

Chuan Liao

School of Sustainability
Arizona State University
800 S Cady Mall, Tempe, AZ, USA

Phone: 480-965-3745
Email: cliao29@asu.edu
Website: chuanliao.info

EDUCATION

2012-2015 PhD, Natural Resources and Environment, Cornell University
2010-2012 MS, Natural Resources and Environment, Cornell University
2006-2010 BS, Resource Science, Beijing Normal University

PROFESSIONAL APPOINTMENTS

2018- Assistant Professor, School of Sustainability, Arizona State University
2021- Editor-in-Chief, *World Development*
2018- Senior Sustainability Scientist, Julie Ann Wrigley Global Institute of
Sustainability, Arizona State University
2018- Faculty Affiliate, Swette Center for Sustainable Food Systems, Arizona State
University
2018- Faculty Affiliate, Global Drylands Center, Arizona State University
2018- Faculty Affiliate, Center for Behaviors, Institutions and the Environment, Arizona
State University
2018- Faculty Affiliate, Institute for Social Science Research, Arizona State University
2020- Faculty Affiliate, School of Geographical Sciences and Urban Planning, Arizona
State University
2015-2018 Postdoctoral Research Associate, School for Environment and Sustainability,
University of Michigan – Ann Arbor

PUBLICATIONS

Journals

31. **Liao, C.**, Erbaugh, J., Kelly, A., Agrawal, A. 2021. Clean Energy Transitions and Human Well-Being Outcomes in Lower and Middle Income Countries: A Systematic Review. *Renewable & Sustainable Energy Reviews* (in press).
30. **Liao, C.**, Nolte, K., Sullivan, J. Brown, D., Lay, J., Althoff, C., Agrawal, A. Carbon Emissions from the Global Land Rush and Potential Mitigation. *Nature Food*, 2, 15-18.
29. **Liao, C.**, Fei, D., Huang, Q., Jiang L., Shi, P. 2021. Targeted Poverty Alleviation through Photovoltaic-Based Intervention: Rhetoric and Reality in Qinghai, China. *World Development*, 137 (2021) 105117.

28. Fu, H., Zhang, Y., **Liao, C.**, Mao, L., Wang, Z., Hong, N. 2020. Investigating PM_{2.5} Responses to Air Pollutants and Meteorological Factors at Multiple Temporal Scales. *Scientific Reports*, 10:15639
27. **Liao, C.**, Agrawal, A., Clark, P., Levin, S., Rubenstein, D. 2020. Landscape Sustainability Science in the Drylands: Mobility, Rangeland and Livelihoods. *Landscape Ecology*, 35, 2433–2447.
26. Khatami, R., Southworth, J., Muir, C., Caughlin, T., Ayana, A., Brown, D., **Liao, C.**, Agrawal, A. 2020. Operational Large-Area Land Cover Mapping: An Ethiopia Case Study. *Remote Sensing*, 2020, 12(6), 954.
25. **Liao, C.**, Jung, S., Agrawal, A., Brown, D. 2020. Spatial Patterns of Large-Scale Land Transactions and Their Potential Socio-Environmental Outcomes in Cambodia, Ethiopia, Liberia, and Peru. *Land Degradation and Development*, 31 (10), 1241-1251.
24. **Liao, C.**, Qiu, J., Chen, B., Chen, D., Fu, B., Georgescu, M., He, C., Jenerette, D., Li, X., Li, X., Li, X., Qiuying, B., Shi, P., Wu, J. 2020. Advancing Landscape Sustainability Science: Theoretical Foundation and Synergies with Innovations in Methodology, Design, and Application. *Landscape Ecology*, 35, 1–9.
23. Fei, D., **Liao, C.** 2019. China's Eastern Industrial Zone in Ethiopia: Unpacking the Enclave. *Third World Quarterly*, 41 (4), 623-644.
22. **Liao, C.**, Fei, D. 2019. Poverty Reduction through Photovoltaic-Based Development Intervention in China: Potentials and Constraints. *World Development*, 122: 1-10.
21. Hajjar, R., Ayana, A., Rutt, R., Hinde, O., **Liao, C.**, Keene, S., Bandiaky-Badji, S., Agrawal, A. 2019. Capital, Labor, and Gender: The Consequences of Large-Scale Land Transactions on Household Labor Allocation. *Journal of Peasant Studies*, 47 (3), 566-588.
20. Jung, S., **Liao, C.**, Agrawal, A., Brown, D. 2019. Evidence on Wealth-Improving Effects of Forest Concessions in Liberia. *Journal of the Association of Environmental and Resource Economists*, 6(5): 961-1000.
19. **Liao, C.**, Clark, P., DeGloria, S. 2018. Bush Encroachment Dynamics and Rangeland Management Implications in the Horn of Africa. *Ecology and Evolution*, 8(23): 11694-11703.
18. Agrawal, A. Hajjar, R., **Liao, C.**, Rasmussen, L., Watkins, C. 2018. Editorial Overview: Forest Governance Interventions for Sustainability through Information, Incentives, and Institutions. *Current Opinions in Environmental Sustainability*, 32: A1-A7.
17. **Liao, C.**, Brown, D., Fei, D., Long, X., Chen, D., Che, S. 2018. Big Data-Enabled Social Sensing in Spatial Analysis: Potentials and Pitfalls. *Transactions in GIS*, 22(6): 1351-1371.
16. **Liao, C.**, Brown D. 2018. Assessments of Synergistic Outcomes from Sustainable Intensification of Agriculture Need to Include Smallholder Livelihoods with Food Production and Ecosystem Services. *Current Opinions in Environmental Sustainability*, 32: 53-59.
15. **Liao, C.** Clark, P., Shibia, M., DeGloria, S. 2018. Spatio-Temporal Dynamics of Cattle Behaviors and Resource Selection Patterns in the Open Grazing System of East Africa. *International Journal of Geographical Information Science*, 32(7): 1523-1540.

14. **Liao, C.** 2018. Quantifying Multi-Scale Pastoral Mobility: Developing A Metrics System and Using GPS-Tracking Data for Evaluation. *Journal of Arid Environments*, 153: 88-97.
13. **Liao, C., Clark, P.** 2018. Rangeland Vegetation Diversity and Transition Pathways under Indigenous Pastoralist Management Regimes in Southern Ethiopia. *Agriculture, Ecosystems & Environment*, 215: 105-113.
12. **Liao, C.** 2018. Modeling Herding Decision-Making in the Extensive Grazing System in Southern Ethiopia. *Annals of American Association of Geographers*, 108 (1): 260-276.
11. Fei, D., Samatar, A., **Liao, C.** 2018. Chinese-African Encounters in High-Tech Sectors: Comparative Investigation of Chinese Workplace Regimes in Ethiopia. *Development Policy Review*, 36 (S1): O455-O475.
10. **Liao, C., Clark, P., DeGloria, S., Barrett, C.** 2017. Complexity in the Spatial Utilization of Rangelands: Pastoral Mobility in Borana, Ethiopia. *Applied Geography*, 86: 208-219.
9. **Liao, C., Fei, D.** 2017. Pastoralist Adaptation Practices under Non-Governmental Development Interventions in Southern Ethiopia. *The Rangeland Journal*, 39 (2): 189-200.
8. **Liao, C. Fei, D.** 2017. Sedentarization as Constrained Adaptation: Evidence from Pastoral Regions in Far Northwestern China. *Human Ecology*, 45 (1): 23-35.
7. **Liao, C., Ruelle, M., Kassam, K.-A.** 2016. Indigenous Ecological Knowledge as the Basis for Adaptation to Rangeland Vegetation Regime Shifts: Evidence from Pastoralist Communities in the Horn of Africa. *Journal of Environmental Management*, 182 (2016): 70-79.
6. **Liao, C., Jung, S., Brown, D., Agrawal, A.** 2016. Insufficient Research on Land Grabbing. *Science*, 353 (6295): 131.
5. **Liao, C., Fei, D.** 2016. Resilience of What to What: Evidence from Pastoral Contexts in East Africa and Central Asia. *Resilience: International Policies, Practices and Discourses*, 4 (1): 14-29.
4. **Liao, C., Barrett, C., Kassam, K.-A.** 2015. Does Diversification Improve Livelihoods? Pastoral Households in Xinjiang, China. *Development and Change*, 46 (6): 1302-1330.
3. **Liao, C., Sullivan, P., Barrett, C., Kassam, K.-A.** 2014. Socioenvironmental Threats to Pastoral Livelihoods: Risk Perceptions in the Altay and Tianshan Mountains of Xinjiang, China. *Risk Analysis*, 34 (4): 640–655.
2. **Liao, C., Morreale, S., Kassam, K.-A., Sullivan, P., Fei, D.** 2014. Following the Green: Coupled pastoral migration and vegetation dynamics in the Altay and Tianshan Mountains of Xinjiang, China. *Applied Geography*, 46: 61–70.
1. Wang, M., **Liao, C., Yang, S., Zhao, W., Liu, M., Shi, P.** 2012. Are People Willing to Buy Natural Disaster Insurance in China? Risk Awareness, Insurance Acceptance, and Willingness to Pay. *Risk Analysis*, 32 (10): 1717–1740.

Under Review

- Fei, D., **Liao, C., Yang, H.** Unintended Consequences of Contact Tracing of Individuals from China's COVID-19 Epicenter (under review, *Social Science & Medicine*).

- **Liao, C.**, Moore, P.*, Shrestha, M. Can We Generalize from Different Earthquake Disaster Governance Scenarios? A Four-Country Comparative Analysis (under review, *International Journal of Disaster Risk Science*). *Graduate Mentee
- Williams, T., Trush, S., Sullivan, J., Brown, D., **Liao, C.**, Chesterman, N., Agrawal, A., Guikema, S. Direct and Indirect Land-Use Changes Associated with Large-Scale Land Acquisitions in Ethiopia (revise and resubmit, *Ecology & Society*).
- Chen, C., Long, X., **Liao, C.**, Xie C., Che, S. Exploring the Recreational Attraction of Comprehensive Parks Using Social Media Data in Shanghai (under review, *City & Community*).
- Yin, D., Huang, Q., He, C., Hua, X., **Liao, C.**, Inostroza, L., Zhang, L., Bai, Y. The Varying Roles of Ecosystem Services in Poverty Alleviation among Rural Households in Urbanizing Watersheds (under review, *Environmental Science and Policy*).
- Fu, H., Wang, Y., **Liao, C.**, Mao, L., Hong, N., Wang, Z., Zhao, S. A Tale of Two Networks: Spatial Associations between Transportation and Economy in Zhongyuan Urban Agglomeration, China (under review, *Land Use Policy*).

In Preparation

- **Liao, C.**, Brown, D., Agrawal, A. Diversity of Large-Scale Land Acquisitions and Their Divergent Outcomes in Ethiopia.
- **Liao, C.**, Agrawal, A., Nolte, K. A Network Approach for Understanding the Global Land Rush.
- **Liao, C.**, Jung, S., Agrawal, A., Brown, D. Do Large-Scale Land Transactions Accelerate Deforestation? A Matching-Based Four-Country Comparison.
- **Liao, C.**, Agrawal, A. Carbon Cost of Agricultural Development in the Global Land Rush.
- Agrawal, A., **Liao, C.** Jung, S., Lund, J., Brown, D. Research Biases Undermine the Science of ‘Land Grabbing’.
- Ingalls, M., Barney, K., DiCarlo, J., **Liao, C.**, Nanthavong, V. Geopolitical Dimensions of Land Governance in the Mekong Region: Discourses and political economies of securitization.
- Miao, Y*., **Liao, C.**, Caughlin, T., Sullivan, J., Brown, D. Exploring Social and Environmental Outcomes from Large-Scale Land Transactions: Agent-Based Modeling of Alternative Arrangements. *Undergraduate Mentee
- Song, K*., Liao, C., Xu, M. Cost-Benefit Analysis of Distributed Solar Systems for Poverty Reduction in Rural China. *Graduate Mentee

Book Chapters

- Kassam, K-A., **Liao, C.**, Dong S. 2016. Sociocultural and Ecological Systems of Pastoralism in Inner Asia: Cases from Xinjiang and Inner Mongolia in China and the Pamirs of Badakhshan, Afghanistan. In Dong, S., Kassam, K-A., Tourrand, J., Boone, R. (Ed) *Building Resilience of Human-Natural Systems of Pastoralism in the Developing World*. Springer.

- **Liao, C.**, Fei, D. 2016. The Operationalization of Resilience in Pastoral Regions in East Africa and Central Asia. In Chandler, D., Coaffee J. (Ed) *Routledge Handbook of International Resilience*. Taylor & Francis Group.

Reports

- Jung, S., **Liao, C.**, Agrawal, A., Brown, D. 2019. Evidence on Wealth-Improving Effects of Forest Concessions in Liberia. AIDDATA Working Paper 76.
- Daupan, M., Erbaugh, J.T, Jung, S., Kinzer, A., **Liao, C.**, Sullivan, J., Watkins, C. Agrawal, A. 2018. Livelihood and Well-Being Survey Tool User Manual for Enumerators. Forest and Livelihoods: Assessment, Research, and Evaluation (FLARE).
- Hajjar, R., Rutt, R., Mulu, E., Ayana, A., **Liao, C.**, Agrawal, A. 2017. Gendered impacts of large-scale land acquisitions in Western Ethiopia. Rights and Resources Initiative
- **Liao, C.**, Clark, P., DeGloria, D., Mude, A., Barrett, C. 2016. Pastoral mobility and policy recommendations for livestock herding in the Borana pastoral system in southern Ethiopia. Consultative Group on International Agricultural Research (CGIAR) Research Program on Dryland Systems.
- **Liao, C.** 2014. Pastoral Migration Atlas. Maps returned to participant households in Borana, Ethiopia.
- **Liao, C.** 2014. Coupled Socio-Ecological System under Woody Plant Encroachment: Rangeland Utilization and Conservation in Borana, Ethiopia. Toward Sustainability Foundation Final Report.
- **Liao, C.** 2013. Rural Resilience Assessment in Borana, Ethiopia. ACSF-Oxfam Rural Resilience Collaboration and Fellowship Final Report.
- **Liao, C.** 2012. Toward Sustainable Pastures: Nomadic Migration, Livelihood Diversification, and Risk Perception in the Altay and Tianshan Mountains. Toward Sustainability Foundation Final Report.

RESEARCH FUNDING

- Institute of Social Science Research, Arizona State University. *Assessing the Emerging Geographies of South-South Cooperation in Sustainable Energy and Its Socio-Environmental Impacts*. **My role: Co-PI; PI: Ding Fei (ASU). Funded: \$2,250.**
- Swette Center for Sustainable Food Systems, Arizona State University (2019-2020). *Impacts of Large-Scale Land Acquisitions on Food Systems in Bolivia*. **My role: PI. Co-PI: Hallie Eakin (ASU). Funded: \$5,000.**
- Institute of Social Science Research, Arizona State University (2018-2019). *Sustainability of Subsistence Pastoralism in the African and Asian Drylands: The Mobility- Land-Livelihood Nexus*. **My role: PI. Funded: \$7,950.**
- Graham Sustainability Institute, University of Michigan (2016-2018). *Complex Rural and Urban Sustainability Issues: Using Big Data for Impact Assessment*. **My role: PI. Funded: \$15,000**

- Michigan Institute for Data Science (2016-2018). *Unlocking the Potential of Big Data from Mobile Phones to Assess Urban Green Space Utilization*. **My role: Co-PI**; PI: Daniel Brown (Michigan), Shengquan Che (Shanghai Jiao Tong U), Co-PI: Natalie Colabianchi (Michigan), Dan Chen (Shanghai Jiaotong U). **Funded: \$199,735**
- Rights and Resources Institute (2016). *The Impacts of Large-Scale Land Acquisitions on Local Women's Land and Forest Tenure Rights: Case Studies from Western Ethiopia*. **My role: Co-PI**; PI: Arun Agrawal, Co-PI: Reem Hajjar (Michigan), Alemayehu Ayana (Ethiopian Environment and Forest Research Institute). **Funded: \$68,632**
- National Science Foundation (2016-2020). *Recent Land Transactions in Ethiopia: Impacts on Agriculture, Ecosystem Services, and Food-Energy Security*. **My role: Senior personnel**; PI: Arun Agrawal; Co-PI: Daniel Brown (Michigan), Jane Southworth (Florida). **Funded: \$1,599,951**
- Cornell University and CARE International (2014-2015). *Toward Resilient Pastoral Communities: How Mobility Mapping Supports Rangeland Management in Borana, Ethiopia*. **My role: Graduate researcher who developed the proposal**; PI: Stephen DeGloria (Cornell); Co-PI: Christopher Barrett (Cornell). **Funded: \$9,745**
- Atkinson Center for a Sustainable Future, Cornell University (2014). *Coupled Socio-ecological System under Woody Plant Encroachment: Rangeland Biodiversity and Utilization in Borana, Ethiopia*. **My role: PI**. **Funded: \$4,500**
- Cornell University and Oxfam America (2013). *Rural Resilience Assessment in Borana, Ethiopia*. **My role: PI**. **Funded: \$5,000**
- Toward Sustainability Foundation (2013-2015). *Reaching the Tipping Point of Pastoral Food System? Vegetation Dynamics, Herder Mobility, Community Cooperation, and Environmental Impact Monitoring in Borana, Ethiopia*. **My role: PI**; Co-PI: Karim-Aly Kassam (Cornell). **Funded: \$10,000**
- Sigma Xi: The Research Society (2011) *Linking Natural Resource Conservation with Disaster Risk in Local Communities of the Tian Shan Mountain Regions in Xinjiang, China*. **My role: PI**. **Funded: \$400**
- Toward Sustainability Foundation (2011). *Mapping Disaster Risk in Local Communities in Tian Shan Mountains Regions in Xinjiang, China*. **My role: PI**; Co-PI: Karim-Aly Kassam (Cornell). **Funded: \$4,000**

HONORS, AWARDS AND FELLOWSHIPS

- School of Sustainability Travel Award (2019), ASU
- National Postdoctoral Association Annual Meeting Award (2016), Michigan
- Hsien and Daisy Yen Wu Scholarship (2015), Cornell
- Graduate Teaching Assistant Fellows (2015), Center for Teaching Excellence, Cornell
- Scholarship of Teaching and Learning Practitioner Fellows (2015), Center for Teaching Excellence, Cornell
- Graduate School Conference Travel Grant (2015), Cornell

- Cornell Population Center Travel Grant (2015), Cornell
- Graduate School Conference Travel Grant (2014), Cornell
- Guani Fellowship (2012), Cornell

TEACHING EXPERIENCE AND APPOINTMENTS

- Instructor, SOS 327 Sustainable Food and Farms, ASU (Spring 2021; Fall 2020; Spring 2020; Fall 2019; Fall 2018)
- Instructor, SOS 494/598 Introduction to Quantitative Research in R, ASU (Fall 2020; Fall 2019; Fall 2018)
- Instructor, SOS 790 Reading and Conference (Fall 2020)
- Instructure, SOS 492 Honors Directed Study (Fall 2020)
- Guest Lecturer, GIS 270 Statistics for Geography and Planning, ASU (02/2020)
- Invited Lecturer, Sustainability and Development Conference Lecture, U Michigan (10/2019)
- Guest Lecturer, SOS 520 Research Design and Methods for Sustainability, ASU (09/2019)
- Invited Instructor, Data Visualization in R Workshop, Beijing Normal U, Beijing, China (07/2019)
- Guest Lecturer, NRE 563 International Environmental Policy, U Michigan (02/2017)
- Teaching and Learning Practitioner Fellow, Center for Teaching Excellence, Cornell (Spring 2015)
- Graduate Teaching Assistant, NTRES 2201 Society and Natural Resources, Cornell (Spring 2015)
- Invited Lecturer, NTRES 2010 Environmental Conservation, Cornell (02/2015)
- Invited Lecturer, BIOPL 2430 Taxonomy of Cultivate Plants, Cornell (12/2014)
- Invited Lecturer, NTRES 3330 Ways of Knowing, Cornell (11/2014)
- Graduate Teaching Assistant, NTRES 2100 Introductory Field Biology, Cornell (Fall 2014)

STUDEN MENTORING

Current Students

- Sidney Brandhorst: PhD, School of Sustainability, ASU (co-chair, 2020-)
- Xin Wang: PhD, School of Sustainability, ASU (co-chair, 2020-)
- Adrienne Gosnell: MS, School of Sustainability, ASU (chair, 2020-)
- Samantha Hollinshead: BA, School of Sustainability, ASU (honor thesis advisor, 2020-)

Graduated Students

- Yousuf Mahid: MS, School of Geographical Sciences and Urban Planning, ASU (graduate committee member, 2018-2020)
- Megan Ewy: honors contract research on Native American land use history in the Salt River Reservation, School of Sustainability, ASU (honors contract advisor, 2018)

Other Mentoring

- Haiyue Fu: Visiting scholar from Nanjing Agricultural University, School of Sustainability, ASU, 2019-
- Leah Kunkel: Graduate research assistant, School of Sustainability, ASU, Spring 2020
- Phillip Moore: Graduate research assistant, School of Sustainability, ASU, Fall 2019
- Mark Crandell: Undergraduate Research Opportunities Program, U Michigan, 2017-2018
- Jacqueline Freeman: Undergraduate Research Opportunities Program, U Michigan, 2017-2018
- Caylin Luebeck: Undergraduate Research Opportunities Program, U Michigan, 2017-2018
- Xuewen Long: Visiting graduate research assistant from Shanghai Jiao Tong University, U Michigan, 2018
- Yufei Miao: Visiting undergraduate research assistant from Tsinghua University, U Michigan, 2016

CONFERENCE PRESENTATIONS (* indicates presenter)

Yin, D.*, Huang Q., He, C., Hua, X., **Liao, C.** The Varying Roles of Ecosystem Services in Poverty Alleviation among Rural Households in Urbanizing Watersheds. AGU Fall Meeting 2020, online, December, 2020.

Liao, C.* “Herding Decision Making in the Commons of Southern Ethiopia”. IASC 2020 Web Conference on African Commons, online, July, 2020.

Liao, C.*, Fei, D., Huang, Q., Wu, J., Shi, P. “Impact of solar energy-based development intervention program on poverty reduction: Evidence from a pilot study in Qinghai, China”. Sustainability and Development Conference, Ann Arbor, MI, October, 2019.

Liao, C.* “Landscape Sustainability Science for Achieving Sustainable Development Goals in the Global Drylands”. Landscape Sustainability Science Forum (Plenary Talk), Xining, Qinghai, China, July, 2019.

Liao, C.* “A Network Approach for Understanding the Global Land Rush”. Annual Meeting of Association of American Geographers, Washington, DC, April, 2019.

Muir, C.*, Khatami, R., Southworth, J., **Liao, C.**, Ayana, A. “Agricultural Intensification and Large-Scale Land Acquisition in Ethiopia”. Annual Meeting of Association of American Geographers, Washington, DC, April, 2019.

Khatami, R*, Southworth, J., Muir, C., Caughlin, T., Ayana, A., Brown, D., **Liao, C.**, Agrawal, A. “Operational Large-Area Land-Cover Mapping: An Ethiopia Case Study”. Annual

- Meeting of Association of American Geographers, Washington, DC, April, 2019.
- Smith A.*, Southworth, J., Agrawal, A., Brown, D., **Liao, C.**, Ayana, A. “Large-Scale Land Acquisitions in Ethiopia: Implications for Ecosystem Services”. Annual Meeting of Association of American Geographers, Washington, DC, April, 2019.
- Agrawal, A.*, Brown, D., **Liao, C.**, Lund, J. “Agricultural Development, Structural Change, and Large-Scale Land Transactions”. Annual Meeting of Association of American Geographers, Washington, DC, April, 2019.
- Liao, C.*** “Poverty Reduction through Solar Energy-Based Intervention in China: Potentials and Constraints.” Sustainability and Development Conference, Ann Arbor, MI, November, 2018.
- Liao, C.***, Brown, D., Long, X., Chen, D., Che, S. “Applying Big Data from Social Media to Assess Urban Green Space Utilization Patterns in Shanghai, China.” The 2017 Global City Forum, Shanghai, China, October, 2017.
- Liao, C.***, Brown, D., Fei, D., Long, X., Chen, D., Che, S. “Data Biases Undermine Geospatial Inference Based on Location-Based Crowdsourced Data.” The 2017 Michigan Institute for Data Science Symposium, Ann Arbor, MI, October, 2017.
- Liao, C.***, Nolte, K., Lay, J., Brown, D., Agrawal, A. “Anticipating Carbon Emission and Its Mitigation from the Global Land Rush.” Third Annual Meeting of Forests & Livelihoods: Assessment, Research, and Engagement, Stockholm, Sweden, September, 2017.
- Ingalls, M.*, **Liao, C.**, Barney, K. “Geopolitical Dimensions of Land Systems Governance in the Mekong: Implications of Political and Economic Securitization.” International Conference on Research for Development, Bern, Switzerland, September, 2017.
- Liao, C.***, Nolte, K., Agrawal, A. “Virtual Land Flow and Potential Carbon Emission in the Global Land Rush” Association for Law, Property & Society 8th Annual Meeting, Ann Arbor, MI, May, 2017.
- Fei, D.*, **Liao, C.** “Chinese Dispatched Labour Migration to Africa.” Annual Meeting of Population Association of America, Chicago, IL, April 2017.
- Brown, D.* Agrawal, A., **Liao, C.**, Jung, S., Sullivan, J. “Large-Scale Land Transactions as Drivers of Land-Cover Change in Sub-Saharan Africa.” 2017 Land Use and Land Cover Change Spring Science Team Meeting, Rockville, MD, April, 2017.
- Liao, C.***, Ayana, A., Brown, D., Agrawal, A. “Can Large-Scale Land Transactions Lead to Social-Economic-Ecological Synergy” Annual Meeting of Association of American Geographers, Boston, MA, April, 2017.
- Liao, C.**, Sullivan, J.*, Agrawal, A., Brown, D., Jung, S. “Large-Scale Land Transactions as Drivers of Land-Cover Change in Ethiopia” Annual Meeting of Association of American Geographers, Boston, MA, April, 2017.
- Liao, C.***, Ayana, A., Brown, D., Agrawal, A. “Can Large-Scale Land Transactions Lead to Social-Economic-Ecological Synergy?” Forests & Livelihoods: Assessment, Research, and Engagement Second Annual Meeting, Edinburgh, UK, December, 2016.
- Liao, C.***, Jung, S., Agrawal, A., Brown, D. 2016. “Do Large-Scale Land Transactions

- Accelerate Deforestation? A Matching-Based Four-Country Comparison.” Third GLP Open Science Meeting, Beijing, China, October, 2016.
- Liao, C.***, Brown, D., Jung, S., Agrawal, A. 2016. “Large-Scale Land Transactions as Drivers of Land-Cover Change in Sub-Saharan Africa.” 2016 Land Use and Land Cover Change Spring Science Team Meeting, North Bethesda, MD, April, 2016.
- Fei, D*, **Liao, C.*** 2015. “Development through Assimilation and Integration? Evidence from Kazak Pastoral Sedentarization in Xinjiang, China.” Population Association of America Annual Conference, San Diego, CA, April, 2015.
- Washington-Allen, R*, Louhaichi, M*, Mude, A, **Liao, C**, Clifton, K, Clark, P. 2015. “The Impact of Land Use Change on the 3-D Structure of Shrubland and Savanna Dryland Ecosystems.” 3rd UNCCD Scientific Conference: Combating Desertification/Land Degradation and Drought for Poverty Reduction and Sustainable Development: The Contribution of Science, Technology, Traditional Knowledge and Practices, Cancún, Mexico, March, 2015.
- Liao, C.*** 2014. “Following the Green: Coupled pastoral migration and vegetation dynamics in the Altay and Tianshan Mountains of Xinjiang, China.” Annual Meeting of Association of American Geographers, Tampa, FL, April, 2014.
- Wang, M*, **Liao, C.** 2010. “Toward an Understanding of Risk Perception and Willingness to Pay of Chinese People on Natural Catastrophe Insurance.” Global Risk Forum, Davos, Switzerland, June, 2010.
- Liao, C.*** 2009. “A Nationwide Survey: Feasibility Study of Catastrophe Insurance in China.” Fourth Asian Conference on Risk Assessment and Management, Beijing, China, May, 2009.

OTHER TALKS AND ACTIVITIES (* indicates presenter)

- Liao, C.** “Spatial Science of Socio-Environment Systems for Sustainable Development”. East China Normal University, online, April, 2021.
- Liao, C.** “Spatial Science of Socio-Environment Systems for Sustainable Development”. GeoInsider Seminar, online, March, 2021.
- Liao, C.** “Justice, Equity, Diversity, and Inclusion in Sustainability and Development”. Sustainability Research Seminar: Justice, Equity, Diversity, and Inclusion in School of Sustainability, Arizona State University, online, February, 2021.
- Liao, C.** “Spatial Science of Human-Environment Systems for Sustainable Development”. University College London, online, February, 2021.
- Liao, C.** “Spatial Science of Human-Environment Systems for Sustainable Development”. Colloquium in School of Geographical Sciences and Urban Planning, Arizona State University, online, October, 2020.
- Liao, C.** “Spatial Science of Human-Environment Systems for Sustainable Development”. Public Administration Forum, Huazhong Agriculture University, online, July, 2020.
- Liao, C.** “Impacts of Large-Scale Land Acquisitions on Food Systems in Bolivia”. Food for

- Thought Series, Arizona State University, Tempe, AZ, October, 2019.
- Liao, C.** “Spatial Science of Coupled Natural-Human Systems for Sustainable Development in the Drylands”. Yanbian University, Yanbian, Jilin, China, August, 2019.
- Liao, C.** “Spatial Science of Coupled Natural-Human Systems for Sustainable Development in the Drylands”. Beijing Normal University, Beijing, China, July, 2019.
- Liao, C.** “Landscape Sustainability Science for Achieving Sustainable Development Goals in the Global Drylands”. Northeast Institute of Geography and Agroecology, Chinese Academy of Sciences, Changchun, Jilin, China, June, 2019.
- Liao, C.*** 2019. “Spatial Science of Human-Environment Systems for Sustainable Development.” Department of Geography, University of Washington, Seattle, WA, February, 2019.
- Liao, C.*** 2018. “Spatial Science of Coupled Natural-Human Systems for Sustainable Development.” Spatial Analysis Research Center, Arizona State University, Tempe, AZ, November, 2018.
- Liao, C.*** 2018. “Modeling Herding Decision Making in the Extensive Grazing System in Southern Ethiopia.” Center for Behavior, Institutions and the Environment, Arizona State University, Tempe, AZ, October, 2018.
- Liao, C.*** 2018. “Poverty Reduction through Solar Energy-Based Intervention in China: Potentials and Constraints.” Eradicating Poverty through Energy Innovation Workshop, Arizona State University, Tempe, AZ, February, 2018.
- Liao, C.*** 2017. “Research Tools to Study Forest and Livelihoods.” School of Agricultural Economics and Rural Development. Renmin University of China, Beijing, China, October, 2017.
- Liao, C.*** 2017. “Diversity of Large-Scale Land Acquisitions and Their Divergent Outcomes in Ethiopia.” German Institute of Global and Area Studies Socioeconomic Seminar Series, Hamburg, Germany, September, 2017.
- Liao, C., Clark, P., Shibia, M., DeGloria, S.*** “Spatio-Temporal Dynamics of Cattle Behaviors and Resource Selection Patterns on the East African Rangelands” Grazing Behavior Inservice, Springdale, UT, January, 2017.
- Liao, C.*** 2016. “Livelihood Diversification, Herd Migration and Risk Perception on the Western Edge of Mongolian Plateau.” Symposium on Research synthesis & innovation on the Mongolian Plateau, Ann Arbor, MI, May, 2016.
- Liao, C.*, Brown, D., Jung, S., Agrawal, A.** 2016. “Spatial Patterns of Large-Scale Land Transactions: Number, Size, Context and Outcome in Cambodia, Ethiopia, Liberia and Peru.” Symposium on Large-Scale Land Transactions in sub-Sahara Africa, South Asia and Southeast Asia, Ann Arbor, MI, April, 2016.
- Liao, C.*** 2016. “A Coupled Systems Approach to Understanding Human Dimensions of Global Environmental Change.” Department of GeoSciences, University of Missouri – Kansas City, Kansas City, MO, March, 2016.
- Liao, C.*** 2015. “Modeling Pastoralists’ Camp Relocation Strategies in Borana, Ethiopia: An Integrated Approach.” Department of Natural Resources Seminar Series, Cornell

University, Ithaca, NY, October, 2015.

- Liao, C.*** 2015. “How Does a Rubric Enhance Learning: Using Place Journal as a Case Study.” Classroom Research and Teaching Symposium: A Symposium for Current and Future Faculty, Cornell University, Ithaca, NY, May, 2015.
- Liao, C.*** 2015. “Adaptation to Bush Encroachment: Insights from Ethnobotanical Knowledge of Pastoralists in Borana, Ethiopia.” Student Symposium at Atkinson Center for a Sustainable Future, Cornell University, Ithaca, NY, March, 2015.
- Liao, C.*** 2014. “Quantifying Pastoral Mobility Using GPS Collar Data: An Application in Borana, Ethiopia.” Department of Natural Resources Seminar Series, Cornell University, Ithaca, NY, November, 2014.
- Liao, C.*** 2014. “External Development Interventions and Pastoral Resilience in Borana, Ethiopia.” Cornell University Workshop on Resilience & Development, Ithaca, NY, October, 2014.
- Liao, C.*** 2014. “Rangeland Vegetation State-and-transition and Pastoral Mobility in Borana, Ethiopia.” Sustainable Biodiversity Fund Symposium, Cornell University, Ithaca, NY, October, 2014.
- Liao, C.*** 2014. Invited Panelist on Panel “Natural Resources and Infrastructure Development in Inner Asia.” Annual Meeting of Association of American Geographers, Tampa, FL, April, 2014.
- Liao, C.*** 2014. “Rangeland Ecology and Livestock Mobility in Borana, Ethiopia.” Special Seminar of Northwest Watershed Research Center, USDA Agriculture Research Service in Boise, ID, March, 2014.
- Liao, C.*** 2013. “Pastoral Resilience in Borana, Ethiopia.” ACSF-Oxfam Rural Resilience Community Assessment workshop, Cornell University, Ithaca, NY, September, 2013.
- Liao, C.*** 2012. “Livelihood Strategies and Migration Patterns in the Pastoral System in Xinjiang, China.” Department of Natural Resources Graduate Student Association Symposium, Cornell University, Ithaca, NY, January, 2012.
- Liao, C.*** 2011. “Mapping Disaster Risk in Local Communities in Tian Shan Mountain in Xinjiang, China.” Department of Natural Resources Graduate Student Association Symposium, Cornell University, Ithaca, NY, January, 2011.

PROFESSIONAL SERVICE

Journal Manuscript Reviewer

Annals of the American Association of Geographers (2016)

Applied Energy (2020)

Biodiversity and Conservation (2020)

Community Development (2018x2, 2019)

Earth's Future (2019)

Ecological Applications (2019)

Ecological Processes (2018)

Ecology and Evolution (2017x2)
Ecosphere (2017)
Environment, Development and Sustainability (2017, 2018x2)
Environmental Management (2017)
Environmental Science & Policy (2020)
Global Change Biology (2020)
Global Ecology and Conservation (2020)
Human Ecology (2016x6, 2017x2, 2018x2, 2020)
Humanities & Social Sciences Communications (2020)
International Journal of Disaster Risk Science (2017)
International Journal of Geographical Information Science (2018)
Journal of Arid Environments (2019x2, 2020)
Journal of Cleaner Production (2019, 2020)
Journal of Contemporary African Studies (2019)
Journal of Environmental Management (2019)
Journal of Environmental Studies and Sciences (2015)
Journal of Mountain Science (2016)
Journal of Poverty (2018)
Journal of Rural Studies (2020)
Land Degradation and Development (2019)
Land Use Policy (2018, 2021)
Landscape Ecology (2020x3)
Livestock Science (2016)
Natural Hazards (2019)
Nature Sustainability (2019x2, 2021)
Papers in Regional Science (2020)
PLoS One (2020x3)
Proceedings of the National Academy of Sciences (2020)
SAGE Open (2020)
Sustainability (2018x2, 2020)
The Rangeland Journal (2019)
Water (2018)
World Development (2015, 2016, 2017, 2018, 2019x3, 2020)
World Development Perspectives (2021)

Journal Editing

Co-guest editor of Special Issue “Forest governance interventions for sustainability: Information,

incentives, and institutions” in *Current Opinions in Environmental Sustainability*

Guest editor of Special Issue “Sustainable Energy Transition in the Global South” in *World Development* (in progress)

Grant Proposal Reviewer

National Science Foundation, Division of Environmental Biology (2020); Institute of Social Science Seed Grant, ASU (2020); Science & Technology Facilities Council, UK (2018); National Geographic Society Committee for Research and Exploration Grant (2015); Sustainable Biodiversity Fund, Cornell (2014); Mellon/Kieckhefer Grant, Cornell (2011)

Editorial Board Member

Frontiers in Conservation Science (2020 –)

Conference and Session Organizer

Conference Session, “Large-Scale Land Acquisitions and Effect on Agricultural Production, Ecosystem Services, and Smallholder Livelihoods”, Annual Meeting of Association of American Geographers, Washington, DC, April, 2019.

Conference Session, “Systematic Assessment of Land Transaction Outcomes”, Third Annual Meeting of Forests & Livelihoods: Assessment, Research, and Engagement, Stockholm, Sweden, September, 2017.

Conference Session and Panel Discussion, “Dynamics of Coupled Natural and Human Systems Panels: Models, Feedback, Analyses, and Outcomes”, Annual Meeting of Association of American Geographers, Boston, MA, April, 2017.

Round-Table Discussion Session, “The Impact of Large-Scale Land Transactions on Smallholder Livelihoods and Agroecological Systems”, Third GLP Open Science Meeting, Beijing, China, October, 2016.

Symposium, “Large-Scale Land Transactions in Sub-Saharan Africa, South Asia and Southeast Asia”, University of Michigan, Ann Arbor, MI, April, 2016.

Committee Member

Member, Research Technical Assistance Center Network, United States Agency for International Development (USAID) (2020-)

Forests & Livelihoods: Assessment, Research, and Engagement (FLARE) Corporation Board of Directors (2019-)

Sustainable Food Systems Program Committee, School of Sustainability, ASU (2019-)

Judging Committee for Institute of Social Science Research’s Graduate Student Poster Contest, ASU (2019)

Undergraduate Quantitative Skills Curriculum Committee, School of Sustainability, ASU (2019)

Graduate Committee, School of Sustainability, ASU (2018-2019)

The Board of University of Michigan Postdoctoral Association (2016-2018)

Coordination Committee of Forests & Livelihoods: Assessment, Research, and Engagement (FLARE) Network (2016-2019)

POPULAR PRESS CONTRIBUTIONS AND QUOTATIONS

Environmental New Network; Thomson Reuters

ACADEMIC AFFILIATIONS

American Association of Geographers

American Association for the Advancement of Science

Sigma Xi, The Scientific Research Society

LANGUAGES

Chinese (native); English (fluent); Afaan Oromo (basic)