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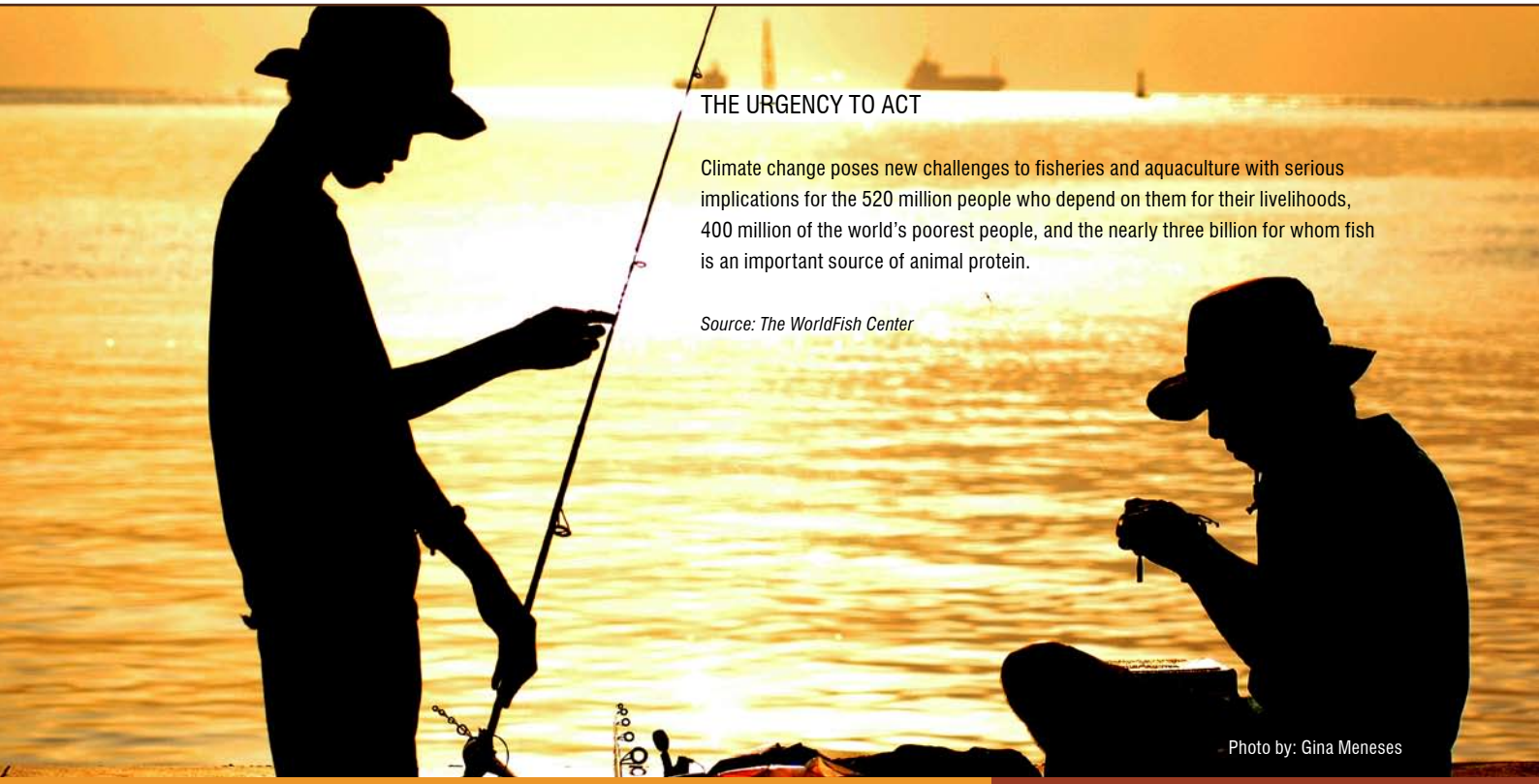

THE URGENCY TO ACT

Climate change poses new challenges to fisheries and aquaculture with serious implications for the 520 million people who depend on them for their livelihoods, 400 million of the world's poorest people, and the nearly three billion for whom fish is an important source of animal protein.

Source: The WorldFish Center

Photo by: Gina Meneses

Capture fisheries and aquaculture in SEA face climate change threat

Climate change is taking its toll on capture fisheries and aquaculture in Southeast Asia. With more than 170,000 kilometers of coastline in Southeast Asia, millions of people face the threats of a changing climate on food security, employment, and income. With average fish consumption at 16.9 kg/capita and total global demand that is projected to continuously increase over the years as population grows, Southeast Asia is at risk of hunger and malnutrition.

To soften the blow of this unprecedented phenomenon, it is essential to identify and implement adaptation strategies and mitigation policies especially in Southeast Asia, which is home to one-third of the world's poor. With these issues in mind, SEARCA, in collaboration with WorldFish Center, Philippine Council for Aquatic and Marine Research and Development (PCAMRD), and Bureau of Agricultural Research (BAR) of the Philippine Department of Agriculture conducted back-to-back activities highlighting the fisheries sector of Southeast Asia.

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WHAT'S INSIDE

Capture fisheries from page 1

WORKSHOP ON CLIMATE CHANGE AND FOOD SECURITY

The first activity, a joint effort of PCAMRD, WorldFish Center, BAR, and SEARCA, was a regional workshop titled "Climate Change and Food Security: Global Challenges for Improving the Competitiveness of Fisheries and Fisheries-Based Products in Asia," held on 19-20 March 2009 in SEARCA.

Researchers and experts convene on 19-20 March 2009 at SEARCA to discuss the threats posed by climate change and food security to the fisheries sector.

In his opening remarks, Dr. Arsenio M. Balisacan, SEARCA Director, emphasized that issues of climate change are very serious, transcending both national and regional concerns, and are therefore best addressed collectively. Research collaboration at the regional level is very important in promoting greater sharing of knowledge and best practices. It would also shorten the process by avoiding duplication of efforts, thereby reducing costs.

The country presentations of Cambodia, Indonesia, Malaysia, Philippines, and Vietnam highlighted the potential impacts of climate change on the fisheries sector and the various initiatives pursued within each country to address them. Dr. Rafael D. Guerrero III, Executive Director of PCAMRD, emphasized the need to validate such potential impacts. Identifying specific research activities that would quantify the impact of climate change on the vulnerable sectors, particularly in the fisheries sector, is the next step forward, said Dr. Maripaz L. Perez, Regional Director, East and Southeast Asia, WorldFish Center.

During the open forum, Dr. Robert S. Pomeroy, Associate Professor, University of Connecticut, emphasized the importance of translating scientific information to useful policy and policy guides that would help stakeholders in identifying strategies for climate change adaptation and mitigation, which are sorely lacking in the fisheries sector.

Forum participants exchange insights on how to avert the impacts of climate change on fisheries.

REGIONAL FORUM

The second activity, organized by PCAMRD and SEARCA, was a regional forum themed "Initiatives, Information Exchange and Research Cooperation on Fisheries and Climate Change in Southeast Asia," held on 20 March.

The regional forum underscored the need for fisheries information availability, accessing, and sharing. Hence, Dr. Perez recommended having a regional network or databases to facilitate and enhance the delivery of accurate and timely information. She also urged the mapping of vulnerable ecosystem areas and the holding of more regional forums, involving not only the academic community but also the local government units (LGUs) and fisherfolk.

The two regional activities brought together a multi-stakeholder group composed of the National Integrated Fisheries Technology Development Center, Tambuyog Development Center, Consortium of Non-Traditional Security Studies, Southeast Asian Fisheries Development Center, University of the Philippines Los Baños, and ASEAN Centre for Biodiversity. The activities identified production constraints and target priority areas in terms of product or service life cycle where improvements and higher investments could be made to enhance the competitiveness of the fisheries sector and/or fisheries-based products. The workshop and forum accentuated the role of scientists, nongovernment organizations, LGUs, international organizations, and advanced research institutes in addressing the various limitations confronting the fisheries sector, especially those associated with climate change within the context of food security and other key areas of concern.

In her concluding remarks, Dr. Perez said that appreciation and understanding of climate change issues and their impact on fisheries and being proactively responsive instead of reactive would result in a more pragmatic approach in solving the identified issues. Identifying strategies for adaptation and mitigation of climate change in the fisheries sector is a key takeoff point in addressing the issues and safeguarding fisheries, which is both a livelihood and food source for many Southeast Asians. (RCDikitanan)

Erratum

SEARCA DIARY, VOL. 37 NO. 4
(October - December 2008)

Dr. Ni Ni Tint's PhD thesis abstract (page 11) was misidentified as an MS abstract. A corrected version of the newsletter can be downloaded from www.searca.org/web/newsletter.

THE SEARCA DIARY

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US expert gives a seminar on agricultural productivity

Dr. Jean-Paul Chavas (striped shirt) meets with Dr. Arsenio M. Balisacan (blue shirt), SEARCA Director; Dr. Roehlano M. Briones (2nd from left), PGPA Project Manager; Dr. Arnulfo G. Garcia, SEARCA Research and Development Manager; and Ms. Roberta V. Gerpacio, Project Development Specialist.

Dr. Jean-Paul Chavas, professor at the Department of Agricultural and Applied Economics, University of Wisconsin-Madison, conducted a seminar on 3 March 2009 titled "The Economics of Agricultural Productivity" at SEARCA's Agriculture and Development Seminar Series (ADSS). He also shared his experience in productivity analysis with researchers of the Productivity Growth in Philippine Agriculture (PGPA) project, a three-year collaborative project among SEARCA, Philippine Rice Research Institute (PhilRice), and Bureau of Agricultural Research (BAR) of the Philippine Department of Agriculture.

Dr. Chavas discussed risks associated with agricultural productivity including weather effects, diseases, and pest damages, using econometric models. Econometrics combines economic theory with statistics to analyze and test economic relationships. He noted the lack of discussions on risk management when measuring agricultural productivity.

In a small group discussion with PGPA study leaders, Dr. Chavas tackled productivity analysis in depth. In particular, he explained productivity analysis on: (1) a multi-output context and its relation to environmental management; (2) the source of technological progress and the role of research and development; and (3) impacts to productivity of public research and development (R&D) versus private R&D. He shared some lessons gleaned from his previous research experiences, particularly those in African countries.

Dr. Chavas emphasized that while farmers' decisions are significant in agricultural production, currently it is not known how much of total factor productivity (TFP) growth can be

Agricultural productivity/ to page 15

'Causes of Poverty' book-writing project reveals key findings

Prof. Solita C. Monsod of the UP School of Economics points out startling poverty statistics in her presentation at the National Poverty Conference held on 31 March 2009.

"Poverty reduction has been fast in East Asia, but not so in the Philippines," reported Dr. Arsenio M. Balisacan, SEARCA Director. Occasion was the "National Conference on Imperatives for Poverty Reduction Amidst and Beyond the Global Economic Crisis" held at Crowne Plaza Galleria Manila, Quezon City, Philippines on 31 March 2009.

The conference was among the penultimate activities of SEARCA's book-writing project in collaboration with the University of the Philippines School of Economics (UPSE). The book, an update to an earlier volume published in 1999, is slated to hit the shelves in September 2009. Its authors all come from UPSE.

Dr. Arsenio M. Balisacan, editor of both the first release and the forthcoming book, said that rapid population growth is a problem that has been neglected for so long now. The Philippines could have been better off in terms of per capita income growth if its population growth path had been similar to Thailand.

This was seconded by Dr. Ernesto Pernia, one of the authors. He said, "central to the issue are the negative externalities of sustained high fertility on economic growth, poverty and inequality, and environment." He added that the population issue has been a silent national crisis that needs urgent action.

Prof. Solita C. Monsod, in her presentation titled "Philippine Poverty: Situation, Trends, Comparison," showed the stark differences in household incomes based on educational attainment, family size, and nature of work. She disclosed that two-thirds of poor households are headed by those with primary education at best. She also noted that 70 percent of the poor

Causes of poverty/ to page 15

SEARCA participates in int'l economists' meet

Economists the world over met in Kyoto, Japan for the Western Economics Association International 18th Biennial Pacific Rim Conference held on 24-27 March 2009.

The conference was honored by the participation of Prof. Kenneth Joseph Arrow, Nobel Laureate in economics.

Among the participants were Dr. Arsenio M. Balisacan, SEARCA Director and Professor of Economics at the University of the Philippines Diliman, and Dr. Agnes C. Rola, Professor and Dean of the College of Public Affairs, University of the Philippines Los Baños. Dr. Rola's participation in the conference was made possible through a SEARCA travel grant.

Dr. Balisacan chaired the session on "Sustainability Science: Commons, Coral, Confusion, and Recycling" and served as discussant of the paper titled "Governing the Resource: Institutional Change with Endogenous Resource Scarcity" by Dr. James Roumasset of the University of Hawaii-Manoa and Nori Tarui.

SEARCA and University of Hawaii (with the team led by Dr. Roumasset) have begun discussions and work on Sustainability Science.

At the conference's session on "Poverty, Agriculture, and the Environment," two papers co-authored by Dr. Balisacan were presented: "Pathways out of rural poverty: Politics and economics of rural development in the Philippines" (with Dr. Nobuhiko Fuwa) and "The Philippines at the Crossroads: Resource Curse vs. Sustainable Development (with Majah-Leah Ravago and Dr. Roumasset).

In the same session, Dr. Rola presented her paper titled "Agricultural Productivity Growth and Environmental Externalities: Upland Corn Production in the Philippines (co-authored with Dr. Asa Jose U. Sajise, Dieldre S. Harder, and Joe Marvin P. Alpuerto). She also served as discussant of the paper on "Coastal Groundwater Management with Nearshore Resource Interactions" by Kimberly M. Burnett, Sittidaj Pongkijvorasin, Dr. Roumasset, and Thomas Ka'eo Duarte. (LLTallafer)

Nobel Laureate Prof. Kenneth Arrow (with red tie) poses for posterity with some conference participants from the Philippines and Hawaii (l-r): Ms. Kimberly Burnett, University of Hawaii Economic Research Organization (UHERO); Dr. Arsenio Balisacan, SEARCA; Dr. James Roumasset, University of Hawaii and UHERO; Ms. Majah-Leah Ravago, University of Hawaii and East-West Center; Dr. Agnes Rola, University of the Philippines Los Baños; and Mr. Sittidaj Pongkijvorasin, Chulalongkorn University, Thailand (backrow).

SEARCA participates in int'l sustainability science conference

Dr. Arnulfo G. Garcia, Manager of SEARCA's Research and Development Department, represented SEARCA at the International Conference on Sustainability Science held on 5-7 February 2009 at the University of Tokyo in Tokyo, Japan.

Dr. Garcia presented a paper at the session on Food and Water, titled "Ensuring Food Security through Integrated Natural Resource Management (NRM): Issues and Challenges for Sustainability in Southeast Asia."

Dr. Arnulfo G. Garcia

"An approach to sustained growth in agricultural productivity is through integrated and effective management of natural resources," Dr. Garcia said. He recommended that responses to NRM challenges such as food security and climate change should be site-specific within and between countries or cluster of countries with similar situations to address both immediate and long-term strategies.

The conference provided an international and interdisciplinary forum to promote a deeper understanding of diverse academic approaches to Sustainability Science. It discussed how to design a framework for integrating and structuring knowledge on Sustainability Science.

Its four main objectives were to: (1) review and discuss the current status of the activities, goals and policies of the research networks on Sustainability Science, with special reference to the respective characteristics and future challenges, in order to promote mutual understanding between the networks; (2) identify differences and similarities between the networks and reaffirm the role of the network in Sustainability Science; (3) discuss the scope for complementarities between the networks for effective collaboration; and (4) identify and prioritize specific follow-up activities and provide a networking opportunity for future collaboration among research networks through the exchange of students and researchers, university-industry collaboration, and joint outreach to society.

Some of the topics discussed were climate change, energy sustainability, food and water, resource circulation and land use, and the role of university in society for sustainability.

The conference was organized by the Integrated Research System for Sustainability Science (IR3S) of University of Tokyo and co-organized by IR3S-United Nations University Sustainability Joint Initiative. Almost 200 participants, mostly scientists, senior researchers, and administrators, attended the event. (MAFAbad with report from AGGarcia)

FAO holds policy forum on agri reforms

A "Policy Forum on Agricultural Reforms and Trade Liberalization in China and Selected Asian Countries: Lessons of Three Decades," was organized by the UN Food and Agriculture Organization-Regional Office for Asia and the Pacific and China's Agriculture Trade Promotion Centre, Ministry of Agriculture in Beijing on 19-20 February 2009.

The Policy Forum aimed at generating a better understanding of the agricultural policy reforms; the implications of trade liberalization in China and other Asian countries; and the possible avenues for future reforms both in China and in other Asian countries. Its ultimate goal is to create an informed and meaningful policy dialogue so that policy reforms can be made more efficient.

Among the participants was Dr. Arsenio M. Balisacan, SEARCA Director and Professor of Economics at the University of the Philippines Diliman, who chaired the session on "Changing Agricultural Policy Landscape in Asia."

The other topics discussed during the forum include: Chinese agriculture: past performance and future prospects; Implications of trade liberalization for agriculture and farmers in China; Agricultural policy reforms, performance and issues in selected Asian countries; WTO/Doha Development Agenda and agriculture; Lessons for agricultural development policy; and Policy challenges and innovations under global food and financial crisis.

The forum participants were senior policymakers, public and international development agency officials and academics who have been involved in the analysis and implementation of agriculture and trade policy reforms in China and other countries in Asia. The meeting's proceedings will be published as an edited volume. (LLTallafer)

Philippines may not meet its MDGs by 2015, says SEARCA Director

Dr. Arsenio M. Balisacan, SEARCA Director and Academician of the National Academy of Science and Technology (NAST), Philippines, presented a paper titled, "Making Good on the Millennium Development Goal (MDG) Poverty Challenge," during the 77th Academy Meeting of NAST on 26 February 2009 at the NAST headquarters in Bicutan, Taguig, Metro Manila, Philippines.

Dr. Balisacan described poverty in the Philippines today as "…widespread, increasing in recent years despite the country's relatively respectable economic performance in 2000-2007, and threatening to rip the country's social fabric. Poverty in the Philippines is disturbingly higher than other East and Southeast Asian countries, and the rate of its reduction lagged far behind its Asian neighbors."

He said that the current global economic crisis would further deepen destitution and hunger, and that if the country fails to undertake major actions to address the problem of poverty and inequity, the likelihood of achieving the MDGs on poverty and social development by 2015 is low.

He stressed that despite fiscal constraints, there are wide avenues for improving the response of poverty to income growth. Key to achieving pro-poor growth is expansion of access to economic opportunities, social services, and productive assets. He underscored poverty's strong connection to agriculture. "Poverty remains largely as a rural phenomenon," Dr. Balisacan said.

Established in 1976, NAST, Philippines is an academic body that recognizes outstanding achievements in science and technology and serves as a reservoir of competent scientific and technological manpower for the country. From 1978 to 2008, a total of 78 academicians have been recognized. (ATRobles)

Dr. Arsenio M. Balisacan, SEARCA Director, discusses the Millennium Development Goal's poverty challenge at the 77th Academy Meeting of NAST, Philippines on 26 February 2009.

PhD Research Scholar undertakes internship at SEARCA

Mr. Rustadi

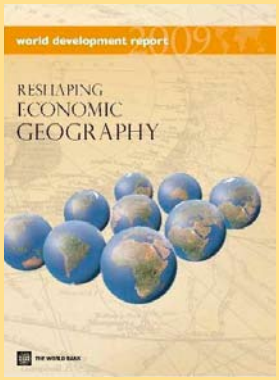
An Indonesian SEARCA PhD research scholar undertook a one-month internship at SEARCA. He is Mr. Rustadi, PhD in Environmental Science student at the Faculty of Agriculture, Universitas Gadjah Mada (UGM) in Yogyakarta, Indonesia.

He was at SEARCA from 10 February to 14 March 2009, during which he worked on writing up his dissertation titled "Nitrogen and Phosphorus Concentration for Predicting Fish Culture Carrying Capacity of Water Environment in Sermo Reservoir, Kulonprogo, Yogyakarta." His research aims to determine the concentration of nitrogen and phosphorus in reservoir water as well as the eutrophication level and its correlation with physical, chemical, and biological condition of water and its suitability with fish life. Eutrophication is a process whereby water bodies receive excess nutrients that stimulate excessive plant growth, often called algal bloom. The study also aimed to predict the carrying capacity for fish culture and to control nitrogen and phosphorus concentrations.

While at SEARCA, Mr. Rustadi presented some of his research findings in a seminar held on 5 March 2009 as part of the SEARCA Agriculture and Development Seminar Series.

Mr. Rustadi is a Senior Lecturer at the Faculty of Agriculture, UGM. He is also a SEARCA alumnus having completed his MS in Aquaculture at Central Luzon State University, Muñoz, Nueva Ecija, Philippines in 1985 under a SEARCA scholarship. (LLDDomingo)

SEARCA Director contributes to World Bank publication



"Reshaping Economic Geography in East Asia," a companion volume to the "World Development Report 2009."

Dr. Arsenio M. Balisacan, SEARCA Director, co-authored an article titled "Spatial Disparities and Development Policy in the Philippines" published in the book "Reshaping Economic Geography in East Asia," a companion volume to the "World Development Report (WDR) 2009."

Co-authors of the article are Dr. Hal Hill, a Professor of Economics at the Australian National University's Research School of Pacific and Asian Studies, and Ms. Sharon Faye Piza of the Asia Pacific Policy Center.

Dr. Balisacan presented the key points of his paper at the launch of the WDR 2009 held on 12 January 2009 at the Asian Institute of Management Conference Center, Makati City, Philippines. Among the pressing issues he mentioned were the lack of investments in infrastructure and poor land use legislation.

He said that the economic potentials of many land areas in the Philippines are not maximized because of poor policies. Investors experience difficulties in transforming agricultural land into commercial ones.

"The Philippines is underinvesting in infrastructure, particularly transport and electricity… This not only reduces overall growth, but also limits domestic mobility of factors, goods, and people, hindering the full participation of lagging regions from the growth process in leading regions or urban centers. The high cost of mobility, especially that of labor, creates disparities in welfare levels," Dr. Balisacan said.

According to the WDR 2009, economic integration of highly developed urban areas and poor far-flung areas will help reduce poverty and result in inclusive economic growth. (MAFAbad)

SEARCA scholar cross-enrols in UBC

Mr. Artemio A. Martin, Jr.

Mr. Artemio A. Martin, Jr., a Filipino SEARCA scholar pursuing a straight PhD program in Soil Science at the University of the Philippines Los Baños (UPLB), was awarded a travel grant to University of British Columbia (UBC) in Vancouver, Canada, effective 1 January-30 April 2009. The grant was given under the Student Exchange program of the Southeast Asian University Consortium for Graduate Education and Natural Resources (University Consortium). Specifically, it is supported by the UBC Go Global Scholarship and the University Consortium Pool of Funds.

Mr. Martin enrolled in three graduate courses offered at UBC's Faculty of Land and Food Systems.

The travel grant given to Mr. Martin brings to 62 the total number of student exchange grants awarded under the UC.

Launched in 1989 by SEARCA, the University Consortium links nine top agricultural universities in Southeast Asia, Canada, Australia, Germany, and Japan, to facilitate free exchange of information, facilities, and expertise. The Consortium is one avenue by which SEARCA and member universities pursue agricultural human resource development in Southeast Asia (see www.uc.searca.org).

Student exchange is one of the Consortium's components. The others are faculty exchange, thesis grants, professorial chair, and research fellowship. (LLDDomingo)

ASIAN JOURNAL FOR AGRICULTURE AND DEVELOPMENT

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FORMAT

Articles should be submitted as Microsoft Word document (.doc, .rtf), typed double-spaced on letter-size paper (8.5" x 11"), and should not exceed 20 pages, including tables and figures.

All tables and figures should be placed at the end of the article. Scanned or digital photos should be in high resolution (not lower than 300 dpi).

All units of measurement used in the article accurately should be indicated clearly.

References should be in the following order: author 1 (last name, first name), author 2 (last name, first name), year of publication, title of publication, particulars (volume, number, proceedings, etc.), publisher, place of publication, page number. All entries should be separated by a period.

SUBMISSIONS MAY BE E-MAILED TO:
ajad@agri.searca.org

Flood- and Typhoon-Proofing Communities: Learning from the Vietnam Experience[1]

BY: LORNA M. CALUMPANG [2]

November 2008 - The flooded streets of Hanoi's Hoang Mai District became canals and residents shuttled on the flood waters using all kinds of homemade floating vessels. (Copyright Justin Mott/Bloomberg News. Retrieved from www.digitaljournalist.org)

Local people in Hoi An, Vietnam use boats as a means of transport during floods as an adaptation measure. (Photo Source: picasaweb.google.com)

When it rains, it pours. This is true for Vietnam, particularly when it comes to typhoons and floods. The UN International Strategy for Disaster Reduction (2007) estimates that 84 percent of all disaster deaths in the country between 2000 and 2005 were flood-related. It also reports that the number of floods had increased from 60 to 100 per year between 2004 and 2006.

Dr. Herminia A. Francisco, Director of the Economy and Environment Program for Southeast Asia (EEPSEA), based at the International Development Research Centre (IDRC), reports the same observation – that Vietnamese people have been living with floods all their lives. The severity of these floods will still rise given climate change. In response to the challenges posed by a changing climate, EEPSEA conducted case studies in Vietnam, Philippines, Indonesia, China, and Thailand.

COPING WITH FLOOD

In the five countries studied, results show that poor communities cope by relocating to designated areas; by accepting food; and/or by changing livelihoods from farming to aquaculture. Government relief efforts usually focus only on giving food. Surveys showed 35 percent awareness of climate change-related risks in Thailand and Indonesia; and limited knowledge of disaster-related risks. For poor communities, relocation becomes the last resort – not the first action – because they have no money.

INNOVATIVE SOLUTIONS

Vietnam has the most experience in flood-proofing. The People's Committee of An Giang Province and Department of Agriculture and Rural Development are implementing one model flood-proofing project in the Mekong Delta. Supported by the United States Agency for International Development (USAID) and United Nations Development Programme (UNDP), the project showcases the construction of steep embankments using innovative technology that consists of sandwiching "geosynthetic material" (strong textiles) between layers of earth and covering it with a heavy stone overlay.

In other parts of Vietnam, such geosynthetic material has been used since 1997 to build river dikes and reinforce roads. "What the fabric does is allow the water to pass through but the soil to remain firmly in place," reports www.irinnews.org.

Also, the Vietnamese government launched in 1996 the Living with Flood (LWF) Policy in the Vietnamese Mekong Delta (VMD). The objective of the program is to build dwelling houses where residents of the VMD's flooded areas could be relocated.

The program has built more than 1,000 resettlement clusters (RCs) for 200,000 households. Total investment capital was about US$ 200 million.

The study showed that the resettlement program faces problems of unsustained finance, poor livelihood, and poor quality of infrastructure. Although livelihood in the RCs had not been good, the respondents felt happy living in the RCs. A survey also indicated that people who currently live outside the RCs expected to transfer to the RCs.

To cope with and adapt to the occurrence of floods, the people would need to adjust their habits and their social and economic activities toward living and getting benefits from floods rather than preventing floods, recommends Dr. Vo Thanh Danh, Professor and Vice Dean, School of Economics and Business Administration, Cantho University.

In helping countries to adjust habits, EEPSEA puts forward some science-based actions to help in adaptation:

1. Map Southeast Asia according to cyclones, droughts, sea level rise, etc. Consider sensitivity through population density, ecological sensitivity, extent of protected area.
2. Implement future vulnerability mapping work that includes exposure to hazards and adaptive capacity of communities, which considers economic, infrastructure, technology, human development index, and poverty incidence.
3. Understand adaptation behavior – what makes people adapt; how income influences adaptation behavior; what are the actions taken or not taken; what are the things that constrain adaptation behaviors in coping with floods and other climate change related risks.

1 Some thoughts were taken from the presentation of Dr. Herminia A. Francisco, Director, EEPSEA, during the iBOP (Base of the Pyramid Program) Climate Change Forum hosted by Ateneo School of Government, Philippines and International Development Research Centre (IDRC), 4-5 March 2009.

2 Head, Knowledge Management Unit, SEARCA

SEARCA conducts teambuilding cum summer outing

The world-famous scenic island of Boracay in the Philippines was the site where SEARCA staff learned a few more things about keeping a solid team on 27-28 February 2009.

SEARCA's Summer Outing cum Teambuilding was a two-pronged activity geared to give the staff the opportunity to take a break from the demands of the workplace and at the same time to go back to the essentials of being a good team through games and other interactive sessions.

Successful teams and team work fuel the accomplishment of an organization's strategic goals. This was what SEARCA management had in mind when conceptualizing "Elevating the Professional SEARCA Team," the theme of the Teambuilding cum Summer Outing. With training experts from Guthrie-Jensen, 78 staff and personnel conquered the coasts of Boracay in an amazing race teambuilding format.

The games looked easy but took more than just cognitive skills to finish. Cooperation, patience, and listening to each other were of critical value in completing each task. While speed and agility may have its worth in the group games, having a shared goal (i.e., winning the game) is an essential ingredient to a team's success.

After all the games, the real challenge emerged - how to translate the rudiments of teamwork in the workplace. This was reinforced through a processing session after the amazing race, where the staff assessed the various aspects of and gleaned lessons from the games.

Aside from honed teambuilding skills, enormous fun was had by all. (MAFAbad)

Fostering teamwork is creating a work culture that values collaboration. In a teamwork environment, people understand and believe that thinking, planning, decisions and actions are better when done cooperatively. People recognize, and even assimilate, the belief that "none of us is as good as all of us."

- High Five: The Magic of Working Together, 2000

The SEARCA team poses for posterity.

LET THE GAMES BEGIN!

SABAY-SABAY PABABA - Guys, TEAMWORK!!! And tons of patience!

ISANG KAHIG ISANG TUKA - Looking for treasures under the sand!

HAY, MAY GULAY! - Best game for vegetarians.

CHEERING COMPETITION BY TEAM - Hidden talents surfaced!

The trainers from Guthrie-Jensen…

BLESS AND BUILD - The management team… still all-smiles at the end of a task.

Relaxing at one of the world's finest beaches.

The green team…

The blue team…

The red team…

Snapshots

The 16th batch of Bio-business Practice students from Tokyo University of Agriculture visited SEARCA on 9 March 2009. This program was coordinated by Prof. Loida Mojica of the University of the Philippines College of Economics and Management.

Dr. Kelvin S. Rodolfo (inset), Professor Emeritus, University of Illinois at Chicago, gave a presentation at the SEARCA Agriculture and Development Seminar Series on 17 February 2009. Dr. Rodolfo, a world renowned geologist, spoke on "Fossil Fuels, Climate Change and Philippine Energy Alternatives." The special seminar was co-sponsored by the Interdisciplinary Program on Climate Change of the University of the Philippines Los Baños School of Environmental Science and Management. His presentation is available at: www.searca.org/web/adss/2009/

Faculty and graduate students from Universiti Putra Malaysia were in Los Baños for a study tour facilitated by SEARCA. On 20 March 2009, the delegation was in the Center to learn more about SEARCA and its programs. The delegation was led by Prof. Dr. Md. Salleh bin Haji Hassan, President of the Malaysian SEARCA Fellows Association. They were received by Dr. Saguiguit (center).

Dr. Arsenio M. Balisacan (rightmost) received officials from the Centre for Agriculture and Biosciences International on 4 March 2009: (L-R) Dr. Wai-Hong Loke, Regional Director, Southeast & East Asia; Dr. Qiaoqiao Zhang, Director, East Asia; and Mr. Dennis Rangi, Executive Director, International Development.

A delegation from Maejo University led by Dr. Praphant Osathaphant (2nd row, 2nd from right), Dean, Faculty of Agricultural Production, visited SEARCA on 11 March 2009. Among the visitors were Dr. Kittipong Towthirakul, 2nd row, leftmost, a SEARCA alumnus (MS, Extension Education, 1985, UPLB).

Thesis Abstracts

PARTIAL CHARACTERIZATION OF SELECTED LACTIC ACID BACTERIA FROM NEM CHUA, A TRADITIONAL FERMENTED MEAT OF VIETNAM

Nguyen Thi Hong Hanh,
Vietnamese
MS in Food Science
University of the Philippines
Los Baños

Nem chua, a traditional fermented meat of Viet Nam, is the product of lactic acid bacteria (LAB) fermentation. Its process includes several steps, in which fermentation is the determinant of the product quality. There are many biochemical and microbiological changes during fermentation. Acid-producing bacteria increased significantly and at the 4th day of fermentation, it reached approximately 8.4 log CFU/g and contributed to 94% of the total bacteria flora of the product. Yeasts were also confirmed to be present in the product and increased during fermentation.

Out of 85 isolates obtained from the product, only 44 were confirmed Gram-positive and catalase-negative. These putative LAB isolates were purified and screened for antimicrobial and proteolytic activity. None of the isolates showed antimicrobial activity with "spot-on-lawn" method but showed inhibition against *Lactobacillus sakei* and *Enterococcus faecium* with direct assay. Most of the isolates showed higher proteolytic activity at pH 7.0 than pH 5.0. Four (4) isolates possess good proteolytic activity, the highest being 18.26 U/mL at neutral pH. All four isolates were identified as *Lactobacillus plantarum* using API 50 CHL i.d. kit. Sequencing of the 16S rRNA gene amplified by primers 1101F (5'-AAC GAG CGC AAC CC-3') and 1407R (5'-GAC GGG CGG TGT GTA C-3') showed 98% homology to *Lactobacillus plantarum* WCFS1.

PARTICIPATORY LAND ALLOCATION IN HUAI DAU WATERSHED, NONG PHOK DISTRICT, ROI ET PROVINCE, THAILAND AS A FORESTRY EXTENSION MANAGEMENT TOOL

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The general objective of this study was to assess before and after change in human behavior of participatory land allocation (PLA). Specifically, the study aimed to: (1) determine the bio-physical, socio-economic, and institutional situations; (2) determine current land use, forest cover and cost of investment; (3) identify major stakeholder (MaST); (4) determine better land allocation to maximize revenue and highest satisfaction; and (5) develop a protocol of PLA as a forestry extension management tool.

The study found nine (9) types of land use classified into 20 sub-types. Most of the area was occupied by natural forest, with nine (9) native tree species identified. The communities in HDW belonged to poor status and encountered loans. The study applied participatory land allocation (PLA) which collaborated with decision makers, comprising eight (8) major stakeholders (MaST) who passed in the stakeholder analysis. PLA and several sensitivity analyses revealed that only para-rubber was the suitable species for planting in 72.75 ha, to maximize revenue of US$ 294,876. However, the community's highest satisfaction level was doubled when there was an attitude change on PLA implementation. The output of correlation test between S_1 and S_2 separating attitude to knowledge, skill, awareness, preference and adoption which were found to be insignificant with the best correlations was non-linear equations. Meanwhile, it was found that the *PLA process* was the main factor of change in S_2. Moreover, after PLA implementation, it was found that MaST had an increase change in the aspect of knowledge, skill and awareness more than preference and adoption. The entire research process led to the development of a PLA protocol as a forestry extension management tool serving as a guideline for poverty reduction.

BODY CONDITION SCORE AND CALF MANAGEMENT IN DAIRY PRODUCTION

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The study involved two experiments. Experiment 1 determined the relationship of body condition score (BCS) on calf health status, production of milk, and reproductive performance. Experiment 2 compared the effect of feeding whole milk with that of milk replacer on the weight gain performance of the calves.

Three (3) levels of BCS were compared. The low BCS group (2.0-2.75), medium BCS group (3.0-3.75), and high BCS group (4.0-4.75) were monitored both at the Dairy Training and Research Institute (DTRI) and Batangas Dairy Cooperative (BADACO) farms.

A total of 50 pregnant dairy cows were used, 33 of which were from BADACO while 17 were from DTRI herd. In the BADACO herd, the highest number of healthy calves was found in the low BCS group with 10 (100 %) healthy calves, followed by high BCS group with 12 (92%) healthy calves, and the medium BCS group with six (60 %) healthy calves. In DTRI, herd the highest number of healthy calves was found from high BCS group with five (100%) healthy calves, followed by medium BCS group with five (83%) and low BCS group with three (50%).

The effect of BCS on the production of milk and reproductive performance were available only at DTRI farm. In DTRI herd highest milk production was shown by the medium BCS group with 1896 kg, followed by high BCS group with 1444 kg, and low BCS group with 1223 kg after 120 days of lactation. In reproductive performance, the limited data indicates that cows in the medium and high BCS group have better reproductive status than the low BCS group 30 days after parturition. Low BCS group did not show estrus while the medium and high BCS groups have 30%, showing estrus after 30 days.

Two treatments were used to raise calves. Treatment I (TI) refers to whole milk at 8% of body weight + calf starter + roughage. This is the usual farm practice of calf management at BADACO serving as control. Treatment II (TII) refers to milk replacer at 10% of body weight + calf starter + roughage. The calf starter and roughage were common to both treatments fed *ad libitum*. Ten (10) dairy female calves were used to determine the effect of feeding whole milk and milk replacer on body weight gain. The highest average daily gain 0.5 g was obtained from whole milk group and 0.3 kg for milk replacer. To gain one kilogram of body weight gain, the cost is PhP 191.20 for milk replacer and PhP 140.07 whole milk. Calves can be weaned from either whole milk or replacer if consumption of calf starter reaches 600 to 700 g for three consecutive days.

DEVELOPMENT OF PEDOTRANSFER FUNCTIONS FOR PREDICTING SOIL HYDRAULIC PROPERTIES AND SOLUTE TRANSPORT PARAMETERS USING ARTIFICIAL NEURAL NETWORK ANALYSIS

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Soil hydraulic properties and solute transport parameters are key inputs for models simulating

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water and chemical transport in soil. However, these properties are not easily obtainable because measuring them is resources intensive. One approach to address this data gap is through the development of pedotransfer functions. Thus, this study was carried out to develop soil water retention curve pedotransfer functions (SWRC-PTFs) and solute transport pedotransfer functions (ST-PTFs) using artificial neural network (ANN) to predict soil water retention and solute transport parameters, respectively, from basic soil physical and hydraulic properties. For comparison purposes, pedotransfer functions using linear and nonlinear regression analysis were also developed.

Results showed that the SWRC-PTFs using neural network were adequate and formed a hierarchy in predicting soil water retention. Among the soil properties, bulk density was an important input variable in the model as it reflects the effect of soil structure on the flow of soil water. Its inclusion in the model increased the prediction of water retention by about 24%. On the other hand, the developed SWRC-PTFs using linear regression did not perform well. However, adjusting their regression coefficients using the global optimization approach significantly improved their performance by more than 117% compared with their linear versions and were comparable with the neural network SWRC-PTFs. Among the eight SWRC-PTFs, six had relative improvement of more than 50% over Rosetta and more than 60% over Neuro-m in predicting water retention curve of Philippine soils. They account for more than 90% of the total variation of soil water retention with coefficient of efficiency (EF) of 0.26 to 0.77. These models further showed adequacy in predicting unsaturated hydraulic conductivity with an R^2 and EF as high as 0.83 and 0.61, respectively.

The ST-PTFs also showed great potential in predicting soil pore velocity, dispersion coefficient and dispersivity. About 54% of the total variation of dispersion coefficient was due to pore velocity. The results showed that solute transport parameters can be better predicted from soil physical properties than from water retention parameters. Using soil properties as predictors, the ST-PTFs could account for more than 50% of the total variation of pore velocity, dispersion coefficient and dispersivity. The ST-PTFs, however, are not capable of capturing preferential flows resulting from root channels, cracks and other soil fissures.

Finally, a computer program was developed to package six of the eight SWRC-PTFs and four ST-PTFs. This program provides a user-friendly interface for estimating soil hydraulic properties and solute transport parameters and more importantly has an improved accuracy and considerable degree of flexibility toward available input data.

ASSESSMENT OF THE MANGROVE FOREST IN RANONG, THAILAND FOR LANDSCAPE BIODIVERSITY RESOURCES PLANNING AND MANAGEMENT

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This study was conducted in Ranong, Thailand aiming to assess its mangrove forest and come up with a sustainable management plan. Geoinformatic techniques, socioeconomic survey and field inventory were used to characterize the six (6) study sites comprising seven (7) zones determined by cluster and ordination analysis. The Mueng district had the most number of mangrove patches (17). There were nineteen (19) mangrove tree species with *Rhizophora apiculata* as the most dominant. *Scylla olivacea* and *Sardinella sp.* were the dominant species of all the twenty-seven (27) identified aquatic fauna species. The highest diversity (2.01) and equitability (1.06) indices were in Zone III. The highest concentration index (0.47) was in Zone VII. The highest species richness index (3.425) was in Zone III and IV.

The satellite images and remotely sensed data showed other land use types such as fish and shrimp ponds, forest covers, urban, district, villages and tourist sites. As compared with mangroves, the fish or shrimp pond patches appeared to be smaller in size, polygon in shape with random arrangement. Mueng had the highest pond patches (25) while the lowest (2) was in Laun. The district with highest number of villages was in Kraburi (61) while the lowest (15) was in Suk Samran. There were 26 sites with tourist attractions in Ranong, Thailand.

A socioeconomic instrument with 60 respondents revealed that 73 % used mangroves as a source of construction materials, 2 % depended on mangroves for fuel with 22 % who could identify at least 5 species. All respondents confirmed that they largely depended on mangroves.

Based on the Landsat images of Ranong and the results of the vegetation study, it is suggested that a biodiversity corridor be established with the dominant *Rhizophora apiculata* as the main reforestation species. A rehabilitated mangrove ecosystem can actually minimize the ill effects of tsunamis to lives and properties. Furthermore, the mangroves must be treated as a community owned area rather than as a common property when the locals treat the mangroves as their own, there is a greater chance for mangrove conservation, hence sustaining its benefits for the Ranong locals.

PROTEIN ENGINEERING OF SULFHYDRYL GROUPS AND METHIONINE IN MUNGBEAN (*VIGNA RADIATA* (L.) WILCZEK) VICILIN AND EFFECTS ON ITS NUTRITIONAL AND FUNCTIONAL PROPERTIES

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The 8Sα globulin, the major storage protein of mungbean, was engineered to introduce sulfhydryl groups and disulfide bond to improve its structural stability and functional properties and methionine residues to improve nutritional quality. Using site-directed mutagenesis, mutants F59C, I99C and A213C were designed and prepared with free sulfhydryl group, I99C/A213C with disulfide bond and F59C/I99C/A213C with both a free sulfhydryl group and a disulfide bond, based on the established structure of mungbean 8Sα globulin. Mutants I99C/A213C and F59C/I99C/A213C formed a disulfide bond as expected which was confirmed by the Ellman method. Mutants with introduced disulfide bond exhibited greater stability to thermal denaturation and greater resistance to enzymatic digestion compared to the wild type (WT). All mutants showed greater hardness of heat-induced gels than WT, especially I99C/A213C and F59C/I99C/A213C mutants at 2% protein concentration. The results indicate that increasing sulfhydryl groups and disulfide bonds increases structural stability.

Eight methionine-mutants, IIa, IVa, IIa+b, IVa+b, II+4, IV+4, IVa+b+IIa and IVa+b+IIa+b, were designed and prepared using site-directed mutagenesis. Mutants IVa, IIa, II+4, IV+4, IIa+b, IVa+b, IVa+b+IIa and IVa+b+IIa+b contain 2, 3, 4, 5, 8 and 10 methionine residues, respectively. Mutants with introduced methionine exhibited greater stability in terms of thermal denaturation but similar pattern to enzymatic digestion compared to the wild type (WT). All mutants showed greater emulsifying ability than WT, specially IVa+b+IIa+b. Based on allergenicity prediction programs (BLASP and ADFS), WT and all mutants had no allergenic potential. The results indicate that increasing methionine content increases structural stability in terms of thermal denaturation and emulsifying ability.

Media practitioners learn about biofuel impact assessment

The workshop participants, resource persons, and organizers pose for posterity.

Media play an important role in influencing public opinion and policy. Media practitioners must therefore be updated on contemporary issues that affect national development such as biofuels.

Toward this end, SEARCA conducted a workshop for media practitioners titled "Understanding Impact Assessment: The Biofuel Challenge" on 26-27 March, 2009 in SEARCA. It had 18 participants from the different regions of the Philippines.

The workshop was co-sponsored by the Philippine Department of Energy (DOE) and the Philippine Agricultural Development and Commercial Corporation (PADCC). It was conducted in cooperation with the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), World Agroforestry Centre (ICRAF), USAID Philippines-Environment and Clean Air Project (ECAP), Sugar Regulatory Administration (SRA), and National Biofuels Board (NBB).

In his opening remarks, Dr. Gil C. Saguiguit, Jr., SEARCA Deputy Director for Administration, underscored the public's and policymakers' need for reliable information to make informed choices and decisions even as biofuel technologies are catching wildfire among various stakeholders and enterprising groups. "We ought to keep watch, evaluating impacts in a rational way where they are found, rather than merely speculating, in order to be able to adapt to our rapidly changing realities," he said.

Mr. Matanog Mapandi, DOE Assistant Secretary, speaking on behalf of DOE Secretary Angelo Reyes, said. "…as with other energy programs, the biofuels program of the Philippines shares the characteristic that in order to be relevant, the economic, socio-political, and geo-political aspects will need to be addressed aside from the technical aspect in order to make the program sound and sustainable."

The workshop mainly tackled the basics of impact assessment and data interpretation and their application in evaluating options in biofuel development. It also provided the framework for building awareness and understanding on the emerging biofuels industry, technologies to be developed and managed, policy and regulatory issues, and socioeconomic development challenges faced by the industry.

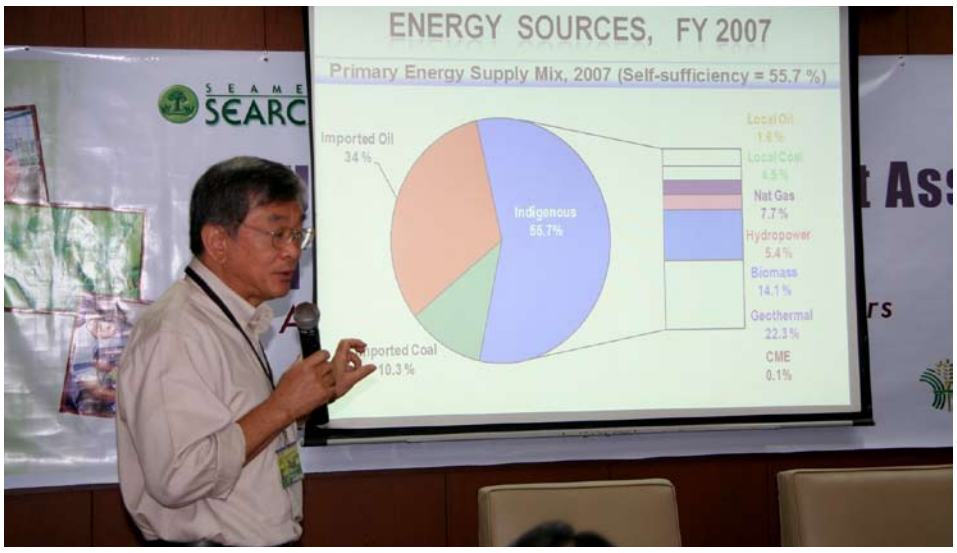
Topics included: 1) An Overview of the Biofuels Industry in the Philippines, 2) Biofuel Production and Its Effects on Social and Economic Environments, 3) An Overview of Impact Assessment, 4) Interpreting and Communicating Biofuels, 5) Impact Assessment Results, and 6) Developing Messages on Impact Assessment and Biofuels.

Eight experts shared their analyses, insights, and experiences with the participants, namely:

- Dr. Rafael L. Coscolluela, SRA Administrator and NBB Vice Chair
- Dr. Lisa Grace S. Bersales, Professor and former Dean of the University of the Philippines Diliman School of Statistics
- Dr. Rodel D. Lasco, ICRAF Philippines Coordinator
- Dr. Rex L. Navarro, ICRISAT Director of Communication and Special Assistant to the Director General
- Dr. Nena O. Espiritu, Assistant Professor at the College of Forestry and Natural Resources, UP Los Baños
- Dr. Virgilio T. Villancio, Program Leader of the UPLB Integrated R&D Program on *Jatropha curcas* for Biodiesel
- Mr. Marriz B. Agbon, PADCC President
- Ms. Josephine M. Tioseco, USAID-ECAP Development and Communications Specialist

Participants produced individual articles and radio spots based on the lecture-discussions. They broke into small groups to peer review their outputs, from which five write-ups were selected for critiquing by the resource persons in a plenary session.

In closing the workshop, Dr. Maria Celeste Cadiz, SEARCA Training Manager, noted the opportunity for networking and learning that the workshop provided among the media practitioners and trainers. Resource persons also found it a good avenue for different disciplines to come together and learn from each other. (RMMDedicatoria with report from NARamos)



Dr. Rafael L. Coscolluella, SRA Administrator and NBB Vice Chair, presents energy statistics to the workshop participants.

BIC hosts global crop biotech center/network meeting

Thirteen members of the Biotechnology Information Center (BIC) Network of the International Service for the Acquisition of Agri-biotech Applications (ISAAA) from Kenya, China, Malaysia, Vietnam, India, Thailand, and Pakistan visited SEARCA on 6 March 2009 for a short briefing on the Center and SEARCA BIC.

SEARCA's Biotechnology Information Center (BIC) hosted the annual meeting of the Global Knowledge Center on Crop Biotechnology and the network of Biotechnology Information Centers of the International Service for the Acquisition of Agri-biotech Applications (ISAAA) on 3-6 March 2009.

A total of 18 participants, representing the BICs of Bangladesh, China, Egypt, Kenya, India, Indonesia, Malaysia, Pakistan, Philippines, Thailand, and Vietnam and ISAAA, attended the three-day meeting. The said gathering of science communicators was highlighted by the sharing of accomplishments and experiences on communicating biotechnology in their respective countries.

Through a videoconference, Dr. Clive James, Founder and Chairman of ISAAA, stressed the new mandate of "Knowledge, Technology, and Poverty Alleviation" where he laid down ISAAA's noble goal of contributing to the Millennium Development Goal of halving poverty by 2015. He noted that the growing focus on knowledge sharing required ISAAA to take a more significant role in this endeavor instead of merely taking the technology transfer route

With the roadmap towards BICs' goals by 2015 set and bound by their respective commitment targets, the BICs were enthused by Dr. James to work together.

The group visited biotech corn farms in Pampanga, northern Philippines, where they saw insect resistant, herbicide tolerant, and stacked corns planted on farmers' fields. The network likewise visited the ISAAA Southeast Asia Center office, and SEARCA, as well as other key facilities in the Los Baños Science Community. (RBLapitan with report from ISAAA)

New SEARCA GB members named

Mr. Ibrahim bin Haji Abdul Rahman

Mr. Edmundo Viegas

Brunei Darussalam has named its new country representative to the Governing Board (GB) of SEARCA. He is Mr. Ibrahim bin Haji Abdul Rahman, Assistant Director of Technical Education, Ministry of Education, Brunei Darussalam. Mr. Ibrahim's appointment took effect on 17 March 2009 and will end on 16 March 2012.

Earlier, Timor Leste, which joined the Southeast Asian Ministers of Education Organization (SEAMEO) – SEARCA's mother organization – in 2006 only, also named its first representative to the SEARCA GB.

He is Mr. Edmundo Viegas, Senior Adviser, Ministry of Education, Timor Leste. His appointment is from 6 October 2008 to 5 October 2011.

The SEARCA GB is the Center's highest policy-making body. Its members are nominated by their respective Ministers/Secretaries of Education and appointed by the SEAMEO Council. It defines the Center's general policies, endorses the five-year plans of SEARCA to the SEAMEO Council, and makes annual reviews of SEARCA's programs and budgets.

The other GB members are:

- Dr. Chan Nareth, Rector, Royal University of Agriculture, Cambodia
- Prof. Dr. Ir. H. Moehammad Munir, M.S., Director, Research and Community Services Development, Directorate General of Higher Education, Ministry of National Education, Indonesia
- Dr. Sitha Khemmarath, Vice Dean for Academic Affairs, Faculty of Agriculture, National University of Laos, Lao PDR
- Datuk Prof. Dr. Nik Mustapha R. Abdullah, Vice Chancellor, Universiti Putra Malaysia, Malaysia
- Mr. Tin Htut Oo, Director-General, Department of Agricultural Planning, Ministry of Agricultureand Irrigation, Myanmar
- Dr. Luis Rey I. Velasco, Chancellor, University of the Philippines Los Baños, Philippines
- Dr. Tan Teck Koon, Associate Professor, Department of Biological Sciences, and Dean of Students, Office of Student Affairs National University of Singapore, Singapore
- Mr. Chaleyo Yoosimarak, Secretary-General, Vocational Education Commission, Ministry of Education, Thailand
- Dr. Dang Kim Vui, Rector, Thai Nguyen University of Agriculture and Forestry, Vietnam
- Dato Dr. Ahamad bin Sipon, Director, SEAMEO Secretariat
- Dr. Arsenio M. Balisacan, Director, SEARCA

The GB is scheduled to have its annual meeting on 19-21 October 2009 in Brunei Darussalam. (MAFAbad)

Causes of poverty/ from page 3

in the Philippines live in the rural areas with most depending on agriculture as their means of livelihood.

The question of why the poor remain poor was also discussed. "The parents' poverty is transmitted to children through a combination of pathways," said Dr. Stella Luz A. Quimbo, one of the authors. She added that one can become poor because of low education status, but could stay poor because of poor health.

The paper of Dr. Agustin Arcenas and Dr. Nimfa Mendoza looks at the relationship between poverty and the environment. Apart from the poor being most vulnerable to environmental degradation, they depend more on natural capital, have poorer nutrition, and have less access to healthcare services.

Poverty is a multidimensional concept, thus, no one causal reason for it. Dr. Balisacan noted that upgrading the quality of institutions is important alongside the big challenge of creating a pro-poor development agenda in a regime of weak governance. (MAFAbad)

The book is expected to contain the following chapters:

- Poverty Reduction: Theories, Facts, Remedies (A Synthesis) by Arsenio M. Balisacan
- Philippine Poverty: Situation, Trends, Comparison by Solita C. Monsod
- Population as Public Interest by Ernesto M. Pernia
- Poverty and Globalization: Is Radical Rethinking Called For? by Raul V. Fabella and Vigile Marie B. Fabella
- Earnings Inequality and Poverty: A View of the Philippine Labor Market by Dante B. Canlas
- The Private and Social Returns to Migration by Edita A. Tan
- Health, Education and the Household: Explaining Poverty Webs by Stella Luz A. Quimbo, Aleli D. Kraft and Joseph J. Capuno
- The Poverty and the Environment: Current Issues in the Philippines by Agustin L. Arcenas and Ma. Nimfa A. Mendoza
- Microfinance: One Promise Too Many? by Emmanuel F. Esguerra

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Agricultural productivity/ from page 3

attributed to crop cultural management. Crop management, he said, plays an important role in TFP growth, adding that "TFP gives a summary measure of what goes on; we need to get inside that 'black box' and figure out why things are or are not getting better".

The PGPA researchers who attended the consultation meeting were: Dr. Agnes Rola, Dr. Liborio Cabanilla, Dr. Asa Sajise, Dr. Zenaida Sumalde, Mr. Primo Rodriguez, Dr. Yolanda Garcia, Ms. Nora Carambas, and Mr. Bates Batan from the University of the Philippines Los Baños, Dr. Sergio Francisco from the Philippine Rice Research Institute (PhilRice), Dr. Jesus Dumagan from the Philippine Institute for Development Studies, and Dr. Michael Alba from De La Salle University.

PGPA aims to determine the nature, sources, and causes of agricultural productivity. The project was launched in March 2007.

Dr. Chavas is a professor at University of Wisconsin since 1986 and an adjunct professor at University of Maryland-College Park. He is a recognized academic, having received awards such as Best Paper from the European Association of Agricultural Economists, Outstanding Graduate Teaching from the American Agricultural Economic Association, and Outstanding Journal Article from various economic associations and journals. (PMVCasal/RMMDedicatoria)

Third Sustainability/ from page 16

Dr. Kimberly Burnett wrote for the forthcoming volume, "Sustainability Science for Watershed Landscapes" (edited by Balisacan, Burnett, and Roumasset) for publication by SEARCA and the Institute of Southeast Asian Studies (ISEAS).

The book defines Sustainability Science as the organization of research to inform environmental and natural resource management. It starts with a specific policy or resource management question and develops a management model and data requirements to answer the question. Most of the book chapters tackle various components of Sustainability Science: policy/management question, model design, data collection/ monitoring, and integrated modeling.

Dr. Nicomedes Briones, Dr. Felino Lansigan, and Dr. Agnes Rola, Professors at UPLB, also presented institutional initiatives on Sustainability Science in UPLB while Dr. Rodel Lasco, Coordinator of ICRAF Philippines, discussed those of ICRAF Philippines.

Ms. Majah-Leah Ravago, a PhD student in UHM, presented her dissertation proposal on developing a model on optimal water management and water recycling as an adaptation strategy to climate change.

The Third Roundtable discussion on Sustainability Science is part of SEARCA's continued partnership with UHM in this area, which was initiated in 2006.

Also in attendance at the roundtable were Dr. Ma. Celeste H. Cadiz and Ms. C. Nyhria G. Rogel, Manager, SEARCA Training Department and Project Development Specialist, SEARCA RDD, respectively. (CNGRogel)

SEAMEC President visits the Philippines

H.E. Dato' Seri Hishammuddin bin Tun Hussein (right), Education Minister of Malaysia and concurrent SEAMEO Council President, receives from Dr. Arsenio M. Balisacan (center), SEARCA Director, an institutional gift during his visit to the Philippines on 19 January 2009. Looking on is Dr. Jesli A. Lapus, Secretary of Education, Philippines. The gift is a wooden replica of the Growth Monument sculpture found in front of the SEARCA building (below right).

H.E. Dato' Seri Hishammuddin bin Tun Hussein, Minister of Education of Malaysia and SEAMEO Council President, visited the Philippines on 19 January 2009. The three Philippine-based centers of SEAMEO gave him a briefing during a program held at SEAMEO Regional Center for Educational Innovation and Technology (SEAMEO INNOTECH), Diliman, Quezon City. The centers are SEARCA, SEAMEO INNOTECH, and SEAMEO Regional Tropical Medicine and Public Health Network (SEAMEO TROPMED).

Dr. Arsenio M. Balisacan, SEARCA Director, presented to Minister Hishammuddin, Secretary Lapus, and other officials of the Malaysian Ministry of Education and DepEd an overview of SEARCA's Ninth Five-Year Plan, which covers the period July 2009 to June 2014.

Dr. Balisacan said "through its Ninth Five-Year Plan, SEARCA reaffirms its resolve to be the lead enabler in the science and practice of agriculture and rural development in Southeast Asia." The Plan also serves to advance SEAMEO's commitment, through SEARCA, toward regional cooperation in agricultural and rural development.

Dr. Erlinda C. Pefianco, INNOTECH Director, and Dr. Nina Gloriani, TROPMED Director, spoke about their accomplishments in the past year and identified some of the challenges and prospects for the coming years.

Minister Hishammudin challenged the SEAMEO centers to build on their strengths to define their niches. He said that the issues being faced by the region today, such as food security, affect all areas of life, including education. (MAFAbad)

Third Sustainability Science Roundtable conducted

The need to embrace and assert a science perspective and approach to sustainability was the context of the Third Sustainability Science Roundtable that SEARCA conducted in Cebu City, Philippines on 28-29 March 2009. It was participated in by researchers and professors from University of Hawaii in Manoa (UHM), Philippine Office of the World Agroforestry Center (ICRAF Philippines), University of the Philippines Los Baños (UPLB), and SEARCA.

Dr. Arsenio M. Balisacan, SEARCA Director, said he considers the Los Baños Science Community (LBSC), of which SEARCA is a member, as being uniquely positioned to nurture, apply, and assert Sustainability Science as an emerging field.

He added that the LBSC can do so in collaboration with centers of excellence like UHM and some Japanese universities. He urged the group to aggressively champion this emerging field in Los Baños and motivate others to do the same.

Participants of the Third Sustainability Science Roundtable held in Cebu City, Philippines on 28-29 March 2009.

Dr. Arnulfo Garcia, Manager, SEARCA Research and Development Department (RDD), presented the milestones of the efforts in Sustainability Science of SEARCA and partners.

Dr. James Roumasset, Professor of Economics in UHM, presented the overview that he and

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