Samjhana Koirala

University of Connecticut
Department of Agricultural and Resource Economics
1376 Storrs Road, Unit 4021, Storrs, CT 06269

Email: samjhana.koirala@uconn.edu
Phone: (208) 596-8137
Web: https://www.samjhanakoirala.com

EDUCATION

Ph.D., Agricultural and Resource Economics, University of Connecticut, Storrs, CT, May 2025(Expected)

> Dissertation Title: *Risk, Resource, and Resilience: Understanding Disparities in Response to Climate Change*
> Dissertation Committee: Kimberly Rollins, Charles Towe, Shinsuke Tanaka, Farhed Shah

M.S., Applied Economics, University of Idaho, Moscow, ID, 2019

B.S., Agriculture, Institute of Agriculture and Animal Science, Tribhuvan University, Nepal, 2016

FIELDS OF INTEREST

Environmental Economics, Industrial Organization, Development Economics

WORKING PAPERS

Disentangling the Effects of Fluctuation in Timing of Snowmelt in Agricultural Production in Arid Regions (Job Market Paper)

> This study explores the intricate dynamics of water distribution and its profound implications for arid land agricultural production, focusing on regions heavily reliant on surface runoff for irrigation. Climate change-induced challenges, such as rising temperatures, diminishing mountain snowpack, and altered snowmelt timing, have disrupted the traditional allocation of surface water for agriculture. This disruption has significant consequences, especially in areas lacking reservoirs to manage irregular water flows. The study investigates the relevance and effectiveness of century-old water rights systems, originally based on assumptions of stable temperature and streamflow patterns. Using a unique dataset from Carson Valley, Nevada, the research assesses how fluctuations in winter temperatures and water supply variations impact alfalfa cultivation, shedding light on the complex relationship between water allocation, climate change, and decision-making in water-dependent regions.

Adapting to the Future: Resident Preferences for Risks of Potential Power Outages

> The increasing frequency and severity of power outages due to climate change pose significant challenges to electricity supply resilience. With traditional electricity technologies, poorly managed trees, and overhead powerlines among Connecticut communities, increased severity and incidence of storms and hurricanes exacerbate this issue. Measures like tree trimming, installing solar panels with battery backups, burying powerlines, and implementing renewable energy microgrids can reduce outages. However, these solutions require significant budget allocations, necessitating careful resource management to enhance overall welfare. This study uses survey instruments with discrete choice experiment design to understand individuals' preferences for reducing power outage incidence and duration. Using the conditional logit model, the research assesses variations in preferences among residents with different social capital, income levels, experiences, and other socio-economic demographics. This study provides valuable insights for policymakers and utilities on the equitable distribution of resources, thereby fostering resilient communities in the face of climate-related disruptions.

Flood Risk, Community Connection, and Choice: A Discrete Choice Analysis of Flood Mitigation Preferences in Flood-Prone Coastal Communities

This study explores the factors influencing individuals' choices and their willingness to pay to reduce the potential risks of future damage from floods in flood-prone areas along coastal regions. It investigates the role of income, community connections, risk perceptions, and past experiences regarding their decisions about flood mitigation strategies through survey questionnaires in coastal Connecticut counties. Using the choice experiment design, responses from Connecticut residents on their preferences in the choices of reducing the risks of future flood incidence are collected. Based on the random utility model, this study utilizes the conditional logit model to assess differences in preferences on choices between households in flood-prone and non-flood-prone areas and examines the impact of social networks on adaptation decisions. The findings have implications for policy and planning in the equitable distribution of resources for techniques to reduce flood risks in coastal communities.

PUBLICATIONS

Bordigioni, M., Koirala, S., Kobayashi, M., & Jakus, P. (2020). *Area sector analysis process: Technical documentation* (tech. rep.). Western Rural Development Center.

Koirala, S., Jakus, P. M., & Watson, P. (2023). Identifying constraints to rural economic development: A development guidance function approach. *Journal of Agricultural and Resource Economics*, *38*(3), 461.

Koirala, S., Watson, P., McIntosh, C. S., & Dandurand, L. M. (2020). Economic impact of globodera pallida on the idaho economy. *American Journal of Potato Research*, *97*(2), 214–220.

TEACHING EXPERIENCE

Teaching Assistant, Business Organizations and Labor Market, Department of Agricultural and Resource Economics, University of Connecticut, Fall 2019

Teaching Assistant, Marketing and Consumer Behavior, Department of Agricultural and Resource Economics, University of Connecticut, Fall 2019

Teaching Assistant, Computational Analysis in Applied Economics, Department of Agricultural and Resource Economics, University of Connecticut, Spring 2020

Teaching Assistant, Environmental and Resource Policy, Department of Agricultural and Resource Economics, University of Connecticut, Spring 2020

Teaching Assistant, Economics of Energy, Climate Change and the Environment, Department of Agricultural and Resource Economics, University of Connecticut, Fall 2021, Fall 2022, Fall 2023

Teaching Assistant, Environmental and Resource Economics, Department of Agricultural and Resource Economics, University of Connecticut, Spring 2022, Spring 2023, Spring 2024

WORK EXPERIENCE

Graduate Research Assistant, University of Connecticut   ***Aug 2019–Present***

- Collaborated with economists, engineers, and extension specialists on SNOWPACS project to study sub-annual variations in surface runoff and crop productivity in arid regions using time-series data.

- Synthesized data from diverse sources, including CropScape, National Oceanic and Atmospheric Administration, Natural Resources Conservation Service Web Soil Survey, and Tax accessor database to analyze the climate impacts on agricultural decisions.

- Designed and implemented surveys, leading team members of research assistants, stakeholders, government officials, and sociologists to assess the household preferences on willingness to pay for risk reduction of power outages and flooding damages.

- Led research projects autonomously, overseeing all stages from inception to completion, including defining research questions, conducting literature reviews, writing grant proposals, designing survey methodologies, conducting focus group discussions, conducting surveys, and analyzing data.

- Organized weekly meetings within an economist team and coordinated with other teams for monthly meetings to discuss the project progress report.

- Written and delivered project reports to technical and non-technical audiences.

Graduate Research Assistant, University of Idaho *Aug 2017–Jul 2019*

- Evaluated the statewide economic effects of potato nematode infestation using the IMPLAN model, collaborating with entomologists, extension specialists, and economists.

- Employed qualitative assessments and quantitative analyses using constrained optimization models in GAMS to assess economic opportunities for towns in Nevada, Arizona, and Utah.

- Presented findings to interdisciplinary teams from partner universities and authored a technical report, and peer-reviewed articles based on the research outcomes.

AWARDS, FELLOWSHIPS, & GRANTS ($50,727)

Irving & Justice Fellows Scholarship, University of Connecticut, Fall 2024
Stanley K. Seaver Scholarship, University of Connecticut, Fall 2024
Connecticut Sea-Grant Development Award, Summer 2024
Eversource Energy Center Fellowship, Summer 2024
Predoctoral Fellowship, University of Connecticut, Spring 2022, Spring 2023, Spring 2024
Stewart Johnson Fellowship, University of Connecticut, Fall 2023
Nathan Koenig AG/EC Student Fund, University of Connecticut, Fall 2022
Marine & Coastal Economic Graduate Fellowship, Connecticut Sea-Grant, Summer 2024
Conference Participation Fellowship, University of Connecticut, Fall 2024
HEERF3/ARP Award 4, University of Connecticut, Spring 2022
Ellen Bishop Carder Scholarship, University of Connecticut, Fall 2021
Summer Grant, University of Connecticut, Summer 2021
Russell Palen Fund Scholarship, University of Connecticut, Spring 2020, Fall 2024
Departmental Fellowship, University of Connecticut, Fall 2019

SEMINAR & CONFERENCE PRESENTATIONS

Agricultural & Applied Economics Association (AAEA) Annual Meeting, 2024
Western Economics Association International (WEAI) Annual Conference, 2024
Annual Graduate Student Research Forum - University of Connecticut CAHNR, 2024

REFEREE EXPERIENCE

Agribusiness: an International Journal

LANGUAGES

Nepali (native), English (fluent), Hindi (fluent)

COMPUTER SKILLS

STATA, R, Python, ArcGIS Pro, IMPLAN, Qualtrics, Microsoft Office (Word, Excel, PowerPoint), LaTeX

LANGUAGES

Nepal, US Permanent Resident, Female

REFERENCES

Professor Kimberly Rollins
Department of Agricultural & Resource Economics
University of Connecticut
Phone: (775) 813-4182
Email: kimberly.rollins@uconn.edu

Professor Charles Towe
Department of Agricultural & Resource Economics
University of Connecticut
Phone: (860) 486-2739
Email: charles.towe@uconn.edu

Professor Shinsuke Tanaka
Department of Agricultural & Resource Economics
University of Connecticut
Phone: (860) 486-1923
Email: shinsuke.tanaka@uconn.edu

Professor Farhed Shah
Department of Agricultural & Resource Economics
University of Connecticut
Phone: (860) 268-3829
Email: farhed.shah@uconn.edu