ISSN 0115-172X

The SEARCA DIARY

A PUBLICATION OF THE SOUTHEAST ASIAN REGIONAL CENTER
FOR GRADUATE STUDY AND RESEARCH IN AGRICULTURE

VOL.40 NO.3 SEP 2011

"Investing in agriculture and rural development, with a focus on smallholder farmers, is the best bet for achieving global food security, alleviating poverty, and improving human wellbeing in developing countries."

- Dr. Shenggen Fan, IFPRI Director General

Photo by: Anh Tuan

Int'l conference addresses food security challenges in Asia

Over 200 food security experts from around the world, including the Philippines, converged in Singapore recently to discuss the challenge of "Feeding Asia in the 21st Century" at the inaugural International Conference on Asian Food Security (ICAFS) held on 10-12 August 2011 in the Grand Copthorne Waterfront Hotel in Singapore.

ICAFS was jointly organized by the SEARCA and the Centre for Non-Traditional Security Studies at the S. Rajaratnam School of International Studies (RSIS), Singapore.

The conference brought together researchers, government representatives, development partners, investors, large-scale agricultural producers and farmer groups for three days of stimulating and rigorous dialogue.

"To ensure that food production can sustainably feed the growing population of Asia, and perhaps have surpluses to provide to other parts of the globe requires

Int'l conference/ to page 2

WHAT'S INSIDE

APAN selects SEARCA as Thematic Node for Agriculture in SE Asia

SEARCA was selected by the Asia Pacific Adaptation Network (APAN) as its Thematic Node for Agriculture in Southeast Asia to promote climate change adaptation work in the region.

Based in Bangkok, Thailand, APAN has established sub-regional nodes (SRN) covering the five sub-regions of the Asia-Pacific region. The SRN will lead the implementation of the sub-regional activities of APAN in close collaboration with the regional hub, national governments, and other institutes.

APAN was launched as part of the Global Adaptation Network (GAN) in October 2009. But as early as 2008, the United Nations Environment Programme (UNEP) has been facilitating the development of GAN in partnership with key UN agencies and international organizations.

By mobilizing knowledge and technology, APAN reaches out to vulnerable countries in Asia and the Pacific to improve their adaptive capacity to respond to increasing impacts of climate change. Governments from both developed and developing countries, including Japan, Korea, China, India, Indonesia, Thailand, Nepal, Kazakhstan, and Samoa, are working together in building up APAN.

Int'l conference/ from page 1

cooperation among all the stakeholders of the agriculture and food sectors," said Dr. Gil C. Saguiguit, Jr., SEARCA Director, in his welcome remarks.

In a move of solidarity, the conference participants produced a draft ICAFS statement in how to best address Asia's food security challenges at the conclusion of the conference. Key recommendations included pursuing public-private partnerships to ensure food availability alongside profitability of food-producing industries, addressing the urgent food insecurity plight of Asia's most vulnerable populations by improving social safety nets and food distribution, taking pragmatic and concrete efforts to link policies in the food and health sectors, and extending existing foundations to create positive symbiotic relationships between food producers and food consumers.

Other recommendations included undertaking sustainable food production strategies and recognizing and responding to shifts in food distribution and marketing that define the private food sector in Asia.

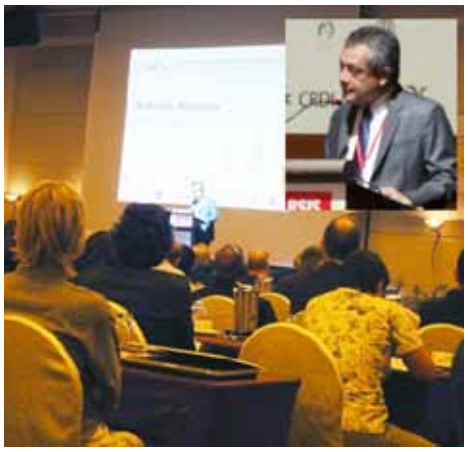
Dr. Saguiguit also expressed hope that the outcomes of ICAFS 2011 will contribute to concerted efforts to promote food security in the region and beyond.

A highlight of the conference was the announcement of Dr. Mohamad Maliki bin Osman, Senior Parliamentary Secretary for Singapore's Ministries of Defence and National Development, in his keynote message, that Singapore will invest US$8.2 million over five years in a new research program to improve rice cultivation.

KUMAR

This research initiative will be led by Singapore's representative to SEARCA's Governing Board, Prof. Prakash Kumar, who is Professor at National University of Singapore, and Dr. Naweed Naqvi of Temasek Life Sciences Laboratory (TLL), Singapore.

Dr. Maliki said although Singapore is not an agricultural country, it has "excellent infrastructure, a robust intellectual property regime, a pro-enterprise tax structure, and a conducive financial environment to support both publicly and privately-led research."



Dr. Gil C. Saguiguit, Jr., SEARCA Director, welcomes over 200 participants of the International Conference on Asian Food Security (ICAFS) during the opening program on 10 August 2011 in the Grand Copthorne Waterfront Hotel, Singapore.

The research will be implemented in collaboration with the International Rice Research Institute. It will explore how to improve rice yield and disease resistance. As such, it will focus on some of the most urgent concerns faced by rice farmers in Asia, particularly on how to cope with the effects of climate change on rice farming. (LLDDomingo)

Dr. Saguiguit (seated, rightmost) and Dr. Mercedita A. Sombilla (standing, fourth from left), SEARCA Manager for Research and Development, with Dr. Mohamad Maliki bin Osman (seated, third from left), Senior Parliamentary Secretary for Singapore's Ministries of Defence and National Development; Dr. Paul S. Teng (seated, second from right), Senior Fellow (Food Security) at the Centre for Non-Traditional Security Studies of the Rajaratnam School of International Studies (RSIS); Dr. Shenggen Fan (seated, leftmost), Director General, International Food Policy Research Institute (IFPRI); and other ICAFS participants.

THE SEARCA DIARY

Web: www.searca.org/web/newsletter
E-mail: post@agri.searca.org
Mail: SEARCA, College, Los Baños, Laguna 4031 Philippines
Tel: +63 49 536 2365 to 67 loc. 419
Fax: +63 49 536 7097

Production Team
Editor: Leah Lyn D. Domingo
Editorial Advisers: Gil C. Saguiguit, Jr.
Adoracion T. Robles
Graphic Designer: Edwin Robert A. Cortes

RE-ENTERED AS SECOND CLASS MAIL
At College Post Office, Laguna.
Under Permit No. 2012-22 on 29 March 2012

Food Security Center, network partners craft directions for 2012

The Food Security Center (FSC) and its strategic partners from Asia, Latin America, and Africa converged at SEARCA for its two-day annual planning workshop on 6-7 September 2011. The workshop was organized by SEARCA in behalf of FSC, a global project of the University of Hohenheim in Stuttgart, Germany.

In his welcome remarks, Dr. Gil Saguiguit, Jr., SEARCA Director, underscored the importance of such a partnership in the attainment of SEARCA's mandates in the region.

On the other hand, Dr. Manfred Zeller, FSC Director, commended SEARCA for successfully organizing the event. For her part, Mrs. Dorothee Schwab of the German Academic Exchange Service (DAAD) hoped to provide guidance to the group as FSC plans its activities for the coming years.

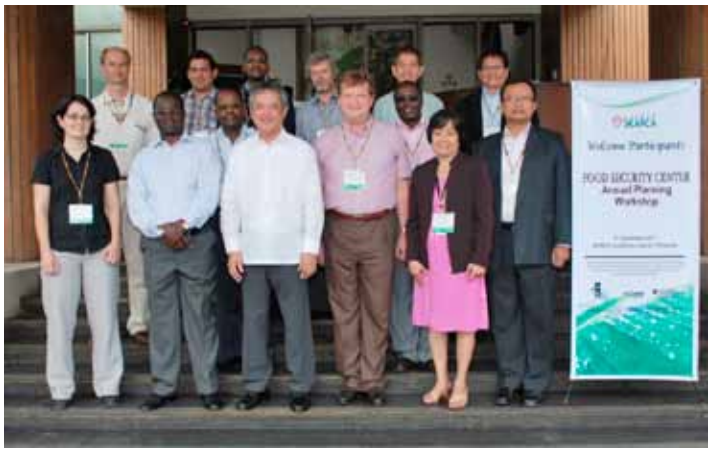
Through the meeting, FSC and its partners were able to craft the activities for 2012, including short courses, regional workshops, and the summer school program to be implemented through the collaborative efforts of FSC, University of Hohenheim, and regional partners, namely: SEARCA and Kasetsart University (KU), Thailand in Asia; Universidad de Costa Rica (UCR) and Centro Agronomo Tropical de Investigacion y Enseñanza (CATIE) in Latin America; and Regional Universities Forum for Capacity Building in Agriculture (RUFORUM) and Sokoine University of Agriculture (SUA) in Africa.

Aside from outlining its 2012 activities, the planning workshop firmed up ideas on how FSC can move forward and accomplish its five-year mission and even beyond.

The network partners suggested that FSC use as leverage its unique platform that promotes inter-continental collaboration and embark on more research programs that can lead to policies and other initiatives.

A visit to an all-organic vegetable farm in Silang, Cavite capped the two-day planning workshop.

The FSC is one of the five centers of excellence of the program "Exceed-Higher Education Excellence in Development Cooperation," supported by DAAD with funds from the Federal Ministry of Economic Cooperation and Development (BMZ) of Germany. Its activities focus on issues of sustainable food availability, food access, food use, and food utilization. (JSLaranas)



Participants of the Food Security Center Annual Planning Workshop held at SEARCA on 6-7 September 2011.

Dr. Detlef Virchow (standing), Executive Manager of the Food Security Center (FSC) leads the discussion on future directions of the FSC.

SEARCA institutional dev't assistance to Savannakhet University lauded

Dr. Khampheui Phantachone, Vice Governor of Savannakhet Province in Lao PDR, expressed his deep appreciation and wholehearted commendation to SEARCA for immediately responding to Savannakhet University's request for assistance in capacity-building and curriculum development.

He was particularly happy to receive the project inception report handed over to him by the Savannakhet University Institutional Development Assistance (SKU-IDA) Project Team composed of Dr. Sitha Khemmarath, SKU Vice President; Dr. Oscar B. Zamora, Dean of Graduate School, University of the Philippines Los Baños (UPLB) and one of SEARCA's institutional development experts; and Dr. Editha C. Cedicol, SEARCA Manager for Graduate Scholarship, and co-coordinator of the SKU-IDA Project, during a courtesy call on the Vice Governor on 2 August 2011.

Dr. Phantachone said that it was only in February this year when the group from SKU, SEARCA, and UPLB visited his office to inform him about the proposed project. He added that the recent inception meeting at SKU signals the seriousness and firm commitment of SEARCA and its partner, UPLB, in pursuing this initiative. He pledged to endorse the project to possible donors.

Dr. Zamora briefed Dr. Phantachone about the project. He said that the project is for three years and its main components are: (1) human resource development and capacity-building through scholarships for academic bridging, graduate study, and short-term training to strengthen teaching and research capabilities as well as administrative skills; (2) curriculum development; and (3) enhancement of support systems.

Dr. Khemmarath also reported to Dr. Phantachone that aside from the presentation of the project's inception report, Dr. Zamora and Dr. Cedicol also met with the deans and faculty members of SKU to discuss some findings of the review of the existing agriculture curriculum; they also interviewed the applicants for the academic bridging and graduate scholarships on 1-2 August 2011.

He added that SEARCA played an important role to jumpstart the project. He emphasized that the provincial and national government's strong endorsement of the project proposal to funding agencies is critical in securing financial support for the full implementation of the three-year project. (ECCedicol)

SEARCA gears up for Phase II of FAO-funded study

SEARCA has recently completed the scoping survey of the two-phased Food and Agriculture Organization of the United Nations (FAO) funded project titled *Appraisal of Institutional Mandates for Agribusiness Support in Asia* and is now gearing up for the project's second phase.

In Phase I, 22 countries in East, South, and Southeast Asian regions were covered by a scoping survey that generated information on the establishment of organizational units or structures related to agribusiness, including existence of agribusiness strategies, policies, and programs.

The result of the scoping survey was used to select countries in Asia that will be included in Phase II, which is the in-depth case appraisal. The major considerations of the FAO-Rural Infrastructure and Agro-Industries Division (FAO-AGS) and SEARCA in the selection of these countries included the existence of functional units, inter-ministerial committees, policy strategies, and programs specific to agribusiness or agro-industry.

The project is now going into Phase II as six country writers have been engaged to conduct the in-depth case appraisals. This phase involves a deeper appraisal of organizational units established within the ministries of agriculture (MoAs) whose mandate is supportive of agribusiness or agro-industry development.

Phase II focuses on "successful and innovative organizational models" in terms of mandates; scope of services; strengths and weaknesses; and institutional comparative advantage.

Lessons learned from the appraisal will be used as basis for improving the FAO-AGS' technical support and guidance for MoAs in Asia. The findings will also be shared among FAO member countries to help build their capacities to support agribusiness and agro-industries development. (BMBurgos)

Planning workshop on Phl School-based Food and Nutrition Program conducted

SEARCA, the Philippine Department of Education (DepEd) and the University of the Philippines Los Baños participated in a planning workshop held at SEARCA on 27-28 July 2011 to formulate the full program design and implementation plan of the DepEd "School-based Food and Nutrition Program (SFNP)."

The program was crafted through the initiative of DepEd Secretary Armin A. Luistro with the underlying objective of reviving or generating interest in agriculture among children and their families by promoting the use of appropriate science-based technologies and practices in agriculture. Technical assistance was provided by SEARCA and UPLB.

The SFNP addresses the nutritional needs of school children in the country and thus improve their educational performance.

The program is centered on "school gardens" of locally adapted edible plants and tree species that the children themselves would grow. The schools that will participate in the SFNP are envisioned to become hubs of educational (experiential learning), nutritional, and economic activities in their respective communities.

"It is in this context that the DepEd, SEARCA, and UPLB would jointly formulate the full program design of the SFNP for guidance of all the participating schools," said Dr. Gil C. Saguiguit, Jr., SEARCA Director.

At the end of the two-day workshop, the participants from the three institutions had validated the SFNP framework; further refined the program's design and work plan; defined the specific roles of DepEd, SEARCA, UPLB and all stakeholders; and validated the training design and modules.

DepEd intends to implement the SFNP as part of its commitment to the National Greening Program (EO 26), which tasks all government agencies and institutions to produce good-quality seedlings and plant 1.5 billion seedlings nationwide in six years. To achieve this goal, EO 26 requires all government employees and students from Grade 5 to college level to plant at least 10 seedlings each. (LLDDomingo)

Participants of the School-based Food and Nutrition Program (SFNP) Planning Workshop, including Dr. Yolanda Quijano (front row, fourth from right), Underscretary, Philippine Department of Education; Dr. Gil C. Saguiguit, Jr. (front row, third from right), SEARCA Director; Dr. Sue Liza C. Saguiguit (front row, fourth from left), Dean of College of Human Ecology, and Dr. Oscar B. Zamora, Dean of Graduate School, both of the University of the Philippines Los Baños; and Dr. Bessie M. Burgos (rightmost), SEARCA Manager for Project Development and Management.

Vietnam Institute for Water and Environment, SEARCA ink MOU

SEARCA and the Institute for Water and Environment (IWE) based in Hanoi, Vietnam have agreed to collaborate in a number of areas to pursue complementary development objectives and mutual interest in education, training, and research focused on water management in the agriculture and natural resources sector. This was formalized in a Memorandum of Understanding (MOU) for Institutional Cooperation signed on 28 July 2011 at the SEARCA Residence Hotel in Los Baños, Laguna, Philippines.

The signatories were Dr. Gil C. Saguiguit, Jr., SEARCA Director, and Assoc. Professor. Dr. Vu Thi Thanh Huong, IWE Vice Director. The ceremony was witnessed by key officials and staff members of SEARCA and IWE.

IWE operates under the auspices of the Vietnam Academy of Water Resources (VAWR), Ministry of Agriculture and Rural Development (MARD).

The MOU provides that SEARCA and IWE shall collaborate in undertaking programs, projects, and other related activities as well as exchange scientific materials, publications, and information. An initial collaborative activity of the two institutions is a Study Tour on Waste and Wastewater Management in Rural Areas in the Philippines for IWE officials and staff that SEARCA has implemented from 24 to 29 July 2011. Other potential activities for cooperation are holding of conferences and project development as it relates to the two institutions' interest and concern for water resources management.

The MOU will be in force until 2016 and can be extended for another five years thereafter.

Dr. Huong expressed gratefulness for the partnership and hope that IWE and SEARCA will have good collaborations on water management, climate change, and environment. She likewise thanked SEARCA for organizing the study tour that enabled the officers and staff of IWE to visit many local government offices and communities.

Dr. Saguiguit said SEARCA and IWE have common concerns for water resources management and there are a lot of potential to work together in the future in this field of concern. He added that SEARCA relies on its partners in the different countries in the region, including Vietnam, to provide guidance on important problems and concerns wherein the Center can assist each country.

The other members of the Vietnamese delegation were Mr. Ha Van Thai, Vice Director; Dr. Bui Quoc Tuan, Senior Researcher; Mr. Pham Tran Minh, Researcher; and Engr. Dao Thanh Ha, Researcher, all of IWE; and Dr. Le Van Bam, Vice Director, Science, Technology and Environment Department, MARD. (LLDDomingo)

Dr. Gil C. Saguiguit, Jr. (right), SEARCA Director, and Assoc. Professor Dr. Vu Thi Thanh Huong, Vice Director of the Institute for Water and Environment (IWE),Vietnam, sign the Memorandum of Understanding (MOU) between the two institutions on 28 July 2011 at SEARCA.

Timor-Leste MAF, SEARCA discuss prospects for collaboration

Eng. Lourenco Borges Fontes, Director General, Ministry of Agriculture and Fisheries (MAF), Timor-Leste, and Mr. Cesaltino de Carvalho, Chief of the Minister's Cabinet, MAF, met with Dr. Gil C. Saguiguit, Jr., SEARCA Director, on 31 August 2011 to learn more about the Center and discuss possible collaborative activities between SEARCA and MAF.

Possible areas of collaboration initially identified were on a capacity development program for agriculture professionals and executives of MAF and on the Timor-Leste volume of the Southeast Asian Agriculture and Development Primer (SAADP) series published by SEARCA.

Director General Fontes expressed his optimism that MAF will be able to work with SEARCA on the prospective joint activities discussed. He also thanked SEARCA for assisting Timorese scholars in pursuing their master's programs under SEARCA scholarship.

Currently, there are six ongoing MS scholars from Timor-Leste, five of whom are studying at the University of the Philippines Los Baños (UPLB) and one at Universitas Gadjah Mada (UGM) in Indonesia. So far, 20 Timorese have completed their MS programs under SEARCA scholarship. Of the 20 completed scholarship programs, 14 were supported by the German Academic Exchange Service (DAAD).

Eng. Lurenco Borges Fontes (second from left), Director General, Ministry of Agriculture and Fisheries (MAF), Timor-Leste, and Mr. Cesaltino de Carvalho (second from right), Chief of the Minister's Cabinet, MAF, with Dr. Gil C. Saguiguit, Jr. (leftmost), SEARCA Director, and Dr. Francisco F. Peñalba (rightmost), Deputy Director for Administration.

Other SEARCA officers present in the meeting were Dr. Francisco F. Peñalba, Deputy Director for Administration; Dr. Bessie M. Burgos, Manager for Project Development and Management; Dr. Editha C. Cedicol, Manager for Graduate Scholarship; Dr. Maria Celeste H. Cadiz, Manager for Knowledge Management; and Dr. Mercedita A. Sombilla, Manager for Research and Development. (LLDDomingo)

APIRAS network nominates SEARCA as sub-regional node in Southeast Asia

Twenty-six leaders, experts, champions, and practitioners in agricultural extension and communication convened at SEARCA on 14-15 September 2011 to draft a strategic plan for the Asia Pacific Islands Rural Advisory Services (APIRAS) Network led by Dr. Virginia R. Cardenas, Vice Chancellor for Community Affairs and Professor of Extension Education at the University of the Philippines Los Baños (UPLB).

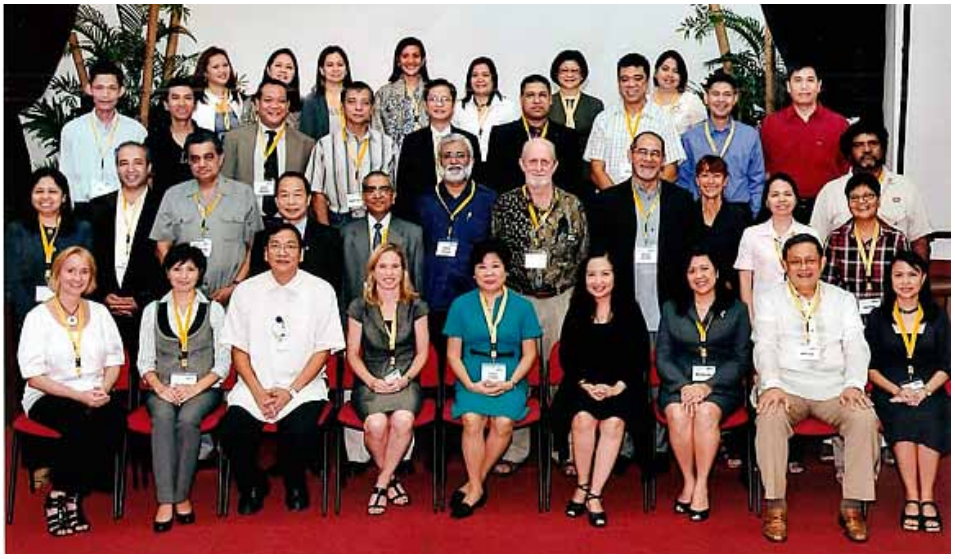
APIRAS is one of the regional networks of the Global Forum on Rural Advisory Services (GFRAS) based in Lindau, Switzerland. GFRAS' mission is to provide space for advocacy and leadership by RAS stakeholders on pluralistic, demand-driven rural and agricultural advisory services. GFRAS does this in the context of the global development agenda, with a goal of promoting sustainable growth and reducing poverty.

The regional forum enabled participants to draft the vision, mission, goals and strategy of APIRAS for further validation by the network.

The meeting also identified sub-regional nodes for West Asia, South Asia, Central Asia, Southeast Asia, East Asia and the Pacific Islands. Participants nominated SEARCA as sub-regional node for Southeast Asia, with Dr. Maria Celeste H. Cadiz, Manager for Knowledge Management, as focal person.

The Southeast Asian sub-regional network includes agricultural extension and communication specialists in the Food and Agriculture Organization of the United Nations (FAO) Regional Office for Asia and the Pacific, the International Rice Research Institute, SEAMEO Regional Center for Tropical Biology (BIOTROP), Department of Agriculture-Agricultural Training Institute (DA ATI), East-West Seed Company, and UPLB, among others.

The strategic planning workshop was facilitated by Prof. Mario Antonio G. Lopez of the Center for Development Management, Asian Institute of Management. (MCHCadiz)



Participants nominated SEARCA as sub-regional node for Southeast Asia, with Dr. Maria Celeste H. Cadiz (seated, fourth from right), Manager for Knowledge Management, as focal person.

SEARCA represents region in world conference on agri higher education, research

SEARCA participated in the 7th World Conference of the Global Consortium of Higher Education and Research for Agriculture (GCHERA) held in Beauvais, France wherein Dr. Gil C. Saguiguit, Jr., SEARCA Director, served on the International Programme Committee representing Southeast Asia.

The conference was hosted on 27-29 June 2011 by the Institut Polytechnique LaSalle Beauvais and focused on the theme *Universities in Agriculture and Life Sciences, Entrepreneurs for Sustainable Rural Development*.

The conference sought to address experiences on innovative developments in universities in both developing and developed economies around the world, particularly the roles of universities of agriculture and life sciences in sustainable rural development at the scientific, educational, societal, and economic levels. It also aimed to develop new partnerships between said universities at the local level in relation to local economic development with support from international organizations.

Dr. Saguiguit said GCHERA is looking to have sub-regions represented by associations or consortiums of universities. In this regard, it is considering the SEARCA-initiated Southeast Asian University Consortium for Graduate Education in Agriculture and Natural Resources (UC) to possibly serve as one of the nodes in Asia. The other node identified is the Association of Asian Agricultural Colleges and Universities (AAACU), of which SEARCA is an affiliate member. (LLDDomingo)

SEARCA Director attends Singapore Global Dialogue

Dr. Gil C. Saguiguit, Jr., SEARCA Director, joined renowned policymakers, former heads of state, and leading experts at the Singapore Global Dialogue held on 21-22 September 2011 at Shangri-La Hotel, Singapore. He represented the Center in the event at the invitation of its organizer, the S. Rajaratnam School of International Studies (RSIS) based in Singapore.

RSIS convened the Singapore Global Dialogue to serve as "Asia-Pacific's eminent platform for unique perspectives from across the region on contemporary strategic issues that transcend the region's borders."

Dr. Saguiguit said the Singapore Global Dialogue is important because "it discussed the shifting economic order in the world and the Asian region (South and Southeast Asia)."

He added that "of particular interest to SEARCA was the discussion on non-traditional security, which includes food security and its policy implications. It will guide how the Center can position its programs and activities to address the risks and challenges in the agriculture sector."

SEARCA's latest landmark effort in tackling the issue of food security was the inaugural International Conference on Asian Food Security (ICAFS) held in Singapore on 10-12 August 2011, which it co-organized with RSIS. (LLDDomingo)

State of climate-related socioeconomic researches in Phl bared

Findings of the SEARCA study on the "State of the Art on the Socioeconomics of Climate Change in the Philippines: Experts Synthesis and Benchmarking" funded by the Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development (PCAARRD) were presented at a *Roundtable Discussion on Socio-Economic Research on Climate Change in the Philippines: Where We Are and Where We Are Going* held on 17 August 2011 at the Traders Hotel, Pasay City, Philippines.

The meeting was jointly organized by SEARCA, PCAARRD, and the National Academy of Science and Technology (NAST), Philippines.

Speakers included Dr. Adelaida M. Mamonong, Project Coordinator of the United Nations Habitat Philippines; Dr. Asa Jose Sajise, Assistant Professor, College of Economics and Management (CEM), and Dr. Linda M. Peñalba, Associate Professor, College of Public Affairs, both of the University of the Philippines Los Baños (UPLB); and Mr. Rico Ancog, Project Development Specialist of SEARCA, who represented Dr. Ma. Victoria O. Espaldon, Dean of UPLB School of Environmental Science and Management. The discussions were moderated by Dr. Mercedita A. Sombilla, SEARCA Manager for Research and Development.

Current status and prospects

In his presentation, Dr. Sajise said evidence of climate change had been observed in 1990-2000 and vulnerability was associated with physical structures that consisted only of hazard and risk identification. Socioeconomic studies started in the mid-2000s, while the concept of adaptation strategies started to emerge in 2009. In the early- to mid-2000s, the forestry sector began mitigation through carbon sequestration studies. The concept of economic vulnerability took shape in the late 2000s.

Dr. Sajise added that most of the available models and research works are global in scale, and there has not been much work at the local level. He said there is a need to localize standards and mainstream area-specific programs and activities and to conduct valuation studies for the agriculture, forestry, and natural resources sectors.

Piloting climate change adaptation in cities

Dr. Mamonong related that Sorsogon, Philippines is one of the first four pilot cities in the project titled *Cities and Climate Change Initiative (CCCI) of the United Nations (UN) Habitat*, which aims to enhance the mitigation and adaptation capacities of cities in developing and least-developed countries. The Vulnerability and Adaptability Assessment Framework was used for Sorsogon City. Since 37% of the city is flood-prone and 24% at risk for various hazards, the study recommended that climate change and disaster risk reduction considerations be built into the development plans of the local government units (LGUs).

Furthermore, the long list of issues and priorities expressed at a validation meeting with the city was whittled down to a short list of priorities and proposition papers in an LGU-wide prioritization meeting. Consultations

State of climate-related/ to page 15

EU mission on FPAVAS project conducted

Ms. Raffaella Boudron, Agriculture Programme Officer, Delegation of the European Union to the Philippines, conducted the European Union (EU) monitoring and visitation mission in the project sites of the EU-Focused-Food Production Assistance to Vulnerable Sectors (EU-FPAVAS) in the provinces of Camarines Norte and Camarines Sur, Philippines on 11-13 July 2011.

Accompanied by Dr. Bessie M. Burgos, SEARCA Manager for Project Development and Management, and Mr. Percival C. Dalugdug, Overall Project Manager of EU-FPAVAS, Ms.

Ms. Raffaella Boudron (second from right), Agriculture Programme Officer, Delegation of the European Union to the Philippines, is interviewed by a local TV news reporter during the mission in Daet, Camarines Norte.

The European Union and SEARCA mission pose with its project partner, the Camarines Norte provincial local government unit, and project beneficiaries of the Organic Fertilizer Processing Plant located in the provincial farm.

Bourdon visited the project sites on rice production and crab fattening, the Mambalite communal irrigation system, provincial organic fertilizer processing plant, and the grouper fish cages in the towns of Daet and Mercedes.

During a brief program held in Mambalite, Daet, Camarines Norte, Ms. Boudron expressed how pleased she was to personally see the projects and her hopes that the projects can be sustained even after the EU-FPAVAS project interventions.

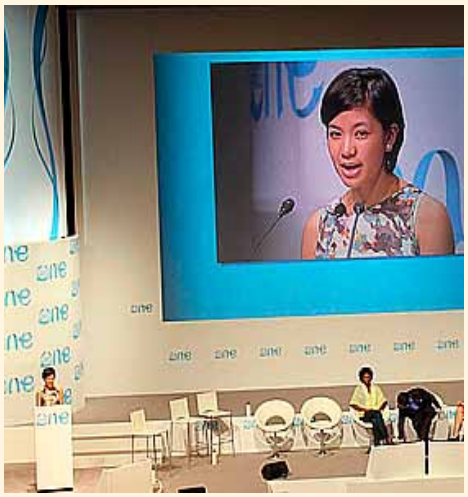
"You have done a good job, not only for yourself, but for the whole country and for the future," Ms. Boudron told the beneficiaries. (EMAmoloza)

Snapshots

The 20th batch of bio-business students from Tokyo University of Agriculture (TUA) visited SEARCA as part of their study tour program. Accompanying the students was Associate Prof. Hiroki Inaizumi. They were briefed on SEARCA's programs and activities by Dr. Bessie M. Burgos, Manager for Project Development and Management; Ms. Jenny A. Panopio, Project Coordinator and Network Administrator of the SEARCA Biotechnology Information Center; Ms. Carmen Nyhria G. Rogel (rightmost, standing), Project Development Specialist, Research and Development Department.

Mr. Mac Nhu Binh (standing), Vietnamese, introduced himself to fellow scholars during the Orientation of New SEARCA Scholars conducted on 1 July 2011 by Dr. Editha C. Cedicol, SEARCA Manager for Graduate Scholarship.

Dr. Gil C. Saguiguit, Jr. (left), SEARCA Director, met with Dr. Hak Lae Lee (right), the new President of the Asian Association of Agricultural Colleges and Universities (AAACU) and new Dean of the College of Agriculture and Life Sciences (CALS), Seoul National University (SNHU), and Dr. Eun Woo Park, outgoing AAACU President and outgoing Dean of SNU-CALS at SEARCA on 16 August 2011. They discussed preparations for the AAACU-SEARCA International Symposium on "Vision for Agriculture in the 21st Century". Also present at the meeting were Dr. Editha C. Cedicol, AAACU Editor and Manager of SEARCA's Graduate Scholarship Department, and Dr. Christian Joseph R. Cumagun, Professor and Associate Dean of the College of Agriculture, University of the Philippines Los Baños (UPLB), who represented Dr. Domingo E. Angeles, AAACU Executive Secretary-Treasurer and Dean of the UPLB College of Agriculture.



Ms. Angela Mae S. Miñas (standing, left and onscreen), Knowledge Management Assistant at SEARCA, represented the Philippines and spoke at the Environment Panel of One Young World conference about her work on communicating about climate change adaptation in agriculture and natural resource management through SEARCA's Knowledge Center on Climate Change Adaptation (KC3) initiative. The conference was held in Zurich, Switzerland on 1-4 September 2011.

Amb. Yang Boo Choe (rightmost), President of the Asian Society of Agricultural Economists (ASAE), met with Dr. Saguiguit (center), SEARCA Director, and Dr. Mercedita A. Sombilla (second from left), Manager for Research and Development , during his first visit to SEARCA on 24 August 2011. With him were Dr. Arsenio M. Balisacan (second from right), Dean, School of Economics, University of the Philippines Diliman, and Dr. Nobuhiko Fuwa (leftmost), Associate Professor, Agricultural Economics Department, Faculty of Agriculture, Chiba University, Japan. All members of the ASAE , they discussed matters related to the forthcoming 7th ASAE international conference on the theme "Meeting the Challenges Facing Asian Agriculture and Agricultural Economics Toward a Sustainable Future" to be held on 13-15 October 2011 in Hanoi, Vietnam. They also discussed other activities in which ASAE and SEARCA could collaborate.

Dr. Bessie M. Burgos (left), SEARCA Manager for Project Development and Management, and Mr. Lope B. Santos III (right), Project Development Specialist, pay a courtesy call on Mr. Chantaneth Boualapha (center), Acting Director General of the Department of Water Resources, Ministry of Natural Resources and Environment (MoNRE), Lao PDR during their travel to the country on 28-30 September 2011 to explore new partnerships and strengthen SEARCA's ties with key Lao academic, government, and nongovernment institutions working in agriculture and rural development.

SEARCA, SEAMOLEC, ICRAF launch first online course on climate change

Adapting to and mitigating the negative effects of climate change in agriculture and natural resource management (NRM) requires a holistic approach involving coordination between and among various local, national, and regional organizations with expertise from a wide range of disciplines. Such coordination can only be effective if all actors appreciate the science behind responding to climate change.

Providing such an appreciation is the main goal of the *Online Course on Responding to Climate Risks in Agriculture and Natural Resource Management.* Twenty participants from Cambodia, Indonesia, Italy, Malaysia, and the Philippines joined the first offering of the course from 15 May to 9 July 2011. The participants came from a wide range of academic, government, and nongovernment institutions. The eight-week course provided them with an appreciation of the core concepts and available knowledge-based methods and tools to effectively respond to the threats of climate change on agriculture and NRM.

The five-module course was developed by SEARCA in cooperation with SEAMEO Regional Open Learning Centre (SEAMOLEC) and the World Agroforestry Center (ICRAF). Among the topics covered are climate change scenarios and how they are made; the vulnerability assessment process; and the different economic valuation tools that can be used to determine the most cost-effective adaptation options. Specific cases that show how climate information was used to inform climate change adaptation (CCA) plans were also presented. As an appreciation course, it provided its participants with enough know-how to better navigate current climate change discourses.

Strategy

The course's main strategy was to approximate the face-to-face learning environment while maximizing the benefits of using the online medium. This was achieved through the use of online forums and video lectures.

The use of video lectures allowed the participants to replay the video as many times as they wished. This minimized the language barrier and learning limitations such as selective attention and retention. The online video lecturers included Intergovernmental Panel on Climate Change (IPCC) members Dr. Rodel D. Lasco, World Agroforestry Centre's Philippine Programme Coordinator, and Dr. Rizaldi Boer, Executive Director of the Centre for Climate Risk and Opportunity Management in Southeast Asia and the Pacific based in Bogor Agriculture University, Indonesia. Others who served as online video lecturers were Dr. Margaret M. Calderon, Professor, Institute of Renewable Natural Resources of the University of the Philippines Los Baños (UPLB), and Dr. Rex Victor O. Cruz, Dean, UPLB College of Forestry and Natural Resources and incoming UPLB Chancellor.

On the other hand, the online forum discussions provided the participants with the venue to share their own experience and knowledge as well as to ask for further elaboration or clarification on the information presented in the lectures. The forums were facilitated by Dr. Boer and Dr. Calderon along with other researchers immersed in the study of climate change and its effects, namely: Dr. Florencia B. Pulhin of the UPLB Forestry Development Center and Dr. Jesusita O. Coladilla of the UPLB School of Environmental Science and Management.

Future offerings

The online course will be offered for the second time with 12 participants from Kenya, Lao PDR, Papua New Guinea, the Philippines, Timor-Leste, and Zimbabwe. They represent various government and nongovernment organizations at the local, national, sub-regional, and international levels in their respective countries. The second offering will be on 16 October-10 December 2011, while the third offering is scheduled on 15 April-9 June 2012. (JVBariuan)

(From the top left, clockwise) Dr. Rodel D. Lasco, Dr. Rizaldi Boer, Dr. Rex Victor O. Cruz, and Dr. Margaret M. Calderon in their respective video lectures for the online course.

27 Phl DENR staff learn about SEARCA KM initiatives on climate change

The Philippine Department of Environment and Natural Resources staff pose with Dr. Maria Celeste H. Cadiz (front row, second from right), SEARCA Manager for Knowledge Management; Dr. Mariliza V. Ticsay (back row, leftmost), Head, Knowledge Resources Unit, after a briefing on SEARCA's knowledge management (KM) initiatives on climate change during their visit to the Center on 25 August 2011.

Twenty-seven staff of the Department of Environment and Natural Resources (DENR), Philippines visited SEARCA on 25 August 2011 to learn more about SEARCA's knowledge management (KM) initiatives on climate change as input to the development of its Climate Change Resource Center.

The group was led by Ms. Maria A. Matilda Gaddi, Officer in Charge-Chief of Research and Development, Communication Division, Public Affairs Office, DENR. They were briefed by the SEARCA's KM Department on the Center's KM strategy, its Knowledge Center on Climate Change Adaptation in Agriculture and Natural Resource Management (KC3), and *Online Course on Responding to Climate Risks in Agriculture and Natural Resource Management (NRM)*.

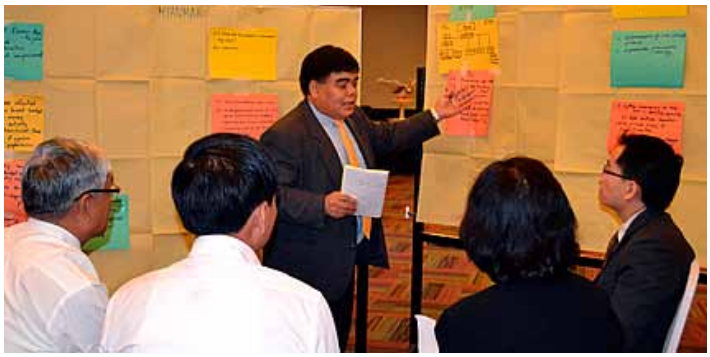
Dr. Mariliza V. Ticsay, Head of the Knowledge Resources Unit under KMD and KC3 Coordinator, and Ms. Angela Mae S. Miñas, KM Assistant, discussed and demonstrated the main features and capabilities of KC3, an online portal that provides quick and easy access to knowledge resources on climate change adaptation (CCA) in agriculture and natural resources in Southeast Asia. Plans to add an online community that can hold online forum discussions on science-based knowledge solutions and good practices in CCA were also shared.

The strategy and main features of the abovementioned online course were presented by Ms. Julienne V. Bariuan, Training Specialist. She emphasized its use of online video lectures and the importance of its online forums in encouraging participants to share their experiences in implementing CCA initiatives.

Dr. Maria Celeste H. Cadiz, SEARCA's Manager for Knowledge Management, explained how these SEARCA online initiatives contribute to the Center's mission to promote knowledge creation, sharing, and use to build institutional capacity in agriculture and NRM in the region. She invited DENR to partner with SEARCA, especially in linking their Climate Change Resource Center to KC3.

The DENR Climate Change Resource Center is being developed by a network of 35 representatives from various DENR offices. DENR communication, information/library science, and information technology staff from said network comprised the group that visited SEARCA. The development of said resource center is in line with DENR's mandate to "oversee the establishment and maintenance of climate change information management system and network… in collaboration with other concerned national agencies, institutions and local government units." (AMSMiñas)

EEPSEA, SEARCA/ from page 16



Mr. Khampadith Khammounheuang, Deputy Director General, Environment Department, Ministry of Natural Resources and Environment, Lao PDR, explains to the group his recommendations on how to improve the use of economic instruments in his country.

Thailand is in the process of proposing the EI Act, which recommends the creation of an umbrella framework that integrates the management of EI implementation for each group of pollutants.

Indonesia, through its Environmental Management and Protection Act 32 of 2009, is currently developing several EIs towards promoting a more sustainable consumption and production pattern in the country. The plan is to develop EIs that not only provide financial incentives but are also included in planning processes and financing mechanisms. This is part of Indonesia's green economy approach, which highlights the sustainable use of resources while still ensuring solid economic growth.

Knowledge products

EEPSEA Director Dr. Francisco announced that besides the forum proceedings, several booklets focusing on the relevance and application of EIs in ENRM in SEA will be developed from the results of the forum-workshop through SEARCA's Knowledge Management Department led by Dr. Maria Celeste H. Cadiz.

These knowledge products are expected to be developed and finalized by early 2012. Taking the lead in developing these together with the country representatives are Dr. Laplante and Prof. Ma. Angeles O. Catelo, Technical Coordinator of the forum-workshop and Chair and Assistant Professor at the University of the Philippines Los Baños Department of Economics. (JVBariuan)

Indonesian farmers study biotech crop production in the Philippines

Indonesian farmers learned the basic science, regulation, and issues and concerns related to biotechnology during a five-day Farmer to Farmer Workshop: Agricultural Biotechnology Outreach and Capacity Building in the New World Hotel, Makati City, Philippines on 19-23 September 2011.

Knowledge on biotechnology were shared by various Filipino scientists and experts, including the proponents of the fruit and shoot borer resistant Bt eggplant, the delayed ripening virus resistant papaya, and the vitamin A-enriched Golden Rice in the Philippines.

The activity provided an avenue for the farmers to network with key stakeholders in the region. In addition, Filipino biotech corn farmers shared their first-hand experiences to the Indonesians.

The workshop also included study visits to a seed processing plant and biotech corn farms in Pangasinan and Pampanga, as well as to laboratories and screen house trials in the International Rice Research Institute (IRRI) in Laguna. The farmers were able to see drought tolerant rice as well as the Golden Rice.

In his opening message, Dr. Gil C. Saguiguit, Jr., SEARCA Director, highlighted the importance of educating the farmers about agri-biotechnology as they are the end users.

Dr. Randy A. Hautea, Director of the International Service for the Acquisition of Agri-biotech Applications (ISAAA), said that he hoped the farmer participants would be teachers of biotech to other farmers in Indonesia.

The Indonesian farmers were delighted with the new things they learned as they expressed their support of biotechnology. They unanimously agreed to endorse the technology to their government.

The workshop was co-organized by ISAAA, SEARCA-Biotechnology Information Center (SEARCA BIC), and the United States Department of Agriculture Foreign Agricultural Service (USDA FAS). (JAPanopio/SMMercado)

Indonesian farmers discuss issues and concerns related to biotechnology during the Farmer to Farmer Workshop: Agricultural Biotechnology Outreach and Capacity Building at the New World Hotel, Makati City, Philippines held on 19-23 September 2011.

2 Filipino alumni get SEARCA grants for environmental management projects

Two outstanding Filipino SEARCA alumni were awarded the SEARCA Re-entry Program grant that provides seed funds of up to US$5,000 to conduct their respective research projects.

Dr. Rusty G. Abanto, Agriculture and Natural Resources Dean of the Camarines Norte State College (CNSC) in Daet, Camarines Norte is conducting the project titled *Modeling Ecological Solid Waste Management* at the CNSC Labo Campus. Apart from the re-entry grant, CNSC and the Local Government of Labo also provide counterpart fund for Dr. Abanto's research project. The project aims to improve the solid waste management system implemented in the school premises and will model the ecological solid waste management as provided for in Philippine law (RA 9003), otherwise known as Ecological Solid Waste Management Act. Specifically, it is designed to educate the academic community on waste management and disposal through advocacy, information, and education campaign; set-up a Techno-Demo Mini-Material Recovery Facility to model ecological solid waste management; and generate income for the campus.

On the other hand, Ms. Aisa O. Manlosa, Instructor at the College of Arts and Sciences, Caraga State University (CSU) in Butuan City is leading the study titled *Flood Damage Assessment at Jabonga, Agusan del Norte, Philippines*. CSU and the Local Government of Jabonga also provide counterpart fund for the study. The research aims to characterize flood events in Jabonga, Agusan del Norte in terms of frequency, timing, depth and inundation time; identify and map the flood hazard zones in the municipality; identify objects damaged in the most recent flood event and to group these objects into classes (e. g., agricultural class, public facility class, household property class) for aggregated estimation; determine the characteristics of households that are significantly related to the level of damage incurred at the household level; build a model that will aid in the determination of aggregate economic value for each identified class of objects; and incorporate transferability in the generated estimates for areas of similar attributes or for flooding events of similar characteristics by incorporating parameters that could be used for upscaling and downscaling data.

Dr. Abanto finished his PhD in environmental science in 2010 from the University of the Philippines Los Baños (UPLB) under the SEARCA-DAAD scholarship program. He was the recipient of the Special SEARCA-Beahrs Environmental Leadership Program Training Scholarship for Southeast Asia, where he underwent a three-week intensive summer course at the University of Califorina (UC), Berkeley, USA in July 2011.

Ms. Manlosa completed her MSc in environmental science in April 2011 from UPLB also under the SEARCA-DAAD scholarship program. During SEARCA's Special Graduate Seminar Series in August 2011, she served as one of the resource speakers and presented the paper titled, Willingness to Pay for Layawan Watershed Protection, Oroquieta City, Philippines.

2 Filipino alumni/ to page 15

24th University Consortium Exec Board Meeting held

The Executive Board of the SEARCA-initiated Southeast Asian University Consortium for Graduate Education in Agriculture and Natural Resources (UC) held its 24th meeting on 13-14 September 2011 at the Universitas Gadjah Mada (UGM) in Yogyakarta, Indonesia.

The meeting was attended by 20 delegates representing eight of the 10 member universities of the UC, namely: UGM, Institut Pertanian Bogor (IPB) in Indonesia, Universiti Putra Malaysia (UPM), University of the Philippines Los Baños (UPLB), Kasetsart University (KU) in Thailand, University of Queensland (UQ) in Australia, Tokyo University of Agriculture (TUA) in Japan, and SEARCA.

Dr. Gil C. Saguiguit, Jr., Director, and Dr. Editha C. Cedicol, Graduate Scholarship Department Manager, represented SEARCA as Associate Member and Secretariat in the meeting.

The meeting reviewed UC's accomplishments in 2010 and discussed the network's directions and programs in the coming years. A working group was formed to recommend strategies, new programs and activities that will further strengthen the collaborative undertakings of its member universities in agriculture and related disciplines, as well as highlight the UC's relevance in the region. A number of UC members submitted proposals of activities for consideration in the Board meeting. Composed of representatives from UPLB, IPB, KU, TUA, and SEARCA, the working group was also tasked to evaluate the proposals.

The UPM will host the 25th UC Executive Board Meeting tentatively set in November 2012.

The UC was established in September 1989 by SEARCA as a response to the growing demand for graduate education across agricultural disciplines and related field. At present, the UC has five regular program components, namely: student exchange, faculty exchange, research fellowship, professorial chair, and thesis grants. (ECCedicol)

Dr. Gil C. Saguiguit, Jr. (front row, fifth from right), SEARCA Director, and Dr. Editha C. Cedicol (front row, second from right), SEARCA Manager for Graduate Scholarship, together with the other participants of the 24th University Consortium Executive Board Meeting held on 13-14 September 2011 at Universitas Gadjah Mada, Yogyakarta, Indonesia.

Capacity building activities in biodiversity conservation conducted

SEARCA, together with the WorldFish Center, implemented a series of capacity building activities in July 2011 under the United States Agency for International Development (USAID)-funded project titled *From Ridge to Reef: An Ecosystem Based Approach in Biodiversity Conservation and Development in the Philippines* in Oroquieta City, Misamis Occidental Province, Philippines.

The two-year project is aimed at conserving and protecting the biological resources in and around the Mt. Malindang Natural Range Park, a proclaimed protected area. SEARCA implements the project component on Capacity Building in Natural Resource Management, which consists of 11 training programs related to biodiversity conservation and natural resource management.

Three capacity building activities were held from 6 to 21 July 2011 in Oroquieta City. These include a seminar titled *Overview on the Status, Issues and Concerns on Biodiversity Conservation* (21 July); *Training in Mangrove Rehabilitation* (7-8 July); and *Orientation on Sustainable Aquaculture Technologies* (6 July).

The capacity building activities, which are a combination of lectures and workshops have benefited more than a hundred locals representing various community sectors, including fisher folk, farmers, women's group, fishpond operators, and indigenous peoples. Barangay, local, and provincial government officials participated in the activities as well as those of the Protected Area Management Board of the Department of Environment and Natural Resources Region X; provincial and local offices of the Bureau of Fisheries and Aquatic Resources; and the provincial office of the Department of Science and Technology. Representatives of several local NGOs and universities in Misamis Occidental and its adjacent province, Misamis Oriental, also attended.

Forester Dexter Cabahug, Jr. (second from left, standing) coaches residents of Misamis Occidental who are participants of the Training in Mangrove Rehabilitation during an exercise on identifying and naming different mangrove species found in their locality.

Six experts in natural resource management served as resource persons for these capacity building activities. Speakers at the seminar on biodiversity conservation were Dr. Wilfredo Uy, Director for Research, Institute of Fisheries Research and Development, Mindanao State University-Naawan and Dr. Michael Pido, Director, Center for Strategic Policy and Governance, Palawan State University. The resource persons at the mangrove rehabilitation training were Dr. Florentino Tesoro of the WorldFish Center and Forester Dexter Cabahug, Jr., Executive Director, Manglares Coastal Resource Management Foundation. Prof. Valeriano Corre, Jr., aquaculture and fisheries expert from the University of the Philippines Visayas in Miag-ao, Iloilo, and Mr. Hermogenes Tambalque III, aquaculture specialist of the WorldFish Center, shared their expertise on sustainable aquaculture technologies. (CBBinondo)

ALUMNI NOTES

RASCO NAMED PHILRICE EXECUTIVE DIRECTOR

Dr. Eufemio T. Rasco, Jr. has been appointed as the new Executive Director of the Philippine Rice Research Institute, an agency under the Department of Agriculture. He succeeds Atty. Ronilo A. Beronio.

Prior to his appointment as PhilRice Executive Director, Dr. Rasco served as Professor at the University of the Philippines in Mindanao. Dr. Rasco also holds the title of Academician at the National Academy of Science and Technology (NAST). He was involved in various researches on vegetables, potato, and sweet potato breeding and agronomy; development of underutilized crops; farming on slopes; genetically modified crops; and sustainability of modern agriculture. He has published papers in several journals and authored books on biotechnology.

Dr. Rasco completed his Master of Science in Agriculture at the University of the Philippines Los Baños (UPLB) under the SEARCA Graduate Scholarship program in 1974. He obtained his PhD in Plant Breeding from Cornell University, USA. (ZRJalotjot)

ABANTO APPOINTED DEAN OF AGRICULTURE AND NATURAL RESOURCES

Dr. Rusty G. Abanto (PhD environmental science, 2010) has been appointed as Dean of Agriculture and Natural Resources at the Camarines Norte State College (CNSC) in Daet, Camarines Norte, Philippines effective 1 August 2011.

Dr. Abanto concurrently serves as the Planning Director of CNSC, a post he has held since 2005. He has been with CNSC since 1997 as Instructor and rose through the ranks.

Prior to his new appointment, Dr. Abanto participated in the 2011 Beahrs Environmental Leadership Program (ELP) under a SEARCA training grant. The intensive certificate course was held on 24 June-16 July 2011 at the University of California (UC), Berkeley, USA. Organized by UC Berkeley's Center for Sustainable Resource Development, the course aims to broaden knowledge and strengthen leadership skills of mid-level development and environment professionals in addressing complex environmental issues to reduce poverty and social conflict. (JSLaranas)

BATTAD IS UE CALOOCAN'S YOUNGEST CHANCELLOR

BATTAD

Dr. Zosimo M. Battad was appointed as Chancellor of the University of the East (UE) Caloocan Campus, effective May 2011. He took over the position of Dr. Fedeserio C. Camarao, whose term ended in April 2011. At 50, Dr. Battad is considered the youngest chancellor of the campus.

He holds the academic rank of Professor VI and was the President of Pampanga Agricultural College (PAC) for two terms, from 1999 to 2007. Throughout his successful career, he has received more than 50 major awards and accolades in recognition of his accomplishments in the fields of agricultural technology and animal science.

Dr. Battad was a recipient of the German Academic Exchange Service (DAAD)-SEARCA scholarship grant for his master's degree in Animal Science, which he finished at the University of the Philippine Los Baños in 1985. DAAD has been a consistent donor the SEAMEO SEARCA Graduate Scholarships. Dr. Battad also served as the President of the SEARCA Fellows Association of the Philippines (SFAP) from 2005 to 2007 and was re-elected for another term from 2007 to 2009. (JSLaranas)

MANZANO IS NEW MMSU DEAN OF ENGINEERING

MANZANO

Dr. Virgilio Julius P. Manzano Jr., is the new Dean of the College of Engineering at the Mariano Marcos State University (MMSU), Batac, Ilocos Norte. His designation as Dean took effect on June 10, 2011. At the same time, he is the director of the Ilocos Norte Science Community (INSC).

Dr. Manzano finished his PhD in Agricultural Engineering at UP Los Baños in 2000 under the SEARCA scholarship program. He came back to serve MMSU, his alma mater, in June 2005 and became chairman of the Department of Agricultural Engineering and concurrently in-charge of the Integrated Experiment Station for Department of Agriculture agencies at MMSU.

Prior to his designation as Dean, Dr. Manzano served in a number of leadership position in various professional organizations — he was National President of the Philippine Society for the Study of Nature (PSSN) in 2008, Executive Director of the SEARCA Fellows Association of the Philippines (SFAP) 2004-2009. At one time, he was also Vice President for Luzon of the Association of Agricultural Engineering Department Chairmen in the Philippines.

In 2009, Dr. Manzano was granted a six-month post-doctoral research fellowship at the University of Tokyo, Japan, by the Matsumae International Foundation (MIF).

As Director of INSC, Dr. Manzano leads a multi-sectoral organization consisting of academic, S&T, local government, health, training, and research agencies aimed at accelerating economic development through an intensive advocacy of S&T in the province. (JSLaranas)

Thesis Abstracts/ from page 14

The pollen grains were simple and numerous with high viability of 91.16 ± 4.11%. The germination rate of pollen grains using differential sucrose solutions is low at 64.65 ± 9.53%. The majority of the pollen had moderate amounts of starch (62.23%) and lipids (70.61%). Only three pollinator visits were needed for effective pollen deposition.

Pollination was done through entomophily with pollen and nectar as rewards. Floral visitors were 22 insect species belonging to 15 families and five genera. *Apis mellifera*, *Apis cerana*, and *Trigona biroi* were the most frequent visitors but only *A. mellifera* and *A. cerana* were considered as the true pollinators.

Pollen viability and germination, stigmatic receptivity, nectar production, and floral visitation were all found to be significantly highest at 0800h. Floral characters and indices (e.g., pollen-ovule ratio, outcrossing index, index of self-incompatibility, and selfing rate) indicate that the plant is obligately xenogamous and highly self-incompatible, thus requiring outcrossing.

Thesis Abstracts

HISTOLOGICAL AND MORPHOLOGICAL CHARACTERIZATION OF 'CARDABA' AND 'CAVENDISH' ROOTS OF BANANAS (*MUSA* X *PARADISIACA* L.) INFECTED WITH *RALSTONIA SOLANACEARUM* (E. F. SMITH) YABUUCHI ET AL. 'RACE 2'

Lucille T. Minguez
Filipino
MS in Plant Pathology
University of the Philippines
Los Banos

Ralstonia solanacearum causes bacterial wilt in many plant species worldwide. Race 2 affects mostly *Musa* and *Heliconia* sp. but its invasion in root tissues and multiplication site in 'Cardaba' and 'Cavendish' remains unclear. This work provides data on morphological and histological symptoms in the two cultivars of banana.

In the screen house, four-month-old tissue cultured 'Cardaba' and 'Cavendish' bananas were inoculated with moko and bugtok isolates of *Ralstonia solanacearum* Race 2. Inoculation was done by drenching 100 ml bacterial suspension standardized at 1 x 10^9 cfu/ml around wounded and intact roots of bananas grown in 6 x 9 in^2 clear plastic bag.

Susceptibility of 'Cavendish' to wilting was manifested by 100% wilt incidence at 28 days after inoculation (DAI) with bugtok isolate. 'Cardaba' wilted only when the roots were wounded before inoculation with the same isolate. The moko isolate used in this study failed to cause wilting in both cultivars, whether the roots were wounded or kept intact. The moko isolate was not able to establish in roots as efficiently as the bugtok isolate as evidenced by a lower population of bacteria recovered. Wounding of roots provided entry points for the bacteria especially in 'Cardaba'. Intact root of 'Cavendish', however, was easily penetrated by the bugtok isolate. Wilted bananas showed long root discoloration which varied from dirty white to black. Only slight discoloration was observed in roots of plants that were inoculated with the moko isolate.

The bacteria colonized and degraded the cell walls of the xylem vessels and intercellular spaces of 'Cavendish' and 'Cardaba' cultivars. They were abundant particularly in protoxylem vessels. The 'Cavendish' cultivar showed more colonized xylem vessels than 'Cardaba'. Regardless of root condition, the bugtok isolate was more aggressive as shown by 1.84-6.03 xylem vessels invaded per cross-section root at 14 DAI compared to moko with only 0.38-2.30 vessels invaded per cross-section root. The bugtok-inoculated 'Cavendish' with intact roots had the higher xylem colonization of 2.77-9.33 xylem vessels per root section at 14 DAI; however, at 28 DAI, the wounded 'Cardaba' inoculated with the same bacterial isolate had the higher xylem colonization (3.07-7.57 vessels per root). The moko isolate poorly invaded the xylem vessels and walls of both cultivars. Tyloses were however, detected in both cultivars with wounded roots suggesting that wounding induced tyloses formation. In intact roots, there were no tyloses observed. Results also suggested that wilting was not only due to bacterial occlusion but more on the destruction of cell walls of xylem vessels.

SUFFICIENCY ECONOMY PHILOSOPHY PROCESS IMPLEMENTATION AND OUTCOMES: THE CASE OF NASO, YASOTHON PROVINCE, THAILAND

Nawarat Pourpan
Thai
PhD in Rural Development
Central Luzon State University

The study focused on the Sufficiency Economy Philosophy (SEP) which was developed and advocated by His Majesty King Bhumibol Adulyadej. The study aimed to describe and determine the process of SEP implementation and outcomes. The survey method and focus group discussion were used in gathering data. The study covered three villages in Naso sub-district, Kudchum district, Yasothon province, Thailand. A total of 137 household heads who were involved in the projects for more than five years were interviewed. Data were analyzed using the descriptive statistics and Pearson Product-Moment Coefficient Correlation (r).

The land area in the three villages covered by the study was composed of forest area, cultivated area, and residential area. Farming was the major source of income, while employment, service, and commerce were sources of secondary income.

The household heads were husbands, with mean age of 58.09 years, who completed secondary education and had an average household size of five members. They were involved in the Nature Conservation Organization and had been getting loans from the Bank for Agriculture and Agricultural Co-operative for capital used in farming production. They received information on SEP through television. They had been taught by the tradition "Heet sibsong" to live in the middle path.

Their own general concept of SEP was "live a life according to his earning/income, mental capacities and available personal resources." They had highly favorable perception and attitude towards the SEP in terms of state of mind, social affair, natural resources and environmental management, technology, and economic affairs.

There were 10 economic, social, and environmental projects implemented in the three villages that were operational and guided by the principles of SEP from 1980 to 2004. The government officers, village leaders, and villagers played major roles and had varied capacities and interests in the project conceptualization, planning, implementation, and evaluation. Training on project management, financial management, and technology utilization were conducted among officers and members guided by the principles of moderation, reasonableness, and self-immunity in all their actions.

Results revealed that increase in income of the households was the major benefit derived from applying the SEP. Social, cultural, and environmental benefits at the household level and community level were also obtained.

REPRODUCTIVE ECOLOGY OF *COFFEA LIBERICA* W. BULL EX HIERN VAR. *LIBERICA* IN LIPA, BATANGAS, PHILIPPINES

Analinda Manila Fajardo
Filipino
PhD in Botany
University of the Philippines
Los Baños

The floral biology and pollination of *Coffea liberica* var. *liberica* in an agroecosystem in Lipa, Batangas, Philippines was studied. The inflorescences were non-terminal and blooming was asynchronous. The flowers were herkogamous and highly variable. They were short-lived (2 days) and the anthers fully represented only on the first day. Anthesis was from 0500-1200h peaking at 0800h. The maximum attraction distance of the flowers was at 87.70 ± 11.05 cm.

Nectar volume averaged at 9.27 ± 3.90 μL while its calorie content based on the energy contributed by sucrose was 1.91 ± 0.80 cal/μL. The nectar contained high amount of sugars, phenols, flavonoids, anthocyanidins, and saponins. Alkaloids were absent while anti-oxidant activity was present.

Thesis Abstracts/ to page 13

State of climate-related/ from page 7

were done, stakeholders agreed to different priority actions, and working groups on specific issues were formed to further research and detail actionable areas.

Adaptive capacity of LGUs

In a cross-country study done in Southeast Asia, Dr. Peñalba reported that the Philippines was found to be lagging behind in terms of structural capacity, early warning systems, rain gauges in concerned areas, watershed management plan, flood map, and climate change-informed land use map. While Philippine disaster risk management (DRM) has long been in place, the adaptive capacity of LGUs is still low.

Several enabling laws that emphasize the role of LGUs as front liners in disaster risk reduction and management (i.e., community participation, disaster preparedness, creation/mobilization of calamity fund, creation of implementing structures, and vulnerability assessment) were presented by Dr. Peñalba.

Nonetheless, she said most Philippine LGUs still employ reactive and routinary adaptation strategies consisting of relief and rescue operations, followed by rehabilitation. Programs comply with some but not all elements and principles of effective and sustained DRM. Response efforts are mainly relief and rescue and no adaptation in real sense that leads to higher level of development or resilience. Rehabilitation efforts are not geared to prevent recurrence of disaster.

Dr. Peñalba said public buildings (mostly schools) are used as evacuation centers because relocation sites are unavailable. She said such response actions may be considered maladaptation as they increase the vulnerability of individuals and the whole community.

She noted the absence of recording or data management system and conscious and systematic monitoring and evaluation efforts to correct ineffective response measures. Moreover, local officials and people lack appreciation and understanding of climate change phenomena and climate change adaptation.

According to Dr. Peñalba, some of the factors that influence adaptive capacity are the management style of local chief executives; presence of advocates; availability of technical assistance; and the level of knowledge, skills and response capability of LGUs.

Dr. Peñalba thus recommended that households and institutions should: (1) comprehend and realize that climate change is inevitable and traditional response strategies are no longer effective; (2) improve awareness of climate risks and the level of response; (3) encourage multi-sectoral participation; (4) explore other financial schemes such as weather index-based insurance; (5) mainstream CRM/DRRM in local development planning and processes; (6) strengthen IEC materials and programs for the public and local officials; (7) install community-based early warning and risk monitoring systems; (8) conduct science-based vulnerability analysis to guide adaptation planning; and (9) strengthen knowledge management capability of LGUs.

Vulnerability of Batangas farmers

In his presentation, Mr. Ancog gave the highlights of the paper titled *"Assessing vulnerability of selected farming communities in the Philippines based on a behavioural model of agent's adaptation to global environmental change"* by Acosta-Michlik and Espaldon published in Global Environmental Change in 2008.

The study applied agent-based modelling (ABM) in the inter-vulnerability framework using climatic variables and global market demand. ABM is a tool for analyzing complex human interactions within the human system and between human and environment systems. Among the study sites, Batangas was found to be one of the provinces with "Very High" index.

Ninety-nine farmer-cases were studied and categorized into 4 typologies: traditional, subsistence, diversified, and commercial. The study found that commercial farmers have high level of education, high household income and assets, and large agricultural land. Diversified farmers are the most informed group on global change issues. Subsistence and diversified farmers have high income from non-farming sources. Traditional farmers tend to be the least flexible in changing production activities and consumption habits. Though both government and scientists have been providing support to improve their productive capacities, farmers tend to seek help more from their relatives and neighbors. Many farmers also continue to convert their rice fields to other land uses.

Cooperation is key

Noting that social network is the most important source of adaptive capacity as reported by the study of Acosta-Michlik and Espaldon, National Scientist Gelia O. Castillo said in conceptualizing programs, cooperation begets sustainability.

The success of UN Habitat Philippines in Sorsogon City as a pilot site can be attributed to the willingness of local officials and people to participate. Dr. Mamonong explained this made the implementation of processes and procedures entailed in the study much easier.

Dr. Sajise said it is also very important to enable the people to appreciate the climate change phenomenon as this could define the reach and relevance of decisions made by officials.

At the end of the meeting, Dr. Emil Q. Javier, NAST President, emphasized that the main source of confusion is the failure to differentiate "climate-related" and "climate change-related". He stated that the country is not a major contributor per capita to greenhouse gases, therefore adaptation and not mitigation should be the approach to climate change. He acknowledged the proposal of Dr. Sajise to downscale solutions to climate-related hazards. He added that the scientific community can contribute robust analyses in aid of policy- and decision-making. (Reports from NAST)

---

2 Filipino alumni/ from page 11

Both Abanto and Manlosa were recipients of the UPLB Academic Achievement Award for graduating at the top of their respective classes.

The SEARCA Re-entry Program is a strategy employed by SEARCA to ensure immediate impact of its capacity building program, and widen the reach of the Center in contributing to agriculture and rural development in the region. Through this Program, graduating scholars or newly graduated scholars may submit a re-entry plan/project proposal that will be conducted in collaboration with his/her institution or other interested institutions in the home country.

In addition, the Re-entry Program also aims to add to the body of science-based, action-oriented projects that would enhance agriculture and rural development and contribute to the dissemination and transfer of knowledge and skills on specific areas on the subject matter. Toward these ends, SEARCA aims to produce articles or publications out of the Grantee's project, whenever appropriate and feasible. (JSLaranas/CNGRogel)

EEPSEA, SEARCA review economic instruments for regulating use of natural resources in the region

Economic instruments meant to conserve the environment and regulate natural resource use in Southeast Asia are mainly being used to generate revenues. Their primary objective, which is to improve natural resource use behaviour, is hardly met since the level of resource fees, taxes, and performance bonds currently used in implementing them are too low to have any effect. Consumers and producers tend to simply pay the fines than be discouraged to change their unsustainable use pattern.

This was observed and extensively discussed during the *Forum-Workshop on Economic Instruments Applied in Environmental and Natural Resource Management in Southeast Asia* on 26-28 September 2011 in Bali, Indonesia. SEARCA and the Economy and Environment Program for Southeast Asia (EEPSEA) organized the forum-workshop.

Eighteen government officials and researchers from Cambodia, China, Indonesia, Lao PDR, Malaysia, Myanmar, the Philippines, Thailand, and Vietnam attended the event. Their respective ministries of natural resources and environment and ministries of finance endorsed their participation to present on the extent and effectiveness of economic instrument (EI) use in their countries in environmental and natural resource management (ENRM) and the current environmental tax policy in place.

Current instruments in place

The EIs currently used in the region to regulate natural resource use behavior can be grouped into two broad categories: (1) direct instruments, which charge pollution generating behavior; and (2) indirect instruments, which apply to products that are associated with pollution generation.

Based on forum presentations, there are more indirect instruments applied in the region. Many take the form of tax incentives such as excise tax differentiation, accelerated capital depreciation, tax exemption, subsidies, and grants.

Examples of successful direct instruments identified during the forum are the Philippines' entrance fees to conservation areas; China's and Malaysia's pollution charges on industrial effluent discharge based on concentration and load; Vietnam's performance bonds to regulate mining activities; and Indonesia's solid waste discharge fee and license fee for natural resource extraction, among others.

Some indirect instruments identified as most effective include Indonesia's duty exemption for imported clean technology; Thailand's lower tax rate on eco-cars and different tax rates based on fuel type; Myanmar's higher tax rate on luxury cars; and Cambodia's royalty charges for timber and non-timber forest products, and commercial fishing.

Key concerns

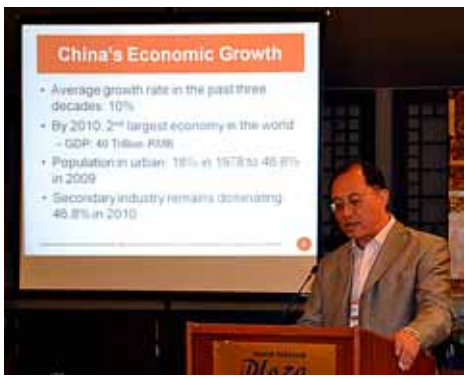
Based on the country reports, Southeast Asian (SEA) countries differ in the stages of EI implementation for ENRM. However, regardless of stage, a common concern is the government's limited capacity to monitor resource use behavior and to enforce regulations. Dr. Benoit Laplante, an Associate of the International Centre for Environmental Management in Australia and the forum's lead discussant along with EEPSEA Director Dr. Herminia A. Francisco, pointed out that this limitation has been repeatedly raised in the past 30 years. He observed that this might point to the need for the countries to reflect on why it remains a concern in the region and to review their respective allocation for ENRM capacity building.

Resource allocation for environmental and natural resource conservation was also a common concern. In general, revenues collected from the use of EIs are deposited into the state treasury account and a proportion is allocated to pursue other development objectives apart from conservation. Some country representatives cited the low earmarking of funds for conservation as a hindrance to the achievement of ENRM goals while others cited the need for more transparency on how environmental funds are allocated.

The need for better coordination among the various ministries in charge of managing natural resources and those in charge of finance and budget allocation was therefore identified as a concern as well. More often than not, each ministry protects its territory and tends to mistrust other ministries when it comes to issues of common concern. Ms. Laksmi Dhewanthi, Assistant Deputy Minister for Environmental Economics, Ministry of Environment, Indonesia, observed that this may indicate the need to change performance indicators so as to create a common language for better communication and coordination among these ministries.

Need for a policy framework

The forum workshop participants concluded that each country needs a policy framework that can better ensure the effective implementation of EIs in ENRM. Such a framework would ensure regular updating and adjustment of resource fee levels for inflation as well as better facilitate use of revenues generated by EI implementation for natural resource conservation.



Dr. Ma Zhong, Dean of Renmin University of China's School of Environment and Natural Resources, talks about the use of economic instruments in environmental management in his country.

Dr. Laksmi Dhewanthi (left), Assistant Deputy Minister for Environmental Economics, Ministry of Environment, Indonesia, and Dr. Zulkifli Abdul Rahman, Director, Department of Environment, Enforcement Division, Ministry of Natural Resources and Environment, Malaysia, listen to questions during the open forum after their presentations.

Assistant Secretary Ma. Teresa Habitan (left), Department of Finance, Philippines, responds to a question raised after her presentation on her country's environmental tax policy, while Mr. Nelson Gorospe (right), Officer in Charge-Regional Technical Director for Research, Department of Environment and Natural Resources-Region 1, Philippines, looks on. Mr. Gorospe also gave a presentation on his country's use of economic instruments in natural resources.

EEPSEA, SEARCA/ to page 10