

RESUME

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Personal:

Birth: December 4, 1950, Austin, Texas
Married, Two Children
Citizenship: USA

Education:

Ph.D., Interdisciplinary Ph.D. Program in Business, Engineering, and Public Affairs;
University of Texas at Austin, 1980. Ford Foundation Dissertation Grant Award.
M.Sc., Economics, London School of Economics and Political Science, 1978.
M.P.A., Lyndon B. Johnson School of Public Affairs, University of Texas at Austin, 1976.
A.B., Economics, Brown University, 1972. Brown University Fellowship.

Professional Experience:

Professor, Departments of Environmental Sciences & Engineering; City & Regional Planning; and Public Policy; University of North Carolina at Chapel Hill. (on the faculty of the UNC-CH since 1981).

Visiting Professor, Department of Urban Studies and Planning. Massachusetts Institute of Technology. Spring semesters, 1997 and 1998.

Consultant (long term), Infrastructure and Urban Development Department, The World Bank. September 1988-January 1990.

Visiting Fulbright Lecturer, Institut fur Rammordnung, Economics University of Vienna. April 1988.

Visiting Professor, Dipartimento di Electronica, Politecnico di Milano, Spring 1984.

Fulbright Scholar, Institute of Environmental Studies, University of Khartoum, Sudan. Fall 1983.

Visiting Assistant Professor, School of Environmental and Public Affairs, Indiana University, Summer 1982.

Water Resources Systems Analyst, Egyptian Academy of Scientific Research and Technology,

Lake Nasser-River Nile Research Project. September 1977-August 1980.

Consultant, Ford Foundation. Cairo Field Office, 1977-1980.

Assistant Instructor, Department of Economics, University of Texas at Austin, 1978-1979.

International Institute for Applied Systems Analysis. Vienna, Austria. IIASA Soviet-American Graduate Student Exchange Program, Summer 1977. Ford Foundation Grant.

Staff Economist, National Commission on Water Quality, United States Congress. September 1973-August 1975.

Management Analyst, U.S. General Accounting Office, June 1973-August 1973. (Summer Internship).

Administrative Experience

Director of the Environmental Management and Policy Program, Department of Environmental Sciences and Engineering, 1995-2002; Acting Chairman, Public Policy Analysis Program. (Undergraduate Curriculum), University of North Carolina at Chapel Hill (UNC-CH). 1986-1988.

UNC Project Director, USAID-funded Water and Sanitation for Health Project (WASH). August 1986-July 1988.

Program Director. Masters in Regional Planning Concentration in "Planning in Developing Areas." Department of City & Regional Planning. UNC-CH. 1987-88.

Co-Director. World Bank Water Demand Research Team. Project on Household Demand for Improved Water Supplies in Rural Areas of Developing Countries. 1988-1990.

Co-Coordinator. Hubert Humphrey Fellowship Program. UNC-CH. 1990-1991.

Selected Current Activities

Research Advisor – Economy and Environment Program for Southeast Asia –EEPSEA. (Singapore).

Research Advisor - Latin American and Caribbean Environmental Economics Program - LACEEP. (Turrialba, Costa Rica.)

Consultant to the Hopi Tribe in the adjudication of the water rights to the Little Colorado River, before the Supreme Court of Arizona.

Member of International “Blue Ribbon” Panel on Strategic Assessment of the Investment Options for the Eastern Nile Council of Ministers. (“Nile Basin Scoping Study Team”).

Consultant, Eastern Nile Technical Regional Office. Addis Ababa, Ethiopia.

Consultant, World Bank, Nile Basin Initiative. Washington D.C.

Consultant, PATH. Seattle, Washington.

PhD Students Supervised (Chair of Doctoral Committee)

1. Xinming Mu. (1988). Department of City & Regional Planning, UNC-CH. Dissertation title: "Modeling Rural Water Demand Behavior: A Study of the Contingent Valuation Method." Investment banker and entrepreneur. New Jersey, USA. (formerly Assistant Professor at the Lyndon Baines Johnson School of Public Affairs, University of Texas at Austin).
2. KyeongAe Choe. (1994). Department of City & Regional Planning, UNC-CH. Dissertation title: "Assessing the Accuracy of the Contingent Valuation Method for Valuing Improved Urban Infrastructure in the Context of a Developing Country." Natural Resources Sector Manager, Asian Development Bank. Manila, Philippines.
3. Elizabeth McClelland. (1997). Department of City & Regional Planning, UNC-CH. Dissertation title: "The Use of Attitudinal Indicators in Contingent Valuation Research: A Test of Validity and Theoretic Compatibility." Deceased. (formerly Staff Economist, United States Environmental Protection Agency).
4. Hua Wang. (1997). Department of Environmental Sciences and Engineering, UNC-CH. Dissertation title: "Contingent Valuation of Environmental Resources: A Stochastic Perspective." Principal Economist, Research Department, The World Bank, Washington D.C.
5. Jennifer A. Davis. (1998). Department of Environmental Sciences and Engineering, UNC-CH. Dissertation title: "Assessing Community Preferences for Development Projects: Does Mode Matter? An Application of Household, Intercept, Telephone, and Focus Group Interview Methods." Assistant Professor, Department of Civil and Environmental Engineering. Stanford University. Palo Alto, California. USA.
6. Julian Lampietti. (1999). Department of Public Policy, UNC-CH. Dissertation title: "Assessing Preferences for Health Care: Willingness to Pay for Malaria Prevention in Northern Ethiopia." Economist. World Bank, Washington D.C. USA
7. Christine Poulos. (2000). Department of Public Policy, UNC-CH. Dissertation title: "Three essays on nonmarket valuation in less developed countries." Senior Environmental Economist. Research Triangle Institute, Research Triangle Park, N.C. USA
8. Xun Wu. (2000). Department of Public Policy, UNC-CH. "Game-theoretical approaches to water conflicts in international river basins -- A case study of the Nile Basin." Assistant Professor. Lee Kuan Yew School of Public Policy, National University of Singapore.
9. Linda Prokopy. (2002). Department of City & Regional Planning, UNC-CH. Dissertation title: "The Relationship between Participation and Project Outcomes: A Study of Rural Drinking Water projects in India." Assistant Professor of Natural Resources Planning, Department of Forestry and Natural Resources, Purdue University. West Lafayette, Indiana, USA.

10. Kristin Komives. (2003). Department of City & Regional Planning, UNC-CH. Dissertation title: "Infrastructure, Property Values, and Housing Choice: An Application of Property Value Models in the Developing Country Context." Senior Lecturer, Institute of Social Studies. The Hague, Netherlands.

Current PhD Students (Chair of Doctoral Committee)

Dohyeong Kim. Department of City & Regional Planning, UNC-CH.

Richard Thorsten. Department of City & Regional Planning, UNC-CH.

Christine Boyle. Department of City & Regional Planning, UNC-CH.

Vimalanand Prabhu. Department of Public Policy, UNC-CH.

Soyeon Guh. Department of Public Policy, UNC-CH.

Joe Cook. Department of Environmental Sciences and Engineering, UNC-CH.

Brian Maskery. Department of Environmental Sciences and Engineering, UNC-CH.

Marc Jeuland. Department of Environmental Sciences and Engineering, UNC-CH.

Chittrakarn Buchandranon. Department of Environmental Sciences and Engineering, UNC-CH.

Publications:

Books:

1. *Water Management Models in Practice: A Case Study of the Aswan High Dam*. 1983, Elsevier Scientific Publishing Co., Amsterdam. 246 pages (with Giorgio Guariso).

2. *High Hopes for High Tech: Microelectronics Policy in North Carolina*. Editor. University of North Carolina Press, 1985. 341 pages.

3. *Project and Policy Appraisal: Integrating Economics and the Environment*. Organization for Economic Cooperation and Development. Paris. 1994. 287 pages. (with David Pearce, Steven Georgiou, and David James).

4. *Economic Values and the Environment in the Developing World*. 1997. Edward Elgar Publishing, Ltd. UK. 167 pages. (with David Pearce, Steven Georgiou, and Dominic Moran).

5. *Expert Advice for Policy Choice: Analysis and Discourse*. Georgetown University Press. 1997. 430 pages. (with Duncan MacRae, Jr.)

Refereed Articles:

1. "The Supply of Physicians and Physicians' Incomes: Alternative Projections of the Future." *Journal of Health Politics, Policy, and Law*. Vol. 2, No. 2, Summer 1977, pp. 227-256. (with D.C. Warner and M. Katz).
2. "A Multiobjective Programming Analysis of Lake Nasser Management." *Environment and Planning A*, Vol. 12, 1980, pp. 369-379. (with G. Guariso, K.E. Haynes, and M. Younis).
3. "Valuing Water in the Agricultural Environment of Egypt: Some Estimation and Policy Considerations." *Regional Science Perspectives*. Vol. 10, No. 1, 1980. pp. 109-126. (with K.E. Haynes).
4. "A Salt Balance Model of Lake Nasser." *Water Supply and Management*, Vol. 4, 1980. pp. 73-80. (with G. Guariso, M.A. Samie, and C. Kramer).
5. "Nile Water for Sinai: Framework for Analysis." *Water Resources Research*. Vol. 17, No. 6, December 1980. pp. 1585-1593. (with G. Guariso, B.S. Zikri, and K.H. Mancy).
6. "International Management of the Nile: Stage Three?" *Geographic Review*. Vol. 71, No. 1, January 1981. pp. 17-32. (with K.E. Haynes).
7. "A Real-Time Management Model for the Aswan High Dam Reservoir with Policy Implications." *Geographical Analysis*, Vol. 13, No. 4, 1981. pp. 355-372. (with G. Guariso, K.E. Haynes, and M. Younis).
8. "Planning of Capacity Expansion: Stochastic Process and Game-Theoretic Approaches." *Socio-Economic Planning Sciences*. 1984. Vol. 18, No. 3, pp. 195-205. (with K.E. Haynes et al.).
9. "Economic Analysis in Regulatory Decisions: The Implications of Executive Order 12291." *Science, Technology, and Human Values*, Winter 1984. Vol. 9, Issue 1, No. 46. pp. 63-71. (with W. N. Grubb).
10. "Water Capacity Expansion: Some Local Planning and Design Considerations." *Journal of the American Planning Association*, Summer 1984. Vol. 50, No. 3, pp. 359-364. (with K.E. Haynes et al.).
11. "An Examination of Tax Credits for Solar Hot Water Heating Systems." *Energy Systems and Policy*. 1985. Vol. 9, No. 2. pp. 115-139.
12. "An Application of Multiobjective Programming to Waterfront Management." *Coastal Zone Management Journal*. 1985. Vol. 13, No. 2. pp. 151-176 (with Roger Stough).
13. "An Examination of EPA's Regulatory Impact Analysis of Uranium Mill Tailings." *Environmental Impact Assessment Review*. 1986: 6, pp. 223-252 (with William Drummond). [Feature Article]
14. "The Issue of Standing in Cost-Benefit Analysis." *Journal of Policy Analysis and Management*. 1986. Vol. 5, No. 4, pp. 665-682. (with Duncan MacRae, Jr.).

15. "Implications of Ethiopian Water Development for Egypt and Sudan." *International Journal of Water Resources Development*, Vol. 3, No. 2, 1987. pp. 105-114. (with Giorgio Guariso).

Reprinted in *Water Resources and Economic Development*, R.M. Saleth, editor. Edward Elgar Publishing, Cheltenham, UK. 2002. pp. 92-114.

16. "Computerized Information Management in a System-Poor Environment: Lessons from the Design and Implementation of a Computer System for the Sudanese Planning Ministry." *Third World Planning Review*, 9(4), 1987. pp. 361-379. (with Craig Calhoun and William Drummond).

Reprinted in *Sudan After Nimeiri*, edited by Peter Woodward. 1991. Routledge, London.

17. "Assessing Preferences in Cost-Benefit Analysis: Reflections on Rural Water Supply in Haiti." *Journal of Policy Analysis and Management*. Vol. 7, No. 2, 1988. pp. 246-263. (with Duncan MacRae, Jr.).

18. "Who Really Wants Donor Coordination?" *Development Policy Review*. Vol. 6, 1988. pp. 295-309. (with Craig Calhoun).

19. "Water Vending Activities in Developing Countries: A Case Study of Ukunda, Kenya." *International Journal of Water Resources Development*, September 1989. pp. 158-168. (with Donald T. Lauria, Daniel A. Okun, and Xinming Mu).

Reprinted in *Cost-Benefit Analysis*, edited by Richard Layard and Stephen Glaister, Cambridge University Press, 1994.

20. "Estimating the Willingness to Pay for Water Services in Developing Countries: A Case Study of the Contingent Valuation Method in Haiti." *Economic Development and Cultural Change*. January 1990. Vol. 38, No. 2, pp. 293-311. (with John Briscoe, Xinming Mu, and William Barron).

Reprinted in *Housing the Poor in the Developing World: Methods of Analysis, Case Studies and Policy*, edited by A. Graham Tittle and Kenneth G. Willis. 1991. Routledge, London.

21. "Calculating the Value of Time Spent Collecting Water: Some Estimates for Ukunda, Kenya." *World Development*, February 1990. Vol. 18, No. 2, pp. 269-280. (with Xinming Mu and Robert Roche).

22. "Modeling Village Water Demand Behavior: A Discrete Choice Approach." *Water Resources Research*, 1990. Vol. 26, No. 4. pp. 521-529. (with Xinming Mu and John Briscoe).

23. "Strategy for Cost Recovery in the Rural Water Sector: A Case Study of Nsukka District, Anambra State, Nigeria." *Water Resources Research*, 1990. Vol. 26, No. 9, pp. 1899-1913. (with Apia Okorafor, Augustine Okore, and Alexander McPhail).

24. "Planning in Squatter Settlements: An Interview with a Community Leader." *Journal of Planning Education and Research*. 1990. Vol. 9, No. 3. pp. 207-212. (with Donald T. Lauria).

Reprinted in *Teacher's Guide to World Resources: Exploring Sustainable Communities*. World Resources Institute, Washington D.C.

25. "Judgments About Who Has Standing in Cost-Benefit Analysis? A Comment." *Journal of Policy Analysis and Management*. 1990. Vol. 9, No. 4. pp. 536-547. (with Duncan MacRae, Jr.).

26. "A Study of Water Vending and Willingness to Pay for Water in Onitsha, Nigeria." *World Development*. 1991. Vol. 19, No. 2/3, pp. 179-198. (with Donald T. Lauria and Xinming Mu).

Reprinted in *Economic Analysis of Environmental Impacts*, by John Dixon, Louise Fallon Scura, Richard Carpenter, and Paul Sherman. Earthscan Publications, Second Edition, 1994.

27. "Giving Respondents Time to Think in Contingent Valuation Studies: A Developing Country Application." *Journal of Environmental Economics and Management*. May, 1992. Vol. 22, pp. 205-225. (with V. Kerry Smith and others).

Reprinted in *Environmental Valuation*, edited by Kenneth G. Willis, Kenneth Button, and Peter Nijkamp. Edward Elgar Publishing, Cheltenham, UK. 1999. Volume 1, Chapter 11.

28. "Opportunities for Regional and International Cooperation in the Nile Basin." *Water International*. Vol. 17, No. 3, September, 1992. pp. 144-154. (with Elizabeth McClelland)

29. "Possible Adverse Effects of Increasing Block Water Tariffs in Developing Countries." *Economic Development and Cultural Change*. Vol. 41, No. 1. October, 1992. pp. 75-87.

30. "Demand for Water in Rural Areas: Determinants and Policy Implications." *World Bank Research Observer*. Vol. 8, No. 1, Jan. 1993. pp. 47-70. (with John Briscoe and others).

Reprinted in *Water Resources and Economic Development*, R.M. Saleth, editor. Edward Elgar Publishing, Cheltenham, UK. 2002. pp. 232-255.

31. "Household Demand for Improved Sanitation Services in Kumasi, Ghana: A Contingent Valuation Study." *Water Resources Research*. Vol. 29, No. 6, 1993. pp. 1539-1560 (with D.T. Lauria, A.M. Wright, K. Choe, J.A. Hughes, and V. Swarna).

32. "Water Resource Issues in Developing Countries" *Water Resources Research*. Vol. 29, No. 7, July, 1993. pp. 1883-1888. Introduction to Special Section: Water Resource Issues and Problems in Developing Countries. (with David Brookshire).

33. "Rethinking Rural Water Supply Policy in the Punjab, Pakistan." *Water Resources Research*. Vol. 29, No. 7, July, 1993. pp. 1943-1954. (with Anjum Altaf, V. Kerry Smith, and Haroon Jamal).

34. "Rent-Seeking in the Water Supply Sector: A Case Study of Jakarta, Indonesia." *Water Resources Research*. Vol. 29, No. 7, July, 1993. pp. 1965-1974. (with Laszlo Lovei).

35. "Household Sanitation in Kumasi, Ghana: A Description of Current Practices, Attitudes, and Perceptions." *World Development*, Vol. 21, No. 5, 1993. pp. 733-748. (with D.T. Lauria, A.M. Wright, K. Choe, J.A. Hughes, and V. Swarna).

36. "The Economic Benefits of Surface Water Quality Improvements in Developing Countries: A Case Study of Davao, Philippines." *Land Economics*. Vol. 72, No. 4. November, 1996. pp. 519-537. (with KyeongAe Choe and Donald Lauria).

Reprinted in *Urban Planning and Management*, edited by R. Kerry Turner and Ian Bateman. (part of the series, *Managing the Environment for Sustainable Growth*). Edward Elgar, UK, 2000.

Reprinted in *Economics of Water Quality*, edited by K. William Easter and Naomi Zeitouni. (Part of the series, *The International Library of Environmental Economics and Policy*). Ashgate, UK, 2005.

37. "Administering Contingent Valuation Surveys in Developing Countries." *World Development*. Vol. 26, No. 1. 1998. pp. 21-30.

38. "Playing Chicken on the Nile? The Implications of Microdam Development in the Ethiopian Highlands and Egypt's New Valley Project." *Natural Resources Forum*. August, 1998. pp. 155-163. (with John Waterbury).

39. "Participatory" Research for Development Projects: A Comparison of the Community Meeting and Household Survey Techniques. *Economic Development and Cultural Change*. Vol. 41, No. 1. October, 1998. pp. 73-94. (with Jennifer Davis).

40. "Implementing a Demand-driven Approach to Community Water Supply Planning: A Case Study of Lugazi, Uganda. *Water International*. Vol. 23, 1998. pp. 134-145. (with Jennifer Davis and Elizabeth McClelland).

Reprinted in *Water Resources and Economic Development*, R.M. Saleth, editor. Edward Elgar Publishing, Cheltenham, UK. 2002. pp. 446-457.

41. "Designing a Neighborhood Deal: for Urban Sewers: A Case Study of Semarang, Indonesia." *Journal of Planning Education and Research*. 2000. 19: 297-308. (with Jennifer Davis, Richard Pollard, and Harry Miarsono).

42. "Individuals' Rates of Time Preference in Developing Countries: Results of a Multi-country Study." *Environmental Science and Technology*. April 15, 2000. 43:8 1445-1455. (with Christine Poulos).
[pubs.acs.org/subscribe/journals/esthag/34/i08/pdf/es990730a.pdf]

43. "Future access to HIV vaccines - Report from a WHO-UNAIDS Consultation, Geneva, 2-3 October 2000." *AIDS* 15 (7): W27-W44 MAY 4 2001. (Ainsworth M, Bhamarapravati N, Batson A, Bishai D, Moran-Carpentier O, Casabona J, Clemens J, Collins C, El Habib R, Forsythe S, Goldenthal K, Kunanusont C, Longini IM, Mahoney R, Mastro TD, Ndumbe P, Pallangyo K, Rowley J, Sadoff J, Shin SI, Pratt D, Stanton BF, Suraratdecha C, Teixeira PR, van den Bussche I, Vandermissen W, Walsh JA, Whittington D, Widdus R.).

44. "How Important is Improved Water Infrastructure to Microenterprises? Evidence from Uganda." *World Development*. Vol. 29, No. 10. October, 2001. pp. 1753-1767. (with Jennifer Davis, Alice Kang, and Jeffrey Vincent.)
45. "Private demand for a HIV/AIDS vaccine: Evidence from Guadalajara, Mexico." *Vaccine*. 20, 2002. pp. 2585-2591. (with Osmar Matsui, John Freiberger, George Van Houtven, and Subhrendu Pattanayak).
46. "Improving the Performance of Contingent Valuation Studies in Developing Countries." *Environmental and Resource Economics*. Vol. 22, Nos. 1-2. June, 2002. Pp. 323-367.
47. "Behavioural studies of the domestic demand for water services in Africa: a reply to Stephen Merrett." *Water Policy*. Vol. 4, No. 1, 2002. pp. 83-88.
48. "Household Demand for Improved Piped Water Services in Kathmandu, Nepal." *Water Policy*. Vol. 4, Issue 6, 2002. pp. 531-556. (with Subhrendu Pattanayak, Jui-Chen Yang, and Bal Kumar).
49. "Municipal Water Pricing and Tariff Design: A Reform Agenda for South Asia." *Water Policy*. 5, 2003, pp. 61-76.
50. "The Economic Benefits of Malaria Prevention: A Contingent Valuation Study in Marracuene, Mozambique." *Journal of Health and Population in Developing Countries*. July 15, 2003. (with Armando Castelar Pinheiro and Maureen Cropper). www.jhpdc.unc.edu/2003/papers/ecowhit.pdf
51. "Visions of Nile Development." *Water Policy*. Vol. 6, No. 1. 2004, pp. 1-24.
52. "Why Have Some Countries on International Rivers been Successful Negotiating Treaties? A Global Perspective." *Water Resources Research*. Vol. 40, No. 5, May 2004. 18 pages. (with Jennifer Song).
53. "Ethical Issues with Contingent Valuation Surveys in Developing Countries: A Note on Informed Consent and other Concerns." *Environmental and Resources Economics*. Vol. 28, No. 4. pp. 507-515. 2004.
54. "Challenges for Water Sector Reform in Transition Economies." *Water Policy*. 6 (4). 2004. pp. 1-15. (with Jennifer Davis).
55. "The Demand for a Malaria Vaccine: Evidence from Ethiopia." *Journal of Development Economics*. Vol. 75, pp. 303-318, 2004. (with Maureen Cropper, M. Haile, J.Lampietti, and C. Poulos.)
56. "Costs-of-illness of typhoid fever in Indian urban slum community: implications for vaccination policy." *Journal of Health, Population, and Nutrition*. Vol. 22, No. 3, pp. 304-310, 2004. (with Rajiv Bahl, Anju Sinha, Christine Poulos, Sunil Sazawal, Ramesh Kumar, Dilip Mahalanabis, Camilo J Acosta, John Clemens, Maharaj K Bhan).
57. "A cost-benefit analysis of typhoid fever immunization programs in an Indian urban slum

- community.” *Journal of Health, Population, and Nutrition*. Vol. 22, No. 3, pp. 311-321, 2004. (with Christine Poulos, Rajiv Bahl, Maharaj K. Bhan, John Clemens and Camilo J. Acosta).
58. “An Economic Reappraisal of the Melamchi Water Supply Project, Kathmandu, Nepal.” *Portuguese Journal of Economics*. Vol. 3, No. 2, 2004. (with Donald T. Lauria, Vimalanand Prabhu, and Joe Cook).
59. “Private Demand for an AIDS vaccine in Thailand.” *Health Policy*. Vol. 71, 2005. pp. 271-287. (with Chutima Suraratdecha, Martha Ainsworth, Viroj Tangcharoensathien).
60. “Coping with Unreliable Public Water Supplies: Averting Expenditures by Households in Kathmandu, Nepal.” *Water Resources Research*. Vol. 4, No. 2, Feb. 2005. 11 pages. (with Subhrendu Pattanayak, Jui-Chen Yang, and Bal Kumar).
61. “Measuring Individuals’ Valuation Distributions Using a Stochastic Payment Card Approach.” *Ecological Economics*. Vol. 55, pp. 143-154, 2005. (with Hua Wang).
62. “Water Resources Management in the Nile Basin: The Economic Value of Cooperation.” *Water Policy* 7, pp. 227-252, 2005. (with Xun Wu and Claudia Sadoff).
63. “Incentive Compatibility and Conflict Resolution in International River Basins: A Case study of the Nile Basin.” *Water Resources Research*. Vol. 42, W02417. 15 pages. 2006. (with Xun Wu).
64. “Household Demand for Typhoid Fever Vaccines in Hue, Vietnam: Implications for Immunization Programs.” *Health Policy and Planning*. March 30, 2006. pp. 241-255. 2006. (Do Gia Canh, Le Thi Kim Thoa, Nugroho Utomo, Nguyen Thai Hoa, Christine Poulos, Dang Thi Dieu Thuy, Dohyeong Kim, Andrew Nyamete, and Camilo Acosta).
65. “Designing stated choice experiments to produce graphical information for policymakers.” Vol. 26, No. 1, pp. 189-199. 2006. *Journal of Policy Analysis and Management*. (with Dipika Sur, Joe Cook, Susmita Chatterjee, and Jacqueline Deen).
66. “Reliability of Stated Preferences for Vaccines with Time to Think.” *Economic Inquiry*. Vol 45, No. 1, pp. 100-114. 2007. (with Joe Cook, F. Reed Johnson, Andrew Nyamete, and Do Gia Canh).
67. “Private Household Demand for Cholera Vaccines in Hue, Vietnam.” Forthcoming, 2007. *Value in Health*. (with Dohyeong Kim, Do Gia Canh, Christine Poulos, Le Thi Kim Thoa, Joe Cook, Nguyen Thai Hoa, Andrew Nyamete, Dang Thi Dieu Thuy, Jackie Deen, Dang Duc Trach, John Clemens, Vu Dinh Thiem, Dang Duc Anh).
68. “Private Demand for Cholera Vaccines in Beira, Mozambique.” Forthcoming, 2007. *Vaccine*. (with Marcelino E. S.Lucas, Marc Jeuland, Jacqueline Deen, Nivalda Lazaro, Melissa MacMahon, Andrew Nyamete, Avertino Barreto, Lorenz von Seidlein, Arnaldo Cumbane, Francisco F. Songane)

Papers under review or in progress

1. "Private Demand for Cholera and Typhoid vaccines in Kolkata, India." Under review, *World Bank Economic Digest* (with Joe Cook, Brian Maskery, and others).
2. "Household Demand for Preventive HIV/AIDS Vaccines in Thailand: Do Husbands' and Wives' Preferences Differ?" Revise and resubmit at *Value in Health*. March 2007. (with Chutima Suraratdecha, Christine Poulos, Martha Ainsworth, Vimalanand Prabhu, Viroj Tangcharoensathien).
3. An Optimization Model for the Use of the Vi Polysaccharide Vaccine to Prevent Typhoid. August 2006. Under review, *Journal of Health Economics*. (with Don Lauria, Brian Maskery, and Christine Poulos.)
4. "Individual Willingness-to-Pay for Vi Polysaccharide Vaccines in Two Counties in Guangxi Zhuang Autonomous Region, China." November, 2006. (with Christine Poulos and others).
5. "An Estimate of Parents' Value of Statistical Life for their Children in Rural Bangladesh." December 2006. Under review, *Journal of Risk and Uncertainty*. (with Brian Maskery and others).
6. "Estimating the private benefits of vaccination against cholera in Beira, Mozambique: A travel cost application." March 2007. (with Marc Jeuland and others).
7. "Public and Private Costs of Illness of Typhoid and Cholera in Kolkata, India." March 2007 (with Brian Maskery, Dipika Sur, Joe Cook, Sujit Bhattacharya, Andrew Onchare, and others.)
8. "Individual and Household Demand for Cholera Vaccines in North Jakarta, Indonesia." November 2005. (with Christine Poulos, Soyeon Guh, and others).
9. "Individual and Household Demand for Typhoid Vaccines in North Jakarta, Indonesia." July 2005. (with Christine Poulos, Soyeon Guh, and others).
10. "A Cost-Benefit Analysis of Cholera and Typhoid Vaccination programs in a Slum in Kolkata, India. April, 2006". (with Joe Cook, Brian Maskery, Dipika Sur, Sujit Bhattacharya, Andrew Onchare and others.)
11. "Comparison of Cost-of-Illness with Willingness-to-Pay Estimates to Avoid Shigellosis: Evidence from China. September, 2006. (with Christine Poulos, Soyeon Guh, and others).

Book Chapters:

1. "Modeling Industrial Water Demands," Chapter 3 in *Modeling Water Demands*. Edited by J. Kindler and C.S. Russell, Academic Press, 1984. pp. 51-100. (with John C. Stone).
2. "The Ambiguities of Cost-Benefit Analysis: An Evaluation of Regulatory Impact Analyses Under Executive Order 12291." in *Environmental Policy Under Reagan's Executive Order: The*

Role of Cost-Benefit Analysis. Edited by V.K. Smith, University of North Carolina Press, 1984. (with W. Norton Grubb and M. Humphries).

3. "Nile Water for Whom? Emerging Conflicts in Water Allocation Between Egypt and Sudan." in *Agricultural Expansion in the Middle East*. Edited by K. McLaughlin and P. Beaumont, John Wiley Press. 1985. pp. 125-149. (with K.E. Haynes).
4. "Planning for the Microelectronics Industry in North Carolina: An Introduction." In *High Hopes for High Tech: Microelectronics Policy in North Carolina*. 1985. (above) pp. 3-34.
5. "Modeling Interdependencies Between Crop Mix and Public Infrastructure Decisions in the Design of Irrigation Schemes." In *Agriculture and the Management of Natural Resources*. Edited by F. Lechi, Kieler Wissenschaftsverlag Bauk Publishers, West Germany, 1985. pp. 329-346. (with G. Guariso).
6. "Community Infrastructure Expansion: Local Water Supply Planning." in *Pathologies of Urban Processes*. Edited by Kingsley E. Haynes, Antoni Kuklinski and Olli Kultalahti, Finn publishers, 1985. pp. 341-362. (with K.E. Haynes et. al.).
7. "Economic Considerations." Chapter 8 in *Sharing Environmental Risks: How to Control Governments' Losses in Natural Disasters*, by Ray Burby et al., Westview Press, 1991. pp. 154-172.
8. "Toward a New Nile Waters Agreement." in *Resolving Water Quantity/Quality Disputes*, edited by Ariel Dinar. Kluwer. 1994. (with J. Waterbury and E. McClelland).

Reprinted in *Ethioscope, A Quarterly Magazine Chronicling Events and Opinions on Ethiopia Foreign Relations*. Vol. 1, No. 1, September, 1994. pp. 11-17.

Also reprinted in *Conflict Prevention and Resolution in Water Systems*, Aaron T. Wolf, editor, Edward Elgar. 2000.

9. "The Economic Value of Improving the Environmental Quality of Galveston Bay." In *Sustaining Coastal Resources: Economics and the Natural Sciences*. 1995. Edmund S. Muskie Institute of Public Affairs, University of Southern Maine. pp. 19-56.
10. "The Effect of Giving Respondents "Time to Think" on Tests of Scope: An Experiment in Calamba, Philippines." *Determining the Value of Non Market Goods: Economic, Psychological and Policy Relevant Aspects of Contingent Valuation Methods*. Edited by Ray Kopp, Werner Pommerehne, and Norbert Schwarz. Kluwer Publishers, 1997. pp. 219-234. (with K. Choe and D.T. Lauria).
11. "A Monte Carlo Comparison of OLS Estimation Errors and Design Efficiencies in a Two-Stage Stratified Random Sampling Procedure for a Contingent Valuation Study." *Valuing Environmental Preferences: Theory and Practice of the Contingent Valuation Method in the US, EU, and Developing Countries*. Edited by Ken Willis and Ian Bateman. 1999. Oxford University Press. Pp. 280-301. (with K. Choe and W. R. Parke).

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16. "Infrastructure Coverage and the Poor: A Global Perspective." Chapter 3 in *Infrastructure for Poor People: Public Policy for Private Provision*. Edited by Penelope J. Brook and Timothy C. Irwin. The World Bank, 2003. Public-Private Infrastructure Advisory Facility. pp. 77-124. (with Kristin Komives and Xun Wu).
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2. "Water Services for the Colonies of the Lower Rio Grande Valley." LBJ School of Public Affairs, 1977. (with others).
3. "Forecasting Industrial Water Use." Research Memorandum (RM-78-11), Laxenburg, Austria: International Institute for Applied Systems Analysis, December 1978, 69 pages.
4. *Planning for the Microelectronics Industry in North Carolina*. Report to the North Carolina Department of Natural Resources and Community Development, September 1981, 312 pages. (editor).

5. *Southeast Indiana Water Supply Project: Economic Feasibility Alternatives Vol. 1*. Report to the State of Indiana Department of Natural Resources, Division of Water, Water Resource Studies. September 15, 1982, 345 p. Vol. 2, August 1982, 65 pages. (with K.E. Haynes et. al.)
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2. "Managing the Water Quality of the Nile: A Framework for Policy Analysis." Guest lecture at the University of Khartoum Institute of Environmental Studies Lecture Series, February 1978.
3. "The Operation of the Aswan High Dam." Presented at the United States Environmental Protection Agency National Symposium on the Nile, September 1978. (with G. Guariso, K.E. Haynes and K.H. Mancy).
4. "The Economic Efficiency of Water Use in Egyptian Agriculture: Opening Round of a Debate." Presented at the Seventeenth International Conference of Agricultural Economists, Banff, Alberta, Canada. September 1979. (with J.B. Fitch and H.A. Khedr).
5. "A Framework for Evaluating the Environmental Impacts of In-Situ Uranium Mining in South Texas." Presented at the In-Situ Uranium Mining Workshop on Groundwater Resources Restoration in South Texas, Corpus Christi. April 1980.
6. "Coordination of the Aswan High Dam with Upstream Development." Presented at the International Conference on Water Resources Management in Egypt, Cairo, January 11-14, 1981. (with K.E. Haynes).
7. "Risk and Resource Utilization: Managing Water Shortages in Egypt." Presented at the North American Meetings of the Regional Science Association, Montreal, November 13, 1981. (with K.E. Haynes).
8. "The Use (and Abuse) of Cost-Benefit Analysis in the Federal Government: The Implementation of Executive Order 12291." Presented at the Annual Meetings of the Association for Public Policy and Management, Minneapolis, MN, October 28-30, 1982. (with W.N. Grubb and M. Humphries).
9. "An Examination of Tax Credits for Solar Hot Water Heating Systems." Presented at the North American Meetings of the Regional Science Association, Pittsburgh, PA, November 1982. (with G. Sampson).
10. "Planning for the Microelectronics Industry: State Policy in North Carolina." Presented at the Conference on Microelectronics in Transition: Industrial Transformation and Social Change, Santa Cruz, CA, May 12-15, 1983.

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15. "Assessing Preferences in Cost-Benefit Analysis: Reflections on Rural Water Supply in Haiti." Presented at the Annual Meetings of the Association for Public Policy and Management, Austin, TX, October 1986.
16. "Estimating the Willingness to Pay for Water Services in Developing Countries: A Case Study of the Contingent Valuation Method in Southern Haiti." Presented at the Annual Meetings of the Regional Science Association, Columbus, OH, November 1986.
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18. "The Choice of a Criterion for Measuring Welfare Change in Cost-Benefit Analysis: Compensating vs. Equivalent Variation Measures." Presented at the Annual Meetings of the Association for Policy Analysis and Management, College Park, MD, October 29-30, 1987. 28 pages.
19. "Reflections on Donor Coordination." Presented at the Annual Meetings of the North American Regional Science Association, Baltimore, MD, November 4-6, 1987.
20. "The Effect of Distance on the Choice of Water Source in Developing Countries." Presented at the Economic University of Vienna, Guest Lecture Series, April 20, 1988.
21. "New Evidence on Villagers' Willingness to Pay for Water Supplies: Implication for River Basin Modeling and Planning in Developing Countries." Presented at the International Institute for Applied Systems Analysis, Water Resources Seminar, April 28, 1988. Laxenberg, Austria.
22. "How Much are Villagers Willing to Pay for Improved Water Services?" Presented at the Overseas Development Institute, Regent's Park, London. A Joint Meeting of the Irrigation Management Network and the School of Oriental and African Studies, University of London. May 3, 1988.
23. "Paying for Urban Infrastructure in Developing Countries." Invited Lecture, Department of Geography, Boston University. March 1989.

24. "Rural Water Demand Behavior in Developing Countries: A Summary of Recent Research on Willingness to Pay and Water Vending." Invited Lecture, Department of Geography and Environmental Engineering, The Johns Hopkins University. April 1989.
25. "Household Demand for Improved Sanitation Services: A Case Study of Kumasi, Ghana." Seminar presented at the World Bank, April, 1990. (with Donald Lauria).
26. "A Contingent Valuation Study of the Demand for Improved Sanitation Services in Kumasi, Ghana." Invited Lecture, Michigan State University, School of Forestry and National Resources. April, 1990.
27. "Recent Developments in Nile Water Management." Paper presented at the Royal Geographic Society Conferences on Nile Control. London, England. May, 1990.
28. "How Reliable are Contingent Valuation Studies in Developing Countries?" Presented at the Annual Meetings of the Association for Policy Analysis and Management. San Francisco, CA. October, 1990.
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30. "Household Demand for Improved Sanitation in Developing Countries: Implications for Sewer Design." Invited Lecture. Department of Environmental Engineering. Virginia Polytechnic Institute. Blacksburg, VA. November, 1990.
31. "Incorporating Equity Considerations in the Design of Water Tariffs in Developing Countries." Paper presented at the Annual Meetings of the Western Regional Science Association. Monterey, California. February, 1991.
32. "The Use of Environmental Valuation Techniques in Developing Countries." Invited Lecture, London Environmental Economics Centre, University of London. March, 1991.
33. "Cost Recovery and Household Willingness to Pay for Infrastructure Services in Developing Countries." Invited Presentation, United States Department of State. Washington, DC. March, 1991.
34. "Opportunities for Regional and International Cooperation in the Nile Basin." Paper presented at the World Bank Workshop on Management of International River Basins, June, 1991. 42 pages. (with Elizabeth McClelland).
35. "Beyond Economic Policy Analysis." Paper presented at the Annual Meeting of the Society for the Advancement of Socioeconomics. June, 1991. Stockholm, Sweden. (with Duncan MacRae, Jr.).
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38. "The Relationship between Potable Water Supply and Economic Development Prospects in Newala District, Tanzania." Paper presented at the Annual Meetings of the Western Regional Science Association. South Lake Tahoe, Nevada. Feb., 1992.
39. "An Overview of Rural Water and Sanitation Policy Issues in the Punjab, Pakistan." Guest Lecture, Public Policy PhD Program, George Mason University, Fairfax, Va. March, 1992.
40. "Household Sanitation Systems in Developing Countries: Implications for the Wild-Polio Virus Eradication Campaign." Seminar presented at the Centers for Disease Control. Atlanta, Georgia. May 28, 1992.
41. "A Systems Approach for Sanitation Planning in Developing Countries." Lecture at Dipartimento di Electronica, Politecnico di Milano. June 26, 1992.
42. "An Overview of Research Findings on Household Demand for Improved Water and Sanitation Services in Developing Countries." Seminar presented to the Overseas Development Administration, London. June 30, 1992.
43. "A Note on Gender Issues in the Provision of Improved Potable Water Supplies in Developing Countries." Paper presented at the National Research Council meeting on *Family and Development*. Washington D.C. July 17, 1992.
44. Five Lectures on Environmental Economics and Economic Valuation of Nonmarket Goods. Chinese Research Academy of Environmental Sciences. Beijing. August, 1992.
45. "The Role of Contingent Valuation Studies in Strategic Sanitation Planning." A seminar presented to the Infrastructure Department, Asian Development Bank. Manila, Philippines. December, 1993.
46. "The Economic Value of Galveston Bay: Some Preliminary Findings." Invited Paper. Galveston Bay National Estuary Program Annual Symposium. Galveston, Texas. Feb. 1993.
47. "Evidence of Embedding and Time-to-Think Effects in Contingent Valuation Studies: A Case Study of Calamba, Philippines." Guest Lecture, College of Business Administration, University of South Carolina. April, 1993.
48. "Household Demand for Improved Sanitation Services in Calamba, Philippines: A Contingent Valuation Study." Seminar presented to the South Africa Population and Health Department, The World Bank. Washington D.C. April, 1993.

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50. "Household Demand for Surface Water Quality Improvements in Developing Countries: A Case Study of Davao City, Philippines." Paper presented at the annual meetings of the Western Regional Science Meetings. Tucson, Arizona. Feb. 1994.
51. "Assigning an Economic Value to Environmental Quality Improvements in Galveston Bay: Use and Nonuse Values." Ocean and Coastal Protection Division, United States Environmental Protection Agency. Washington D.C. May 20, 1994.
52. "Valuing Estuarine Resources: A Case Study of Galveston Bay." Paper presented at Workshop on the Economic and Environmental Valuation of Coastal and Estuarine Resources. University of Southern Maine. Wolfe's Neck Conference Center. June 2, 1994. Sponsored by the National Estuary Program, United States Environmental Protection Agency.
53. Whittington, Dale, Donald Lauria, and KyeongAe Choe. "The Effect of Giving Respondents "Time to Think" on Tests of Scope: An Experiment in Calamba, Philippines." Paper presented at Conference on "Value of Non Market Goods: Economic, Psychological and Policy Relevant Aspects of Contingent Valuation Methods." Bad Homberg, Germany. July 27, 1994.
54. "Water Supply Planning in Uganda Communities and Small Towns: A List of Policy Mistakes to Avoid." Guest Lecture, Directorate of Water Development Ministry of Natural Resources. Kampala, Uganda. July 25, 1994.
55. "Implementing a Demand-Side Investment Strategy in the Rural Water Sector: Lessons from Marracuene, Mozambique." Invited Lecture, PRONAR (Rural Water Agency, Ministry of Water). Maputo, Mozambique. November 25, 1994.
56. "The Construction of Environmental Indicators from Household Survey Data: New Developments." World Bank Conference on the Redesign of the Living Standards and Measurement Surveys. Washington D.C. Feb. 3, 1995.
57. "Environmental Values and Public Perceptions: Findings for Galveston Bay." Invited Presentation to the Galveston Bay Foundation, Rice University. Houston, Texas. Feb. 23, 1995.
58. "Galveston Bay: Economics and the Environment." Presentation to the Greater Houston Chamber of Commerce. Houston, Texas. Feb. 24, 1995.
59. "A Comparison of Contingent Valuation and Participatory Approaches for Assessing Household Demand for Improved Water and Sanitation Services." A Presentation to the Center for International Development, Research Triangle Institute. April 19, 1995.
60. "New Directions in Sanitation Planning in Developing Countries: A Case Study of Lugazi, Uganda." Presentation to the Annual Meetings of the Regional managers of the UNDP/World Bank Regional Water and Sanitation Programme. World Bank, Washington D.C. April 26, 1995.

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62. "Administering Contingent Valuation Surveys in Developing Countries: Lessons Learned." Keynote Address. Annual Meetings of the Economy and Environment Program for Southeast Asia (EEPSEA). International Development Research Centre. Singapore. May 24, 1995.
63. "Water Resources Planning in Developing Countries." Two invited lectures. Harvard Institute for International Development. Cambridge, Mass. June, 1995.
64. "Ethiopian Options for Developing the Water Resources of the Blue Nile Basin." Presentation to the Ethiopian Ambassador to the United States and Embassy staff. July 3, 1995. Washington D.C.
65. "New Directions in Urban Sanitation Planning in Developing Countries." Presentation to the Ministry of Public Works and the Municipal Water Authority. Semarang, Indonesia. July 19, 1995.
66. "Air Quality Issues in Sofia, Bulgaria. Interview on Bulgarian National Radio. September 20, 1995.
67. "Approaches to Estimating the Economic Benefits of Malaria Reduction Interventions." Invited Presentation. World Health Organization, Geneva. September 29, 1995.
68. "Modeling the Relationship between Collective and Individual Decisions in Contingent Valuation Surveys." Invited Lecture, Department of Economics, University of London. December 8, 1995.
69. "The Economics Benefits of Malaria Control: A Contingent Valuation Study in Marracuene, Mozambique." Paper presented at the annual meetings of the Western Regional Science Association. Napa, California. Feb. 26, 1996.
70. "The Neighborhood Deal and Urban Sanitation Planning." Invited presentation to World Bank short course entitled, "Management, Financing, and Institutional Innovations: Urban Water and Wastewater Sector." April 10, 1996.
71. "Using Living Standard Measurement Surveys to Collect Data for Environmental Policy Analysis." Presentation to World Bank Workshop on Improving Living Standard Measurement Surveys. April 14, 1996.
72. "Crafting a Neighborhood Deal for Sewer Construction in Semarang, Indonesia: A Participatory Approach." Seminar presented at the Department of Urban Studies and Planning. Massachusetts Institute of Technology. May, 1996.
73. "Preliminary Findings for a Study of Household Demand for Improved Water and Sanitation Services." Seminar presented to the National Planning Ministry of the Government of Indonesia. Jakarta, August, 1996

74. Presentation of Nile Waters Negotiation Game at U.S. Department of State. Conference on Environmental Issues and National Security. Arlington, Va. September, 1996.
75. "Water and Sanitation Conditions in the Eastern Islands of Indonesia: Policy Implications." Seminar presented at the East Asia Infrastructure Department, World Bank. October, 1996.
76. "Spreading Misinformation: Ethical Dilemmas in the Implementation of Contingent Valuation Surveys." Presentation at the Annual Meetings of the Association for Public Policy Analysis and Management. November 1, 1996. Pittsburgh, Pa.
77. "Urban Sanitation Policy in Developing Countries: Current Debates and A Proposal for a New Direction." Presentation at the Annual Meetings of the Association for Public Policy Analysis and Management. November 1, 1996. Pittsburgh, Pa.
78. "The Implications of Microdam Development in the Ethiopian Highlands and Egypt's New Valley Project for Renegotiating the Nile Waters Agreement." Keynote Address, Vth Nile 2002 Conference. Addis Ababa, Ethiopia. Feb. 24-28, 1997.
79. "New Developments in Nile Waters Allocation." Presentation at U.S. Department of State, Washington D.C. August 27, 1997.
80. "A Review of Recent Experience with the Contingent Valuation Method in Water and Sanitation Project Preparation and Appraisal." Keynote Address. Conference on Willingness-to-Pay Studies in the Water Sector. September 15-17, 1997. New Delhi, India.
81. "Putting A Demand-Driven Planning Approach into Practice in the Water and Sanitation Sector." Presentation to UK staff engineers, Department of Foreign Assistance and Development, Annual Meetings for South Asia. September 18, 1997. Calcutta, India.
82. "Individuals' Rates of Time Preference in Developing Countries: Results of a Multi-country Study." Invited Lecture, Department of Economics, University of Dar es Salaam. October 6, 1997.
83. "Recent Developments in the Hydropolitics of the Nile Basin." Invited Lecture. Conference on Environmental Trends in the Middle East. Yale University. October 30, 1997.
84. "The Economic Value of Water in the Nile Basin." Invited presentation. World Bank Washington D.C. July 9, 1998.
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86. "Challenges for Water Sector Reform in Transition Economies: A Case Study of Odessa, Ukraine." Paper presented at the World Bank Conference on Political Economy of Water Pricing Implementation. November 3-5, 1998. (with Jennifer Davis).
87. "Implementation Issues in Municipal Water Pricing Reform." Plenary Address to the

Biannual Meetings of the Economy and Environment Program for Southeast Asia. Singapore, November 10-14, 1998.

88. "Problems with Increasing Block Water Tariffs in Developing Countries." Invited Lecture. Department of Urban Studies and Planning, Massachusetts Institute of Technology. February 8, 1999.

89. "The Demand of Poor Households for Improved Infrastructure Services." Invited Lecture. The World Bank. Private Provision of Infrastructure Program. March, 1999. Washington D.C.

90. "Infrastructure and the Poor. Invited Lecture. World Bank. March, 2000.

91. "Managing International Rivers: Scale and Scope of the Problem." Invited Lecture. World Bank Water Week. April, 2000.

92. "Infrastructure Coverage and the Poor: A Global Perspective." **Keynote Address.** International Conference, *Infrastructure for Development: Private Solutions and the Poor.* Sponsored by DIFD-World Bank. London. May 31- June 2, 2000.

93. "New Directions for the Field of Environmental and Resource Economics in Southeast Asia." **Keynote Address.** Inaugural Meetings of the Malaysian Association of Environmental and Resource Economists (MAERA). July 30, 2000. Malacca, Malaysia.

94. "The Use of State Preference Methods for Estimating Household Demand an HIV/AIDS Vaccine." Invited Lecture. Health Systems Research Center, Ministry of Public Health, Government of Thailand. August, 2000.

95. "Infrastructure Provision and the Poor: An Examination of the Living Standards Measurement Surveys in South Asia." Invited Lecture. Postgraduate Institute of Agriculture, University of Peradeniya. Kandy, Sri Lanka. May 18, 2000.

96. "Using GAMS Optimization Software to Model the Intra-year Nile Water Allocation Problem." Invited Lecture. The World Bank. Sept. 12, 2000.

97. "Thoughts on Estimating the Demand for a HIV/AIDS Vaccine and Preliminary Findings from Guadalajara, Mexico." Invited Presentation to the HIV/AIDS Task Force. World Health Organization. Geneva, Switzerland. October 2, 2000.

98. "The Effects of Privatization on Poor Households." Invited Lecture. Center for Development Policy, UN-WIDER University. Helsinki, Finland. October 5, 2000. (with Kristin Komives)

99. "The Tariffs Issues in the Design of Private Sector Participation Transaction in the Water and Sanitation Sector." Invited Lecture. UNDP-World Bank Water and Sanitation Program Workshop on Transaction Design and the Poor. Paris, France. Dec. 18-20, 2000.

100. "The Design of Water Tariffs in South Asia: Challenges and Opportunities." **Keynote Lecture.** Water and Sanitation Program-sponsored NAGARI Workshop. Mumbai, India. April 3, 2001.

101. "The Role of Economic Analysis in the Search for Cooperative Solutions to the Management of International River Basins." Invited Lecture. World Bank Annual Water Week Conference. April 18, 2001.
102. "Water Pricing and Tariff Design." Invited lectures. University of Florida at Gainesville, World Bank Utilities Training Program. June 21, 2001.
103. "A Cash Flow Equilibrium Model for Analysis of Water Pricing Decisions in Developing Countries." Invited Lecture. UNDP/World Bank Water and Sanitation Program. September 7, 2001. (with Kristin Komives).
104. "Household Demand for Improved Water Services in Kathmandu, Nepal." Invited Lecture. Economy and Environment Program for Southeast Asia. Hanoi, Vietnam. November 22, 2001.
105. "A Typology of International River." World Bank Institute, Feb. 27, 2002. Washington D.C.
106. Municipal Water Pricing and Tariff Design: A Reform Agenda for Developing Countries Issues Brief . Resources for the Future. August 22, 2002.
[[www.rff.org/Johannesburg/Johannesburg.htm#Urban Water](http://www.rff.org/Johannesburg/Johannesburg.htm#Urban%20Water)]
107. "Does Giving Respondents Time To Think Change Their Perceived Estimates Benefits of Vaccines in Hue, Vietnam." Plenary Address to the Biannual Meetings of the Economy and Environment Program for Southeast Asia. Singapore, November 18, 2003.
108. "The Costs and Benefits of Municipal Water and Sanitation Infrastructure in Developing Countries." Plenary Address to the Biannual Meetings of the Economy and Environment Program for Southeast Asia. Bangkok, November 19, 2004.
109. "Household Demand for Typhoid and Cholera Vaccines in Kolkata, India." Invited lecture, National Institute of Cholera and Enteric Diseases (ICMR). November 22, 2004.
110. "The Economic Case for Investments in Water and Sanitation Infrastructure." Invited lecture, Institute of Development Studies, Kolkata University. November 23, 2004.
111. "The Investment Case for the Expanded Use of Typhoid Vaccines in Vietnam, Pakistan, and Indonesia." Plenary Address to the International Conference on Typhoid and Cholera Vaccines in South and Southeast Asia. Hanoi. January 12, 2005.
112. "The Consequences of Trade Liberalization for the Water and Sanitation Sector in Developing Countries." Organization for Economic Cooperation and Development. Paris, France. February 3, 2005.
113. "Rethinking the Economics of Water and Sanitation Investments." Department of Urban Studies and Planning. SPURS Luncheon Seminar. April; 4, 2005. Massachusetts Institute of Technology.

114. "The Economic Costs and Benefits of Investments in Municipal Water and Sanitation Infrastructure." Invited Lecture, Water Resources Symposium. University of California at Berkeley. October 10, 2005.
115. "The Use of Economic Models for the Appraisal of Water Resources Infrastructure." Invited lecture. Workshop of the Eastern Nile Planning Group. Addis Ababa, Ethiopia. November 8, 2005.
116. "Evaluating Infrastructure Investments in Developing Countries: Intuition vs. Analysis." Invited Lecture, Lee Kwan Yew School of Public Policy. National University of Singapore. November 11, 2005.
117. "Lessons from Twenty five years of Fieldwork in Developing Countries." Plenary Lecture. Inaugural Workshop of the Latin American and Caribbean Environmental Economics Program (LACEEP). February 21, 2006. San Jose, Costa Rica.
118. "The Economic Costs and Benefits of Investments in Municipal Water and Sanitation Infrastructure: A Global Perspective." World Congress of Environmental and Resource Economics. Kyoto, Japan. July 2006. (with W. Michael Hanemann)
119. "Comparison of Cost-of-Illness with Willingness-to-Pay Estimates to Avoid Shigellosis: Evidence from China." July 2005. World Congress of Environmental and Resource Economics. Kyoto, Japan. July 2006. (with Soyeon Guh, Christine Poulos, and others.)
120. "Post-construction Support Activities and the Sustainability of Rural Water Projects in Ghana." World Congress of Environmental and Resource Economics. Kyoto, Japan. July 2006. (with Kristin Komives, Bernard Akanbang, Rich Thorsten, Benedict Tuffuor, Marc Jeuland, and Eugene Larbi).
121. "Preliminary Findings of the Nile Basin Scoping Team." Seminar presented to World Bank management. November 20, 2006. Washington D.C.
122. "The Effect of Post-Construction Support on the Sustainability of Rural Water Systems." Presentation at the World Bank, Water Week Conference. Feb. 28, 2007. (with Kristin Komives Jennifer Davis, Heather Lukacs, Linda Prokopy, Alexander Bakalian, Wendy Wakeman, and Richard Thorsten).

Selected Recent Workshops and Training Activities

1. "A Review and Assessment of Techniques for Systematic Client Consultation in World Bank Projects." Presentation to Environmental Training Course Offered to World Bank Staff, Duke University, June 22, 1995.
2. Organized and delivered 2-day workshop on "The Economic Value of Health Risks", Centers for Disease Control. Atlanta, Ga. (with V. Kerry Smith, Duke University). June 6-7, 1994.
3. Organized and delivered 2-day workshop for senior staff of the Directorate of Water

Development, Ministry of Natural Resources, on the rural water supply and sanitation investment planning. Kampala, Uganda. July 25-26, 1994.

4. Organized 1-day workshop for World Bank Officials entitled, "Water Pricing in Developing Countries." Delivered several presentations. Washington D.C. October 25, 1994; November 1995.

5. Organized and presented workshop for senior technical and management staff of PRONAR (Rural Water Agency, Ministry of Water) on the use of contingent valuation surveys in community water supply planning. Maputo, Mozambique. November 16-25, 1994.

6. Organized and presented one-week workshop for senior technical and management staff of PRONAR (Rural Water Agency, Ministry of Water) on the use of demand-driven planning approaches in community water supply planning. Maputo, Mozambique. November June 5-10, 1995.

7. "A Review and Assessment of Techniques for Systematic Client Consultation in World Bank Projects." Presentation to Environmental Training Course Offered to World Bank Staff, Duke University, June 22, 1995.

8. Organized and delivered 1-day workshop for senior staff of the Ministry of Public Works on demand-driven sanitation planning. July 28, 1995.

9. "The Economic of Sewage Investments in Developing Countries." Invited presentation to World Bank short course entitled, "Water and Sanitation Investments: The Enabling Environment." Johns Hopkins University, Baltimore, Maryland. September 8, 1995.

10. Organized 2-day workshop for World Bank staff entitled, "Water Pricing in Developing Countries." Delivered several presentations. Washington D.C. October, 1995; February, 1997, and October, 1998.

11. Organized and delivered three week training program on the use of the contingent valuation method in developing countries, for graduate students and consultants, Department of Economic, University of Dar es Salaam. Sept. 22-October 10, 1997.

12. Organized and presented a two-day seminar for the Department for International Development, UK. "Enhancing DFID Capacity for Demand Assessment in Water and Sanitation Projects." London, Dec. 15-16, 1997.

13. Director of Executive Training Course, "Water And Sanitation Planning in Developing Countries," in Summer Development Workshops at the Massachusetts Institute of Technology. June, 2000 and 2002.

14. Eight Invited Lectures, "The Use of the Contingent Valuation Method in Developing Countries." Department of Economics, University of Gothenburg, Sweden. May, 2003.

15. EEPSEA Training Program on the Use of Stated Preference Methods in Developing Countries. Hanoi, Vietnam. May 2004. (with Vic Adamowicz).

16. Three Lectures. "The Use of the Contingent Valuation Method and Travel Cost Models in

Developing Countries.” World Bank Training Program - Economics and the Environment. July 26-27, 2004.

17. Training course, “Economic Appraisal for Large Dam Projects,” designed for water resources professionals in the Nile Basin. Cairo, Egypt. Jan. 29-Feb. 1, 2007.

Selected Consultancies:

1. National Commission on Water Quality. Managed and assisted with the preparation of the Commission's technical appendices on the impact of water pollution control requirements on American industry.

2. Department of Civil Engineering, University of Texas at Austin. Study of the social and environmental effects of in-situ uranium mining in South Texas. September 1979-December 1980.

3. Ford Foundation, Cairo Field Office, 1977-1980.

4. Environmental Training and Management in Africa. (USAID project. Mission to Kenya. August 1983).

5. USAID Khartoum Mission. Project to develop a management information system for the Ministry of Finance and Economic Planning. July 1984-February 1986.

6. World Bank, UNDP Handpumps Project. Kenya Rural Water Survey. 1986.

7. World Bank, Infrastructure and Urban Development Department. Willingness to Pay for Improved Water Services Research Project. July 1987-Present.

8. Asian Development Bank. Manila, Philippines. 1990-1992.

9. Organization for Economic Development and Cooperation. Paris, France. 1990-present.

10. Chinese Research Academy of Environmental Sciences. Beijing, China. 1992.

11. World Bank, AF6PH, AF2PH.

12. Carried out an external program evaluation of both the Natural Resource Management and Environmental Economics MSc. degree programs for the Postgraduate Institute of Agriculture, University of Peradeniya. Kandy, Sri Lanka. May 15-20, 2000.

13. AIDS Vaccine Demand Research Team, Health Systems Research, Joint Ministry of Public Health, Government of Thailand, and World Bank Research Program.

14. Resource Person, Water Utilities Partnership, World Bank. Washington D.C. 2000-2001.

Research and/or consulting experience in the following countries:

<i>Africa:</i>	Egypt	Nigeria
	Sudan	Ghana
	Kenya	Liberia
	Tanzania	Ethiopia
	Uganda	Mozambique

<i>Asia:</i>	China	Indonesia
	Philippines	Thailand
	Pakistan	India
	Nepal	Korea
	Vietnam	Bangladesh

<i>Latin America:</i>	Haiti
	Guatemala
	Mexico

<i>Eastern Europe:</i>	Bulgaria
	Ukraine

Other:

Guest Editor, Special issue of *Water Resources Research* on water planning and policy in developing countries. July, 1993.

Guest Editor, *International Journal of Water Resources Development*, special edition on the management of the upper Nile. Vol. 3, No. 2, 1987.

Recipient (with Duncan MacRae) of the Raymond Vernon Award for the best article in Vol. 5 of the *Journal of Policy Analysis and Management*. ["The Issue of Standing in Cost-Benefit Analysis."]

Appointed to the World Bank's Nile Advisory Group. 1997-present.

Who's Who in Economics. Edgar Elgar Publishing, 2003.