

5th CEM RESEARCH FORUM

COLLEGE OF ECONOMICS AND MANAGEMENT
UNIVERSITY OF THE PHILIPPINES LOS BAÑOS

"Advanced Analytics in Economics and Agribusiness Management Towards a More Responsive Public Service"

November 13, 2017

REDREC Auditorium, CEM, UP Los Baños, College, Laguna



OUR VISION

CEM as a center of excellence in instruction, research and extension in economics, agricultural and applied economics, and management in Asia; and as an institution of higher learning that can serve as a catalyst for economic and social transformation

OUR MISSION

1. To produce graduates and future leaders with strong training in economics, agricultural and applied economics, and management for addressing the challenges of economic growth and development under a competitive global setting; and
2. To engage in development-oriented research, policy advocacy and extension services that would promote efficiency, equity, competitiveness and environmental sustainability

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Dr. Maria Luisa G. Valera
Asst. Prof. Dia Noelle F. Velasco

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2017

ABOUT CEM RESEARCH FORUM

This year's research forum features the researches conducted by faculty of CEM that highlight the application of new and non-traditional mathematical and statistical techniques in the fields of economics and management towards a more evidenced-based research outputs and policy recommendations. Colleagues with strong quantitative research backgrounds are invited to share their expertise and experiences in applying more avant-garde analytical methods that can address modern-day economic and management problems and issues that beset the agriculture and industry sectors.

Hence, in this 5th Research Forum, the College takes the challenge of showcasing both: (a) the strength and advantages of researches that are grounded on strong data analytics; and (b) the works of colleagues that focus on the measurement of economic and management theories as they are applied in practice. With the theme, "Advanced Analytics in Economics and Agribusiness Management Towards a More Responsive Public Service," the forum hopes to find answers to this challenge and to inspire every faculty and researcher of CEM to address policy and research issues in agriculture and industries via more quantitative approaches that are supported by state-of-the-art statistical and mathematical analyses towards more responsive policy-making and public service. The forum is divided into two parts: (1) Application of Data Analytics to Business Management and Financial Markets and (2) Advanced Quantitative CEM Researches.

Part I is composed of four paper presentations (including the keynote presentation) focusing on quantitative management and data analytics in business and financial markets, which is spearheaded by the Department of Agribusiness Management and Entrepreneurship (DAME). On the other hand, Part II is divided into two sub-presentations. The first sub-presentation features selected papers from the Sciences and Technology-Based (STBF) project that was commissioned by PCAARRD and implemented by CEM in cooperation with three other state universities in the country, namely: CLSU, VSU and USEP. The presentations are focused on the impact assessment of STBF farms that were implemented by PCAARRD in Region 3 (Central Luzon), Region 4 (CALABARZON and MIMAROPA) and Region 5 (Bicol Region). The second sub-presentation presents quantitative researches conducted by faculty of the Department of Agricultural and Applied Economics (DAAE), Department of Economics (DE) and the Institute of Cooperatives and Bio-Enterprise Development (ICOPED).

PROGRAMME

8:15-8:45	<i>REGISTRATION</i>	
8:45-9:15	OPENING PROGRAM	
	Invocation and Philippine National Anthem	Asst. Profs. Richard B. Daite and Liezel S. Cruz, Emcees
	Welcome Remarks	Dr. Isabelita M. Pabuayon CEM Dean
	Inspirational Message	Dr. Fernando C. Sanchez, Jr. UPLB Chancellor
9:15-9:20	Overview of the Forum	Dr. Yolanda T. Garcia CEM R&E Coordinator
9:20-9:25	Introduction of Keynote Speaker	Asst. Prof. Mar B. Cruz DAME, CEM
9:25-10:25	KEYNOTE MESSAGE	Dr. Eugene Rex L. Jalao College of Engineering, UP Diliman
10:25-10:35	OPEN FORUM	
10:35-10:40	Giving of Token of Appreciation and Group Photo	

SESSION 1: Application of Data Analytics to Business Management and Financial Markets

Session Chair: Dr. Marilyn M. Elauria, DAAE

10:40-10:55	Fuzzy Multiple Objective Linear Programming Model:	Dr. Jerrold M. Tubay IMSP, CAS, UPLB
10:55-11:00	Food vs. Fuel in Bioethanol Production	Discussant: Asst. Prof. Anna Floresca F. Fimalino DE, CEM
11:00-11:15	Consistency-Consensus- Preference-Maximizing AHP-based Linear	Asst. Prof. Mar B. Cruz DAME, CEM
11:15-11:20	Programming Model for Group Decision Making	Discussant: Asst. Prof. Glenn T. Baticados, DAME, CEM

11:20-11:35	Estimating Consumer Surplus of e-Banking using Hedonic Price Model	Dr. Yolanda T. Garcia DE, CEM
11:35-11:40		Discussant: Assoc. Prof. Jeanette Angeline B. Madamba, DAME, CEM

11:40-11:55 OPEN FORUM

11:55-1:00

LUNCH

SESSION 2: Advanced Quantitative CEM Researches - I

Session Chair: Dr. Maria Luisa G. Valera, DE

1:00-1:15	Adoption of Agricultural Production Technologies in the Philippines: Experiences and Insights from DOST-PCAARRD's Science and Technology-Based Farm (STBF) Program	Asst. Prof. Normito R. Zapata, Jr., DAME, CEM
1:15-1:20		Discussant: Prof. Dinah Pura T. Depositario DAME, CEM
1:20-1:35	Impact Assessment of the Science and Technology-Based Farm (STBF) on Saba Production in Aborlan, Palawan	Asst. Prof. Nohreen Ethel P. Manipol, DAME, CEM
1:35-1:40		Discussant: Prof. Dinah Pura T. Depositario DAME, CEM
1:40-1:55	Quasi-Experimental Methods for Estimating the Impacts of Sikat Saka Program on Small Palay Farmers in the Philippines	Asst. Prof. Karen P. Quilloy ICOPEP, CEM
1:55-2:00		Discussant: Dr. Agham C. Cuevas, DE, CEM
2:00-2:15	OPEN FORUM	
2:15-2:30	<i>COFFEE/TEA BREAK</i>	

SESSION 3: Advanced Quantitative CEM Researches - II
Session Chair: Dr. Imelda R. Molina, DAAE

2:30-2:45	The Use of Meta-Analysis in Benefit Transfer of Environmental and Resource Values: Applications, Insights and Challenges	Dr. Arvin B. Vista DAAE, CEM
2:45-2:50		Discussant: Asst. Prof. Julie Carl Ureta, DE, CEM
2:50-3:05	Network Analysis and Gravity Model of Trade: Implications of New Generation Trade Agreements on Philippine Agriculture	Asst. Prof. Emmanuel Genesis T. Andal, DE, CEM
3:05-3:10		Discussant: Asst. Prof. Nino Alejandro Q. Manalo DE, CEM
3:10-3:25	Rent-seeking and Endogenous Property Rights Selection: An Experiment	Dr. Klarizze Anne Martin Puzon, SLU, Sweden and School of Economics, UP Diliman
3:25-3:30		Discussant: Dr. Prudenciano U. Gordoncillo, DAAE, CEM
3:30-3:45	OPEN FORUM	
3:45-3:55	<i>Awarding of Certificates</i>	
3:55-4:00	Closing Remarks	Dr. Yolanda T. Garcia CEM R&E Coordinator

ASST. PROFS. RICHARD B. DAITE AND LIEZEL S. CRUZ
Masters of Ceremony

About the Keynote Speaker



DR. EUGENE REX L. JALAO

Associate Professor, College of Engineering
 Assistant University Registrar for
 Computerized Registration
 University of the Philippines Diliman

Industrial Engineer and Business Analytics
 Consultant
 Victor A. Lim Professorial Chair in Industrial
 Engineering

Eugene Rex L. Jalao is an Associate Professor of Analytics and Industrial Engineering in the University of the Philippines Diliman, Department of Industrial Engineering and Operations Research. He specializes in Decision Support Systems, Business Analytics Solutions, Data Mining, Optimization and Systems Simulation. He obtained his Ph.D. in Industrial Engineering from Arizona State University (ASU) in May 2013. Additionally, he obtained his Masters of Science in Industrial Engineering degree as well as his Bachelor of Science in Industrial Engineering from the University of the Philippines Diliman in 2009 and 2007 respectively. He was inducted into the Alpha Phi Mu, Industrial Engineering Honor Society in 2012.

Dr. Jalao's ten years of work and research experience are in the fields of business analytics both here in the Philippines and in the United States of America, specifically in the Banking, FMCG, Manufacturing, Real Estate, Healthcare, Telecommunications and Information Technology industries. Also, he is the current director of the Business Analytics Certification Program of UP National Engineering Center. Furthermore, he was part of 50-person APEC team that drafted the Recommended Data Science and Analytics Competencies last May 2017 in Singapore. He is also a certified SAP ERP Materials Management consultant, a Matlab computing associate and an advocate of the R Programming language.

SESSION PRESENTATIONS

**SESSION 1: APPLICATION OF DATA ANALYTICS
TO BUSINESS MANAGEMENT AND
FINANCIAL MARKETS**

SESSION 2: ADVANCED QUANTITATIVE CEM RESEARCHES - I

SESSION 3: ADVANCED QUANTITATIVE CEM RESEARCHES - II

Fuzzy Multiple Objective Linear Programming Model: Food vs. Fuel in Bioethanol Production

Speaker: **DR. JERROLD M. TUBAY**
Associate Professor, Mathematics Division,
Institute of Mathematical Sciences and Physics,
College of Arts and Sciences, UPLB

Discussant: **Asst. Prof. Anna Floresca F. Fimalino**
Assistant Professor, Department of Economics, CEM, UPLB
Director, University of the Philippines Professional
School for Agriculture and the Environment

A fuzzy goal programming (FGP) approach for the optimal allocation of feedstock (i.e., corn, sugarcane, cassava and sweet sorghum) for bioethanol production was formulated in this study. The mathematical model proposes to determine different allocation strategies that address the conflicts between food and ethanol requirement. The model formulation enables the specification of targets for these requirements. Since these targets are vague or difficult to determine accurately, they are modeled as “fuzzy”. A separate but different tolerance-based FGP technique is developed to quantify the fuzziness of these different goals and constraints. The fuzzy goals and constraints are transformed to linear forms by introducing tolerance variables. The model then is structured to minimize the values of the weighted sum of tolerance variables. This formulation is deemed as the most acceptable compromise and provides the most satisfactory set of allocations possible. The model is then verified using data from government agencies. The validation includes a sensitivity analysis to determine the ranges of feasibility and optimality of the model with respect to the gathered data. The results from this study can help address the debate about food versus fuel, provide technical and socio-economic information about ethanol production.

Key words: fuzzy goal programming, linear programming, bioethanol

Consistency-Consensus-Preference-Maximizing AHP-Based Linear Programming Model for Group Decision Making

Speaker: **ASST. PROF. MAR B. CRUZ**
Assistant Professor, DAME, CEM, UPLB

Discussant: **Asst. Prof. Glenn T. Baticados**
Assistant Professor, DAME, CEM, UPLB
Director, UPLB Center for Technology Transfer
and Entrepreneurship

This study proposed an Analytic Hierarchy Process (AHP)-based linear programming model that simultaneously maximizes the consistency, consensus and preferences of decision makers while it emphasizes the importance of preciseness/certainty and completeness of decision makers' preference information through the incorporation of a reward-penalty system. The proposed model was illustrated by using the preference information of respondents of a particular group in a market study project for two shrimp technologies. In particular, the weights or priorities of four technology attributes (accuracy and sensitivity of results, aesthetics and ergonomic design, cost of technical requirements, and speed and complexity of process) were computed using the proposed model.

Key words: *analytic hierarchy process-based linear programming, group decision making*

Estimating Consumer Surplus of e-Banking using Hedonic Price Model

Speaker: **DR. YOLANDA T. GARCIA**
Professor, DE, CEM, UPLB
E.C.J. Infantado and A.J.U. Sajise (co-authors)

Discussant: **Assoc. Prof. Jeanette Angeline B. Madamba**
Associate Professor, DAME, CEM, UPLB

This study seeks to estimate the consumer surplus (CS) of e-banking gained by clients of commercial banks in Bulacan, Philippines during the first quarter of 2017. Since e-banking is provided free to clients, there is no market price that can be attributed to this particular service. Hence, a hedonic pricing method was employed to generate its implicit price. This was done by equating the marginal rate of substitution (MRS) of the indifference curve between traditional and e-banking transactions to the relative prices of these two types of bank services. A linear demand function is then fitted using double-log regression of the number of e-banking transactions that were availed by clients at different implicit price levels. Finally, the CS was calculated using the double integration method of the fitted demand curve.

Results of the study showed that at the implicit price equal to zero, the optimal number of internet banking transactions was 8 times per month, while the per capita CS was estimated at Php 3,960.68. The total CS of e-banking for the whole province of Bulacan was estimated by multiplying the per capita CS by 841,000 potential users with ages ranging from 18-59 years old. Therefore, the total CS was estimated to be Php 3,330 B. This study suggests that e-banking can bring about enormous welfare benefits to the banking public. Furthermore, welfare gains can be maximized if the older segment of the banking population can be enticed to avail of e-banking platforms through more convincing information campaigns.

Key words: *e-banking, hedonic pricing, implicit price, welfare benefits, consumer surplus*

SESSION 1: About the Speakers



JERROLD M. TUBAY is an Assistant Professor at the Mathematics Division of the Institute of Mathematical Sciences and Physics, College of Arts and Sciences, University of the Philippines Los Baños. He obtained his Bachelor's and Master's degrees in UPLB and his Doctor of Science in degree in the Department of Mathematical and Systems Engineering in Shizuoka University (Hamamatsu Campus) in Japan last 2015. His research fields are Operations Research (e.g., optimization modeling) and Biomathematics (e.g., ecological and environmental modeling). Dr. Tubay was recently named as one of the five 2017 NAST Talent Search for Young Scientists awardees of the National Academy of Science and Technology.



MAR B. CRUZ is an Assistant Professor of Management Science and Operations Management at the Department of Agribusiness Management and Entrepreneurship (DAME), College of Economics and Management (CEM), University of the Philippines Los Baños Laguna (UPLB). He earned his BS Agribusiness Management degree from UPLB in 2010 and his MS in Industrial Engineering degree from UP Diliman in 2015.

Before joining the academe, he worked as Research Supervisor at Dole Philippines, Inc. from 2011 to 2012.



YOLANDA T. GARCIA is a Professor at the Department of Economics, College of Economics and Management, University of the Philippines Los Baños. Her fields of interest are Econometrics, Macroeconomics and Resource & Environmental Economics. She had served as consultant to various international and local organizations such as the International Rice Research Institute (IRRI); Southeast Asian Center for Research in Agriculture (SEARCA), WorldFish (formerly ICLARM) and The Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development (PCAARRD), where she participated in developing research priorities in agriculture and fisheries sectors of the Philippines and the rest of Southeast Asia, especially in the areas of trade, market demand, supply and policy advocacy.

Adoption of Agricultural Production Technologies in the Philippines: Experiences and Insights from DOST-PCAARRD's Science and Technology-Based Farm (STBF) Program

Speaker: **ASST. PROF. NORMITO R. ZAPATA, JR.**
Assistant Professor and Chair, DAME, CEM, UPLB
M.A.M. Orden, N.E.P. Manipol, F.M. Gabunada,
P.G. Bayacag, Y.T. Garcia, and J.S. Cabral (co-authors)

Discussant: **Dr. Dinah Pura T. Depositario**
Professor, DAME, CEM, UPLB

The paper examined the extent of technology adoption in selected farming communities in the Philippines. Specifically, it documented the experiences and insights of farmers who participated in the Science and Technology-Based Farm (STBF) Program funded by the Department of Science and Technology - Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development (DOST-PCAARRD) and implemented by selected state universities and colleges, local government units and specialized agencies in the Philippines for the period 2007-2013. A total of 177 Magsasaka-Siyentista (MS) / Farmer-Cooperators (FCs) and 1,306 farmer-adopters/ non-adopters were interviewed. Data were analyzed using descriptive statistics and benefit-cost analysis. The study confirmed that the increase in productivity and profitability is still the primary motivator of farmers for adopting agricultural production technologies. However, the main factor that inhibits adoption of technology is the additional labor requirement and implementation costs associated with the use of new farm inputs and techniques. It is recommended that common service facilities be provided for technologies that are capital intensive. The inputs that are vital for the adoption of technologies should also be made available in the community. Moreover, the requirements of various players in the value chain should be considered in identifying the technologies to be introduced in future STBF projects.

Key words: *S&T-based farm program, benefit-cost analysis, technology adoption*

Impact Assessment of the Science and Technology-Based Farm (STBF) on Saba Production in Aborlan, Palawan

Speaker: **ASST. PROF. NOHREEN ETHEL P. MANIPOL**
Assistant Professor, DAME, CEM, UPLB
B.M. Bathan, M.N.Q Herrera, N.A. Aquino
and R.M. Sugay (co-authors)

Discussant: **Dr. Dinah Pura T. Depositario**
Professor, DAME, CEM, UPLB

This project generally aimed to determine the impact of the Science and Technology-Based Farm (STBF) in terms of demonstrating the effectiveness of Science and Technology (S&T) interventions in improving the farming system technology in the production of banana, the One Town, One Product (OTOP) of Aborlan, Palawan. The implementing agencies for this STBF were the Southern Tagalog Agriculture and Resources Research and Development Consortium (STARRDECC) and Western Philippines University (WPU)-FITS. The STBF farm owned by Mr. Mauricio L. Zabanal, a Magsasaka Syentista (MS) was established in Sitio Maringit, Brgy. Sagpangan, Aborlan, Palawan. A total of Php 247,193 was funded by PCAARRD for this three-year STBF project, from August 2008 to July 2010. The S&T interventions applied by the MS were: removal of male bud, control of population density, ring weeding, de-leafing and mat sanitation, organic fertilizer application, de-suckering, and irrigation. The output in terms of farm established, number of farmers served, field days conducted, awards received, and news articles/IEC materials were documented. The outcomes of the project included increase in productivity and farm income. The perceptions of the farmers as well as the adoption factors and challenges in adopting the interventions were also noted.

Key words: *impact assessment, S&T-based farm, technology adoption, saba*

Quasi-Experimental Methods for Estimating the Impacts of Sikat Saka Program on Small Palay Farmers in the Philippines

Speaker: **ASST. PROF. KAREN P. QUILLOY**
Assistant Professor, ICOPED, CEM, UPLB
Associate Dean, CEM, UPLB

Discussant: **Dr. Agham C. Cuevas**
Associate Professor and Chair, DE, CEM, UPLB

This study is an assessment of the Philippine government's direct lending program, Sikat Saka Program. It aimed to assess the immediate impacts of the program on small farmers' palay productivity and gross sales and on their net farm income. Quasi-experimental design was employed in the research to deal with the program's non-random placement and self-selection bias and with the unavailability of baseline data. Descriptive analysis were used to assess the perceived impacts of the program while regression-based models were used to estimate the impacts of the program. Particularly, the least squares regression and the instrumental variable estimation (using two-stage least squares regression) were employed in the quantitative impact assessment. The farmers' perceived impacts of Sikat Saka Program were generally found to be highly positive. On the other hand, the two estimation models consistently showed that Sikat Saka Program had a positive impact on improving the gross palay sales and net farm income of the farmer-beneficiaries but did not reveal any significant impact on their palay productivity or yield per cropping.

Key words: *directed credit program, discrete choice modeling, difference-in-difference evaluation*

SESSION 2: About the Speakers



NORMITO R. ZAPATA, JR. is an assistant professor and currently serving as the Chairman of the Department of Agribusiness Management and Entrepreneurship (DAME), College of Economics and Management (CEM), UPLB. He earned his BS Agribusiness Management (magna cum laude) from UPLB in 2003 and his MS in Finance from UP Diliman in 2007. His research interests include impact assessment of agricultural R&D, feasibility studies, microfinance and analysis of financial statements.



NOHREEN ETHEL P. MANIPOL is an Assistant Professor at the Department of Agribusiness Management and Entrepreneurship (DAME), CEM, UPLB, where she teaches management and entrepreneurship courses. She finished Master of Management (Major in Business Management) at UPLB in 2006. Her recent project involvements were the following: "Impact Assessment of the Rural Enterprise Development through Innovative Goat Production Systems Project" and "Impact Assessment of STBF Technology Transfer Modality in Regions IV and V," both funded by PCAARRD-DOST, and "Enriching Entrepreneurship Education at the Department of Agribusiness Management and Entrepreneurship (DAME), CEM, U. P. Los Baños," which was funded by the UP OVPAA Emerging Interdisciplinary Research. She has published articles in peer-reviewed journals and presented papers at local and international conferences.



KAREN P. QUILLOY is an assistant professor at the Institute of Cooperatives and Bio-Enterprise Development, College of Economics and Management (CEM), University of the Philippines Los Baños and is currently serving as the associate dean of CEM. She has done several researches in the fields of cooperative and rural development, food security, agricultural policy and marketing, and environmental management. Asst. Prof.

Quillooy obtained her bachelor's and master's degree in Agricultural Economics from CEM, UPLB. She was awarded as the CEM Most Outstanding Junior Researcher last July 2017.

The Use of Meta-Analysis in Benefit Transfer of Environmental and Resource Values: Applications, Insights and Challenges

Speaker: **DR. ARVIN B. VISTA**
Assistant Professor, DAAE, CEM, UPLB

Discussant: **Asst. Prof. Julie Carl U. Ureta**
Assistant Professor, DE, CEM, UPLB

Benefit transfer, which is the application or use of existing value estimates to inform other decisions, are suggested when there is budget and times constraints or when the resource impacts are expected to be low or not significant. This paper highlights the applications, insights and challenges in the use of meta-analysis in benefit transfer of environmental resource values in the Philippines and offers recommendations for its future use. To this end, the 20 published meta-analyses that is accessible at the Environmental Valuation Resource Inventory database were summarized. These meta-analyses reported five categories of environmental assets, three document types, five value/usage types, three valuation techniques employed, and six economic measures reported. Moreover, five econometric issues are identified, including: (1) sample selection criteria; (2) basic data summary; (3) primary data heterogeneity; (4) heteroskedasticity; and (5) non-independence of multiple observations from the primary studies that became the bases of these meta-analyses. Moreover, reporting guidelines for employing the best-practice of meta-analysis in economics is outlined and suggested. One sample journal employing meta-analytic method for benefit transfer of recreational fishing is given to highlight its application. Finally, insights and challenges on the use of meta-analytic methods for benefit transfer of environmental and resource values in the Philippines are enumerated and raised.

Key words: meta-analysis, benefit transfer, environmental valuation

Network Analysis and Gravity Model of Trade: Implications of New Generation Trade Agreements on Philippine Agriculture

Speaker: **ASST. PROF. EMMANUEL GENESIS T. ANDAL**
Assistant Professor, DE, CEM, UPLB

Discussant: **Asst. Prof. Nino Alejandro Q. Manalo**
Assistant Professor, DE, CEM, UPLB

As the Philippines pursues new bilateral and plurilateral trade agreements, it is crucial for it to have a critical assessment of its readiness to meet the obligations and commitments set out in such new agreements, along with the strategic opportunities and challenges these may present. The paper aims to help identify appropriate courses of action that will properly situate the agricultural sector within the more open trading environment that has become inevitable with closer economic integration and interdependence. The study employed network analysis and gravity model of trade to analyze if the opportunity cost in not being a member of these Free Trade Agreements (FTAs) is substantial, and to estimate the potential effects of FTA membership to agricultural bilateral trade flows. The study identified the likely gainers and losers from joining these new generation FTAs. Recommendations made include improvement of transportation and logistics system, improvement of productivity and competitiveness, establishment of reliable market information/data bank, and clarification of country objectives for collective action. These must be addressed in order to maximize the gains from the current and new FTAs.

Key words: *free trade agreements, network analysis, gravity model*

Rent-seeking and Endogenous Property Rights Selection: An Experiment

Speaker: **DR. KLARIZZE ANNE MARTIN PUZON**
Visiting Professor, School of Economics, UP Diliman

Discussant: **Dr. Prudenciano U. Gordoncillo**
Associate Professor, DAAE, CEM, UPLB

We study experimentally a rent-seeking game where players can compete over a given resource. In the first stage, selected members of the group determine the level of property rights for the resource. The protected fraction of the resource is equally shared among group members. In the second stage, what is not shared is competed for in a proportional prize rent-seeking game. In the spirit of the “democracy premium”, we consider three institutions varying in the extent by which subjects participate in the first stage: vote (all group members participate), leader (only one member decides), and baseline (an outsider decides). To test robustness, we also vary the initial level of the resource: scarce or abundant. In general, we find that voting reduces total rent-seeking efforts. For groups that are allowed to vote, even if they implement weak protection in the first stage, they are able to compete less in the second stage. For the leader and baseline treatments, in contrast, there is an observed overinvestment to rent-seeking even if property rights selection was costless. These experimental results are stronger when the resource suddenly becomes abundant than when scarce.

Key words: *rent-seeking game, property rights selection*

SESSION 3: About the Speakers



ARVIN B. VISTA is an Assistant Professor at the Department of Agricultural and Applied Economics, CEM, UPLB. He specializes in the areas of resource and environmental economics, and forest and environmental resources management. His research interests include ecosystem services, valuation recreation economics, economic impact assessment, economic modeling, protected area sustainable financing, climate change,

and renewable energy. Dr. Vista has published a number of articles in international and local journals, chapters in book and discussion papers. He obtained his PhD in Forest Resources from Oregon State University in 2010; his Master of Science in Agricultural Economics from Michigan State University in 2003, with a GPA of 3.4; and his Bachelor of Science in Forestry, cum laude from UPLB in 1999.



EMMANUEL GENESIS T. ANDAL is an assistant professor at the Department of Economics, CEM, UPLB. He is a PhD candidate from the School of Economics, University of the Philippines, Diliman, and is currently working on his doctoral dissertation. Before joining CEM, he worked as a consultant in the Economics and Research Division, in the Asian Development Bank. He also served as a research assistant in the Human Development Network and the

Center of Advancement of Trade Integration and Facilitation. Additionally, he used to be a part-time faculty member in the Department of Economics of the Ateneo de Manila University and Miriam College and served as a teaching fellow at the UP School of Economics. His areas of interest are international economics, new institutional economics, and game theory.



KLARIZZE ANNE MARTIN PUZON is an applied microeconomist conducting research along the themes of public economics, resource economics, and development. She utilizes both game theoretical and empirical methods, esp. experiments in the laboratory and in the field. Her research has been published in journals like *European Economic Review* and *Games*. She has also designed and lectured courses in various universities in Asia and Europe.

Dr. Puzon graduated Summa cum laude for her PhD in Economics from the University of Montpellier, France in 2015; cum laude for her Research Master in Economics from Toulouse School of Economics, France in 2011; and magna cum laude for her Bachelor of Science in Economics, from UP Diliman, School of Economics in 2008.

PREVIOUS RESEARCH FORUMS

1st CEM Research Forum

11 October 2013, UPLB CTTE Building, College, Laguna

- **Agnes T. Banzon.** Dissecting a Social Enterprise: Reconciling Economic Sustainability and Social Impact
- **Yolanda T. Garcia.** Regional Economic Integration of the Fisheries Sector in ASEAN Countries
- **Alessandro A. Manilay.** Impact Assessment of Selected Projects under the S&T Anchor Program for Mango - Phase II
- **Cesar B. Quicoy.** An Assessment of the Informal International Trade of Selected Agricultural Commodities in the Philippines
- **Dinah Pura T. Depositario.** Trends in SEARCA's Food Security Researches: Insights from a Meta-Analysis
- **Anselma Manila.** Impact Assessment of the Fishery School-on-the-Air.
- **Alicia R. Quicoy.** Benchmarking and Value Chain Analysis of Organic Vegetables in Regions 3 and 4.
- **U-Primo Rodriguez.** Biofuels and the Philippine Economy: Simulations from a Computable General Equilibrium Model.

2nd CEM Research Forum

17 November 2014, ICOPED Auditorium, UPLB, College, Laguna

- **Jan Danica S. Asma.** Assessment of the DOST's Assistance Through the Small Enterprise Technology Upgrading Program on MSMEs in CALABARZON Region
- **Jewel Joanna S. Cabardo.** Assessment of the Viability of a Village-Level Bioethanol Production from Nipa (*Nypa fruticans*, Wurmb) as Energy Resource for Rice Farming: The Case of Vinzons, Camarines Norte
- **Nora D. Carambas.** Profit Function approach to Productivity and Efficiency Analysis of Sugarcane Farms in the Philippines
- **Rowena A. Dorado.** WTP for a Flood Early Warning System in Laguna
- **Diane I. Espiritu.** Comparative Analysis of the Personal Entrepreneurial Competencies of UPLB B.S. ABM and DLSU-STC B.S. in Entrepreneurship Students
- **Karen P. Quillooy.** Cooperative Enterprise Model: Creating Opportunities for Sustainable Enterprise
- **Trinh Quang Thoai.** Participation and Payment for Forest Management in Vietnam: A Case Study in Northwest Mountainous Region

- **Bui Hong Quy.** Input and Output Commercialization Among Poor and Non-Poor Lychee Farmers in Luc Ngan District, Bac Giang Province, Vietnam
- **Maria Luisa G. Valera.** Remittance and Household Food Expenditures
- **Arvin B. Vista.** Primary Study Aggregation Effects in Meta-Analysis of Sportfishing Values: Issues and Implications
- **Marvin Christian Zamora.** Education Inequality and Its Effect on Income Inequality in the Philippines
- **Normito R. Zapata, Jr.** Impact Assessment of the Rural Enterprise Development (RED 1) Through Innovative Goat Production System Project

3rd CEM Research Forum

5 October 2015, ICOPED Auditorium, UPLB, College, Laguna

- **Joel Decric I. Abante.** An Empirical Investigation on Inequality, Trust and Trustworthiness
- **Jaimie Kim B. Arias.** Impacts of and Adaptation to Extreme Weather Events: An Intrahousehold Perspective
- **Princess Alma Baldonado.** Bioeconomic Modeling of Soil Conservation Alternatives: A GIS-Based Approach in Assessing the Suitability of Selected Agro-forestry Systems in the Upland Farms of Claveria, Misamis Oriental, Philippines
- **Mar B. Cruz.** A Stochastic Analytic Hierarchy Process-Based Methodology for Group Decision Making: With Application to Supplier Selection Problem
- **Niño Alejandro Q. Manalo.** Costs of Agricultural Credit and Interest Rate Sensitivity of Small farmers: An Empirical Study
- **Alessandro A. Manilay.** Effect of Economic Condition on Household Nutritional Status of Waged Agricultural Workers in Calauan, Laguna, Philippines
- **Alicia R. Quicoy.** Assessing Students' Awareness on Cooperatives
- **Roberto F. Rañola, Jr.** Emerging Issues in Managing Environmental Risks for the Laguna Lake Area
- **Juan Paulino S. Trespalacio, Jr.** A Preliminary Study for a Financial Monitoring System for General Trias Dairy Raisers Multi-Purpose Cooperative (GTDRMPC) in Cavite
- **Dia Noelle F. Velasco.** Disaggregating the Coffee Supply Chain Network in Benguet, Philippines: A Step Towards Understanding Relational Ties

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- **Richard B. Daité.** Assessing ISPs for the Livestock Sector
- **Zenaida M. Sumalde.** Economic Value of ISPs for Selected Crops
- **Yolanda T. Garcia.** Economic Value of ISPs for Milkfish, Tilapia, Shrimp and Mudcrab
- **Arminga B. Peria.** Self-Assessment of the Performance of Female Officers in Selected Cooperatives in Laguna
- **Prudenciano U. Gordoncillo.** Estimating The Impact of Philippine Conditional Cash Transfer Program to the Household Economy Using Propensity Score Weighted Regression Discontinuity Design (RDD) Models
- **Rachelle A. Mariano.** Pigmented Rice Grain Quality and Consumer Preferences in Selected Markets in the Philippines