

# Chuan Liao

School of Natural Resources and Environment  
University of Michigan  
440 Church Street, Ann Arbor, MI 48109, USA

Phone: 713-822-0959  
Email: [ichuan@umich.edu](mailto:ichuan@umich.edu)  
Website: [chuanliao.wordpress.com](http://chuanliao.wordpress.com)

---

## EDUCATION

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

## PROFESSIONAL APPOINTMENTS

- 2015- Postdoctoral Research Associate, Environmental Spatial Analysis Lab & International Forest Research and Institutions, School of Natural Resources and Environment, University of Michigan – Ann Arbor

## PUBLICATIONS

### *Journals*

- **Liao, C.**, Fei, D. Pastoralist Adaptation Practices under Non-Governmental Development Interventions in Southern Ethiopia. *The Rangeland Journal* (in press).
- Fei, D., Samatar, A., **Liao, C.** Chinese-African Encounters in High-Tech Sectors: Comparative Investigation of Chinese Workplace Regimes in Ethiopia. *Development Policy Review* (in press).
- **Liao, C.** Fei, D. 2017. Sedentarization as Constrained Adaptation: Evidence from Pastoral Regions in Far Northwestern China. *Human Ecology*, 45 (1): 23-35.
- **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.
- **Liao, C.**, Jung, S., Brown, D., Agrawal, A. 2016. Insufficient Research on Land Grabbing. *Science*, 353 (6295): 131.
- **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.
- **Liao, C.**, Barrett, C., Kassam, K.-A. 2015. Does Diversification Improve Livelihoods? Pastoral Households in Xinjiang, China. *Development and Change*, 46 (6): 1302-1330.

- **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.
- **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.
- 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*

- **Liao, C.**, Clark, P., DeGloria, S., Barrett, C. Complexity in the Spatial Utilization of Rangelands: Pastoral Mobility in Borana, Ethiopia.
- **Liao, C.** Modeling Herding Decision-Making in the Extensive Grazing System in the Horn of Africa.
- **Liao, C.**, Jung, S., Agrawal, A., Brown, D. Socio-Environmental Patterns of Large-Scale Land Transactions: Evidence from Ethiopia, Liberia, Cambodia, and Peru.
- Jung, S., **Liao, C.**, Agrawal, A., Brown, D. Evidence on the Impacts of Forestry Concessions on Wealth in Liberia.
- **Liao, C.** Quantifying Multi-Scale Pastoral Mobility: Developing A Metrics System and Using GPS-Tracking Data for Evaluation.
- **Liao, C.** Clark, P., Shibia, M., DeGloria, S. Spatio-Temporal Dynamics of Cattle Behaviors and Resource Selection Patterns in the Open Grazing System of East Africa.

#### *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.

### **RESEARCH FUNDING**

- 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**; Lead PI Daniel Brown (U Michigan), Shengquan Che (Shanghai Jiaotong University), Co-PI Natalie Colabianchi (U Michigan), Dan Chen (Shanghai Jiaotong University). **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;** Lead PI Arun Agrawal, Co-PI Reem Hajjar (U Michigan), Alemayehu Ayana, Beliyu Limenih (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;** Lead PI Arun Agrawal, Co-PI Daniel Brown (U Michigan), Jane Southworth (U 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, 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: Sole PI. Funded: \$4,500**
  - Cornell University and Oxfam America (2013). *Rural Resilience Assessment in Borana, Ethiopia*. **My role: Sole 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: Lead 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: Sole PI. Funded: \$400**
  - Toward Sustainability Foundation (2011). *Mapping Disaster Risk in Local Communities in Tian Shan Mountains Regions in Xinjiang, China*. **My role: Lead PI;** Co-PI Karim-Aly Kassam (Cornell). **Funded: \$4,000**

### **HONORS, AWARDS AND FELLOWSHIPS**

- National Postdoctoral Association Annual Meeting Award (2016), University of Michigan
- Hsien and Daisy Yen Wu Scholarship (2015), Cornell University
- Graduate Teaching Assistant Fellows (2015), Center for Teaching Excellence, Cornell University
- Scholarship of Teaching and Learning Practitioner Fellows (2015), Center for Teaching Excellence, Cornell University
- Graduate School Conference Travel Grant (2015), Cornell University
- Cornell Population Center Travel Grant (2015), Cornell University
- Graduate School Conference Travel Grant (2014), Cornell University
- Guani Fellowship (2012), Department of Natural Resources, Cornell University
- National Lizhi Scholarship for Academic Excellence (2009), Beijing Normal University

## **TEACHING EXPERIENCE AND APPOINTMENTS**

- Invited Lecturer, NRE 563 International Environmental Policy, University of Michigan (02/2017)
- Teaching and Learning Practitioner Fellow, Center for Teaching Excellence, Cornell (02 – 05/2015)
- Graduate Teaching Assistant, NTRES 2201 Society and Natural Resources, Cornell (01 – 05/2015)
- 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 (08 – 12/2014)
- Instructor, GIS Data Processing Training Workshop, International Livestock Research Institute, Nairobi, Kenya (07/2014)

## **CONFERENCE PRESENTATIONS** (\* indicates presenter)

- 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**

- 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 Association of American Geographers (1); Ecosphere (1); Environment, Development and Sustainability (1); Human Ecology (6); International Journal of Disaster Risk Science (1); Journal of Environmental Studies and Sciences (1); Journal of Management and Sustainability (2); Journal of Mountain Science (1); Livestock Science (1); World Development (2)

### **Grant Proposal Reviewer**

National Geographic Society Committee for Research and Exploration Grant (2015); Sustainable Biodiversity Fund, Cornell University (2014); Mellon/Kieckhefer Grant, Cornell University (2011)

### **Editorial Board Member**

Journal of Management and Sustainability

### **Conference and Session Organizer**

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**

The Board of University of Michigan Postdoctoral Association (2016-2017).

Coordination Committee of Forests & Livelihoods: Assessment, Research, and Engagement (FLARE) Network (2016-2017).

### **ACADEMIC AFFILIATIONS**

American Association of Geographers

American Association for the Advancement of Science

Sigma Xi, The Scientific Research Society

### **LANGUAGES**

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

### **SKILLS**

Advanced GIS, remote sensing and spatial analysis; modeling and statistics in R; household survey; participatory mapping; focus group discussion; plant survey and identification.