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By Professor Orlando F. Balderama (Visiting Professor of RECWET)
Professor and Director, Water Resources Management Center,
Isabela State University, Philippines.

DATE and TIME: 15:00-16:00, December 10, 2018

Place: 145 lecture room, 2nd floor, Engineering Building #14

Title of Presentation

Decision Support System for Climate Change Adaptation and Management of Water Hazards in River Basins: *The Case of Cagayan River Basin, Philippines*

Abstract

River basin approach to development planning has been equated to the application of Integrated Water resources management at regional scales, focusing on the critical needs of available quantities of clean water for human survival and sustainable development (GWP,2000). Such efforts include inter-relating the management of water quality and quantity, with ground and surface waters, the land–water interface, ecological concerns, economic development and water-related disasters. Since 2004, the Philippines has experienced several years of either prolonged dry periods and drought, or extreme rainfall and heavy typhoon activity (Yumul et al. 2011) which have considerable implications for water security and increased attention to resulting water hazards.

This presentation is about discussion on compelling needs, framework, methodologies and some results in developing an integrated decision support system for climate change adaptation and in mitigating impact of water hazards in river basin environment; specifically addressing floods, drought, pollution and other hydrometeorological disasters resulting to climate change and other anthropogenic activities. Analytical modeling tools are introduced such as SWAT, WEAP and DSSAT models to generate scientific information in aid of evidence-based policy making and mainstreaming into development plans of communities, cities and river basins in the Philippines. Further, some experiences and actual case studies from research efforts on climate adaptation and disaster management in Cagayan River Basin is highlighted in the presentation.



Dr. Orlando F. Balderama finished his BS Agricultural Engineering degree at Isabela State University (cum laude) in 1985; Master of Engineering at the Asian Institute of Technology, Thailand in 1987; Diploma in Agricultural Meteorology at Ben Gurion University in 1989; Ph.D. in Agricultural Engineering at the University of Tokyo in 1998; and presently a visiting Professor at the University of Tokyo's Graduate School of Engineering. His research interest includes water resources, irrigation, river basin, and watershed management; climate change adaptation and disaster risk management.

He is presently a Professor and Director, Water Research and Development Center of the Isabela State University, Philippines.