

*Curriculum Vitae*  
**MAHADEV G. BHAT**

Associate Professor & Graduate Director  
Environmental Studies Department  
Florida International University  
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**EXPERIENCE:**

- August 1999 - present      ***Associate Professor (Resource Economics) & Graduate Director***  
Departments of Environmental Studies and Economics, Florida International University, Miami.
- August 1994 - July 1999      ***Assistant Professor (Resource/Environmental Economics)***  
Departments of Environmental Studies and Economics, Florida International University, Miami.
- February 1992 - August 1994      ***Postdoctoral Research Associate***  
Agricultural Policy Analysis Center, The University of Tennessee, Knoxville.
- August 1988 - December 1991      ***Graduate Research Assistant***  
Department of Agricultural Economics & Rural Sociology, The University of Tennessee, Knoxville.
- December 1983 - August 1988      ***Finance Officer***  
Rural Development Department, Dena Bank, Bangalore (India).

**AREAS OF STUDY:**

Natural resource economics and policy, resource modeling, economics of water resources, coastal resources management, and agriculture and the environment.

**EDUCATION:**

- Ph.D.      Agricultural Economics (natural resource economics concentration),  
The University of Tennessee, Knoxville, 1991.
- M.Sc.      Agricultural Economics, University of Agricultural Sciences, Dharwad  
(India), 1983.
- B.Sc.      Agricultural Marketing and Cooperation, University of Agricultural  
Sciences, Dharwad (India), 1981.

**AWARDS,  
HONORS &  
SIGNIFICANT  
ACHIEVEMENT**

- Certificate of Appreciation by Mayor, Miami-Dade County, 2006.  
for serving on the South Dade Watershed Plan Technical Review Committee.
- Founding Project Director, Agroecology Program at Florida International University, 2005, under the grant from the US Department of Agriculture ([www.agroecology.fiu.edu](http://www.agroecology.fiu.edu)).
- Founding Co-Director, Human Dimensions of the South Florida Environment Group, Florida International University, 1999.
- Berg Fellow of Soil and Water Conservation Society, 1992.  
Nominated as one of fifteen scientists from US and Canada for participating at

- the Society's first international Conservation Policy Forum, August 1992.
- Phi Kappa Phi Honor Society, 1990.
- Gamma Sigma Delta Honor Society, 1989.
- Karnataka State Government's State Award for the first rank in M.Sc., 1984.
- Jawaharlal Nehru Memorial Prize for an outstanding university student, 1981.
- BS and MS first rank gold medals, University of Agricultural Sciences, Bangalore, India, 1981 and 1983.

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## RESEARCH ACTIVITIES

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### PUBLICATIONS:

#### Refereed Journal:

Bhat, M. G., A. Rajendra, and M. G. Chandrakanth, "Optimal Management of Small Confined Groundwater Aquifers." *American Journal of Agricultural Economics*, 2008 (under review).

Reid-Grant, K. and M. Bhat, "Financing Marine Protected Areas in Jamaica: An Exploratory Study." *Marine Policy*, 2008 (in press)

Stone, K., M. Bhat, R. Bhatta, A. Mathews, "Factors Influencing Community Participation in Mangroves Restoration: A Contingent Valuation Study." *Ocean & Coastal Management*, 51 (2008) 476-484.

Baral, N., R. Gautam, N. Timilsina, M. G. Bhat, "A Contingent Valuation of Critically Endangered White-rumped Vulture *Gyps bengalensis* in South Asia." *International Journal of Biodiversity Science and Management*, 3 (2007): 1-12.

Bhat, M. G. and R. G. Huffaker, "Management of a Transboundary Wildlife Population: A Self-Enforcing Cooperative Agreement with Renegotiation and Variable Transfer Payments." *Journal of Environmental Economics and Management*, 53, (2007): 54-67.

Bhat, M. G. and R. Bhatta, "Regional Economic Impacts of Limited Entry Fishery Management: An Application of Dynamic Input-Output Model" *Environment and Development Economics*, 11: 709-728, 2006.

Bhat, M. G. and R. Bhatta. "Mechanization and Technical Interactions in Multi-species Indian Fisheries: Implications for Economic and Biological Sustainability." *Marine Policy*, 30: 237-248, 2006.

Bhat, M. G. and R. Bhatta. "Considering Aquacultural Externality in Coastal Land Allocation Decisions in India," *Environmental and Resource Economics*, 29(1): 1-20, 2004.

Chandrakanth, M. G., M. G. Bhat, and M. S. Accavva. "Socio-economic Changes and Sacred Groves in South India: Protecting a Community-based Resource Management Institution" *Natural Resource Forum*, 28(2): 102-111, 2004.

Chandrakanth, M. G., B. Alemu, and M. G. Bhat. "Combating Negative Externalities of Drought: A Study of Groundwater Recharge through Watershed." *Economics and Political Weekly*, March 13, 2004: 1164-1170.

Bhat, M. G. and A. Stamatiades. "Institutions, Incentives and Resource Use Conflicts: The Case of Biscayne Bay, Florida." *Population and Environment*, Vol. 26(4), 2003.

- Bhat, M. G. "Application of Non-Market Valuation to the Florida Keys Marine Reserve Management." *Journal of Environmental Management*, 67(4): 315-325, 2003.
- Alemu, B., M. G. Chandrakanth, and M. G. Bhat. "Impact of Watershed Development Programme in Augmenting Groundwater Resource in Drought Situation." In *Watershed Management: Issues and Policies for 21st Century* K. Palanisami, D. Suresh Kumar and B. Chandrasekaran (Editors). 1st ed. New Delhi: Associated Publishing Company. 2002. pp. 341.
- Bhat, M. G. "On Biodiversity Access, Intellectual Property Rights, and Conservation." *Ecological Economics*, 29(3): 391-403, 1999.
- Bhat, M. G., K. R. Fister and S. M. Lenhart. "An Optimal Control Model for the Surface Runoff Contamination of a Large River Basin." *Natural Resource Modeling*, Vol. 12(2): 175-195, 1998.
- Bhat, M. G., R. R. Alexander, and B. C. English. "Toward Controlling Nonpoint Source Pollution of Groundwater: A Hierarchical Policy Formulation Game." *Natural Resource Modeling*, Vol. 11(4): 1-25, 1998.
- Bhatta, R. and M. G. Bhat. "Impacts of Aquaculture on the Management of Estuaries in India." *Environmental Conservation*, 25(2): 109-121, 1998. (equal contribution by both the authors)
- Bhat, M. G., R. G. Huffaker, and S. M. Lenhart. "Controlling Transboundary Wildlife Damage: Modeling under Alternative Management Scenarios." *Ecological Modeling*, 92:215-224, 1996.
- Bhat, M. G. "Trade-Related Intellectual Property Rights to Biological Resources: Socioeconomic Implications for Developing Countries." *Ecological Economics*, 19: 205-217, 1996.
- Bhat, M. G., D. E. Ray and B. C. English. "The Flexible Planting Program: Divergent National and Regional Economic Impacts." *International Journal of Public Administration*, 18(1): 149-165, 1995.
- Bhat, M.G. "Troubled Fur Trade and Implications for Wildlife Damage Management." *Choices* (The Magazine of Food, Farm, and Resource Issues of the American Agricultural Economic Association), Fourth Quarter, 1994, p. 37-38.
- Bhat, M. G., R. G. Huffaker and S. M. Lenhart. "Controlling Forest Damage by Dispersive Beaver Populations: Centralized Optimal Management Strategy." *Ecological Applications*. 3(3):518-530, 1993.
- Bhat, M. G., K. C. Hiremath and H. Basavaraj. "An Economic Enquiry into the Adoption of High-Yielding Cereal Varieties in Karnataka." *Prajnan: Journal of Social and Management Sciences*, 22(1):37- 48, April-June 1993.
- Bhat, M. G. and R. G. Huffaker. "Private Property Rights and Forest Preservation in Karnataka Western Ghats, India: Reply" *American Journal of Agricultural Economics*, 75(2): 496-498, May 1993. (equal contribution by both the authors)
- Huffaker, R. G., M. G. Bhat, and S. M. Lenhart. "Optimal Trapping Strategies for Diffusing Nuisance-Beaver Populations." *Natural Resources Modeling*, Vol. 6(1): 71-97, 1992.
- Lenhart S. M. and M. G. Bhat. "Application of Distributed Parameter Control Model in Wildlife Damage Control Management." *Mathematical Models and Methods in Applied Sciences*, 4(2): 423-439, 1992.
- Bhat, M. G. and R. G. Huffaker. "Private Property Rights and Forest Preservation in Karnataka Western Ghats, India." *American Journal of Agricultural Economics*, 73(2): 375-87, May 1991. (equal contribution by both the authors)

### ***Book Chapters***

Alemu, Bisrat, M. G. Chandrakanth, and Mahadev G. Bhat. "Impact of Watershed Development Programme in Augmenting Groundwater Resource in Drought Situation." In *Watershed Management: Issues and Policies for 21st Century* K. Palanisami, D. Suresh Kumar and B. Chandrasekaran (Editors). 1st ed. New Delhi: Associated Publishing Company. 2002. pp. 341.

### ***Book Reviews***

A book review of *Classic Papers in Natural Resource Economics* by C. Gopalakrishnan. New York: St. Martin's Press, Inc., 2000, 348 pp., for *American Journal of Agricultural Economics*, January 2001.

### ***Research Reports/Theses***

Bhat, M. G. and R. Bhatta. An Economic Analysis of Sustainability of Marine Fish Production in Karnataka, India, Submitted to Indira Gandhi Institute for Development Research, Mumbai Under World Bank Aided India: Environmental Capacity Building Technical Assistance Project, October 2001.

Bhatta, R., K. Aruna Rao, M. G. Bhat, G. Sagarad, and K. Shilpakala. Alternative Fishery Regulations and their Impacts on Employment Generation and Demographic Transition in the Maritime State of Karnataka. Research Report Submitted to Indian Council of Agricultural Research, New Delhi, August 2000.

Alexander, R.R. and M.G. Bhat. *Agricultural Policy and Social Welfare: A Game-Theoretic Rationalisation*. Discussion Paper No. 98.04, Department of Applied and International Economics, Massey University, Palmerston North, New Zealand, March 1998.

Bhat, M.G. US-India Planning Visit: Research on Multi-tier Conflict Resolution to the Case of Biodiversity Patenting. Final Trip Report Submitted to the National Science Foundation, September 1997.

Bhat, M. G. "Economic Development." in *Ecotourism Feasibility Checklist*, FIU Ecotourism Council, 1996.

Bhat, Mahadev G., Duncan M. Chembezi, Scott T. Bush, Daniel G. De La Torre Ugarte, and Daryll E. Ray. 'An Economic Analysis of U.S. Tobacco Industry: Implications of a Federal Cigarette Increase.' University of Tennessee Agricultural Experiment Station Staff Paper No. I-95, Agricultural Policy Analysis Center (APAC), The University of Tennessee, Knoxville, Tennessee, March 1995.

Bhat, Mahadev, Burton English, Anthony Turhollow, and Hezron Nyangito. *Energy in Synthetic Fertilizers and Pesticides: Revisited*. Research Report # ORNL/Sub/90-99732/2, Oak Ridge National Laboratory, Oak Ridge, Tennessee, January 1995.

Bhat, Mahadev, Burton English, and Anthony Turhollow. *Environmental Impacts of Producing Biomass Energy Crops on Iowa Farms*. Research Report # ORNL/Sub/90-?/? , Oak Ridge National Laboratory, Oak Ridge, Tennessee, January 1995.

Bhat, Mahadev, Burton English, Mathew Ojo, and Anthony Turhollow. *Regional Costs of Transporting Biomass Feedstocks*. Research Report # ORNL/Sub/90-?/? , Oak Ridge National Laboratory, Oak Ridge, Tennessee, August 1994.

M.G. Bhat, D.E. Ray, D.M. Chembezi, and D.G. Ugarte, *The National Tobacco Simulation Model (TOBSIM)*, An unpublished document on the FORTRAN codes of the TOBSIM model, Agricultural Policy Analysis Center, The University of Tennessee Institute of Agriculture, Knoxville, August 1994.

Bell Caroline, Mahadev Bhat, Jorge Huarachi, Paul Jakus, Paul Seigel, and Burton English. Economic and Environmental Regional Impacts of Agricultural Conservation Efforts: Case Study - Region 12 and the Conservation Reserve Program. Research Grant Report to Soil Conservation Service, The Department of Agricultural Economics and Rural Sociology, The University of Tennessee, Knoxville, August 1994.

Bell Caroline, Burton English, Paul Seigel, Paul Jakus, and Mahadev Bhat. Economic and Environmental Regional Impacts of Agricultural Conservation Efforts: Methodological Approach for Evaluating Local Benefits of Conservation Efforts. Research Grant Report to Soil Conservation Service, The Department of Agricultural Economics and Rural Sociology, The University of Tennessee, Knoxville, August 1994.

Bhat, M. G., D. M. Chembezi, D. G. Ugarte, and D. E. Ray. Regional Impacts of the 1993 Flood Disaster: The Case of Tennessee Agriculture. APAC Staff Paper No. 2-94, Agricultural Policy Analysis Center, The University of Tennessee Institute of Agriculture, Knoxville, May 1994.

D. M. Chembezi, D. G. Ugarte, D. E. Ray and M. G. Bhat. Economic Impacts of the 1993 Midwest Flood Disaster on U.S. Agricultural Sector. APAC Staff Paper No. 1-94, Agricultural Policy Analysis Center, The University of Tennessee Institute of Agriculture, Knoxville, March 1994.

Bhat, M. G., D. E. Ray and B. C. English. Regional Economic Impacts of Farm Commodity and Environmental Regulations: An Integrated Modeling Approach. Research Report # E11-1216-00-001-93, Agricultural Policy Analysis Center, The University of Tennessee, Knoxville, August 1992.

English, B.C., R.R. Alexander, Robin Graham and M.G. Bhat. Supply of Short Rotation Woody Crop Biomass to the Wattsbar Power Facility. Research Report # 92-?? Department of Agricultural Economics and Rural Sociology, The University of Tennessee, Knoxville, May 1992.

Bhat, M. G. Controlling Wildlife Damage by Diffusing Beaver Population: A Bioeconomic Application of the Distributed Parameter Control Model. Unpublished Ph.D. Dissertation, The University of Tennessee, Knoxville, TN, December 1991.

Bhat, M. G. "Corn Production in Tennessee." A Statistical Description of Agriculture in Tennessee, 1960-1990, ed. K. H. Loewen, et.al., Research Report # 91-17, Department of Agricultural Economics and Rural Sociology, The University of Tennessee, August 1991.

Bhat, M. G. and K. C. Hiremath. An Economic Enquiry into Constraints of Adoption of High Yielding Cereal Varieties in Karnataka (India). Agricultural Economics Bulletin No. 14, College of Agriculture, Dharwad, 1985.

Bhat, M. G. An Economic Enquiry into Constraints of Adoption of High Yielding Cereal Varieties in Karnataka. Unpublished M.Sc. Thesis, University of Agricultural Sciences, Dharwad, 1983.

***Press Conference:***

"The Environmental Impacts of Commercial Aquaculture on Coastal Ecosystem in Karnataka." Mangalore, Karnataka, India, July 1997.

"Forest Preservation in Uttara Kannada District." Sirsi, Karnataka, India, March 1993.

***Conference Proceedings:***

Bhat, M. G. "Trade-Related Intellectual Property Rights for Genetic Resources: Implications for Developing Countries." in G. H. Peters and D. D. Hedley (eds.), *Agricultural Competitiveness, Market Forces and Policy Choice*, Proceedings of the XXII International Conference of Agricultural Economists, Brookfield: Dartmouth, 1995, pp. 485-495.

Bhat, M. G. and B. C. English. "An Optimal Staggered Harvesting and Distribution Strategy for Herbaceous Biomass Energy Crops." Proceedings of the *First Biomass Conference of The Americas: Energy, Environment, Agriculture, and Industry*, Vol. 1, NREL/CP-200-5768, National Renewable Energy Laboratory, Golden, Colorado, August 1993, p. 265-271.

Alexander, R. R., B. C. English, M. G. Bhat and R. L. Graham. "Evaluating the Economics of Biomass Energy Production in the Watts Bar Region." Proceedings of the *First Biomass Conference of The Americas: Energy, Environment, Agriculture, and Industry*, Vol. 1, NREL/CP-200-5768, National Renewable Energy Laboratory, Golden, Colorado, August 1993, p. 272-277.

Bhat, Mahadev G. and Daniel G. De La Torre Ugarte. "Economic Analysis for Tennessee Agriculture." *U.S. and Tennessee Agriculture in the 1990s*, Proceedings of the 1993 Agricultural Policy Conference, The Agricultural Policy Analysis Center, The University of Tennessee, Knoxville, Tennessee, 1993.

Bhat, Mahadev. G., Robert Gotie and Luther Keller. "The Impact of European Community's Humane Trapping Resolution on the US Wildlife Damage Control Program." *The Proceedings of 11th Great Plains Wildlife Damage Control Workshop*, Kansas City, MO, April 1993.

Bhat, M. G., B. C. English, M. Ojo. "Regional Cost of Transporting Biomass Feedstocks." *Liquid Fuels from Renewable Resources*, Ed. J. S. Cundiff, Proceedings of an Alternative Energy Conference, American Society of Agricultural Engineers, St. Joseph, MI, December 1992, pp.50-57.

Ray, D. E., B. English, R. White, R. Pendergrass and M. G. Bhat. "Economic Impacts of Sustainability on Southern Farms." *Sustainable Agriculture: Enhancing the Environmental Quality of the Tennessee Valley Region Through Alternative Farming Practices* - Symposium and satellite teleconference Proceedings, Knoxville, TN, March 1992, pp. 51-67.

English, B. C, T. Robertson, Mahadev Bhat, and Gary Bullen. "On-farm Economic and Environmental Impacts of Cover on Corn Silage Ground on a Limited-Resource-Based Tennessee Dairy Farm." *Cover Crops for Clean Water*, ed. W. L. Hargrove, pp. 193-196, 1991.

**Refereed Conference Presentations (Selection Based on Full-length articles): ♣**

♣Names in **bold** represent the presenters.

**Bhat**, M. G., T. Rajendra and M. G. Chandrakanth. "Strategic and Stock Externalities in Common Property Groundwater Management Policies." Presented at the 2006 World Congress of Environmental and Resource Economists Monterey, Kyoto, Japan, July 2006.

Bhat, M. G., **R. R. Alexander** and B. C. English. "Toward Controlling Nonpoint Source Pollution of Groundwater: A Hierarchical Policy Formulation Game." Contributed paper presented at the Australian Agricultural and Resource Economics Society conference, Christchurch, New Zealand, January 22, 1999.

**Bhat**, M. G. and R. Bhatta. "Irreversible Environmental Development and the Survival of Subsistence Agriculture in Coastal India." Presented at the XXIII International Conference of Agricultural Economics, Sacramento, California, August 1997.

**Bhat**, M. G. "Intellectual Property Rights in Biological Resources and Optimal Extinction." Selected paper presentation at the Association of Environmental and Resource Economists Meetings, January 1995.

Bhat, M. G., D. M. **Chembezi**, D. G. De La Torre Ugarte, and D. E. Ray. "Economic Impacts of a Cigarette Tax Increase on U.S. Tobacco Industry." Paper presented at the Southern Agricultural Economists Association, New Orleans, January-February 1995, abstract published, *Journal of Agricultural and Applied Economics*, 27(1995):315-316.

**Bhat, M. G. and R. G. Huffaker.** "Optimal Control of Nuisance Wildlife Populations on a Shared Animal Habitat: Some Game-theoretic Considerations." Selected paper presentation at the American Agricultural Economics Association Meeting, Orlando, Florida, August 1993; Abstract published, *American Journal of Agricultural Economics*, 75(1993): 1309.

***Refereed Conference Presentations (Selection Based on Abstracts):***

Bhat, M., M. McClain, G. Atisa, D. Ombara and W. Kasanga. "Payment for Environmental Services in the Mara River Basin of Kenya and Tanzania: Challenges and Opportunities," Submitted for presentation at the International Society for Ecological Economics Conference to be held in Nairobi, Kenya, August 2008.

**Bhat, M. G., R. Srivastava, and L. Talaue-McManus.** "Globalization, Trade and the Coral Reef Environment in the Caribbean." Presentation at 11<sup>th</sup> International Coral Reef Symposium, Fort Lauderdale, July 2008.

K. Jayachandran, M. Bhat, G. Bobeche, C. Clark-Cuadrado, and A. Melesse. "Agroecology Program at Florida International University." Paper to be presented at the ASA-CSSA-SSSA International Annual Meetings, Indianapolis, November 12-16, 2006.

K. Stone, M. Bhat and R. Bhatta. "Shrimp Aquaculture in Florida: A Sustainable Model." Poster accepted for presentation at the ASA-CSSA-SSSA International Annual Meetings, Indianapolis, November 12-16, 2006.

**Taylor, L. and M. G. Bhat.** "An Assessment of Public Engagement in the Everglades Restoration Projects." Presentation at the Joint Conference of the Science and Restoration of the Greater Everglades and Florida Bay Ecosystem, Palm Harbor, Florida, April 2003.

**Rivera, C. and M. G. Bhat.** "Water Pricing as a Conservation Tool: An Economic Analysis of the Lower East Coast of South Florida Water Utilities." Accepted for presentation at the Joint Conference of the Science and Restoration of the Greater Everglades and Florida Bay Ecosystem, Palm Harbor, Florida, April 2003.

M. G. Bhat. "Exclusivity and Expropriation in Bioprospecting: Endogenous Rent Determination for Biodiversity Conservation." Presented at the 2002 World Congress of Environmental and Resource Economists Monterey, California, June 24 - 27 2002.

Chandrankanth, M. G. and M. G. Bhat. "Institutions, Markets and the Management of Common Property Sacred Groves in India." Presented at the 2002 World Congress of Environmental and Resource Economists Monterey, California, June 24 - 27 2002.

M. G. Bhat, Marino Sebastian, Ken Lipartito, and Irma Alanso. "Land-use Changes and Flood Protection Policies in South Florida." Presented at the Greater Everglades Ecosystem Restoration Conference, Naples, Florida, December 11-15, 2000.

M. G. Bhat. "Protecting Indigenous Knowledge under the New International Intellectual Property Rights Regime." Presented at the International Society for Ecological Economics Conference at Canberra, Australia, July 5-9, 2000.

M. G. Bhat and R. Bhatta. "Aquaculture and Sustainable Coastal Land Management: An Ecological Economic Model of Resource Interactions." Presented at the International Society for Ecological Economics Conference at Canberra, Australia, July 5-9, 2000.

M. G. Bhat and R. Bhatta. "Optimal Coastal Land Allocation Decisions: A Model of Interactive Renewable and Non-renewable Resources" Paper presented at the 1999 World Conference on Natural Resource Modeling, Halifax, Canada, June 1999.

Alexander, R. and M. G. Bhat. "Modeling Natural Resource Policy as a Hierarchical Stackelberg Game." Paper presented at the 41st Annual Conference of the Australian Agricultural and Resource Economics Society, Gold Coast, Queensland, Australia, January 1997.

Chembezi, Duncan M., Scott T. Bush, and Mahadev G. Bhat. 'Proposed Regulatory Policies and the Future of Tobacco Production in Selected Southern States.' Paper presented at the Missouri Valley Economic Association (MVEA) Thirty-Second Annual Meeting, Memphis, Tennessee, March 7-9, 1996.

Chembezi, D. M., R. M. Pendergrass, M. G. Bhat, S. Bush, J. Huarachi and D. E. Ray. "State, Community, and Farm-Level Impacts of Increasing Cigarette Excise Tax: The Case of Tennessee, Virginia and Ohio." Poster Presentation at the American Agricultural Economics Association Meeting; abstract published, American Journal of Agricultural Economics, 60(1995): 1353.

Bhat, Mahadev G., Duncan M Chembezi, Daniel G. De La Torre Ugarte, and Daryll E. Ray. 'Economic Impacts of a Cigarette Tax Increase on the U.S. Tobacco Industry.' Abstract Published in Journal of Agricultural and Applied Economics, 27(1)(1995), pp 315.

Alexander, R., M. G. Bhat and B. C. English. "Considering Environmental Impacts in Target Price Policy." Selected poster presentation at the American Agricultural Economics Association Meeting, Orlando, FL, August 1993.

Bhat, M. G. "The Success and Failures of Property Right Systems; Mutual Lessons for Developing and Developed Countries." Selected paper presentation at the Soil and Water Conservation Society Meeting, August 1993; abstract published.

Bhat, M. G., B. C. English and A. Turhollow. "Biomass Energy Crops: A New Option for Improving Water Quality in Intensive Agricultural Production System." Selected paper presentation at the Soil and Water Conservation Society Meeting, August 1993; abstract published.

Bhat, M. G. "Management of Transboundary Wildlife Populations: A Differential Game-theoretic Planning." Paper presentation at the Twelfth Pacific Coast Resource Modeling Conference, Tucson, Arizona, May 1993.

Bhat, M. G., and L. H. Keller. "Centralized Community Approach for Managing Wildlife Damage." Poster Presentation at the American Agricultural Economics Association Annual Meeting, Baltimore, MD, August 1992; abstract published American Journal of Agricultural Economics, 74(1992): 1310.

Pendergrass, Robert, Mahadev Bhat and Daryll Ray. "Community Level Impact of Limited Input Sustainable Agriculture on a Small Tennessee Watershed." Poster presentation at the American Agricultural Economics Association Annual Meeting Baltimore, MD, August 1992; abstract published, American Journal of Agricultural Economics, 74(1992): 1311.

Alexander, R.R., B.C. English, M.G. Bhat, M.A. Ojo and R.G. Bowling. "The Economic Impacts of Biomass Energy Production in the Watts Bar Region." Poster presentation at the American Agricultural Economics Association Annual Meeting, Baltimore, MD, August 1992; Abstract published, American Journal of Agricultural Economics, 74(1992): 1309.

Graham, Robin, M Downing, B.C. English, R.R. Alexander and M.G. Bhat. "Projecting the Environmental Effects of Energy Crop-Development in the TVA Region." Presented at the SAMAB Conference, Gatlinburg, TN, November 1992.

Graham, R., B.C. English, R.R. Alexander and M.G. Bhat. "The Production of Biomass Feedstock for a Proposed Power Facility: Projecting Regional Land Use Changes and Their Environmental Consequences." Presented at the Seventh Annual U.S. Landscape Ecology Symposium, Corvallis, OR, April 1992.

Graham, Robin, B.C. English, R.R. Alexander and M.G. Bhat. "Production of Biomass for an Energy Facility: Projecting Regional Land Use Changes and Their Environmental Consequences." Paper presented at the Walker Branch Watershed Symposium, Oak Ridge, TN, March 1992.

Bhat, M. G., B. C. English, and A. Turhollow. "Biofuels from Energy Crops: Economics and Environmental Impacts." Poster presentation at the American Agricultural Economics Association Annual Meeting, Manhattan, Kansas, August 1991; Abstract published, *American Journal of Agricultural Economics*, 73(1991): 1557.

Bhat, M. G., S. M. Lenhart, and L. H. Keller. "Optimizing Wildlife Damage by Diffusing Furbearer Population on the Southern Forests: A Bioeconomic Model." Poster presentation at the Fifth Eastern Wildlife Damage Control Conference, Ithaca, New York, October 1991.

English, Burton C., and Mahadev G. Bhat. "Economic and Environmental Aspects of Producing Selected Energy Crops." Paper presented at the American Agricultural Economics Association Annual Meeting, Manhattan, Kansas, August 1991.

***Invited Conference Presentations:***

"Management Applications of Bioeconomic Models for Migratory Wildlife Species." Paper presented at the *Sixteenth Vertebrate Pest Conference*, Santa Clara, California, March 1994.

"Regional Costs of Biofuel Production." Poster presented at the *Biofuels Feedstock Development Program's (BFDP) Annual Workshop*, Davis, California, September 1991.

***Panel Discussion:***

"Agriculture and Water Resource Problems in Developing Countries." Panel Discussion, Earth Day Celebration, Florida International University, Miami, FL, 1994.

"Soil and Water Conservation: Is a New Balance between Private Property Rights and Responsibilities Needed?" *1992 Berg Fellowship - Public Conservation Policy Forum*, Soil and Water Conservation Society Annual Meeting, Baltimore, MD, August 1992.

***Popular Magazines, Newsletters, and Reports:***

Bhat, M. G. and M. McClain, "Exploring the Role of Payment for Environmental Services in River Basin Management: The case of the Mara River Basin of East Africa," *Basins and Coast News*, 2(2): 2-7, May 2008.

M. G. Bhat, K. Lipartito, and T. Rice. "FIU Research Group To Address Human Dimensions of Ecosystem Restoration." *FIU-SERC NewsLetter*, July 2000.

M. G. Bhat and K. Lipartito. "Integration of Behavioral Sciences into the South Florida Environmental Restoration: Portfolio for Research and Outreach." A Marketing Document Prepared for the FIU Human Dimensions of the South Florida Environment Group, August 1999.

Bhat, M. G. "Short-Term Forecast for Tennessee Agriculture." in W. F. Fox and P. A. Price (eds.), *An Economic Report to the Governor of the State of Tennessee: On the State's Economic Outlook*. Center for Business and Economic Research, The University of Tennessee, Knoxville, January 1994.

Bhat, M. G. and R. White. "EEC's Wild Fur Regulations and Wildlife Damage Implications." *The Probe*. Issue 122, June 1992.

***Invited Papers/Seminars:***

"Behavioral Sciences of the Everglades Restoration: A Missing Piece from the Puzzle." A Statement Presented to the Committee on Restoration of the Greater Everglades Ecosystem of the National Research Council, Hollywood, Florida, December 2-3, 1999.

"Socioeconomic Study of Reefs in South East Florida" Proposal Presentation to the Department of Planning and Management, Environmental Division, Broward County Government, Fort Lauderdale, November 1999.

"FIU Human Dimensions of the South Florida Environment Group And Behavioral Science Research." Presented to the Science Coordination Team of the South Florida Ecosystem Task Force, Davie City, October 1999.

"Integration of Behavioral Sciences in to the South Florida Ecosystem Restoration Efforts." Presented to Miami-Dade Brown Field Redevelopment Plan Implementation Committee, Miami, August 1999.

"Economics and the Environment." Guest lecture to FIU Liberal Studies Students, October 1998.

"Legal and Economic Instruments for the Protection of the Environment." An invited speech at the Dakshina Kannada Parisarasaktha Okkoota, Mangalore, July 1997.

"Coastal Aquaculture: A Model for Sustainable Coastal Resource Development in India." Fourth Annual Dr. V. G. Jhingran Memorial Lecture, Asian Fisheries Society, Mangalore, July 1997.

"An Ecological Economic Model for Estuary Management." Graduate Seminar Series, Environmental Studies Department, FIU, March 1997.

"Controlling Migratory Nuisance-beaver Populations on a Shared Habitat: Some Game-theoretic Considerations." Presented at the FIU Economics Department, November 1996.

"Environmental Planning and Sustainable Community." presented to the students of Sustainable Community Development" FIU School of Design, October 1996.

"Bio-socio-economic Aspects of Fisheries Management." Fisheries College, University of Agricultural Sciences, Mangalore, India, July 1995.

"Impact of Intellectual Property Rights on Biodiversity." Mangalore University, Mangalore, India, July 1995.

"Mathematical and Statistical Models for the Management of Natural Resources." Statistics Department, Mangalore University, Mangalore, India, July 1995.

"Is Sustained Development without Environmental Protection Possible?" Rotary Club's Weekly Seminar, Sirsi, India, March 1993.

"An Integrated National, State and Farm Level Modeling System for Agricultural Policy Impact Analysis." Department of Agricultural Economics, University of Agricultural Sciences, Dharwad, India, March 1993.

"Developing Biomass Production Systems." Paper presented to the USDA Soil Conservation Service, Washington, D.C., November 1992.

"From My Research Experiences in Mathematical Modeling in Natural Resource Economics." Lecture presented in the Undergraduate Summer Program, The University of Tennessee, Knoxville, July 1992.

"Sustainable Agriculture in a Tricounty Area of Northwestern Tennessee." Presented at the Meeting of East Tennessee Chapter of Soil and Water Conservation Society, Knoxville, March 1992.

"Controlling Wildlife Damage by Diffusing Beaver Population: A Bioeconomic Application of the Distributed Parameter Control Model". Paper presented at Control Seminar, Department of Mathematics, The University of Tennessee, Knoxville, September 1991.

"Optimal Trapping Strategy for Diffusing Beaver Populations." Paper presented at Systems Seminar, Department of Electrical Engineering, University of Tennessee, Knoxville, March 27, 1991.

"Project Lending for Development of Coconut Plantation in Puri District of Orissa State, India: A Cost-Benefit Analysis." A Group Project Presented at College of Agricultural Banking, Pune, India, April 1985.

**GRANT RESEARCH ACTIVITY:**

***Proposals Funded:***

| Agency                 | Research Project   | Participation | Amount    |
|------------------------|--|---------------|-----------|
| USDA                   | Curriculum Enrichment, Instrumentation and Experiential Learning in Agroecology, August 2008 – August 2011.  | PI            | \$290,000 |
| USDA                   | Internationalization of Environmental Studies Curriculum through Teaching and Research in Bio-fuel Production and Technology, August 2008 – August 2010.             | PI            | \$99,911  |
| University of Miami    | Coastal Resources Development and Management in Antigua and Barbuda: An Economic Modeling, October 2006 – September 2011.  | PI            | \$150,000 |
| USDA                   | Multicultural Undergraduate Scholars in Agroecology and Urban Landscape at Florida International University: An Interdisciplinary Approach, August 2006 – July 2011. | Co-PI         | \$120,000 |
| USDA                   | Limits to Growth in Agriculture and Emerging Sustainable Farming Systems in Developing Countries, May 2006 – April 2008.   | PI            | \$100,000 |
| Ford Foundation*       | Coastal Resource Conservation Strategies and Enterprise Development for Sustainable Livelihood in India, January 2006-December 2007.                                 | Co-PI         | \$46,000  |
| USDA                   | Curricular Development and Capacity Building in Agroecology Sciences, August 2005 – August 2008.   | PI            | \$230,000 |
| USAID                  | Integrated Water Resources Management (IWRM) Assistance to USAID Missions Worldwide, 2004-2009. (Part of a major grant of \$3,750,000)                               | Investigator  | \$100,000 |
| National Parks Service | Public Participation in Ecosystem Restoration: Development of an Agency Guide  | Co-PI         | \$79,000  |
| FIU Foundation         | Pricing Water Right in South Florida, July 2002-December 2002  | PI            | \$12,000  |

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| World Bank*                     | An Economic Analysis of Sustainability of Marine Fish Production in Karnataka, India, August 1999 - Summer 2001                      | Co-PI | Rs. 700,000 |
| India Council of Agri Research* | Alternative Fishery Regulations and their Socio-economic Impacts in Karnataka, India, August 1997- July 2000                         | Co-PI | Rs. 550,000 |
| NSF                             | Planning Visit to India for a Research on Multi-tier Conflict Resolution in the Case of Biodiversity Patenting- Summer 1997          | PI    | \$2,130     |
| FIU Foundation                  | Estimating Economic Benefits of the Florida Coral Reef Protection Plan, May 1996 - December 1996.                                    | PI    | \$13,589    |
| FIU Minigrant                   | An Optimal Plant-Microbe Interaction Model for Bioremediation of PCB-Contaminated Soils, 1994.                                       | PI    | \$325       |
| AAEA Foundation and IAAE        | Travel Grant Award for Presenting a Paper at the International Conference of Agricultural Economist, Harare, Zimbabwe, August 1994.  |       | \$1500      |
| USDA/SCS                        | Energy Production from Agriculture - SCS/RCA Analysis, May 92 - May 96 (with Burton English and others, Univ of Tennessee).          | Co-PI | \$260,000   |
| UT                              | The University of Tennessee Graduate School Travel Grant for delivering a scholarly presentation in professional meeting, Fall 1991. |       | \$350       |

\*Funded through College of Fisheries, Mangalore, India.

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## TEACHING ACTIVITIES

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| <b>COURSES TAUGHT &amp; PLANNED</b> | Introduction to Natural Resource Economics* -- 5 times<br>Introduction to Environmental Economics -- 30 times<br>Environmental Sciences -- 2 times<br>Sustainable Resource Development* -- 6 times<br>Environmental Seminar (undergraduate)-- 1 time<br>Graduate Environmental Seminar -- 15 times<br>Methods in Sustainable Resource Management* -- 5 times (graduate)<br>Environmental Resource Policy* -- 11 times (graduate)<br>Advanced Environmental Economics* -- 3 times<br>Sustainable Agriculture* -- 1 time<br>Asian Environmental Issues* -- 3 times<br>Global Environmental Issues -- 2 times<br>Microeconomics<br>* represents a new course. |
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**STUDENT** Advisor to more than 10 graduate students on their thesis; for severn as major advisor.

**ADVISING:**

Major Advisor of

Lourdes Gomez: The economics of alternative wetland mitigation plan for the Northwest Dade County. Graduated 2002.

John Paniccia: Feasibility of an emission permit trade program for controlling industrial discharge to public sewer system. Completed the core course requirements. Graduated in Summer 2002.

Simon Teixeira: Economics of commercial aquaculture in Trinidad. Graduated in Summer 2002.

Carolina Rivera: Water pricing policy as a conservation tool for South Florida. Graduated Fall 2002.

Lara Taylor: Assessment of Public Engagement in South Florida Restoration. Graduating in Spring 2002.

Bryna Griffin: People in the Park: Resource Exclusion and Human-park Conflict within Kaeng Krachan National Park, Graduated Summer 2004.

Pablo Gottfried: Sustainability of Hybrid Energy System in Rural Mexico. Graduated in Spring 2006.

Kimesha Reid: On Factors Affecting the Level of Enforcement of Marine Parks Programs in Jamaica, Graduated in 2006.

Kathy Stone: On socio-economics of mangrove restoration in India, graduated in 2007.

Emily Lofredo: On the economics of rain harvesting technology in India, graduating in 2008.

Ric Soto: Urban food desert: Development of Community Garden in Miami Dade, graduating in December 2008.

Koji Hashimoto: Payment for environmental services in the Mara River Basin: Assessment of stakeholders' willingness to participate, graduating in December 2008.

Karen Pannocchia: On the impact of globalization on marine ecosystem in the Caribbean, Expected to graduate in 2009.

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**SERVICE ACTIVITIES**

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**UNIVERSITY: Department Committees:**

Graduate Program Committee (as chair since Summer 1999 and as a member from 1996 to 1999): Graduate application screening, resolving programmatic issues, sending admission and rejection letters, etc.

Developed the proposal for the Doctoral Program in Environmental Studies; currently under review at the Provost's Office.

Library Committee: (as chair since August 1999).

Budget Committee (as chair for four years); oversaw spending activities under CUP (1996-97) and OCO funds (1997-98), including development of equipment lists, requisition, and receiving.

Curriculum Committee (as a member during 1997-98 and the chair during 1998-99): Class scheduling since Fall 1997. Actively participated in all the curricular meetings and discussions. Discussed and finalized several major new courses, and curricular changes during the term.

Human Resources Committee (member): 1996-97.

Search Committee (member): 1995-96.

### **University Committees & Programs**

Developed and implemented the FIU Agroecology Program—the first ever agricultural science education program at FIU (<http://agroecology.fiu.edu>).

Member, FIU Building and Environment Committee, 2007-present.

Coordinator, the FIU Human Dimensions of the South Florida Environment Group. Helped FIU to become a recognized authority in human dimension research and education concerning south Florida. Several S Fl agencies have approached this group for expert opinion and potential future collaboration.

Member, the Coordinating Committee for the Certificate in Environmental Studies.

Member, GIS Committee: Development of FIU GIS lab policy on lab use, publicity, course, user fees, etc.

Asian Studies Program: Developed a course for the Asian Studies Certificate Program; submitted research proposal to be included under the Program's various research grant proposals.

Served on the FIU Ecotourism Research Council and contributed an article on the Economics of Ecotourism to the Council's Checklist on Ecotourism Development and Planning.

### **Program Coordination/Administration**

Served as acting department chair several times in the absence of a chairperson.

### **PROFESSION: Association Memberships**

Asson. of Environ. & Resource Economists  
International Society for Ecol. Economists  
US Society for Ecological Economics (founding member)  
American Economic Association  
International Association of Agricultural Economists  
American Agricultural Economics Asson.

### **Office Bearer**

Nominated for the Secretary position of the US Society for Ecological Economics (not elected)

### **Referee/Reviewer**

Journal articles:

*Environment and Development Economics*  
*Ecological Economics*  
*Natural Resources Modeling*  
*Journal of Agricultural and Resource Economics*  
*Journal of Environmental Economics and Management*  
*Water Resources Research*

Granting Agencies:

US Department of Agriculture (1993-1998)  
UK Economic and Social Research Council, 1993.

Books:

M. E. Sharpe Publishers.

Conferences:

American Agricultural Economics Association meetings, 1993, 1994.

Served as a moderator at the American Agricultural Economics Association meetings, 1993.

**Subject Matter Expert/Foreign Consultant:**

Invited to conduct a two-week special workshop at the National Center of Excellence in Natural Resource Economics, University of Agricultural Sciences, Bangalore, India, for training students and researchers in environmental economics and policy modeling, July 2001.

The above collaboration also has resulted in an economist from the above University visiting FIU in Spring 2001 for collaborative research.

Served as Environmental Economics Expert and Advisor on various fishery economics projects at the College of Fisheries, Mangalore, India under the World-Bank aided India-Environmental Capacity Building Technical Assistance Program, August 1999 - present.

**COMMUNITY Advisory Boards/Councils**

Member, Miami-Dade Public School District's Agribusiness and Natural Resources Education Advisory Committee.

Member, Technical Review Committee for the South Dade Watershed Development Plan, 2003 – 2006.

External consultant, Environmental Economics Capacity Building Project in India, 1998-2002.

Review Team Member, Critical Ecosystem Science Initiative for Everglades Restoration, 2000-03.

Founding Member, US Ecological Economics Society, 1999.

Member, Biscayne Bay Partnership Initiative: Social Science Team, 2000-01.

Member, Critical Ecosystem Science Initiative, South FL Ecosystem Task Force, Water Planning Category Review Committee.

Co-Chair, Social and Human Issues Steering Committee, Greater Everglades Ecosystem Restoration Science Conference, Naples, Florida, August 2000 - present. Paper review and selection, participated in panel discussion to finalize social science agenda for future research; currently working on a book on the conference proceedings.

Member, NOAA Environmental Valuation Network for developing an *Environmental Valuation Guidebook for South Florida Marine Resources*, 1998.

Participated in a two-day workshop for developing the social science research agenda for the South Florida Ecosystem Restoration Task Force in February 1998.

Member, Social Science Steering Committee for organizing a conference on the Social Science Research Agenda for the South Florida Ecosystem Restoration, 1996-97.

Member, NOAA's Advisory Panel for developing a socioeconomic monitoring plan for the Florida Marine Sanctuary Programs. Attended the first planning meeting at Key Largo. Participated in a two-day workshop for developing socioeconomic monitoring plan for the marine sanctuary in January 1998.

Member, Energy Advisory Committee of the Governor's Commission for a Sustainable SF. Attended several meetings during the year and contributed to the final draft recommendations document on a sustainable energy program in South Florida.

Helped economists at the College of Fisheries, Mangalore, India develop a research project on the study of impacts of fishery regulations on local economies. The project has been funded by the Indian Council of Agricultural Research, New Delhi for three years.

Member, Expert Panel of the South Florida Water Management District for reviewing research proposals and programs, 1995-97.

Participated at the workshop on Curriculum Development in Quantitative Sciences for Life Science Students, Knoxville, TN, February 1992.

### **Media Program**

Addressed a press conference held by the Florida Environment on the occasion of the release of the report, "Global Climate Change Solutions," by the American Environment Research and Policy Center at Miami Museum of Science, June 2008.

Addressed a press conference on the environmental impacts of commercial aquaculture on coastal ecosystem in Karnataka, July 1997. I was featured in several major news papers in Karnataka state, India.

*(Revised on June 23, 2008)*