

CURRICULUM VITAE



NAME: Victor B. Ella, Ph. D.

CURRENT POSITION: Professor

OFFICE ADDRESS: Land and Water Resources Division
Institute of Agricultural Engineering
College of Engineering and Agro-Industrial Technology
University of the Philippines Los Baños
College, Laguna 4031 PHILIPPINES
Tel/Fax No. (63-49) 536-2387
E-mail: vbella@up.edu.ph or vbella100@yahoo.com

CITIZENSHIP: Filipino

FIELDS OF SPECIALIZATION:

Simulation Modeling, Surface and Groundwater Hydrology, Irrigation and Drainage Engineering, Water Quality and Wastewater Engineering, Contaminant Transport in Soils, Soil Physics, Spatial Analysis (Geostatistics), Hydraulic Engineering

EDUCATIONAL BACKGROUND:

- **Ph. D.** double major in Agricultural Engineering and Civil (Environmental) Engineering, Iowa State University, Ames, Iowa, USA, 1999; with **Postdoctorate** in Contaminant Transport in Soils, Iowa State University, Ames, Iowa, USA, 1999-2000
- **M.S.** Irrigation Engineering, Catholic University of Leuven, Belgium, 1986
- **B.S.** Agricultural Engineering, University of the Philippines Los Baños, College, Laguna, Philippines, 1982

PROFESSIONAL SERVICE ELIGIBILITY:

Professional Agricultural Engineering Board Examination (Second Placer), Professional Regulation Commission (PRC), Manila. Philippines, 1982

IMPORTANT POSITIONS HELD:

- ❖ **Dean**, College of Engineering and Agro-industrial Technology, University of the Philippines Los Baños, June 1, 2005 to July 31, 2008
- ❖ **Philippine Country Representative**, United Nations Asian and Pacific Center for Agricultural Engineering and Machinery (UNAPCAEM), 2005-2007; and **Chair**, Technical Committee, UNAPCAEM, 2005

HONORS, AWARDS, FELLOWSHIPS AND SCHOLARSHIPS:

- ❖ 2008 Outstanding CEAT Alumnus Award (Distinguished Alumnus in Agricultural Engineering Research), College of Engineering and Agro-industrial Technology (CEAT), University of the Philippines Los Baños (UPLB), 2008
- ❖ SEARCA Professorial Chair Award, 2008-2009
- ❖ 1st Place Zonal Winner, Republica Award for Outstanding Research Publication (Natural Science Category), Commission on Higher Education (CHED), 2007
- ❖ UP System International Publication Award (for Book Chapter), 2006
- ❖ IAE-CHED International Publication Award, 2006
- ❖ Best Paper Award (1st place), Physical Science Category, 6th Annual Scientific Meeting of the Philippine Society for the Study of Nature, 2006
- ❖ UP System Textbook Writing Grant under the Creative and Research Scholarship Fund, 2005-2006
- ❖ Best Paper Award (Second Place) Research Category, 17th STARRDEC Regional Symposium on Research and Development Highlights, Mandaluyong City, Metro Manila, 2004
- ❖ Best Teacher Award, Institute of Agricultural Engineering (IAE), CEAT, UPLB/ Commission on Higher Education (CHED), 2003
- ❖ AFMA Best R&D Paper Award, First Runner Up, Basic research category, 15th National Research Symposium, Department of Agriculture, 2003
- ❖ PNOC Professorial Chair Award, 2003-2004
- ❖ SEARCA Professorial Chair Award, 2002-2003
- ❖ Department of Agriculture Secretary's Award for 2 publications, 2002
- ❖ UP System International Publication Award (for ISI-indexed publication), 2002
- ❖ UP System International Publication Award, (for ISI-indexed publication, 2001
- ❖ UP System Textbook Writing Grant under the Creative and Research Scholarship Fund, 2001-2002
- ❖ Fulbright Fellowship Grant, 1995-2000
- ❖ Post-Doctoral Research Fellowship, Iowa State University, (as part of the Fulbright Academic Training Package) 1999-2000
- ❖ Research Excellence Award, Iowa State University, given by the Vice Provost for Research/Graduate College Dean and the Graduate Student Senate of Iowa State University during Ph.D. Commencement Exercises, 1999
- ❖ Graduate Assistantship, Iowa State University, 1998-1999
- ❖ Member, Honor Society of Phi Kappa Phi, Iowa State Chapter, 1997
- ❖ Member, Alpha Epsilon-Honor Society of Agricultural, Food and Biological Engineering, Iowa State Chapter, 1997
- ❖ Belgian Government Department of Development Cooperation Scholarship Grant, 1984-1986
- ❖ Graduated the MS Program with Great Distinction, Catholic University of Leuven, Belgium, 1986
- ❖ UPLB Faculty Grant Award, 1989
- ❖ Lifetime Member, Gamma Sigma Delta-the Honor Society of Agriculture, UPLB Chapter
- ❖ Second Placer, Professional Agricultural Engineering Board Examination, Professional Regulation Commission, Manila, Philippines, 1982
- ❖ COCOFED Scholarship Grant, UPLB, 1977-1982
- ❖ College Scholar, UPLB, 1979-1982

WORK EXPERIENCE:

I. TEACHING and ADVISING

Professor, April 2008 to present

Land and Water Resources Division, Institute of Agricultural Engineering (IAE), College of Engineering and Agro-Industrial Technology (CEAT), University of the Philippines Los Baños (UPLB)

Associate Professor, 2000 to April 2008

Land and Water Resources Division, IAE, CEAT, University of the Philippines Los Baños (UPLB)

Assistant Professor, 1990 to 2000

Department of Land and Water Resources Engineering and Technology (LAWREAT), CEAT, University of the Philippines Los Baños (UPLB)

Instructor, 1982 to 1990

LAWREAT, CEAT, University of the Philippines Los Baños (UPLB)

Courses Taught at UPLB from 1982 to date:

Graduate Courses:

AENG 240 - Advanced Water Resources Planning
AENG 242 - Water Management
AENG 244 - Groundwater Hydrology
AENG 247 - Water Quality Control Engineering
AENG 248 - Erosion and Sediment Transport

Undergraduate Courses:

AENG 140 - Field Hydrology
AENG 141 - Irrigation Engineering I
AENG 142 - Irrigation Engineering II
AENG 144 - Open Channel Hydraulics
AENG 145 - Water Control Structures
AENG 147 - Principles of Tropical Water Quality Management
AENG 149 - Water Resources Planning
AENG 180 - Soil Engineering
AENG 41 - Irrigation and Drainage Engineering
AENG 1 - Fundamentals of Agricultural Engineering I
CE 52 - Sanitary Engineering II
ENSC 16 - Fluid Mechanics
ENSC 16b - Fluid Mechanics Laboratory
ENSC 12 - Dynamics of Rigid Bodies
ENSC 26 - Mathematical Methods in Engineering

Thesis Advising: Major adviser to Ph.D., M.S. and B.S. Agricultural Engineering students major in land and water resources on various thesis topics on hydrology, water quality, erosion, contaminant transport in soils, irrigation and other soil and water resources engineering-related topics; also served as member of thesis advisory committee for a number of Ph.D. students majoring in soil science, environmental science and agricultural economics

Other Academic Affiliation

Affiliate Professor

Department of Civil Engineering

College of Engineering and Agro-Industrial Technology, UPLB (2002 - present)

Affiliate Professor

School of Environmental Science and Management, UPLB (2004 - present)

Professor

Graduate School, University of the Philippines Los Baños (UPLB)

II. RESEARCH and CREATIVE WORK

RESEARCH

Project Leader

Simulating the Hydraulic Effects of Climate Change on Groundwater Resources in a Selected Aquifer in the Philippines Using a Numerical Groundwater Model, SEARCA SFRT, 2008-2009

Project Leader

Technology (Drip Irrigation) and Environmental Impact (SWAT watershed modeling) components of the SANREM CRSP project "Agroforestry and Sustainable Vegetable Production in Southeast Asian Watersheds", UPLBFI-NCAT, USAID, 2006-2009

Project Leader

Assessment of groundwater sustainability and water quality of shallow and deep aquifers within the areas of the Laguna Water District, Philippines, UPLBFI-LWD April 2005 to March 2006

Project Leader

Characterization of contaminant transport behavior of selected soils in the Philippines for groundwater quality protection
UPLB-DA-BAR Institutional Development Grant, October 2002 to December 2005

Co-Principal Investigator

Maintaining Watershed Integrity: Land Use Practices and Environmental Outcomes
SANREM-CRSP, USAID, June 2003 to May 2004

Project Leader

Development of Location-Specific Design Criteria for Irrigation Systems
Comprehensive Irrigation Research and Development Umbrella Program,
UPLBFI-DA, January 2004 to December 2005

Project Leader

Packaging streamflow and soil erosion prediction technology based on the WEPP
model for Manupali subwatersheds, SANREM-CRSP, USAID Environmental
Research Grant, September 2002 to March 2003

Project Leader

Development of a three-dimensional numerical groundwater model for sustainable
shallow aquifer management in the Philippines
UPLB Basic Research Program, June 2002 to June 2003

Project Leader

Computer simulation of soil erosion and sediment yield in small Philippine upland
watersheds using the WEPP model
SANREM-CRSP, USAID Environmental Research Grant, December 2001 to
November 2002

Program Leader

Assessment of surface water potential for irrigation development, Comprehensive
Irrigation Research and Development Umbrella Program
UPLBFI – DA, January 2001 to December 2003

Assistant Project Leader

Strengthening the Irrigation and Drainage RDE Network
UPLBFI-DA-BAR, January 2001 to December 2002

Task Force Leader

Technology identification and packaging, Shallow Tubewell Irrigation Project,
UPLBFI-DA. September to June 2001.

Post-Doctoral Research Associate

Water Resources Research Institute and Soil Physics Division, Iowa State
University, Ames, Iowa, USA, August 1999 to June 2000

Graduate Research Assistant

Department of Agricultural and Biosystems Engineering, Iowa State University,
Ames, Iowa, USA, 1998-1999

Other Research Experience

Design, fabrication, and testing of a sand tank model for simulating groundwater
flow from a pumped well, UPLB Faculty Grant, 1994.

Development, calibration, and validation of a computer simulation model for
predicting water yield from small watersheds, Master's Thesis, Catholic University
of Leuven, Belgium, 1986.

SCHOLARLY and CREATIVE WORK

Professorial Chair Holder

Contaminant Transport in Soils: Measurement, Modeling and Potential Applications for Groundwater Quality Protection in the Philippines
SEARCA Professorial Chair Lecture 2008-2009

Author

Textbook for the course "Field Hydrology"
UP System Textbook Writing Grant, Creative and Research Scholarship Fund Project, University of the Philippines
December 1, 2005 to November 30, 2006

Editorial Adviser

CEAT Newsletter
2005 to 2008

Professorial Chair Holder

Numerical Groundwater Models as Powerful Tools for Sustainable Groundwater Resources Management in the Philippines
PNOC Professorial Chair Lecture 2003-2004

Professorial Chair Holder

Assessing the Impacts of Agriculture on Groundwater Quality Using Geostatistical Techniques
SEARCA Professorial Chair Lecture 2002-2003

Author

Textbook for the course "Fundamentals of Agricultural Engineering I"
UP System Textbook Writing Grant, Creative and Research Scholarship Fund Project, University of the Philippines
December 1, 2001 to November 30, 2002

Editor-in-Chief

Irrigation and Drainage RDE Updates, a quarterly publication of the Irrigation and Drainage RDE Network, UPLB-FI-DA-BAR, 2001-2002

Planning Engineer

Conceptualized and designed the first proposed expansion of the CEAT Hydraulic Laboratory building, 1990; and took leadership in the planning and design of the expansion of the CEAT Hydraulic Laboratory building, 2002-2003

III. EXTENSION AND CONSULTANCY

Philippine Country Representative

Technical Committee and Governing Council
United Nations Asian and Pacific Center for Agricultural Engineering and Machinery (UNAPCAEM), 2005-2007

Resource Person on Irrigation and Water Quality

Department of Agriculture, January 2007
Served as Technical Expert in the evaluation and refinement of the Implementing Rules and Regulations (IRR) of the Section on Wastewater Reuse for Irrigation of the Philippine Clean Water Act

Training Coordinator and Resource Person

Training on Drip Irrigation, SANREM-CRSP/USAID; Lantapan, Bukidnon, Philippines; May 25, 2007

Training Coordinator

International Training Workshop on SWAT (Soil and Water Assessment Tool) Modeling, SANREM-CRSP/USAID; CEAT, UPLB and International Rice Research Institute, Philippines; May 14-17, 2007

Chair

Technical Committee
United Nations Asian and Pacific Center for Agricultural Engineering and Machinery (UNAPCAEM), 2005

Hydrologist

PCARRD'S National Agricultural Ecosystems R & D Network
Philippine Council for Agriculture, Forestry and Natural Resources Research and Development (PCARRD), DOST, 2004 to present

Resource Person on Irrigation Engineering

University of San Carlos, Cebu, Philippines, 2004
Developed a 4-week training module on irrigation engineering for the civil engineering faculty of University of San Carlos in Cebu, Philippines

Co-Chair (with the Secretary of the Philippine Department of Environment and Natural Resources(DENR))

Advisory Board, the Philippine Millennium Ecosystem Assessment, 2003-2004

Resource Person on Irrigation and Water Management

Department of Agriculture, 2003
Delivered a crash course on irrigation and water management for the monitoring and evaluation staff of the Philippine Department of Agriculture

Resource Person on Simulation Modeling

Agricultural Systems Cluster, UPLB October 2003
Delivered a crash course on systems analysis and hydrologic modeling

Environmental Engineer

Designed a waste stabilization pond (lagoon) for the DTRI wastewater
OHSSC, UPLB, 2003

Hydrologist

National Agricultural Ecosystems Research and Development Team
Philippine Council for Agriculture, Forestry and Natural Resources Research and
Development (PCARRD), DOST, 2001-2003

Assistant Team Leader

Core Planning Team/Core Technical Team, Irrigation and Drainage Network
Bureau of Agricultural Research (BAR), Department of Agriculture
September 2000 to December 2002

Editor-in-Chief

Irrigation and Drainage RDE Updates, a quarterly publication of the Irrigation and
Drainage RDE Network, UPLB-FI-DA-BAR, 2001-2002

Irrigation Modeling Specialist

Food and Agriculture Organization, November 2000 to March 2001
Developed a simulation model for evaluating the crop production and economic
effects of varying resource allocation to the various modes of irrigation in the
Philippines such as shallow tubewell irrigation, small water impounding projects,
national and communal irrigation systems.

Hydrologist

MADECOR-Environmental Management Systems, Inc./Japan International
Cooperation Agency (JICA), 1994-1995
Environmental Impact Assessment of the flood and mudflow control project for the
Sacobia-Bamban and Abacan river basins draining from Mt. Pinatubo., Philippines

Irrigation Engineer

Calauan, Laguna, Philippines, 1994
Designed a sprinkler irrigation system for Cortez' lanzones plantation, Calauan,
Laguna, Philippines

Resource Person/Lecturer on Irrigation Engineering

STANFILCO, Dole Philippines, Inc. Davao, October 16-21, 1994
Prepared a training manual and delivered a series of lectures on the design,
operation and maintenance of sprinkler and drip irrigation systems for the
engineering and production staff of STANFILCO, Dole Philippines, Inc.

Training Coordinator

UPLB, College, Laguna, Philippines, May 25-June 8, 1994
Training Course on Irrigation System Management for division heads and staff of
the Regional Planning and Development Board (BAPEDDA) and Provincial
Agricultural Services (PRAS) of Indonesia.

Surveyor and Irrigation Engineer

Baras, Rizal, Philippines, 1994

Performed topographic surveying, mapping and sprinkler irrigation system design of Finioni's citrus and mango plantation.

Training Coordinator

UPLB and DA, Philippines, Dec. 3-11, 1993

Study tour in the Philippines for top and midlevel officials of the Ministry of Agriculture and Planning Commission of Bangladesh for assisting Transformation to Irrigated Agriculture Project in Bangladesh.

Technical Consultant on Irrigation Engineering

MADECOR Group of Companies, 1993

Developed a 4-week training module on irrigation systems management, operation and maintenance for midlevel officials of the Mahaweli Agricultural Research and Development of Nepal.

Assistant Training Coordinator

UPLB, College, Laguna, April-May 1991

Training Course on Small-Scale Irrigation System Planning and Development for the engineering and socio-economic staff of the Department of Agriculture.

Water Resources and Hydraulic Engineer/Surveyor

Nagcarlan Municipal Government, Laguna, 1990

Took part in a team that rendered technical assistance for the development of Nagcarlan water supply system and irrigation project.

Junior Hydrologist

Batangas, Philippines, 1989.

Assisted in the hydrologic characterization of the province of Batangas, Philippines

Resource Person/Training Lecturer on Hydrology and Irrigation Engineering

Served as lecturer on various topics on hydrology, irrigation systems design, operation and maintenance, hydraulics and hydraulic structures for the following training programs: 1) Water Management Training Course for Bangladeshi Rural Development Board, UPLB, November 1987; 2) Water Management Training Program for Indonesian midlevel officials, UPLB, March 1988 and April 1989; 3) Training Program on Water Management for Indonesian Arakundo Jambu-Aye Irrigation Project officials, UPLB, March 1989; 4) Small-Scale Irrigation System Planning and Development for the Engineering and Socio-economic staff of the Department of Agriculture, UPLB, May 1991; 5) International Training Course on Engineering for Rice Irrigation, IRRI, April 1994; 6) Training Course on Irrigation System Management for Indonesian midlevel officials, UPLB, May 1994; and 7) Training Course on Horticulture for Bangladeshi midlevel officials, UPLB, August 1994.

Interviewer for UPLB Scholarship Program

Served as interviewer for the UPLB ARRDS Scholarship Program in the provinces of Marinduque, Cotabato and Sultan Kudarat, Philippines, 1983-1984

IV. ADMINISTRATIVE EXPERIENCE

Dean, College of Engineering and Agro-Industrial Technology (CEAT), University of the Philippines Los Baños (UPLB), June 1, 2005 to July 31, 2008

Member, UP System Committee on Emerging Science and Technology, University of the Philippines, July 2005 to present

Member, UP System Committee on Advanced Technology Award, University of the Philippines 2008

Member, UPLB Executive Committee, June 2005 to July 2008

Member, UPLB Graduate Academic Advisory Committee, June 2005 to July 2008

Member, UPLB Professorial Chairs Committee, June 2005 to July 2008

Chairman, Search Committee for New Director of Institute of Chemistry, UPLB, 2005-2006

Chairman, UPLB Committee to Study and Propose Course Numbering Scheme, 2006

Member, UPLB Occupational Health and Safety Standards Committee (OHSSC), 2002-2005

Member, Ad hoc Committee on University Policies and Practice on the Grant of Study Leave to UPLB Faculty

Member, Ad hoc Committee on University Policies and Practice on the Grant of Study Leave to UPLB REPS

Chairman, CEAT Executive Committee, June 2005 to July 2008

Chairman, CEAT Academic Personnel Committee, June 2005 to July 2008

Chairman, CEAT Administrative Personnel Committee, June 2001 to July 2008

Chairman, Land and Water Resources Division (LWRD), Institute of Agricultural Engineering (IAE), CEAT, UPLB, January 2001 to June 2003

Chairman, Graduate Admissions Committee, Land and Water Resources Division, Institute of Agricultural Engineering, CEAT, UPLB, 2004-2005

CEAT Building Administrator, January 2001 to June 2003

Chairman, IAE Curriculum and Instruction Committee, CEAT, UPLB, 2003-2005

Chairman, CEAT Hydraulic Laboratory Management Committee, 2001-2005

Chairman, LWRD's Academic Personnel Committee and Research Committee, 2001-2005

Member, LWRD's Graduate Admissions Committee and Curriculum Committee, 2001-2004

Chairman, CEAT Hydraulic Laboratory Management Committee, 1991-1995

Chairman, CEAT Sports Committee, 1988-1991

GRANTS APPLIED FOR AND RECEIVED:

- SEARCA Seed Fund for Research and Training (SFRT), 2008-2009
- SEARCA Professorial Chair Grant, 2008-2009
- SANREM-CRSP Research Grant, USAID/Virginia Tech/North Carolina A& T State University/UPLBFI, 2006-2009
- UP System Textbook Writing Grant, Creative and Research Scholarship Fund Project, University of the Philippines, 2005-2006
- Laguna Water District Research Grant, 2005-2006
- Philippine National Oil Corporation (PNOC), Professorial Chair Grant, 2003-2004
- Department of Agriculture Bureau of Agricultural Research (DA-BAR) Institutional Development Grant, 2002-2005
- SANREM-CRSP Environmental Research Grant, USAID, 2002-2003
- UPLB Basic Research Program, 2002-2003
- SEARCA Professorial Chair Grant, 2002-2003
- UP System Textbook Writing Grant, Creative and Research Scholarship Fund Project, University of the Philippines, 2001-2002
- SANREM-CRSP Environmental Research Grant, USAID, 2001-2002

MEMBERSHIP IN PROFESSIONAL and HONOR SOCIETIES:

- American Society of Agricultural Engineers
- Philippine Society of Agricultural Engineers
- Iowa State Alumni Association
- Philippine Fulbright Alumni Association
- CEAT Alumni Association
- UPLB Alumni Association
- UP Alumni Association
- The Honor Society of Phi Kappa Phi, Iowa State Chapter
- Alpha Epsilon-Honor Society of Agricultural, Food and Biological Engineering, Iowa State Chapter,
- Gamma Sigma Delta- the Honor Society of Agriculture, UPLB Chapter

PAPERS and PUBLICATIONS:

Refereed Publications:

Alibuyog, N.R. and **V.B. Ella**. 2008. Predicting copper transport in an undisturbed soil column using the two-region transport model. *Philippine Journal of Agricultural and Biosystems Engineering*, 6: 25-35

Lapong, E., **V.B. Ella**, M.G. Villano and P.M. Bato. 2008. Effects of Climatic Factors and Land Use on Runoff, Sediment Load, and Pesticide Loading in Upland Microcatchments in Bukidnon, Philippines. *Philippine Journal of Agricultural and Biosystems Engineering*, 6:49-56

Alibuyog, N.R., **V.B. Ella** and E.E. Paningbatan. 2008. Effects of Soil Physical Properties on the Transport of Chloride in an Undisturbed Soil Column. *Journal of Nature Studies* 7(1): 53-60

Alibuyog, N.R., **V.B. Ella**, D.T Franco and E.K. Peralta. 2007. Modeling groundwater recharge in a shallow aquifer in the Philippines. *Journal of Nature Studies* 6:161-173

Ella, V.B. 2005. Simulating shallow tubewell drawdown in the Philippines using a three-dimensional finite difference groundwater model. *International Agricultural Engineering Journal*, 14(4):175-186

Ella, V.B. 2005. Simulating soil erosion and sediment yield in small upland watersheds using the WEPP model In: Coxhead, I. and G.E. Shively (eds) *Land use change in tropical watersheds: evidence, causes and remedies*, **CABI Publishing**, CAB International, Oxfordshire, UK, pp. 109-125

Ella, V.B., S.W. Melvin, R.S Kanwar, L.C. Jones and R. Horton. 2002. Inverse three-dimensional groundwater modeling using the finite difference method for recharge estimation in a glacial till aquitard. *Transactions of the ASAE*. 45(3): 703-715.

Ella, V.B., S.W. Melvin and R.S. Kanwar. 2001. Spatial analysis of NO₃-N concentration in glacial till. *Transactions of the ASAE*. 44(2):317-327.

Conference Proceedings and Papers Presented in International and Local Professional/Scientific Conferences

Ella, V.B., M.R. Reyes and R. Yoder. 2008. Effect of Hydraulic Head and Slope on Water Distribution Uniformity of a Low-Cost Drip Irrigation System. *ASABE Meeting Paper No. 083748*. St. Joseph, Michigan (Paper presented at the 2008 Annual International ASABE Meeting, Providence, Rhode Island, USA, June 29-July 2, 2008).

Alibuyog, N.R., **V. B. Ella**, E. E. Paningbatan Jr., D. T. Franco, and A.M. Ramirez. 2007. Pedotransfer Approach in Estimating Soil Water Retention Using Artificial Neural Network (Paper presented at the 1st International Conference of the Philippine Society for the Study of Nature (PSSN), Palawan State University, May 2-4, 2007).

Ella, V.B. 2007. Potential application of groundwater models for sustainable water resources management in the Philippines (Paper presented at the Philippine Institute of Civil Engineers Conference, Los Baños, Laguna, April 12, 2007).

Alibuyog, N.R. and **V.B. Ella.** 2006. Predicting copper transport in an undisturbed soil column using the two-region transport model (Paper presented at the 6th Annual Scientific Meeting of the Philippine Society for the Study of Nature (PSSN), Kapalong, Davao del Norte, May 15-21, 2006).

Ella, V.B. 2004. Modeling contaminant transport in selected soils in the Philippines. *ASAE/CSAE Meeting Paper No. 04-2015*. St. Joseph, Michigan. (Paper presented at the 2004 Annual International ASAE/CSAE Meeting, Ottawa, Ontario, Canada, July 31-August 4, 2004).

Ella, V.B. 2004. Evaluating land cover effects on soil erosion and sediment yield in selected Philippine upland watersheds through WEPP model simulation. *ASAE/CSAE Meeting Paper No. 04-2021*. St. Joseph, Michigan. (Paper presented at the 2004 Annual International ASAE/CSAE Meeting, Ottawa, Ontario, Canada, July 31-August 4, 2004).

Ella, V.B. 2004. Simulating surface runoff, soil erosion and sediment yield in the Manupali subwatersheds using the WEPP model. (Paper presented at the International Research Conference on Sustainable Agriculture and Natural Resources Management, Diliman, Quezon City, January 13-14, 2004).

Ella, V.B. 2003. Predicting soil erosion and sediment yield in small Philippine watersheds using the WEPP model. *ASAE Meeting Paper No. 03-2065*. St. Joseph, Michigan. (Paper presented at the 2003 Annual International ASAE Meeting, Las Vegas, Nevada, July 27-30, 2003).

Ella, V.B. 2003. Geostatistical modeling of the spatial variability of nitrates in shallow groundwater systems in the Philippines. *ASAE Meeting Paper No. 03-2111*. St. Joseph, Michigan. (Paper presented at the 2003 Annual International ASAE Meeting, Las Vegas, Nevada, July 27-30, 2003).

Ella, V.B. 2003. Numerical groundwater modeling for sustainable shallow aquifer management in the Philippines. *ASAE Meeting Paper No. 03-2165*. St. Joseph, Michigan. (Paper presented at the 2003 Annual International ASAE Meeting, Las Vegas, Nevada, July 27-30, 2003).

Ella, V.B. 2002. Testing the applicability of the WEPP model for predicting soil erosion and sediment yield in small Philippine watersheds. *ASAE-CIGR Meeting Paper No. 02-2162*. St. Joseph, Michigan. (Paper presented at the 2002 Annual International ASAE Meeting-CIGR World Congress, Chicago, Illinois, July 28-31, 2002).

Ella, V.B., J.H. Lee and R. Horton. 2002. Simulating swine manure transport in soils using the mobile-immobile contaminant transport model. *ASAE-CIGR Meeting Paper No. 02-2129*. St. Joseph, Michigan. (Paper presented at the 2002 Annual International ASAE Meeting-CIGR World Congress, Chicago, Illinois, July 28-31, 2002).

Ella, V.B., S.W. Melvin and R.S. Kanwar. 2002. Nitrate-nitrogen loading rates in a glacial till aquitard. *ASAE-CIGR Meeting Paper No. 02-2215*. St. Joseph, Michigan. (Paper presented at the 2002 Annual International ASAE Meeting-CIGR World Congress, Chicago, Illinois, July 28-31, 2002).

Ella, V.B., S.W. Melvin, R.S. Kanwar, L.C. Jones and R. Horton. 2001. Inverse three-dimensional groundwater modeling using finite difference method for recharge estimation in a glacial till aquitard. *ASAE Meeting Paper No. 01-3070*, St. Joseph, Michigan. (Paper presented at the 2001 Annual International ASAE Conference, Sacramento, California. July 29- August 2, 2001).

Ella, V.B., J.H. Lee, and R. Horton. 2001. Swine manure transport measurements in cracking soils using time domain reflectometry. *ASAE Meeting Paper No. 01-2111*. St. Joseph, Michigan. (Paper presented at the 2001 Annual International ASAE Conference, Sacramento, California. July 29- August 2, 2001).

Ella, V.B. 2001. Potential applicability of hydrologic models for sustainable water resources management in the Philippines. (Paper presented and published in the proceedings of the 2001 International Conference on Water Resources Management, Philippine Water Works Association, Davao City. September 5-7, 2001).

Ella, V.B. 2001. Issues and constraints in using hydrologic models for sustainable upland water resources management in the Philippines. (Paper published at the website of the International Conference on Sustaining Upland Development in Southeast Asia: Issues, Tools & Institutions for Local Natural Resource Management, ACCEED Conference Center, Makati, Metro Manila, Philippines. May 28 – 30, 2001).

Ella, V.B., S.W. Melvin and R.S. Kanwar. 1999. Spatial analysis of NO₃-N concentration in glacial till. *ASAE Meeting Paper No. 992004*, St. Joseph, Michigan, (Paper presented at the 1999 Annual International ASAE Conference, Toronto, Ontario, Canada, July 19, 1999).

Papers Presented in Symposia/Public Fora/Summit/International Meetings:

Ella, V.B. 2008. Advances in soil and water resources engineering research in the Philippines. Paper presented at the CEAT Symposia on Engineering Research and Management, EE Auditorium, CEAT, UPLB, College, Laguna, October 9, 2008.

Ella, V.B. 2008. Potential applicability of a low-cost drip irrigation system for sustainable crop production in upland watersheds. Paper presented at SEARCA's Agriculture and Development Seminar Series, Drilon Hall, SEARCA, College, Laguna, September 2, 2008.

Ella, V.B. 2008. Irrigation development issues for rice production and food security in the Philippines. Paper presented in the Roundtable Discussion on Food Security with Focus on Rice, Abelardo Samonte Hall, UPLB, College, Laguna, April 21, 2008.

Ella, V.B. 2007. Agricultural Engineering Technologies for Climate Change Mitigation and Adaptation and for Sustainable Agriculture in the Philippines. Paper presented at the 3rd Technical Committee Meeting, United Nations Asian and Pacific Center for Agricultural Engineering and Machinery (UNAPCAEM), Beijing, China, November 20, 2007.

Ella, V.B. 2006. Philippine Country Report on Agricultural Engineering and Mechanization Research, Development and Extension. Paper presented at the 2nd Technical Committee Meeting, United Nations Asian and Pacific Center for Agricultural Engineering and Machinery (UNAPCAEM), Suwon, Republic of Korea, November 2006.

Ella, V.B. 2005. Philippine Country Report on Agricultural Engineering and Mechanization Research, Development and Extension. Paper presented at the 1st Technical Committee Meeting, United Nations Asian and Pacific Center for Agricultural Engineering and Machinery (UNAPCAEM), New Delhi, India, November 2005.

Ella, V.B. 2005. Groundwater quality assessment in Los Baños, Bay and Calauan, Laguna. Paper presented in Environmental Forum, UPLB, College, Laguna, August 25, 2005.

Ella, V.B. 2004. Predicting soil erosion and sediment yield in small upland watersheds in the Philippines using the WEPP computer simulation model. Paper presented at the 17th STARRDEC Regional Symposium on Research and Development Highlights, Rizal Technological University, Mandaluyong City, Metro Manila, August 13, 2004.

Ella, V.B. 2003. A three-dimensional numerical groundwater model for sustainable shallow aquifer management in the Philippines. Paper presented at the 15th National Research Symposium, BSWM, DA, Diliman, Quezon City, October 8, 2003.

Ella, V.B. and P.LI. Tabanao. 2003. Issues and recommendations to enhance the sustainability of groundwater resources utilization in the Philippines. Paper presented at the Water and Fish Summit, PCAMRD Headquarters, Los Baños, Laguna, January 30, 2003.

Ella, V.B. and W.P. David. 2001. Resource allocation model for irrigation development in the Philippines. Paper presented under the Sustained Growth, Poverty and Household Food Security in the Philippines Project funded by UNDP through the FAO, Quezon City.

Professorial Chair Lectures:

Ella, V.B. 2004. Numerical groundwater models as powerful tools for sustainable groundwater resources management in the Philippines. A PNOC Professorial Chair Lecture, UPLB, College, Laguna. 46 pp.

Ella, V.B. 2003. Assessing the impacts of agriculture on groundwater quality using geostatistical techniques. A SEARCA Professorial Chair Lecture, UPLB, College, Laguna 61 pp.

Textbooks:

Ella, V.B. 2006. Field Hydrology, Textbook written for the undergraduate course AENG 140, UP System Creative and Research Scholarship Program, UP Diliman, Quezon City. 230 pp.

Ella, V.B. 2002. Fundamentals of Agricultural Engineering I, Textbook written for the undergraduate course AENG 1, UP System Creative and Research Scholarship Program, UP Diliman, Quezon City. 215 pp.

Thesis, Dissertation and Dissertation Journal Papers:

Ella, V.B. 1999. Spatial analysis and simulation of selected hydrogeologic and groundwater quality parameters in a glacial till aquitard (Ph.D. Dissertation), Iowa State University, Ames, Iowa, USA. Also published in 1999 by UMI Dissertation Services, Bell & Howell Co., Ann Arbor, Michigan, USA.

Ella, V.B., S.W. Melvin, R.S. Kanwar, L.C. Jones and R. Horton. 1999. Three-dimensional transient inverse groundwater modeling using USGS-MODFLOW for recharge estimation in a glacial till aquitard Journal Paper No. J-18754. *Iowa Agriculture and Home Economics Experiment Station*, Iowa State University, Ames, Iowa, USA.

Ella, V.B., S.W. Melvin, R.S. Kanwar, L.C. Jones and R. Horton. 1999. Geostatistical analysis and estimation of hydraulic conductivity in glacial till. Journal Paper No. J-18570. *Iowa Agriculture and Home Economics Experiment Station*, Iowa State University, Ames, Iowa, USA.

Ella, V.B., S.W. Melvin and R.S. Kanwar. 1999. Spatial analysis of NO₃-N concentration in glacial till. Journal Paper No. J-18571. *Iowa Agriculture and Home Economics Experiment Station*, Iowa State University, Ames, Iowa, USA.

Ella, V.B., S.W. Melvin and R.S. Kanwar. 1999. Occurrence and distribution of NO₃-N and herbicides in shallow and deep groundwater in selected sites in Iowa. Journal Paper No. J-18755. *Iowa Agriculture and Home Economics Experiment Station*, Iowa State University, Ames, Iowa, USA.

Ella, V.B., S.W. Melvin and R.S. Kanwar. 1999. Nitrate-nitrogen loading rates in a glacial till aquitard. Journal Paper No. J-18753. *Iowa Agriculture and Home Economics Experiment Station*, Iowa State University, Ames, Iowa, USA.

Ella, V.B., S.W. Melvin, R.S. Kanwar and L.C. Jones. 1999. Hydraulic conductivity variations in weathered and unweathered glacial till from slug tests. Journal Paper No. J-18225. *Iowa Agriculture and Home Economics Experiment Station*, Iowa State University, Ames, Iowa, USA.

Ella, V.B. 1986. A conceptual water yield simulation model for small Philippine and Belgian watersheds. M.S. Thesis, Catholic University of Leuven, Belgium.

Non-refereed Publications and Technical Bulletins:

Manalili, M. M. and **V.B. Ella**. 2006. Spatial variability analysis of agricultural pesticide concentration, total dissolved solids and electrical conductivity in shallow groundwater in Bay and Los Baños, Laguna. Philippine Agricultural Mechanization Bulletin. Vol 12(1):24-30.

Sarigumba, S. S., **V.B. Ella**, M.A. Dorado and L.T. Dominguez. 2006. Spatial and temporal variability analysis of NO₃-N concentration in shallow groundwater in Bay and Los Baños, Laguna. Philippine Agricultural Mechanization Bulletin. Vol 14(1):27-35.

Ella, V.B. 2003. Procedures for using the WEPP model for predicting runoff, soil erosion and sediment yield in the Manupali subwatersheds in the Philippines. SANREM-ERGP Technical Bulletin No. 1/2003. Sustainable Agriculture and Natural Resource Management, Collaborative Research Support Program in Southeast Asia.

Ella, V.B. 2003. Procedures for preparing Philippine climatic data input for the WEPP model using Breakpoint Climate Data Generator (BPCDG). SANREM-ERGP Technical Bulletin No. 2/2003. Sustainable Agriculture and Natural Resource Management, Collaborative Research Support Program in Southeast Asia.

Occasional Papers:

Ella, V.B. 1998. Social construction of sludge or biosolids management. Unpublished occasional paper. Department of Sociology, Iowa State University, Ames, Iowa, USA.

Ella, V.B. 1997. Recent advances in soil erosion prediction. Unpublished occasional paper. Department of Agricultural and Biosystems Engineering, Iowa State University, Ames, Iowa, USA.

Ella, V.B., S. Traore, C. Sanogo and A. Attia. 1997. Spatial analysis of soybean cyst nematode population density in relation to soil properties and crop yield: A GIS application. Unpublished occasional paper. Dep't of Agricultural Engineering, Iowa State University, Ames, Iowa, USA.

Ella, V.B. 1996. Impact of livestock manure storage and stabilization ponds on groundwater quality. Unpublished occasional paper. Department of Agricultural and Biosystems Engineering, Iowa State University, Ames, Iowa, USA 43 pp.

Ella, V.B. 1996. Analytical solutions of radial and vertical groundwater flow equations: An Extensive Review of Literature. Unpublished occasional paper. Department of Civil and Construction Engineering, Iowa State University, Ames, Iowa, USA 59 pp.

Ella, V.B. 1996. Effects of dispersivity on the steady and transient movement of chloride in homogenous soil. Unpublished occasional paper. Soil Physics Division, Department of Agronomy, Iowa State University, Ames, Iowa, USA. 37 pp. including computer programs.

Ella, V.B. 1996. Dispersivity measurement methods for modeling contaminant transport in groundwater. Unpublished occasional paper. Department of Civil and Construction Engineering, Iowa State University, Ames, Iowa, USA 22 pp.

Ella, V.B. 1995. In-situ bioremediation of contaminated groundwater. Unpublished occasional paper. Department of Civil and Construction Engineering, Iowa State University, Ames, Iowa, USA

Training Manual/Papers for Short Training Courses:

Ella, V.B. and R.B. Firmalino. 1994. Irrigation system management training manual for the operation and maintenance of sprinkler and drip irrigation of STANFILCO, Dole Philippines, a training manual developed and presented during the seminar series for the engineering and production staff of STANFILCO, Dole, Philippines, Inc., Davao, Philippines.

Ella, V.B. 1994. Groundwater hydrology. Paper presented during the Training Course on Engineering for Rice Agriculture for Asian engineers, International Rice Research Institute (IRRI), College, Laguna, Philippines.

Ella, V.B. 1994. Matching of pump and well. Paper presented during the Training Course on Engineering for Rice Agriculture for Asian engineers, International Rice Research Institute (IRRI), College, Laguna, Philippines.

Ella, V.B. 1994. Irrigation methods for fruit crops. Paper presented during the Training Course on Horticulture for Bangladeshi midlevel officials, UPLB, College, Laguna, Philippines.

Ella, V.B. 1994. Operation of irrigation canal network and hydraulic structures. Paper presented during the Training Course on Irrigation System Management for Indonesian midlevel officials, UPLB, College, Laguna, Philippines.

Ella, V.B. 1994. Maintenance of irrigation canals and water control structures. Paper presented during the Training Course on Irrigation System Management for Indonesian midlevel officials, UPLB, College, Laguna, Philippines.

Ella, V.B. 1994. Estimation of irrigation water requirements. Paper presented during the Training Course on Irrigation System Management for Indonesian midlevel officials, UPLB, College, Laguna, Philippines.

Ella, V.B. 1991. Unit hydrograph development. Paper presented during the Training Course on Small-Scale Irrigation System Planning and Development for the Department of Agriculture engineering and socio-economic staff, UPLB, College, Laguna, Philippines.

Ella, V.B. 1991. Calculation of extreme runoff events. Paper presented during the Training Course on Small-Scale Irrigation System Planning and Development for the Department of Agriculture engineering and socio-economic staff, UPLB, College, Laguna, Philippines.

Ella, V.B. 1991. Open channel hydraulics. Paper presented during the Training Course on Small-Scale Irrigation System Planning and Development for the Department of Agriculture engineering and socio-economic staff, UPLB, College, Laguna, Philippines.

Ella, V.B. 1991. Water control structures. Paper presented during the Training Course on Small-Scale Irrigation System Planning and Development for the Department of Agriculture engineering and socio-economic staff, UPLB, College, Laguna, Philippines.

Ella, V.B. 1989. Water allocation and distribution on tertiary and quaternary units. Paper presented during the Training Program on Water Management for Indonesian Arakundo Jambu-Aye Irrigation Project, UPLB, College, Laguna, Philippines.

Ella, V.B. 1989. Design considerations of on-farm water control facilities. Paper presented during the Training Program on Water Management for Bangladeshi Water Development Board, UPLB, College, Laguna, Philippines.

Ella, V.B. 1988. Evapotranspiration: measurements and calculations. Paper presented during the Water Management Training Program for Bangladeshi midlevel officials, UPLB, College, Laguna, Philippines.

Ella, V.B. 1987. Design of canals and water control structures. Paper presented during the Training Program on Water Management for Bangladeshi Rural Development Board, UPLB, College, Laguna, Philippines.

Policy Paper:

Monsalud, F.C., P.P. Evangelista, A.J. Alcantara, H.A. Francisco, L.M. Varca, **V.B. Ella** and P.S. Sandoval. 2003. R&D Status and Directions (2000 and beyond), Agricultural Ecosystem. Philippine Council for Agriculture, Forestry and Natural Resources Research and Development, Department of Science and Technology, Philippines