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CURRICULUM VITAE

FARHED A. SHAH

**Department of Agricultural & Resource Economics,
University of Connecticut, Storrs, CT 06269-4021, USA
phone: (860) 486-4467 fax: (860) 486-1932 e-mail: farhed.shah@uconn.edu**

EDUCATION

Ph.D. Dec. 1990 Agricultural & Resource Economics University of California, Berkeley
M.S. Dec. 1988 Agricultural & Resource Economics University of California, Berkeley
B.A. May 1982 Economics Columbia University

EMPLOYMENT

Department of Agricultural & Resource Economics, University of Connecticut
Associate Professor (September 1996 - present), Assistant Professor (September 1991 - August 1996), Instructor (September 1990 - August 1991)

Department of Economics, Lahore University of Management Sciences, Lahore, Pakistan
Visiting Faculty (Summer 1997, Summer 1998, Summer 2001)

AREAS OF INTEREST

Environmental and Natural Resource Economics - with focus on Economics of Water, Land, Energy, and Climate Change
Economics of Growth and Sustainable Development
Dynamic Optimization Methods and Computer Applications

PROFESSIONAL RECOGNITION, FELLOWSHIPS, & AWARDS

Provost's Commendation for Excellence in Teaching, University of Connecticut (2014, 2015 and 2016)

Keynote Speaker and Chairperson, *International Conference on Agriculture and Environment: Food, Water, Soil, Air*, Kuala Lumpur, Malaysia, 2016

Best Investigative Research Award, Asociación Argentina de Economía Agraria, 2004

Editorial Board Member, *Agricultural and Resource Economics Review* (1998 - 2000)

TOKTEN Fellowship, United Nations Development Program (1998, 2001)

Selected to Government of Pakistan's *National Talent Pool*, 1998

Major Advisor to Recipient of *Outstanding Master Thesis Award* from *Northeastern Agricultural and Resource Economics Association*, 1995

Selected for Membership in *Gamma Sigma Delta, The Honor Society of Agriculture*, 1993; Elected Secretary (1994 - 1995), Vice-President (1995 - 1996), and President (1996 - 1997) of the Connecticut Chapter of *Gamma Sigma Delta*

Junior Faculty Summer Fellowship, University of Connecticut Research Foundation, 1992

Outstanding Graduate Student Instructor Award, University of California, Berkeley, 1988

DOCTORAL DISSERTATION

Shah, F. *Technological Change, Economic Growth, and Exhaustible Resources*, Department of Agricultural & Resource Economics, University of California, Berkeley, 1990.

PUBLICATIONS

Journal Articles

Tsvetanov, T., L. Qi, D. Mukherjee, F. Shah, and B. Bravo-Ureta “Climate Change and Land Use in Southeastern U.S.: Did the ‘Dumb Farmer’ Get It Wrong?” *Climate Change Economics*, Vol. 7, 2016, doi: 10.1142/S2010007816500056.

D. Mukherjee, D. Cromley, F. Shah, and B. Bravo-Ureta “Optimal Location of Centralized Biodigesters for Small Dairy Farms: A Case Study from the United States” *International Journal of Sustainable Energy Planning and Management*, Vol. 08, 2015, pp. 3-16.

Yoon, T., C. Rhodes, and F. Shah “Upstream Water Resource Management to Address Downstream Pollution Concerns: A Policy Framework with Application to the Nakdong River Basin in South Korea,” *Water Resources Research*, Vol. 51, 2015, pp. 787 - 805, doi:10.1002/2013WR014201 (<http://onlinelibrary.wiley.com/doi/10.1002/2013WR014201/full>).

de Prada, J., F. Shah, B. Bravo-Ureta, A. Degioanni, J. Cisneros and A. Cantero “The External Impact of Agriculture on Inland Wetlands: A Case Study from Argentina,” *European Scientific Journal*, Vol. 10, 2014, pp. 99 - 117.

Jeffords, C., and F. Shah “On the Natural and Economic Difficulties to Fulfilling the Human Right to Water Within a Neoclassical Economics Framework,” *Review of Social Economy*, Vol. 71, 2013, pp. 65 - 92.

Lee, Y., T. Yoon and F. Shah “Optimal Watershed Management for Reservoir Sustainability: An Economic Appraisal,” *Journal of Water Resources Planning and Management*, Vol. 139, 2013, pp. 129 - 138.

Tsvetanov, T. and F. Shah “The Economic Value of Delaying Adaptation to Sea-Level Rise: An Application to Coastal Properties in Connecticut,” *Climatic Change*, Vol. 121, 2013, pp 177 - 193, doi: 10.1007/s10584-013-0848-7 - <http://link.springer.com/article/10.1007/s10584-013-0848-7>.

Lee, Y., T. Yoon and F. Shah “Economics of Integrated Watershed Management in the Presence of a Dam,” *Water Resources Research*, Vol. 47, 2011, W10509, doi:10.1029/2010WR009172 - <http://onlinelibrary.wiley.com/doi/10.1029/2010WR009172/full>.

Nadeau, J., F. Shah, A. Chaudhry, and J. Maripani “Enumeration & Valuation of Horses: Methodological Innovations and Results from a Connecticut Study,” *Journal of Extension*, Vol. 44, 2006, Article No. 6TOT3 - <http://www.joe.org/joe/2006december/tt3.shtml>.

de Prada, J., B. Bravo-Ureta and F. Shah “El costo de la erosión de suelo para los productores agropecuarios en el sur de Córdoba, Argentina,” *Revista Argentina de Economía Agraria*, Vol. 8, 2005, pp. 4 - 21.

Palmieri, A., F. Shah, and A. Dinar “Economics of Reservoir Sedimentation and Sustainable Management of Dams,” *Journal of Environmental Management*, Vol. 61, 2001, pp. 148 - 163.

Heninger, B. and F. Shah, “Control of Stationary and Mobile Source Air Pollution: Reducing Emissions of Hydrocarbons for Ozone Abatement in Connecticut,” *Land Economics*, Vol. 74, 1998, pp. 497 - 513.

Shah, F., D. Zilberman, and U. Chakravorty "Technology Adoption in the Presence of an Exhaustible Resource: The Case of Groundwater Extraction," *American Journal of Agricultural Economics*, Vol. 77, 1995, pp. 291 - 299.

Shah, F., D. Zilberman, and E. Lichtenberg. "Optimal Combination of Pollution Prevention and Abatement Policies: The Case of Agricultural Drainage," *Environmental and Resource Economics*, Vol. 5, 1995, pp. 29 - 49.

Lopez, R., M. Altobello, and F. Shah "Amenity Benefits and Public Policy: An Application to the Connecticut Dairy Sector," *Journal of Agricultural and Applied Economics*, Vol. 26, 1994, pp. 485 - 496.

Lopez, R., F. Shah, and M. Altobello "Amenity Benefits and the Optimal Allocation of Land," *Land Economics*, Vol. 70, 1994, pp. 53 - 62.

Zilberman, D., N. MacDougall, and F. Shah "Changes in Water Allocation Mechanisms for California Agriculture," *Contemporary Economic Policy*, Vol. 12, 1994, pp. 122 - 133.

Zilberman, D., A. Schmitz, A. Dinar, and F. Shah "A Water Scarcity or a Water Management Crisis?" *Canadian Journal of Water Resources*, Vol. 18, 1993, pp. 159 - 171.

Shah, F. "A Note on the Optimal Depletion of Exhaustible Resources," *Review of Economic Studies*, Vol. 51, 1984, p. 351.

Books

de Prada, J., F. Shah, and B. Bravo-Ureta *Economic Impacts of Agriculture – Soil Erosion and Wetland Degradation*, Lambert Academic Publishing, 2010.

Palmieri, A., F. Shah, G. Annandale, and A. Dinar *Reservoir Conservation Volume I: The RESCON Approach*, Washington, D.C.: World Bank, 2003. (Pdf version available from <http://are.uconn.edu/researoutre-sustainable-mngmt-of-dams.php>)

Kawashima, S., T. Johndrow, G. Annandale, and F. Shah *Reservoir Conservation Volume II: The RESCON Model & User Manual*, Washington, D.C.: World Bank, 2003. (Pdf version available from <http://are.uconn.edu/researoutre-sustainable-mngmt-of-dams.php>)

Chapters in Books and Conference Proceedings

Wang, S., F. Shah, and C. Jiang "Policy Analysis and Influences on Economy, Society and Environment of the Three Gorges Project," *Proceedings of the 9th International Conference on Public Administration*, Vol. 2, 2013, pp. 293 - 305.

Zilberman, D., A. Schmitz, A. Dinar and F. Shah "A Water Scarcity or a Water Management Crisis?" in Grafton, R. Q. (ed.) *Economics of Water Resources*, Edward Elgar, 2009.

Annandale, G., A. Palmieri, and F. Shah "A Balanced Approach to Managing Reservoirs on Rivers," *Proceedings of the 24nd Annual Meeting and Conference of the US Society on Dams*, 2004, pp. 181 - 191.

Annandale, G., A. Palmieri, and F. Shah "Sustainable Management of Large Hydro Projects: the RESCON Approach," *Proceedings of the 9th International Symposium on River Sedimentation*, Vol. 2, 2004, pp. 849 - 855.

Annandale, G., A. Palmieri, F. Shah, and A. Dinar "Strategic Alternatives for the Sustainable Management of Reservoirs," *Proceedings of the 22nd Annual Meeting and Conference of the US Society on Dams*, 2002, pp. 479 - 484.

Zilberman, D., U. Chakravorty, and F. Shah "Efficient Management of Water in Agriculture" in D. Parker and Y. Tsur (Eds.) *Decentralization and Coordination of Water Resources Management*, Boston: Kluwer Academic Publishers, 1997.

Shah, F. and D. Zilberman “The Political Economy of the Transition from Water Rights to Water Markets” in A. Dinar and E. Loehman (Eds.) *Water Quantity/Quality Management and Conflict Resolution: Institutions, Processes, and Economic Analysis*, Westport: Preager, 1995.

Shah, F., D. Zilberman, and U. Chakravorty “Water Rights Doctrines and Technological Adoption” in K. Hoff, A. Braverman, and J. Stiglitz (Eds.) *The Economics of Rural Organization*, Oxford: Oxford University Press, 1993.

Shah, F. and D. Zilberman “Government Policies to Improve Intertemporal Allocation of Water in Regions with Drainage Problems” in A. Dinar and D. Zilberman (Eds.) *The Economics and Management of Water and Drainage in Agriculture*, Boston: Kluwer Academic Publishers, 1991.

Miscellaneous Publications, Reports and Bulletins

Wang, S., Y. Qi and F. Shah “Research on Models of Policy Analysis and Environmental Impact of the Three Gorges Project,” *China Population Resources and Environment*, Vol. 23, 2015, pp. 106-113.

Lee, Y., F. Shah, T. Yoon, T. Agumassie, J. Park, and J. Gu *Ethiopian Water Resource Development: Sediment & Reservoir Control*, KEI Project Report, Korea Environment Institute, Seoul, Korea, 2011.

Nadeau, J. and F. Shah, *Horses in Connecticut: Size and Value of the Industry*, University of Connecticut, 2006.

Nadeau, J., F. Shah, A. Chaudhry, and J. Maripani *Connecticut’s Horse Industry: A Demographic and Economic Analysis*, University of Connecticut, 2006.

Nadeau, J., F. Shah, A. Chaudhry, and J. Maripani *Connecticut Horsepower*, Brochure Published by the College of Agriculture and Natural Resources, University of Connecticut, 2006.

Broderick, S., T. Goode, F. Shah, and T. C. Lee *Connecticut’s Public Service Forestry Program: Is It Making a Difference?* University of Connecticut Cooperative Extension, 2001.

Goode, T., S. Broderick, F. Shah and T. C. Lee *An Economic Evaluation of Connecticut’s Cooperative Forestry Management (CFM) Program*, Storrs Agricultural Experiment Station Bulletin No. 478, 2001.

Fishman, K., R. Leonard, and F. Shah *How Much is a Lake Worth?* Connecticut Department of Environmental Protection, 1999.

Fishman, K., R. Leonard, and F. Shah *Economic Evaluation of Connecticut Lakes with Alternative Water Quality Levels*, Connecticut Department of Environmental Protection, 1998.

COMPUTER SOFTWARE DEVELOPMENT

Yoon, T. and F. Shah *Integrated Watershed Management Model (IWMM)*, Korea Environment Institute and Department of Agricultural & Resource Economics, University of Connecticut, July 2012.

Yoon, T. and F. Shah *Soil and Reservoir Conservation Model (S-RESCON)*, Korea Environment Institute and Department of Agricultural & Resource Economics, University of Connecticut, November 2011.

Kawashima, S., T. Johndrow, G. Annandale and F. Shah *The Reservoir Conservation (RESCON) Computer Program*, World Bank, 2003 - Available from <http://are.uconn.edu/researoutre-sustainable-mngmt-of-dams.php>.

CONFERENCE PAPER PRESENTATIONS

Kim, S. and F. Shah “Economics of Controlling Urban Greenhouse Gas Emissions,” *Northeastern Agricultural and Resource Economics Association Meetings*, 2016.

Lee, Y., F. Shah, H. Chang and Y. Hong “Climate Change and Economics of Integrated Watershed Management with Sedimentation: Evidence from Blue Nile,” *International Conference on Agriculture and Environment: Food, Water, Soil, Air*, Kuala Lumpur, Malaysia, 2016. Abstract published in *Proceedings of the International Conference on Agriculture and Environment: Food, Water, Soil, Air*, New Zealand House of Science, 2016, p. 36.

Niu, Y. and F. Shah “Climate Change, Hydropower Dam Capacity, and Flood-Overtopping,” *1st AIEE Energy Symposium: Current and Future Challenges to Energy Security*, Milan, Italy, 2016.

Niu, Y. and F. Shah “Determining the Optimal Capacity of a Dam under Climate Change,” *Northeastern Agricultural and Resource Economics Association Meetings*, 2016.

Tiboldo, G. and F. Shah “Sustainability of Livestock Agriculture in the Presence of Environmental Constraints,” *Northeastern Agricultural and Resource Economics Association Meetings*, 2016.

Choi, Y., E. Njuki, F. Shah, F. and B. Bravo-Ureta “Water Availability and Adaptation of Irrigated Agriculture to Climate Change in California,” *Northeastern Agricultural and Resource Economics Association Meetings*, 2015.

Choi, Y., Y. Shin, I. Saleh and F. Shah “Adaptation to Climate Change by Fruit Producers in South Korea,” *Northeastern Agricultural and Resource Economics Association Meetings*, 2014.

Wang, S., F. Shah, and C. Jiang “Policy Analysis and Influences on Economy, Society and Environment of the Three Gorges Project,” *9th International Conference on Public Administration*, Cape Town, South Africa, 2013.

Tsvetanov, T. and F. Shah “Economics of Protection against Sea-Level Rise: An Application to Coastal Properties in Connecticut” *Northeastern Agricultural and Resource Economics Association Meetings*, 2013.

Lachaud, M. and F. Shah “Environmental Accounting and Depletion of Nonrenewable Resources in the Presence of Technological Progress: A Case Study of Colombia,” *Northeastern Agricultural and Resource Economics Association Annual Meetings*, 2012.

Muawanah, U., F. Shah, and R. Pomeroy “A Bioeconomic Model of Traditionally Managed Marine Protected Areas: Insights from the Sasi System of Indonesia” *Northeastern Agricultural and Resource Economics Association Annual Meetings*, 2012.

Fernandez, B. and F. Shah “Oil Spills: Does Commercial Fishing Always Lose?” *Northeastern Agricultural and Resource Economics Association Annual Meetings*, 2011. Abstract available at:

<http://aeea.confex.com/aeea/2011am/webprogrampreliminary/Paper13960.html>

Gnedenko, E., D. Heffley, and F. Shah “State-Aid: Friend or Foe of Open-Space?” *Eastern Economic Association Annual Meetings*, 2011.

Jeffords, C. and F. Shah “On the Design of Economic Policy for Implementing the Human Right to Water” *Association for Environmental Studies and Sciences Annual Meeting*, 2011.

Yoon, T., Y. Lee, and F. Shah “Optimal Allocation of Water Quantity While Considering Downstream Water Quality: A Case Study of the Nakdong River-basin in South Korea,” *Northeastern Agricultural and Resource Economics Association Annual Meetings*, 2010. Abstract published in *Agricultural and Resource Economics Review*, Vol. 39, 2010, p. 590.

Abou-zeid, A., and F. Shah “Assessment of Technical Efficiency for the Agricultural Sector in Egypt,” *Northeastern Agricultural and Resource Economics Association Annual*

Meetings, 2009. Abstract published in *Agricultural and Resource Economics Review*, Vol. 38, 2009, p. 287.

Lee, Y., A. Abou-Zeid, and F. Shah “Downstream Environmental Impacts of Reservoir Operations,” *Northeastern Agricultural and Resource Economics Association Annual Meetings*, 2009. Abstract published in *Agricultural and Resource Economics Review*, Vol. 38, 2009, p. 287.

Lee, Y., T. Yoon, and F. Shah “Economics of Integrated Watershed and Reservoir Management,” *American Agricultural Economics Association Annual Meetings*, 2009.

Lee, Y., T. Yoon, and F. Shah “Impacts of Climate Change on Reservoir Management and Downstream Watershed,” 6th Annual Conference of the *Massachusetts Water Resources Research Center*, University of Massachusetts, Amherst, April 7, 2009. Abstract available at: http://scholarworks.umass.edu/wrrc_conf/64/

Gnedenko, E., D. Heffley, and F. Shah “Open-Space Preservation and its Impact on Local Public Choice,” *Northeastern Agricultural and Resource Economics Association Annual Meetings*, 2008. Abstract published in *Agricultural and Resource Economics Review*, Vol. 37, 2008, p. 310.

Lee, Y., A. Abou-zeid, and F. Shah “Pollution Control and Sediment Management for Reservoir Sustainability,” *Northeastern Agricultural and Resource Economics Association Annual Meetings*, 2008. Abstract published in *Agricultural and Resource Economics Review*, Vol. 37, 2008, pp. 303 - 304.

Nadeau, J., F. Shah, A. Chaudhry, and J. Maripani “Methodology of Connecticut’s Horse Industry Survey: Results and Implications for Future Studies,” *American Society of Animal Science Annual Meeting*, 2006. Abstract published in *Journal of Animal Science*, 84 (Supplement 1), 2006, pp. 282-283.

DePrada, J., B. Bravo-Ureta, and F. Shah “Cost of On-Site Soil Erosion: A Case Study from Córdoba, Argentina,” *Asociación Argentina de Economía Agraria Annual Meetings*, 2004.

Annandale, G., A. Palmieri, and F. Shah “A Balanced Approach to Managing Reservoirs on Rivers,” *24th Annual Meeting and Conference of the US Society on Dams*, 2004.

Annandale, G., A. Palmieri, and F. Shah “Sustainable Management of Large Hydro Projects: the RESCON Approach” *9th International Symposium on River Sedimentation*, 2004.

Chaudhry, A. J. Nadeau, F. Shah, T. C. Lee, and E. Pagoulatos “Valuation and Economic Impact of Connecticut’s Horse Industry,” *Northeastern Agricultural and Resource Economics Association Annual Meetings*, 2003. Abstract published in *Agricultural and Resource Economics Review*, Vol. 32, 2003, p. 298.

De Prada, J., B. Bravo-Ureta and F. Shah “Agricultural Productivity and Sustainability: Evidence from Low Input Farming in Argentina,” *American Agricultural Economics Association Annual Meetings*, 2003.

De Prada, J., F. Shah and B. Bravo-Ureta “Economics of Soil Erosion and Wetlands Protection: A Case Study from Cordoba, Argentina,” *Asociación Argentina de Economía Agraria Annual Meetings*, 2003.

De Prada, J., F. Shah and B. Bravo-Ureta “Economics of Agriculture and Preservation of Wetlands,” *Northeastern Agricultural and Resource Economics Association Annual Meetings*, 2003. Abstract published in *Agricultural and Resource Economics Review*, Vol. 32, 2003, p. 295.

Pattanapanchai, M. and F. Shah “Reservoir Sedimentation and Soil Conservation Under Uncertainty,” *Northeastern Agricultural and Resource Economics Association Annual Meetings*, 2003. Abstract published in *Agricultural and Resource Economics Review*, Vol. 32, 2003, p. 299.

Annandale, G., A. Palmieri, F. Shah, and A. Dinar “Strategic Alternatives for the Sustainable Management of Reservoirs,” *22nd Annual Meeting and Conference of the US Society on Dams*, 2002.

Chaudhry, A. and F. Shah “Surface Water Allocation Under Increasing Scarcity and Uncertainty,” *Northeastern Agricultural and Resource Economics Association Annual Meetings*, 2002. Abstract published in *Agricultural and Resource Economics Review*, Vol. 31, 2002, p. 263.

Chaudhry, A. and F. Shah “Conjunctive Use of Surface and Groundwater Resources Under Alternative Institutional Mechanisms,” *South and Southeast Asia Meeting of the Econometric Society*, 2002.

Kapadia, M., F. Shah, and G. Warner “Sedimentation of Reservoirs: Prevention vs. Cleanup,” *American Agricultural Economics Association Annual Meetings*, 2002.

Kawashima, K. and F. Shah “Economic Analysis of Sedimentation Management in a System of Cascading Dams,” *Northeastern Agricultural and Resource Economics Association Annual Meetings*, 2002. Abstract published in *Agricultural and Resource Economics Review*, Vol. 31, 2002, p. 263.

Pattanapanchai, M., F. Shah, and G. Annandale “Sediment Management in Flood Control Dams,” *American Agricultural Economics Association Annual Meetings*, 2002.

Goode, T., S. Broderick, F. Shah and T. C. Lee “Economic Analysis of the Role of Connecticut’s Cooperative Forest Management Program” *Soil and Water Conservation Society Meetings*, 2001.

Goode, T., S. Broderick, F. Shah and T. C. Lee “A Benefit-Cost Analysis of the Cooperative Forest Management Program in Connecticut” *Northeastern Agricultural and Resource Economics Association Annual Meetings*, 2001. Abstract published in *Agricultural and Resource Economics Review*, Vol. 30, 2001, p. 220.

McNaughton, D. and F. Shah “Environmental Consequences of Economic Development,” *American Agricultural Economics Association Annual Meetings*, 2000.

Fishman, K., R. Leonard, and F. Shah “Valuing Water Quality Changes at Connecticut Lakes with Contingent Price Data,” *American Agricultural Economics Association Annual Meetings*, 1999.

Dhar, T. and F. Shah “Policies for Managing the Impact of Deforestation in Nepal: A Two-Sector Analysis,” *Second International Conference of the European Society for Ecological Economics*, Geneva, Switzerland, 1998.

Palmieri, A., F. Shah, and A. Dinar “Reservoir Sedimentation and the Sustainable Management of Dams,” *First World Congress of Environmental and Resource Economists*, Venice, Italy, 1998.

Fishman, K., R. Leonard, and F. Shah “Using Property Owner Surveys to Value Water Quality Changes in Suburban Lakes,” *Northeast Agricultural and Resource Economics Association Annual Meetings*, 1997. Abstract published in *Agricultural and Resource Economics Review*, Vol. 26, 1997, p. 262.

Altobello, M., R. Lopez, and F. Shah “Amenity Benefits of Open Space Preservation,” *American Association for the Advancement of Science Annual Meetings*, 1996.

Heninger, B. and F. Shah “Economics of Ground-level Ozone Control in Connecticut,” *Northeastern Agricultural and Resource Economics Association Annual Meetings*, 1995. Abstract published in *Agricultural and Resource Economics Review*, Vol. 24, 1995, p. 261.

Heninger, B. and F. Shah “The Economics of Air Pollution Control: Tradeoffs Between Stationary and Mobile Sources,” *American Agricultural Economics Association Annual Meetings*, 1995. Abstract published in *American Journal of Agricultural Economics*, Vol. 77, 1995, pp. 1362 - 63.

Altobello, M., R. Lopez, and F. Shah "Amenity Benefits and Government Intervention: An Application to the Connecticut Dairy Sector," *Northeastern Agricultural and Resource Economics Association Annual Meetings*, 1993. Abstract published in *Agricultural and Resource Economics Review*, Vol. 22, 1993, p. 229.

Shah, F. and D. Zilberman "Queuing Vs. Markets: The Case of Surface Water Allocation," *American Agricultural Economics Association Annual Meetings*, 1993. Abstract published in *American Journal of Agricultural Economics*, Vol. 75, 1993, p. 1303.

Shah, F. and D. Zilberman "The Political Economy of the Transition to Water Markets," *A Conference on Water Quantity/Water Quality Disputes and Their Resolution*, Washington, D.C., 1992.

Zilberman, D., U. Chakravorty, and F. Shah "Efficient Management of Water in Agriculture," *A Conference on Natural Resources and Environmental Management in an Interdependent World*, San José, Costa Rica, 1992.

Zilberman, D., N. MacDougall, and F. Shah "Changes in Water Allocation Mechanisms for California Agriculture," *Western Economic Association Annual Meetings*, 1992.

Shah, F. and D. Zilberman "Environmental Degradation and Technological Change," *American Agricultural Economics Association Annual Meetings*, 1991. Abstract published in *American Journal of Agricultural Economics*, Vol. 73, 1991, p. 1550.

Shah, F., D. Zilberman, and U. Chakravorty "Exhaustible Resources, Technological Adoption, and Farm Heterogeneity," *Northeastern Agricultural and Resource Economics Association Annual Meetings*, 1991. Abstract published in *Northeastern Journal of Agricultural and Resource Economics*, Vol. 20, 1991, p. 216.

Zilberman, D., U. Chakravorty, and F. Shah "Technology Adoption and Exhaustible Resources in Agriculture," *World Bank Conference on Agricultural Development Policies and the Theory of Rural Organization*, Annapolis, Maryland, 1989.

INVITED PRESENTATIONS, SEMINARS AND OUTREACH ACTIVITIES

Shah, F. "Development and Management of Dams Under Conditions of Climate Change" Keynote Address, *International Conference on Agriculture and Environment: Food, Water, Soil, Air*, Kuala Lumpur, Malaysia, 2016. Abstract published in *Proceedings of the International Conference on Agriculture and Environment: Food, Water, Soil, Air*, New Zealand House of Science, 2016, pp. 8-9.

Shah, F. "Environmental Issues and Development Assistance," presented at *Learning for International Development*, University of Connecticut, September 23, 2008, November 13, 2008, August 10, 2009, October 14, 2009, February 24, 2010, and November 3, 2011.

Shah, F. "Water Resource Policies and Projects," presented at *Global Training and Development Institute*, University of Connecticut, October 22, 2007.

Shah, F. "Sustainable Management of Water Resources and the Economics of Dams," presented at the GC University, Lahore, Pakistan, December 06, 2005.

Nadeau, J. and F. Shah "Connecticut Horse Survey: Preliminary Results & Analysis," presented to the *Connecticut Horse Council*, June 1, 2004.

Nadeau, J. and F. Shah "Size and Characteristics of Connecticut's Horse Industry," presented at the *University of Connecticut Horse Symposium*, March 28, 2004.

Shah, F. "Global Warming," presented at the *3rd Annual Connecticut Environment Action Day (CEAD)*, University of Connecticut, October 24, 2003.

Shah, F. "Sustainable Management of Dams," presented at the *Lahore University of Management Sciences*, Pakistan, July 03, 2001.

Fishman, K. and F. Shah "Lake Water Quality in Connecticut," interview on the *Wayne Norman Show*, WILI Radio, Connecticut, October 24, 2000.

Palmieri, A., F. Shah, and A. Dinar “Sustainability vs. Nonsustainability: An Economic Evaluation of Alternative Strategies for Management of Dams and Reservoirs,” presented at the *World Bank* in Washington, D.C., on January 7, 1998.

Shah, F. “Pricing Strategies for Managing Water Scarcity,” presented at *Leadership for Environment and Development (LEAD), International*, Islamabad, Pakistan, July 7, 1997.

Shah, F. “Government Policies to Alleviate Environmental Degradation: The Case of Waterlogging in Agriculture,” presented at *Environmental Scholars Colloquium* (sponsored by the Al Geib Distinguished Lecture Series), University of Connecticut, March 28, 1997.

Shah, F. “Inducing Resource Conserving and Productivity Enhancing Technological Change: A Framework for Irrigated Agriculture in Pakistan,” presented at the *Lahore University of Management Sciences*, Pakistan, June 26, 1996.

Shah, F. “The Economics of Environmental and Natural Resources” presented at *The Tenth Annual Connecticut Honors Seminar*, University of Connecticut, on March 24, 1993.

Shah, F., D. Zilberman, and U. Chakravorty “Technological Adoption and Exhaustible Resources in an Industry with Heterogeneous Firms”, presented at the Seminar Series of the Department of Agricultural and Resource Economics, University of California, Berkeley, November 20, 1991.

RESEARCH GRANTS

U.S. Department of Agriculture “Water Supply Capacity Credits within a Hydrologic Basin: Sustaining Ecosystem Services and Revenues from Undeveloped Forests and Farms” (Co-PI: January 2015 – December 2017).

Korea Environment Institute “Data Collection and Analysis for Future Adaptation and Application of R-RESCON Software to Mekong River” (PI: November 2013 – December 2013).

U.S. Department of Agriculture “Benefits and Costs of Natural Resource Policies Affecting Ecosystem Services on Public and Private Lands” (PI: October 1, 2012 – September 30, 2017).

Korea Environment Institute “Development of an Enhanced Software Package for Assisting with Sustainable Water Resource Management in Ethiopia” (PI: May 2012 – June 2012).

U.S. Agency for International Development “Ethiopian-U.S. Partnership in Sustainable Water Resources: Capacity Building in Education, Research and Outreach” (Co-PI: January 2011 – December 2012).

Korea Environment Institute “Development of a Preliminary Software Package for Assisting with Sustainable Water Resource Management in Ethiopia” (PI: July 2011 – November 2011).

University of Connecticut Center for Environmental Sciences and Engineering (Graduate Student Research Assistantship Competition), “Economics of Adaptation to Sea-Level Rise: A Case Study of Connecticut’s Coastal Properties and Infrastructure” (PI: January 2011 – May 2011).

U.S. Department of Agriculture (CSREES-AFRI) “The Economic and Environmental Sustainability of Small and Medium Size Dairy Farms in New England: An Integrated Research and Extension Program Focusing On Internal and External Factors” (Co-PI; January 2010 – December 2012).

U.S. Agency for International Development “Ethiopian-US Partnership to Enhance and Empower Higher Education Institutions in Africa and the United States in Sustainable Development and Management of Water Resources” (Team Member; June 1, 2009 – November 30, 2009).

U.S. Department of Agriculture “Benefits and Costs of Natural Resources Policies Affecting Public and Private Lands” (October 1, 2008 – September 30, 2012).

U.S. Department of Agriculture “Economic Evaluation of Environmental and Natural Resource Use and Policies” (Co-PI; October 1, 2005 - September 30, 2008).

U.S. Department of Agriculture “Benefits and Costs of Natural Resource Use and Implications for Policy” (Co-PI; October 1, 2002 - September 30, 2005).

University of Connecticut Research Foundation “Economic Impact of Soil Conservation on Reservoir Sedimentation” (PI: July 1, 2002 - June 30, 2003).

U.S. Department of Agriculture “Nature and Economic Impact of Connecticut’s Equine Industry” (PI: June 1, 2002 - August 31, 2003).

World Bank “Economic and Engineering Evaluation of Alternative Strategies for Managing Sedimentation in Storage Reservoirs” (Co-PI; September 1, 1999 - September 30, 2002).

U.S. Forest Service “Program Impact Evaluation - Connecticut’s Cooperative Forest Management Program” (Co-PI; February 1, 1999 - June 30, 2000).

University of Connecticut Research Foundation “Urban Air Quality, Transportation Policies, and Income Distribution in Developing Countries: The Case of South Asia” (PI: October 1, 1997 - September 30, 1998).

U.S. Department of Agriculture “Benefits and Costs Transfer in Natural Resource Planning” (Co-PI; October 1, 1996 - September 30, 2002).

Connecticut Department of Environmental Protection “Economic Valuation of Selected Lakes in Connecticut” (Co-PI; September 1, 1994 - October 1, 1997).

University of Connecticut Research Foundation “The Economics of Air Pollution Control in Highly Urbanized Areas: The Case of Ground-Level Ozone” (PI: July 1, 1994 - June 30, 1995).

U.S. Department of Agriculture “Government Policies for Regulating the Use of Water and Land Resources” (PI: January 1, 1993 - September 30, 1996).

University of Connecticut Research Foundation “The Economics of Surface Water Allocation in Agriculture” (PI: June 1, 1992 - August 31, 1992).

TEACHING & PROGRAM DEVELOPMENT GRANTS

University of Connecticut, Provost’s Online Course Grant Initiative (PI; May 2010 – April 2011).

U.S. Department of Agriculture (NIFA) “National Needs Fellowships for Master’s in Resource Economics with a Focus on Integrated Watershed Management and Policy” (Co-PI; January 2010 – January 2015).

VISITING SCHOLAR SUPERVISION

Shaheen, F., Assistant Professor, Shere-Kashmir University of Agricultural Sciences & Technology, India, 2016-17.

Saleh, I., Associate Professor, University of Tehran, Iran - Visiting Scholar, University of Connecticut, 2013.

Wang, S., Professor, Ocean University of China, China - Visiting Scholar, University of Connecticut, 2009-2011.

Fan, Y., Vice Dean and Professor, Northeast Agricultural University, China - Visiting Scholar, University of Connecticut, 2008-9.

Abou-Zeid, A., Assistant Professor, Menoufia University, Egypt - Visiting Scholar, University of Connecticut, 2007-8.

GRADUATE STUDENT RESEARCH SUPERVISION

Major Advisor to the following graduate students at the University of Connecticut:

Doctoral Students

Choi, Y. Ph. D., *Three Essays on the Economics of Adaptation to Climate Change* (in progress).

Huang, J. Ph. D. *Economics and Management of River Water under Climate Change* (in progress).

Kim, S. Ph. D. *Economics of Controlling Urban Greenhouse Gas Emissions* (in progress).

Niu, Y. Ph. D. *Economics of Climate Change and Dams: An Application to the Mekong River Basin* (in progress).

Tiboldo, G., *Economics of Diet, Health, and the Environment* (in progress).

Plesha, N., Ph. D. *Agriculture, the Economy, and the Environment*, 2016 (Co-Advisor).

Yoon, T., *Economics of Sustainable Natural Resource Management*, Ph. D., 2013.

Mukherjee, D., *Agricultural Sustainability in the Face of Climatic Change: Challenges and Opportunities*, Ph. D., 2012 (Co-Advisor).

Gnedenko, E., *Three Essays on the Economics of Open Space*, Ph. D., 2009.

Kisswani, K., *Economics of Oil Prices and the Role of OPEC*, Ph. D., 2009.

Lee, Y., *Economics of Sustainable Watershed Management under Alternative Climate Change Scenarios*, Ph. D., 2009.

DePrada, J., *Strategic Alternatives for Low Input Sustainable Agriculture and Wetlands Preservation: A Case Study from Argentina*, Ph. D., 2005.

Pattanapanchai, M., *Economics of Renewable Resource Management: An Application to Multipurpose Dams*, Ph. D., 2005.

Kawashima, K., *Management Decisions for Sustainable Use of Dams*, Ph. D., 2004.

Fishman, K. *Management Decisions for Publicly Accessed Resources: An Application to Recreational Lakes*, Ph. D., 2000.

McNaughton, D. *Air Pollution and Economic Growth: Intertemporal and Cross-National Relationships*, Ph. D., 2000.

Heninger, B. *The Economics of Stationary and Mobile Source Air Pollution Control in Urbanized Areas*, Ph. D., 1997.

Masters Students

Hao, B., M.S. (in progress).

Xiao, K., M. S. (in progress).

Li, J., M. S., 2016.

Bao, Q., M. S., 2015.

Chen, Z., M. S., 2015.

Gao, Y., M. S., *Estimating China's Social Cost of Greenhouse Gas Emissions Using a Coupled RICE-OSCAR Model*, 2015.

Javed, R., M. S., 2015.

Ryu, S., M. S., 2015.

Xu, G., M. S., 2015.

Yang, M., M. S., 2015.

Wang, Z., M. S., 2015.

Chen, J., M. S., 2014.

- Chen, X., M. S., 2014.
 Chen, Z., M. S., 2014.
 Fu, M., M. S., 2014.
 Ha, S., *Consumer Welfare and Water Pricing in Connecticut: Time to Revisit Existing System*, M. S., 2014.
 Huang, C., M. S., 2014.
 Zhu, L., M. S., 2014.
 Underwood, E., *Environmental Externalities of Coal Mining: A Two-Market Analysis*, M. S., 2013.
 Kingsbury, D., M. S., 2012.
 Lee, Y., M. S., 2012.
 Serafini, D., M. S., 2010.
 Olney, E., *A Cost-Benefit Analysis of Producing Energy from Biomass*, M.S., 2009.
 Makriyannis, C., M. S., 2008.
 Wang, A., M. S., 2008.
 Zhou, B., M. S., 2008.
 Chaudhry, A., *Economics of Conjunctive Water Use in Agriculture*, M. S., 2003.
 Kapadia, M., *Economics of Soil Conservation and Reservoir Sedimentation*, M. S., 2002.
 Berkowitz, T. G., *Assessing the Impacts of Public Forestry Assistance Using Contingent Valuation: An Application to Connecticut's Cooperative Forest Management Program*, M. S., 2001.
 Dowling, J. *Regulating Air Quality: The Case of Pepsi-Cola, Mexico City*, M. S., 1999.
 Molloy, K. *National Income Accounting and Environmental Externalities*, M. S., 1998.
 Dhar, T. *Policies for Managing the Impact of Deforestation in Nepal: A Two-Sector Analysis*, M. S., 1997.
 Kawai, R. *Economics of Electric Vehicles*, M. S., 1996.
 Mathers, A. *The Economics of Groundwater Pollution: The Case of Chlorinated Solvents in the Philadelphia-Camden Area*, M. S., 1994.
 Nafis, J. *The Economics of Beverage Container Disposal*, M. S., 1993.

Also served as *Associate Advisor* to more than 50 graduate students at the University of Connecticut.

UNDERGRADUATE STUDENT ADVISING AND RESEARCH SUPERVISION

Academic Advisor to Majors in Applied and Resource Economics at the University of Connecticut (1991 - present).

Academic Advisor to Environmental Science Majors at the University of Connecticut (2007 - present).

Academic Advisor to Honors Students in Applied and Resource Economics and in Environmental Science at the University of Connecticut (2012 - present).

COURSES TAUGHT

University of Connecticut

Undergraduate

ARE 1110 (and ARE 110) Population, Food and the Environment

ARE 150 Principles of Agricultural and Resource Economics
ARE 4462 (and ARE 235) Environmental and Resource Economics
ARE 238 Valuing the Environment
ARE 4444 Economics of Energy, Climate Change and the Environment

Graduate

ARE 300/ECON 397 Topics in Environmental and Resource Economics
ARE 354/ECON 354 Environmental Economics
ARE 5462 Environmental and Resource Economics
ARE 5464 (and ARE 307) Benefit-Cost Analysis and Resource Management
ARE 6468 (and ARE 355) Economics of Natural Resources

Lahore University of Management Sciences

Undergraduate (B. Sc. Honors Program)

ECON 312 Environment and Natural Resources

SERVICE ACTIVITIES

Referee for several Journals, including, *Agricultural and Resource Economics Review*, *American Journal of Agricultural Economics*, *Climatic Change*, *Environmental and Resource Economics*, *Journal of Economic Dynamics and Control*, *Journal of Environmental Economics and Management*, *Water Economics and Policy* and *Water Resources Research* (various times, 1991 - present).

Book Reviewer for Palgrave Macmillan (2015)

Moderator/Discussant of Selected Paper Sessions at *American Agricultural Economics Association Annual Meetings* and *Northeastern Agricultural and Resource Economics Association Annual Meetings* (various times, 1991 - present), Moderator at *International Conference on Agriculture and Environment: Food, Water, Soil, Air* (2016).

Coordinator, *University of Connecticut Income Tax School*, 2007.

Consultant, *The World Bank* (1998 - 2003).

Membership in Regional, National and International Committees: Academic Committee *International Conference on Agriculture and Environment: Food, Water, Soil, Air* (2016), *Selected Papers and Symposia Committee of the Northeastern Agricultural and Resource Economics Association* (1992 - 1993, 2004 - 2005, 2012 - 2013), *Selected Papers Committee of the American Agricultural Economics Association* (1995 - 1997), *Outstanding Master's Thesis Award Committee of the Northeastern Agricultural and Resource Economics Association* (1994 - 1996), *Connecticut Institute of Water Resources Technical Committee* (1991 - 2003).

Membership in Committees at the University of Connecticut:

University/College Committees: *Environmental Policy Advisory Council* (March 2011 - present), *Environmental Science Advisory Committee* (2007 - present), *Udall Scholarship Committee* (2008 - present), *Graduate Faculty Council* (2009 - present), *Environmental Studies BA Group* (2010), *Dean Search Committee* (2007 - 2008), *Department Head Search Committee* (2007 - 2008), *College Commencement Committee* (2008 - 2009), *College Excellence Committee* (1998 - 2001, 2007), *College Diversity Committee* (1994 - 1997, 2003 - 2007, 2010 - present), *College Communications and Editorial Committee* (2001 - 2003), *College Promotion and Tenure Committee* (1996 - 97), *College Computer Committee* (1992 - 1998).

Departmental Committees: *Graduate Committee* (1990 - 1997, 2000 - 2002, 2007 - 2015 - Chairperson), *Ph.D. Preliminary Exam Committee* (1991 - 2010, 2011 - 2012 -

Chairperson), *Seminar Committee* (2006 - Chairperson), *Unit Safety Committee* (1990 - 1998 - Chairperson), *Faculty Search Committee* - (1998 - Chairperson, 2009 - 2010, 2012 - 2014, 2014 - 2015 - Chairperson), *Promotion and Tenure Committee* (2007 - 2009, 2010 - 2011, 2012 - present), *Undergraduate Committee* (1990 - 92, 1998 - 99, 2015, 2016 - present - Chairperson).

PROFESSIONAL DEVELOPMENT ACTIVITIES

Participated in the *Agricultural & Applied Economics Association Workshop* (“Applied Computational Economics”), held in Pittsburgh, Pennsylvania, on July 23, 2011.

Participated in the *USDA-CSREES Grantsmanship Workshop* and *Writing Winning Grants Workshop*, held in Arlington, Virginia, on September 30 - October 1, 2008.

Sabbatical leave to carry out research on water quality issues while in Pakistan, from October 15, 2005 to December 15, 2005.

Participated in the *American Agricultural Economics Association Learning Workshops* (“Federal Competitive Grants,” held in Tampa, Florida, on July 30, 2000; “New Theories of the Firm,” held in Toronto, Canada, on July 30, 1997; “Trade and the Environment,” held in San Antonio, Texas on July 31, 1996).

Participated in a *World Bank Workshop* (On “Economic and Engineering Evaluation of Alternative Strategies for Managing Sedimentation in Storage Reservoirs”), held in Washington, D.C., on December 8 - 9, 1999.

Sabbatical leave to carry out research on water scarcity management while at the Rural Development Department of the *World Bank*, Washington, D.C., from September 1, 1997 to January 15, 1998.

Participated in the *Northeast Regional Teaching Workshop* (On “Engaging Students in Active Learning”), hosted by Cornell University in Ithaca, New York on September 28 - 30, 1995.