

Muhammad Jawad Khan

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EDUCATION

PhD in Natural Resources and Environmental Studies

University of New Hampshire, NRESS, USA (Fall 2019 – Fall 2024)

Dissertation: "THREE ESSAYS ON THE ECONOMICS OF SUSTAINABLE CONSUMER CHOICES"

Coursework: Microeconomics II, Environmental Valuation, Ecological Economic Modelling, Machine Learning

Master of Science in Resource Economics

Cornell University, Charles H. Dyson School of Applied Economics and Management, USA (Fall 2011 – Spring 2014)

Major: Environmental & Resource Economics

Thesis: "TESTING THE CONVERGENT VALIDITY OF CONTINGENT VALUATION AND TRAVEL COST METHODS FOR VALUING THE RECREATIONAL FISHERIES IN NEW YORK STATE"

Bachelor of Science in Economics - Gold Medalist

Balochistan University of IT, Engineering & Management Sciences (BUITEMS), Pakistan (Fall 2004 – Spring 2008)

Research Project: "SPATIAL DETERMINANTS OF RESIDENTIAL LAND VALUATION IN QUETTA"

Certification

Graduate Certificate in Data Science

University of New Hampshire, Data Analytics, USA (Spring 2022)

CURRENT POSITION

Post-Doctoral Research Associate – University of Illinois Urbana-Champaign (Jan 2025, to date)

RESEARCH EXPERIENCE

Environmental and Natural Resource Economist – University of Illinois Urbana-Champaign (Summer 2023, 2024)

Research Assistant – University of New Hampshire, USA (Fall 2019 – Spring 2023)

Graduate Research Assistant – Cornell University, USA (2011–2014)

Worked with Prof. Gregory L. Poe on non-market valuation projects

Impact Assessment Leader – Participatory Integrated Development Society, Pakistan (Nov 2014 – Jan 2015)

Regional Coordinator (Balochistan) – Global Environment Management Services (Aug 2014 – Sept 2014)

PEER-REVIEWED PUBLICATIONS

He, X., Khan, M. J., Spink, E. M., & Poe, G. L. (2022). [Exploring the shelf-life of travel cost methods of valuing recreation for benefits transfer](#). *Resource and Energy Economics*, 63, 101123. Corrigendum: *Resource and Energy Economics*, 68, 101335.

Khan, M. J., & Kakar, Z. K. (2013). [Green fuel: An ultimate need for Pakistan](#). *World Applied Sciences Journal*, 23(7), 983–988.

Khan, Muhammad Jawad, Kakar, Z. K., & Ullah, Z. (2011). [Obstacles faced by females in pursuing their jobs in Pakistan](#). *Journal of International Academic Research*, 11(2).

WORKING PAPERS

1. Khan, M. J., Atallah, S. S., Kalaitzandonakes, M. H., & Ellison, B. Demand for climate-adapted food: An application to tree syrups [Manuscript under review with *Ecological Economics*]

Abstract: Agricultural and food systems face increasing environmental challenges due to climate change, including droughts, heatwaves, and pest and disease outbreaks—particularly in monocultures. While both climate mitigation and adaptation are essential for securing food production, consumer research has primarily focused on the demand for food produced using mitigation strategies, such as low-carbon products, with limited attention to food produced in climate-adapted systems. Diversification of socioecological systems is a key climate adaptation strategy that enhances resilience. In the context of tree syrups, diversification involves expanding production beyond maple monocultures to include species such as birch. We conducted a Becker-DeGroot-Marschak (BDM) experimental auction featuring a tasting of both maple and birch syrups, paired with two randomized information treatments, to estimate willingness to pay (WTP) for climate-adapted tree syrup. The auction took place in two U.S. regions—New Hampshire and Illinois—which differ in forest cover and syrup production. Providing information on the climate resilience benefits of forest diversification increased WTP for birch syrup and partially mitigated its sensory disadvantage relative to maple. Climate resilience treatment effects were stronger among participants in New Hampshire, suggesting salience effects driven by geographic proximity to the resource. These findings suggest that targeted information and regional marketing strategies can generate market-based incentives for agroecological diversification. Product innovation, such as blended syrups that combine sensory and climate benefits, may further expand consumer support for climate-adapted agricultural and food systems.

2. Khan, M. J., & Atallah, S. S., *How do consumers trade off food environmental footprints? The case of water, land, nitrogen, and energy footprints of US lettuce* [Planned submission to *Agricultural Economics*].

Abstract: This study investigates consumer preferences for lettuce with lower environmental footprints using a nationwide choice experiment conducted in September 2023. While prior research has largely focused on single sustainability attributes such as carbon or organic certification, little is known about how consumers balance multiple environmental footprints simultaneously. The analysis shows that reductions in nitrogen, water, and land use significantly increase utility, reflecting support for controlled environment agriculture (CEA). At the same time, the high energy demands typical of CEA lower willingness to pay (WTP), highlighting concerns about energy sustainability. Consumers are willing to pay premiums for sustainable practices: \$1.61 per pound for organic certification, \$1.46 for a 95% reduction in water use (\$0.90 for 80%), \$1.12 for eliminating nitrogen fertilizer (\$0.95 for 50%), and \$1.05–\$0.98 for reductions in land use. In contrast, higher energy use decreases WTP by \$0.32. An interaction between water conservation and high energy use (0.126) suggests that resource savings can partly offset energy costs. Overall, the findings reveal how consumers weigh trade-offs across multiple ecological impacts, pointing to the value of ecolabels that present sustainability information across several dimensions.

3. Khan, M. J., & Halstead, J. M. (2025, March). Drinking water contamination in New England: Household willingness to pay to avoid PFAS exposure.

Abstract: This study investigates household willingness to pay (WTP) for PFAS filtration in municipal drinking water across New England. A contingent valuation survey conducted in September 2021 shows that health concerns are the strongest driver of support, with higher WTP among households worried about water quality. Income, water expenditures, and existing home filters also play significant roles. Political affiliation has limited

influence but interacts with health concerns to shape preferences. Education and trust in credible information sources, particularly universities, further raise WTP, highlighting the importance of effective communication. Households near contamination sites are more likely to invest in additional treatment. State-level variation is modest, with average monthly WTP ranging from \$12.73 in Vermont to \$14.10 in New Hampshire. On average, households are willing to allocate about 0.34% of their monthly income for safer drinking water.

4. Yan, Y., Atallah, S. S., **Khan, M. J.**, & Moore, D. (2022). [Maple syrup producers' willingness to diversify maple forests for increased resilience](#). *Selected Paper, Agricultural and Applied Economics Association Annual Meeting*.
5. **Khan, Muhammad Jawad**., Fan, Xiaoli. *A Hierarchical Approach to Integrated Pest Management (IPM) in Sweet Corn Farms*. Working paper

NON-PEER-REVIEWED PUBLICATIONS

Khan, M. J. (2014). [Testing the convergent validity of contingent valuation and travel cost methods for valuing the recreational fisheries in New York State](#) (Master's Thesis, Cornell University E-Library Database).

Khan, M. J., & Khan, S. F. (2021). [Role of international education in combating the pandemic: Developing youth skills for the future: A vision from Pakistan](#). Retrieved from <https://www.un.org/en/academic-impact/developing-youth-skills-future-vision-pakistan>.

CONFERENCE PRESENTATIONS (presenter in bold)

Khan, M. J., Atallah, S. How Do Consumers Trade Off Food Environmental Footprints? The Case of Water, Land, Nitrogen, and Energy Footprints of U.S. Lettuce. *In 2025 annual meeting, June 10-11, Burlington, Vermont, Northeastern Agricultural and Resource Economics Association (NAREA)*

Khan, M. J., & **Halstead, J. M.** (2025, March). [Drinking water contamination in New England: Household willingness to pay to avoid PFAS exposure](#). *In 64th Annual Meeting of the Southern Regional Science Association* (SRSA 2025), March 27-29, Alexandria, Virginia. Southern Regional Science Association.

Atallah, S. S., **Yan, Y.**, Khan, M. J., & More, D. (2024). [Maple syrup producers' willingness to diversify maple forests for increased resilience](#). 2024 Agricultural & Applied Economics Association Annual Meeting

Khan, M. J., Atallah, S. S., Kalaitzandonakes, M. H., & Ellison, B. (2022, August). [Consumer willingness to pay for products derived from diversified forests: The case of tree syrups](#). *In 2022 Annual Meeting, July 31-August 2, Anaheim, California (No. 322464)*. Agricultural and Applied Economics Association.

Khan, M. J. & Fan, Xioali. [A hierarchical approach to integrated pest management \(IPM\) in sweet corn farms](#). Track Session Presentations, In 2022 Annual Meeting, July 31-August 2, Anaheim, California (No. 322464). Agricultural and Applied Economics Association.

He, X., Khan, M. J., Spink, E., Connelly, N. A., Li, S., & Poe, G. L. (2014). [Exploring the shelf life of travel cost methods of valuing recreation for intertemporal benefits transfers](#).

TEACHING EXPERIENCE

Teaching Assistant – University of New Hampshire, USA (Fall 2023 – Fall 2024)

Courses: Environmental & Resource Economics Perspective

Instructor of record – University of New Hampshire, USA (Fall 2022)

Courses: EREC 708 Environmental Economics (10 undergraduate students), RECO 808 Environmental Economics (3 graduate students)

Chairperson, Department of Economics – BUIITEMS, Pakistan (Sept 2017 – Aug 2019)

Managed a team of 30 faculty members; conducted annual performance reviews
Developed curriculum, schedules, and academic assessments
Oversaw departmental research initiatives and faculty development

Assistant Professor, Department of Economics – BUIEMS, Pakistan (July 2014 – Aug 2019)

Taught Advanced Microeconomics (10 students), Environmental Economics (30 students), and Econometrics (30 students)
Supervised student research projects and career counseling initiatives

Visiting Faculty, Department of Economics – SBKWU, Pakistan (Aug 2014 – 2016)

Taught Advanced Microeconomics to M.Phil. students

Lecturer, Department of Economics – BUIEMS, Pakistan (Nov 2009 – July 2014)

Taught Applied Economics and supervised undergraduate research projects

INDUSTRY EXPERIENCE

Consultant – Small & Medium Enterprises Development Authority (SMEDA), Pakistan (Nov 2009 – Dec 2010)
Developed pre-feasibility reports and business plans for SMEs.

Research Intern (Management Associate) – SMEDA, Pakistan (Nov 2008 – Nov 2009)
Conducted market research and feasibility studies for SME projects.

TECHNICAL SKILLS

Programming: **R, Python, SPSS, STATA, GIS, Tableau**
Data Analysis: Econometrics, Non-Market Valuation, Policy Analysis

LANGUAGES

Proficient in English, Urdu (Native), and Pashto (Intermediate)

AWARDS

Northeastern Agricultural and Resource Economics Association (NAREA) [CAM Cohort Fellow](#) (2025-2027)
[George Curley Frick Fellow](#) (2022, 2023)
Best Faculty Award (2016)
Higher Education Commission (HEC) Pakistan Master Trainer (Batch 22, MT-FPDP, 2014)
Fulbright Scholar (2011–2013)
Gold Medal in BS Economics (2008)
Merit-Based Scholarship throughout BS Program

MEDIA COVERAGE

["Nowhere Left to Go: How Climate Change Is Driving Species to the Ends of the Earth"](#)
by Benjamin von Brackel, The Experiment Publishing (July 5, 2022), 288 pages.

["Diversifying the Syrup Industry," New Hampshire Agricultural Experiment Station, Morning Ag Clips](#) (March 27, 2023).

SERVICES & TRAININGS

- As a volunteer in Dr. Muhammad Adnan Shahid's lab at UF, I contribute to survey design and data analysis for research on plant stress physiology. My focus is on the economic implications of abiotic stress and its impact on grower profitability and agricultural sustainability.

- Reviewer, [**Heartland Environmental and Resource Economics Workshop**](#)
University of Illinois Urbana-Champaign, 2025
- Invited Judge for the **33rd COLSA Undergraduate Research Conference (URC)** at the **University of New Hampshire**.
- Acted as **Acting Campus Administrator** and **Proctorial Duty Head** at **BUIITEMS City Campus**, managing both academic and administrative responsibilities.
- Won grants from BUIITEMS ORIC for studies on wage differences and e-waste recycling
- Served as **General Secretary** of the **Fulbright Alumni Association**, fostering alumni engagement and professional development.
- **Focal Person** for **Campus Management Solution (CMS)** at **BUIITEMS** and member of the **Examination and Curriculum Committees**, contributing to academic oversight.
- Delivered a talk on "[**e-education in Pakistan \(University level\): Benefits, challenges, and future prospects.**](#)"
- Presented at **World Youth Skills Day (2021)** on "Bridging the Skills Gap for Youth."
- Annually invited as a **Guest Speaker** at the **National Institute of Management (NIMS)** from 2016 to 2018.
- Conference Secretary, 3rd International Conference on Emerging Issues in Management and Economics (ICEIME), 2016 — **Assisted in securing \$1 million** in grant funding to support the event.
- Organizing Committee Member and Reviewer, 2nd ICEIME, Balochistan University of Information Technology, Engineering and Management Sciences (BUIITEMS), October 2015. Host, Hall In-charge, and Reviewer for the **First International Conference on Emerging Issues in Management and Economics (ICEIME), BUIITEMS**, November 2013.
- Trainer for the **Professional Development Training Program** for newly inducted faculty at **BUIITEMS**, January to February 2015.
- Delivered training on **Professional Skill Development**, focusing on **Fulbright application strategies** at **BUIITEMS**.
- **Judge and Mentor** for the **TIE Entrepreneurship CUP**.
- **Cornell Admission Ambassador**, supporting prospective students through mentorship.
- Attended **Monitoring & Evaluation Training** at **LUMS, Lahore**, March 2015.
- Member of professional organizations, including **NAREA, AAEA, World Wildlife Fund (WWF)**, and **Xi Sigma Pi Honor Society** at the **University of New Hampshire**.