32	45	1
1986	47	989	1	2	3	15	20	31	43	1
1987	42	712	0	0	6	8	17	22	36	0
1988	37	782	0	1	6	11	18	23	34	0
1989	41	1,132	0	4	6	16	22	28	37	1
1990	41	1,668	1	5	10	22	29	37	40	1
1991	42	1,436	2	3	8	17	25	32	39	2
1992	39	2,707	1	4	10	18	25	32	38	1
1993	39	1,323	1	3	8	18	26	29	36	1
1994	43	1,868	2	6	11	18	35	38	42	3
1995	45	1,427	1	2	10	22	30	34	43	1
1996	37	2,461	3	8	15	25	30	32	36	4
1997	40	2,265	0	6	18	31	37	40	40	1
1998	37	2,228	2	3	12	27	31	35	37	2
1999	42	1,882	0	3	19	29	33	38	41	0
2000	44	2,518	1	7	18	33	37	41	44	3
2001	42	2,248	1	10	15	30	36	39	41	2
2002	42	2,610	3	9	18	29	35	40	41	3
2003	39	2,237	3	5	11	26	34	38	39	3
2004	39	1,634	1	3	13	20	31	34	37	2
2005	36	2,149	2	6	13	29	33	33	36	2
2006	36	1,314	0	2	11	25	32	34	36	0
2007	35	1,277	0	4	9	17	26	31	35	1
2008	42	2,030	1	6	14	26	33	37	42	2
2009	46	1,571	0	1	12	29	40	41	45	0
2010	44	1,638	0	3	11	27	35	41	43	0
2011	44	1,455	1	2	10	23	36	41	44	1
2012	41	1,441	1	2	7	21	31	39	41	2

2013	39	1,538	1	4	8	21	32	37	39	2
2014	37	1,414	1	2	6	17	27	33	37	1
2015	39	1,032	0	1	6	21	33	35	37	0
2016	39	785	0	1	2	14	27	35	39	0
2017	36	516	0	0	1	10	20	31	35	0
2018	35	518	0	0	0	9	20	28	35	0
2019	34	395	0	0	0	7	14	24	33	0
2020	33	274	0	0	0	3	11	19	31	0
2021	52	268	0	0	0	1	8	21	48	0
2022	39	188	0	0	0	0	4	17	37	0
2023	33	72	0	0	0	0	0	5	25	0
2024	35	61	0	0	0	0	1	3	24	0
1975-24	2,059	63,594	35	141	374	837	1,204	1,515	1,937	48
% 75-24	100	-	1.70	6.85	18.16	40.65	58.47	73.58	94.07	-
Total	4,399	70,192	36	146	393	889	1,335	1,827	3,112	50
% Total	100	-	0.82	3.32	8.93	20.21	30.35	41.53	70.74	-

Abbreviations: TP and TC = Total papers and citations; ≥ 200 , ≥ 100 , ≥ 50 , ≥ 20 , ≥ 10 , ≥ 5 , ≥ 1 = Number of papers with equal or more than 200, 100, 50, 20, 10, 5 and 1 citations; T50 = Number of documents in the Top 50 of Table A3.

Table A3. The 50 most cited papers in *LE* (1925–2024), ranked by total and annual citations.

R	Title	Author/s	Year	TC	C/Y
1	Property-rights regimes and natural resources - a conceptual analysis	Schlager, E; Ostrom, E	1992	1,389	42.09
2	Recreation demand models with taste differences over people	Train, KE	1998	673	24.93
3	A probabilistic analysis of shopping-center trade areas	Huff, DL	1963	438	7.06
4	Price and income elasticities of residential water demand: A meta-analysis	Dalhuisen, JM; Florax, RJGM; de Groot, HLF; Nijkamp, P	2003	409	18.59
5	The adoption and impact of soil and water conservation technology: An endogenous switching regression application	Abdulai, A; Huffman, W	2014	400	36.36
6	The effects of open space on residential property values	Irwin, EG	2002	398	17.30
7	Contingent valuation and revealed preference methodologies: Comparing the estimates for quasi-public goods	Carson, RT; Flores, NE; Martin, KM; Wright, JL	1996	364	12.55
8	Modeling the drivers of urban land use change in the Pearl River Delta, China: Integrating remote sensing with socioeconomic data	Seto, KC; Kaufmann, RK	2003	349	15.86
9	Why do firms volunteer to exceed environmental regulations? Understanding participation in EPA’s 33/50 program	Arora, S; Cason, TN	1996	299	10.31
10	The concept of value in resource-allocation	Brown, TC	1984	297	7.24
11	Grain for green: Cost-effectiveness and sustainability of China's conservation set-aside program	Uchida, E; Xu, JT; Rozelle, S	2005	292	14.60
12	Destination choice models for rock climbing in the Northeastern Alps: A latent-class approach based on intensity of a latent-class approach preferences	Scarpa, R; Thiene, M	2005	286	14.30
13	Micro-neighborhood externalities and hedonic housing prices	Li, MM; Brown, HJ	1980	286	6.36
14	A critical review of the individual quota as a device in fisheries management	Copes, P	2019	284	7.28
15	Effects of flood hazards on property values: Evidence before and after Hurricane Floyd	Bin, O; Polasky, S	2004	271	12.90
16	Factors affecting the use of soil conservation practices - hypotheses, evidence, and policy implications	Ervin, CA; Ervin, DE	1982	262	6.09
17	Valuing urban wetlands: A property price approach	Mahan, BL; Polasky, S; Adams, RM	2000	252	10.08
18	Corporate environmental management: Regulatory and market-based incentives	Khanna, M; Anton, WRQ	2002	242	10.52
19	Value of time in recreation benefit studies	Cesario, FJ	1976	242	4.94
20	Which response format reveals the truth about donations to a public good?	Brown, TC; Champ, PA; Bishop, RC; McCollum, DW	1996	229	7.90
21	Hypothetical surveys and real economic commitments	Neill, HR; Cummings, RG; Ganderton, PT; Harrison, GW; McGuckin, T	1994	229	7.39
22	Demand side management policies for residential water use: Who bears the conservation burden?	Renwick, ME; Archibald, SO	2018	226	8.37
23	Selecting biological reserves cost-effectively: An application to terrestrial vertebrate conservation in Oregon	Polasky, S; Camm, JD; Garber-Yonts, B	2001	224	9.33
24	Confidence-intervals for evaluating benefits estimates from dichotomous choice contingent valuation studies	Park, T; Loomis, JB; Creel, M	1991	220	6.47
25	Valuing option, existence, and bequest demands for wilderness	Walsh, RG; Loomis, JB; Gillman, RA	1984	220	5.37

26	A discrete-continuous choice approach to residential water demand under block rate pricing	Hewitt, JA; Hanemann, WM	1995	216	7.20
27	A nonparametric approach to the estimation of welfare measures in discrete response valuation studies	Kristrom, B	1990	216	6.17
28	Forest conservation and slippage: Evidence from Mexico's national payments for ecosystem services program	Alix-Garcia, JM; Shapiro, EN; Sims, KRE	2012	214	16.46
29	How can African agriculture adapt to climate change? A counterfactual analysis from Ethiopia	Di Falco, S; Veronesi, M	2013	213	17.75
30	Measuring the existence value of wildlife - what do CVM estimates really show	Stevens, TH; Echeverria, J; Glass, RJ; Hager, T; More, TA	1991	212	6.24
31	Deforestation and the rule of law in a cross-section of countries	Deacon, RT	1994	209	6.74
32	The impact of the Miami Metrorail on the value of residences near station locations	Gatzlaff, DH; Smith, MT	1993	209	6.53
33	Impacts of land certification on tenure security, investment, and land market participation: Evidence from Ethiopia	Deininger, K; Ali, DA; Alemu, T	2011	208	14.86
34	The cost-effectiveness of conservation payments	Ferraro, PJ; Simpson, RD	2002	208	9.04
35	Climate, water, and agriculture	Mendelsohn, R; Dinar, A	2003	207	9.41
36	Public benefits, private benefits, and policy mechanism choice for land-use change for environmental benefits	Pannell, DJ	2008	201	11.82
37	What drives land use change in the United States? A national analysis of landowner decisions	Lubowski, RN; Plantinga, AJ; Stavins, RN	2008	195	11.47
38	Do payments for environmental services affect forest cover? A farm-level evaluation from Costa Rica	Arriagada, RA; Ferraro, PJ; Sills, EO; Pattanayak, SK; Cordero-Sancho, S	2012	193	14.85
39	Do tropical forests provide natural insurance? The microeconomics of non-timber forest product collection in the Brazilian Amazon	Pattanayak, SK; Sills, EO	2001	193	8.04
40	Fuelwood consumption and forest degradation: A household model for domestic energy substitution in rural India	Heltberg, R; Arndt, TC; Sekhar, NU	2000	193	7.72
41	Patterns of behavior in endangered species preservation	Metrick, A; Weitzman, ML	1996	192	6.62
42	Conservation tillage - the role of farm and operator characteristics and the perception of soil-erosion	Gould, BW; Saupe, WE; Klemme, RM	1989	192	5.33
43	Targeting tools for the purchase of environmental amenities	Babcock, BA; Lakshminarayan, PG; Wu, JJ; Zilberman, D	1997	189	6.75
44	Normative and social influences affecting compliance with fishery regulations	Hatcher, A; Jaffry, S; Thébaud, O; Bennett, E	2000	179	7.16
45	Benefit estimates for landscape improvements: Sequential Bayesian design and respondents' rationality in a choice experiment	Scarpa, R; Campbell, D; Hutchinson, WG	2007	178	9.89
46	Forgetting the flood? An analysis of the flood risk discount over time	Atreya, A; Ferreira, S; Kriesel, W	2013	173	14.42
47	Estimating leakage from forest carbon sequestration programs	Murray, BC; McCarl, BA; Lee, HC	2004	173	8.24
48	Validation of empirical measures of welfare change - a comparison of nonmarket techniques	Seller, C; Stoll, JR; Chavas, JP	1985	173	4.33
49	Valuing environmental functions - tropical wetlands	Barbier, EB	1994	165	5.32
50	Programmed solution for approximating an optimum retail location	Huff, DL	1966	165	2.80

Abbreviations: R = Rank; TC = Total citations; C/Y = Cites per year.

Table A4 presents the most prolific contributors among institutions and countries, based on the number of unique publications that cite *LE* (TP denotes unique citing publications). Institutionally, the U.S. Department of Agriculture dominates with 850 unique citing publications, aligning with its mandate on agricultural economics, conservation, and resource management. It is followed by CGIAR (606), a global partnership focused on food systems and sustainability, and Michigan State University (549), which has a strong tradition in applied environmental and agricultural economics. These institutions underscore *LE*'s utility in policy-driven and interdisciplinary research agendas.

At the national level, the United States overwhelmingly leads with 18,741 unique citing articles, constituting nearly half of all unique citing articles to *LE*. This reflects the journal's U.S. origins and its alignment with key research themes in American environmental and resource economics. However, international engagement is also significant: China (3,861), the United Kingdom (3,654), Canada (2,413), and Australia (2,380) form the next tier of contributors, indicating *LE*'s broad global visibility and growing relevance across diverse geographic contexts.

Table A5 identifies the 49 most productive institutions in *LE*, ranked by the number of publications (TP), total citations (TC), and citation-per-paper (C/P) rates, alongside H-index values and their temporal contributions across four eras (D1 to D4). The University of Wisconsin–Madison (USA) emerges as the leading institution with 124 papers, 3,701 citations, and an H-index of 29. Its dominance is further marked by a consistent publication pattern across all decades, with especially strong representation in the early periods (D1 and D2).

The U.S. Department of Agriculture (USDA) ranks second with 101 publications and the highest cumulative citation count (4,284), reflecting both its policy relevance and research longevity. Notably, USDA also holds the highest H-index (35) and a robust citation-per-paper ratio (42.42), indicating sustained scholarly influence.

Oregon State University and the University of Maryland—each with over 50 publications and citation rates exceeding 35 per paper—demonstrate concentrated academic output in applied environmental and land policy research. The U.S. Forest Service also stands out with a C/P of 58.98, further underscoring the impact of government-affiliated research bodies in shaping *LE*'s scholarly footprint.

Table A4. Most active contributors in citing *LE* articles, categorized by institutions and countries.

R	University	TP	Country	TP
1	US Dep Agric	850	USA	18,741
2	CGIAR	606	PR China	3,861
3	Michigan State U	549	UK	3,654
4	United States Forest Service	538	Canada	2,413
5	U Wisconsin Madison	507	Australia	2,380
6	Chinese Academy of Sciences	483	Germany	2,082
7	INRAE	481	Spain	1,568
8	Oregon State U	465	France	1,381
9	Ohio State U	460	Netherlands	1,361
10	Colorado State U Fort Collins	445	Italy	1,236
11	U Florida	445	Sweden	1,029
12	U Illinois Urbana Champaign	441	Japan	885
13	U California Berkeley	429	Norway	842
14	Wageningen U Research	421	India	637
15	Texas AM U College Station	413	South Korea	610
16	U Maryland College Park	412	Denmark	575
17	CNRS France	396	Switzerland	565
18	U Georgia	387	New Zealand	516
19	Arizona State U	384	Finland	486
20	U California Davis	380	South Africa	475
21	Duke U	378	Belgium	464
22	Cornell U	376	Brazil	409
23	U British Columbia	354	Taiwan	363
24	Natl Oceanic Atmosph Admin	341	Chile	360
25	U Washington	339	Mexico	354
26	Leibniz Association	337	Ethiopia	332
27	North Carolina State U	336	Turkey	330
28	U Washington Seattle	335	Poland	323
29	Arizona State U Tempe	324	Austria	322
30	U Copenhagen	323	Portugal	287

Abbreviations: R = Rank; TP = Total papers.

Table A5. Most productive institutions in *LE*.

R	Institution	Country	TP	TC	H	C/P	D1	D2	D3	D4
1	U Wisconsin Madison	USA	124	3,701	29	29.85	40	42	32	10
2	US Dep Agriculture (USDA)	USA	101	4,284	35	42.42	15	31	40	15
3	Oregon State U	USA	60	2,605	28	43.42	6	17	30	7
4	U Illinois Urbana Champaign	USA	60	2,199	22	36.65	16	18	16	10
5	U Maryland College Park	USA	59	2,218	27	37.59	6	21	28	4
6	US Forest Service	USA	51	3,008	29	58.98	8	13	26	4
7	Cornell U	USA	50	1,297	19	25.94	6	18	17	9
8	Ohio State U	USA	45	1,995	23	44.33	5	14	15	11
9	U California Davis	USA	45	1,569	20	34.87	3	27	10	5
10	Michigan State U	USA	45	731	12	16.24	8	11	12	14
11	U Rhode Island	USA	42	1,636	20	38.95	2	11	19	10
12	Pennsylvania State U U Park	USA	41	1,115	19	26.55	8	16	9	9
13	U Wyoming	USA	41	1,258	18	30.68	2	13	23	3
14	Colorado State U Fort Collins	USA	39	1,233	15	31.62	7	12	8	12
15	Resources for the Future	USA	38	1,268	18	33.37	3	15	11	9
16	Penn State Behrend	USA	38	969	18	25.5	7	14	9	8
17	U California Berkeley	USA	36	2,263	14	62.86	9	13	9	5
18	U Florida	USA	35	1,023	14	29.23	8	11	8	8
19	North Carolina State U	USA	34	1,644	18	48.35	0	10	20	4
20	U Georgia	USA	34	1,084	17	31.88	3	10	12	9
21	U Delaware	USA	34	919	15	27.03	0	18	10	6
22	Texas AM U College Station	USA	33	1,197	13	36.27	5	10	13	5
23	Purdue U	USA	33	893	15	27.06	2	12	9	10
24	U Kentucky	USA	33	698	12	21.15	11	10	8	4
25	U Minnesota Twin Cities	USA	31	2,010	17	64.84	2	13	11	5
26	U Washington Seattle	USA	31	340	10	10.97	11	9	4	7
27	U Arizona	USA	30	2,601	15	86.7	3	19	6	2
28	Duke U	USA	30	1,393	17	46.43	3	6	15	6
29	Iowa State U	USA	30	989	15	32.97	7	3	10	10
30	Washington State U	USA	30	802	14	26.73	8	10	10	2
31	Virginia Polytech Inst St U	USA	30	750	16	25	1	12	11	6
32	US Environ Protection Agency	USA	29	1,292	18	44.55	0	8	12	9
33	U British Columbia	CAN	29	766	16	26.41	8	10	10	1
34	The World Bank	USA	27	1,670	19	61.85	0	11	11	5
35	U Connecticut	USA	27	378	8	14	6	3	7	11
36	U Colorado Boulder	USA	26	1,436	13	55.23	7	5	12	2
37	U Maine Orono	USA	26	1,396	18	53.69	0	10	15	1
38	Arizona State U	USA	25	498	13	19.92	1	5	10	9
39	U Alberta	CAN	25	436	12	17.44	1	8	8	8
40	Arizona State U Tempe	USA	23	442	12	19.22	1	5	9	8
41	Norwegian U Life Sciences	NOR	20	891	14	44.55	0	0	12	8
42	Nat Oceanic Atmosph Admin	USA	20	731	13	36.55	0	2	13	5
43	Harvard U	USA	19	1,424	12	74.95	6	7	5	1
44	U California Los Angeles	USA	19	596	10	31.37	8	8	3	0
45	U Michigan	USA	19	554	10	29.16	3	10	6	0
46	U New Mexico	USA	19	549	12	28.89	0	8	8	3
47	U Missouri Columbia	USA	19	503	7	26.47	9	6	2	2
48	Georgia State U	USA	18	1,224	14	68	0	4	11	3
49	3 institutions	-	17	-	-	-	-	-	-	-

Abbreviations are available in Table 7 in the main text.

Institutions such as the University of California–Berkeley ($C/P = 62.86$), University of Minnesota–Twin Cities ($C/P = 64.84$), and University of Arizona ($C/P = 86.70$) reflect high citation efficiency despite producing fewer than 40 papers each. These results suggest that while publication volume remains a critical indicator of institutional involvement, several elite universities exert influence through highly cited, often interdisciplinary contributions.

The vast majority of listed institutions are based in the United States, highlighting *LE*'s historical U.S.-centrism. Non-U.S. representation includes the University of British Columbia and the University of Alberta (Canada), as well as the Norwegian University of Life Sciences. However, these appear less frequently and often with smaller temporal coverage, suggesting limited but emerging international engagement in recent decades.

Temporal analysis shows that while several institutions had their most productive periods in the early decades (e.g., D1 for Wisconsin and USDA), a significant number of institutions intensified their contribution in the post-1995 period (D3 and D4), indicating a shift toward modern, environmentally focused policy research. Institutions like the University of Georgia, Arizona State University, and the World Bank show diverse patterns of contribution across all eras, revealing a mix of academic and policy-driven knowledge production.

Table A6 presents the 50 most active countries in *LE*, ranking them by total publications (TP), total citations (TC), H-index, citation-per-paper (C/P), and two population-normalized metrics: papers per million inhabitants (P/Po) and citations per million inhabitants (C/Po). The United States stands as the journal's epicenter with 2,197 papers and 64,108 citations, yielding a dominant H-index of 119 and a P/Po of 6.33—over four times higher than the global median. The U.S. also shows balanced temporal contributions across all four eras, reflecting its longstanding leadership in land and environmental economics. Canada and the UK follow distantly in publication count but demonstrate high citation density and influence. Canada's H-index (31) and C/Po (96.76) indicate broad dissemination relative to population, while the UK outperforms in C/P (38.4) and H-index (36), with a publication surge post-1995. Notably, smaller nations like Norway, New Zealand, Denmark, and Switzerland rank far higher when population-adjusted metrics are considered. Norway, for instance, despite publishing just 60 papers, leads all countries in citations per million inhabitants ($C/Po = 314.41$), followed by New Zealand (209.77) and Denmark (170.39), highlighting their outsized intellectual contributions.

Table A6. Most productive and influential countries in *LE*.

R	Country	TP	TC	H	C/P	D1	D2	D3	D4	P/Po	C/Po
1	USA	2,197	64,108	119	29.18	571	776	592	258	6.33	184.6
2	Canada	165	3,883	31	23.53	36	62	47	20	4.11	96.76
3	UK	109	4,186	36	38.4	6	16	57	30	1.57	60.19
4	Germany	60	1,805	21	30.08	2	2	20	36	0.71	21.47
5	Norway	60	1,767	25	29.45	0	7	33	20	10.68	314.41
6	Australia	57	2,052	23	36	3	15	29	10	2.11	76.08
7	Sweden	36	958	19	26.61	1	5	21	9	3.38	89.87
8	PR China	32	794	15	24.81	0	1	10	21	0.02	0.56
9	Japan	26	662	12	25.46	2	2	12	10	0.21	5.35
10	New Zealand	25	1,074	13	42.96	2	4	11	8	4.88	209.77
11	France	23	1,000	15	43.48	0	0	16	7	0.35	15.24
12	Netherlands	21	1,203	13	57.29	0	0	16	5	1.18	67.7
13	Denmark	21	1,007	12	47.95	0	1	9	11	3.55	170.39
14	Italy	15	807	8	53.8	2	0	6	7	0.25	13.71
15	Spain	14	585	11	41.79	0	1	10	3	0.29	12.25
16	Finland	12	243	8	20.25	1	3	6	2	2.16	43.71
17	Switzerland	11	451	7	41	0	2	3	6	1.25	51.25
18	Chile	8	289	3	36.12	5	1	1	1	0.41	14.83
19	Ireland	8	235	6	29.38	0	0	5	3	1.51	44.34
20	Mexico	8	67	3	8.38	4	0	2	2	0.06	0.52
21	Israel	7	176	5	25.14	2	2	3	0	0.71	17.96
22	India	7	50	3	7.14	1	1	0	5	0	0.03
23	Singapore	6	25	3	4.17	0	1	0	5	1.01	4.22
24	South Korea	5	125	5	25	0	0	1	4	0.1	2.42
25	Indonesia	5	104	4	20.8	0	0	2	3	0.02	0.36
26	Poland	5	85	3	17	0	0	1	4	0.13	2.25
27	Brazil	5	74	4	14.8	0	0	3	2	0.02	0.35
28	Greece	5	50	2	10	1	1	2	1	0.48	4.76
29	Ethiopia	4	351	4	87.75	0	0	2	2	0.03	2.6
30	Austria	4	47	2	11.75	0	0	0	4	0.44	5.16
31	Belgium	4	26	4	6.5	0	0	2	2	0.34	2.2
32	Colombia	3	96	3	32	1	0	1	1	0.06	1.85
33	Kenya	3	72	3	24	0	0	2	1	0.05	1.31
34	Iran	3	18	3	6	1	2	0	0	0.03	0.2
-	13 countries	2	-	-	-	-	-	-	-	-	-
-	16 countries	1	-	-	-	-	-	-	-	-	-

Abbreviations are available in Table 7 in the main text, except for: P/Po and C/Po = Papers and cites per million inhabitants.

Conversely, populous nations such as China and India register modest engagement with *LE* despite their broader research expansions. China, with 32 papers and 794 citations, yields a P/Po of only 0.02, and India registers the lowest C/Po (0.03) among countries with at least five papers. These disparities suggest that *LE*'s niche remains concentrated in economically advanced, Anglophone, and environmentally policy-focused regions.

The data also show the emergence of Global South nations—such as Ethiopia, Chile, and Kenya—with high citation-per-paper scores relative to their volume, possibly indicating the influence of region-specific, high-impact contributions or collaborations. Ethiopia, for instance, has a C/P of 87.75 from just 4 papers, suggesting targeted but influential scholarship.

Temporal distribution reveals that most countries increased their publication share in the post-1995 period (D3 and D4), particularly in Europe, Oceania, and East Asia. This shift aligns with the globalization of environmental policy discourse and the growing relevance of interdisciplinary land use studies in national research agendas. Nonetheless, the dominance of the U.S. and its institutions remains structurally embedded in the journal's citation and publication architecture.

Table A7 presents the longitudinal trajectory of contributions to *LE* by the top 20 countries and top 10 institutions from 2005 to 2024. The United States consistently dominates the journal's authorship landscape with an average of ~27 papers annually and no single year falling below 18 publications. The U.S.'s sustained productivity reflects its entrenched institutional presence and intellectual leadership in land and environmental economics, corroborated by the dominant roles of institutions such as the University of Wisconsin–Madison, USDA, and Oregon State University.

Among other countries, Canada and the UK show modest but consistent activity, with peak years of contribution emerging after 2010, indicating growing scholarly attention to *LE*-aligned topics within these countries' research agendas. Germany, Norway, and Australia also reflect this upward trend, although their annual outputs exhibit more variability. Notably, Norway maintains a relatively steady presence despite its smaller population base, aligning with its high population-normalized productivity observed in Table A6.

In Asia, China and Japan demonstrate a gradual increase in publications over the two decades. China, while still underrepresented in total output, has expanded its contributions since 2015, reflecting the broader globalization of environmental economics scholarship. Conversely,

countries like Sweden, Denmark, and the Netherlands exhibit episodic contributions that cluster in specific years, likely driven by collaborative or policy-relevant projects.

On the institutional front, the University of Wisconsin–Madison leads with 124 papers, though its output is concentrated in earlier years (notably 2011–2013), with fewer recent contributions. The USDA displays consistent productivity across the full period, indicative of its central role in policy-driven research. Other U.S. institutions such as Oregon State, Illinois Urbana-Champaign, and the US Forest Service maintain moderate but stable output levels.

Institutional participation from outside the U.S. remains limited in this list, underscoring *LE*'s traditional North American orientation. However, recent increases in contributions from institutions like Cornell, Michigan State, and Ohio State may signal renewed interest in *LE*'s thematic focus, possibly driven by evolving policy frameworks and interdisciplinary research trends.

The table illustrates a pattern of concentration—both geographically and institutionally—suggesting that while *LE* maintains a global readership, its authorship base is primarily situated in a selective group of North American public research institutions. This concentration highlights both the journal's legacy within this scholarly community and the potential for diversification as environmental challenges become increasingly global.

Table A7. Annual publication trends (2005–2024) of the most productive countries and institutions contributing to *LE*.

R	Country	Total	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	USA	2,197	26	22	22	28	29	28	33	28	33	23	21	25	24	26	26	27	36	31	18	24
2	Canada	165	1	2	7	2	5	2	4	3	1	0	2	0	2	3	2	3	0	2	4	2
3	UK	109	3	2	4	4	3	5	2	4	4	2	4	2	1	3	2	0	9	3	4	2
4	Germany	60	1	0	2	2	1	1	3	5	1	3	4	3	5	1	1	1	7	2	8	4
5	Norway	60	3	1	1	1	4	3	3	1	0	3	4	3	2	0	1	1	5	2	2	0
6	Australia	57	3	1	1	4	3	1	1	4	1	1	1	2	0	0	3	0	2	1	1	0
7	Sweden	36	2	0	0	1	1	1	3	2	1	1	1	0	1	3	0	0	2	1	0	1
8	PR China	32	0	1	0	0	0	1	2	1	1	1	1	1	2	4	1	2	4	2	2	2
9	Japan	26	1	0	0	2	3	1	0	1	1	0	2	2	0	0	0	1	3	0	1	1
10	New Zealand	25	1	1	1	1	1	2	1	0	0	1	0	2	0	0	3	1	1	1	0	0
11	France	23	1	3	0	0	1	1	2	0	1	2	2	2	1	0	0	0	1	0	0	1
12	Netherlands	21	0	2	1	1	2	3	0	0	1	2	1	1	1	1	1	0	0	0	0	0
13	Denmark	21	1	0	2	2	0	0	0	0	0	1	3	0	1	0	1	0	3	1	1	1
14	Italy	15	1	0	0	0	1	1	0	1	1	0	0	1	0	2	0	0	1	1	1	1
15	Spain	14	0	1	0	1	2	1	0	1	1	3	1	1	1	0	0	0	0	0	0	0
16	Finland	12	0	0	0	0	0	1	1	0	1	1	1	0	0	0	0	0	0	1	0	0
17	Switzerland	11	0	0	0	0	0	1	0	0	2	0	2	0	1	1	0	1	1	0	0	0
18	Chile	8	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0
19	Ireland	8	0	1	0	1	0	1	0	0	1	0	1	0	0	0	0	0	1	0	0	1
20	Mexico	8	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0	1	0	0	0	0
R	Institution	Total	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	U Wisconsin Madison	124	0	1	1	1	1	0	3	3	5	0	1	2	0	1	2	0	1	3	0	0
2	US Dep Agriculture	101	1	3	3	3	3	1	1	3	2	1	2	2	2	1	2	0	3	1	0	2
3	Oregon State U	60	1	2	1	4	1	2	2	1	1	0	1	0	1	0	1	1	1	0	1	1
4	U Illinois Urbana Champaign	60	0	1	0	0	1	0	2	1	1	4	1	0	1	2	2	1	1	1	1	0
5	U Maryland College Park	59	1	2	2	1	2	0	1	1	1	0	0	1	0	0	0	2	1	0	0	0
6	US Forest Service	51	1	3	1	2	2	1	0	1	1	0	0	0	0	0	1	0	1	1	0	1
7	Cornell U	50	0	0	0	2	1	0	3	0	0	1	0	0	1	0	1	3	1	1	0	2
8	Ohio State U	45	1	0	1	1	1	1	0	0	1	2	0	2	1	1	1	1	1	3	0	1
9	U California Davis	45	1	0	1	1	0	1	2	0	0	1	0	0	2	0	1	0	1	0	1	0
10	Michigan State U	45	0	0	2	0	3	0	0	1	2	0	0	1	2	1	2	3	1	3	0	1

Abbreviations: R = Rank; 05-24 = Annual number of documents published between 2005 and 2024.

Table A8 categorizes the publication performance of *LE* by supranational regions, illustrating pronounced geographic concentration. North America overwhelmingly dominates, accounting for 2,334 papers (nearly 83% of the total) with 66,958 citations, an H-index of 120, and 28.69 citations per paper. This aligns with the historical roots of the journal and the centrality of U.S. and Canadian institutions in land and resource economics. Additionally, the high paper- and citation-per-million-population indicators (6.03 and 173.04, respectively) underscore the region's intellectual density and infrastructural support for sustained scholarly output.

Europe ranks second, contributing 341 publications with a cumulative 11,494 citations and a high H-index of 56. While its total output is modest relative to North America, Europe demonstrates a higher citation-per-paper rate (33.71), indicating a stronger average impact. Temporal distribution reveals an acceleration of European contributions post-1995, likely influenced by EU-wide funding schemes and growing interest in sustainability economics.

Asia contributes 100 papers, with a relatively low C/P value (22.08), reflecting limited yet growing engagement. Importantly, most of these papers were published in the most recent decade (D4), showing a clear upward trajectory led by China and Japan. Despite this, Asia exhibits minimal productivity and impact per capita, suggesting untapped potential and possible access barriers or prioritization of local journals.

Oceania, driven mainly by Australian and New Zealand institutions, provides 77 papers and 2,932 citations, boasting the highest citation-per-paper ratio (38.08) among all regions. Its strong performance normalized by population (1.66 papers and 63.09 citations per million) further confirms Oceania's high-efficiency research output, particularly notable given its small population base.

Latin America and Africa remain underrepresented with 32 and 16 papers, respectively, although Africa's citation-per-paper ratio (36.44) is on par with leading regions, driven by a few high-impact studies. Both regions show minimal per-capita indicators, pointing to systemic limitations in research funding and visibility in top-tier economics journals.

The table highlights the persistent geographical concentration of *LE*'s authorship in the Global North, particularly in North America, with emerging contributions from Asia and underexploited participation from the Global South. These findings echo broader patterns in

economic research and underscore the journal’s opportunity to engage more diverse regional perspectives as global sustainability and land use issues intensify.

Table A8. Regional distribution of publication and citation output in *LE*.

R	Region	TP	TC	H	C/P	D1	D2	D3	D4	P/Pop	C/Pop
1	North America	2,334	66,958	120	28.69	605	828	627	274	6.03	173.04
2	Europe	341	11,494	56	33.71	13	37	174	117	0.46	15.44
3	Asia	100	2,208	29	22.08	7	11	37	45	0.02	0.46
4	Oceania	77	2,932	27	38.08	5	19	37	16	1.66	63.09
5	Latin America	32	762	13	23.81	12	1	11	8	0.05	1.14
6	Africa	16	583	9	36.44	1	2	7	6	0.01	0.38

Abbreviations are available in Table 7 in the main text and Table A6 herein.

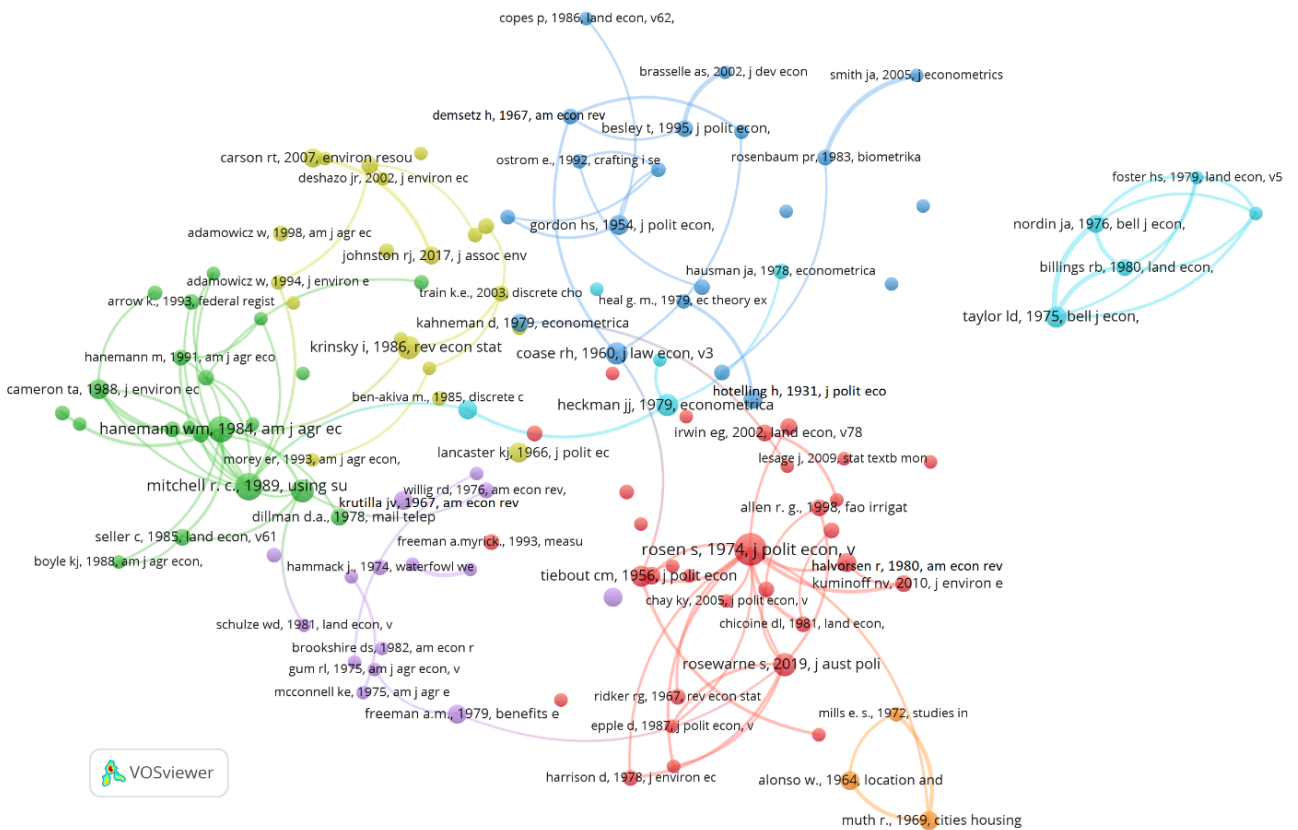


Figure A2. Co-citation map of documents cited in *LE*, based on a minimum threshold of 15 citations and 100 links (VOSviewer).

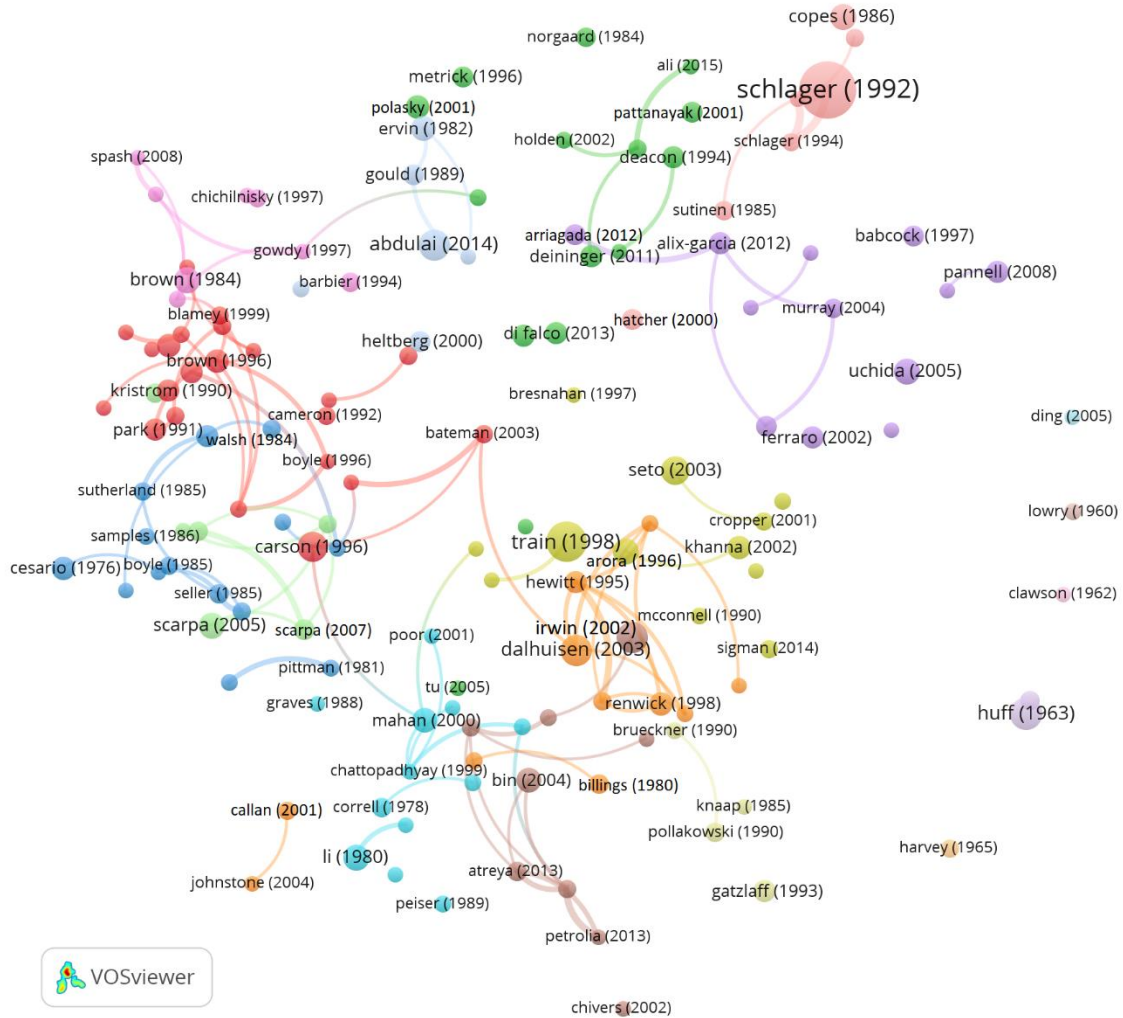


Figure A4. Bibliographic coupling of documents published in *LE*, with a minimum of 100 citations and 100 inter-document links (VOSviewer).

Figure A5 illustrates the bibliographic coupling of *LE* authors who have published at least five papers and share a minimum of 100 citation links. Node color represents the average year of publication (from blue = early to red = recent), aligned with productivity and influence patterns in Table 8 in the main text. The central orange cluster represents recent contributors (post-2010), including Plantinga, Klaiber, Lewis, Lupi, and Deininger, who are linked through land use dynamics, climate policy, and spatial econometrics. Their tight interconnectivity reflects shared reference frameworks in contemporary land and resource modeling.

The yellow–green cluster features enduring authors such as Boyle, Hanley, McConnell, Loomis, and Smith, known for their seminal work in environmental valuation and policy evaluation. Their sustained presence since the early 2000s positions them at the methodological core of *LE*. A green subcluster, including Bishop, Brown, and Opaluch, bridges the empirical and theoretical traditions in resource and benefit transfer studies, maintaining relevance across decades.

Peripheral authors in blue (e.g., Evans, Andrews, Wehrwein) represent *LE*'s early contributors from the 1940s–1970s. Despite limited contemporary connectivity, their historical prominence is preserved in Table 8 through high publication counts. The structure shows that while *LE* has expanded into modern land use, conservation, and econometric modeling, its citation fabric remains anchored in foundational valuation and policy assessment literature. The coupling map reflects both generational continuity and thematic renewal in the journal's author community.

Figure A6 visualizes the inter-institutional structure of bibliographic coupling in *LE*, highlighting institutions with shared citation patterns. Color indicates the average publication year (blue = earlier, red = more recent), aligning with productivity metrics in Table A5. At the center of the network, University of Wisconsin–Madison, University of Illinois, and Ohio State University form the densest core, reflecting their long-standing and diverse contributions to *LE* across multiple domains—valuation, land use, and agricultural policy. Their strong connections with institutions like Michigan State, Maryland, and UC Berkeley indicate shared disciplinary foundations and methodological overlap.

Oregon State University, Cornell, USDA, and US Forest Service appear as key nodes bridging applied environmental economics and federal land policy research. These institutions consistently show high coupling density, confirming their leadership in integrating empirical resource studies within *LE*. Emerging players such as Duke, Arizona, Florida, and Texas A&M,

exhibit increasingly warm node colors, suggesting greater publication activity in the past decade—often focused on spatial modeling, ecosystem service valuation, or behavioral economics.

Peripheral institutions—e.g., University of Western Australia, Peking University, and Leeds—represent *LE*’s growing internationalization, though their link density remains moderate due to field-specific or regional citation networks. The coupling structure reflects a mature and collaborative research environment, with U.S.-based institutions dominating both output and intellectual connectivity. The spread of color gradients from blue to red also signals *LE*’s sustained renewal, as established institutions integrate with newer research hubs.

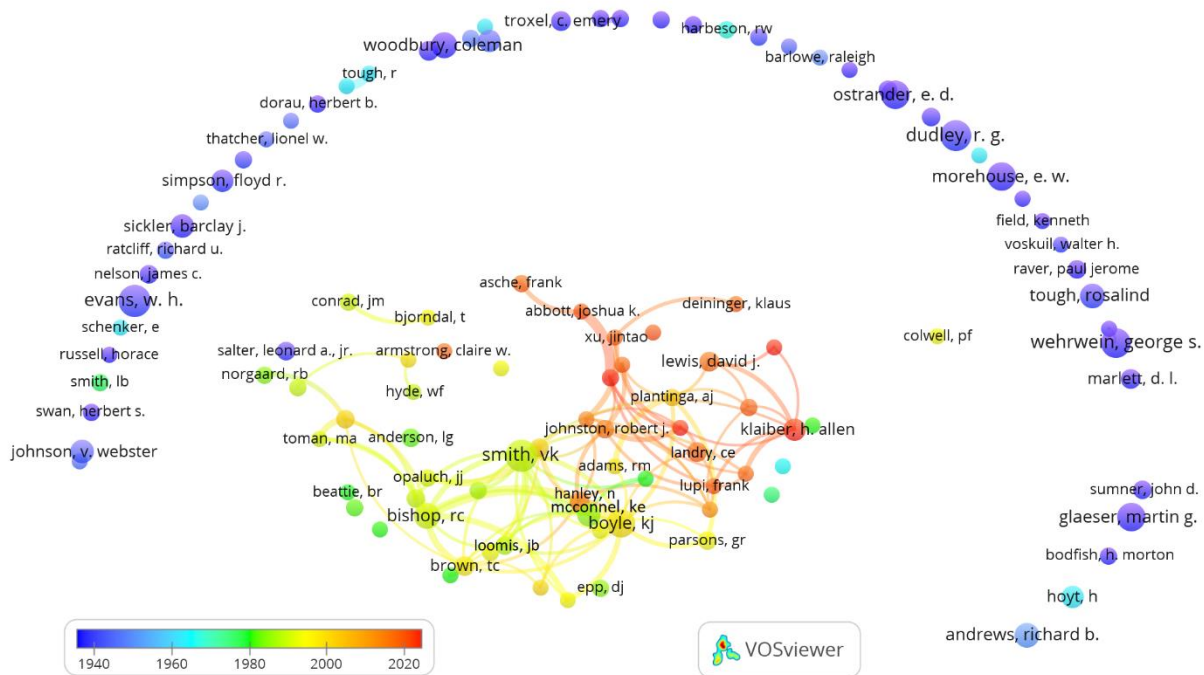


Figure A5. Bibliographic coupling of authors publishing in *LE*, with a minimum of 5 documents and 100 links (VOSviewer).

Figure A7 depicts the bibliographic coupling network of countries contributing to *LE*, reflecting shared citation practices and intellectual linkages. Node size corresponds to publication volume; color indicates average publication year (blue = earlier, red = recent), aligned with Table 10 in the main text. The USA dominates the network with the largest node and the strongest links, acting as the central hub of global *LE* scholarship. It exhibits robust coupling with Canada, Germany, England, and Australia, reflecting sustained collaboration and methodological alignment in land use, environmental policy, and valuation studies.

Germany, Canada, and England form secondary hubs, tightly linked with each other and with multiple European nations (e.g., Sweden, Netherlands, France), indicating a strong regional research fabric. Australia and New Zealand show dense interlinkages with Anglo-American and European countries, underlining their active role in applied environmental economics and land use research within *LE*. Emerging economies like China, India, and Chile appear with thinner links and warmer node colors, indicating more recent and growing engagement with *LE*'s research topics. Their ties are primarily anchored to the USA and key European countries. The map highlights the USA's centrality, the clustering of established economies, and the increasing bibliographic integration of newer contributors in *LE*'s global knowledge network.

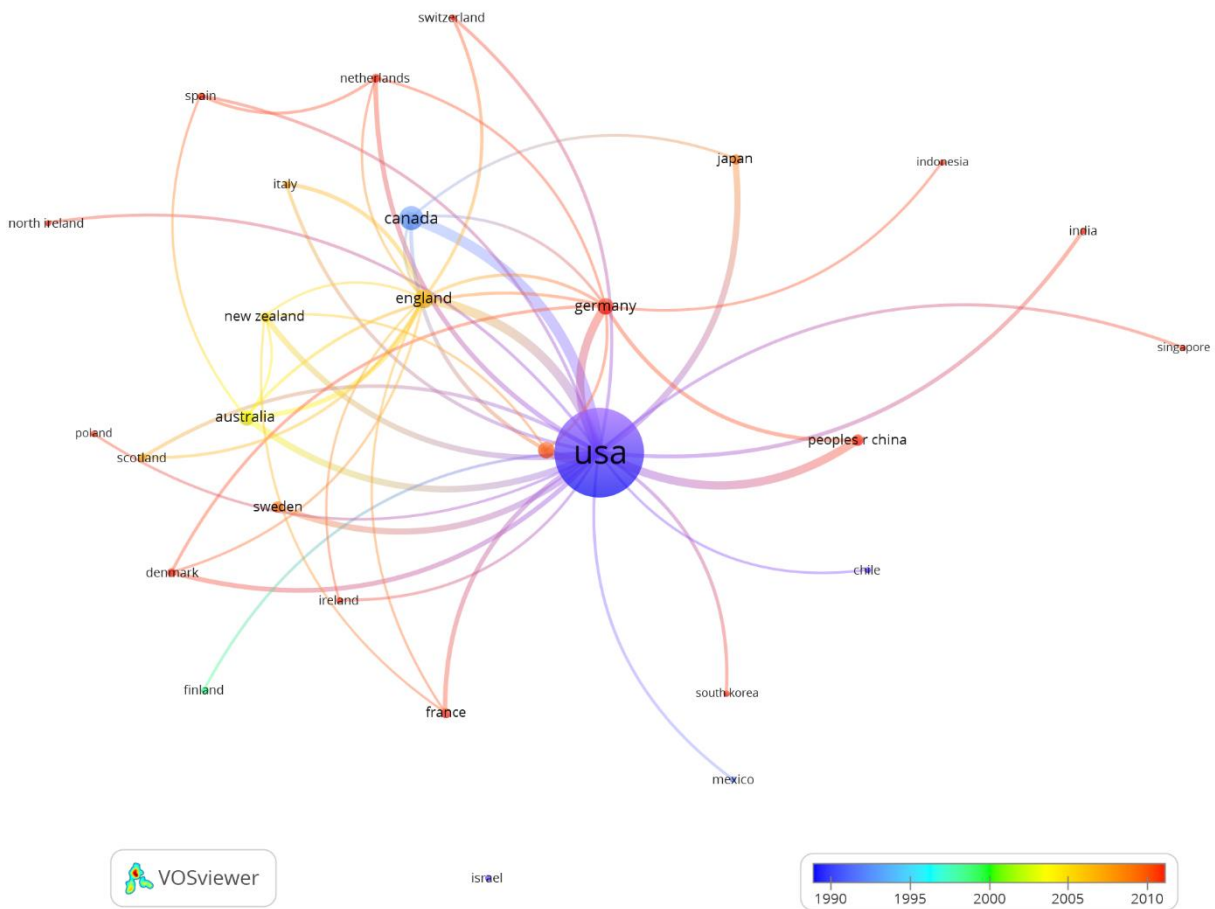


Figure A7. Bibliographic coupling of countries publishing in *LE*, with a minimum of 5 publications and 50 shared reference links (VOSviewer).

Table A9. Most frequent Keywords Plus in *LE* globally and by period (1995–2024), and the evolution of core concepts and emerging topics.

Global		2015-2024		2005-2014		1995-2004		
R	Keyword	Occ	Keyword	Occ	Keyword	Occ	Keyword	Occ
1	Model	166	Impact	73	Model	62	Model	45
2	Impact	124	Model	44	Impact	31	Choice	24
3	Values	85	Values	32	Price	28	Values	24
4	Price	84	Willingness-to-Pay	30	Management	25	Contingent Valuation	20
5	Contingent Valuation	75	Price	29	Choice	24	Impact	20
6	Economics	74	Conservation	28	Values	23	Price	20
7	Policy	74	Economics	27	Contingent Valuation	22	Economics	19
8	Management	68	Demand	26	Policy	22	Policy	19
9	Choice	64	Management	26	Economics	21	Cost	17
10	Market	63	Contingent Valuation	24	Market	20	Demand	16
11	Demand	62	Policy	24	Willingness-to-Pay	19	Market	16
12	Cost	59	Preferences	24	Conservation	18	Public Goods	11
13	Willingness-to-Pay	59	Risk	22	Cost	17	United States	11
14	Conservation	55	Information	21	Risk	15	Benefits	10
15	Preferences	47	Market	20	Deforestation	14	Growth	10
16	Risk	46	Cost	19	Determinants	14	Management	10
17	Benefits	45	Benefits	18	Growth	14	Preferences	10
18	Impacts	43	Climate Change	18	Land	14	Quality	10
19	Valuation	43	Valuation	18	United States	14	Valuation	10
20	Information	42	Adoption	15	Benefits	13	Willingness-to-Pay	10
21	Growth	41	Determinants	15	Demand	13	Bias	9
22	Quality	38	Ecosystem Services	15	Incentives	13	Conservation	9
23	Efficiency	36	Growth	15	Preferences	13	Deforestation	9
24	Land	36	Choice	14	Efficiency	12	Efficiency	9
25	United States	36	Efficiency	14	Property Rights	12	Information	9
26	Determinants	33	Quality	14	Information	11	Property Rights	9
27	Property Rights	32	Behavior	13	Valuation	11	Uncertainty	9
28	Incentives	31	Choice Experiments	13	Behavior	10	Dichotomous Choice	8
29	Deforestation	30	Incentives	13	Quality	10	Land	8
30	Pollution	29	2 Keywords	13	2 Keywords	10	Referendum Data	8

Abbreviations: R = Rank; Occ = Occurrences. Note that currently, Keyword Plus is available in *LE* since 1991.

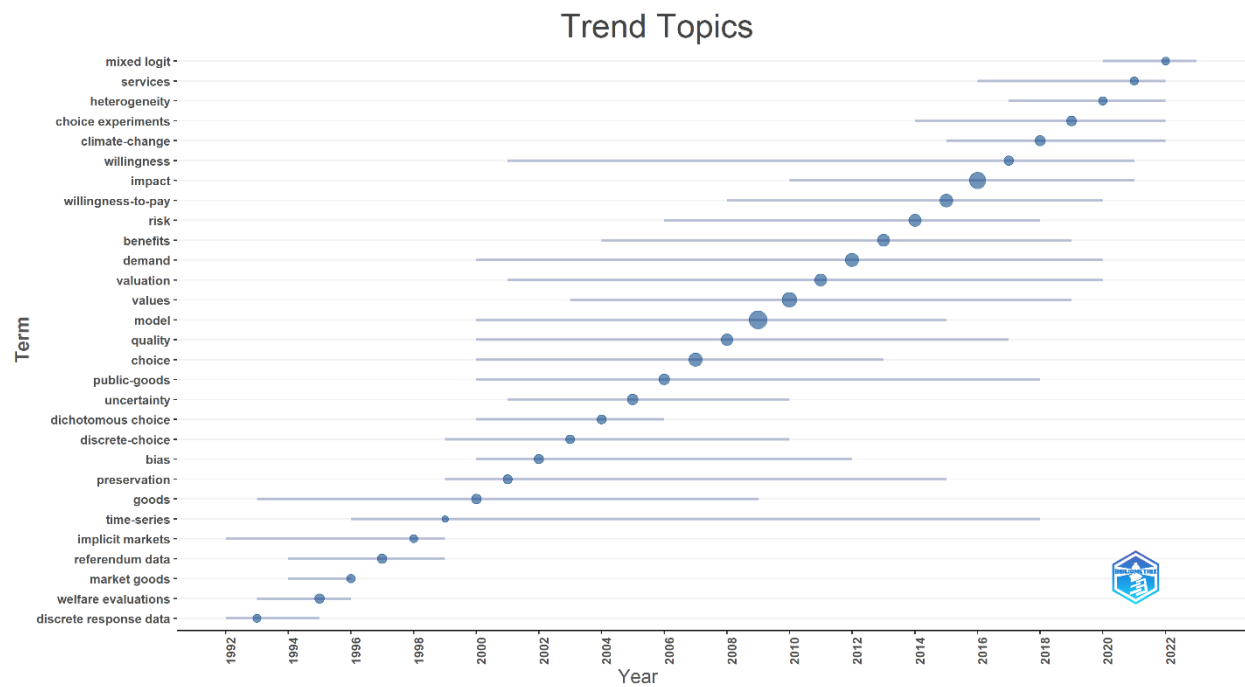


Figure A9. Trend topics in *LE* generated using Bibliometrix and the temporal evolution and peak periods of key research themes.

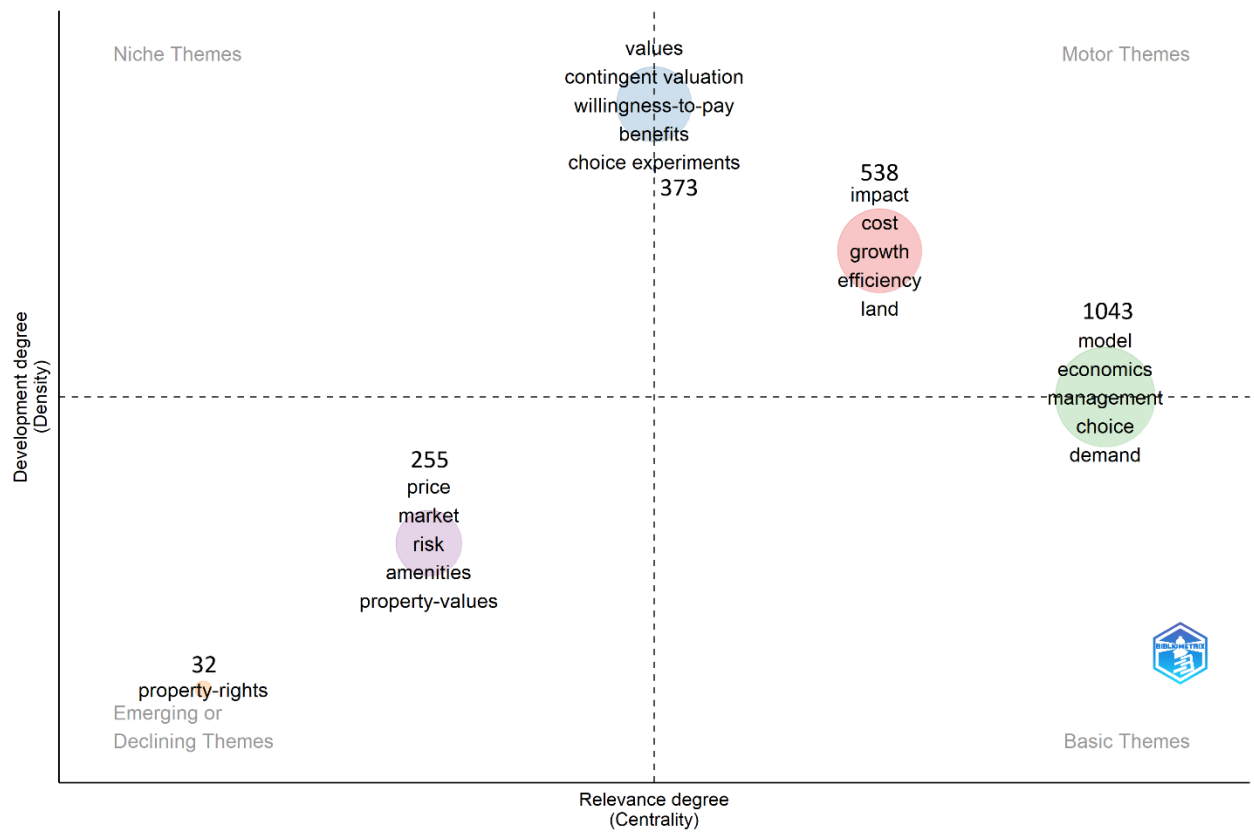


Figure A10. Thematic map of *LE* with the 250 most frequent author keywords (minimum cluster frequency of 4), generated using Bibliometrix with the Walktrap clustering algorithm.

Table A10 presents the most prominent topic clusters in *LE* research between 2014 and 2023, as identified in Scopus via the SciVal platform. These clusters reflect aggregated thematic areas, offering a broader perspective on *LE*'s intellectual landscape. The analysis uses the FWCI to measure citation performance relative to the world average in similar fields (Purkayastha et al. 2019) and worldwide PP to indicate relative global visibility (Klavans and Boyack 2017).

The “Natural Resource; Land Use Change; Contingent Valuation” cluster (61 papers; FWCI 0.76; PP 95.55) leads, underscoring *LE*'s sustained focus on environmental valuation and land use dynamics. The “Housing Market; Regression Analysis; Real Estate Sector” cluster (52 papers; FWCI 0.76; PP 43.62) highlights the journal's enduring contributions to urban and housing economics, though with moderate global visibility.

Clusters such as “Data Envelopment Analysis; Industry; Regression Analysis” (FWCI 1.18; PP 80.37) and “Climate Change; Disaster Management; Social Media” (FWCI 1.27; PP 91.23) demonstrate above-average citation performance, pointing to *LE*'s engagement with methodological innovations and emerging societal challenges. Similarly, “Water Distribution; Hydraulics; Water-Energy Nexus” achieved the highest FWCI (1.67), indicating strong citation impact despite modest output. Conversely, clusters like “Property Right; Political Ecology; Ownership” (PP 13.99) and “Volunteering; Altruism; Pricing” (PP 43.36) show lower global prominence, suggesting niche or localized interest. Overall, these clusters reveal *LE*'s diverse scholarly contributions across environmental economics, housing markets, water policy, and climate change, with varying degrees of citation influence and visibility.

Table A10. Leading topic clusters in *LE* between 2014 and 2023 (SciVal – Scopus).

R	Topic Cluster	TP	FWCI	PP
1	Natural Resource; Land Use Change; Contingent Valuation	61	0.76	95.55
2	Housing Market; Regression Analysis; Real Estate Sector	52	0.76	43.62
3	Transport; Travel Time; Traffic Congestion	30	0.88	74.16
4	Natural Resource; Environmental Policy; Deforestation	19	0.87	45.91
5	Data Envelopment Analysis; Industry; Regression Analysis	17	1.18	80.37
6	Cointegration; Environmental Kuznets Curve; Carbon Dioxide Emission	11	0.64	99.41
7	Property Right; Political Ecology; Ownership	11	0.66	13.99
8	Protected Area; Deforestation; Natural Resource	10	0.9	56.83
9	Water Management; Irrigation; Climate Change	9	0.57	76.97
10	Social Capital; Housing Market; Immigrant	9	0.71	53.63
11	Climate Change; Disaster Management; Social Media	8	1.27	91.23
12	Volunteering; Altruism; Pricing	8	0.35	43.36
13	Pro-Environmental Behavior; Climate Change; Environmental Policy	7	0.42	94.24
14	Causal Inference; Regression Analysis; Randomized Controlled Trial	6	0.67	81.62
15	Climate Change; Agricultural Science; Irrigation	6	1.24	72.79
16	Water Distribution; Hydraulics; Water-Energy Nexus	6	1.67	48.59
17	Green Innovation; Industry; Social Responsibility	5	0.32	98.56
18	Decision Making; Behavioral Economics; Prospect Theory	5	0.22	57.35
-	4 Topic Clusters	4	-	-
-	9 Topic Clusters	3	-	-
-	10 Topic Clusters	2	-	-
-	34 Topic Clusters	1	-	-

Abbreviations are available in Table A9.