ViCAARP Highlights

38 YEARS of MAKING USE OF SCIENCE AND TECHNOLOGY IN REBUILDING EASTERN VISAYAS

JANUARY-DECEMBER 2016

The official newsletter of the Visayas Consortium for Agriculture, Aquatic and Resources Program (ViCAARP)
Visayas State University, Visca, Baybay City, Leyte, Philippines

About the cover

Dr. Jose L. Bacusmo was named as one of the 2016 Presidential Lingkod Bayan Awardees. The '*Presidential Lingkod Bayan Award*' is the highest national award accorded to a public official by the Civil Service Commission (CSC). The awarding was held on December 19, 2016 at the Malacañan Palace, Manila.

What's Inside

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It's time to manage knowledge

Manage knowledge? What a beautiful rhyme! It is also an excellent idea though not new. In fact, there is a field of expertise called Knowledge Management in the Netherlands. Not a single university, however, in the Philippines is offering a curriculum on knowledge management.

What is knowledge management? According to the dictionary, it is the systematic management of an organization's knowledge assets for the purpose of creating value and meeting tactical & strategic requirements; it consists of the initiatives, processes, strategies, and systems that sustain and enhance the storage, assessment, sharing, refinement, and creation of knowledge.

Is the Mango Information System put up by PCAARRD during the time of Dr. William D. Dar as Executive Director an example of knowledge management? No. But it was a good attempt towards that direction, if we look at the definition. A very good example now is the collaborative efforts of PhilRice and IRRI. A farmer or anybody interested could just register at their system through the URL they disseminated, and presto! You can get answers to your questions on rice. They have not only taken the initiative, they also have good strategies and systems "that sustain and enhance the storage, assessment, sharing, refinement, and creation of knowledge" which is worth emulating.

The latest move of PCAARRD to integrate the efforts of the RACOs and the RMIS's into one unit called the Knowledge Management Unit (KMU) in the consortium is a welcome thing. At ViCAARP, when the Regional Management Information Service Unit was established in 1994, it immediately started working collaboratively with the Regional Communication and Training Unit (RCTU). So, the Region Eight Applied Communication Task Force (REACTF) and the RMIS Core Group members helped collect, translate and put into various formats (leaflet, primers, etc.) the R and D information. ViCAARP conducted trainings in packaging R and D information and making leaflets and brochures. The members translated the English version of the print materials into Cebuano and Waray and designated volunteer editors who are members of the REACTF. In 1996, ViCAARP came up with the database of rootcrops, abaca, coconut, medicinal plants and other R and D information. In 1999, ViCAARP came up with the 1st ViCARP TeknoPinoy CD which was copyrighted in the same year and commercialized. The consortium made money from development stakeholders who found the CD useful in their work. With high powered PCs, and with the advent of DVDs, ViCAARP has come up with the TeknoPinoy Disc 2 in DVD that includes pictures of the various commodities assigned to ViCAARP and some techno-videos. The ViCAARP-KMU will soon share it to the world by putting it online.

Again, close cooperation and collaboration work in putting a consortium goal into fruition. So, for those consortia who have not started, do it now! Let your KMU manage knowledge.

WOLFREDA T. ALESNA
Editor

VICAARP-RRDCC and RRDEN-RAC endorse the 2016 Regional R and D Plan /Elmera Y. Banoc

Dr. Othello B. Capuno, the VP for Research and Extension and Director of VICAARP, introduces the heads and the representatives of the consortium member agencies.

The VICAARP-Regional Research and Development Council (RRDCC) and RRDEN-Regional Agricultural Council (RAC) endorsed the proposed 2016 Regional R & D Plan during the first quarter joint meeting held on May 6, 2016 at the PhilRootcrops Training Hall, Visayas State University, Baybay City, Leyte.

The R and D Plan which was presented by VICAARP R and D Coordinator, Dr. Jose L. Bacusmo, included three commodities, namely: Bamboo, Sago Palm and Seashells.

"There is a need to conserve bamboo species," Dr. Eugene Bautista of DENR stressed. Bamboo is one of the most important non-timber forests plants in Asia. In the Philippines, a massive decrease in wood production in the last decade was experienced. Hence, an initiative for the Development of Bamboo-based Industry in Eastern Visayas is one of the top priorities of VICAARP R and D.

There are six (6) project components under Bamboo Program. These are: (1) Inventory and Value Chain Development of Bamboo in Eastern Visayas; (2) Development of Tissue Culture Techniques of Selected Bamboo Species; (3) Macropropagation Technique of Bamboo for Industrial Purposes; (4) Establishment of Bamboo Germplasm Collection of Native and Indigenous Species of Bamboo in Eastern Visayas and Existing Introductions in the Country; (5) Bamboo Hybridization: Protoplast Fusion of Selected Bamboo Species; (6) Processing of Bamboo Shoots into High Value Food Products.

On the other hand, Sago Palm was also chosen because it is the most important starch bearing palm species in freshwater swamps in Southeast Asia and on the many islands of the Western Pacific. Just like coconut, almost all parts have economic uses. Thus, the team headed by Dr. Marcelo Quevedo conceptualized the proposal entitled "Management of Natural Stands and Newly Established Plantations of Sago Palm (*Metroxylon sagu* Rottb.) in the Visayas and Mindanao. The project aims to conserve and expand the productivity of sago palm for flour/starch production in the natural stand and established plantation.

Dr. Edgardo E. Tulin, VSU President and the new RRDCC chair, gives his inspirational message.

Dr. Jose L. Bacusmo, the new VICAARP R and D coordinator, presents the R and D Plan for Regional Priority Commodities for 2016.

Seashells is the third priority commodity that VICAARP has to focus, specifically on abalone, blue swimming crab, mudcrab, mussels, and oyster. Arrays of potential proposals were crafted for PCAARRD funding. These are: (1) Potential Food Sources for Abalone Grow-out Culture; (2) Feed Formulation for Abalone Culture using Sargassum sp.; (3) Stocking Density and Survival Rate of Abalone; (4) Technology Development to Induce Molting for Soft-shelled Blue Swimming Crab Production; (5) Survey of Spawning and Nursery

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PH crop science society awards 2 VSU researchers

/Ella Lois Bestil

Dr. Acedo (left) and Dr. Capuno (right), awardees of the 46th CSSP Conference on June 16 at Phela Grande Convention Center, General Santos, City

The Crop Science Society of the Philippines (CSSP) recognized two VSU researchers at the Awarding Ceremonies of the 46th CSSP conference held on June 16 at the Phela Grande Convention Center, General Santos City.

Dr. Othello B. Capuno, VSU vice president for research and extension, was given the 2016 William D. Dar Research Management Award for his "outstanding achievements in administration and coordination of research and extension programs that provided significant impact in the overall agricultural development of the country especially in Eastern Visayas."

As chief of VSU's research and extension, Dr. Capuno developed, managed, and maintained an RDE system with 185 research programs in root crops, abaca, coconut, fruits, and vegetables, rice and corn, forestry, environmental resource management, fisheries, ecological farming systems, and engineering.

The William D. Dar Research Management Award is a recognition given to outstanding research administrators, in honor of Dr. William Dar, a Filipino international research administrator and former Director-General of the International Crops Research Institute for the Semi-Arid Tropics based in India.

On the other hand, Dr. Villaluz Z. Acedo, VSU academic researcher based at PhilRootcrops was given the 2016 CSSP Achievement Award in Teaching.

The award is given to recognized teachers who have stimulated the interest of students and inspired them to become recognized leaders in their chosen fields of science.

CSSP recognized Dr. Acedo for her endeavor as research professor who constantly "[shares] her knowledge and expertise in the Philippine root crops to her students." Dr. Acedo is not only a research professor at VSU, but also a project leader at PhilRootcrops.

The 46th CSSP Scientific Conference aimed to empower crop scientists for ASEAN leadership.

The awardees pose after the awarding ceremony together with the OVPRE staff. From L-R: Dr. Anilfa L. Abenoja, Ms. Jennifer E. Ando, Ms. Elmera Y. Banoc, Ms. Adelina O. Carreno, Prof. Rufina F. Capuno, Dr. Othello B. Capuno, Dr. Villaluz Z. Acedo and her Research Assistant.

UPV Tacloban and PIT are now members of VICAARP

/Elmera Y. Bañoc

(The pool of evaluators from VICAARP having a thorough discussions with Dr. Virgildo E. Sabalo, the OIC Dean of UPV Tacloban, during their visit on May 17-18, 2016. (L-R) Dr. Senona Cesar, Dr. Wolfreda T. Alesna, Dr. Jose L. Bacusmo, Dr. Virgildo E. Sabalo, Dr. Othello B. Capuno and Prof. Maria Teresita Aurora Tabada.)

The University of the Visayas Tacloban College and the Palompon Institute of Technology (PIT) are now members of the Visayas Consortium for Agriculture, Aquatic and Resources Program (VICAARP) after the ViCAARP-RRDCC and RRDEN-RAC members approved their application during the first quarter joint meeting held on May 6, 2016 at the PhilRootcrops, Visayas State University, Baybay City, Leyte.

UPV Tacloban College' R and D focus is more on fisheries and marine sciences. It has eight (8) newly completed researches. The College also was able to publish 12 research articles in refereed national journals and 14 in refereed international journals.

The researchers' R and D focus for potential initiatives and interventions are on Marine Science, Cell Biology, Aquatic Biosciences, Natural Products Chemistry, Plant Physiology, Biodiversity Conservation, Climate Change Adaptation,

On the other hand, PIT Tabango Campus became a member due to its high regard in researchers which focus on Technology Development, Ecology/environment, Marine-biology, Socio-economics, Educational/institutional researches. To date, PIT already implemented 16 various researches.

PIT also formulated sets of priorities for their extension program which focus on Skills Training, Livelihood Program, Social Services, Environmental Program, and Information Communication and Education Program.

Moreover, PIT's RDE potentials are marine and aquaculture researches.

These qualities of the two new members are what VICAARP is looking for to become a full pledge member.

The administration officials of PIT lead by their President, Dr. Norberto C. Olavides, warmly welcome the VICAARP Evaluators lead by former VSU President Jose L. Bacusmo (third from right) and ViCAARP Director, Dr. Othello B. Capuno (5th from left). Other members of the Evaluation Team included: ViCARP-KMU (RACO) Coordinator, Dr. Wolfreda T, Alesna (4th from right), Dr. Senona Cesar (3rd from left) and Ms. Pauline S. Caintic (extreme right).

SEARCA-VSU-ViCAARP and INOPACAN LGU forge agreement to implement ISARD Program /Elmera Y. Bañoc

The signing of the Memorandum of Agreement with (L-R seated) Dr. Othello B. Capuno, VP for Research and Extension; Dr. Edgardo E. Tulin, VSU President; Dr. Gil C. Saguiguit, Jr., SEARCA Director; Hon. Silvestre T. Lumarda, Municipal Mayor of Inopocan; Mr. Anecito B. Asencion, Inopacan MAO. The witnesses (L-R standing) Ms. Rebecca M. Cormares from DTI; Dr. Wolfreda T. Alesna, ViFARD Executive Director; Dr. Vilma M. Patindol, ATI-RTC8 Director; Dr. Jose L. Bacusmo, former VSU President; Dr. Bessie M. Burgos, SEARCA R & D Program Head; Prof. Rolando T. Bello, ISARD Over-all Coordinator; Ms. Angelic M. Reglos, Project Assistant.

The Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA) in collaboration with the Visayas State University (VSU), Visayas Consortium for Agriculture and Aquatic Resources Program (VICAARP) and in partnership with the LGU of Inopacan, Leyte signed the Memorandum of Agreement (MOA) for the implementation of the program entitled "Piloting Models of Inclusive and Sustainable Agriculture and Rural Development (ISARD): Strengthening Linkages among Farmers, Government and Industry Sectors for Inclusive and Sustainable Rural Development in Inopacan, Leyte" last March 31, 2016 at the PhilRootcrops, VSU, Baybay City, Leyte.

The ISARD Program aims to pilot-test agricultural and rural development models that can potentially address the prevailing socio-economic conditions particularly to attain food sufficiency and reduced poverty incidence in the municipality of Inopacan, Leyte. Specifically, it also wants to improve production, productivity and income from growing selected/market-oriented crops through better knowledge management, and provision of production and technical support.

The project also aims to organize growers and increase their linkage to market and other stakeholders in agriculture and rural development, and finally, to improve the capability of both the growers and agricultural technicians of the Municipality of Inopacan, Leyte.

Why is it implemented in Inopacan, Leyte?

Inopacan is a third class municipality in the province of Leyte in the Eastern Visayas Region of the Philippines. It has a population of approximately 20,000 (2010 est.) and most are dependent on agriculture for their livelihood. By 2015, the main crops grown are coconut, corn, banana and rootcrops, while minor crops are vegetables and fruits. Aside from crops, residents also raise livestock such as swine, native chicken, ducks and goats.

In a recent Participatory and Rapid Rural Appraisal (PRA/RRA) conducted by the Visayas State University (VSU) involving four of the upland barangays of Inopacan, the following problems were identified: inadequate irrigation system, lack of fertile open farms since coconut are planted in relatively fertile areas, disinterest in farming among the youth, low commodity farmgate price, and food insecurity.

The implementation of the program is governed by the four interrelated components, namely: Technical Assistance; Institutional Development and Capacity Building; Knowledge Management; and Linkaging for Support Services. The program commenced in March 2016 and will end on April 2019.

VSU shares technologies to up PH agri sector

VSU showcased technologies and products from its research and development activities at a technology exhibit organized by the Philippine Council for Agriculture, Aquatic, and Natural Resources Research and Development (PCAARRD), March 2-4.

The activity, dubbed as Strategic Industry S&T Program for Agri-Aqua Growth through the Farms and Industries Encounter through Science and Technology Agenda (SIPAG FIESTA), was held to better commercialize agri-aqua technologies developed in the country that can make farms productive and profitable.

Typifying a local fiesta in the Philippines where local goods are sold, the exhibitors, which are research agencies and academes, displayed science and technology products. VSU displayed food products that have high market demand in Leyte. These include the Tarroz wine made from taro and black rice, vacuum-fried and dehydrated jackfruit pulp, and chips made from cassava flour among other products.

SIPAG FIESTA was held at PCAARRD in Paseo de Valmayor, Timugan, Economic Garden, Los Baños, Laguna.

ViCAARP ...(continued from page 4)

Grounds of Blue Swimming Crab (*Portunus pelagicus*, Linnaeus, 1758) in Region 8; (6) Development of Low-cost Feeds and Sustainable Culture Strategies to Improve Mudcrab Production; (7) the Use of Abaca, Coco Coir and Rattan as Substitute to Synthetic Fibers in the Culture of Green Mussels; Offshore Ropeweb-Longline Mussel Culture; (Socio-economic Study of Mussel Farmers in Eastern Visayas; (9) Offshore long line Oyster Culture.

Dr. Bacusmo encouraged each member agency to contribute more initiatives to make business. *Business in SUCs and other member agencies means selling the technology not selling the products of the technology*, he emphasized.

With these three priority commodities, VICAARP is set to bring more impact and change in the research and development scenario in Eastern Visayas.

Research requires entrepreneurship - DENR USec

/Ella Lois Bestil

L-R: Dir. Leonardo L. Sibbaluca, Dir. of DENR8; Hon. Isabelo R. Montejo, Usec of DENR; Dr. Edgardo E. Tulin, President of VSU; Dr. Othello B. Capuno, VP for Research and Extension sign the Memorandum of Agreement between DENR and VSU

The Research Symposium is a joint assembly of member institutions under the Visayas Consortium for Agriculture, Aquatic, and Resources Program (ViCAARP) and the Regional Research, Development, and Extension Network (RRDEN).

Doing research should also mean enterprise development, USec Isabelo R. Montejo emphasized, to encourage economic activity in a community and generate jobs.

Quoting data on the average age of Filipino farmers, Usec. Montejo pointed out that farmers are getting old. This situation, he said, is due to the growing disinterest of the youth in farming.

"Education is tailored for employment," said USec Montejo as he described that young adults do not often entrust their future to farming business.

The BS Forestry alumnus of VSU also said there is a need for robust collaborations between government agencies and research academes. Quoting Executive Order No. 26 or the declaration of an interdepartmental convergence initiative for a National Greening Program (NGP), USec Montejo said he recognizes VSU as a partner in this DENR initiative.

After the opening ceremonies of the Symposium, a memorandum of agreement between DENR and VSU was signed by VSU President Dr. Edgardo E. Tulin,

Research ...(continue to page 9)

USeP visits VSU

/Elmera Y. Bañoc

(Standing) Dr. Othello B. Capuno, VP for R an E, welcomes the USeP visitors headed by Ms. Evelyn A. Gecale (sitting, extreme left).

A group of faculty-researchers of the University of Southeastern Philippines (UseP) visited the Visayas State University (VSU) on July 5, 2016. Their visit focused on the gathering of empirical data and other relevant information pertaining to the best practices, policies and operational processes and administration.

The group was headed by Ms. Evelyn A. Gecale, the Consortium Secretary of Southern Mindanao Agriculture, Aquatic and Resource Research and Development Consortium (SMAARRDEC).

Research ...(continued from page 8)

USec Montejo, and VSU Vice President for Research and Extension Dr. Othello B. Capuno.

The agreement stipulated the funding of the livelihood systems project of VSU in Eastern Visayas in support to NGP.

The Research Symposium is an annual joint conference of ViCAARP and RRDEN to provide opportunities to share research outputs and recognize outstanding research and development projects among member institutions. Some 25 government agencies, research and academic institutions in Region VIII are members of ViCAARP.

Dr. Othello B. Capuno, the Vice President for Research and Extension, gladly welcomed the visitors and presented to them the RDE best practices and other outstanding and tangible research outputs.

The team had the chance to visit some of the National Centers located at VSU. Ms. Elsa Umpad of PhilRootcrops oriented the group on the different programs and projects of the center. The group then visited the National Abaca Research Center (NARC), National Coconut Research Center-Visayas (NCRC-V), and the Philippince Carabao Center (PCC) at VSU.

The group also explored the Rainforestation Research and Training Center (RRTC). Dr. Marlito M. Bande explained the importance of putting up the RRTC. One of the staff of the center briefly discussed each study conducted under the said unit.

They also went to the Records Office. All their questions were entertained by Ms. Asteria Sevilla, the Head of the Records Office. They had a complete packaged tour inside the VSU campus.

(Center) Ms. Pauline S. Caintic, ViCAARP Secretary, orients the USeP visitors regarding on ViCAARP's RDE best practices.

VSU-VICAARP-OASP HOLD 2ND NATIONAL ORGANIC AGRICULTURE SCIENTIFIC CONFERENCE 2016

Senator Cynthia A. Villar, Chair of the Senate Commiittee on Agriculture, speaks before the participants of the Conference.

The 2nd National Organic Agriculture Scientific Conference was held on February 17, 2016 at the Visayas State University (VSU) Convention Center in collaboration with the Visayas State University (VSU), Visayas Consortium for Agriculture, Aquatic and Resources Program (ViCAARP) and Organic Agriculture Society of the Philippines (OASP) . The conference was anchored on the theme "Go organic···for health, resiliency, and sustainability".

The program was formally opened with an inspiring message by Dr. Arsenio "Toto" Barcelona, President of Organic Agriculture Society of the Philippines. In his message, he emphasized that the increasing population and health security are growing concerns, hence an alternative agriculture system, one of which is organic agriculture maybe one of the keys in addressing the poverty of third world countries such as the Philippines.

Dr. Edgardo E. Tulin, President of the Visayas State University, warmly welcomed all the guests, visitors and participants from all over the country to the very scenic university. He said that the Visayas State University is indeed honored to host this conference because we know the importance of this meeting and we feel that as an agricultural university we must actively take part to support its goal and mission. Realizing the increasing concern that conventional practice of agriculture caused soil and water pollution, reduced biodiversity and the concern on the quality of food produce a fundamental transformation toward organic agriculture production systems that are environment-friendly and producing safer food is urgently needed.

"I hope that this conference will serve as a forum where our policy makers, scientists, researchers, the industry and the farmers can exchange best practices, introduce innovations, and provide future directions of cooperative undertaking. I trust also that at the end of this conference, organic agriculture will continue its development role with respect to market-based sustainable solutions", he added.

Congressman Jose Carlos L. Cari, Representative of 5th District of Leyte, challenged all the participants to promote and adopt the organic agriculture. "I would like to pose a challenge to your conferees to also discuss how you can solicit the support of the LGU's. There are mayors who have many things on their minds and unless you can get their attention that's the time that they will cooperate and give you full support···Ang mayors kasi nakakapagmobilize, eh···kaya nyang i-mobilize ang youth, kaya nyang i-mobilize ang farmers, fisherfolk···kaya nyang i-mobilize ang business. Nasa kanya yan so kailangan nating makuha ang supporta ng local government".

Moreover, the program was graced by Senator Cynthia A. Villar. She is one of the Senators who volunteered to handle and implement organic agriculture endeavors and initiatives in the Philippines. "Ako po ay nagpapasalamat sa Organic Agriculture Society of the Philippines and the Visayas State of University for inviting me to be part of this event the 2nd National Agriculture Scientific Conference.

As an active advocate and promoter of organic agriculture, I am happy and honored to be with all of you today. I'm glad that this conference is focusing on the subject with the theme "Go organic···for health, resiliency and sustainability" which encompasses the three main benefits that we can derive from organic agriculture. I'm also glad that more and more people are going organic. It is truly an idea whose time has come. We should have embraced it earlier on. But as they say "better late than never", kaya okay lang. With our concerted efforts we can further promote organic agriculture. Republic Act No: 10068 or the Organic Agriculture Act of 2010 provides for the development and promotion of organic agriculture in the Philippines. Ang aim po nito is to have at least 5% of the Philippine agricultural farms to be converted into organic farms by 2016. Tinatanong ko kay Dr. Dar, "how did we do? 2016 na ngayon". Sabi nya "0.7% daw or more or less 1%". So we are below target. I hope that within the next six years, we will be more aggressive in achieving our target."

Right after the opening program, the launching of the Journal of Organic Agriculture was conducted. This is the first book published by the OASP in 2015.

Senator Villar also witnessed the ribbon cutting of the exhibits and posters before she left.

Congressman Jose Carlos L. Cari warmly welcomes the guests visitors and participants of the conference.

The giving of plaque of appreciation to the Keynote Speaker-Sen. Cynthia Villar. With her, (from L-R) are Dr. Edgardo E. Tulin, Dr. Arsenio Barcelona, Hon. Jose Carlos L. Cari, and Dr. William Dar.

The ribbon cutting of the exhibits and posters. From L-R: Prof. Alan B. Loreto, Dr. Othello B. Capuno, Dr. Edgardo E. Tulin Dr. Arsenio "Toto" Barcelona, Sen. Cynthia Villar, Ms. Gilda Jacalan OASP Staff and Dr. Vilma Patindol.

Former VSU President receives Ph's top award for public service

[Dr. Jose L. Bacusmo (second from right) with Philippine President Rodrigo Duterte (center) and other Presidential Lingkod Bayan Awardees at Malacañan Palace on December 19, 2016. /Photo Courtesy of Rappler]

The Philippines' Civil Service Commission (CSC) named VSU's former president, Dr. Jose L. Bacusmo, as one of the 2016 Presidential Lingkod Bayan awardees at the Malacañan Palace, Manila on Monday, December 19.

The 'Presidential Lingkod Bayan Award' is the highest national award accorded to a public official by the CSC.

"I am happy and thankful that at least my work and accomplishments in public [service] are recognized," said Bacusmo after receiving the confirmation from the commission's body.

Last September 6, before the national award, the CSC also conferred the Regional Presidential Lingkod Bayan Award to Bacusmo for his contribution to VSU's research, development and extension programs and income-generating projects among others.

"I think I got the award for leading the Visayas State University to a higher level of excellence. Transform[ing] the campus into a research and resort university," he told.

Bacusmo believes that it was through teamwork and a sense of "shared stewardship" that he was able to achieve this feat.

He added that he has disregarded career opportunities abroad, to serve not only VSU but also Eastern Visayas.

"I studied abroad. I could have stayed in the US and work and earn more money. I could have joined an

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Former VSU ...(continued from page 12)

international research center, but my love and indebtedness to VSU and to the country made me decide to join public service," the former president added.

After finishing two terms as university president in 2015, he is now back to full-time research work and is the R and D coordinator of ViCAARP.

Bacusmo is the third VSU official to receive the CSC award. VSU's College of Engineering Dean, Dr. Roberto C. Guarte, and incumbent VSU President, Dr. Edgardo E. Tulin, also received the award in 2015 and 2014, respectively.

This year, fifteen individuals and four groups were recognized by CSC from 191 nominees

> "Through teamwork and a sense of "shared stewardship", we can achieve this feat-Bacusmo"

[Dr. Jose L. Bacusmo (first from left), with other *Presidential Lingkod Bayan Awardees at Malacañan Palace on December 19, 2016. /Photo Courtesy of Rappler]*

VICAARP OPPORTUNITIES AND

The Visayas Consortium for Agriculture, Aquatic and Resources Program (VICAARP) successfully conducted a series of trainings intended for researchers from its member agencies.

Training on How to format and present RDE papers and how to make a scientific poster

Dr. Wolfreda T. Alesna discusses the topic on how to format and present RDE papers

The participants are attentively listening during the discussion on how to make a scientific poster by Mr. Jed Asaph D. Cortes

Training on IP Management cum writeshop on patents claims and specifications dafting

Left photo: The participants accomplishing their outputs. **Right photo**: Distribution of certificates of participation (L) Prof. Alan B. Loreto, *IPO Manager;* Dr. Othello B. Capuno, *VP for Research and Extension*; Ms. Ronelie Salvador, *participant;* Dr. Noel A. Catibog, *DPITC Center Manager of PCAARRD.*

Training on Writing and reviewing research papers for peer-reviewed publications

Left photo: Dr. Romel B. Armecin discusses the topic on Results and Discussion.
Right photo: Dr. Othello B. Capuno awarding the certificate of participation to one of the participants together with Dr. Rotacio S. Gravoso.

ViCAARP staff attends events management training

The participants of the training pose together with the Resource Person Ms. Cynthia R. Bernabe *(standing at the center wearing black skirt).* Ms. Banoc is standing at the first row *(extreme right)*

Ms. Elmera Y. Bañoc, Science Research Assistant of ViCAARP, attended the Knowledge Session on Event Management IV which highly focused on Special Events and Risk Management on April 12-15, 2016 at the Oriental Hotel, Legazpi City, Bicol. The event was anchored with the theme "Making a difference through celebrations"

The said training was sponsored by the Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development (PCAARRD) as a follow up of their training on event management last year. This activity is very relevant for the Farm-Industry Encounter through the Science and Technology Agenda (FIESTA) event coordinators and support leaders of the ISPs of each Consortium.

Ms. Cynthia Reantaso-Bernabe, a highly acclaimed Event Professional, clearly discussed each topic on event risk management and gave profound examples based on personal experiences. Among of the topics were: risk management tools and process, legal liability and financial safeguards, and crowd management.

"We study risk management because we do not want to lose lives during the event," Ms. Bernabe emphasized during her discussion.

Ms. Bernabe is a graduate of the Event Leadership Executive Program of Temple University in Philadelphia, Pennsylvania, USA which was awarded by the IFEA the Gold Pinnacle Award as the Best Event Leadership Program in the world. She also has a degree in Economics from the Assumption College in San Lorenzo, Makati, Philippines.

ViCAARP, which also holds different events like Jackfruit and Rootcrops Farm-Industry Encounter through the Science and Technology Agenda (FIESTA), regional research symposia, trainings and meetings, both local and national, found it very relevant in improving the production of more successful event outcomes.

The training was participated in by 29 participants coming from the different regional consortia in the country of the ISPs of each Consortium.

Vermitea: the tea that does wonder to your plants

/Irish Jane Calungsod

If you think that teas are for humans only, then you are wrong. A tea for our crops and plants is available too! It is called the Vermitea.

The Regional Vermicomposting and Vermimeal Production Project (RV2P2) in the Visayas State University (VSU) started in 2008 through the Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development or PCAARRD, its funding agency. Dr. Rafael Guerrero was the proponent of this project and, as of now, Mr. Ed Noriel is the one in-charge in VSU. After super typhoon Yolanda struck in Eastern Visayas, out of 13 Vermicomposting sites in Region VIII, only the site in VSU was left. The operation is still going on. Vermicomposting has been a good business at VSU for years. They sell worms, its vermicast and, of course, the Vermitea.

Vermitea is another product of vermicomposting. Vermicomposting is a waste management tool using earthworms and microbes to produce vermicompost or vermicast. The first product of this organic management is the vermicast, wherein such worms, called the African Night Crawler (*Euglinus euginae*) are put into beds.

They are fed with fresh or dried animal manure, rice straw, grass drippings, food scraps or fruit or vegetable peelings or trimmings. These materials undergo partial decomposition for at least six weeks before feeding it to these adorable worms. After such time, the partially decomposed materials are filled in the beds.

The worms then are gently spread in these beds. These partially decomposed materials serve as food for African Night Crawlers. The waste product or what we called the feces of these worms are now called the vermicast or the vermicompost- a bio-active organic fertilizer. These are sieved first using a screen wire. They undergo air drying for at least two days before it is used as organic fertilizer to plants and crops. But this does not end here. A tea out of these vermicast can also be made as organic fertilizer too, in the form of liquid.

An organic water extract of vermicast that undergo brewing is what a vermitea is. Making Vermitea is as easy and as doable as making the vermicompost. All you need to have are the adorable African Night Crawler worms, then the vermicast as the primary requirement and you are ready to go. In this method, beneficial microorganisms such as bacteria and fungi are extracted from the compost. These microorganisms are likely to increase 100-500 times. In fact, the non- beneficial organisms here do not increase in numbers. So, there is no need to worry.

There are two types of Vermitea. The type depends on how it is made. First is the Plain Vermitea and the other is, the Fermented Vermitea. In making the Plain Vermitea, a 1:1 ratio of vermicast and water is needed. For example, 1 kilo of Vermitea and 1 liter of water. These two are mixed in a container and should be stirred every day for one week. After such time, the liquid is poured to another container. And there, you have it, the Vermitea ready for use.

For the Fermented Vermitea, 1 kilogram of molasses, 2 kilograms of vermicast and 30 liters of water are needed. Just like making the Plain type, these ingredients are mixed together in a container. The mixture is stirred twice a day for one week. After that, the liquid is poured into another container and the Vermitea is now ready for use. But in the case of the Fermented Vermitea, it should be diluted to serve its purpose. Usually, a 1:30 ratio is applied. For instance, 1 liter of Vermitea and 30 liters of water mixed together. As for the Vermitea production in VSU, they use the Vermitea brewer machine for a less hassle way of production. Vermitea is sold at 20 pesos per liter.

The application of Vermitea varies depending on the crops or plants. For general application in seedlings and seed plants, 50 liters of Vermitea is applied per hectare every two weeks. In large trees, 20 liters is used per tree. For foliar application, a 1:15 dilution in fermented Vermitea is applied for healthy plants. For disease-infected plants, it is advised to have 1:1 to 1:10 dilution of tea, depending on the severity of the disease. The Vermitea is sprayed directly on affected area, regardless of the amount per hectare until the disease is controlled.

What is good about this tea for our crops and plants is that it has several benefits. Using Vermitea allows only beneficial microorganisms, not diseases, to be present in the plants or soil. Pathogens also are unable to infect the plant tissues because infected sites are already occupied by beneficial organisms. Furthermore, if added into the soil or sprayed on to the plant surface, retention of nutrients are likely to happen. As a result, nutritional quality of the produce is improved. Aside from that, growers of crops who use this will be less exposed to potentially harmful chemicals.

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Jackfruit Coffee: A Coffee from the Seeds

/Mike Laurence Lumen

Are you fond of drinking coffee?

Typical Filipinos nowadays are fond of drinking coffee. Professionals, students and even mere "tambays" drink coffee when they either have or don't have something to do. Even I, writing this article, have a coffee beside me.

Coffee is a beverage prepared from dried ground beans of Coffea arabica. The berries are rich in caffeine, which stimulates the CNS that results in mild addictive symptoms. Usual coffees that people drink today are the 3-in-1, may it be in can or in sachet. But most of the time, people tend to buy coffees that are in sachet because it is cheaper than those in can. All you got to do is to boil water, pour it on your cap with a coffee in it and tada! You have now your coffee.

But do you know that there is a more delicious coffee than these usual coffees you are drinking now? That is not to mention the health benefits you get from it. This coffee is made from jackfruit. Yes, a coffee made from the seeds of a jackfruit! Instead of throwing the jackfruit seeds away, why don't you maximize its use?

Jackfruit (Artocarpus heterophyllus) is a common fruit that is found in the Philippines. It is one of its own kind of tropical fruits, recognized for its distinct shape, size and fruity flavor that can be appreciated from a distance. Most of us don't know yet the important benefits of jackfruit seeds. We throw it away after we consumed its meat. Others use the jackfruit seeds to propagate. But we could actually turn these jackfruit seeds into delicious jackfruit coffee-like drink. You want to know how?

According to a research conducted by the Department of Food Science and Technology (DFST) of the Visayas State University (VSU), with the support of Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development (PCAARRD) and the Department of Agriculture (DA) of Region 8, it is easy to make coffee-like drink from jackfruit seeds. Here is how to do it.

Step 1. Wash Jackfruit seeds thoroughly. It is important to wash the jackfruit seeds to reduce its sliminess that could possibly attract various kinds of bacteria or organisms that will destroy the quality of the seeds.

Step 2. Dry seeds in an electric cabinet dryer. Drying of seeds can also be done under the heat of the sun, however, it will be time-consuming. Using an electric cabinet dryer, you can have your dried jackfruit seeds in 2-3 hours. It is important to dry the seeds for the ease of doing the next step.

Step 3. Remove the jackfruit seeds' peeling. Since the seeds are now dried, it will be easy to remove the peeling of the seeds. Jackfruit seeds' peeling is inedible so it must be removed.

Step 4. Slice the jackfruit seeds thinly. Cut the jackfruit seeds into thin pieces to grind them easily.

Step 5. Dry sliced jackfruit seeds in the electric cabinet dryer.

Step 6. Roast the dried and sliced jackfruit seeds in a pan. When the seeds become brownish and become more of a coffee-like color, stop roasting.

Step 7. Grind the roasted jackfruit seeds to make coffee powder. Crush the roasted jackfruit seeds with a grinder to make coffee powder. If a grinder is not available, mince the roasted jackfruit seeds in a mechanical way (e.g. using mortar and pestle).

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How to Protect Chili Pepper from Whitefly

/Joshua Levi Montero

Protecting plants from pests and diseases is important for the farmers to achieve high yield and to improve their farming income. One of the most important vegetables in Asia and in the whole world is in great danger.

Chili peppers or *Capsicum anuum L.* is a nutritious crop. It is rich in vitamins, A, C, E and a good source of potassium and folic acid which is used in treating anemia. Aside from that, it also contains small amount of sodium and calories. Chili peppers belong to the family solanaceae and it serves many uses. It is being used as vegetables, spices, medicinal herbs and ornamental plants around the world.

However, production and harvest of this plant in the tropics is in great danger. In Asia, a chili food chain analysis and survey by Ali revealed that viruses were the most serious problem in Indonesia, Thailand, India and China. Average annual losses in these countries are increasing due to serious disease attacks except China. Low rate of chili pepper harvest is usually because of the rampant spread of disease infection and poor management practices.

One of the most common chili pepper virus is the geminivirus of the genus Begomovirus carried by the whitefly. The whitefly or *Bemisia tabac*i carries the virus. By the time it will land on the chili plant, the virus will infect the whole plant and it will reproduce fast to infest other chili plants. Infection of the virus is characterized by retardation of growth and development. It will show symptoms on the leaves such as chlorosis or the yellowing of leaves, curling and reduced size. Fruit set will be inhibited and eventually the development of fruit will become abnormal and the plant will die.

It is hard to control geminivirus once the plants are infected. Farmers depend on insecticides to manage the whitefly. But the problem is, as time goes by, whiteflies develop resistance against insecticides and, as a result, spraying of insecticides is useless.

Using non-chemical methods is one of the good ways to reduce the damage of the chili crop. A good example of this is using screens. Screens help to reduce the use of insecticides and it has been proven to provide an effective way of reducing the entry of pests. It helps the farmers to produce safer and healthy vegetables.

Another way of reducing the damage of the crop is using pyriproxyfen. Pyriproxyfen is an insect growth regulator. It has been reported that it is low in toxicity to mammals, fish and birds. It is also non-toxic to bumblebee or Bombus terrestris, which is an insect that helps to pollinate plants.

Pyriproxyfen is known as the young hormone analogue that takes into effect in the hormonal balance and chitin formation. Chitin is a carbohydrate that forms part of the hard outer integument on insects, arachnids and crustaceans. When hormonal imbalance and chitin formation is affected by pyriproxyfen on young insects, it causes deformation and death at molting and pupation stage.

Using these two good methods had been proven to be effective by Dr. Rosario A. Salas, a scientist from Visayas State University (VSU), who conducted a study on the effects of physical barrier and insect growth regulator (IGR) on whitefly control and yield of chili pepper.

The study was conducted in experimental farm of the Crop and Ecosystem Management Unit of AVRDC-the world vegetable center in Tainan, Taiwan from January 2008 to July 2008.

With funds from the AVRDC-in Taiwan, Australian Centre for International Agricultural Research, and VSU, Dr. Salas, together with her Science Research Assistant (SRA), investigated the effects of nylon net with size #32 and #50. Nylon net #32 has bigger holes compared to nylon net #50. The nylon net served as screen against whiteflies. They also examined the efficiency of pyriproxyfen.

After they gathered the data, they compared the effectiveness of the nylon net and pyriproxyfen in controlling whiteflies and their effects on the yield of chili pepper. To start the experiment, Dr. Salas began sowing chili pepper seeds in a plastic tray on December 14, 2007. This experiment was arranged in randomized complete block design (RCBD) with four replications and six treatments. The first treatment or T1 is an open field crop, second treatment or T2 is a crop row covered with nylon net mesh #32, third treatment or T3 is a crop row covered with nylon net mesh #50, fourth treatment or T4 is an open field crop treated with pyriproxyfen at recommended rate (IGR), fifth and sixth treatment or T5 and T6 are crop rows covered with nylon net mesh #50 plus IGR.

The seeds need to be protected during germination stage until the seeds grow. They put the seeds under plastic house with double door to keep away insects and disease infection.

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PLANT WHENEVER YOU WANT. Dry or Wet Season on Rice Planting? PROBLEM NO MORE

/Tomas Yamada

Good News to all the farmers. Despite the very hot season and this El Niño outbreak, you can still plant rice and have a higher yield, by just spending less on the production stage.

Dr. Ruth Escasinas and Oscar B. Zamora had come up with a research entitled "Agronomic Response of Lowland Rice RSB Rc 18 (*Oryza sativa L.*)" to different water, spacing and nutrient management which was published on April 2011.

Rice production in the Philippines today has been growing slowly. The reason of that is the El Niño and the usual practice of farmers to wait for the favorable weather condition (wet season) to plant rice. This leads to low yield of rice and so the government will have to import rice from other countries just to sustain the need of rice by the increasing population in the country. This problem on the rice production, inspired Dr. Ruth Escasinas to come up with a study that let the farmers plant rice regardless of season but still can get a higher yield. The practice that will be used are environment friendly.

To attain the desired objectives of the study, Dr. Escasinas came up with an experiment that used the RSB Rc 18 variety.

To have a better yield, agronomic practices must have a combination that will suit to the variety and can attain a better result. Dr. Escasinas considered the water, spacing, and nutrient management as the combination that is vital in getting a higher yield on rice production.

Methods used in testing whether water management is favorable are to compare flooded and not flooded method in rice planting. They've come up with an idea to test if RSB Rc 18 can survive in the not flooded management as farmer's main problem right now is the El Niño. To attain the result, the field was kept saturated but immediately drained and water was applied again before the soil dried up. The result of this was compared to the flooded method.

Next on the combination is the spacing of the rice plant. This is very significant to ensure the competition of rice plant to the sunlight and other factors such as the weeds. Spacing can be very helpful to farmers when they will go to weed the area. By having correct plant spacing, the farmers can easily clean and remove the weeds without stressing the plant.

Last on the combination is the nutrient management. As we all know, fertilizers today have come up in various forms and uses. Majority of the farmers have been using inorganic fertilizers since then. Though it can give a higher yield, it can also make the soil unfertile. Thus, Dr. Escasinas included this on the combination; finding out the correct mixture of organic fertilizer to be used to gain better yield. In her research, they've used the composted goat manure and compost mixture.Result of the study showed that the combination really gives a higher yield to the rice production using RSB Rc 18 as the variety. By using the no flooding method, the result of it compared to the flooded is more significant. Though the plant height on the no flooding is shorter, its yield is much greater than the flooded one. In terms of the plant spacing, both 20x20 and 40x40 have high yield but 20x20 is more significant as for the ease of transplanting and also to have optimum grain yield. On the fertilizer, both treatments have high yield, but since the goal of Dr. Escasinas is to have a environmental friendly combination, the composted goat manure and compost mixture is more significant.

No flooding, 20x20, and organic goat manure and compost mixture is the combination that have a significant result and that meets the goal of the project which is to have a combination that is for all seasons and at the same time an environmental friendly one.

This good news is just a start to more discoveries and ideas to come on how to have a greater yield and an environmental friendly farming system. To know more about Dr. Escasinas' research, you can contact her at ruthescasinas@yahoo.com.

Research Credit:
Dr. Ruth Escasinas, et.al.
Department of Agronomy

Vermi... (Continued from page 16)

Beneficial organisms in the ecosystem are less subjected to the negative impacts of inorganic pesticides and fertilizers.

But, let us also bear in mind that this method may not totally meet our expectations. According to the study, not all the benefits from the Vermitea will be observed. It could be because there is an absence of the necessary microorganisms in the vermicompost or vermicast. Aside from that, the substrates or materials used in vermicomposting could affect the benefits it could bring. Though the vermicast is non-adulterated and is 95-98% pure, the nutrient analysis still depends on the substrates used in the compost.

In the production of crops and plants, using organic fertilizers is highly advised. Though it has small nutrient content compared to synthetic fertilizers, the fact that it is less hazardous to the environment and to humans for consumption still remains. Many kinds of organic fertilizers have been made and innovated through the years. One of these is the Vermitea-- a tea exclusively made for our crops and plants. It is not just a soil nutrient enhancer and conditioner but it also serves as a pesticide at the same time.

Other kinds of tea for our crops are yet to be discovered in the future for the same purpose. As for the Vermitea, it will always be available as long as the adorable African Night Crawler worms are not endangered and well-taken care of. And, it will always be available as long as we promote organic fertilizer and let nature do its job in its most nicest and helpful way, as in the case of Vermitea— a wonder tea for crops to grow healthy, and not weary!

Research Credit: Mr. Ed Noriel, et.al.
Department of Pest Management

Jackfruit... (Continued from page 17)

Step 8. Serve the coffee with a hot water. Don't forget to stir the coffee to completely dissolve the coffee powder. You can add sugar to it to add taste.

And that's it! You have now a delicious jackfruit coffee-like drink. But wait, there's more. It doesn't end there. Aside from its yummy taste, jackfruit coffee-like drink is also wholesome and nutritious.

According to the subject matter specialists, Dr. Roberta D. Lauzon, Dr. Lorina A. Galvez and Dr. Felix J. Amestoso, there are health benefits that this coffee will give to its consumer. This kind of coffee is a good source of protein. It helps prevent constipation and obesity. It also treats tension and nervousness. What's more is that this coffee fights cancer as well as hypertensive, ageing and ulcer.

What more can you ask for? It's a full-packaged coffee! If you want to be a healthy person, if you want to stay away from various diseases, well, make a Jackfruit Seed Coffee-like drink now! Your health is in your hands.

Research Credit: Dr. Roberta LAuzon, et.al.
Department of Food Sci. & Tech

How to ... (Continued from page 18)

When the seedlings were thirty eight days old, they were transplanted in the field on January 21, 2008. The planting distance is 0.75m x 0.5m in 30cm raised bed with 20 plants per plot. To control the condition of the plants, standard AVRDC cultural management practices for chili peppers were followed for fertilizer application, staking and other crop management practices.

In this experiment, cabbage plants were grown on the surroundings because the whiteflies attract on it. About 300 adult whiteflies were collected using a whitefly collector and they were released to the cabbage plants after transplanting chili pepper. After a week, a subsequent release and the same number of whiteflies were done per plot.

To support the nylon net barrier, a tunnel type row was made. Pyriproxyfen (IGR) was applied 45 days from transplanting to corresponding treatments.

Dr. Salas with her SRA gathered the data which include horticultural characteristics, yield and yield components, insect and disease incidence, whitefly count, herbage weight, leaf area index and dry matter partitioning. In counting the whiteflies, 5 randomly selected plants per plot in zigzag direction was used and 3 leaves were taken each plant to examine in the laboratory if there were occurrence of whiteflies.

Light intensity was also monitored. They recorded the light intensity at 9:00 am, 12:00 noon and at 3:00 pm for a period of 2.5 months. By using a portable light model, they established light reduction treatments with nylon net barrier of different mesh number. For recording and monitoring relative humidity and temperature inside net barrier and in the open field, data logger was used.

After conducting the experiment, Dr. Salas found out that although chili pepper crop yield decreased by 27% and 42% when chili was grown under #50 and #32 mesh respectively, #50 mesh nylon was good and effective in preventing the whiteflies to enter in the tunnel. In addition to that, pyriproxyfen was also effective in controlling the whiteflies, showing reduced number of whitefly population on the chili pepper plants treated.

With this research result, chili pepper farmers can now be confident to use nets as physical barriers and pyriprofen as insect growth regulator. The Department of Horticulture (DOH) of VSU can help by training trainors from local government units (LGU), like the technicians, who will also teach farmers on how to protect the chili pepper crop from whiteflies so that the occurrence of geminivirus can now be reduced.

Research Credit: Dr. Rosario A. Salas, et.al.
Department of Horticulture

ViCAARP's compilation of WINNING RESEARCH, DEVELOPMENT AND EXTENSION PROJECTS 2016

RESEARCH

- **Adaptability Yield Trial of Inbred Rice Varieties in Eastern Visayas**
  Ms. Thelma T. Rapis/DARFO-8
- **Economic Dynamics and Value Chain Analysis of Traded Resources in Agusan Marsh**
  Mr. Jeremy D. Balando/ NSU
- **Vulnerability Mapping of Coastal Communities in Calbayog City for Climate Change Adaptation**
  Mr. Novlloyd E. Celeste/NwSSU
- **Biochemical Alterations and Yield Loss in Cassava Infected with Phytoplasma**
  Dr. Erlinda A. Vasquez/VSU-PhilRootcrops
- **Development of Nutritional Supplements for Increased Survival and Improved Performance of Pre-Weaning Kids**
  Dr. Lolito C. Bestil/VSU-DAS
- **Soil Health Improvement in the Disease Infected Abaca Growing Areas of the Country**
  Dr. Romel B. Armecin/VSU

DEVELOPMENT

- **Community-based Participatory Action Research (CPAR) on the Production of Native Chicken in Sta. Fe, Leyte**
  Ms. Marilyn A. Villamora/OPA-Leyte
- **Science and Technology Community Based Farm on Jackfruit Production in Leyte**
  Mr. Marlon M. Tambis/VSU-PhilRootcrops

EXTENSION

- **Extension Project on No-wash, Odorless Backyard Hog-Fattening Technology**
  Dr. Danilo P. Alura/ ESSU
- **Natural Resource Management-Based Extension Program (VSU Nature Park)**
  Dr. Marlito Jose M. Bande/VSU
- **Establishment of Coconut Nursery/ Seedgarden in Eastern** Visayas
  Dr. Maria Juliet C. Ceniza/VSU-NCRC

Research Category

Dr. Erlinda A. Vasquez (3rd from left) with Ms. Lady Fatima G. Palermo, Ms. Resa M. Dacera and Mr. Roneil Godoy receive the award on Outstanding Research Paper. With them are (L-R) Dr. Othello B. Capuno, ViCAARP Director, Dr. Carlos S. dela Cruz, Chief, Regulatory Div., DA-RFO8 and Dr. Edgardo E. Tulin (extreme right), ViCAARP-RRDCC Chair and VSU President.

ViCAARP-RRDEN salute to the VSU Researchers: grand slam winners for Outstanding RDE papers

/Elmera Y. Banoc

The Visayas Consortium for Agriculture, Aquatic and Resources Program (ViCAARP) and the Regional Research Development and Extension Network (RRDEN) counted another remarkable year as they announced the grand slam winners from the Visayas State University's researchers for winning as Outstanding Research, Development and Extension papers during the 28th Regional RDE Symposium on December 7-8, 2016 at RDE Hall, VSU, Visca, Baybay City, Leyte.

The research paper entitled "Biochemical Alterations and Yield Loss in Cassava Infected with Phytoplasma" of Dr. Erlinda A. Vasquez, Dr. Candelario L. Calibo, Ms. Cynthia Dolores V. Godoy, Mr. Roneil Godoy, Ms. Joy Adeline Nuñez, Ms. Resa M. Dacera, and Ms. Lady Fatima G. Palermo was awarded as Outstanding Research Paper. They received a cash award of PhP20,000.00 and plaque of recognition.

In this paper, it was highlighted that Phytoplasma reduced production of chlorophyll, increased sugar content in the leaves and roots, lowered starch concentration in the roots, increased HCN level in all plant parts from and doubled production of toxic hydroxycoumrins secondary metabolitesand other unidentified compounds. Phytoplasma greatly reduced yield: 10-39% in number of roots, 42-55% weight of tuberous roots, dry matter – 7-18% and starch content 17-27%. The elevated HCN content, higher amount of toxic hydroxycoumarins and unidentified compounds may explain the bitter taste even in edible cassava varieties. Lastly, Phytoplasma creates a big impact of the cassava industry affecting the whole aspect of value chain, from the field production to the processors and eventually to the market.

REGIONAL RDE SYMPOSIUM

Development Category

Extension Category

Left Photo: Ms. Hazel Grace Taganas (3rd from left) with Mr. Marlon Tambis receive the award on Outstanding Development Paper. Right Photo: Dr. Marlito M. Bande receives the award on outstanding Extension Paper. With them are (L-R) Dr. Othello B. Capuno, ViCAARP Director, Dr. Carlos S. dela Cruz, Chief, Regulatory Div., DA-RFO8 and Dr. Edgardo E. Tulin, ViCAARP-RRDCC Chair and VSU President.

The efforts and hard works exerted in the implementation of the study entitled *"Science and Technology Community Based Farm on Jackfruit Production in Leyte"* brought real happiness to Ms. Hazel Grace T. Taganas, Mr. Marlon M. Tambis and Ms. Jonalyn G. Saulan as they received the award for Outstanding Development Paper with a cash incentive of PhP20,000.00. In their study, they discovered that there was a considerable adoption of the recommended S&T based practices on Jackfruit due to the technology transfer efforts of the STCBF project which translated to an increase in yield and income in per hectare and in per tree basis. The benefits, however, have not been maximized due to the occurrence of super typhoon Yolanda. However, they urged to have a follow up monitoring and documentation on the progress of the beneficiaries. The data obtained by the project still have traces of the effect of the typhoon which actually still limit the yield of the trees. It will be more interesting to see results of the project intervention when there is no more trace of the typhoon.

On the other hand, Dr. Jose Marlito M. Bande, et al. excellently presented their extension paper entitled *"Natural Resource Management-Based Extension Program (VSU Nature Park)"*, thus making it to the top as Outstanding Extension Paper. They presented commendable results such as: The establishment of the Nature Park greatly influence the support of local residents in preserving the remaining forest in Mt. Pangasugan range and other Provinces of the country; it capacitates the stakeholders in managing, conserving and utilizing the natural resources, thereby providing income to the residents of adjacent communities and the University; the floral and faunal diversity considerably increases that enhance VSU's image as one of the leading universities concerned with nature conservation and best place for tourism destination.

The ViCAARP and RRDEN-organized annual search provided a forum for researchers in the region to explore new ways to help address some of the nation's toughest challenges--the food and climate change crises. It also offers a major boost to budding and veteran researchers alike.

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ViCAARP Highlights

38 YEARS of MAKING USE OF SCIENCE AND TECHNOLOGY IN REBUILDING EASTERN VISAYAS

JANUARY-DECEMBER 2016

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To: _____

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ViCAARP

MANDATE

To set up a mechanism for coordination and management of agriculture and natural resources research and development in Eastern Visayas in the areas of production, processing, socio-economic and communication with emphasis on commodities of major importance in the region.

MISSION

To vigorously initiate, effectively coordinate collaborrative RD & E and actively mobilize knowledge and technology to achieve more productive, profitable and sustainable fisheries and natural resources in Region VIII.

VISION

A region where quality of life of farmers, fisher folk and processors is improved through more productive, profitable and sustainable agriculture and natural resources management emerging from collaborative regional research and development/extension.