# Durga D. Poudel (1960-Present)

Professor and Assistant Director, School of Geosciences Coordinator of Environmental Science Program

**University of Louisiana at Lafayette**

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*"Any student who comes into this field and works hard will be successful down the road." Durga Poudel, 2006.*

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## Overview

Dr. Durga Poudel is a professor at the University of Louisiana at Lafayette. His research focuses on water quality and nonpoint source pollution control, water quality modeling, climate change adaptation, soil erosion, soil development and productivity, sustainable agriculture, organic farming, roadside vegetation and highway enhancement, waste water recycling, and farming systems. He teaches several soil science and water quality courses at UL Lafayette. He is also the Founder of the Asta-Ja Framework and the Co-founder of the Asta-Ja Abhiyan Nepal. The Asta-Ja Abhiyan Nepal is a non-governmental, non-profit organization and is founded on the basis of the conceptual framework of Asta-Ja meaning eight ja in Nepali language that includes Jal (water), Jamin (land), Jungle (forest), Jadibuti (medicinal and aromatic plants), Janashakti (manpower), Janawar (animals), Jarajuri (agricultural crops, fruits, and vegetables), and Jalabayu (climate) for sustainable development, natural resources conservation and socio-economic transformation of Nepal. He also serves as the Assistant Director at the School of Geosciences and Coordinator of the Environmental Science Program. His selected publications include:

- Poudel, D.D., T. Lee, R. Srinivasan, K.C. Abbaspour, and C.Y. Jeong. 2013. Assessment of seasonal and spatial variation of surface water quality, identification of factors associated with water quality variability, and the modeling of critical nonpoint source pollution areas in an agricultural watershed, Journal of Soil and Water Conservation 68 (3): 155-171

- Poudel, D.D., R.P. Thakur, T. Duex, G. Blakewood, A. Singh, A. DeRamus, B. Chapagain, K. Acharya, S. Adhikari, R.B. Gramling, and N. Sharma. 2013. Adapting livestock production systems to climate change in Nepal: Challenges and opportunities, pp. 1362-1367, In: D.L. Michalk, G.D. Miller, W.B. Badgery, and K.M. Broadfoot (Editors), 2013 Proceedings

of the 22nd International Grassland Congress, 15-19 September, 2013, Sydney, Australia, New South Wales Department of Primary Industry, Kite St., Orange New South Wales, Australia.

- Poudel, D.D. 2012. The Asta-Ja Management Capacity-building Framework for Sustainable Development in Nepal, International Journal of Sustainable Development, Vol. 15, No. 4, pp.334-352.

- Wang, Yi-Hong, D.D. Poudel, and K.H. Hasenstein. 2011. Identification of SSR markers associated with saccharification yield using pool-based genome-wide association mapping in sorghum, Genome 54: 1-7.

*This interview was conducted in 2015.*

## Early Life and Career

Like many people in Nepal, Durga Poudel grew up in a small family farming community, where intimate knowledge of natural resources was a prerequisite for survival. For the Poudel family, soil health was the single most important determinant of a crop's success, and something that was closely monitored at all times. "Soil erosion was a major problem on our land," Poudel recalls. "I remember that my mother would be sad during the monsoon season, because we'd lose so much soil and basically our crops. That was my introduction to the environmental field."

After graduating from high school, Poudel enrolled in a science program in Nepal. However, his path to and through higher education was not straightforward, nor was it easy. "I dropped out after my first year for various reasons," he recalls. "Fortunately, I decided to enroll in Agricultural College later, and I was able to get a scholarship to continue my education. Since then, the doors of education have continued to open for me." He went on to earn degrees in agriculture, natural resources and soil science, and now teaches and researches those topics at the University of Louisiana at Lafayette.

Poudel began his career in agricultural field as a junior technical assistant at the Ministry of Food and Agriculture in Nepal. For nearly a year, he visited local villages, helped identify agricultural problems, and assisted farmers in increasing their agricultural productivity through management techniques such as soil management and pest control. Although he only worked there for a short time, Poudel says he remains very proud of the work he did during that period, which also included setting up 4-H clubs in two of the villages. "That was the first time that I had the responsibility of working directly with them [farmers], and I knew how much it mattered to them to increase their productivity in terms of food for themselves and their families," he says. "I felt a real sense of accomplishment." He then served as a science and vocational teacher before earning his undergraduate degree with honors from the University of Agriculture Faisalabad in Pakistan.

Poudel went on to get an Interdisciplinary Masters Degree in natural resources development and management from the Asian Institute of Technology in Bangkok, Thailand. He worked for the

Asian Vegetable Research and Development Center (AVRDC) in Taiwan before moving to the United States, where he earned his doctorate in soil science from the University of Georgia.

## Contributions

After serving as a research manager for a Sustainable Agriculture Farming Systems Project at the University of California, Davis, for two years, Poudel took a faculty position at the University of Louisiana at Lafayette. He continues to work there as a tenured professor, researcher, and director of Agriculture Auxiliary Units, a horticulture center and research farm within the School of Geosciences. Poudel is particularly proud of his work there. "We have a 600-acre farm called the Model Sustainable Agricultural Complex," he explains. "Among other things, it houses beef units, sugar cane crops, small animals, crawfish ponds, and wildlife habitat. The farm also hosts a number of educational, hands-on events and training for junior high and high school students. The farm also serves as a model for Best Management Practices as they pertain to each agricultural enterprise. "Organic production, permaculture, the Crawfish Research Center, the solar house, and the pig and sheep units are other activities at the farm," Poudel notes. "It's a very diversified place." Poudel also oversees the operation of the horticulture unit (Ira Nelson Horticulture Center), where he conducts experiments on plant growth. Poudel also conducts research on nonpoint source pollution in agricultural watersheds, and he has been involved in monitoring surface water quality in at least five watersheds near the University. In 2005 and 2007, he hosted two successful conferences on Louisiana surface water quality, presented in coordination with the Environmental Protection Agency Region 6 and the Louisiana Department of Environmental Quality. Poudel notes that his collaborations with different governmental and non-governmental agencies are a rewarding and continually evolving aspect of his career in science.

One of those ongoing collaborative projects is the Wildflower Seed Bank Project - a joint effort between the Louisiana Department of Transportation and Development, the University of Louisiana at Lafayette, and several other state universities. "Basically, what we do is collect Louisiana wildflower seeds, increase seeds on plots at the farm, and then plant seeds along highways, scenic byways, interstate medians, and welcome centers to beautify the highways and to promote tourism," he explains. "These flowers will also prevent soil erosion from roadsides, trap nonpoint source pollutants from the roadway, and minimize mowing costs. This project is the first of its kind in the state. The Louisiana Wildflower Seed Bank will be a great asset for the state and the community."

Poudel is the Founder of the Asta-Ja Framework, Asta-Ja meaning eight-Ja, Nepali letter *Ja*, *Jal* (water), *Jamin* (land), *Jungle* (forest), *Jadibuti* (medicinal and aromatic plants), *Janashakti* (manpower), *Janawar* (animals), *Jarajuri* (crop plants), and *Jalabayu* (climate) as resources for sustainable development and management and socio-economic transformation of Nepal. Poudel is the Founding Chair of the Asta-Ja Research and Development Center (Asta-Ja RDC Nepal), a non-profit and non-governmental organization with headquarters in Kathmandu, Nepal. The Asta-Ja RDC Nepal has been working with local communities, governmental and non-governmental agencies, private businesses, universities, and other stakeholders on agricultural commercialization, environmental quality, climate change adaptation, resource conservation,

and community development in rural Nepal. With Poudel, faculty and student from the University have visited Nepal for research.

## Importance of Mentoring to Career

Poudel says the highlight of his career is what he is doing right now: teaching, research and community outreach. "I'm growing," he says of his current work, and the ability to keep growing and asking new questions is what keeps him at work in the environmental field. Poudel notes that many people have supported him as he navigated his career, including his parents and maternal grandparents, his family and friends, supervisors and teachers who have "always encouraged me at different levels throughout my career." He singles out Dr. David J. Midmore, his supervisor when he worked as a research fellow for the AVRDC, for special praise. After working for Midmore, Poudel was inspired to continue his education and achieve his doctorate. "I learned a lot from him," he says. Poudel says that this kind of continuing support has allowed him to achieve so much in his career, including the prestigious position of Regents Professor in Applied Life Sciences South Louisiana Mid-Winter Fair/BORSF, and recognition as an Outstanding Professor and Researcher Award issued by the United States Immigration and Naturalization Service.

## Advice to Young Professionals

Poudel has only words of encouragement for minorities interested in environmental careers. "This field [environment and natural resources] is so fulfilling and challenging," he says. "It has lots of scientific and technological applications, and can be used worldwide. Any student who comes into this field and works hard will be successful down the road. What is needed is hard work, perseverance, a positive attitude, and respect for this planet and its natural resources. These are things that we all need to develop, and I'm confident that any student can do it. In doing so, they can meaningfully contribute to society's long-term sustainability and environmental quality."

## For More Information

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