



# Shamag

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H.E. Michel Goffin, Ambassador of Belgium to the Philippines (left) and Hon. William D. Dar, Department of Agriculture Secretary (right) served as Guests during the 2nd ICFEC 2019. (see story on page 4)

## BSU graduates surpass national passing rate in Engineering and Agriculturist Licensure Exam; Alumna is top 6

Benguet State University has 22 new Agricultural Biosystems Engineers listing a 50% passing rate in the recently conducted Agricultural and Biosystems Engineering Licensure Exam. BSU's passing rate is also higher than the national passing rate of 37.70%. On the other hand, 167 graduates passed the Agriculturist Licensure Examination with a passing rate of 54.40% which is higher than the national passing rate of 41.05%

One of the newly licensed agriculturists is Chelle Charlden Cosme Carlos. She graduated cum laude with the degree Bachelor of Science in Agriculture major in Agronomy batch 2018. She obtained a rating of 88.33% making her top six in the exam.

every question. She was also working as a research assistant while reviewing at the College of Agriculture.

She said that Agriculture was not her first choice but later she found it interesting. Her father, an alumnus of the University and a farm technician of the Municipality of Sablan, has been her inspiration in pursuing Agriculture.

Carlos said that the exam was difficult making her to sometimes analyse

..na encourage dak piman idi ti seminar, ak jay work ni tatang ko training at iyon na rin kasi very happy suna nga iyong nag encourage sa akin makisango kadagiti farmers na tapusin yong course (I and other clients ... itugtugot was encouraged with how

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Chelle Charlden Cosme Carlos a graduate of Bachelor of Science in Agriculture major in Agronomy ranked sixth in the Agriculturist Licensure Examination on November 2019.

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First published in 1996, Shamag is one of the official publications of Benguet State University. It was named after the Ibaloi word for news. It is a medium for employees, clients, students and partners to disseminate their programs, achievements and advocacies. Shamag aims to help the University goals in developing proactive programs for quality service by developing effective and efficient innovative platforms for cascading information and strengthening public-private partnerships.

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**Benguet State University****VISION\***

A PREMIER UNIVERSITY delivering world-class education that promotes sustainable development amidst climate change

**MISSION**

To provide quality education to enhance food security, sustainable communities, industry innovation, climate resilience, gender equality, institutional development and partnerships

**CORE VALUES (SLIDES)**

Student-centered  
Leadership  
Integrity  
Diversity  
Efficiency  
Service

**GOALS AND OBJECTIVES**

**Goal I.** To develop proactive programs to ensure relevant quality education

**Objectives:**

- 1.To benchmark curricular and co-curricular programs with national and international standards
- 2.To develop alternative learning experiences to enhance skills that match industry needs
- 3.To develop innovative and relevant curricular and co-curricular programs
- 4.To enhance proactive student welfare and development programs

**Goal II.** To develop proactive programs for quality service

**Objectives:**

- 1.To enhance relevant human resource development programs
- 2.To develop effective and efficient innovative platforms for cascading information
- 3.To enhance and develop employee welfare programs

**Goal III.** To enhance responsive systems and procedures for transparent institutional development

**Objectives:**

- 1.To enhance and develop innovative financial management systems
- 2.To ensure transparency in all transactions in the university
- 3.To ensure inclusive and consultative decision making

**Goal IV.** To develop relevant and gender sensitive research and extension programs for institutional development, sustainable communities, climate resilience, industry innovation, and partnerships

**Objectives:**

1. To develop relevant multimedia tools in disseminating technology, knowledge and information generated from RDE programs
2. To develop relevant RDE activities that will address current problems and support cultural advocacy
3. To partner with strategic local, regional, national and international entities

**Goal V.** To strengthen and expand public-private partnership

**Objectives:**

1. Sustain and pursue functional University-relation with the alumni and other organizations both in the government and non-government entities
2. To strengthen the linkage among academe, industries, LGUs and community

*\*Board of Regents Approved Resolution # 2494, s. 2016.*

Board Resolution # 2736, s. 2018

Revised Quality Policy:

"Benguet State University is continuously committed to improve its Quality management System, satisfy requirements of relevant interested parties and provide excellent service for quality education and innovative research aligned with sustainable development and client satisfaction."

**Talk to us!**

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## Students' awareness forum sheds light to AMR threat

A students' awareness forum was held on November 14, 2019 at the College of Veterinary Medicine to disseminate the government's effort to combat Antimicrobial Resistance (AMR) in the animal health sector and the results of the AMR surveillance conducted in the Cordillera Administrative Region by BSU-CVM and the Department of Agriculture-Bureau of Animal Industry (DA-BAI).

AMR is defined in the "Philippine Action Plan to Combat AMR: One Health Approach" as the ability of microbes, such as bacteria, viruses, parasites or fungi to grow despite the presence of antimicrobials that would normally kill or inhibit their growth. This ability makes antibiotics ineffective against previously treatable infections. The development of drug resistance can be due to the inherent resistant characteristics of microorganisms or through the acquisition of genes from other organisms that can be passed both horizontally and vertically to their progeny. However, this phenomenon is aggravated by many human factors largely through the misuse and abuse of antibiotics leading to the loss of their efficacy and the spread of drug resistant pathogens in the community.

AMR is a rampantly growing public health concern worldwide. The World Health Organization (WHO) and countries around the world are beginning to be threatened by the possibility of reaching a post-antibiotic era, where the most common infectious diseases can kill millions of lives. According to the 2014 AMR Global Report on Surveillance of the WHO, there

are already very high rates of resistance in bacteria that cause common health-care associated and community-acquired infections in all the WHO regions.

Dr. Dale of the AMR Team who was invited to lecture about the government's effort to combat AMR explained that AMR is a multi-sectoral problem concerning animal, human and plant health. Thus, the Philippine government came up with the one-health approach involving the Department of Health, Department of Agriculture, Department of Science and Technology, Department of Trade and Industry and the Department of Interior and Local Government.

This was also the reason why students from the College of Agriculture and College of Home Economics and Technology were invited in the forum.

CVM Dean, Dr. Marietta Q. Amatorio then explained how the animal industry could contribute to the prevalence of AMR. She admitted that it is a fact that antibiotics improve animal productivity in a society that demands more meat raised in a short period of time but this also leads to the

risk of transmitting drug-resistant bacteria to humans.

"AMR can be acquired from the time the animals are being raised until it would be eaten. Animals being raised in the farm undergo many processes until it reaches the market and these are contributory to the occurrence of AMR. Food animals can be a potential source of AMR in humans", she said.

After sharing the results of the AMR surveillance in CAR that pegged Baguio City as one with the highest AMR occurrence, Dr. Amatorio emphasized that the most significant way of combatting AMR is to reduce, if not avoid anti-microbial use.

"Reducing anti-microbial use through vaccination, improving microflora in the intestines using probiotics and prebiotics, good husbandry and biosecurity can be done. Actually Australia in their surveillance, wala silang chloroquinolones, because in the first place, they are not using chloroquinolones."

Dr. Amatorio also cited Denmark's success in reducing AMR through the initiative of livestock producers themselves to lessen the use of anti-microbials.

The forum was sponsored by the Food and Agriculture Organization of the United Nations (FAO), Department of Agriculture (DA), and the Fleming Fund.//JSTabangcura



## More than 300 researchers join 2nd International Conference on Food, Environment and Culture; Belgian Ambassador and DA secretary are keynote speakers

Researchers and scientists from the Philippines, Taiwan, South Korea, Thailand, Greece, Japan, Australia, Finland and Belgium gathered for the 2nd International Conference on Food, Environment and Culture (ICFEC) on November 26 to 29, 2019 at the Crown Legacy Hotel, Baguio City.

This year's ICFEC theme is "Building Climate Resilience through inclusive Global Innovations." According to VP for Research and Extension, Dr. Ruth S. Batani, there were 130 registered participants excluding walk-in participants and committee members with 85 paper and poster presentations coming from nine countries including the Philippines.

The opening program held on November 27 was graced by Belgian Ambassador to the Philippines, His Excellency Michel Goffin who was the conference keynote speaker. H.E. Goffin showed a presentation on what he called the 'plastic crisis' and discussed the global scale problem on plastic pollution and possible solutions that can be done in the real world and not just through action plans and commitments written on paper.

"What I am calling now is not just for institutions or government; it is for every individual to change their understanding of wastes, their understanding of plastics, and to stop single use of plastic," he urged. Dr. Carlito P. Laurean, immediate past Vice President for Research and Extension of Benguet State University (BSU), said during the opening of the conference that ICFEC 2019 aims to better understand behavioral, biophysical, economic, institutional, political, socio-cultural and technological drivers, current and future global food security, and environmental protection.

"Hopefully, the conference will address the food system activities of food production and trade-offs between economic, environmental, health, and social objectives and outcomes," added Laurean.

BSU President, Feliciano G. Calora, Jr. was present in the opening program joining the guests from national line agencies and local government units as well as the plenary speakers. The opening program was hosted by Philippine Information Agency- CAR Regional Director, Helen R. Tibaldo and BSU-CAS Dean, Samuel Poliden. Performances by the BSU Glee Club, BSU Kontad (Highland Performing Arts Group) and Cordillera National Science High School introduced or re-enforced the Cordillera culture to the participants.

The opening program was followed by plenary sessions.

Dr. Suriyan Supapvanich of King Mongkut Institute of Technology Ladkrabang in Thailand presented his research on elicitor treatments in maintaining and improving post-harvest quality of fruit and vegetables; Ms. Judith K. Carino-Fangloy of Partners for Indigenous Knowledge Philippines told the story of how her organization came up with the book "Heirloom Recipes of the Cordilleras"; Dr. Young Jin Lee of Kongju National University in South Korea shared how forest fire fuel loads prediction map is developed in his country; Dr. Leila C. America of DOST-PCAARRD presented research programs funded by her agency; and Dr. Chinsu Lin of National Chiayi University in Taiwan revealed approaches and models he developed in space-borne lidar remote sensing for deriving canopy height representatives and stand height structure of forests. The parallel sessions included presentations on food, culture, environment and forestry. The day ended with the dinner and fellowship night attended by La Trinidad Vice Mayor, Hon. Roderick Awingan. The cultural performances featured a routine by the BSU Dramatic Arts Group that tells a story of how Indigenous Peoples were robbed of natural resources and how they came to realize that they needed to protect their natural resources.

Plenary speakers for Day 3 are Prof. Pantaleon Skayannis of the University of Thessaly in Greece who discussed the changing relation between local food, culture, the environment and experience tourism; Prof. Tanja Oraviita of the Vaasa University of Applied Sciences in Finland who presented the impacts of culture in what we eat and buy; Dr. Carlito P. Laurean of BSU who shared about building smallholders farmers' climate resilience; Dr. Minerva Chaloping-March of La Trobe University in Australia who presented her study, "Cultural Resilience Towards Optimum Resource Management among Indigenous Communities in the Cordillera" who considers the study as a way of homecoming; and Dr. Jimmy B. Fong of UP Baguio who shared animated and nostalgic memories of eating in the mountains.

### Dr. Dar stresses academe's role in DA undertakings

The closing program and awarding ceremony held on November 29, 2019 had Department of Agriculture (DA) Secretary, Dr. William D. Dar as the keynote speaker. Sec. Dar began by presenting the threat and damage of climate change to agriculture. "Malinaw po kung ano ang nakataya: ang kapakanan ng maliliit na magsasaka, mangingisda at iba pang taga-nayon, at ang pambansang seguridad sa pagkain at katatagan ng ating ekonomiya," he said. He went on to present the actions and options that can be done to address climate change challenges such as support to research for development and climate smart agriculture.





“At the Department of Agriculture, we launched a development strategy of “New Thinking for Agriculture” built around eight paradigms, as we aim to bring the Filipino agri-fishery sector along a path toward a higher rate of growth, employment, sustainability and climate resiliency. These are: Modernization of agriculture; Industrialization of agriculture; Promotion of exports; Farm consolidation; Infrastructure development; Roadmap development; Higher budget and investments for agriculture; and Legislative support.”, explained Dar.

Dr. Dar expressed his hopes that the ICFEC will help further strengthen partnerships and cooperation in strategic points of convergence to ensure the reformation of the agricultural landscape. He also challenged Benguet State University to reshape its curriculum programs based on the challenges and opportunities of Cordillera; become The Research and Innovation University of the region; produce highly knowledgeable and skilled human capital for agri-industrial development of the region; develop models of farm consolidation towards an export and market oriented development with neglecting the indigenous communities in the region where special efforts be exerted as well; develop models of inclusive agribusiness anchored on value chain system; develop models to engage more the youth in agriculture and agribusiness; be the leader in digitalization of agriculture in the region; and be the leader in developing demand driven and market oriented research and extension system.

The best papers of the 2019 ICFEC are: “Development Evaluation and Nutritional Analysis of Adlay (*Copix larymajobi*) Energy-Rich Instant Food Products” by Rocelyn Imperial, Best Oral Presentation in Food; “Expectation of Villagers in the Tourism of a Remote Area of Cagayan: An application of cost analysis for sustainable development” by Emma Legaspi, Best Oral Presentation in Environment; “The Etymology of the word Oragon toward the Distinction of a Bicolano Ethnic Character” by Divina Gracia R. Galang, Best Oral Presentation in Culture; and “Effects of Atmospheric Correction and Pansharping of Landsat 8 OLI & TIRS on AGB Estimation Accuracy” by Nova D. Doyog, Derek C. Bayer, Christine A. Parian, Roscinto Ian C. Lumbres, Bernard Peter O. Daipan, Chinsu Lin and Young Jin Lee, Best Oral Presentation in Forestry.

The best posters are: “Development of Rice Mutant as Genetic Source” by Thelma Pagilina and Rustom, 3rd best poster; “Isolation, Characterization and identification of Phosphate Solubilizing Bacteria from Different Animal Manure and Its Potential Plant Growth Promotion in Mung Bean (*Vigna radiate L.*)” by Angel Lovely Pama et al., 2nd best poster; and “Documentation of Success Stories in the Use of *Trichoderma koningii* in the Philippine Highland Farming Systems” by Kacy O. Labon, Rhea S. Loncio, Ruth S. Batani, Cheryll C. Launio and Teresita D. Masangcay, best poster.//R.A.Sabado&JSTabangcura







## Flora Montañosa uncovers hidden beauty and wealth in cacti and succulents; BSU is among sponsors

For a lot of people, cactus is the tough and thorny plant used to punish villains in cowboy movies. This perception may soon change as a flourishing number of farmers in La Trinidad, Atok and Buguias are slowly showing the public a plethora of cactus and succulent varieties in all shapes and colors.

To further increase the awareness of the public to the unique and colorful world of cacti and succulents, Benguet farmers came up with Flora Montañosa, a three-day event from November 15-17 that comprise of lectures, farm tours, plant sales and a workshop.

The three-day event began at the Living Gifts Nursery, Alno, La Trinidad, Benguet with 260 farmers and collectors from different parts of the country as well as participants from Benguet State University, government officials from the Department of Agriculture, Department of Tourism, Department of Science and Technology, LGU Benguet, LGU La Trinidad, LGU-Alno. These government entities also served as sponsors of the event along with Masitera, the Succulent Palace and Living Gifts.

“Our participants are a mix of collectors but majority are farmers of Benguet, along with fellow cactus and succulent growers. We organized Flora Montañosa so we could bring in

international speakers so we could improve our techniques and guide us into what planting materials should we invest into,” said Living Gifts owner, Dan Saclangan.

After the opening program, Chuck Tsai shared the Taiwanese method of growing Haworthias followed by Fernando Manik from Indonesia who lectured on trends of Pachypodiums and Euphorbia collecting. Speakers from Bureau of Plant Industries, DOST and Masitera Lifestyle Gardening also shared their expertise in plant Phytosanitary and import and export permits; basic plant breeding; and the importance of cactus and succulent soil composition.

On November 16, participants were treated to farm tour in the Saclalan Cactus and Succulent Farms and Northern Blossom Flower Farm found in Atok and Buguias while on November 17, Living Gifts Nursery sponsored plant sales and a free grafting workshop.

### The cacti and succulent industry in Benguet

Officials appreciated the presence of Living Gifts in Alno, La Trinidad during the opening program of Flora Montañosa. Claire Prudencio representing Benguet Governor Melchor Dicalas, gushed over

the set up of the nursery saying that another feather has been added to the cap of Benguet agri-tourism and another worthwhile destination has been added to the Municipality of La Trinidad.

“Gusto kong magpasalamat kay sir Dan, at least hindi na lang kami naka-focus sa agri-tourism ng gulay, meron na kaming naiibang cactus, masu-supplement na ang Rose Capital na Barangay Bahong. Meron na itong kasama sa package,” she said assuring the participants that they will have the support of the provincial government as cacti and succulent farming has the potential of providing livelihood to the people.

DOT-CAR Director, Jovita A. Ganongan greeted the farmers describing them as sellers of premium and valuable plants.

“I am really impressed noong umikot ako, ganon pala ka-valuable ang mga plants na yan and there’s really a big market for it pala and it’s here in Benguet at marami ng involved na farmers. Eto job generating na activity so if many farmers are involved in this profitable business, talagang aasenso ang karamihan sa mga Pilipino,” Ganongan said.

Saclangan explained that there is a big market of cacti and succulents not only in the Philippines but in other countries such as South Korea.

“Currently, there

are several exporters in the Philippines. One investor imports as much as 500 thousand pesos worth of plants from the Philippines and then re-sells them to farmers.” He added that Living Gifts is open to sharing knowledge with farmers interested in cacti and succulents.

Alno Punong Barangay, Jonie Puroc attested to the development in tourism spurred by Living Gifts in Alno.

“Ado metten ti bumisbisita ditoy haan lang nga local tourists, pati pay foreign. Ada metten ti maengenganyo nga agmula ti cactus ta dakkel met gayam ti income nga magapu ditoy ken medyo nalag-an ti trabaho.” (There are already a number of tourists visiting our barangay, not only local tourists but also those from other countries. Even some of our constituents are encouraged to plant cacti because it’s proven that there is a big income and the labor is not too heavy.)

The BSU-HORTI led by Dr. Darwin Basquial has been partners with Living Gifts Nursery in various capacity-building activities. Dan Saclangan and wife Cora are both BSU alumni from the College of Agriculture.//JSTabangcura



## BSU inventions are DOST-RICE winners

**Four BSU inventions garnered awards during the 2019 Department of Science and Technology-Regional Invention Contest and Exhibit (DOST-RICE) in the region held at Bontoc, Mt. Province on November 18-20, 2019.**

The Cocoon Deflossing Machine by Norma Ramos, Espino C. Tiw-an and Leonardo Dumalhin garnered the LIKHA Regional Winner award, the Basil Flavored Ice Cream and the Assorted Freeze-Dried Local Fruits by Jao-jao Somyden, Johnabel Basatan, Thea Contada, Pelin Belino and Ruda Fe Suarding clinched the 1st Runner Up and 2nd Runner Up places respectively.

The Hopia (Bakpia) with

Sweet Potato Haleya Filling by Joyce Mama-o, Esther Botangen and Ines Gonzales achieved the 2nd Runner Up for the Outstanding Utility Model Award.

The DOST-RICE is a bi-annual activity held along with the annual Regional Science and Technology Week (RSTW). RICE recognizes the indispensability of local inventors and innovators as contributors for national economic development.

“The RSTW seeks to draw attention to scientific knowledge and technological applications impacting on the lives of Filipinos through the kind of development that can bring about positive, meaningful and sustainable change,” said DOST Secretary, Fortunato

T. de la Pena who was the guest of honor in the activity.

There were a total of 38 entries that competed in contest. BSU through the Intellectual Property Rights (IPRO) submitted eight entries under the Creative Research or LIKHA category and eight under the Utility Model Category.

The Office of Extension Services also participated in the RSTW exhibit joining other SUCs and government line agencies.//JSTabangcura

### *BSU graduates surpass national passing rate...from page 1*

my father deals with farmers and clients..... he also took me along when he attended seminars and trainings. This really inspired me to pursue Agriculture),” Carlos narrated.

Carlos believes that agriculture is the foundation of the future.

“Agriculture students have to love and enjoy their field because Agriculture is the mother of the economy and other industries.... they have to feel the privilege of playing a vital role as agriculturists,,” she concluded.//DSEmok





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Photo Courtesy: ASSIST BANGUED ONLINE



Dr. Rex John G. Bawang (left), Institute of Human Kinetics Director, receives the CARASUC Championship Trophy along with the other participating CAR SUC's.

CARASUC 2019. Benguet State University remained champion in CARASUC 2019 with 154 Gold, 56 Silver, 57 Bronze medals.

Abra State Institute of Sciences and Technology hosted this year's CARASUC held on November 25-29, 2019.



As part of the "18- Day Campaign to End Violence Against Women (VAW)", an Orientation- Seminar on Laws Concerning Gender Based Violence (GBV) and issues was conducted last November 29, 2019 at the CHET Canteen.

Legal Wellness Advocate Atty. Dexter D. Diwas served as the speaker for the Orientation- Seminar.//MDRosario

Photo Courtesy: Department of Environmental Science



Students and Faculty of the Department of Environmental Science conducted a ring weeding at communal forest, Central, Tublay on November 21, 2019.

This is inline to the annual culminating activity of the Department in celebration to Environmental Science week.