



AquaFish CRSP Congratulates Borlaug LEAP Fellows

The Borlaug Leadership Enhancement in Agriculture Program (LEAP) provides support for thesis research done by graduate students from developing countries. Funded by USAID, LEAP is part of the overall Borlaug International Agricultural Science and Technology Fellows Program sponsored by the USDA, recognizing the distinguished career of Nobel Laureate Dr. Norman Borlaug. LEAP fellowships are awarded to students who demonstrate strong scientific and leadership promise. These students must provide a well-coordinated research proposal with an emphasis on the national development of their home country. This spring, LEAP fellows were awarded to two CRSP-funded graduate students. Rafael Martinez-Garcia of Mexico is completing his research toward a PhD at the University of Arizona. Ravelina Velasco of the Philippines will be conducting her research in the PhD program at the Institute of Graduate Studies at Central Luzon State University in conjunction with North Carolina State University. We would like to offer our congratulations to Rafael and Ravelina and wish them all the best in their pursuits.

see Grad Student Profiles for more on page 3

The AquaFish CRSP Annual Meeting In Busan, Korea

By Laura Morrison

In mid-May, the bustling Korean seaport of Busan hosted AquaFish CRSP researchers for a full week of international meetings and networking. After a busy two days at the CRSP annual meeting (18–19 May), AquaFish CRSP participants opened the World Aquaculture Society's 2008 annual international conference (19–23 May). Highlighting the WAS reception program was presentation of a Lifetime Achievement Award to USAID Cognizant Technical Officer, Harry Rea by the CRSP and WAS honoring Rea's many years of service "helping people out of poverty through a lifetime of contributions in international aquaculture research, extension, and development."

With the second year of the new AquaFish CRSP underway, program Director Dr. Hillary Egna focused the annual meeting on three

...Korea continued on page 10



Participants in the CRSP's "HCPI Tilapia Exchange Project" held a final wrap-up meeting in Busan, Korea, on 23 May 2008, following the CRSP Annual Meeting and during the World Aquaculture Society's conference. This meeting served as a link between past collaborative work carried out under CRSP sponsorship and future collaboration and networking.

Pictured, from left to right: Nancy Gitonga (Kenya), Yang Yi (China), Charles Ngugi (Kenya), Jim Bowman (USA), Hillary Egna, Director (USA), Med Bolivar (Philippines), Dan Meyer (Honduras), Suyapa Meyer (Honduras), Steve Amisah (Ghana), and Maria Célia Portella (Brazil). (Lisa Reifke)

IIFET 2008 Vietnam Conference

Achieving a Sustainable Future: Managing Aquaculture, Fishing, Trade and Development

By Ann Shriver, Executive Director, IIFET

For our most recent conference, IIFET 2008 Vietnam, ACRSP provided significant support for planning and development of both aquaculture topics and programs to enable the participation of those working on topics of relevance to developing countries. One piece of evidence for this is the title of the conference itself, including, as it does, aquaculture as one of the conference's primary focuses. A second was a conference keynote speech by Dr. Jim Anderson of the University of Rhode Island addressing the topic "The Emerging Dominance of Aquaculture: Implications for Trade and Management."

Even the choice of Vietnam as a conference site was related to its rapid development into an international seafood producing and exporting powerhouse, a fact closely related to the rapidity of the development of its aquaculture sector.

Seven conference sessions were held on aquaculture economics-specific topics. These included economic analyses of the general aquaculture sector in various countries and regions, development of the aquaculture sector in both developed and developing countries, aquaculture feed and fishery interactions, sustainability and the environment, and aquaculture enterprise or farm management for shrimp and other species. Nearly 30 papers were presented in these sessions. In addition, several sessions were held on broader seafood marketing issues of importance to both aquaculture and fisheries. One of these, a special session on innovation, production, and new markets in aquaculture, attracted so much interest that it had to be expanded to three session time periods to allow time for 14 oral presentations. The organizers of this session, co-sponsored by the International Association of Aquaculture Economics and Management, made the point that "Aquaculture is currently the world's fastest growing food producing sector...for instance, four of the six most consumed seafood species in the US are now

primarily supplied [by] aquaculture. In the European Union, farmed salmon and shrimp have become two of the four most consumed species in virtually all markets. This suggests that the seafood market is rapidly changing, and that aquacultured species are a major cause for this change... Aquaculture production makes total seafood production keep pace with the world's population growth, [since] landings of wild species have stabilized, and 40% of seafood supplied is now from aquaculture." This helps to explain why IIFET's many markets and trade related sessions on topics such as supply and production chain issues, globalization and trade flows, trade barriers and conflicts, and price determination, were also very relevant to those involved in aquaculture production and research.

As a result of ACRSP's support, IIFET was able to support the participation of six individuals participating in the conference. All of these participants received only partial support from IIFET; all were able to use these partial awards to leverage additional funds to provide for the rest of their needs. One was the winner of the Aquaculture Best Student Paper prize, three won aquaculture professional awards, and two were given special support awards by the IIFET secretariat, using funds identified by leveraging ACRSP support. These supported authors were:



Gaspar Lopez networking with Jose Polanco of Spain and Tracey Kingi from New Zealand (Kara Keenan)

Gaspar Roman Poot-Lopez of Mexico, winner of the Aquaculture Best Student Paper 2008 award for his oral presentation "Partial substitution of balanced feed by Chaya leaves in Nile tilapia production: a bioeconomic analysis". Gaspar also presented

a poster on "Bioeconomic analysis of ration size in intensive tilapia culture."

Kolawole Ogundari of Nigeria, a graduate student at Georg August Universitat, Germany, received an honorable mention in the Aquaculture Best Student Paper competition, for "An Examination of Productivity Potential of Aquaculture Farms in Alleviating Household Poverty." Kole also presented a poster entitled "Farm-level Efficiency and Resource Productivity: Application of Stochastic Frontier

Graduate Student Profiles: Borlaug LEAP Fellows

Rafael Martinez-Garcia and Ravelina Velasco are two of six graduate students worldwide selected to receive the Borlaug LEAP Fellowship this spring. The AquaFish CRSP as well as Dr. Raul Ponzoni of the Worldfish Center in Malaysia support both students. They will each conduct their research at their respective Universities.

Rafael Martinez-Garcia

Rafael Martinez-Garcia has been working with his major professor, Dr. Kevin Fitzsimmons, at the University of Arizona, to earn his PhD in aquaculture. He is investigating the development of integrated shrimp-tilapia polyculture for mitigating cultured shrimp disease transmissions in Southeast Mexico. Rafael has been involved in CRSP-related research since his undergraduate program in Mexico at the Universidad Juárez Autónoma de Tabasco in his hometown of Villahermosa. Under the mentorship of Dr. Wilfrido Contreras-Sanchez, former CRSP PhD student at Oregon State University, Rafael worked first as a volunteer and then as a research assistant in ACRSP research and has since worked with the CRSP for the past six years. As to what first got him interested in aquaculture, Rafael says he wants to “be a part of the solution to feed the world in a sustainable, responsible way, taking care of the species and producing knowledge to understand its complex systems for a viable use.”



Rafael has high hopes for the benefits that his current research will bring to rural aquaculture communities of Mexico. He is driven to develop new techniques and tools to deal with the severe issues of shrimp disease impacting Mexico's aquaculture industry. He hopes that his research will help to improve aquaculture harvest rates. Already, Rafael has done shrimp physiology experiments, polyculture density tests and pilot experiments aimed at uncovering a viable third component to add to the existing shrimp-tilapia system. Rafael hopes to complete his PhD in the spring of 2010.

While there are many challenges in this field, Rafael and his team have always been able to continue with great success. His research and experiences have provided him achievements on many levels. Through the aquacultural improvements and through the interactions he has had with the farmers and people in general, he has been able to provide

...Student Profile continued on page 5

Authors of New Kenya Aquaculture Book Launch Publication

By Laura Morrison

Earlier this year Dr. Charles Ngugi experienced first hand the devastating violence in Kenya, resulting from the controversial outcome of the December 27th election. In the days following the reappointment of Mr. Kibaki as Kenya's president, hundreds of people were killed and thousands displaced in ongoing riots and mass killings. Far from the impacts of this violence on Kenya and on his own family, Dr. Charles Ngugi of Moi University in Kenya later visited the Aquaculture CRSP (Collaborative Research Support Program) management office at OSU. Dr. Ngugi participates in the CRSP as a Host Country principal investigator for Kenya and as coordinator of the CRSP Regional Center for Excellence (RCE) for Africa. Dr. Ngugi and CRSP researchers Dr. Jim Bowman and Bethuel Omolo recently authored *A New Guide to Fish Farming in Kenya*, a CRSP how-to guide developed for African fish farmers and extension workers. On April 9, Drs. Ngugi and Bowman (OSU) gathered with current and former CRSP staff for a book signing to officially launch the publication. The guide is currently posted on the CRSP website: <http://www.pdacrsp.oregonstate.edu>.



Figure: Book signing for the book “A New Guide to Fish Farming in Kenya.” From left to right: Dr. Charles Ngugi, Dr. Hillary Egna (Aquaculture CRSP Director), Dr. Jim Bowman, and Beth Kerrigan (CRSP student graphic designer) (Dwight Brimley)

Aquaculture Network for Africa (ANAF)

By Dr. Sloans K. Chimatiro

The AquaFish CRSP has provided support for and collaborates in the development of the Aquaculture Network for Africa (ANAF). The CRSP has provided funds to equip ANAF with computers and provide connectivity among ANAF partners, an element that will be essential to the success of the program.

The New Partnership for Africa's Development (NEPAD) recognizes the vital contributions by the African fish sector to food security and income of many millions of Africans, to poverty reduction, and economic development in the continent. It further recognizes the growing opportunities and emerging successes of aquaculture development in the region. Within the framework of the Comprehensive Africa Agriculture Development Program (CAADP), the NEPAD Action Plan for the Development of African Fisheries and Aquaculture, which was endorsed by African Heads of States and Government during the Abuja "NEPAD Fish For All" summit in 2005, provides the framework for channelling investments to safeguard and further increase these benefits.



Women digging ponds in Malawi (S. Chimatiro)

The action plan aims at (i) improving the management of natural fish stocks, (ii) developing aquaculture production, and (iii) enhancing fish trade in domestic, regional and global markets. In support of this investment, capacity needs to be strengthened at regional and national level for research, technology transfer and policy development.

Pathways to Knowledge-based Institutional Development

Critical to achieving the goals of the Action plan is the need for major investments to build capacity in African institutions for planning, research and technology transfer through a strengthened network of training and research facilities around the continent. Therefore, in support of the NEPAD' Pan-African vision, FAO has put in place the Aquaculture Network for Africa (ANAF) as a vehicle with which to create new knowledge-based institutions in



Members of ANAF visiting the aquaculture research station in Ghana (S. Chimatiro)

aquaculture. Through ANAF, Africa is achieving the following: (i) establishing regional network of aquaculture policy practitioners, supported by other leading government planning sectors, to accelerate the development of aquaculture strategies and their integration into wider economic strategies at national level; (ii) linking aquaculture investors and financial providers at all levels to national and regional enterprise development programs; and (iii) encouraging private-public partnerships in support of research, training and technology development.

In many African countries, there is systematic fragmentation of the innovation systems, resulting in weak links between aquaculture education, research, knowledge and practice. Therefore, strengthening the capacity of tertiary and research institutions to provide science and training services required for longer-term technology development is crucially important. More important is the need to strengthen their linkages with private sector initiatives. Therefore, involvement of the CRSP in the ANAF and the wider Pan-African aquaculture development initiative will afford African tertiary education and research institutions the opportunity to learn and

Student Profile

...continued from page 3

valuable help to his hometown in Tabasco. The state of Tabasco has seen an improvement in native fish populations due to the construction of new hatcheries and is becoming more conscious of sustainable harvest methods in the rural farms. With such accomplishments, Rafael finds great joy in the simple smile on a farmer's face after the farmer has used new knowledge to sell his fish. Rafael has enjoyed the opportunity to work in the field with people, "giving solutions for their daily problems, teaching them and at the end celebrate with them the aquaculture successes obtained. And the best has been learning from them, because they always have a smile in their faces no matter what is the problem."

In the future, Rafael looks forward to completing his degree and continuing to learn daily about how he can contribute to the improvement of his environment. His roots have provided him with the will and desire to succeed and he plans to go back to his home country and give the best developments in aquacultural science so that he can contribute to the enhancement of his community in Mexico.

Ravelina Velasco

Having graduated from Central Luzon State University (CLSU) in her hometown of Munoz, Nueva Ecija in the Philippines with a degree in Inland Fisheries, Ravelina now continues her studies at the Institute of Graduate Studies at CLSU in pursuit of a PhD in Aquaculture with her major professor, Dr. Remedios B. Bolivar (CRSP Host Country PI). Ravelina's thesis work will involve the genetic evaluation of superior individuals of a strain of Nile tilapia as a mechanism to sustain the Philippine National Tilapia Breeding Program. Her research has a subcomponent that will also involve the measurement of Insulin Growth Factor-1 (IGF-1) as a growth biomarker to aid in the selection of superior individuals in the test populations. This will serve as a vital contribution to the existing work being done through Ravelina's current employer, the Genetic Improved Farmed Tilapia (GIFT) Foundation Inc. So far Ravelina and her team have produced the breeding nucleus and broodstock for the selection process and hope to incorporate genetic markers in the selection of the tilapia broodstock.

Ravelina's interest in aquaculture first sparked in the

1980's when she attended a genetics seminar in the College of Fisheries at CLSU during her undergraduate work. She found herself inspired by the speakers and by the glimpse of future opportunities in the field. Ravelina believes that with the global threats on population growth and diminishing captured fisheries, she sees that aquaculture will have a direct role in the fight against hunger, can indirectly improve food security by reducing poverty, providing jobs, and boosting foreign exchange earnings in the developing world. In the following years, Ravelina got more involved in aquaculture as a scientific discipline as well as a profession. It opened up opportunities for her to travel, participate in workshops and network with scientists with similar interests. She became a trainer in the member countries of the International Network of Genetics in Aquaculture (INGA), a global forum for collaborative research and training in applied fish breeding genetics. She has been involved with the International Center for Living Aquatic Resources Management (ICLARM, now WorldFish Center out of Penang, Malaysia) as a senior research assistant. Her first major research work was on the GIFT project in the Philippines, where she became part of a trained staff producing remarkable achievements in tilapia morphometrics and breeding. The project made technological breakthroughs not only in the Philippines but also in many of the surrounding countries.



The Aquafish CRSP has been helping to fund Ravelina's PhD work since 2007 and more recently, Ravelina has been given the opportunity to participate in the 2008 Borlaug LEAP Fellowship program. This opportunity she says, has "turned out to be my most treasured experience." In the future she plans to complete her doctoral degree, and to "continue making significant contributions in the Philippine's tilapia industry through selective breeding research." She has also started a career in teaching at the secondary and college level, and hopes to continue with that endeavor as well. Ravelina is very excited about the opportunities for career development that the AquaFish CRSP has provided for her. "It has widened my horizon for interaction which has greatly influenced my personality."

Mali Project Participants Meet in Korea

Project Participants: Jim Bowman, Hillary Egna, Charles Ngugi, Gaoussou Traore, Héry Coulibaly, Yang Yi, Yuan Derun, Nancy Gitonga
 Note taker: Lisa Reifke

The Mali project meeting was held on Friday May 23, 2008 in Busan, Korea at the BEXCO convention center. The world Aquaculture Society Conference and the AquaFish CRSP annual meeting afforded an excellent opportunity for all of the Mali project participants to be in the same location at the same time. During the meeting, participants offered suggestions and changes to the work plan which resulted in a finalized draft the following week. Budgets and finances were discussed and a few work plan activities were rescheduled. Options for field visits and workshop translations were explored in a discussion about resolving language and translation issues. Overall, project participants gained a clearer understanding of how to meet project objectives in the specified time frame.



A meeting of the minds at the Mali program meeting. From left to right: Yuan Derun (Thailand: Asian Institute of Technology), Héry Coulibaly (Mali: Direction Nationale de la Pêche), Gaoussou Traore (USAID Mali), and Charles Ngugi (Kenya: Moi University)

China's Aquaculture Hit by Earthquake

By Yang Yi, CRSP HCPI in China

Article excerpted from the Tangwei Aquanews

A strong earthquake, rated 8.0 on the Richter Scale occurred at 14:28 pm on 12 May 2008 in Wenchuan county of Sichuan Province, China. The aquaculture industry in Sichuan province, one of the major inland aquaculture provinces, and nearby provinces including Chongqing, Shanxi, Gansu and Yunnan was hit seriously by the earthquake.

As of 23 May 2008, the affected aquaculture area in Sichuan province was 22,923 hectares, causing the loss of 22,461 tons of adult fish and 2,356 tons of juvenile fish. About 9,424 hectares of ponds, 16 hectares of cages, and 183,756 m² of farm houses were damaged. The total aquaculture economic loss in Sichuan province is estimated to be US\$122 million, accounting for 90.52% of the total aquaculture economic losses in the earthquake-hit areas in the country. The total aquaculture economic losses in Chongqing, Shanxi,

Gansu and Yunnan were 5.0, 5.4, 1.0, and 1.4 millions US dollars, respectively.

Source: Fishery Bureau of Ministry of Agriculture, May 23, 2008.



China's aquaculture industry was hit hard by the 12 May 2008 earthquake.

Notices of Publication

Notices of Publication announce recently published work carried out under Aquaculture CRSP sponsorship. To view the abstracts of the following publications see the AquaFish CRSP website (<http://pdacrsp.oregonstate.edu/pubs/nops/noporderpage.html>). To receive a full copy of a report, please contact the author(s) directly.

GROWTH, MATURATION, INDUCED SPAWNING, AND PRODUCTION OF THE FIRST GENERATION OF SOUTH AMERICAN CATFISH (*PSEUDOPLATYSTOMA SP.*) IN NORTH AMERICA (08-231)

Konrad Dabrowski, Murat Arslan, Jacques Rinchar, Maria Esther Palacios

This abstract was excerpted from the original paper, which was published in the *Journal of the World Aquaculture Society*, Vol. 39(2): 174-183

EFFECTS OF PRETREATMENT WITH MICROBIAL PHYTASE ON PHOSPHOROUS UTILIZATION AND GROWTH PERFORMANCE OF NILE TILAPIA (*OREOCHROMIS NILOTICUS*) (08-232)

L. Cao
College of Fishery, Key Lab of Agricultural Animal Genetics, Breeding and Reproduction of Ministry of Education, Huazhong Agricultural University, Wuhan, Hubei, China, and Aquaculture and Aquatic Resources Management, School of Environment, Resources and Development, Asian Institute of Technology, Pathum Thani, Thailand

W.M. Wang
College of Aqua-Life Science and Technology, Shanghai Fisheries University, Shanghai, China, and Aquaculture and Aquatic Resources Management, School of Environment, Resources and Development, Asian Institute of Technology, Pathum Thani, Thailand

A. Yakupitiyage
Aquaculture and Aquatic Resources Management, School of Environment, Resources and Development, Asian Institute of Technology, Pathum Thani, Thailand

D.R. Yuan
Aquaculture and Aquatic Resources Management, School of Environment, Resources and Development, Asian Institute of Technology, Pathum Thani, Thailand

J.S. Diana
School of Natural Resources and Environment, University of Michigan, Ann Arbor, MI, USA

This abstract is excerpted from the original paper, which was published in *Journal of the World Aquaculture Society*, 39:174-183.

COMPARISON OF RICE STRAW AND BAMBOO STICK SUBSTRATES IN PERIPHYTON-BASED CARP POLY-CULTURE SYSTEMS (08-233)

Rai, Sunila¹; Yi, Yang; Wahab, Md Abdul²; Bart, Amrit N¹; Diana, James S³

¹Aquaculture and Aquatic Resources Management, School of Environment, Resources and Development, Asian Institute of Technology, Pathumthani, Thailand

²Faculty of Fisheries, Bangladesh Agricultural University, Mymensingh, Bangladesh

³School of Natural Resources and Environment, University of Michigan, Ann Arbor, MI, USA

This abstract is excerpted from the original paper, which was published *Aquaculture Research*, 39(5):464-473.

A COMPARISON OF TILAPIA CULTURE TECHNOLOGIES: LINKING RESEARCH AND OUTREACH RESULTS ACROSS GEOGRAPHIC REGIONS (08-234)

James Bowman¹, Amrit Bart², Remedios Bolivar³, Wilfrido Contreras-Sanchez⁴, Nancy Gitonga⁵, Daniel Meyer⁶, and Hillary Egna¹

¹Aquaculture Collaborative Research Support Program (ACRSP), Oregon State University, Corvallis, Oregon 97331, USA

² Asian Institute of Technology, Pathumthani, Thailand

³ Central Luzon State University, Science City of Munoz, Nueva Ecija, Philippines

⁴ Universidad Juarez Autonoma de Tabasco, Villahermosa, Mexico

⁵ Fisheries Department, Ministry of Livestock and Fisheries Development, Nairobi, Kenya

⁶ Escuela Agrícola Panamericana, Zamorano, Tegucigalpa, Honduras

This abstract was excerpted from the original paper, which was published in *World Aquaculture* 39:39-44.

THE EFFECTS OF FEEDING ON MUSCLE GROWTH DYNAMICS AND THE PROLIFERATION OF MYOGENIC PROGENITOR CELLS DURING PIKE PERCH DEVELOPMENT (*SANDER LUCIOPERCA*) (08-A1)

Teresa Ostaszewska
Faculty of Animal Sciences, Department of Ichthyobiology and Fisheries, Warsaw University of Life Science, 02 787 Warsaw, Poland

Konrad Dabrowski
School of Natural Resources, College of Food, Agricultural, and Environmental Sciences, Ohio State University, Columbus, Ohio 43210, USA

Arleta Wegner
Faculty of Animal Sciences, Department of Ichthyobiology and Fisheries, Warsaw University of Life Science, 02 787 Warsaw, Poland

Notices of Publication, continued...

Maria Krawiec
Faculty of Veterinary Medicine, Department of Pathology, Warsaw University of Life

This abstract is excerpted from the original paper, which was published in *Journal of the World Aquaculture Society* 39:184-195.

DEVELOPMENT OF A SQUID-HYDROLYSATE-BASED LARVAL DIET AND ITS FEEDING PERFORMANCE ON SUMMER FLOUNDER, *PARALICHTHYS DENTATUS*, LARVAE (08-A2)

Peizhi Lian and Chong M. Lee
Department of Nutrition and Food Sciences, University of Rhode Island, 530 Liberty Lane, West Kingston, RI 02892, USA

David A. Bengtson
Department of Fisheries, Animal and Veterinary Science, University of Rhode Island, Kingston, RI 02881, USA

This abstract is excerpted from the original paper, which was published in the *Journal of the World Aquaculture Society* 39:196-204.

AQUICULTURA NA ÁFRICA: O PROJETO INTERREGIONAL DE INTERCÂMBIO DE TECNOLOGIA SOBRE PRODUÇÃO DE TILÁPIAS E OUTROS CICLÍDEOS (08-A3)

Maria Célia Portella¹ e Charles C. Ngugi²

¹ Universidade Estadual Paulista, Centro de Aqüicultura da UNESP. portella@caunesp.unesp.br

² Moi University, Chepkoilel Campus, Department of Fisheries and Aquatic Sciences, Kenya cngugi@africaonline.co.ke

This abstract was excerpted from the original paper, which was published in *Panorama da Aqüicultura* 105:50-55.

FOOD SAFETY, QUALITY CONTROL IN TILAPIA PRODUCTS (08-A4)

Kevin Fitzsimmons, Ph.D.
University of Arizona
2601 East Airport Drive
Tucson, Arizona 85706 USA
kevfitz@ag.arizona.edu

This abstract was excerpted from the original paper, which was published in *Aquaculture Advocate*, January/February 2008, 42-44.

ENDOCRINE BIOMARKERS OF GROWTH AND APPLICATIONS TO AQUACULTURE: A MINIREVIEW OF GROWTH HORMONE, INSULIN-LIKE GROWTH FACTOR (IGF)-I, AND IGF-BINDING PROTEINS AS POTENTIAL GROWTH INDICATORS IN FISH (08-A5)

Mathew E. Picha
Department 0/Zoology, North Carolina State University, Raleigh, North Carolina 27695, USA

Marc J. Turano
North Carolina Sea Grant, North Carolina State University, Raleigh, North Carolina 27695, USA

Brian R. Beckman
NOAA Fisheries, Northwest Fisheries Science Center, 2725 Montlake Boulevard East, Seattle, Washington 98112, USA

Russell J. Borski
Department of Zoology, North Carolina State University, Raleigh, North Carolina 27695, USA

This abstract is excerpted from the original paper, which was published in *North American Journal of Aquaculture* 70:196-211.

AQUACULTURE RESTORATION IN THE TSUNAMI ZONE, ACEH PROVINCE, INDONESIA (08-A6)

Kevin Fitzsimmons, Ph.D.
University of Arizona
2601 East Airport Drive
Tucson, Arizona 85706 USA
kevfitz@ag.arizona.edu

This abstract is excerpted from the original paper, which was published in *World Aquaculture*, 39: 41-6. March 2008.



CRSP Participants gather for the Welcome Reception at the Annual AquaFish CRSP Meeting in Busan, Korea.

IIFET

...continued from page 2

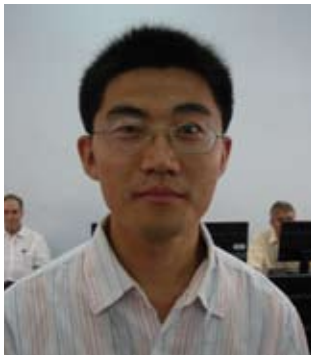
Analysis to Aquaculture Farms in South-West Nigeria.”

Duc Nguyen, recently graduated from Auburn University, and returning to his home country of Vietnam, won an Aquaculture Professional Travel Award, and presented “Aquaculture and Happiness in Vietnam - A Microeconomic Analysis” and “Effects of US antidumping under the Byrd amendment: the case of catfish.”



Kolawole Ogundar (Ann Shriver)

Xiaoshuan Zhang of China Agricultural University, Beijing, China, won an Aquaculture Professional Travel Award to present his work “On consumers’ WTP (willingness to pay) for fishery product traceability system in China”. He also presented a poster entitled “On the power structure of aquatic product supply chain in China.”



Xiaoshuan Zhang (Ann Shriver)

Dr. Nune Subba Rao, Andhra University, India, won an Aquaculture Professional Travel Award to present “The Role of Aquaculture in Poverty Reduction and Empowerment of Women in India Through the Medium of Self-Help Groups.” He also presented a poster on “International seafood trade and its

impacts on fisheries and fishing communities.”

Dr. Linh Nguyen of Hue University, Vietnam, presented a poster entitled “Technical approaches and aquaculture development alternatives”. With the \$600 he was provided in a special support grant, he was able to support the travel of himself and three of his colleagues from Hue, providing a significant technical aquaculture presence at the conference.



Nune Subbarao listening to Anderson Presentation (Ann Shriver)

The benefits which accrued to each of the participants included interactions with others from around the world facing similar development and research problems, development of professional contacts which may result in longer-term research collaborations, exposure to advanced economic analytical techniques, and learning about policy options used in other areas of the world. The program enabled all conference participants to learn about conditions and programs relevant to aquaculture development in Nigeria, India, Vietnam, China, and Mexico. Topics such as “happiness,” empowerment of women, and alleviation of poverty through aquaculture were addressed in an economic context.

In summary, ACRSP support has had a permanent and lasting impact on both the subject matter addressed at IIFET conferences, its quality, and on the long term research productivity of a significant number of researchers around the world.

ANAF

...continued from page 4

apply the most effective model of dissemination of technologies through outreach services that are linked to research and institutions of higher learning.

Therefore, the role of public and private institutions in sustaining aquaculture production in Africa will depend on technological and managerial capacity of these institutions. In this regard, NEPAD strongly believes that a networked regional resource in

aquaculture knowledge is critical in order to create innovation and learning platforms that will allow cross-learning in the African region. Through ANAF, Africa will create new knowledge-based institutional response which will facilitate organizational learning, trigger more investments in technology and innovation as well as promote linkages and interaction among researchers, extensionists and farmers necessary to accelerate aquaculture development.

Korea

...continued from page 1

topics: (1) administrative procedures, (2) setting up standards of accountability, and (3) building working relationships. Dr. Eгна noted the very different procedural landscape that sets the AquaFish CRSP operationally apart from its predecessor, the Aquaculture CRSP.

At the May 19 working luncheon, working groups formulated recommendations for linking CRSP researchers with their respective RCEs (Regional Centers of Excellence) in Africa, Asia, the Latin



At the May 19 working luncheon, former CRSP researchers share their insights with colleagues in the new AquaFish CRSP program. From left to right: Bill Tollner (ACRSP US PI: University of Georgia), David Bengtson (AquaFish CRSP US Co-PI: University of Rhode Island), Claude Boyd (ACRSP US PI: Auburn University), and Yang Yi (ACRSP & AquaFish CRSP HCPI: Shanghai Ocean University)

American Countries and with the four DTAP (Development Theme Advisory Panel) coordinators. All agreed on the need for regular communication using available electronic technologies as well as conference calls, written reports, and meetings. The lively discussion of program indicators led to a general consensus regarding standardized guidelines by which to assess and quantify project progress.



Russell Borski, the US Lead PI for the North Carolina State University project, presents his progress report at the AquaFish Annual Meeting in Busan.

CRSP researchers presented over 50 talks and posters at WAS. On May 21, Dr. Eгна co-moderated a well-attended CRSP session featuring 12 presentations on CRSP global successes in genetics, reproductive biology, physiology, production, health and safety, marketing, and capacity building. Also on May 21, the African Aquacultural Session, with CRSP Co-Moderators Nancy Gitonga (Kenya) and Khalid Salie (South Africa), featured additional talks on CRSP projects in Ghana, Kenya, and South Africa.

Goings-on in the Pond...



The AquaFish CRSP bids a fond farewell to its Communication and Publications Coordinator, Kara Warner, who has relocated to Portland, Oregon, and its graphic designer, Aaron Zurcher, who graduated with a Bachelor of Arts Degree from Oregon State University this Spring. Congratulations, Aaron, and good luck to you both!

As secretary of the LACC/WAS, Maria Portella was invited to attend the AQUA 2008, an official meeting of the LACC and the Board of Directors. The meeting was held in Guayaquil, Ecuador on 5-9 October 2008.

OSU professor, Gil Sylvania was elected this year to IIFET's nine-member Executive Committee. The committee elects members in groups every two years representing all of the world's fishing regions. They recently met for a day-long meeting prior to the IIFET 2008 conference.

Kevin Fitzsimmons, of the University of Arizona and CRSP US Lead PI, visited Guyana in August 2008 to provide technical assistance to some 15 tilapia farmers. The local USAID office in Guyana has provided valuable support for the CRSP projects there and has supported the travel of three people from Guyana to the ISTA conference in Cairo 12-14 October 2008.

Upcoming Meetings and Events...

The AquaFish CRSP is proud to support workshops and meetings designed to facilitate increased knowledge and communication in aquaculture. Meetings and workshops coming up in 2008 include...

8th Annual International Symposium on Tilapia in Aquaculture (ISTA)

12-14 October 2008 in Cairo, Egypt
<http://ag.arizona.edu/azaqua/ista/ISTA8/ISTA8.htm>

Aqua Ciencia 2008

27-30 October 2008
<http://www.aquaciencia.com.br/>

International Symposium on Catfish Farming in Asia

5-7 December 2008 in Cantho University, VietNam
<http://www.ctu.edu.vn/colleges/aquaculture/catfish>

The Aquaculture and Fisheries CRSP Annual Meeting

February 2009
 Seattle, Washington

Meeting Highlights...

The Annual Meeting of the European Aquaculture Society in Krakow, Poland was held 15-18 September 2008.

On 17 September, Co-Sponsors of the event (The Organization for Economic Cooperation and Development (OECD), the European Aquaculture Society, and the Ohio State University) held a special session on the *Basic and Applied Aspects of Aquaculture Nutrition: Healthy Fish for Healthy Consumers*. The session, organized by Konrad Dabrowski, consisted of several presentations by the participating scientists.



Poetry Corner

Light the Lamp

by Chen Dongdong 1961-

Shine the lamp into the stone.
 Let them see the swirling print of the sea.
 Let them see the primordial fish.
 Let them see the light itself,
 a lamp raised high on a mountain.

Shine the lamp into the river.
 Let them see living fish. Let them see
 More deeply into the silence of the water.
 Also, show them what a sunset is like—
 a firebird bursting from the forest.

When I fend off the north wind
 with my hands, light the lamp.
 When I stand between the canyons
 let them crowd around me, let them see
 my words are a lamp

China

...continued from page 6



More of the damage to China's aquaculture caused by the May earthquake.

The members of the AquaFish CRSP express our deepest sympathy for the losses of those in the Sichuan Province in the People's Republic of China as a result of this year's earthquake. We wish the best for all its citizens.

AquaFish CRSP
Oregon State University
418 Snell Hall
Corvallis OR 97331-1643 USA
<http://pdacrsp.oregonstate.edu>



AQUAFISH CRSP CONTACT INFORMATION

CRSP publications can be accessed online at <http://pdacrsp.oregonstate.edu/pubs/publications.html>.

Notice: *Aquanews* is available on-line beginning with our Spring 2007 (Vol. 22 no. 2) issue. If you wish to add your name to the list of email recipients, please subscribe at <http://lists.oregonstate.edu/mailman/listinfo/pdacrsp>. As always, *Aquanews* editions are archived on-line at <http://pdacrsp.oregonstate.edu>.

Your comments, stories, student profiles, and photos are always welcome! Send information to aquafish@oregonstate.edu (please include "Aquanews" in the subject line).

Program Director: Dr. Hillary S. Eгна
Aquanews Editor: Stephanie Ichien

Aquanews is published quarterly by the AquaFish CRSP, Oregon State University, 418 Snell Hall, Corvallis OR 97331-1643, USA. aquafish@oregonstate.edu

The contents of this newsletter are copyright of the AquaFish CRSP © 2008. All rights reserved, including mechanical and electronic reproduction.

Mention of trade names or commercial products does not constitute endorsement or recommendation for use on the part of USAID or the AquaFish CRSP.

The AquaFish Collaborative Research Support Program is funded in part by the United States Agency for International Development under CRSP Agreement No. EPP-A-00-06-00012-00 and by participating US and host country institutions.

Oregon State University is an Affirmative Action/Equal Opportunity Employer.