



## RDE participates in the 2023 Regional Science, Technology, and Innovation Week in Bangued, Abra

The Research and Development; Extension (RDE) Unit of the Apayao State College had the opportunity to showcase its very own innovative products at the Science and Technology Exhibit in the Sports Complex of Bangued, Abra during the celebration of 2023 Regional Science, Technology, and Innovation Week (RSTIW) in the Cordillera Administrative Region last September 27-29, 2023

The event was facilitated by the Department of Science and Technology-Cordillera Administrative Region (DOST-CAR) to exhibit and celebrate the contributions of science, technology and innovation to the development of the country's regions; likewise, to promote awareness and appreciation of the role that science and technology (S & T) play in improving various aspects of society, such as agriculture, industry, health education, and many more.



▲ Dr. Julius Leaño Jr., the Director of DOST-PTRI, strikes a pose with the ASC RDE officials and staff.

Aside from the product showcase, the RDE officials: Dr. Maria Christina Z. Manicad, the Director for Research & Development and Special Projects, and Dr. Mirasol L. Agpulto, the Director for Extension and Knowledge & Technology Management, with the RDE staff of ASC also joined the soft launching

of Bamboo Textile Fiber Innovation Hub (BTFIH) in Lagangilang, Abra; S&T Fora: Abra iKawayan: Developing Bamboo Industry for Economic Growth and Environmental Sustainability; Techno-demo on Digital Handloom Weaving Design and Innovation

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## Project BSED in Lappa, Luna



▲ The ASC Faculty and staff pose with the constituents of Barangay Lappa, Luna.

**A clean surrounding and a good hygiene is essential for a person's well-being.**

The Bachelor in Secondary Education facilitated the implementation of the Project BSED: Beautify, Sustain, Empower, and Develop in Lappa, Luna last September 21, 23, 29 & 30, 2023 wherein a total of 100 participants attended the activity.

The training included lecture workshops on clean and green environment; nutrition; and survey research on proper hygiene practices among the residents.

"We truly appreciate the Apayao State College for the efforts of making

such an initiative in bringing to us educational trainings beneficial to the constituents of this barangay." Brgy. Captain Nicky Boy G. Daet mentioned in his opening remarks.

Afterwards, Ms. Ruth Tumaneng, the Apayao Cultural and Historical Studies Coordinator, enumerated the rationale of the activity. She then discussed topics of human role in the environment and waste segregation.

"Cleanliness builds up a healthy environment that facilitates physical and mental well-being and growth. Therefore, its individual, as well as collective importance cannot be denied.

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## Trainings on food processing rolled out in Salvacion, Luna



## Project 1B: IP-TBM undergoes pre-commercialization trainings in Benguet State University



▲ Dr. Mirasol L. Agpuldo, Project 1B Leader, along with ASC staffs participates in the three-day Training cum Workshop on the conduct of Feasibility Study.



▲ Dr. Mary Anne P. Umayam presents her generated technology; the MAKA Veggie Ice Cream and selected as the best presenter by the panel of evaluators during RTCMS: Technology Valuation.

**The Project 1B: Establishing the Intellectual Property and Technology Business Management (IP-TBM) in Apayao State College (ASC) took part in the trainings orchestrated by the Regional Agri-Aqua Innovation System Enhancement (RAISE) Program for the Consortium Member Institutions (CMIs).** The trainings consist of: Workshop on the Conduct of Feasibility Study on July 18-20, 2023;

Regional Intellectual Property Master Class on August 22-24, 2023; Regional Technology Commercialization and Mentoring Series (RTCMS): Technology Valuation on September 28 & 29, 2023 at Benguet State University, La Trinidad, Benguet.

There were six participants from ASC who attended the workshop on the conduct of feasibility study. The workshop is an approach for assessing feasibility of technologies which is a pre-requisite of commercialization. Ms. Normalyn T. Longay, RAISE Project 2 Leader, served as one of the resource persons for the said activity.

Likewise, the Regional Intellectual Property Master Class was designed to empower key individuals involved in implementing IP-TBM in various State Colleges and Universities in the Cordillera Administrative Region, particularly for the researchers and technology generators who are working on unprotected technologies or ongoing research with potential technology outputs.

The participants during the Master Class gained information about the foundation knowledge on Intellectual Property and IP Rights, prior art search, invention spotting, patent or utility model (UM) filing and application and answering formality examination report. The two representatives from ASC presented a UM draft on the process of cacao, rice, and ginger, a 3-in-1 powdered drink as their

output on the last day of the training.

On the other hand, the RTCMS: Technology Valuation was also conducted to the technology generators from the different State Universities and Colleges in CAR with the necessary knowledge in technology valuation as a requirement to commercialize their technologies in the region. The participants were also tasked to present an output with a corresponding costing and assumptions. The representatives from ASC, Ms. Maria Nerissa R. Molina, the Science Research Assistant and Associate Prof. Mary Anne P. Umayam presented the MAKA Veggie Ice Cream as their output and was selected as the best presenter by the panel of evaluators by the end of the mentoring series.

The aforementioned workshops aid researchers to be familiar with the pre-commercialization processes. It also enables technology generators to adhere with the requirements of Intellectual Property Office.

The Project 1B has the general objective to establish the Intellectual Property-Technology Business Management (IP-TBM) Center of the Apayao State College to enhance its services. Specifically, to enhance the capacity of faculty and researchers on intellectual property and technology business management; to determine the status of intellectual properties, matured technologies and knowledge resources and institutionalize IP management in ASC.

## Financial Literacy Program runs in Aga, Pudtol

During the third quarter of 2023, the implementation of Financial Literacy Program (FLP) training was held in Aga, Pudtol on September 1, 2023 with 73 farmer participants.

The project leader, Dr. Mary Anne P. Umayam, said that the training will be a stepping stone of the community to benefit from the services offered by the Landbank of the Philippines.

Ms. Daiann Martinez, BSBA Faculty, served as the resource person for the said activity. She impelled the participants to avail the services of Landbank through her discussions. In addition, the participants

filled out information sheets for profiling purposes through the LCDFI online databank.

The program is geared to contribute to increase and stabilize household incomes and improve access to economic, social and financial services. As stipulated in the Memorandum of Agreement (MOA) between ASC and LCDFI in January 2023, the training will continue until December 2023 with the general objective to train farmers, fishers, and farm laborers in the marginalized municipalities to become profitable and bankable.

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▲ The constituents of Brgy. Aga, Pudtol actively participate in the conduct of Financial Literacy Program in their barangay.

## Training on mushroom production launched

The training on mushroom production was conducted at the Auditorium, Research and Development (R & D) Building, Apayao State College, Luna, Apayao on July 17 & 18, 2023 and in the Bureau of Jail Management and Penology (BJMP) Compound, Poblacion, Luna, Apayao on September 25, 2023.

The participants of the training held in ASC-Luna Campus were the members of the upper and lower SMART Apayao while the training held at the BJMP Compound were the persons deprived of liberty (PDL).

“The Apayao State College is committed in contributing to the advocacy of sustainable agriculture and environmental programs and in providing valuable training opportunities such as this one,” Dr. Mirasol L. Agpuldo, the Director for Extension and KTM, stated in her message.

The lectures particularly focused on volvariella and oyster mushroom wherein the Bachelor of Science in Agriculture faculty



▲ Mr. Michael Palalay, BSA Alumnae and a young agripreneur, gives a detailed discussions about mushroom production (left picture). The inmates actively participated in the conduct of mushroom production and management training (right picture).

members facilitated the training at the BJMP while Mr. Michael Palalay, BS Agriculture alumnae and a young agripreneur, served as the resource person in ASC-Luna Campus. Afterwards, return demonstration of the participants were also done in conducting the process of ‘inoculation’ and ‘incubation’.

The training in mushroom production and management has the objectives to provide

participants with knowledge and skills in cultivation; teach the essential techniques of preparing substrates; raise awareness in the potential of mushroom cultivation as a source of income and employment; provide a comprehensive and well-rounded training experience that equips participants with the necessary skills and knowledge to excel in the said area.

## NTFIH conducts techno-promotion workshop for partner farmers in Luna, Calanasan, Sta. Marcela, and Flora



▲ The participants have a firsthand experience in separating banana pseudo stem using manual stripper.

To constantly promote the use of natural fibers in Apayao, the BSF Faculty through the Extension Office conducted the NTFIH Techno-Promotion: Capability Building and Training Workshop on Fiber Extraction for the partner farmers in Luna and Calanasan on August 16 & 17, 2023; Flora and Sta. Marcela on September 20 & 21, 2023 at the Conference Hall, RDE Building, ASC-Luna Campus and ASC-Payanan Campus, San Gregorio, Luna, Apayao.

“NTFIH Project greatly aids the partner farmers in recycling agricultural wastes, moreover, it also gives them opportunity to earn additional income,” Dr. Ronald O. Ocampo, the Vice President for Academics, Research, Development and Extension Services, quoted in his message.

To give farmers a broad overview about the project, Dr. Mirasol L. Agpuldo, the Director for Extension and KTM and Mr. Marfel Angelo Fontanilla, BSA Faculty, presented the cultural management of banana and pineapple plantation followed by Dr. Maria Christina Z. Manicad, the

Director for Research and Special Project, who discussed the topic on natural plant fiber resources. Hands-on training on fiber extraction using manual stripper was done by the participants on the second day. Furthermore, manual strippers were given as an award to each representative of Farmers Association at the end of the program.

The Natural Textile Fiber Innovation Hub (NTFIH) is established in Apayao particularly at the Apayao State College. The project strategically partnered with the Local Government Unit of Luna, Apayao, the Department of Science and Technology – Cordillera Administrative Region to ensure the successful piloting of the technology in a community-scale. Apayao, dubbed as the “Last Ecological Frontier in the North” has still a vast tract of forest lands that inhabits some of the non-timber and under-utilized forest products, that are found naturally growing abundantly in the Province of Apayao.



## Agroforestry Training held in San Juan, Sta. Marcela and Salvacion, Luna

Sixty farmers attended the training on Agroforestry: Sloping Agricultural Land Technology (SALT 1) System held in San Juan, Sta. Marcela and Salvacion, Luna, Apayao on September 26 & 27, 2023, respectively.

The extension activity was graced with a prayer and the singing of the national anthem. The lecture proper came next wherein Ms. Olivia C. Tomas, BSF Faculty, led a presentation on the background and importance of Agroforestry: Its attributes, benefits and component combinations. Meanwhile, Mr. Ryan W. Gabit, BSF Faculty, discussed the types of agricultural systems, and sloping agricultural land technology, and the guide on how to develop agroforestry in a farm. He also presented the guide on making an A-frame that is used to determine contours on the farm. Mr. Gabit further stressed on the importance of choosing the proper species to be planted in everyone's farm.

A visit on the farms of volunteer individuals was done in the afternoon for the purpose of the establishment of agroforestry demonstration farm. Ms. Tomas and Mr. Gabit listed down the right species, spacing, and the



▲ The BSF faculty and RDE staffs grab photo opportunity with the participants in Agroforestry.

annual crops to be planted in each respective farm during the visit.

Agroforestry has been widely accepted as one of the effective approaches in ensuring sustainability in the uplands. In the Philippines, agroforestry, as a forest management strategy, has been promoted

by Community Based Forest Management (CBFM) in response to watershed and forest degradation and climate change. Agroforestry also has the capacity to simultaneously generate food, biomass, and raw products that can be utilized in other economic activities.



▲ Engr. Debbie Glynn Manangkil, the provincial S & T Director in DOST Apayao, with DENR personnel visited the ASC booth in Abra Sports Complex.

### RDE participates in the 2023... from p1

Dialogue: Digitalization of the Philippine Handloom Weaving Industry; S&T Fora: Sustainable Green Innovative Technology on Agriculture Summit; Forum on smart cities and communities and as well as the opening and closing program of RSTIW.

"Science and technology opens up new perspectives of understanding, it aids in the advancement of the field of education, and it also creates new understanding ways that gives us immense knowledge and hence we have important subjects to study," Hon. Dominic B. Valera, the Governor of Abra, said in his message showing his support to the annual celebration.

With the theme "*Siyensya, Teknolohiya, at Inobasyon: Kabalikat sa Matatag, Maginhawa at Panatag na Kinabukasan*", the three-day festivity gathered industry players, scientists, researchers, policymakers, state universities and colleges, and local government units of the Cordillera Administrative Region to talk about ideas and collaborate on projects towards the attainment of inclusive development in various industry sectors through science and technology.

### Financial Literacy Program runs in Aga, Pudtol from p2

The LCDFI has been tapping ASC through the Bachelor of Science in Business Administration since 2020. The said program was launched at Kabugao, Apayao with the collaborative efforts of

the Research and Development, Extension Unit, BSBA and the Municipal Agricultural Office (MAO) of Kabugao. The FLP trainings were conducted in the barangays of the municipality such as EKB, Lenneng, Bulu,

Luttuacan, Badduat, Dibagat, Madatag, Karagawan, Madduang, Laco, Musimut, Nagbabalayan, Paco, Magabta, Cabetayan and Poblacion.



### TECHNOLOGY IN FOCUS

# MAKA VEGGIE Ice Cream

**MAKA Veggie Ice Cream** is a frozen product made of **malunggay** (moringa oleifera) and **kalabasa** (cucurbita maxima).

Vegetable ice creams are healthier alternatives to frozen fruits. Vegetable ice creams offer a delicious and refreshing treat and also provide a wide range of nutrients compared to frozen fruit options.

With its unique flavors and health benefits, vegetable ice creams are becoming increasingly popular among those seeking guilt-free indulgence.

This ice cream is very unique and delicious that everyone will enjoy especially during summer.

A perfect treat for your family and friends!

With its creamy texture and subtle flavor, MAKA veggie ice cream is sure to be a hit for everyone. Enjoy it as a snack or an after-dinner dessert - either way, you will definitely love it!

### HEALTH BENEFITS:

**MAKA Veggie ice cream** is loaded with several health benefits. It is rich in nutrients and has low-fat content.

**Malunggay leaves** are tasty and more importantly, it contain nutrients such as vitamins A, C, B1, B2, B3, B6, and folate. It has also a lot of amino acids which are necessary to help your body function properly.

**Squash** includes antioxidants and vitamin A for the eyes. It also promotes healthy skin, aids blood sugar regulation and strengthen immune system and combats inflammation.

With the combination of these two nutritious vegetables, this ice cream will surely benefit everyone who tastes it!





# Trainings on food processing rolled out in Salvacion, Luna



▲ The participants of food processing training have the firsthand experience in making pineapple and banana wine.

▲ Ms. Reihanah T. Baddo, BSHM Faculty, shows the processes in making relyenong bangus.



▲ Ms. Normalina P. Usita, BSHM Faculty, demonstrates the processes in making kamias prunes.

## Learn to earn...

The Bachelor of Science in Hospitality Management Department in partnership with the Extension Unit crafted trainings on food processing to local communities for poverty alleviation and food sufficiency at Salvacion, Luna, Apayao. The trainings consist of food processing on relyenong bangus and fish ball on July 6, 2023; banana and pineapple wine on July 13 and 25, 2023; kamias prunes on July 18 and 25, 2023; tocino and beef tapa on September 19, 2023.

Ms. Catherine T. Bangayan, the BSHM Program Chair and BSHM faculty; Ms. Normalina P. Usita, Mr. Christopher Doronio, Ms. Amira Kristee O. Viernes, Ms. Reihanah T. Baddo and Ms. Arianne Neville A. San Mateo served as resource persons throughout the duration of the trainings on food processing. They first enumerated the materials and ingredients needed followed by the demonstration of procedures. Afterwards, the participants were required to do a return demonstration allowing them to have a firsthand experience in making the aforementioned goods.

During the finale, Brgy. Kagawad Kathlyn Pinera expressed

her gratitude for the persistent efforts of the College in giving them ideas on productivity and livelihood which they can certainly benefit from once they put in practice.

In her talk, Ms. Bangayan said that since Apayao has surplus in the production of major and minor agricultural products particularly cultivated crops and non-cultivated crops, the province should do processing technologies in order to value-add the said products and produce new merchandise. "The objective of the extension activity was met, as it aimed to empower and enhance the skills and knowledge of the trainees in livelihood opportunities especially in food processing," she concluded.

## Project BSED in Lappa, Luna from p1

Cleaning the environment and having a good personal hygiene is the key to the existence and survival of life on this planet earth," Ms. Ruth Tumaneng added.

The BSED Faculty also carried out asynchronous survey activity to determine the extent of knowledge on proper hygiene of the residents in the barangay. The survey result will be used as basis for the implementation of liquid and soap detergent which is grounded on the importance of proper hygiene practices in promoting good health and preventing the spread of infectious diseases.

Project BSED seeks to resolve the growing global concern regarding the impact of human activities on the environment. With the rise of climate change, pollution, and resource depletion, it is important to promote awareness and education about clean and green practices that can help reduce its impact on the environment. These practices also emphasize the importance of fresh and locally sourced food, organic farming practices, and sustainable food production methods which not only improve nutrition and overall health but also have significant environmental benefits ●



▲ The BSED Faculty conduct survey to determine the extent of knowledge on proper hygiene of the residents of Lappa, Luna.

# THE BUSINESS CENTERS IN APAYAO STATE COLLEGE

Luna Campus

## Marketing Center

The Marketing Center of Apayao State College serves as a facility of the Resource Generation Management (RGM) Office. It was recently launched last October 19, 2023 wherein a blessing ceremony was officiated by Rev. Cesar Flor De Guzman and was attended by Dr. John N. Cabansag, the College President, Campus Officials, and staffs.

The Marketing Center was established to showcase and promote the various innovative products originated in the College such as food products generated from the research outputs of the College researchers; banana chips, taro chips, butter cookies, bignay wine, bignay vinegar, banana vinegar, banana wine made visibly available to the public.

Moreover, nutribun, rice-monggo nutri curls and grocery items are also displayed. Apayao native products and souvenir items that are perfect for 'pasalubong' will also be made available in the center in the near future.

The Marketing Center opens from 7:00AM to 6:00PM, Mondays to Fridays to cater the needs of the students, employees, stakeholders, and the public.



## Shared Service Facility

A Memorandum of Agreement (MOA) was forged between the Apayao State College and the Department of Trade and Industry for the establishment of Shared Service Facility (SSF) on March 22, 2022.

The SSF primarily aims to address the gaps and bottlenecks in the value chain industry clusters, provide an integral package of services including enhanced marketing approaches relevant to the maturity of the micro, small and medium enterprises (MSMEs) and the target markets, and develop priority and market-driven industries. Hence, the "SSF Project" was established for the purpose, with DTI serving as implementing agency.

This project also builds on the assets of small holder farmers, students, and other sectors as the most immediate and practical strategy for poverty reduction, given that agriculture is by far the most important income and livelihood source of opportunities to produce and market agricultural surplus as a path to poverty reduction, better food security and stimulation of rural economy. This enhanced food laboratory of the college will also be a venue for various trainings on food processing. Thereby contributing to the provision of alternative livelihood opportunities to the people of Apayao.

As of today, the SSF serves as an extension facility and is used in the production of products generated from the research outputs of the college researchers. It offers various products such as butter cookies and coffee butter cookies; chips made from banana and taro; polvoron consists of milk and malunggay flavors; wines made from bignay, banana and pineapple; vinegars made from bignay and banana; and big bites made from rice, mungbean flour blended with wheat flour that complement each other's protein content. Each science and technology (S & T) products provide a wide range of health benefits as the ingredients are made of materials from nature.





# ASC HYMN

Music & Lyrics by: Dr. Orlando Batugal Sr.

## Chorus:

On march here we are all A-S-Cians  
One heart, One soul, One mind  
With joy we bravely all stride  
ASC is our pride  
The future smiles on us  
That's why we study hard  
This is our school song  
For the truth, the just, the right

Today we all stand  
On ASC verdant land  
It's beautiful hills and valleys  
Wonderful people, rivers and trees

Onward we all strive  
Thru faith and hope alive  
Bring forth happy people  
Undivided peaceful tribe

Forward we all march  
Our vision great and bright  
Nourished body and mind  
Aspirations great divine

\*\*\*repeat chorus\*\*\*

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# VISION

"An innovation – driven higher education institution in the Asia – Pacific region pursuing excellence in instruction, biodiversity conservation, pioneering research, and community empowerment."

# MISSION

Apayao State College is committed to nurturing and developing nation builders in critical fields towards producing graduates equipped with internationally competitive innovations who can transform society for sustainable development.

## CORE VALUES GUIDING PRINCIPLES

The following principles will be observed in performing institutional tasks:

- Transparent & accountability
- Synergy of efforts
- Nationalism and patriotism
- Innovativeness
- Academic excellence

## QUALITY POLICY

The Apayao State College (ASC), as an institution of higher learning is totally committed to satisfying excellent education for its stake – holders empowering human resources and generating innovation-driven technologies anchored on sustainable development goals and client satisfaction.



# KASARANAY

The Official Quarterly Newsletter of the  
RDE—Extension Unit (Luna)  
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"KASARANAY" is an Ilokano term for "brotherhood" which represents the Extension Unit's goal in partnering with various agencies and groups who are in need of trainings and assistance from the different sectors of the society.

It aims to give up-to-date information on the accomplishments of the unit including trainings and activities undertaken within the quarter.

The Extension Unit is focused on the continuing education and livelihood programs, in close coordination with the LGUs, people's organizations and other stakeholders for manpower development and entrepreneurship. It aims to empower the YApayaos, equipping them with necessary knowledge, values, skills and competencies, and entrepreneurial abilities, to promote self-reliance, greater productivity and better communities.

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**HAVE  
YOUR SAY**

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