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Education and Training

2009 Ph.D. (Environmental Sciences), The Ohio State University, USA
1996 M.Sc. (Agricultural Economics), Tamil Nadu Agricultural University, India
1994 B.Sc. (Agricultural Sciences), Kerala Agricultural University, India

Research and Professional Experience

April'12- Present Postdoctoral Research Associate, Oak Ridge National Laboratory, USA

- Climate change impact and vulnerability analysis of agriculture in Gulf States of USA.
- Analysis of environmental, technological, and socio-economic determinants of climate change adaptation in agriculture.
- Trace-out interaction of changing climate, technology, and farm policies on regional agricultural production.
- Designing, characterizing, and quantifying the uncertainties in model experiments.

Sep '10-April'12 Postdoctoral Researcher, University of Tennessee, USA

- Hydro-economic modeling for water resource management in southeastern US.
- Conservation prioritization in Lick Creek and Oostanaula watersheds, TN.
- Bioenergy crop models: description, and potential applications - collaboration with ORNL.
- Estimation of global biomass potential for bioenergy - collaboration with ORNL.

Jan'10-Aug'10 Postdoctoral Researcher, The Ohio State University, USA

- Economic analysis of water quality trading decisions using hydro-economic modeling.

Sep'04-Dec'09 Graduate Research Associate, The Ohio State University, USA

- Calibration, validation and uncertainty analysis of Soil Water Analysis Tool (SWAT) in Upper Big Walnut Creek Watershed (UBWC), OH
- Recreational value of water quality in UBWC, OH.
- Hydro-economic modeling for non-point source pollution management in UBWC, OH.
- Climate change impact indices based on model results of world forest ecosystems.

Dec'97- Sep'04 Agricultural Research Service), Indian Agricultural Research Institute, India

- Impact and trade-off analysis of future land use change in agriculture using system approach.
- Analyzing the economic feasibility, agronomic suitability, and environmental sustainability of biomass for ethanol production in India.

Publications

Surendran Nair, S., S. Kang., X. Zhang., F. Miguez., R.C. Izaurralde., W.M. Post and S.D. Wullschleger. 2012. Bioenergy crop models: description, data requirements, and potential applications GCB Bioenergy. doi: 10.1111/j.1757-1707.2012.01166.x

Surendran Nair, S., K.W. King., J.D. Witter., B.L. Sohngen and N.R. Fausey. 2011. Importance of crop yield calibration in watershed modeling for water quality applications. Journal of the American Water Resources Association. 47(6):1285-1297.

W. Zegada-Lizarazu., S. D. Wullschleger., **S. Surendran Nair** and A. Monti. 2011. Crop physiology of switchgrass. In: Switchgrass: a valuable biomass crop for energy, ed. Andrea Monti, Springer-Verlag.

A.K. Vasisht., **S. Sujithkumar.**, P.K. Aggarwal., N. Kalra and H. Pathak. 2007. An Integrated Evaluation of Trade-offs between Environmental Risk Factors and Food Production Using Interactive Multiple Goal Linear Programming – A case study of Haryana. Indian Journal of Agricultural Economics Vl.62 (3), 511-523.

P.K. Aggarwal, P.K. Joshi, H.C., **S. Sujithkumar**., N. Gupta and S. Sushilkumar. 2007. Fuel ethanol production from Indian agriculture: Opportunities and constraints. Outlook on Agriculture. 36: 167-174.

S. Sujithkumar, A.K. Vasisht, C.T. Hoanh, P.K. Aggarwal and N. Kalra. 2001. Linking socio-economic to the biophysical evaluation: The MGLP model. In: Land use analysis for sustainable food security: with an illustration for the state of Haryana, India, ed. P.K. Aggarwal et al. Chapter 7. Pp. 105-116. Joint publication by IARI, IRRI and Wageningen University.

S. Sujithkumar, A.K. Vasisht, C.T. Hoanh, H. Pathak, P.K. Aggarwal, N. Kalra and S.K. Bandyopadhyay. (2001). Exploring limits of agricultural production, resource requirements and environmental impact. In: Land use analysis for sustainable food security: with an illustration for the state of Haryana, India, ed. P.K. Aggarwal et al. Chapter 8. Pp. 117-126. Joint publication by IARI, IRRI and Wageningen University.

P.K. Aggarwal, **S. Sujithkumar**, A.K. Vasisht, C.T. Hoanh, H. Van Keulen, N. Kalra, H. Pathak and R.P. Roetter. 2001. Balancing food demands and supply. In: Land use analysis for sustainable food security: with an illustration for the state of Haryana, India, ed. P.K. Aggarwal et al. Chapter 9. Pp. 137-152. Joint publication by IARI, IRRI and Wageningen University.

P.K. Aggarwal, S.K. Bandyopadhyay, H. Pathak, N. Kalra, S. Chander and **S. Sujithkumar** (2000) Analysis of yield trends of the rice-wheat system in north-western India. Outlook on Agriculture 29: 259-268.

Manuscripts under preparation

Surendran Nair, S., B.L. Sohngen., K.W. King., J.D. Witter and N.R. Fausey. Accounting ecosystem services in economic evaluation of conservation management (Under preparation for American Journal of Agricultural Economics**).**

Surendran Nair, S., B.L. Sohngen., K.W. King., J.D. Witter and N.R. Fausey. Value of recreational water quality: A correlated count data modeling. (Under preparation for Ecological Economics**).**

Conference Presentations

Surendran Nair, S., K.W. King., J.D. Witter. 2011. Application of Soilwater Assessment Tool (SWAT) for Water Quality Simulations: Importance of Crop Yield Calibration. Oral presentation at Tennessee Water Resources Symposium, April 2011.

Surendran Nair, S., H. Armstrong., W.Wright., S. Hawkins. 2011. Watershed modeling using an intensive, short term data collection technique: SWAT Application to Lick Creek Watershed in Greene County, TN. Oral presentation at Tennessee Water Resources Symposium, April 2011.

Surendran Nair, S., King, K., Witter, J., Sohngen , B., Fausey, N. 2011. Importance of crop yield in calibrating watershed water quality simulation tools. Oral presentation at Tennessee Water Resources Symposium, April 2011.

Surendran Nair. S., B. Sohngen, K. King, N. Fausey, J. Witter. 2010. Integrated Watershed Economic Model for Non-Point Source Pollution Management in the Upper Big Walnut Watershed. Oral Presentation at the AAEA Meeting, Denver, CO. July, 2010.

Surendran Nair. S., B. Sohngen, N. Fausey, K. King, 2007. Optimal Management of Non-point Source Pollution from Agriculture: An Application of Dynamic Programming. Oral Presentation at the SWCS Conference, Tampa, FL. July, 2007.

Grants and awards

2011 Agriculture and Food Research Initiative/USDA, Co-PI
- Land Use and Environmental Impacts of Alternative Bioenergy Policies, ($500,000), (Pre-proposal accepted).

2010 Tennessee Department of Environment and Conservation, Co-PI.
- SWAT modeling on farm conservation practices to reduce watershed nutrients loads, Watersheds Initiative in Tennessee. ($40,504) (Funded).

2007 Sustainable Agricultural Research and Education, U.S. Department of Agriculture.
- Land management strategies for watershed restoration: An integration of spatial modeling with dynamic programming ($9000) (Funded).

Computer and software skills
- SWAT, EPIC, STELLA
- SAS, STATA
- Matlab
- Arc GIS, Arc View, Arc Objects
- GAMS
- MS ACCESS

References

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