

DEPARTMENT OF SCIENCE AND TECHNOLOGY  
REGIONAL OFFICE NO. 1



# ANNUAL REPORT 2022

*"Leading the Way through Science,  
Technology and Innovation in Region 1"*

# VISION

By 2022, a leader in the application of scientific and technological innovations and services in Region 1 for better quality of life and sustainable development.

# MANDATE

Executive Order No. 128 mandates the Department to "provide central direction, leadership and coordination of scientific and technological efforts and ensure that the results therefrom are geared and utilized in areas of maximum economic and social benefits for the people".

# CORE VALUES

We believe in demonstrated effort in Innovation, Excellence, Leadership, Integrity, Team Work, Empowerment and a deep sense of nationalism. These core values are the fundamental belief and the guiding principles that dictate our behavior and helps better understand the difference of right and wrong.



DEPARTMENT OF SCIENCE AND TECHNOLOGY  
REGIONAL OFFICE NO.1

# 2022

## ANNUAL REPORT



# QUALITY POLICY

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We are committed to provide quality products and services to all stakeholders in Region 1, within our capabilities and resources according to standards and all regulatory and statutory requirements and to continually improve our QMS through efficient and effective risk management to exceed customer satisfaction.



# message from the **SECRETARY**

“

*I believe that the agency will continue to create innovative programs that will better promote science, technology, and innovation to the public, in my opinion, thanks to its talented and brilliant team.* ”



*The Department of Science and Technology Region 1 deserves congratulations for its accomplishments in 2022. Despite the pandemic, you have increased public awareness of science.*

*The outstanding accomplishments you made in 2022 in terms of the different initiatives, programs, and activities you carried out and implemented showcased your grit, commitment, and public service. By adherence to and activity alignment with the Sustainable Development Goals, you have shown your strong commitment to bringing science to the people of region 1.*

*The upkeep of the innovation centers in your area, serves as a testament to your complete participation in R&D initiatives and your commitment to advancing society.*

*The Innovation, Science, and Technology for Accelerating Regional Technology-based Development (iSTART) program, which you spearheaded in six local government units, showed your willingness to be game changers in meeting the needs of typical communities based on their resources and constraints. DOST 1 also did an outstanding job of leading the implementation of several national programs, projects, and activities.*

*You have once again shown that you are versatile with your successful management of the first face-to-face celebration of the Regional Science and Technology Week from pandemic. Like how you handled the DOST-TAPI Northern Luzon Cluster Stakeholders' Conference and Caravan, you endured the unexpected earthquake that significantly damaged your venue. I salute you!*

*Looking forward to DOST 1's accomplishments the next year.*

**RENATO U. SOLIDUM, JR.**

Secretary, Department of Science and Technology

# message from the **UNDERSECRETARY**

“  
I salute the DOST 1 for their success in these fields. We hope you'll keep offering STI initiatives in the area”

You were able to align the projects, programs, and activities with the Sustainable Development Goals, taking into account the areas of Kabuhayan, Kalusugan, Kaayusan, and Kinabukasan, in order to fulfill your mission of leading scientific, technological, and innovative efforts and ensuring that these have the greatest economic and social benefits for the people of the region.

Through the Small Enterprise Technology Upgrading Program (SETUP), DOST 1 increased STI support for 44 MSMEs and 29 associations in Kabuhayan, 21 communities through the Community Empowerment through Science and Technology (CEST) Program, and two OFWs through the Innovations for Filipinos Working Abroad Program (iFWD PH). I also commend you for strengthening the Innovation, Science, and Technology for Accelerating Regional Technology-based Development (iSTART) program through the six LGUs you served in region 1 and for reaching out to the general public with the help of the Regional and Testing Laboratory's (RSTL's) 11,718 testing and calibration services.

Through the 33 DRRM activities carried out, DOST 1 has consistently embodied the principles of a disaster risk reduction and management-capable community while extending and maintaining collaborations with stakeholders and other team members in the community without getting in the way of its internal processes, in line with Kaayusan. It has also persevered through the difficulties of creating and carrying out a support project for the deployment of the RGIN Hub. DOST 1 continued to offer support for the cloud hosting services during the deployment of the hub.

I am impressed by your dedication to Kalusugan, which is demonstrated by the way you conduct food safety assessments and trainings, enlisting the help of food safety specialists to help food processors better adhere to the standards of current Good Manufacturing Practices (cGMP), Standard Sanitation Operations Procedure (SSOP), and other food regulatory standards.

The fact that Kinabukasan has continued to operate the three innovation centers in the area is a plus for DOST 1. You have also made sure that your ideas, programs, and activities are known thanks to your 806 S&T promotional operations. You have also served as an example of the value of education to future generations through your 546 funded S&T undergraduate scholars.



HON. SANCHO A. MABBORANG

Undersecretary for Regional Operations

# message from the **REGIONAL DIRECTOR**

DOST 1's commitment to the communities of Kabuhayan, Kalusugan, Kaayusan, and Kinabukasan is remarkable. This serves as a highlight to the agencies' comprehensive strategy for utilizing STI to enhance and preserve human life.

**“ I commend the entire Department of Science and Technology Region 1 team for their tenacious effort and dedication to educate the people of region 1 on science, technology and innovation (STI). Moreover, I want to thank you for going above and beyond what was required of you in connecting the agency with the general public. ”**

DOST 1 was able to expand its assistance to MSMEs and communities through the Small Enterprise Technology Upgrading Program (SETUP) and the community-based projects with our help in the Kabuhayan area. The Geographically-Isolated and Depressed Areas (GIDA) that benefited from the Community Empowerment through Science and Technology (CEST) Program remain committed to the growth of businesses that provide income or other funding sources, to the development of human resources, to environmental protection and conservation, to the management of disaster risk, and to the adaptation to climate change. The program Innovation for Filipinos Working Distantly from the Philippines (iFWD PH) consistently exemplify the commitment to assisting our fellowmen working abroad who have wanted to come home and start their business. I am also delighted to say that the DOST 1 has been successful in implementing the iSTART (Innovation, Science, and Technology for Accelerating Regional Technology-based Development) initiative throughout the six pilot LGUs of Pangasinan.

By implementing DRRM initiatives and extending and maintaining collaboration with stakeholders and other team members in the community without interfering with its internal procedures, DOST 1 has consistently embodied the principles of disaster risk reduction and management-capable communities in line with Kaayusan.

Kalusugan is a part of science and technology, especially now that we are more conscious than ever of the importance of health and well-being. The DOST 1 maintains its responsibility to preserving the health and safety of the public by utilizing the services offered by the Regional Standards and Testing Laboratory to assess the chemical, microbiological, sensory evaluation, and shelf-life aspects of the food and water we consume, and so with standardizing the measuring instruments for mass and volume. With the regional training of the accountable staff in the Regional Office as well as those in the Local Government Units, and the deployment of the RxBox devices, the RxBox project has also advanced. Likewise, the DOST 1 staff has been committed to collaborating with other organizations to train various industry sectors in the most current Good Manufacturing Practices and compliance to Food Safety policies.

In keeping with its purpose to lead the way through S&T, DOST 1 has continued and maintained its promotional initiatives to inform the public of the most recent developments and innovations achieved by the agency. This speaks eloquently about the agency's success in the field of Kinabukasan. Most importantly, the scholarship programs are still being strengthened in order to safeguard young people's futures, ensuring the brilliant future of the scholars who have been cared for by DOST 1.

May these accomplishments continue and even increase, for the better future we may foresee, the more we can make science, technology and innovation accessible to the public and the larger the audience we serve. Consider these your inspiration and motivation to keep pursuing excellence. Together, let's weather the storms and persevere over any challenges we may face in the following years.

*Congratulations to us, DOST 1!*

  
**ARMANDO Q. GANAL, Ph.D., CESO III**  
Regional Director

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# EXECUTIVE SUMMARY

The year 2022 was a promising and hopeful year for the Department of Science and Technology - Region 1 (DOST-1) in leading the way through provision of scientific and technological services in the region, as it recovered from the adverse effects of the COVID-19 pandemic. Due largely to the agency's tenacious and diligent workforce and the strong leadership provided by the top management, DOST-1 was able to adapt to the new normal and effectively pivot its package of S&T interventions for its stakeholders.

## 2022 Facts and Figures

**4,281**

S&T interventions provided

**2,945**

MSMEs, LGUs, HEIs, communities and other customers assisted

**100%**

Percentage of requests for technical assistance acted upon within the ISO standard time

**100%**

Percentage of customers who rated the assistance as very satisfactory or better

DOST-1 has provided 4,281 S&T interventions to 2,945 micro, small, and medium enterprises (MSMEs), local government units (LGUs), community-based organizations, other national government agencies, academe, and private sectors. These interventions were delivered on time and correspondingly received a 100% customer satisfaction rating.

Under its Technology Transfer and Commercialization program, DOST-1 has granted a total amount of PhP28,406,075.00 to 44 micro, small and medium enterprises (MSMEs) by implementing the Small Enterprise Technology Upgrading Program (SETUP). The package of S&T interventions includes the acquisition of appropriate production equipment, as well as the provision of technical assistance and consultancy services, technology training, and product development to improve their business operations, by boosting productivity and competitiveness.

Moreover, the iFWD PH (Innovations for Filipinos Working Distantly Away from the Philippines) program provided fund assistance, amounting to P350,000.00 for technology acquisition, to two (2) Overseas Filipino Workers (OFWs). The program has also trained 12 OFWs on Core Business Development, Technical Training, Presentation of DOST Package of Technologies, and Development of Product and Business Concepts.

Similarly, 29 community-based organizations were also assisted and provided with appropriate S&T interventions amounting to P4,045,958.50 to boost productivity and improve quality of life.

On the other hand, DOST-1 continued to strive to develop progressive, empowered, and resilient communities through the implementation of Community Empowerment through Science and Technology (CEST) in geographically isolated and disadvantaged areas (GIDAs) in the region. A total of 17.29M worth of S&T packages of interventions on health and nutrition, water and sanitation, basic education and literacy, livelihood/economic enterprise development, catastrophe risk reduction, and climate change adaptation were invested in 23 communities in Region 1. The program has promoted forty (40) technologies and provided 2,335 S&T interventions to 1,400 clients.

Despite the difficult circumstances, the Regional Standards and Testing Laboratory (RSTL) managed to provide 11,718 testing and calibration services, help 3,373 clients and 2,464 firms, with income generation of Php 5,723,660.50 and free S&T services valued at Php 1,918,282.00.

In fostering innovation, DOST-1 has intensified its Research and Development (R&D) initiatives through support and assistance to R&D consortia in the region, namely, the Region 1 Health Research and Development Consortium (R1HRDC), Ilocos Consortium for Industry, Energy and Emerging Technology Research and Development (ICIEERD), and the Ilocos Agriculture, Aquatic, and Natural Resources Research and Development Consortium (ILAARRDEC). For 2022, a total of 28 proposals were evaluated and endorsed for funding, of which five (5) proposals were funded. These projects, which support the Harmonized National R&D Agenda, are aimed at raising the standard of living in the communities they work with, using technology to preserve culture and tradition, and providing alternatives to resources that are swiftly depleting. DOST-1 has also assisted three (3) innovation centers on food, metals, and engineering and two (2) niche centers in the region for R&D on garlic and other condiments and coastal engineering.

Accordingly, programs to strengthen the pool of S&T human resources were implemented in order to support and sustain growth, and innovation in driving economic development. DOST-1 continued to promote and implement DOST-SEI Scholarship Programs for talented and deserving students whose families are economically-challenged (RA 7687), for students who have high aptitude in science and mathematics and who are willing to pursue careers in the fields of science and technology (RA 2067) and to strengthen the country's science and technology education by fast-tracking graduates in the sciences, mathematics, and engineering who shall teach science and mathematics in secondary schools throughout the country (RA 10612). DOST-1 assisted a total of 548 scholars with total fund assistance of P53,919,554.60 for CY 2022.

DOST-1 ensured that every intervention provided to clients was of high quality and delivered within the standard time through maintenance of its quality management systems - the ISO 9001:2015 and ISO/IEC 17025:2017 accreditations. It also strictly adhered to all government rules and regulations including those pertaining to Gender and Development (GAD), Freedom of Information (FOI), Senior Citizen and Persons with Disabilities (PWD) laws, and the Anti-Red Tape Act.

The presence of the 107 talented and dedicated DOST-1 team, which was made up of 26 regular workers and 81 contracts of service (COS) personnel (61 Men, 46 Women), was essential to this year's gains and successes. The DOST-1 human resources were designed in the following area of operations - Field operations made up 56% of the entire workforce, followed by technical services (14%), financial and administrative services (18%), and the Office of the Regional Director (12%).

The agency received an allotment of PhP 133,054,668.05 in 2022, with a budget utilization rate of 91% and a cash utilization rate of 93.43%.



# Kabuhayan

## Outcome 4

PRODUCTIVITY AND EFFICIENCY OF  
COMMUNITIES AND THE PRODUCTION  
SECTOR, PARTICULARLY MSMEs IMPROVED

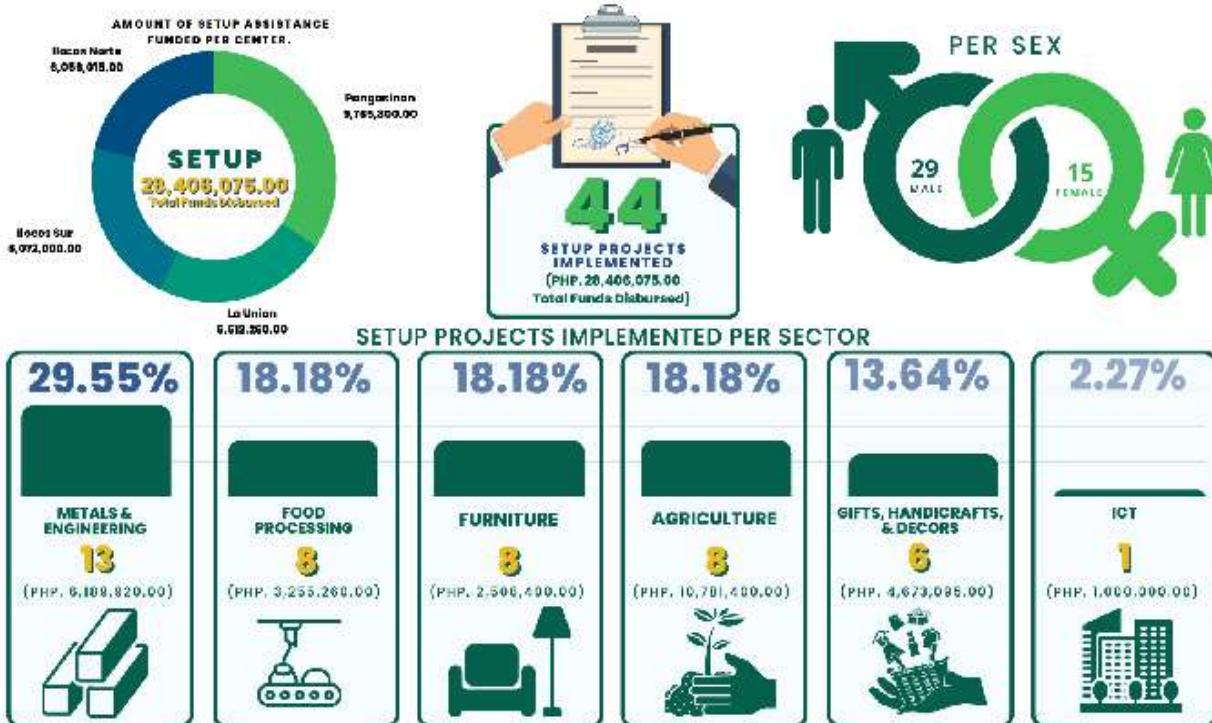
# SMALL ENTERPRISE TECHNOLOGY UPGRADING PROGRAM (SETUP)



As businesses are getting back to normal after the COVID-19 crisis, the Small Enterprise Technology Upgrading Program (SETUP) continues to provide technology transfer and commercialization assistance to micro, small, and medium enterprises (MSMEs) which have greatly contributed to the development of the economy through the creation of job opportunities and generation of income.

Being one of the flagship programs of the DOST, SETUP is a nationwide strategy to encourage and assist MSMEs to adopt technological innovations to improve their operations and thus boost their productivity and competitiveness.

For 2022, SETUP funded 44 micro and small enterprises through the Innovation-enabling Fund (iFund), amounting to PhP28,406,075.00 to facilitate the technology requirements of their businesses; technical trainings and consultancy services; product standards and testing; packaging and label design; and product development.



SECTOR	ILOCOS NORTE		ILOCOS SUR		LA UNION		PANGASINAN						TOTAL
	DISTRICT 1	DISTRICT 2	DISTRICT 1	DISTRICT 2	DISTRICT 1	DISTRICT 2	DISTRICT 1	DISTRICT 2	DISTRICT 3	DISTRICT 4	DISTRICT 5	DISTRICT 6	
Food Processing	1	-	2	-	-	4	-	-	-	1	-	-	8
Metals & Engineering	2	4	-	1	1	1	-	-	3	-	-	1	13
Furniture	-	-	2	1	2	-	1	1	1	-	-	-	8
Agriculture	-	-	1	1	-	1	3	-	-	1	-	1	8
Gifts, Decors, and Handicrafts	2	2	-	1	-	-	-	-	-	-	1	-	6
Pharma	-	-	-	-	-	-	-	-	-	-	-	-	-
ICT	-	-	1	-	-	-	-	-	-	-	-	-	1
<b>TOTAL</b>	<b>5</b>	<b>6</b>	<b>6</b>	<b>4</b>	<b>3</b>	<b>6</b>	<b>4</b>	<b>1</b>	<b>4</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>44</b>

Table 1. Number of SETUP projects implemented per sector by province.

Table 1 shows the breakdown of SETUP projects implemented in the 12 Congressional Districts in Region 1. Most of the SETUP projects funded were under the Metals and Engineering sector, garnering 29.55% of the total number of SETUP projects implemented. Being the province with the largest land area in Region 1, the Province of Pangasinan makes up approximately 32% of the total number of SETUP projects implemented.

Having the highest number of SETUP projects implemented in the region, Pangasinan received a 34.38% share of the total fund assistance while La Union had 22.92% allotment, Ilocos Sur with 21.38% and Ilocos Norte with 21.32% as shown in Table 2.

PROVINCE	AMOUNT
Ilocos Norte	6,056,015.00
Ilocos Sur	6,072,000.00
La Union	6,512,260.00
Pangasinan	9,765,800.00
<b>TOTAL</b>	<b>28,406,075.00</b>

Table 2. Amount of SETUP assistance funded per Center.



**GALZOTE DIGITAL PRINTING SHOP**

Mr. Leighton Galzote  
Barangay 1, Pasuquin, Ilocos Norte

PROJECT COST:

**Php 643,000.00**

(Left photo) PSTO-Ilocos Norte Provincial Director Engr. Benjamin Mercado Jr. awarded the clamp type heat press in producing full-sublimation clothes to Mr. Galzote. (Left photo) Mr. Galzote operating the acquired Epson F6330 Dye Sublimation Printer.

**UPGRADING OF PRODUCTION EQUIPMENT FOR DIGITAL PRINTING OF GALZOTE DIGITAL PRINTING SHOP**

Established in 2012, the company had a humble beginning, starting with five sets of computers and one printer. It started with printing services for documents and an internet cafe where high school and elementary students play offline and online games. Gradually, the firm expanded into t-shirt printing service, and started receiving orders from customers.

To satisfy the increasing demands of customers, including those from neighboring towns, the firm sought the assistance of DOST through its SETUP program.

S&T Interventions Provided	Impacts:
<b>Equipment Acquisition and Upgrading</b> - 1 unit Epson F6330 Dye Sublimation Printer - 1 unit Clamp Type Heat Press	<ul style="list-style-type: none"><li>• <b>20% increase in production</b> from 975 pcs to 1,170 pcs of printed t-shirts quarterly.</li><li>• <b>25% increase in gross sales</b> from PHP 514,860.00 to PHP 643,575.00.</li><li>• <b>3.5% increase in productivity</b> from 1.36 to 1.41.</li><li>• <b>10% increase in number of clients</b> from 15 to 17 clients.</li><li>• <b>Generated one (1) additional employment</b> - Edison Udarbe.</li></ul>

## DIGITAL THREADS PRINTING SERVICES

Mr. Sherwin A. Barroga  
Barangay 2 Ablan, Batac City, Ilocos Norte

PROJECT COST:

**Php 1,776,495.00**

Mr. Sherwin A. Barroga, the owner of Digital Threads Printing showing the newly acquired Epson F930H Fluorescent Dye Sublimation Printer.

### TECHNOLOGY UPGRADING FOR DIGITAL PRINTING OF DIGITAL THREADS PRINTING SERVICES

The establishment of Digital Threads Printing Services was made possible when Fab Printline and General Merchandise moved out and transferred to its new office in Laoag City. Mr. Sherwin decided to take over the place and finally established the firm in January 2019. He purchased a few sewing equipment and printing machines from the previous company, maintained some of his previous employees and, recruited some from outside the province. He also obtained business loans from different banks and cooperatives to sustain the operation.

Three years after, Digital Threads Printing Services has gained a good reputation in producing quality sublimation products such as sports and school uniforms, and other textile-based products. The business is now catering to orders from nearby provinces, and it expanded its market through online platforms like Shopee and Facebook Marketplace. Eventually, the firm was able to pay all its loans in full.

To meet the growing demands of the firm's products and services, it sought the assistance of DOST through its SETUP program.

S&T Interventions Provided	Impacts:
<b>Equipment Acquisition and Upgrading</b> -1 unit Epson F930H Fluorescent Dye Sublimation Printer	<ul style="list-style-type: none"><li>• 20% increase in production from 250 rolls of sublimation clothes used per quarter to 300 rolls</li><li>• 37.95% increase in gross sales from PHP 2,635,000.00 per quarter to PHP 3,635,000.00</li><li>• 7% increase in productivity from 1.36 to 1.46</li><li>• 15% increase in number of clients from 40 to 46 clients, with the addition of schools like Northwestern University, Mariano Marcos State University, Data Center College of the Philippines, Northern Christian College, and some clients from NCR.</li></ul>
<b>Technology Training</b> - Occupational Health and Safety in the Workplace	

## NIÑA LEATHER MANUFACTURING

Ms. Niña Angelica C. Matias  
Brgy. Bil-Loca, City of Batac, Ilocos Norte

**PROJECT COST:****Php 1,095,000.00**

(Left photo) an actual photo of the acquired MIMAKI UJF 3042 UV LED Printer,  
(Right photo) Sample pouch products of Niña Leather Manufacturing.

## PRODUCTION EQUIPMENT UPGRADING OF VEGAN LEATHER GOODS OF NIÑA LEATHER MANUFACTURING

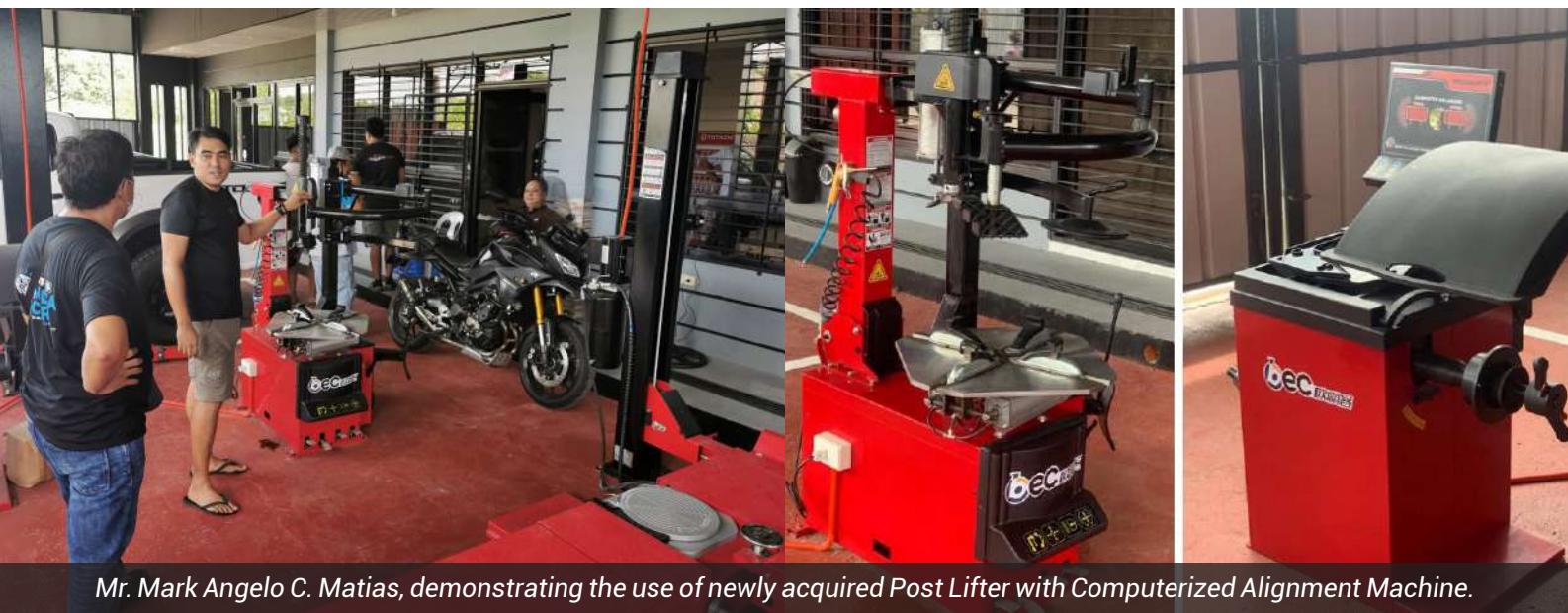
Ms. Matias worked at a leather goods manufacturing company in Marikina. From bringing home leather goods as pasalubong, she tried reselling them through her Facebook. With good sales, she started her own business, Niña Leather PH, and became the first leather goods distributor in Ilocos Norte.

Due to the increase in demand for the goods and requests for technical services from clients such as embroidered bags and UV-printed personalized leathers, she sought the assistance of DOST to cater to her clients' needs, demands, and specifications.

S&T Interventions Provided	Impacts:
<b>Equipment Acquisition and Upgrading</b> -1-unit MIMAKI UJF 3042 UV LED Printer -1-unit Fully Computerized Embroidery Machine with Standards Accessories	<ul style="list-style-type: none"><li>• 15% increase in production from 4,975 pcs to 5,721 pcs;</li><li>• 15% increase in gross sales from PHP 1,337,000.00 to PHP 1,539,550.00;</li><li>• 3.5% increase in productivity from 1.36 to 1.41; and</li><li>• 10% increase in number of clients from 10 to 11 clients.</li></ul>
<b>Technical Assistance and Consultancy</b> -Cleaner Production Assessment	
<b>Technology Training</b> -Occupational Health and Safety in the Workplace	

**ATNT AUTO REPAIR SHOP**

Mr. Mark Angelo C. Matias, Owner  
Brgy. 3 Cangrunaan, City of Batac, Ilocos Norte

**PROJECT COST:****Php 1,300,000.00**

Mr. Mark Angelo C. Matias, demonstrating the use of newly acquired Post Lifter with Computerized Alignment Machine.

**ACQUISITION OF UPGRADED EQUIPMENT FOR CAR SERVICES OF AUTONORTE AUTOPARTS AND ACCESSORIES TRADING**

ATNT is short for "Auto Norte" which came from the words "auto" which means car, and "Norte" which means north. A dream state-of-the-art car repair and accessories shop that provides affordable, readily available, and quality parts, services, and accessories in the north. Mr. Mark Angelo C. Matias is into customizing and collecting cars. He was a full-time car agent when he was working in Metro Manila.

He started the firm as a car accessory shop a few years ago. When the pandemic hit, he and his wife lost their jobs, and their other established family business was affected. But even when the pandemic happened, the shop made great profits for the reason that car owners cannot easily go outside the province to buy accessories for their vehicles. As a result, they decided to invest more of their savings and provided more services to their market, services that the customers need but are only available to limited shops in the province or outside the province. Fixing cars, doing preventive maintenance, and customizing cars became the business. Together, they take care of the overall production and transactions of the firm.

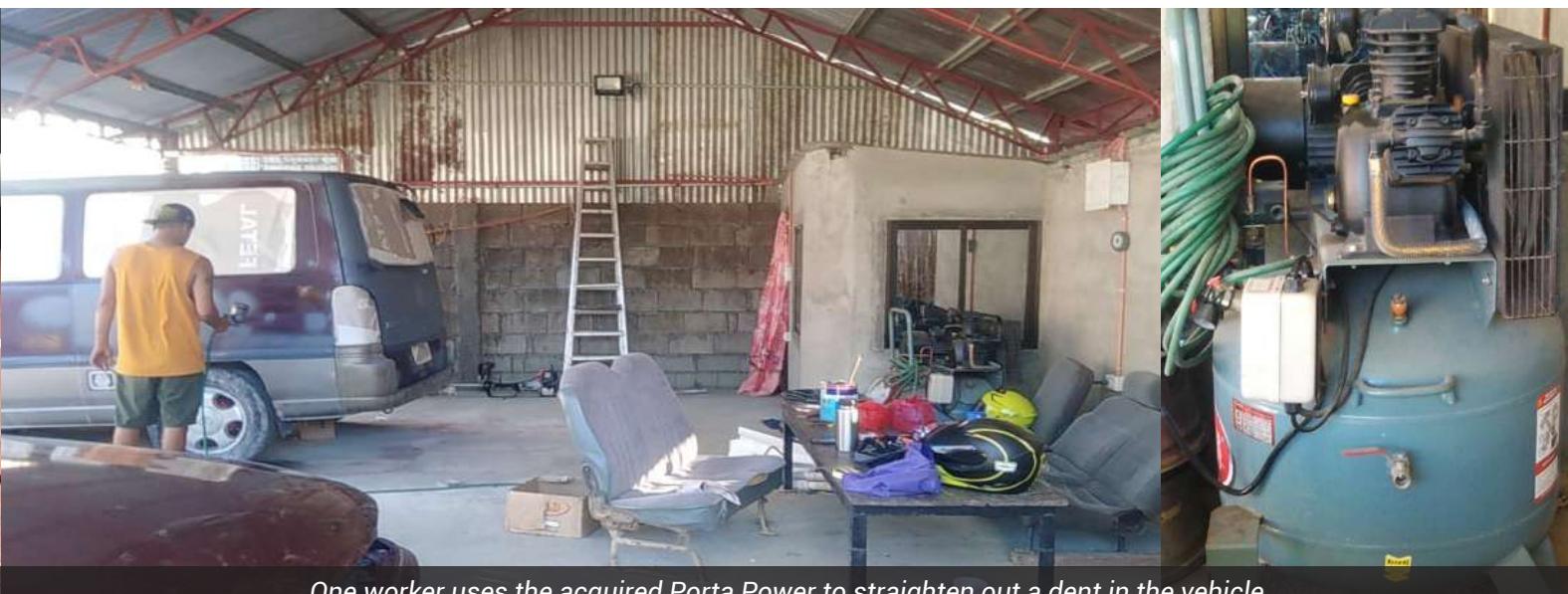
With the increasing demand for services, the firm needed to upgrade its production. Thus, ATNT sought the assistance of DOST.

S&T Interventions Provided	Impacts:
<b>Equipment Acquisition and Upgrading</b> -1-unit Post Lifter with Computerized Alignment Machine	<ul style="list-style-type: none"><li>• <b>25% less service time</b> from 1 hour to 45 minutes per service;</li><li>• <b>50% increase in number of clients</b> from daily customers of 4 to 8;</li><li>• <b>Increased volume of services with additional services</b> such as tire change, tire alignment, wheel balance, and under chassis repair; and</li><li>• <b>Generated 125% additional employment</b> from 4 employees to 9 employees namely April Joy Ablaio Cudanes, Erannie Joseph Gampong Laquesta, John Michael Garcia, and Emmanuel Guetteng Flojo.</li></ul>
<b>Technology Training</b> - Occupational Health and Safety in the Workplace	

**PANGDAN'S BODY REPAIR AND PAINTING SHOP**

Mr. Ferdinand Quilates, Owner  
Brgy.13 Baay, City of Batac, Ilocos Norte

PROJECT COST:

**Php 170,000.00**

*One worker uses the acquired Porta Power to straighten out a dent in the vehicle.*

**EQUIPMENT UPGRADING FOR PANGDAN'S BODY REPAIR  
AND PAINTING SHOP (PHASE II)**

The firm started as a family enterprise in 1995 with an initial capital of PHP 150,000.00. The shop specializes in auto body repair and painting of any vehicle. The firm is known in the province for its excellent and quality services. But one of the firm's concerns is the need for precise S&T production equipment to improve their services. The firm has applied for a second phase to level up its products and generate additional employment to meet the deadline due to insufficient production equipment and expand its business.

S&T Interventions Provided	Impacts:
<b>Equipment Acquisition and Upgrading</b> - 1-unit Porta Power - 1-unit Air Compressor, 4 hp	<ul style="list-style-type: none"><li>• 30% increase in number of services from 45 semi-annual to 60 services.</li><li>• 30% increase in gross sales from semi-annual gross sales of PHP 975,775.00 to PHP1,270,000.00.</li><li>• Generated two (2) additional employees namely Eric Clemente and Wilfred Saludes.</li></ul>
<b>Technical Assistance and Consultancy</b> -Cleaner Production Assessment	
<b>Technology Training</b> -Occupational Health and Safety in the Workplace	

**ALGEL PRINTING SERVICES (ALGEL INTERNET CAFE)**

PROJECT COST:

Mr. Alfredo Bañez Jr., Owner  
Public Market, Sta. Maria, Ilocos Sur

**Php 425,600.00**

(Left photo) Mrs. Bañez, demonstrating the use of the DTF Printer they acquired through the SETUP Program,  
(Right photo) actual photo of the acquired DTF printer.

**TECHNOLOGY UPGRADING OF  
ALGEL PRINTING SERVICES**

Algel Internet Café, now Algel Printing Services, was a computer shop established in 2011 by technophile Mr. Alfredo Bañez Jr. In 2012, Alfred saw the potential of t-shirt printing and added it to his services realizing its high demand from nearby schools and institutions. In 2016, the firm applied for the DOST SETUP Innovation assistance enabling it to acquire a rotary silk screen printing machine. The intervention reduced 50% printing time, and increased productivity by at least 15%.

Because of the firm's new service, it has changed its name to Algel Printing Services, focusing more on printing services, with its shop location at the Public Market of Sta. Maria, Ilocos Sur. The firm's existing practice in garment printing uses a sublimation printer which is the most suitable for white/ light colors of polyester-based materials (e.g. driftit, jersey). On the other hand, for printing on colored materials, the firm uses dark transfer paper which adds up to the time and cost of production. Dark transfer paper is 55% more expensive than light transfer paper. Moreover, the result for colored garments is of poor quality. With this, the firm applied for second phase of SETUP assistance to address their problem.

S&T Interventions Provided	Impacts:
<b>Equipment Acquisition and Upgrading</b> -1 unit DTF Printer	<ul style="list-style-type: none"><li>Improved customer satisfaction and retention by 60% of print order reports</li></ul>
<b>Technology Assistance and Consultancy Services</b> - Energy Audit	<ul style="list-style-type: none"><li>Increased workloads on printing garments by 30% within the first year of implementation (from 4,400 to 5,720 units)</li><li>Increased gross sales of at least 30% (from PhP2,012,000.00 to PhP2,615,600.00)</li><li>Increased productivity by at least 15% (from 2.59 to 2.98);</li><li>Generation of at least one (1) additional employment</li></ul>

## ALET'Z MUSHROOM FARM

Ms. Sherlena Andres, Owner  
Namitpit, Quirno, Ilocos Sur

**PROJECT COST:****Php 135,000.00**

### UPGRADING OF OYSTER MUSHROOM PRODUCTION THROUGH EQUIPMENT ACQUISITION

The firm started its operation in 2018 as a backyard mushroom grower after she and her husband attended the Training on Mushroom Production in Benguet State University. They invested PhP80,000.00 to start the business.

After a year in the mushroom business, the firm wanted to deal with larger market outlets, starting from supplying fresh oyster mushroom to different barangays in the municipality.

The growing demand for oyster mushroom was a good public response and an indication to widen market presence. But the lack of equipment and capabilities in increasing production with maintained quality became the dilemma of the firm.

To help Alet's Mushroom Farm in upgrading its production facility, the Department of Science & Technology Regional Office 1 (DOSTR1) through its Provincial Science and Technology Center – Ilocos Sur (PSTC-IS) provided the needed S&T Interventions.

S&T Interventions Provided	Impacts:
<b>Equipment Acquisition and Upgrading</b> - 1 – unit Mushroom Substrate Mixer - 1 – unit Autoclave	<ul style="list-style-type: none"><li>Increased volume of production by at least 20%</li><li>Increased gross sales by at least 20%</li><li>Increased productivity of the firm by at least 17%</li></ul>
<b>Technology Training</b> -Machine Operation and Maintenance of Mushroom Substrate mixer and Autoclave for mushroom production	<ul style="list-style-type: none"><li>Established/penetrated at least one (1) additional market outlet</li></ul>

**BRENEST FURNITURE SHOP**

Ms. Brenda Tong-Alan, Owner  
Balidbid, Salcedo, Ilocos Sur

PROJECT COST:

**Php 246,400.00**

Mr. Andaya, demonstrating the 3-in-1 machine specifically the circular saw to cut the woods.

**PRODUCTION FACILITY UPGRADING OF  
BRENEST FURNITURE SHOP**

Furniture-making was introduced to Mr. Nestor Tong-Alan by an acquaintance from Quirino Province in 1996.

Realizing the potential of the furniture business, Mr. Tong-Alan established his own furniture shop in Salcedo in 1998 hiring part-time workers from Pangasinan. With the favorable growth of the business, he registered the shop in 2012 as 'Brenest Furniture Shop,' from the combination of his wife's name- Brenda, and his name- Nestor under Mrs. Brenda Tong-Alan.

Today, their business continues to progress as they offer a variety of woodworks such as bed, cabinet, door, dining and sala sets, and others.

However, the firm faced problems in planing, dimensioning, and cutting as they consume so much time in that process. To hasten their production and upgrade their facilities they tapped the DOST for technical assistance to increase their income.

S&T Interventions Provided	Impacts:
<b>Equipment Acquisition and Upgrading</b> - 1- unit 3-in-1 Wood machine (Jointer, Thicknesser, Circular Saw)	<ul style="list-style-type: none"><li>Reduced planing/ dimensioning and cutting process by at least 20% (30 mins. to 22.5 mins. to process 2.10m length of wooden board with 10-20: width)</li><li>Increased the production volume of the firm by at least 15% within the implementation period (from 199 to 229 units)</li><li>Increased gross income of the firm by at least 15% within the implementation period (from Php975,200.00 to PhP1,121,637.50)</li><li>Increased the productivity of the firm by at least 15% within the implementation period (from 2.00 to 2.30)</li></ul>
<b>Technology Consultancy Services</b> - Energy Audit	
<b>Technology Training</b> - Machine Operation and Maintenance of a 3in1 machine	

**DINZ FOOD PRODUCTS**

Mr. Dantes Crisel C. Ayson, Owner  
Vigan City, Ilocos Sur

**PROJECT COST:****Php 150,000.00**

### **UPGRADING OF PRODUCTION FACILITIES AND PRODUCT QUALITY OF DINZ FOOD PRODUCTS**

Ayson worked as a food handler/baker for a local delicacies manufacturer in Sto. Domingo, Ilocos Sur for almost 3 years, but he realized that his salary was not enough to provide a comfortable life for his family. So, he resigned from his work in 2016 and decided to establish a family-owned business that manufactures tinubong, spiced vinegar, and garlic peanut. With his 3 years of experience as a food handler/baker, he managed to maintain business operations even during the pandemic. Presently, the firm has a monthly working capital of Php50,000 and continues to sustain 4 direct workers (includes Mr. & Mrs. Ayson).

The firm sought the assistance of DOST in upgrading its production facilities, product quality, and food safety since the firm finds it financially difficult to infuse additional capital for the acquisition of additional production facilities because most of the working capital is being revolved around supplies, mobilization, salaries, logistics and just recently, expenses incurred in the construction/improvement of a 42 sq. m. production area for its FDA-LTO and CPR application.

<b>S&amp;T Interventions Provided</b>	<b>Impacts:</b>
<b>Equipment Acquisition and Upgrading</b> <ul style="list-style-type: none"> <li>- 1 unit SS Food Mixer</li> <li>- 1 unit SS Coconut Stripper</li> <li>- 1 unit Band Sealing Machine</li> <li>- Packaging materials for peanut garlic</li> <li>- Packaging and Labeling assistance</li> </ul>	<ul style="list-style-type: none"> <li>• Increased volume of production by at least 50% within a year (from 12,568 assorted products to 18,852 assorted products)</li> <li>• Increased gross sales by at least 50% (from Php 1,183,440.00 to Php 1,775,160.00)</li> <li>• Increased productivity of the firm by at least 17% (from 1.56 to 1.82)</li> <li>• Established at least three (3) market outlets</li> <li>• Generated at least one (1) employment</li> </ul>

**E.P. MEDRANO FURNITURE SHOP**

Mr. Emil P. Medrano, Owner  
Bantay, Ilocos Sur

**PROJECT COST:****Php 160,000.00****INNOVATION SYSTEM SUPPORT TO UPGRADE THE PRODUCTION FACILITY OF E.P. MEDRANO FURNITURE SHOP**

In 2005, Mr. Medrano began working as a sanding assistant in several furniture stores in San Vicente, Ilocos Sur. From 2008 to 2010, he worked at a renowned furniture store in Novaliches, Quezon City. Then he started to establish his shop with an initial capitalization of Php291,500 using the money he had saved working as a carpenter and his skill and love for producing furniture.

Due to its ability to compete in the market with high-quality goods and services, the business continued to operate despite several difficulties caused by the pandemic. Mr. Medrano acknowledges however, that he needs upgrading in his current process, particularly on the cutting of logs into wood and workable sizes. He is very concerned about the volume of wasted wood during the said process and the high cost of fees when cutting is outsourced to nearby furniture shops that have appropriate cutting equipment. He sought DOST Assistance thru SETUP to address this concern.

S&T Interventions Provided	Impacts:
<b>Equipment Acquisition and Upgrading</b> - 1 unit Fabricated Horizontal Mini Saw Mill	<ul style="list-style-type: none"><li>Increased gross sales by at least (from PhP487,000.00/month to PhP584,400.00/month)</li><li>Increased volume of production by at least 20% (from 612 pcs. assorted furniture to 734 pcs. assorted furniture)</li><li>Improved productivity by at least 12% (from 2.0 to 2.24)</li><li>Generated at least one (1) employment</li></ul>

## EUNICE FURNITURE

Mr. Bernard Vicente, Owner  
Pug-os, Sinait, Ilocos Sur

**PROJECT COST:****Php 85,000.00**

### PRODUCTION FACILITY UPGRADING OF EUNICE FURNITURE-PHASE II

Starting out, Mr. Ancheta bought furniture from neighboring regions and sell them, as his initial business model. Because he was not pleased and contented with the finishing, he enhances and polishes the furniture before selling it. Later, he made the decision to establish his own shop and create furniture using his design and method from unfinished materials.

By providing its customers with high-quality goods and services for more than 20 years. Now, the business has developed a solid name in the market. The company also continues to receive orders from other provinces and areas, thanks to social networking and strong client relationships.

Due to the ever-increasing price of wood in the market and the restrictions imposed by government regulations or restrictions. Mr. Vicente decided to find a way to reduce the amount of wasted wood and eliminate the cutting using chainsaw in their process. He tapped the assistance of DOST in finding a to minimize wastage and maximize the use of the raw material wood.

S&T Interventions Provided	Impacts:
<b>Equipment Acquisition and Upgrading</b> - 1 unit 24" Flywheel Bandsaw	<ul style="list-style-type: none"><li>Increased gross sales at least 20% (from PhP392,250.00/month to PhP470,700.00/month)</li><li>Increased volume of production at least 20% (from 44 units of assorted furniture to 53 units of assorted furniture)</li><li>Improved productivity by at least 12% (from 2.0 to 2.24)</li><li>Generated one (1) employment</li></ul>

**TORRES RICE MILL**

**Mr. Arden S. Torres, Owner**  
**Brgy. Bonifacio, Cabugao, Ilocos Sur**

**PROJECT COST:****Php 2,400,000.00**

### COLOR SORTER TECHNOLOGY FOR ENHANCED PRODUCTIVITY, GRAIN QUALITY

Before the ricemill business started, the Torres family has an agricultural supply business in Sinait, Ilocos Sur. Engaged in buy and sell of palay. Mrs. Ely Torres, wife of Ernesto soon realized to start their own rice milling as they are buying volume of palay and to remove outsourcing of milling.

In 2008, they established the Torres with an initial capital of PhP300,000.00, starting with 2 units diesel powered baby cono for milling services with a capacity of 1-ton per hour.

In 2019, the operation of the business was transferred to Mr. Arden Torres, his eldest son. The firm also upgraded its milling services with an electric powered multi-pass mill with up to 2-ton capacity. With perseverance and hard work, he was able to raise the firm's operating capital to Php4 million.

Quality products is one of the competitive edges for a business to thrive. Moreover, the quantity is for the firm to satisfy its customer's demand. Thus, the firm sought DOST assistance to upgrading the production process and acquire machineries for quality control.

S&T Interventions Provided	Impacts:
<b>Equipment Acquisition and Upgrading</b> <ul style="list-style-type: none"> <li>- 1-unit Color Sorter</li> <li>- Label Design of premium milled rice</li> </ul>	<ul style="list-style-type: none"> <li>• <b>2% increase in volume of production</b> of the firm for the six (6) months production of the firm (From 12,800 milled rice and 5,800 bags for rice milling services).</li> </ul>
<b>Technology Assistance and Consultancy Services</b> <ul style="list-style-type: none"> <li>- Energy Audit</li> </ul>	<ul style="list-style-type: none"> <li>• <b>13% increased gross sales</b> (From Php3,461,667 to Php3,997,500 gross sales for the second semester of 2022).</li> <li>• <b>13% increased productivity</b> (From 1.4% to 1.6% productivity). Employed two (2) additional workers.</li> </ul>
<b>Technology Assistance and Consultancy Services</b> <ul style="list-style-type: none"> <li>- Machine operation of a Color Sorter</li> </ul>	

**EAGLE VISION INC.**

Engr. Ruben M. Cortez, Owner  
Bantay, Ilocos Sur

PROJECT COST:

**Php 1,000,000.00**

Engr. Patricia Frio, Technical Manager of the firm with the control box of the solar panels.

**RENEWABLE AND SUSTAINABLE SOLAR  
POWER SYSTEM IN SUPPORT OF EAGLE**

Eagle Vision Inc., started with a very humble budget of Php300,000 from its Five (5) Overseas Filipino Worker Incorporators. On November 11, 1992, a very small amount was invested in the cable television industry, with operations initially limited to Bantay and the City of Vigan. Subsequently, the business expanded to 20 municipalities and 1 cities in Ilocos Sur; Cabugao, Banayoyo, Burgos, Candon City, Narvacan, Caoayan, Galimuyod, Magsingal, San Esteban, San Ildefonso, San Juan, San Vicente, Santa, Santa Catalina, Sta. Cruz, Sta. Lucia, Sta. Maria, Santiago, Sto. Domingo, Sinait, and Tagudin. The company currently has 50 regular employees with a capitalization of Php32,869,602, representing fixed assets (a building, technical equipment, vehicles, and office equipment).

Due to financial constraints, the company turned to DOST for assistance through the Small Enterprise Technology Upgrading Program (SETUP) for the purchase of additional production facilities. Most of the company's working capital is spent on supplies, mobilization, salaries, logistics, and most recently, the expansion and upgrading of its optical fiber technology.

S&T Interventions Provided	Impacts:
<b>Equipment Acquisition and Upgrading</b> - 20 kW on-grid Solar Power System	<ul style="list-style-type: none"><li>Decreased electric bill consumption by 35% (from an average PhP80,000/month electric bill to PhP52,000/monthly)</li><li>Increased productivity by 17% (from 2.49 to 2.91)</li><li>Generated one (1) employment</li></ul>

**RFG WOODWORKS**

Mr. Alejandrino Valenzuela  
Brgy. Barrientos, Luna, La Union

**PROJECT COST:****Php 265,000.00**

(Left photo) A worker of RFG Woodworks operating the 3-in-1 machine,  
(Right photo) awarding of check to RFG Wood Works together with PD Viernes.

**RFG WOODWORKS  
TECHNOLOGY UPGRADING**

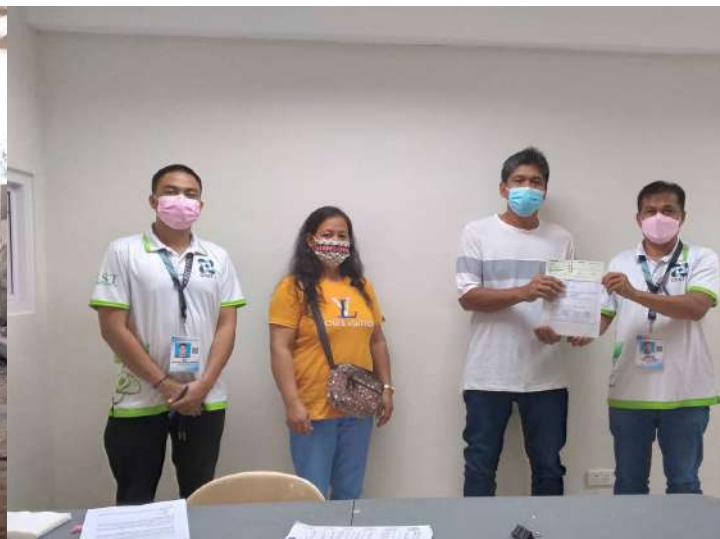
RFG Wood Works is located at Brgy. Barrientos, Luna, Union. It is owned and managed by Mr. Alejandrino Valenzuela. It was established in CY 2019 and Registered at the Department of Trade and Industry Region 1 CY 2021-2026. The Shop is maker of beds, sala sets, dining sets, panel doors, door jambs, and other wooden home furnishings. The firm started with an initial capital of PhP 260,000.00. At present, it has six (6) regular workers including Mr. Valenzuela and 2 on-call workers with PhP 395,000.00 present capitalization. Contractual workers are hired when there are big orders/projects.

The firm is seeking for DOST-SETUP Assistance to further hasten the firm's furniture production and increase its productivity by acquiring modern technology such as 3-in-1 machine and Consultancy services.

S&T Interventions Provided	Impacts:
<b>Equipment Acquisition and Upgrading</b> - 1 unit 3-in-1 Machine with Phase Inverter Technology	<ul style="list-style-type: none"><li>• 15% increase in productivity from 66% to 57% production cost.</li><li>• 16% increase in its gross sales from Php 151,091.67 to Php 175,000.00 monthly.</li><li>• 15% increase in the production volume from 28 to 32 assorted wooden furnitures per month</li><li>• Allows accurate repeat work of straight cutting and minimizes the wastage of raw material caused by improper cutting equipment.</li></ul>

**VILLANUEVA FURNITURE SHOP**

Mr. Alejandrino Valenzuela, Owner  
Brgy. Barrientos, Bacnotan, La Union

**PROJECT COST:****Php 250,000.00**

(Left photo) A worker of Villanueva Furniture Shop cutting woods using the 3-in-1 machine.  
(Right photo) Mr. Valenzuela receiving the check from DOST 1 PSTO-La Union led by PD Jonathan Viernes.

**UPGRADING OF TECHNOLOGY  
FOR VILLANUEVA FURNITURE SHOP**

Villanueva Furniture shop is located in Brgy. Agtipal, Bacnotan, La Union. It is managed by Mr. Lito I. Villanueva and owned by his wife, Ms. Rose T. Villanueva. Mr. Villanueva used to work as a Laborer for Mr. Chris Ipac from 2000-2015, then later worked for Mr. Noli Opeña from 2015-2017. And with the experience and knowledge in furniture making that he gained being a laborer, He then decided to put up his own shop by 2017. The Shop is maker of beds, sala sets, dining sets, panel doors, door jambs, and other wooden home furnishings. The firm started with an initial capital of PhP 80,000.00.

The firm is seeking assistance from DOST 1 through the Small Enterprise Technology Upgrading Program to upgrade their existing equipment to meet their customer demand and to increase their productivity.

S&T Interventions Provided	Impacts:
<b>Equipment Acquisition and Upgrading</b> - 1 unit 3-in-1 Machine with Phase Inverter - 1 unit tenoner machine	<ul style="list-style-type: none"><li>• 14% increase in productivity from 56% to 49% production cost.</li><li>• 16% increase in its gross sales from PhP 112,000.00 to PhP 130,000.00 monthly.</li><li>• 15% increase in the production volume from 19 to 22 assorted wooden furnitures per month.</li></ul>

**MARBIE MOTOR WORKS**

Mr. Abraham Balicha, Owner  
Brgy. Dallangayan Este, San Fernando City, La Union

PROJECT COST:

**Php 250,000.00**

(Left photo) Ongoing operation of the acquired milling machine with slotter.  
(Right photo) awarding of check to Mr. Balicha.

**TECHNOLOGY UPGRADING FOR  
MARBIE MOTOR WORKS PHASE II**

Marbie Motor Works is owned and managed by Mr. Abraham G. Balicha. It was established in CY 1997 and registered at the Department of Trade and Industry Region I. It is formerly located in Brgy. Pagdalagan Sur, Bauang, La Union as a tenant. The shop had to transfer because the owner of the land have to sell the property.

The shop recently transferred to its new production/service area last March 2022 along the ByPass Rd (San Fernando-San Juan) in Brgy. Dallangayan Este, City of San Fernando, La Union. Mr. Balicha put-up an auto repair shop because this was his father's old business and his experience and interest is along this business line. The business gradually grew, at present the shop has nine(9) regular and two (2) contractual workers. Mr. Balicha was a beneficiary of CY 2010 Venture Financing Program granted through the Technology Application and Promotion Institute (TAPI) and CY 2014 Grants-in-Aid Program through DOST-1. He was also a beneficiary of DOST-SETUP in CY 2018 and has paid almost 85% of the refund as of May 2022.

Mr. Balicha is seeking another round of assistance to acquire an equipment that is essential in his service line and to eliminate the outsourcing process of the shop.

S&T Interventions Provided	Impacts:
<b>Equipment Acquisition and Upgrading</b> - 1 unit Milling Machine with Slotter	<ul style="list-style-type: none"><li>• <b>15% increase in productivity</b> from 73% to 64% production cost</li><li>• <b>19% increase in its gross income</b> from PhP 207,512.92 to PhP 247,210.83 monthly</li><li>• <b>21% increase in the production/service volume</b> from 140 to 170 assorted services per month</li><li>• <b>Decrease in outsourcing of reboring, resurfacing, flattening, fabrication of parts</b>, or for any other machining works. The firm could now perform those repair and machining works.</li></ul>

**MAMA CARMEN'S MEAT SHOP**

Mr. Chester Lord D. Olivar, Owner  
 Ma. Christina West, Bangar, La Union

**PROJECT COST:****Php 275,260.00**

## **PRODUCT QUALITY ENHANCEMENT AND TECHNOLOGY UPGRADING FOR MAMA CARMEN'S MEAT SHOP AND FROZEN FOODS**

Mr. Olivar's family business started by his parents way back 2000 as a simple chicken stall, selling freshly dressed chicken and chicken by products together with frozen processed meat such a hotdog, tocino and longaniza at the public market of Luna, La Union. Through hard work, the business was booming specially the selling of frozen processed meat.

In year 2003, Mekeni Food Corporation offered them to become a distributor for the province of La Union and Ilocos Sur up until now. In 2013, they tried to process low cost smoked longaniza via manual production. They gained a fairly good market network for their homemade longaniza, since they ride it on together with their deliveries of Mekeni products. The only problem they encountered was that some municipalities are asking them for FDA approval. They saw the great potential for their homemade longaniza but they do not yet have the capacity to gain the approval from FDA that is why they stopped their production by the year 2015. In year 2019, after considering several factors, they recontinued processing homemade longaniza but this time switching into Vigan longaniza flavor which they are continuously improving until now.

Due to various quarantine measures imposed by government this pandemic, the firm has caused economic losses. Responding to the pandemic has underscored the need for the owner to accelerate the adoption of agile ways of working and value chain transformation to help outmaneuver uncertainty. Fortunately, the owner has learned about the DOST SETUP Program, and he is interested to avail SETUP to improve his production facilities and processes by acquiring upgraded equipment and to comply to food safety standards for his application to FDA-LTO. And aside from longaniza they will be able to produce other processed meat. The owner and food handlers of the firm have undergone Training on current Good Manufacturing Practices and Food Safety Assessment to Firm's production area sponsored by DOST 1.

S&T Interventions Provided	Impacts:
<b>Equipment Acquisition and Upgrading</b> <ul style="list-style-type: none"> <li>- 1 unit Meat Grinder</li> <li>- 1 unit Meat Mixer</li> <li>- 1 unit Vacuum Sealer</li> <li>- Laboratory Analysis</li> </ul>	<ul style="list-style-type: none"> <li>• <b>16% increase in productivity</b> from 67% to 58% production cost.</li> <li>• <b>15% increase in its gross sales</b> from Php 152,000.00 to Php 175,000.00 monthly.</li> <li>• <b>19% increase in the production volume</b> from 1,600 to 1,900 packs of longanisa per month</li> <li>• <b>Tools/equipment are compliant</b> to Good Manufacturing Practices and food safety requirements.</li> </ul>

**KAJONAS FOOD PRODUCTS**

Ms. Jona Risa M. Aromin, Owner  
Acao, Bauang, La Union

PROJECT COST:

**Php 1,370,000.00**

### OIL BOTTLING TECHNOLOGY UPGRADING FOR KAJONAS FOOD PRODUCTS

Ms. Jona Risa M. Aromin established her business in February 2019 and started as rolling oil repacker and vendor using the used bottles of mineral water (nature spring) which was collected by the utility personnel of the school where Ms. Aromin worked. They cater customers Brgy. Sta. Monica in Bauang, La Union and started with an initial capital of PhP 2,400.00.

After four (4) months of being a rolling stone of palm oil, they started to market in Rosario and Damortis Union and saw the potential of her palm oil in the market until they have penetrated also all the municipalities of La Union except for San Fernando City, Sudipen and Bangar. Last January 2021, they started to build and utilize their own warehouse in Acao, Bauang, La Union. The business gradually grew, at present, the firm has ten (10) regular workers and four (4) contractual workers with PhP 2,200,000.00 present capitalization. Contractual workers are hired when there are big orders.

The firm is trying to seek assistance from the DOST-I through SETUP to hasten the filling process and acquire Form Filling Machine. And as part of the program, they will also seek for Technical Consultancy assistance specifically food safety assessment and related trainings to help them acquire FDA-LTO.

S&T Interventions Provided	Impacts:
<b>Equipment Acquisition and Upgrading</b> <ul style="list-style-type: none"> <li>- 1 unit Automatic 4 head bottle filling machine</li> <li>- Pouch Liquid filling machine set</li> </ul>	<ul style="list-style-type: none"> <li>• <b>20% increase in productivity</b> from 94% to 78% production cost</li> <li>• <b>15% increase in its gross sales</b> from PhP 4,028,636.00 to PhP 4,600,000.00 monthly</li> </ul>
<b>Technical Assistance and Consultancy Services</b> <ul style="list-style-type: none"> <li>- Food Safety Assessment</li> <li>- Application for FDA-LTO</li> <li>- Plant Layout</li> </ul>	<ul style="list-style-type: none"> <li>• <b>18% increase in the production volume</b> from 3,400 to 4,000 Liter of oil per day</li> <li>• <b>Acquired Food and Drugs Administration-License to Operate (FDA-LTO)</b></li> </ul>

**LOMBOY FARMS**

Ms. Gracia C. Lomboy  
Brgy. Urayong, Bauang La Union

**PROJECT COST:****Php 480,000.00**

*The staff of Lomboy Farms demonstrating the use of the screw-type Juice Extractor in producing wine.*

### **UPGRADING OF EQUIPMENT FOR WINE PRODUCTION OF LOMBOY FARMS**

Started in 1972 by Mr. Avelino Lomboy from 10 cuttings procured in Cebu, primarily as a means to augment family income. It took him 2 years of research & development to determine proper training technique and in 1974, his efforts paid off when the 1st grape bunches were harvested.

From then on, his backyard vineyard grew to a few hectares, accounting for 95 % of the total grapes sold in the Philippines market in the 1980's, earning him the title "Grape King of the Philippines". The import liberalization drastically changed the local grape industry and Lomboy Farms ventured into high value crops. The recent rise in Filipino pride, social media, and Agri-tourism trend brought a newfound interest in the local grape industry.

Today, Lomboy Farms continue to pioneer and innovate not just agricultural techniques for grape production but is a driving force in the Philippine Agri-tourism landscape, being the 1st DOT accredited Agri-tourism in Region 1 and earning various citations and awards.

The last 2 years of pandemic really drained their finances and their cashflow right now is concentrated on maintaining farm operations. They don't have the capacity right now to do capital out lay for equipment upgrade. They really want to grow the industry, so they want to have partnership with government agencies such as DOST who are also willing to help MSMEs like them. Ms. Lomboy is interested to avail DOST SETUP to improve her production facilities and processes by acquiring upgraded equipment.

<b>S&amp;T Interventions Provided</b>	<b>Impacts:</b>
Equipment Acquisition and Upgrading -1 unit Screw-type Juice Extractor -1 unit Wine Filter Machine -3 units Food Grade Plastic Fermenting Tanks with stand, airlock and faucet	<ul style="list-style-type: none"><li>• <b>17% increase in productivity</b> from 58% to 50% production cost.</li><li>• <b>16% increase in its gross sales</b> from Php 164,500.00 to Php 197,400.00 monthly.</li><li>• <b>20% increase in the production volume</b> from 458 to 550 assorted wines per month.</li><li>• <b>Tools/equipment are compliant</b> to Good Manufacturing Practices and food safety requirements.</li></ul>

**TARECTECAN IRON WORKS**

Mr. Leon O. Tarectecan  
Bonsay St., Poblacion, Burgos, Pangasinan

**PROJECT COST:****Php 274,400.00**

Production workers use the aluminum puncher for accurate and faster way to punch holes for aluminum window frames and the sheet bending machine to bend G.I. sheets for their trusses and gutter products.

**IMPROVEMENT OF PRODUCTION EQUIPMENT FOR  
TARECTECAN IRON WORKS – PHASE II**

Tarectecan Iron Works is a fabrication shop established in 1997 and initially tied up with different contractors to save money and buy a land and made it as the firm's production and display area in 2003.

In 2013, the firm was assisted by the DOST for the upgrading of its fabrication process. The S&T Intervention provided gave positive impact on their production efficiency, quality and increased the demand for its products and services.

At present, it employs 6 regular production workers and 10 on-call workers engaged in the fabrication and production of steel window, steel gates, steel trusses and roofing contracts.

Due to outsourcing of services for other demand of their products, the firm sought for another round of assistance from DOST to hasten its production and address the demand of customers for other services.

S&T Interventions Provided	Impacts:
<b>Equipment Acquisition and Upgrading</b> - 1-unit Sheet Bender Machine, 8ft - 1-unit Slitting Machine - 1-unit Slitting Machine	<ul style="list-style-type: none"><li>• <b>18% increase in annual gross sales</b>, from Php 4.2 million to Php 5.2 million.</li><li>• <b>Outsourcing practices have been eliminated</b>, now offers sheet bending services.</li><li>• <b>50% decrease in production time for aluminum window production</b>, from 90 minutes to 45 minutes production of a window.</li><li>• <b>Generated six (6) additional employees</b>, one (1) regular namely Ronald Tarectecan and five (5) on-call workers since April 2022 namely Oliver Santos, Aljun Bunao, James De Guzman, Rowel Alferos and Tirso Bonode.</li></ul>

## YAMBAN ENTERPRISE

Mr. Wenceslao B. Tayag, Owner  
Ambrosio St., Poblacion, Urdaneta City, Pangasinan

**PROJECT COST:****Php 590,000.00**

(Left photo) Mr. Tayag discusses that they meet the demand of their customers and even catered orders abroad.

(Right photo) Actual Printing of the machine during the project monitoring

## MACHINERY UPGRADING FOR PRINTING SERVICES

The business started in 2006 as a computer shop and services, doing digital designs and offering computer rentals to customers, then expanded to t-shirt printing services, including silk screen printing. According to Mr. Tayag, Yamban means strong and firm, and which like his business, it will stand firm and strong whatever problems or trials may occur.

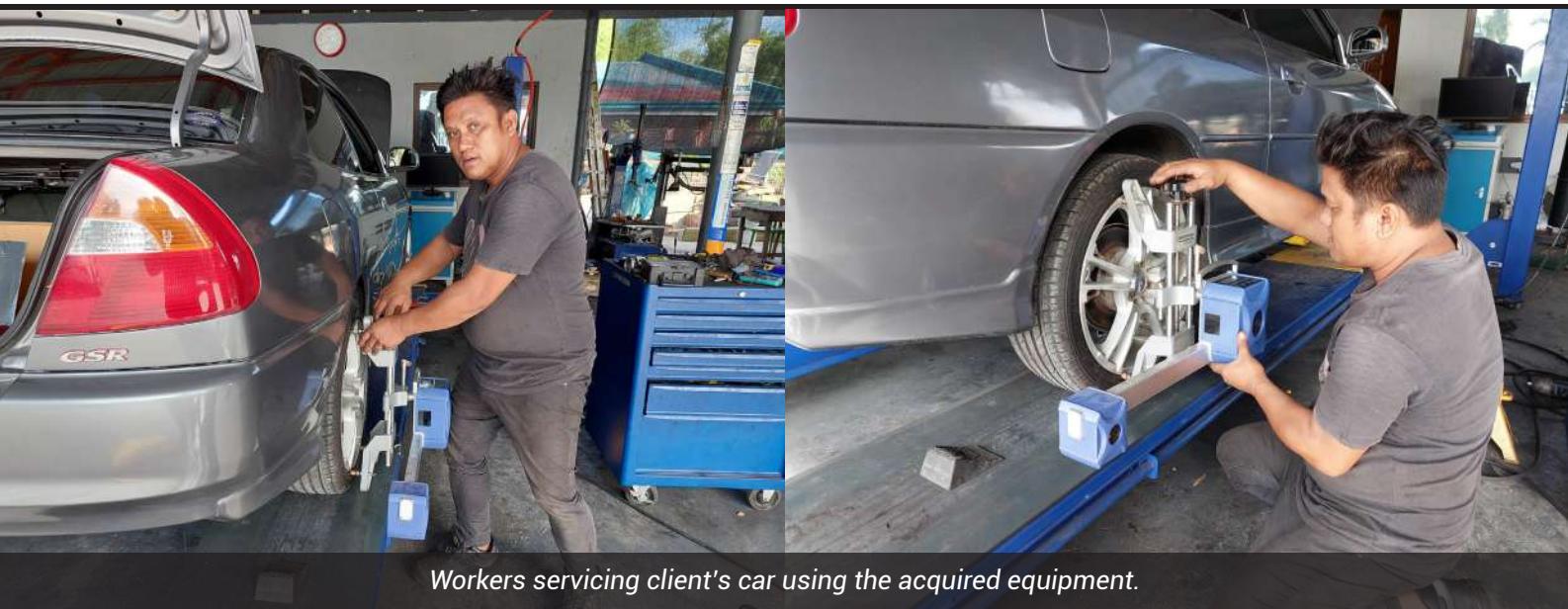
The firm's existing sublimation printer however, can only produce 15-20 jersey sets per day, which cannot cope up with the client's requirement. Hence, it sought DOST's assistance.

On July 4, 2022, the firm has acquired the Sublimation Machine and in span of 6 months, they increased 16% in production volume and 38% in gross sales. The firm also undergoes Cleaner Production Assessment last December 16, 2023.

S&T Interventions Provided	Impacts:
<b>Equipment Acquisition and Upgrading</b> - 1-unit Sublimation printing machine	<ul style="list-style-type: none"><li>• <b>145% increase in monthly gross sales</b> from Php 141,250.00 to Php 346,137.00</li><li>• <b>200% increase in production volume</b> from 15-20 sets per day to 50-60 sets per day</li><li>• <b>Generated 1 additional employment:</b> Mr. Jonathan Sauro</li></ul>

**BTL AUTO SHOP**

Ms. Libby De Vera Tandoc, Owner  
Urdaneta City, Pangasinan

**PROJECT COST:****Php 1,700,000.00****UPGRADING OF SERVICE EQUIPMENT  
OF BTL AUTO SHOP – PHASE II**

Mr. Tandoc had worked at Daewoo Motors in Manila. After 2 years of experience, his friend encouraged him to start his own auto repair shop business. He started the business with his wife in 2000 as home service. In 2008, they were able to acquire a lot along the McArthur Highway in Caranglaan District, Dagupan City.

In 2017, Mr. and Mrs. Tandoc sought the assistance of DOST Region-1 in upgrading their service equipment to reduce time in inspection and repairing services and to eliminate outsourcing services that will help them increase the number of customers.

As a recipient of the GIA program, positive results became evident with easier and faster service process. It has branched out in Urdaneta City, Pangasinan and sought for another round of assistance from SETUP Program.

S&T Interventions Provided	Impacts:
<b>Equipment Acquisition and Upgrading</b> - 1-unit Four-post Car Lifter with Computerized Alignment Machine	<ul style="list-style-type: none"><li>• 83% time saved during Vehicle inspection, from 30 minutes to 5 minutes.</li><li>• 50% increase in the number of monthly customers for wheel alignment from 12 to 18</li></ul>

## LIGHTHOUSE COOPERATIVE

Mr. Rodel B. Estero, Supervisor  
Brgy. Bari, Mangaldan, Pangasinan

**PROJECT COST:****Php 523,263.00**

*Lighthouse cooperative received Electric Dryer/Dehydrators and American pressure cooker.*

### UPGRADING OF DRYING FACILITY OF CARACHICHA PRODUCTS

Lighthouse Cooperative with main office located in Caritan Centro, Tuguegarao City continued to grow as its Chicharabao, Carachicha and other products have consistently widened its market reach. Since 2006, the products have become popular among locals and tourists. Hence, the cooperative expanded its production in Pangasinan and as a business entity and continued to create ways by innovating products. One of these products is Carachicha, derived from the by-product of the raw materials used in producing Chicharabao.

The cooperative built another production center in Mangaldan, Pangasinan in February 2020, located 200 meters away from a slaughterhouse where it sources out carabao meat. Carachicha is made from the extracted fat from the carabao hide before producing the Chicharabao.

The production area in Mangaldan however, has no appropriate electric dryer in order to dry these extracted fats, thus, become wastage. That is why the firm sought the assistance of DOST for the appropriated S&T Intervention through SETUP.

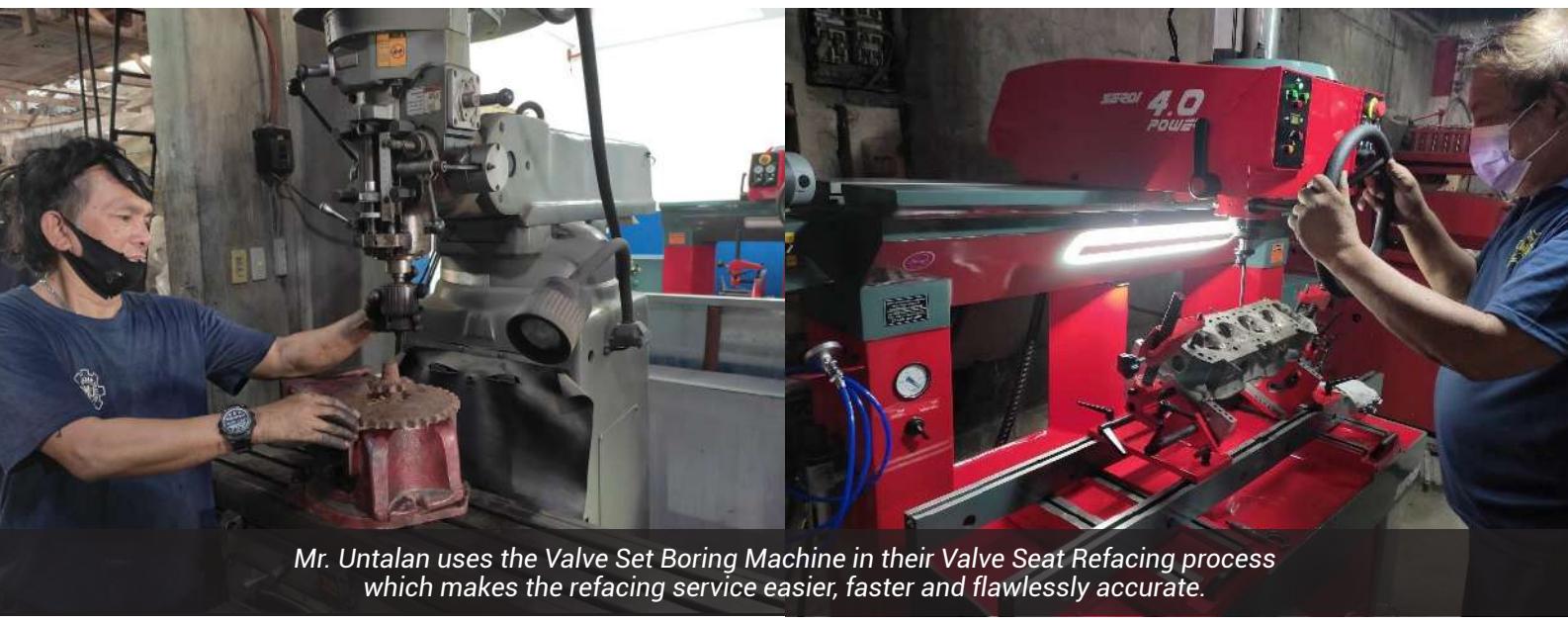
S&T Interventions Provided	Impacts:
<b>Equipment Acquisition and Upgrading</b> - 2 units of Electric Dryer/Dehydrator - 1-unit American pressure cooker	<ul style="list-style-type: none"><li>• <b>30% waste reduction</b> from 40kg to 28kg of carabao hide trimmings. (For the year 2022, The volume of trimmings that were dark in color, were not processed and were considered as wastage.)</li><li>• <b>25% increase in production</b>, from 222,900 packs to 279,205 packs due to the 12% recovery of carabao hide trimmings.</li></ul>

**J.D. UNTALAN MACHINE WORKS**

Mr. Johnny D. Untalan, Owner

52 McArthur Highway, Brgy. Nalsian, Calasiao, Pangasinan

PROJECT COST:

**Php 1,800,000.00**

Mr. Untalan uses the Valve Set Boring Machine in their Valve Seat Refacing process which makes the refacing service easier, faster and flawlessly accurate.

**UPGRADING OF FACILITIES AND EQUIPMENT OF J.D. UNTALAN MACHINE WORKS IN SUPPORT FOR MACHINE SHOP INDUSTRY – PHASE II**

JD Untalan Machine Works was established in 1987. As a former machinist, Mr. Untalan was very passionate with working on machines. He started his machining business with some equipment and machines purchased from a foreclosing bank. With his talent partnered with diligence and hard work, the machine shop became recognized in the industry.

The firm was a SETUP beneficiary in 2017 which acquired a Surface Grinding Machine that improved their volume of production by 50% and decreased production time by 50%.

Mr. Untalan sought another round of SETUP innovation fund in 2021 to further improve production and automate some processes, to enhance their fabrication of gears, threads, and shafts.

Today, JD Untalan Machine Works is one of the well-known engine and machine shops in Calasiao and in neighboring towns and cities. Its growing market was achieved through quality service and affordable price, its satisfied customers recommend the firm to their relatives, colleagues, and friends for the satisfactory service.

S&T Interventions Provided	Impacts:
<b>Equipment Acquisition and Upgrading</b> <ul style="list-style-type: none"><li>- 1 unit Valve Set Boring Machine</li><li>- 1 unit 1 unit Milling Machine</li></ul>	<ul style="list-style-type: none"><li>• <b>75% decrease in production time</b> from 2-3 hours to 30 minutes.</li><li>• <b>100% increase in volume of production</b> per day, from 1 job order to 2 job orders.</li><li>• <b>The firm are now able to produce different kinds of gears, threads, shafts and many other metal parts</b> with ease and excellent quality.</li><li>• <b>More efficient and faster boring / cutting process</b> as compared to manual cutting, decreasing the process time from one hour to 30 minutes or at least 50%.</li><li>• <b>The firm have additional markets:</b> machine shops from Alaminos, Carmen, Agoo, Rosario, Dagupan, and Bugallon.</li><li>• <b>Generated 1 additional employment:</b> Mr. Artemio B. Inaldo (Driver)</li></ul>

# INNOVATIONS FOR FILIPINOS WORKING DISTANTLY FROM THE PHILIPPINES



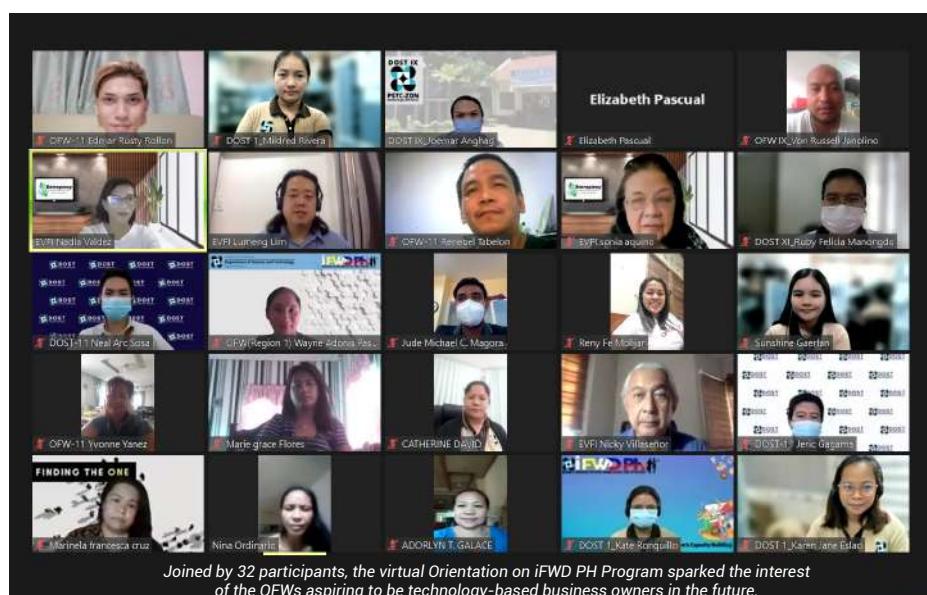
With its continuing support to provide economic opportunities to repatriated Overseas Filipino Workers (OFWs), the Department of Science and Technology – Regional Office I (DOST 1) has implemented the Innovations for Filipinos Working Distantly from the Philippines Program (iFWD PH) to help OFWs and their families to establish their technology-based enterprises.

Composed of two (2) phases, the regional implementation of the iFWD PH Program started off with its Phase 1 focused on the capability building for the development and management of technology-based enterprise, together with the eligibility, requirements, and screening process.

Activities undertaken in the implementation of the iFWD PH Program in DOST 1:

## Orientation of OFWs on the Innovations for Filipinos Working Distantly from the Philippines (iFWD Ph) Program

As the focal unit for the implementation of the Program, the Regional Program Management Office (RPMO) of the DOST 1 spearheaded the virtual orientation and was attended by 32 OFWs from the region and joined by the staff from the Provincial S&T Offices (PSTOs) who will be assisting them throughout the process. The orientation was conducted on May 13, 2022 via Zoom to introduce the iFWD Ph Program to eligible OFWs who have been repatriated or have returned home to the Philippines within the last three (3) years, or to their immediate family members such as the spouse, parent, or children of legal age.



In preparation for the admission of the OFWs to the Capacity Building and Core Development Learning Sessions of the iFWD PH's Phase 1, the DOST 1 through the RPMO conducted a series of virtual technology pitching sessions where various Sectoral Planning Councils and Research and Development Institutes (RDIs) of the DOST pitched their innovative technologies that are available for adoption and commercialization by the OFWs for their proposed iFWD PH projects.

**Date of Session:**

May 16, 2022 via Zoom

**Resource Speaker/Affiliation**

Ms. Maja Bethzaida S. Decena, Science Research Specialist I/ Food and Nutrition Research Institute (FNRI)

**Technologies Pitched**

Fortified Foods, Nutribunnet, Protein Food Bar, MNERK for Pregnant & Lactating Women & MGM for Pregnant & Lactating Women

**Resource Speaker/Affiliation**

Ms. Cherry Luz D. Moico, Senior Science Research Specialist/ Industrial Technology Development Institute (ITDI)

**Technologies Pitched**

Personal Care (VCO-enriched Hand and Body and Cream, Hand Sanitizer & Hand wash), Wine Processing Technology, Mango Processing (Dried, Juice, Puree), Natural Vinegar Production (Acetator Technology) from Coconut Water, Coconut Sap Sugar Production, Soap Making, Free webinars (Calamansi Processing, Jam Making, Ginger Processing, Catsup Making, Chips Making, Vinegar Production)

**Date of Session:**

May 17, 2022 via Zoom

**Resource Speakers/Affiliation**

Ms. Evangeline Flor P. Manalang, Supervising Science Research Specialist/ Philippine Textile Research Institute (PTRI)

Ms. Dianne S. Noguera, Project Development Officer II/ Philippine Textile Research Institute (PTRI)

**Technologies Pitched**

Sericulture, HL Mach 4.0 (Modified Handloom Weaving Machine Design), Thera Loom V2 (Therapeutic Handloom Machine Design) GeoLoom (Geotextile Handloom Weaving Design), Twining/Twisting Machine, Handloom Woven Fabric Production and Natural Dye Technologies

**Resource Speakers/Affiliation**

Engr. Rey N. Mariposque, Science Research Specialist II/ Metals Industry Research and Development Center (MIRDC)

**Technologies Pitched**

Electric Potter's Wheel (EPW), Jigger & Jolly Machine, Modular Water Retort, Vacuum Fryer, Spray Dryer, Freeze Dryer, Integrated Wrought Iron Forming Machine (iWIFE) and Tent System

**Date of Session:**

May 19, 2022 via Zoom

**Resource Speakers/Affiliation**

Engr. Amando Allan DM. Bondad, Senior Science Research Specialist/ Forest Product Research and Development Institute (FPRDI)

Engr. Christian S. Camacho, Senior Science Research Specialist/ Forest Product Research and Development Institute (FPRDI)

**Technologies Pitched**

Do-It-Yourself (DIY) Bamboo Shelter, Water Hyacinth Dryer, Low Cost Dryer, Furnace-type Lumber Dryer, Moisture Meter, Solid Wood/ Bamboo Bending, Finishing Spray Booth, Finishing Drying Tunnels, Modern Bamboo Jointing System Engineered Bamboo, Bamboo Veneer Lathe, Flattening Machine, Hot Press for Engineered Bamboo, Charcoal Briquettes, High Quality Charcoal and Pyroligneous Liquor Wrought Iron Forming Machine (iWIFE) and Tent System

**Date of Session:**

May 19, 2022 via Zoom

**Resource Speaker/Affiliation**

Ms. Abigail F. Gueco, Senior Science Research Specialist/ Philippine Council for Agriculture, Aquatic, and Natural Resources and Development (PCAARRD)

**Technologies Pitched**

Agri-Aqua Technology Business Incubation, Ride-On Rice Precision Seeder, Local Riding-type Rice Transplanter, Rice Combine Harvester, Far-Infrared Grain Dryer, Drip Irrigation System, ManifeTek Integrated Postharvest Facility for Mango, Coffee Greenhouse Solar Dryer, Mechanical Cacao Sheller, Pelletizing Machine for Goat Feeds, Fertigroe™, Hi-YEAST, MicroMix Biostimulant, Nutrio™ Biofertilizer, Biogro™, Trichoderma Microbial Inoculant (TMI), MykoPlus Biofertilizer, ACTICon™ Biopesticide, Carrageenan Plant Growth Promoter, Chevron Valley Canned Products, Chevron Products in Retort Pouch, Queen Pineapple Multi-Use Marinade, ETAG Products from Native Pigs, By-products from Cacao Wastes, GRAS "Generally Regarded as Safe" Coatings for Vegetables, Queen's Coal, Queen Pineapple Bran, Enhanced Potting Preparation (EPP), Hydroponic Household Garden, Dielectric Spectroscope for Evaluating Cacao Pod Maturity, Itik Pinas, Darag Native Chicken, Juan Algae Microalgal Paste, SFEED Pellet Feeds for Goat, Native Pig, Protein Enriched Copra Meal (PECM), Andali™ LAMP Kit and Dewormer for Native Chicken

**Date of Session:**

May 20, 2022 via Zoom

**Resource Speakers/Affiliation**

Mr. Felcris Z. Dy, Faculty Researcher/ PSU-DOST 1 Food Innovation Center (PSU-DOST 1 FIC)

**Technologies Pitched**

Squash Pesto Sauce, Mungbean Milk with Mango Flavor, Baba Ghanoush Eggplant Dip, Cabinet Dried Squash Powder, Vacuum Fried Shallots, Cabinet Dried Shallot Crunch, Pickled Eggplant, Classic Calamay, Vacuum Fried Red Onion, Vacuum Fried Okra, Vacuum Fried Squash, Vacuum Fried Oyster Mushroom, Mango Roll, Chunky Tomato Salsa and Binagoongang Bangus

**Resource Speakers/Affiliation**

Prof. Anabella G. Valdez, Professor I/ Don Mariano Marcos Memorial State University-South La Union Campus (DM-MMSU-SLUC)

**Technologies Pitched**

Chevon Bulgogi, Chevon with Tamarind Soup (Sinampalukan), Bitter Chevon Stew (Pinapaitan)and Chevon Sisig

## Capacity Building and Core Business Development Sessions

Deemed as the focal point of the iFWD PH's Phase 1, the Capacity Building and Core Business Development Sessions were conducted simultaneously by DOST Regional Offices I, II, IX and XI in partnership with Entrepinoy Volunteers Foundation Inc. (EVFI) as the training consultant. The virtual learning sessions aimed to guide the OFWs in their conceptualization of their proposed technology-based enterprise that will be funded on the Program's Phase 2.

Session/ Topic	Date Conducted
Session 1: Values and Entrepreneurship and Business Concept Development	June 15, 2022
Session 2: Business Model Canvas	June 17, 2022
Session 3: Product Costing and Pricing	June 22, 2022
Session 4: Financial Planning Workshop I	June 24, 2022
Session 5: Initial Business Pitch	July 1, 2022
Session 6: Supply and Value Chain Management	July 6, 2022
Session 7: Marketing and E-Commerce	July 8, 2022
Session 8: Operations Management	July 13, 2022
Session 9: Organizations Management	July 15, 2022
Session 10: Financial Plan Workshop II	July 20, 2022
Session 11: Business Pitching II	July 22, 2022
Session 12: Business Law and Taxation	July 27, 2022
Session 13: Business Pitching Skills and How to Raise Capital?	July 29, 2022
Session 14: Final Business Pitching	August 5, 2022

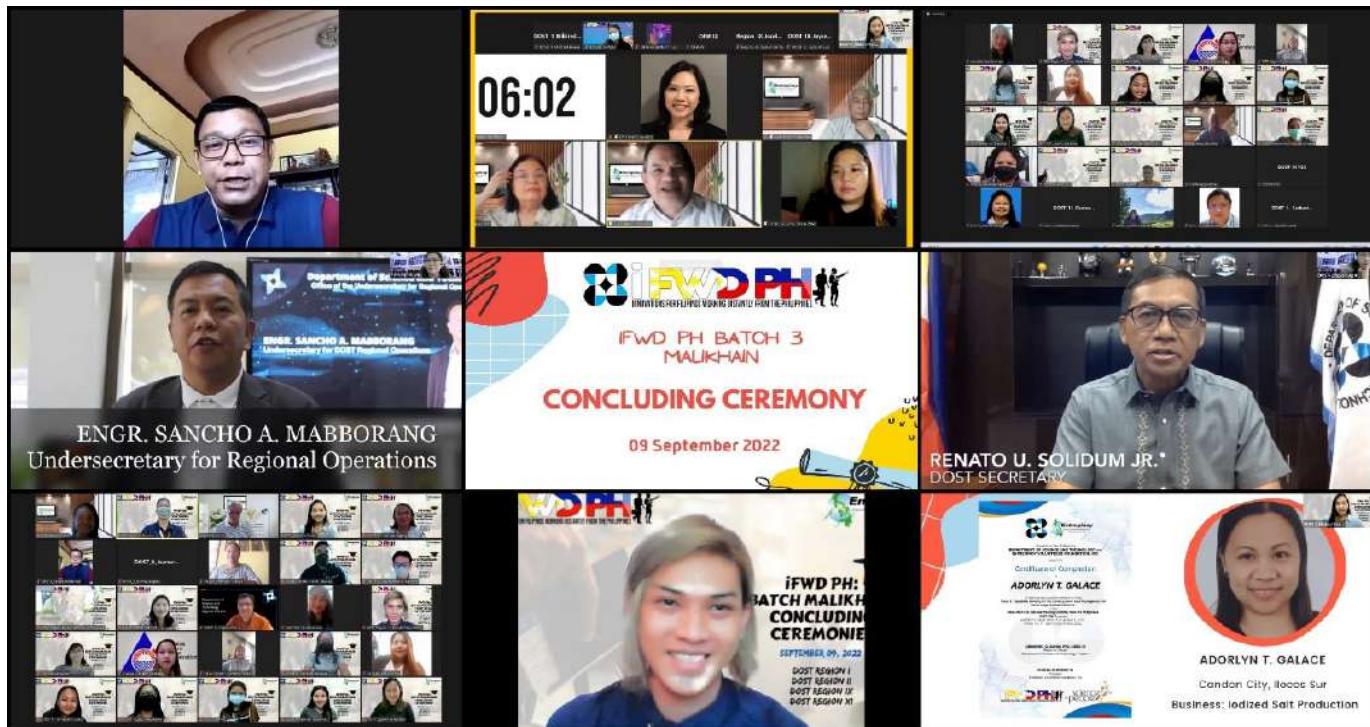
Table 3. List of learning sessions/topics that revolved around business management

## Concluding Ceremony of the Capability Building for the Development and Management of Technology-based Enterprise

Named as the "Batch 3 - Malikhain", two (2) OFWs from Region 1 along with other 10 OFWs from Regions II, IX, and XI successfully completed the 14 capacity-building sessions of the iFWD PH's Phase 1. In their welcome messages, Dr. Armando Q. Ganal, DOST-I Regional Director and Ms. Virginia G. Bilgera, DOST-II Regional Director which were represented respectively by Mr. Decth-1180 P. Libunao, the Officer-in-Charge for Field Operations and Dr. Teresita A. Tabaog, the Assistant Regional Director for Technical Services Operations and the OIC-Assistant Regional Director for Field Operations Services, congratulated the OFW-graduates and wished them success in their endeavors as soon-to-be iFWD entrepreneurs.

In his keynote speech, Engr. Sancho A. Mabborang, Undersecretary for Regional Operations of the DOST, commended the efforts of the OFWs who enrolled to the Program. DOST Secretary Renato U. Solidum Jr. also gave his words of inspiration to the graduating batch as he praised the significance of the iFWD PH Program being flagship program for OFWs.

As the DOST's partner in the implementation of support programs for OFWs, the Overseas Workers Welfare Administration (OWWA) through their respective Regional Directors also extended their congratulatory greetings to the completers.



iFWD PH's Phase 1 for CY 2022 successfully concludes in DOST Regional Offices I, II, IX, and XI. The Concluding Ceremony was also joined by the consultants of Entrepinoy Volunteers Foundation Inc. (EVFI) and DOST officials and staff. The 12 OFW-graduates were conferred with Certificate of Completion during the iFWD PH Batch 3 Malikhain Concluding Ceremony on September 9, 2022 via Zoom.

## iFWD PH's Phase 2: Innovation Funding for Technology-based Enterprise

For CY 2022, two (2) iFWD PH projects in Region I were funded and implemented under the Program's Innovation Funding for Technology-based Enterprise:

No.	Project Title	Name of Firm/Project	Location	Date Approved	Project Cost
1	Equipment Acquisition and Technical Services for a Food Processing Business in Paoay, Ilocos Norte	TITO BOJO'S FOOD PRODUCTS/ Mr. R-jay Niño R. Fernandez	Brgy. 9 San Pedro, Paoay, Ilocos Norte	June 28, 2022	PhP175,000.00
2	Adoption of Hydroponic Technology for a Lettuce Production Business	LETTUCE-EAT VEGETABLE FARM/ Mr. Joefel A. Danipog	Brgy. 2 San Andres, Bacarra, Ilocos Norte	June 30, 2022	PhP175,000.00

Table 4. List of funded projects in Region I under the Program's Innovation Funding for Technology-based Enterprise

# COMMUNITY-BASED PROJECTS (CBP)

PDP CHAPTER 9A

Expanding Economic Opportunities in Industry

STRATEGIC INITIATIVE #3

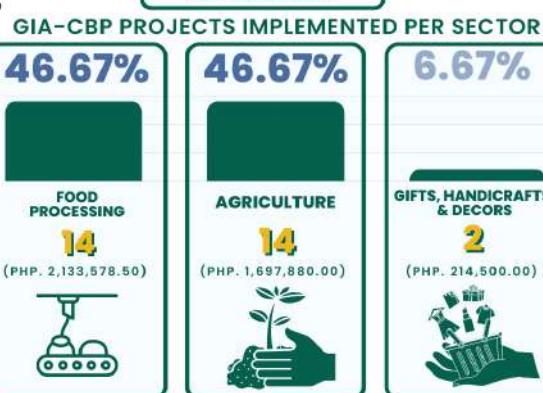
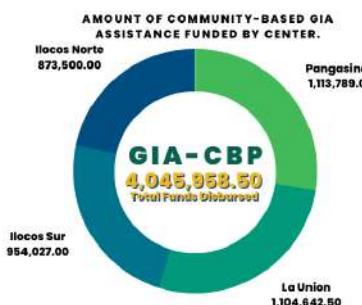
Expanding Economic Opportunities in Industry



**29**  
Projects

**Php4.045M**  
*total funds disbursed*

Alongside with its technological assistance to MSMEs, DOST-1 also assisted the technology needs of 29 community-based organizations amounting to PhP4,055,958.50 through the Grants-in-Aid (GIA) Program which aims to empower them to improve and sustain their productive undertakings by identifying abundant commodities that have great potential for production or manufacturing intended to create livelihood and uplift the standard of living in the community.



SECTOR	ILOCOS NORTE		ILOCOS SUR		LA UNION		PANGASINAN						TOTAL
	DISTRICT 1	DISTRICT 2	DISTRICT 1	DISTRICT 2	DISTRICT 1	DISTRICT 2	DISTRICT 1	DISTRICT 2	DISTRICT 3	DISTRICT 4	DISTRICT 5	DISTRICT 6	
Food Processing	-	3	1	4	3	2	-	-	-	-	1	-	14
Metals & Engineering	-	3	-	-	-	-	-	-	-	-	-	-	3
Furniture	-	-	-	-	-	-	-	-	-	-	-	-	-
Agriculture	2	-	-	-	2	-	-	1	4	-	1	1	11
Gifts, Decors, and Handicrafts	-	-	1	1	-	-	-	-	-	-	-	-	2
Pharma	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Priority Sector	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>TOTAL</b>	<b>2</b>	<b>6</b>	<b>2</b>	<b>5</b>	<b>5</b>	<b>2</b>	<b>-</b>	<b>1</b>	<b>4</b>	<b>-</b>	<b>2</b>	<b>1</b>	<b>30</b>

Table 5. Number of community-based GIA projects implemented per sector by province.

The distribution of community-based projects (CBPs) carried out in Region 1's 12 Congressional Districts is shown in Table 5. The Food Processing sector received the majority of the community-based project funding accounting for 46.67% of all projects that were funded. The province of Pangasinan accounts for about 27.53% of all the CBPs that have been completed, despite having the biggest land area in Region 1.

PROVINCES	AMOUNT
Ilocos Norte	6,056,015.00
Ilocos Sur	6,072,000.00
La Union	6,512,260.00
Pangasinan	9,765,800.00
<b>TOTAL</b>	<b>28,406,075.00</b>

Table 6. Amount of community-based GIA assistance funded by Center.

As shown in Table 6, the province of Pangasinan, which had the most CBPs implemented in the region, was allocated 27.53% of the overall fund assistance, followed by La Union with 27.30%, Ilocos Sur with 23.58%, and Ilocos Norte with 21.59%.



## CAMGUIDAN (SN) MULTI-PURPOSE COOPERATIVE

Ms. Lorina L. Battulayan, Chairperson  
Brgy 25 Camguidan, City of Batac

PROJECT COST:

**Php 223,000.00**



*Turnover of the equipment provided and awarding of check to Camguidan Multipurpose Cooperative .*

### TECHNOLOGY UPGRADING OF CAMGUIDAN (SN) MULTI-PURPOSE COOPERATIVE

Home to the most active One-Barangay-One Product initiative by the City, Camguidan is the root of the 88 active members of the Cooperative with its production plant located just beside the Barangay Hall.

The organization was established in 1991 and was registered three years later to the Cooperative Development Authority. It started with palay trading as its livelihood project, and with the assistance of the Department of Agrarian Reform, the organization started rice cracker production as another livelihood project. Rice crispies was suggested in a seminar on food processing with the Department of Trade and Industry as a good product for cooperative.

Following what was taught to them, they made rice crackers and explored ways to enhance the quality of the product. They even branded the product "Loud Bites Rice Crackers" such that a consumer will feel and hear its crispiness in a bite. The products are sold at trade fairs and are often bought by ambulant vendors.

With the S&T intervention, the cooperative was able to upgrade its production as well as increase its sales, meeting the demands of its products.

S&T Interventions Provided	Impacts:
<b>Equipment Acquisition and Upgrading</b> - 1-unit Gas-type Oven - 2-unit Portable Solar Dryer (PORTASOL)	<ul style="list-style-type: none"><li>• <b>10% increase in volume of production</b> from 9,980 pcs of the quarterly volume of production to 10,980 pcs.</li></ul>
<b>Technical Assistance and Consultancy</b> - Food Safety Assessment	<ul style="list-style-type: none"><li>• <b>10% increase in sales</b> from quarterly gross sales of PHP 128,900.00 to PHP 141,790.00.</li></ul>
<b>Technology Training</b> -Occupational Health and Safety in the Workplace -Food Safety and current Good Manufacturing Practices	<ul style="list-style-type: none"><li>• <b>10% increase in income</b> from a quarterly income of PHP 55,920.00 to PHP 61,512.00.</li></ul>

## ZANJERA STO. NIÑO AGRICULTURE COOPERATIVE

Mr. Cresencio I. Tomas, Chairperson  
Brgy. Bugasi, Banna, Ilocos Norte

PROJECT COST:

**Php 122,000.00**



(Right photo) PSTO-Ilocos Norte Provincial Director Engr. Benjamin C. Mercado, Jr. conducted training on the application of Carrageenan PGP. (Left photo) Zanjera Sto. Niño Agriculture Cooperative receiving the 200 liters of the product.

### PALAY PRODUCTIVITY IMPROVEMENT OF ZANJERA STO. NIÑO AGRICULTURE COOPERATIVE

Majority of farmers in the municipality of Banna plant rice all year-round with the presence of irrigation services. Palay harvests, however are sold individually to local traders depending on the location's current price.

The cooperative is initially named as Zanjera Sto. Niño de Tabtabagan Irrigators Association Inc. and is engaged in agribusiness ventures, including palay trading and custom hiring of farm machinery. The association is composed of 603 farmer-members with a total aggregate farm area of 589 hectares. The Zanjera members, in a series of meetings, agreed to convert the association into a cooperative, to avail of the opportunity to engage in business compared to the existing association.

So, the cooperative was organized and registered with the Cooperative Development Authority on November 12, 2020, as Zanjera Sto. Niño Agriculture Cooperative headed by Mr. Mr. Cresencio I. Tomas with 23 initial members, and started to engage in the procurement of farm inputs and selling/loaning these to the farmers. During any cropping season, the capital for farm inputs takes a big part of their budget. Thus, selling farm inputs and loaning them to members is a great business opportunity for the cooperative in exchange for the big help the farmers would get to obtain lower prices and interest rates. Most of the farmers get their capital through loans from private individuals or banks, and they also get their farm inputs from private agricultural farm supply which they pay in exchange for palay.

To help them increase their yield, the adoption of the Carrageenan Plant Growth Promoter was a great help, thus, the technology was requested.

S&T Interventions Provided	Impacts:
<b>Technology Roll-out</b> - 200 Liters of Carrageenan Plant Growth Promoter Training on the Application of Carrageenan Plant Growth Promoter	<ul style="list-style-type: none"><li><b>33.8% increase in yield</b> from 559 kg per 1,115 sqm to 748 kg per 1,115 sqm.</li><li><b>33.8% increase in gross sales</b> from PHP 10,621.00 to PHP 14,212.00 for one cropping season per hectare.</li><li><b>25% reduction in the use of inorganic fertilizer</b> from 7 bags to 5 bags per hectare.</li></ul>

## NADAWA MABUTI FARMERS ASSOCIATION INC.

Mr. Jose M. Valencia, President  
Brgy. Mabuti, Marcos Ilocos Norte

PROJECT COST:

**Php 116,000.00**



(Left photo) PSTO-Ilocos Norte Team awarding the 200 Liters of Carrageenan PGP,  
(Right photo) Nadawa Mabuti Farmers Association Inc. receiving the electric pump.

### PALAY PRODUCTIVITY IMPROVEMENT OF NADAWA MABUTI FARMERS ASSOCIATION INC.

The Association is engaged in agribusiness ventures, including palay trading, vegetable, corn, and tobacco retailing. In 2020, the Nadawa Mabuti Farmers Association Inc. registered with the Securities and Exchange Commission as a non-stock, non-profit organization. To date, the association is composed of 52 farmers with a total aggregate farm area of 64 hectares.

With the appropriate S&T interventions such as the Carrageenan Plant Growth Promoter, the farmer-members were able to increase their yield and income as well improved their irrigation system.

S&T Interventions Provided	Impacts:
<b>Equipment Acquisition and Upgrading</b> - 1-unit of 3.0 hp Electric Pump	<ul style="list-style-type: none"><li>• 20% increase in yield per hectare from 60 sacks to 72 sacks.</li></ul>
<b>Technology Roll-out</b> - 200 Liters of Carrageenan Plant Growth Promoter - Application of the Carrageenan Plant Growth	<ul style="list-style-type: none"><li>• 14.28% reduction in the use of inorganic fertilizer per hectare from 7 bags to 6 bags.</li><li>• 20% increase in gross sales per hectare from PHP 57,000.00 to PHP 68,400.00</li></ul>

## CARAITAN RURAL IMPROVEMENT CLUB

Ms. Feljan I. Iglesia, President  
Brgy. 8, Caraitan, Badoc, Ilocos Norte

PROJECT COST:

**Php 185,000.00**



### TECHNOLOGY UPGRADING FOR MUSHROOM PRODUCTION OF CARAITAN RURAL IMPROVEMENT CLUB

The Caraitan Rural Improvement Club was registered in 2021 with 146 initial women members and primarily engaged in the production of mushroom and selling of cassava, ube, sesame, other root crops, fruit trees, ripe bananas, and vegetables. The club wanted to expand its start-up project and, therefore, sought DOST's assistance to acquire appropriate equipment that will improve their mushroom production.

S&T Interventions Provided	Impacts:
<b>Technology Roll-out</b> - 1-unit Multi-Purpose Shredder - 1-unit Substrate Mixer	<ul style="list-style-type: none"><li>• 500% increase in production from 200 to 1000 mushroom fruiting bags per season.</li></ul> <p>62.5% reduction in production time from 1 hour to 45 minutes of shredding and 2-4 hours to 1-2 hours of mixing.</p>
<b>Technology Training</b> - Business Continuity Planning	

**APANG FOOD PROCESSORS ASSOCIATION, INC**

Mrs. Anita Liyo, President  
Apang, Alilem, Ilocos Sur

PROJECT COST:

**Php 131,100.00**

### **PRODUCTION FACILITY UPGRADING FOR BANANA CHIPS PROCESSING OF APANG FOOD**

Brought with their own initiatives and interest after participating the livelihood training conducted by DOST through its Community Empowerment thru Science and Technology (CEST) Program in 2016, members of the Rural Improvement Club (RIC) organized and registered an association with the assistance of DOST as – APANG FOOD PROCESSOR ASSOCIATION in 2017. The association produced Banana Chips, Ginger tea and Turmeric Tea, which major materials are abundant in the community.

In 2018, they were given initial packaging and labelling supplies for their finished products that undergone microbiological testing and nutritional analysis. The members also participated in the Food Safety Training and Assessment and training on bookkeeping and marketing strategies, which are vital for their operation and livelihood.

With the perseverance of the members, production increased, and its quality of the product is continuously improved to reach larger market.

With concern to production, the problem is the draining of oil from the chips after frying and is done by putting kitchen tissues in the basin to absorb excess oil. This practice can cause contamination of the product.

The association also lacks equipment in production and some of the equipment do not conform to current good manufacturing

<b>S&amp;T Interventions Provided</b>	<b>Impacts:</b>
<b>Equipment Acquisition and Upgrading</b> <ul style="list-style-type: none"> <li>- 2 units of Aluminum Cooking Vats</li> <li>- 1 unit Banana Chipper/Slicer</li> <li>- 1 unit Stainless Steel De-Oiling Machine</li> <li>- Update Label Design for Banana Chips</li> </ul>	<ul style="list-style-type: none"> <li>• <b>5% increase in production volume</b> (From 14,400 pouches to 15,120 pouches)</li> <li>• <b>5% increase in sales</b> (From PhP 331,200.00 to PhP349,200.00)</li> <li>• <b>5% increase in income</b> (From PhP43,200.00 to PhP46,080.00)</li> <li>• <b>Acquired one (1) additional market</b></li> </ul>
<b>Technology Consultancy Services</b> <ul style="list-style-type: none"> <li>- Food Safety Assessment</li> </ul>	
<b>Technology Training</b> <ul style="list-style-type: none"> <li>- Training on Ginger Wine Processing</li> </ul>	

**ARNAP SUNRISE AGRARIAN REFORM MULTI-PURPOSE COOPERATIVE****PROJECT COST:**

**Mr. Eliseo R. Tabula**  
**Arnap, Cabugao, Ilocos Sur**

**Php 144,100.00**

### **TECHNOLOGY UPGRADE OF THE RICE COOKIES OF ARNAP SUNRISE AGRARIAN REFORM MULTI-PURPOSE COOPERATIVE**

Arnap Sunrise Multi-Purpose Cooperative is a multipurpose cooperative, registered under the Cooperative Development Authority. It was established in 1991 with an initial capitalization of Php25,000.00. The cooperative started making rice cookies in 2020. They usually market their products around Cabugao with the help of their Local Government Unit.

Early 2021, Mr. Eliseo Tabula, chairperson of the organization wants to improve their rice cookies thus, 3 of the members of their cooperative joined them to trainings and seminars resulting for the group to become active. Seeing the opportunities of rice cookies as a very viable progressive product, Mr. Tabula seek for an assistance to the Department of Science and Technology (DOST), through the Provincial Science and Technology Office – Ilocos Sur (PSTO-IS) to help the organization's improve their production facility to conform with Food and Drug Administration (FDA) requirements and improve the quality of their products through acquisition of a food compliant processing equipment.

<b>S&amp;T Interventions Provided</b>	<b>Impacts:</b>
<b>Equipment Acquisition and Upgrading</b> <ul style="list-style-type: none"> <li>- 1-unit deep sink table</li> <li>- 1-unit Stainless Steel Pulverizer</li> <li>- 1-unit refrigerator</li> <li>- Packaging materials with a standard label design for rice cookies.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>3% increased in the volume of production</b> of cookies and another additional product line of the association from 12,000 packs to 12,413 packs of rice cookies.</li> <li>• <b>3% increased in gross sales</b> of rice cookies from Php 400,000 to Php 413,700.</li> <li><b>8.3% increased in productivity</b> of the association from 1.2% to 1.3%.</li> </ul>
<b>Technical Assistance and Consultancy</b> <ul style="list-style-type: none"> <li>-Food Safety Assessment</li> </ul>	

**COMILLAS SOUTH WEAVERS' ASSOCIATION**

Mrs. Mary Ann I. Manuel, President  
Comillas South, Cervantes, Ilocos Sur

PROJECT COST:

**Php 240,000.00**

The weavers of COMSOWA learned different designs and patterns of weaving and operation of their handloom machines. They were able to improve their basic skills in weaving as well from making rags to weaving fabrics.

**FACILITY UPGRADING IN SUPPORT OF  
INNOVATION OF INABEL PRODUCTS**

The Abel Iloco is an integral part of the culture of the Ilocanos and other ethnic groups. "Abel" refers to the local weaving process and the woven product is called "Inabel".

In the municipality of Cervantes, weaving is practiced by some of the locals, most specifically in the barangays of Comillas South, Alulung and San Juan.

With the intention for an additional source of income, local women of Brgy. Comillas South enhanced their weaving capacities through a training on Basic Weaving, and organized the Comillas South Weavers Association (ComSoWA) and registered with the Department of Labor and Employment (DOLE) in 2019. They are also often called an association of young mothers.

Presently, the association has 33 registered members, and although challenged by the pandemic, their operation continued. Their products include woven table runner, foot rags and door mats.

To expand their market, they need to innovate their products into sheets, traditional attires, table runners with new designs and styles and upgrade their existing looms that are only capable of the basic weave. Hence, they sought the assistance of the Department of Science and Technology (DOST) through the Community-Based Program.

S&T Interventions Provided	Impacts:
<b>Equipment Acquisition and Upgrading</b> - 4 units of Advance Handlooms	<ul style="list-style-type: none"><li>The weavers of COMSOWA learned different designs and patterns of weaving and operation of their handloom machines. They were able to improve their basic skills in weaving as well from making rags to weaving fabrics as a result of their training last December 12-15, 2022.</li></ul>

**LANCUAS VEGIE NOODLES-CHIPS**

Mrs. Francisca G. Maspil  
Lancuas, San Emilio, Ilocos Sur

PROJECT COST:

**Php 239,642.00**

(Left photo) Mrs. Maspil and Mrs. Seleccio being assisted by Engr. Dangpa in mixing the ingredients through the Dough Mixer, (Right photo) group photo during the awarding of S&T Interventions. (From Left, Mrs. Maspil and Mrs. Seleccio of LVVNCP, Mr Lopez of DOST, and Mr and Mrs. Panlilio, suppliers.

### **PRODUCTION FACILITY UPGRADING AND LABORATORY ANALYSES FOR VEGIE CHIPS PRODUCTS OF LANCUAS VEGIE NOODLES-CHIPS PROCESSORS**

Veggie noodles-chips making started with ten (10) members after joining a training in 2017. With determination and passion, they associated to become the pillar for the Lancuas Veggie Noodles-Chips Processors.

The 70 members of association started with Php14,000 capital and equipment awarded to them by the DTI. They registered their association to DOLE in 2019 and was accredited by the Municipality of San Emilio as a duly registered association.

They have been marketing their products to different areas including many of their "kababanggayans" coming from abroad, until COVID '19 struck.

The association continued producing their Veggie Noodles and Chips, and though some of the equipment has become defective, they were able to buy new equipment but not enough to further increase their production. With assistance from the Department of Science and Technology, intervention were provided to further improve their production and their products.

<b>S&amp;T Interventions Provided</b>	<b>Impacts:</b>
<b>Equipment Acquisition and Upgrading</b> <ul style="list-style-type: none"> <li>- 1 unit Noodle Making Machine</li> <li>- 1 unit Dehydrator</li> <li>- 1 unit Spiral Dough Mixer</li> <li>- 1 unit Stainless Steel Preparation Table</li> <li>- 1 unit Stainless Steel Packaging and Labeling Table</li> <li>- Packaging and Labeling Materials</li> </ul> <b>Technology Training</b> <ul style="list-style-type: none"> <li>-Training on Machine Operations</li> </ul>	<ul style="list-style-type: none"> <li>• 10% increase in production volume (From 14,400 pouches to 15,840 pouches)</li> <li>• 10% increase in sales (From PhP288,000.00 to PhP316,800.00)</li> <li>• 10% increase in income (From PhP98,899.2 to PhP108,789.12)</li> <li>• Acquired one (1) additional market.</li> </ul>

**MALAMIN BURI WEAVERS ASSOCIATION INC**

Ms. Maricel U. Pascua  
Malamin, San Juan, Ilocos Sur

PROJECT COST:

**Php 62,500.00**

### **PRODUCTION AND QUALITY ENHANCEMENT OF BURI PRODUCTS IN MALAMIN, SAN JUAN**

Buri Palm Trees are abundant at Barangay Malamin. Leaves from buri palm are dried and used as raw materials to make different handwoven products like bags, mats, fans, blinds, and many others. The designs and colors of these items also vary in color. These are sold to tourists and buyers in local/national trade fairs.

With abundance of materials, buri weaving has played a significant role in the livelihood of the women of Barangay Malamin. As most of them are engaged to the craft which is one inherited customary skill from their kinfolks.

The Malamin Buri Weavers Association Inc. (MBWAI), formerly known as Malamin Buri Weavers Incorporated, was organized on September 13, 2019, with the Securities and Exchange through the initiative of Mrs. Virginia Calvelo. She organized the association for them to improve their livelihood and capacity to market their products. Since then, the members have undergone seminar and trainings in line with skills enhancement and many others. The buri handicraft industry is now benefiting 109 home-based workers, most of them are women.

Buri products were showcased with pride in various local and national trade fairs. These events became the venue for the association to achieve market links with buyers. Evidently, the association has distributors and sellers in the province specifically at the famous Calle Crisologo in Vigan City including province mates bringing the products as "pasalubong" or even through bulk orders.

S&T Interventions Provided	Impacts:
<b>Equipment Acquisition and Upgrading</b> - 25 units of Fabricated Stripping Tools with Removable Blades	<ul style="list-style-type: none"> <li>Improved the surface appearance of the raw materials of non-wood forest products through the conducted training on Bleaching and Dyeing of Non-wood products on December 12-13, 2023.</li> </ul>
<b>Technology Training</b> - Bleaching and Dyeing of Non-Wood Products	

**SOLID EAST AGRARIAN REFORM COOPERATIVE**

**Mr. Sherwin A. Castro, President**  
**Ansad, San Esteban, Ilocos Sur**

**PROJECT COST:****Php 134,685.00**

### **FOOD SAFETY COMPLIANCE THRU PRODUCTION FACILITY UPGRADING AND LABORATORY ANALYSES OF SOLID EAST AGRARIAN REFORM COOPERATIVE TAMARIND PRODUCT**

The Solid East Agrarian Reform Cooperative (SE ARC) was established and registered with the Cooperative Development Authority (CDA) in 1998. Its principal address is at Brgy. Cappa Cappa, San Esteban, Ilocos Sur.

Micro-financing, agricultural machinery rentals, and vermicast production are some of the cooperative's resource-generation activities.

In 2020, some members of the cooperative have undergone training on processing tamarind- fruits that are in abundance and only used for home consumption otherwise left unutilized. Since then, the members gradually produced tamarind products, until they started processing and marketing it in 2021.

To further support the cooperative, an inter-agency Memorandum of Agreement (MOA) was signed in 2021 entitled Village Level Farm-Focused Enterprise Development (VLFED) on Processed Tamarind with the Department of Agrarian Reform as lead agency which helped build the SEARC's processing center. The DOST, on the other hand, provided S&T- related interventions.

Today, the cooperative continues to increase production to expand its market and its product line benefitting not only the processors but also other members who produce tamarind fruits.

<b>S&amp;T Interventions Provided</b>	<b>Impacts:</b>
<b>Equipment Acquisition and Upgrading</b> - 1-unit Stainless Steel Working Table with Undershelf - 1-unit Refrigerator - Packaging and Labeling for Tamarind	<ul style="list-style-type: none"> <li>• 13% increase in production volume from 6,000 tubs to 6,780 tubs</li> <li>• 13% increase in sales from Php200,000.00 to Php226,000.00</li> <li>• 13% increase in income from Php92,000.00 to Php103,960.00</li> <li>• Acquired one (1) additional market.</li> </ul>
<b>Micro and Nutritional Analyses</b> -Laboratory Analyses	
<b>Technical Consultancy Services</b> -Food Safety Assessment	
<b>Technology Training</b> -Seminar on Good Manufacturing Practices	

**SINAPANGAN SUR FARMERS AGRICULTURAL MULTI-PURPOSE COOPERATIVE**

PROJECT COST:

Ruben Macadaeg  
Brgy. Sinapangan Sur, Bangar, La Union

**Php 160,000.00****COMMUNITY-BASED PROJECT FOR THE PROCESS AND PRODUCT IMPROVEMENT OF RICE COFFEE OF SINAPANGAN SUR FARMERS AGRICULTURAL MULTI-PURPOSE COOPERATIVE**

The cooperative was established way back 1992 and registered to Cooperative Development Authority (CDA) as Sinapangan Sur Farmers Agricultural Multi-purpose Cooperative (SSFAMPC) in the year 1997. It has 167 members. Most of them are rice farmers which serves as the source of raw material for rice coffee. Through the initiative of Mr. Ruben Macadaeg, chairman of the cooperative, they decided to process rice coffee since it is the commodity that is abundant in the community. Coffee engagement was started on September, 2021.

The cooperative is also engaged in the production of organic fertilizer to maximize the use of waste materials in rice production, the cooperative is also producing bokashi (organic fertilizer). They use rice hull and rice bran in addition to animal manure. They are using Indigenous Microorganism (IMO) in producing such fertilizer.

The food processors attended the seminar on current Good Manufacturing Practices (cGMP) with emphasis to food safety conducted by DOST-PSTC-La Union last April 7, 2022 and other processors on May 26 & 27, 2022. The production area has already gone Food Safety Assessment conducted by DOST last May 2022.

S&T Interventions Provided	Impacts:
<b>Equipment Acquisition and Upgrading</b> <ul style="list-style-type: none"> <li>- 1 unit Cooking Vat with stirrer</li> <li>- 1 unit Stainless Steel coffee grinder</li> </ul> <b>Label Design and Packaging</b> <ul style="list-style-type: none"> <li>- Packaging and Labeling design</li> </ul> <b>Technology Assistance and Consultancy Services</b> <ul style="list-style-type: none"> <li>- Food Safety Assessment</li> <li>- Proposed plant layout</li> </ul> <b>Technology Training</b> <ul style="list-style-type: none"> <li>- Seminar on current Good Manufacturing Practices (cGMP) with emphasis to food safety</li> </ul>	<ul style="list-style-type: none"> <li>• Improved appearance of the finished product with the appropriate packaging and labeling design.</li> <li>• Stainless steel is high corrosion resistant, hygienic with easy to clean characteristic and does not easily breed bacteria, thus it will minimize food contamination and therefore conforms to cGMP and food safety standards.</li> <li>• Using cooking vat with LPG and stirrer facilitates easier roasting and minimal time.</li> <li>• Consistent quality of the end products.</li> </ul>

**LIBBO FARMERS ASSOCIATION**

Gina T. Gabin  
Brgy. Libbo, Bagulin, La Union

PROJECT COST:

**Php 160,000.00**

(Left photo) The Libbo Farmers Association inspecting and testing the filling machine, (Right photo) DOST 1 represented by Engr. Bernadine P. Suniega, SRS II of PSTO-LU awarding the intervention to the association.

### **COMMUNITY-BASED PROJECT FOR THE PROCESS AND PRODUCT IMPROVEMENT OF BUGNAY WINE OF LIBBO FARMERS ASSOCIATION**

The Libbo Farmers Association is a group of farmers engaged in Bugnay wine processing. Considering the abundance of raw materials, the association decided to process bugnay wine.

In the year 2012, the association was established. It has 81 members and was headed by Mr. Charico Alog. He organized the farmers and registered as association to the Department of Labor and Employment (DOLE) in the year 2013. At present, it was taken over by Mr. Oribel Laser. Realizing the great potential of wine processing and considering the abundance of raw materials in the community, the association continued the production of Bugnay wine up to the present.

The members of the association attended the training on Bugnay Wine Making conducted by DOST in the year 2013. After that training, they pursue to process wine. In the year 2019, they harvested a total of 5,000 bottles from 1,125kgs of bugnay cherries and some are already sold. The association also started to venture in mushroom production and poultry (egg) production for extra income while waiting for the wine to age. They buy fruiting bags of mushroom from Agriculture Office in the municipality of Bagulin and sell it to individual buyers.

The growing demand for the product and food safety issues led the group to seek assistance from DOST for improved bugnay wine processing and packaging and compliance to basic food safety standards.

<b>S&amp;T Interventions Provided</b>	<b>Impacts:</b>
<b>Equipment Acquisition and Upgrading</b> - 1 unit Pneumatic Filling Machine	<ul style="list-style-type: none"> <li>Improved appearance of the finished product with the appropriate packaging and labeling design.</li> </ul>
<b>Label Design and Packaging</b> - Packaging and Lebeling design	<ul style="list-style-type: none"> <li>Minimize the time of transferring the juice to container drum. Avoid unwanted splashing or wastage to produce a final product of much higher quality.</li> </ul>
<b>Technical Assistance and Consultancy Services</b> - Food Safety Assessment - Proposed plant layout	<ul style="list-style-type: none"> <li>Minimized food contamination</li> </ul>
<b>Technology Training</b> -Seminar on current Good Manufacturing Practices (cGMP) with emphasis to food safety	<ul style="list-style-type: none"> <li>Better storage utilization.</li> <li>Consistent quality of the end product.</li> <li>Reduces time in bottling</li> </ul>

**SAN FERMIN AGRARIAN REFORM BENEFICIARY  
MULTI-PURPOSE COOPERATIVE**

Eduardo Balanag  
Brgy. San Fermin, Caba, La Union

PROJECT COST:

**Php 160,000.00**

*DOST led by PSTO-LU Provincial Director Mr. Jonathan M. Viernes awarding the equipment to SFARB MPC.*

**COMMUNITY-BASED PROJECT FOR THE PROCESS AND PRODUCT IMPROVEMENT OF CASSAVA CHIPPY OF SAN FERMIN AGRARIAN REFORM BENEFICIARY MULTI-PURPOSE COOPERATIVE**

The San Fermin Agrarian Reform Beneficiary Multipurpose Cooperative (SFARB MPC) was registered in the CDA (Cooperative Development Authority) in the year 1999 with the help of the Department of Agrarian Reform (DAR). It was formerly known as Samahan ng Magsasaka under Agrarian Reform Community which is composed of three (3) barangays (Liquicia, San Fermin and San Jose being the mother organization. The cooperative was first managed by Mr. Cesar Estilong from the year 1999-2006. In April 2006, it was re-organized and managed by Mr. Eduardo Balanag, present chairman of the cooperative. Their main product is cassava chippy. Other by-product includes cassava polvoron, and cassava flour. There are a total of 283 members of the cooperative as of December 2021. Thirty members are involved in the processing of cassava chippy production.

The construction of production area is currently on-going with the support of Provincial Government of La Union (PGLU), Department of Agrarian Reform (DAR) and Local Government Unit of Caba (LGU-Caba). The coop also allotted P100,000 for the improvement of production area as their counterpart.

The cooperative wishes to improve the processing and production of their cassava chippy. Hence, the cooperative sought assistance from DOST to acquire appropriate equipment and technical assistance that will help improve their cassava chips business. The production area has already undergone Food Safety Assessment conducted by DOST last May 2022 and currently processing their requirements for the application of License-to-Operate (LTO) from Food and Drug Administration (FDA).

S&T Interventions Provided	Impacts:
<b>Equipment Acquisition and Upgrading</b> <ul style="list-style-type: none"> <li>- 2 units dehydrator</li> <li>- 2 units vegetable slicer</li> </ul> <b>Label Design and Packaging</b> <ul style="list-style-type: none"> <li>- 3,800 stand-up pouch (9x13cm)</li> <li>- 4,000 stand-up pouch (11x18cm)</li> </ul> <b>Technical Assistance and Consultancy Services</b> <ul style="list-style-type: none"> <li>- Food Safety Assessment</li> <li>- Proposed plant layout</li> </ul> <b>Technology Training</b> <ul style="list-style-type: none"> <li>- Seminar on current Good Manufacturing Practices (cGMP) with emphasis to food safety</li> </ul>	<ul style="list-style-type: none"> <li>• The vegetable slicer machine with a single person for feeding the <b>slicer can finish the cutting task around 1-2 hour</b>. Thus, it saves time spent on cassava slicing activity greatly.</li> <li>• <b>Appropriate packaging and proper label design</b> will comply to FDA product packaging and labelling requirement.</li> <li>• Stand-up pouches are high-barrier materials and resealable zipper closures that <b>protect chips against moisture, odor, punctures, and spills</b> which help to keep food fresher for longer.</li> </ul>

**KAPISANAN NG MGA KABABAIHAN PARA SA KALUSUGAN  
AT KAPALIGIRAN TUNGO SA KAUNLARAN, INC.**

PROJECT COST:

Bella Licudine

Brgy. Lipay Sur, San Gabriel, La Union

**Php 159,965.00**
*Provincial Director of PSTO-La Union Mr. Jonathan M. Viernes awarding the equipment to K5 Inc.*
**COMMUNITY-BASED PROJECT FOR THE UPGRADING OF EQUIPMENT,  
PACKAGING AND LABELING FOR WINE PRODUCTION OF K5 INC.**

The K5 Inc is a productive and progressive association where women are empowered partners supporting sustainable health, environment and economy. The goal of the association is to help improve the quality of life of its members, socially, morally, and economically with the assistance of different government or private agencies to have a productive and progressive women association. The K5 Inc. makes traditional bignay wine within their households, which they sell in their barangay and neighboring barangays.

The cooperative wishes to improve the processing and production of their bignay wine. Hence, the association sought assistance from DOST to acquire appropriate equipment and technical assistance that will help improve their business. The production area has already undergone Food Safety Assessment conducted by DOST last May 2022 and currently processing their requirements for the application of License-to-Operate (LTO) from Food and Drug Administration (FDA).

<b>S&amp;T Interventions Provided</b>	<b>Impacts:</b>
<b>Equipment Acquisition and Upgrading</b> - 1 unit stainless steel Juice Extractor - 3 units SS Fermenting tank with faucet	• Appropriate packaging and proper label design will comply to FDA product packaging and labelling requirement.
<b>Label Design and Packaging</b> - Packaging and Labeling design	• Stainless steel tanks are very durable, and they offer a relatively high resistance against rough materials. They will last longer and are not affected by any vulnerability.
<b>Technical Assistance and Consultancy Services</b> - Food Safety Assessment - Proposed plant layout	
<b>Technology Training</b> - Seminar on current Good Manufacturing Practices (cGMP) with emphasis to food safety	

**SUDIPEN DAIRY FARMERS ASSOCIATION**

Marvin V. Macanas  
Brgy. Castro, Sudipen, La Union

PROJECT COST:

**Php 145,000.00**

The Sudipen Dairy Farmers Association receiving and testing the equipment provided by the DOST-1 PSTO-La Union.

**COMMUNITY-BASED PROJECT FOR THE SILAGE PRODUCTION AND TECHNOLOGY UPGRADING OF THE MILKING PROCESS OF SUDIPEN DAIRY FARMERS ASSOCIATION INC.**

The Sudipen Dairy Farmers Association Inc., formerly known as Castro Dairy Farmer's Association Inc., was organized in year 2018 but was formally established in year 2020 with twenty-four (24) members. They started raising three (3) carabaos given by the Philippine Carabao Center (PCC).

In year 2020, the PCC gave them thirty (30) calves (8-9 months old) for fattening and when the calves reached two years old, they sold them and gave PHP 500.00 per carabao to the association.

In year 2021, the PCC also granted them another fifteen (15) adult carabaos and an additional 2 calves to serve as their multiplier.

This year 2022, the name of the association was amended and approved to be known as Sudipen Dairy Farmer's Association Incorporated. The association now have a total of thirty-three (33) members.

At present, they have a total of twenty-two (22) carabaos, seven (7) of it are pregnant which will be due on December or January 2023.

<b>S&amp;T Interventions Provided</b>	<b>Impacts:</b>
<b>Equipment Acquisition and Upgrading</b> <ul style="list-style-type: none"> <li>- 1 unit heavy duty forage chopper</li> <li>- 1 unit milking machine</li> </ul> <b>Technology Training</b> <ul style="list-style-type: none"> <li>- Seminar on current Good Manufacturing Practices (cGMP) with emphasis to food safety</li> </ul>	<ul style="list-style-type: none"> <li>• Using the milking machine, it only takes 5 minutes for a dairy animal to be milked and hygienic quality of milk.</li> <li>• Forage Chopper chops wet or dry straw/grass/ palm into pieces to use as animal feed. This machine cuts the laborious process of manual chopping and saves time in feeding livestock.</li> </ul>

**NAMALTUGAN MULTI-PURPOSE COOPERATIVE**

PROJECT COST:

Mr. Norman L. Pang-Oden  
Brgy. Namaltugan, Sudipen, La Union

**Php 159,840.00**

DOST-1 PSTO-La Union led by Provincial Director Mr. Jonathan M. Viernes awarding the corn sheller and Carrageenan plant growth promoter to the members of NMPC.

**COMMUNITY-BASED PROJECT FOR THE IMPROVEMENT OF CORN PRODUCTION OF NAMALTUGAN MULTI-PURPOSE COOPERATIVE**

Namaltugan Multipurpose Cooperative (NMPC) was organized by Mr. Alejandro Pang-oden, Former Municipal Agriculturist of Local Government Unit (LGU) Sudipen. They started with 15 members in the year 1991. They put up sari-sari store as their business and lending as their business. The members also plant yellow corn as additional income and sell it to the middleman. At present, the cooperative is manned by his son, Mr. Norman Pang-oden. Due to harmonious relationship and unity, more members were encouraged to join and now the total members are already 415.

As support to the cooperative, LGU Sudipen lent P50,000 without interest and payable for five (5) years. They used the money to invest in their business. The coop also received financial assistance from former governor Victor F. Ortega amounting to P100,000 for the renovation of their building. In the year 2020, the cooperative was able to put up water refilling business and gasoline station last January 2022.

The problem of the cooperative is the difficulty in deshelling of yellow corn during mass production. Therefore, they are asking assistance from DOST for the provision of appropriate equipment.

S&T Interventions Provided	Impacts:
<b>Equipment Acquisition and Upgrading</b> - 1 unit corn sheller - Carrageenan plant growth promoter	<ul style="list-style-type: none"><li>• corn sheller facilitates easier harvesting, minimize time and reduces cost</li><li>• using Carrageenan Plant Growth Promoter increases volume of production</li></ul>

**CACAO GROWERS AND MARKETING COOPERATIVE**

Ms. Rosario Chua (Chairperson)  
Brgy. Alipangpang, Pozorrubio, Pangasinan

PROJECT COST:

**Php 180,749.00**

(Left photo) Actual photo of the Melanger and Vibrating table machine.  
(Right photo) The staff using the acquired equipment in producing chocolates.

### **UPGRADING OF EQUIPMENT FOR CHOCOLATE PRODUCTION OF CACAO GROWERS & MARKETING COOPERATIVE**

The cooperative was created during the visit of personnel from OMAG (Office of Municipal Agriculture), OPAG (Office of Provincial Agriculture) and Staff of UP Los Baños, Laguna. Several cacao growers in the community attended the meeting and appreciated the potential of cacao as a source of income. Today the cooperative has 26 members with total aggregated land area of 18 hectares planted with 18,000 cacao trees.

S&T Interventions Provided	Impacts:
<b>Equipment Acquisition and Upgrading</b> <ul style="list-style-type: none"> <li>- 1-unit Melanger</li> <li>- 1-unit Vibrating table Machine</li> </ul> <b>Equipment Acquisition and Upgrading</b> <ul style="list-style-type: none"> <li>- Seminar on Shelf-life Testing and Product Development</li> <li>- Provided Laboratory Test of 9 products</li> <li>- Provided packaging and labeling assistance, with 5 designs on their product (Cacao Tablea, Mixed fruits, Mixed nuts, Mixed nuts and fruits, and Dark Chocolate)</li> <li>- Provided Food Safety Assessment</li> </ul>	<ul style="list-style-type: none"> <li>• <b>100% increase in monthly volume</b> of assorted chocolate production from 500 packs to 1,000 packs</li> <li>• <b>Better quality of chocolate products</b></li> </ul>

**STA. MARIA FARMERS' AGRICULTURE COOPERATIVE**

Mr. Eduardo Q. Lagmay (President)  
15 Centro. Brgy. San Mariano, Sta Maria, Pangasinan

PROJECT COST:

**Php 189,950.00**

(Left photo) Members of the Sta. Maria Farmers Agriculture Cooperative testing the multi-pupose shredder.  
(Right photo) actual photos of the solar water pump installed.

**UPGRADING OF EQUIPMENT FOR THE PRODUCTION OF ORGANIC FERTILIZER  
OF STA. MARIA FARMERS' AGRICULTURE COOPERATIVE**

Mr. Eduardo Q. Lagmay II, School Principal and a farmer organized the cooperative in 2019 and had it registered with CDA in 2021. It started with 15 members and now has 70 members. Primarily, the cooperative aimed to adopt organic farming to lessen the cost of farm inputs and dependence to chemical fertilizers and aimed help them come up with a productive income. The members are teachers inclined to farming and farmers who are interested in organic farming. At present, they are culturing catfish in ponds, heritage chicken, vermi-culture and composting products, selling organic pesticides probiotic and mixed soil media, and marketing their products on-site and through online and delivery modalities.

S&T Interventions Provided	Impacts:
<b>Equipment Acquisition and Upgrading</b> - 1-unit Multi-purpose Shredding Machine - 1-unit Solar Brushless Water Pump, 1 HP motor	<ul style="list-style-type: none"><li>• <b>75% decrease in chopping/shredding time</b> from 4 hours to 1 hour.</li><li>• <b>45% increase in production of organic fertilizer</b> from 350 kg to 507 kg</li></ul>

**PANGASINAN SWEETCORN AGRICULTURE COOPERATIVE**

Mr. Eduardo P. Dela Cruz Sr. (Chairperson)  
Brgy. Pindagan East, Alcala, Pangasinan

PROJECT COST:

**Php 179,000.00**

(Left photo) Delivery of shredder and 20 corn silage bins. (Right photo) Farmers of the Pangasinan Sweetcorn Agriculture Cooperative checking and testing the shredder.

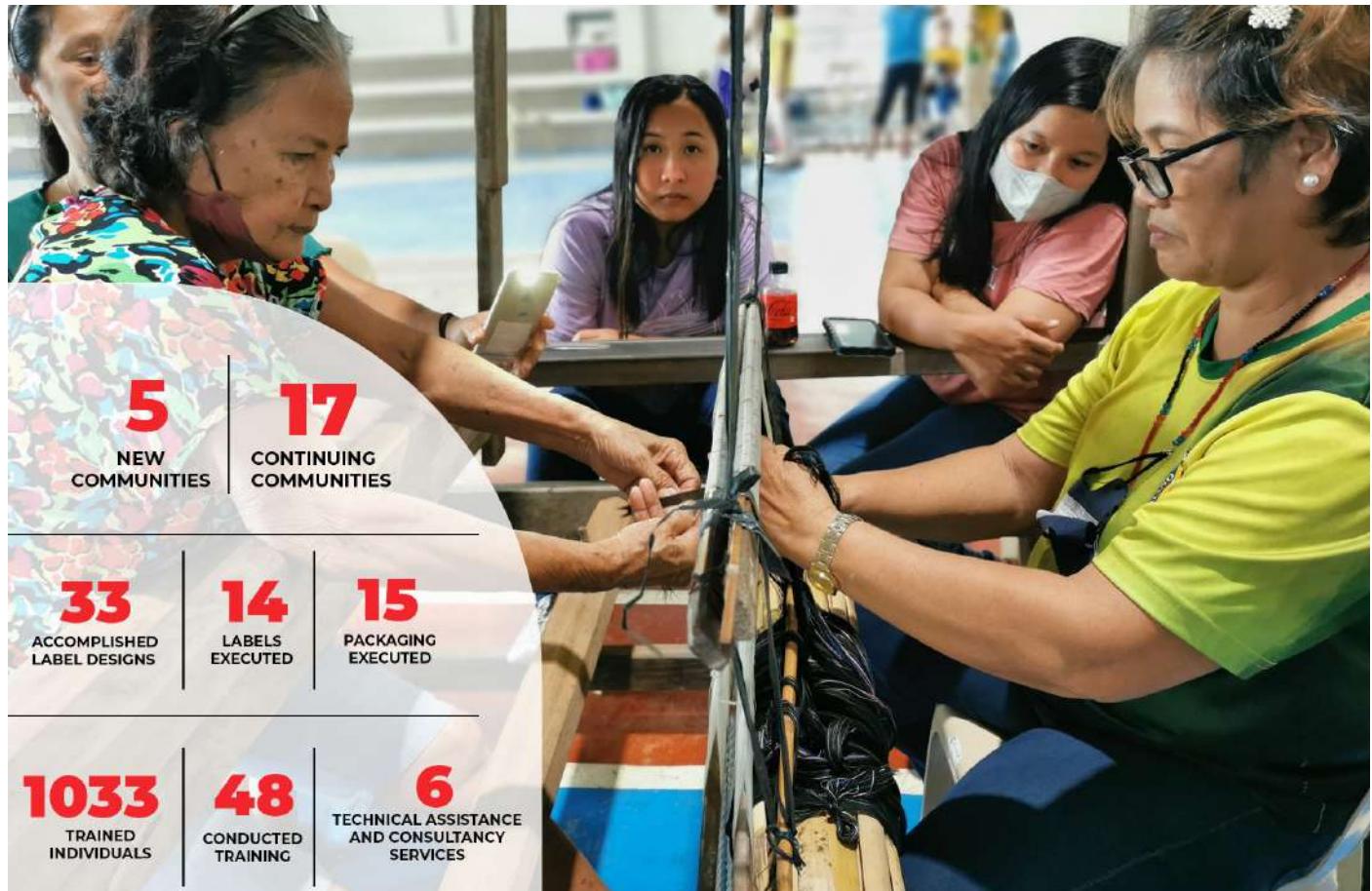
### **ESTABLISHMENT OF SILAGE PRODUCTION FOR PANGASINAN SWEETCORN AGRICULTURE COOPERATIVE**

The cooperative was established on September 26, 2017. Mr. Dela Cruz initiated and gathered farmers in their area, especially farmers who are producing sweet corn, to form a cooperative for the purpose of helping other farmers. Now, the cooperative has 22 members where most of them are planting sweet corn and others are high value vegetable crops. Currently, the cooperative is cultivating a total of 77 hectares.

Corn wastes during harvest were sold to a livestock grower in Balungao at a very low prices. The cooperative plans to turn this corn wastes into silage products to increase its value that's why they sought the assistance of the DOST.

S&T Interventions Provided	Impacts:
Equipment Acquisition and Upgrading - 1-unit Multi-purpose Shredder - 20-pcs Corn Silage Bins (Drums)	<ul style="list-style-type: none"> <li>Additional corn silage products were produced.</li> <li>150% increase in income out of corn wastes from P5,000.00 to P12,500.00 during harvest season</li> </ul>

# COMMUNITY EMPOWERMENT THROUGH SCIENCE AND TECHNOLOGY (CEST)



The Department of Science and Technology Regional Office No.1 (DOST-1) implements the Community Empowerment through Science and Technology (CEST) program as the government's response to poverty alleviation, continued successful project implementation in 2022. The program brought about a collaboration with its stakeholders, CEST-assisted communities, partner State Universities and Colleges (SUC) and higher education institutions, and various government agencies to uplift and empower far-flung communities in region 1 along with its five entry points: (1) Economic Enterprise Development; (2) Health and Nutrition; (3) Environmental Protection and Conservation; (4) Human Resource Development; and (5) Disaster Risk Reduction Management and Climate Change Adaptation.

In 2022, the CEST program adopted five (5) new beneficiary communities namely, Adams Ilocos Norte, Santo Domingo Ilocos Sur, Burgos La Union, Mapandan Pangasinan, and Umingan Pangasinan. The Municipality of Santo Domingo was selected according to the End-Local Communist Armed Conflict (ELCAC) classification endorsed by the Regional Task Force – End Local Communist Armed Conflict (RTF-ELCAC). Whereas, the Municipalities of Adams, Burgos, Mapandan, and Umingan were adopted based on the poverty incidence established by the Philippine Statistics Authority (PSA) and under the category, Geographically Isolated and Disadvantaged Areas (GIDA). For this year, a total of twenty-three (23) CEST-assisted communities were catered, including the existing eighteen (18) CEST-assisted communities in the region. Further, 109.52% accomplishment was achieved, considering a target of four (4) new and seventeen (17) continuing CEST-assisted communities.

The program's pursuit of providing poverty-challenged communities with science and technology-based interventions, while supporting their socio-economic growth, transcends despite modern development challenges. This year, the DOST-CEST program assisted twenty-three (23) municipalities and sixty-eight (68) barangays in region 1, two thousand three hundred thirty-five (2,335) S&T interventions provided, forty (40) technologies promoted, four hundred ninety-two (492) technology training conducted and served one thousand four hundred (1,400) customers, capacitating with S&T information, and skills with technology training, proper meal planning, computer literacy, livelihood opportunities, and disaster resiliency.

# ECONOMIC ENTERPRISE DEVELOPMENT

The initiatives of the CEST program in providing livelihood opportunities and expanding the income generation capabilities of communities in region 1, are manifested and recognized with the development of new and sustainable products.

The DOST-1's INABEL project aims to preserve the loom weaving practices in Ilocos Norte and create a profitable business opportunity. Nine participants from three weavers' associations attended the project and received training on INABEL, refining their weaving practices and providing livelihood opportunities. During the training, 39 (8 males and 31 females) weavers learned to develop patterns that reflect the community's cultural identity. The project's goal is to uplift the quality of life and socio-economic growth of the beneficiaries.

To support the livelihood opportunities and increase production capability of various associations in Ilocos Sur, processing equipment and tools were awarded. These include a dehydrator machine, vegetable shredder, coconut milk presser, and tables for the Lucuban Coconut Processors in Salcedo. The Sinabaan Farmers Association in Salcedo received a meat mixer, meat grinder, chest freezer, and tables. The Bessang Food Processors Association in Burgos received a sealer, hot air gun, and tables. The Taleb Ladies Mango Processors Association in Nagbukel received a freezer, hot air gun, and tables. The Camanggaan Mommy's Livelihood Class in Santa Cruz received tables. ISDAlicious in Narvacan received a freezer and tables. Charcoal makers in Santo Domingo received equipment such as weighing scales and drum kilns. Lastly, the Kimpatubbog Camote Growers Association in Suyo received a refractometer for camote wine and a manual wine capper, along with tables.

Various municipalities in Ilocos Sur underwent technology training under the DOST-CEST program after receiving equipment. The Kimpatubbog Camote Growers Association, Suagayan Mighty Voyagers Association, Ikan iti Sulvec Dur-as Asosasyon, and Mapanit Squash Processing Association attended training sessions on optimizing production processes, food safety, and basic bookkeeping and marketing management. The Kabulig Farmers Association in Santol, La Union, received two units of electric dehydrator and participated in a cGMP seminar. Meanwhile, residents from Brgy. Sasaba and Sapdaan, Santol, La Union, joined the technology training on banana processing, and product development of banana wine and banana patty.

The DOST-CEST program provides Packaging and Labeling (P&L) to assist CEST-assisted associations in producing commercially competitive products. Thirty-three (33) label designs were created in region 1, and twenty-two thousand one hundred forty-five (22,145) label designs were executed for fourteen (14) products. Additionally, thirty-four thousand two hundred three (34,203) packaging materials were provided for fifteen (15) products. The program has furnished sixty-two (62) P&L assistance, exceeding the ten (10) assistance target by 620%.



## INNOVATION, SCIENCE AND TECHNOLOGY FOR ACCELERATING REGIONAL TECHNOLOGY-BASED DEVELOPMENT (iSTART) PROGRAM



The iSTART Program is the corresponding program developed by DOST to implement the result of the study conducted by UP School of Urban and Regional Planning thru the Planning and Development Research Foundation, Inc. (PLANADES) that identified the 20 growth areas in the entire Philippines. The Province of Pangasinan was identified for Region I.

The Program, as designed, is a convergence of all the programs/projects/activities that DOST is implementing – technology transfer, training, consultancy services, S&T promotion, scholarship, R&D, etc.

### PROGRAM FOCUS

- To accelerate the development of the regions through increased investments that will support their population
- To enhance regional productivity and efficiency thru Science, Technology and Innovation

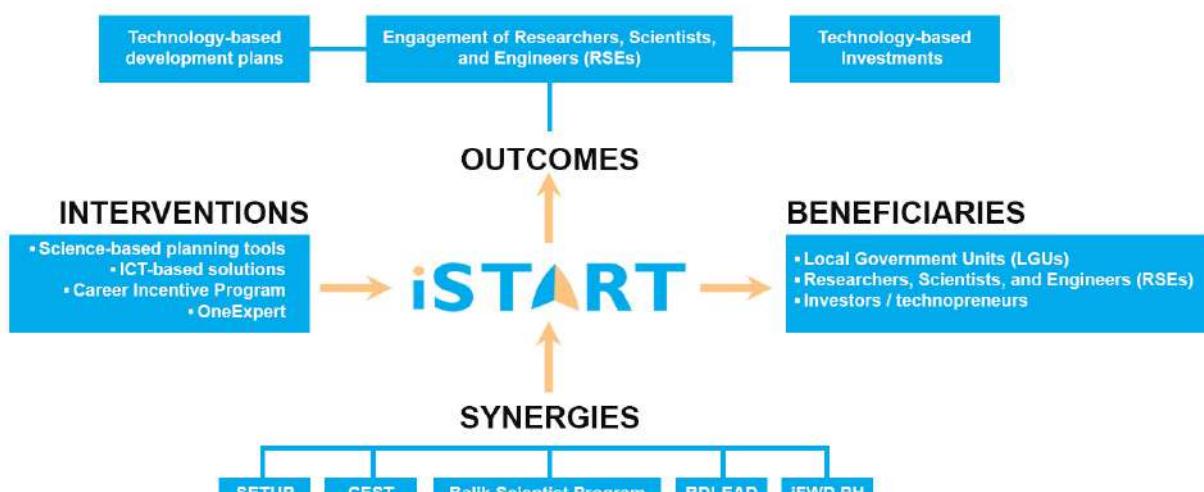


Figure 1: Strategic Framework

**Goal: Balanced and inclusive regional growth and development thru science, technology & innovation.**

## SPECIFIC OBJECTIVES:

1. assist LGUs in developing a technology-based development plan for the agri-based, manufacturing, and services sectors;
2. support technology-based investments and projects in the region by engaging Researchers, Scientists and Engineers (RSEs)
3. increase partnerships with private and public organizations to accelerate technology-based investments.

## YEAR 1 IMPLEMENTATION – 2021-2022

**PILOT LGUs** – identified for initial implementation of the program by former Governor Amado I. Espino III. These are Suai, Bugallon, Malasiqui, San Fabian, Alcala and Balungao, representing each of the six (6) Districts of the province.



## ACTIVITIES

### Pre-Program Implementation

1. Orientation/Program introduction to Gov. Amado I. Espino III, Provincial Administrator Atty. Nimrod Camba, and Provincial Planning and Development Officer, Ms. Benita M. Pizzaro, together with PSTO-Pangasinan Engr. Arnold C. Santos.
2. Signing of Memorandum of Agreement with PG Pangasinan and Pilot LGUs
3. Focused Group Discussion with identified LGU Officials and sectoral representatives to determine present conditions and be able to identify short, medium and long term STI interventions
4. Presentation and validation of proposed STI interventions along livelihood/business development, human resource development/technology trainings, program/projects of DOST focused on the Program's Strategic Framework

## ACCOMPLISHMENTS:

### Policy and Governance

- a. Creation of the Municipal Science and Technology Coordinating Committee (MSTCC) in all the pilot LGUs, chaired by the Local Chief Executive with the DOST Provincial S&T Officer as Vice Chairperson
- b. Technology-based interventions in the Municipal Development Plans
- c. Technology-based communication plan in the Municipal Development Plans

### Technology trainings

Title of Training	Male Participants	Female Participants	Resource Person
Technologies for Solid Waste Management	7	2	ITDI
Product Development	5	8	PSU-FIC
Product Label Design and Packaging	5	8	PSU-FIC
Food Safety and Good Manufacturing Practices	5	14	DOST I Food Safety Team
Agricultural Productivity thru the Project "SARAI" (Smarter Approaches to Reinvigorate Agriculture as an Industry in the Philippines)	9	13	UPLB SARAI Team



TRAINING ON DUAL DRUM COMPOSTER-LGU BUGALLON, PANGASINAN



TRAINING ON PRODUCT DEVELOPMENT OF TUPIG-LGU BALUNGAO, PANGASINAN



TRAINING ON SARAI AUTOMATIC WEATHER STATION (AWS) -LGU SUAL, PANGASINAN

## Technology Transfer

**LGU Sual** identified their Agriculture and Food Processing as their priority areas. The Pelletizing Machine was identified as part of the intervention to the Farmers Association in Sual to solidify organic fertilizer for easy and smart approach on their agricultural farming. Meanwhile, a Multi-commodity Solar Tunnel Dryer was awarded to the fish vendors association to help on their food processing to produce good quality and better market value of their fish products.



PELLETIZING MACHINE FOR ORGANIC FERTILIZER

MULTI-COMMODITY SOLAR TUNNEL DRYER

**LGU Bugallon** focus on their solid waste management, food sustainability and broom industry. Hydroponics System was awarded and put up in their demo farm for food sustainability and promote smart farming. Training was provided to selected members of the municipality on how to maintain and have a good harvest on the system. Another technology provided and given to one IP community in the municipality, was the Tiger Grass depollenator, developed by the Don Mariano Marcos Memorial State University thru the Metals and Engineering Innovation Center (DMMMSU-MEIC). For their Solid Waste Management, two technologies were provided: Heavy duty shredder machine and dual drum composter.



A technology to mechanize for easy and fast processing of bamboo was provided to the "Tiklis" makers in the **Municipality of Malasiqui**. The Bamboo splitting machine was awarded with the presence of the Local Chief Executive, Hon. Anthony Geslani. Simple demonstration on the operation of the equipment was provided by the accredited fabricator to the local "Tiklis" makers' association.



Meanwhile, **LGU Alcala** received three technologies, Glass shredder/pulverizer, Plastic shredder and Bricks molder. These technologies are all for the Solid Waste Management, as requested during the consultation meeting conducted with the municipal and local officials. Present during the awarding is the Local Chief Executive, Hon. Jojo Callejo.



**LGU Balungao** focused on the Establishment of the Goat Academy in the municipality, "Goat" is the One Town One Product (OTOP) of the municipality. DOST I iSTART Program Management Team tapped a consultant on this project, Dr. Jovita Datuin, an Animal Science expert. For startup on this project, two technologies were provided, Pelletizing machine and forage chopper for producing nutritious but low cost feeds of goats and minimal labor demands.



## YEAR 2 IMPLEMENTATION

DOST I Program Management Team planned to sustain the iSTART program for CY 2022 because of the strong and full support provided by the six pilot LGUs through their respective Local Chief Executives (LCEs). The insufficient and unavailability of fund is a challenge in the implementation of the planned projects and activities but the LCEs provided their counterpart fund through Executive Orders and Resolutions in order to sustain the iSTART program.

### Allocation of Funds

DOST Region 1 allotted One Million Two Hundred Fifty Thousand Pesos (P1,250,000.00) from its 2022 Regional Grants-in-Aid Funds for the Year 2 Implementation of the Project.

With the change in the leadership in the Province of Pangasinan, the program was introduced and discussed with the newly installed Governor, Hon. Ramon Guico III, especially the accomplishments on the six (6) pilot LGUs. On the proposal to identify the next set of LGUs, the Governor indicated that the iSTART program in the province should be inclusive for all the people of Pangasinan. Hence, he aspires to put up a Provincial Commissary that would provide food during calamities and similar situations.

Materials and equipment have been requested for procurement for the initial establishment of the Provincial Commissary such as; stainless steel table and rack, vacuum packaging machine, horizontal band sealer, three-deck oven and chest freeze.

### FUNDS GENERATED FROM THE 6 PILOT LGUS

For continuity and sustainability of the iSTART Program, the pilot LGUs, have allocated funds from their 2022 budget for a total amount of P15,850,000.00.

LGUs	Fund Allocation, Php	Project
Sual	1,000,000.00	SARAI Component on Early Warning System; thru the establishment of an Automatic Weather Station
Bugallon	1,000,000.00	Livelihood & Enterprise development (processing and packaging of food products), bamboo utilization like furniture and other products.
	4,800,000.00	Alternative Energy (solar powered system, bamboo utilization like furniture and other products)
	2,700,000.00	Integrated Solid Waste Management (vermiculture production).
San Fabian	2,750,000.00	Solid Waste Management Equipment and Solar Powered Irrigation System
Alcala	2,100,000.00	Environmental Management Enhancement Program
	100,000.00	Organic Farming Trainings and Veggie Noodles Production Enhancement
Balungao	1,400,000.00	Establishment of the Goat Academy and Food upgrading, packaging and branding for tupig and tuba

Table 7. Fund allocation to seven (7) pilot LGUs in Region 1 for iSTART Program.

### WAYS FORWARD

The iSTART Program Management Office requested for a yearend meeting of the Municipal Science and Technology Coordinating Committee presided by the Local Chief Executives of the six (6) pilot LGUs to sustain the iSTART program for the CY 2023.

With the meetings of the Municipal S&T Coordinating Committee and other officials of the LGUs, areas of concern were discussed including the allotted fund to sustain the project of which, three (3) of them had already signified their full support in the iSTART Program;

1. LGU San Fabian committed 5M for the Solid Waste Management;
2. LGU Balungao allotted 2M for their concern on Water Hardness and Establishment of Goat Academy;
3. LGU Sual allotted 1M for Good Agriculture and Aquaculture Practices and Solid Waste Management.

# REGIONAL STANDARDS AND TESTING LABORATORY (RSTL)



The Regional Standards and Testing Laboratory (RSTL) is a government service laboratory of the Department of Science and Technology Region 1 known for its accurate and reliable testing and calibration services. Despite all the roadblocks and detours that the laboratory has faced during the pandemic, RSTL have persevered and never lost sight of its goal in providing services that will address public welfare concerns and consumer protection through scientific, technological, and innovative efforts.

## Laboratory Accreditations and Recognitions

### ISO/IEC 17025:2017 Accreditation

Maintaining the competency and quality in the provision of accurate and reliable testing and calibration of the services, the RSTL sustained four (4) accreditations and recognitions this year: Issued by the Philippine Accreditation Bureau, the ISO/IEC 17025:2017 accreditation of RSTL is for its Chemical and Microbiological Testing in food and water, and the Regional Metrology Laboratory for calibration. ISO/IEC 17025:2017 is the highest badge of recognition for testing and calibration laboratories. Being an accredited laboratory means that the results of tests and calibration performed are internationally acceptable.



## DOH-NRL Accreditation as Drinking Water Testing Laboratory

The Department of Health has accredited RSTL as a Drinking Water Testing Laboratory. With this accreditation, the DOH aims to ensure the quality of drinking water and its safety for public consumption in compliance with the Philippine National Standards for Drinking Water (PNSDW). The accreditation also allows the laboratory to perform chemical, physical, and microbiological analysis of water. The results of these analyses will be recognized and accepted by DOH.

## DENR-EMB Recognized Environmental Laboratory

The RSTL is a DENR-EMB Recognized Environmental laboratory, and has the authority to test environmental water samples, particularly wastewater, and generate environmental data that can be used for environmental impact assessment, environmental monitoring, and research activities for the protection of the environment.

## DOH-FDA accreditation as Food Testing Laboratory

As an accredited Food Testing Laboratory by the Food and Drug Administration, the RSTL advocates food safety and provides support to the campaign to promote consumer protection. The laboratory provides FDA-accredited testing services to food-related establishments which is part of their requirement to obtain License to Operate and food product registration.

In addition, the RSTL has continuously complied with regulatory and mandatory requirements:

## Certificate of Authority to Operate Chemical Laboratory

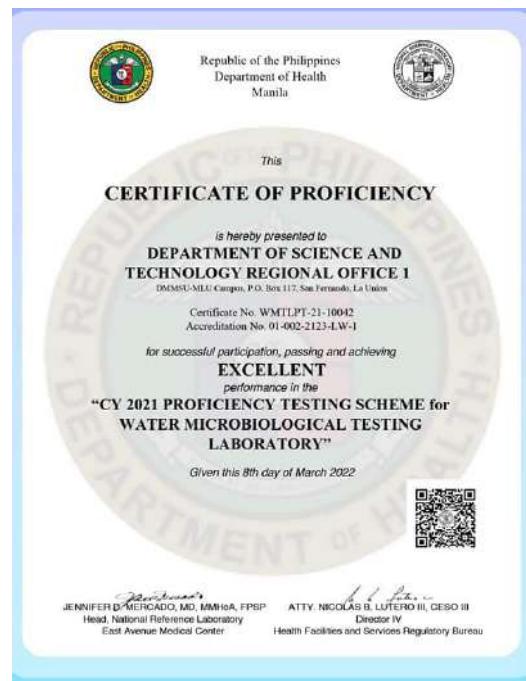
The laboratory has undergone an ocular inspection last July 19, 2022 headed by Hon. Adoracion P. Resurrecion, Board of Director of Professional Regulation Commission (PRC), Board of Chemistry, with the guidance and assistance of PRC-Rosales Pangasinan. The PRC CATO inspected the proficiency of laboratory staff and adherence of the Chemistry Laboratory from the salient provisions and requirements of Republic Act 10657 (RA 10657), otherwise known as the Chemistry Law of the Philippines.

## License to Possess Explosives/Explosive Ingredients/Controlled Chemicals under Philippine National Police (PNP) and PDEA license to acquire controlled chemicals

These licenses allowed the laboratory to purchase and use certain controlled chemicals under the Implementing Rules and Regulations (IRR) on Controlled Chemicals of Republic Act No. 9516 of the Philippine National Police (PNP).

## Registration of Chemical Control Order for Lead, Arsenic and Cadmium

Still in process, the registration of Chemical Control Order (CCO) for these hazardous elements and their compounds is part of the laboratory's compliance to Republic Act 6969 also known as "Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990" under DENR-EMB.



Furthermore, the Regional Standards and Testing Laboratory has been continuously implementing and improving its Laboratory Quality Management System through quality control measures, personnel development, annual equipment maintenance and calibration, hands-on training on chemical and microbiological analysis and calibration, compliance to statutory and regulatory requirements, and the conduct of internal quality audit and management review.

### Consistent Delivery of Testing and Calibration Services

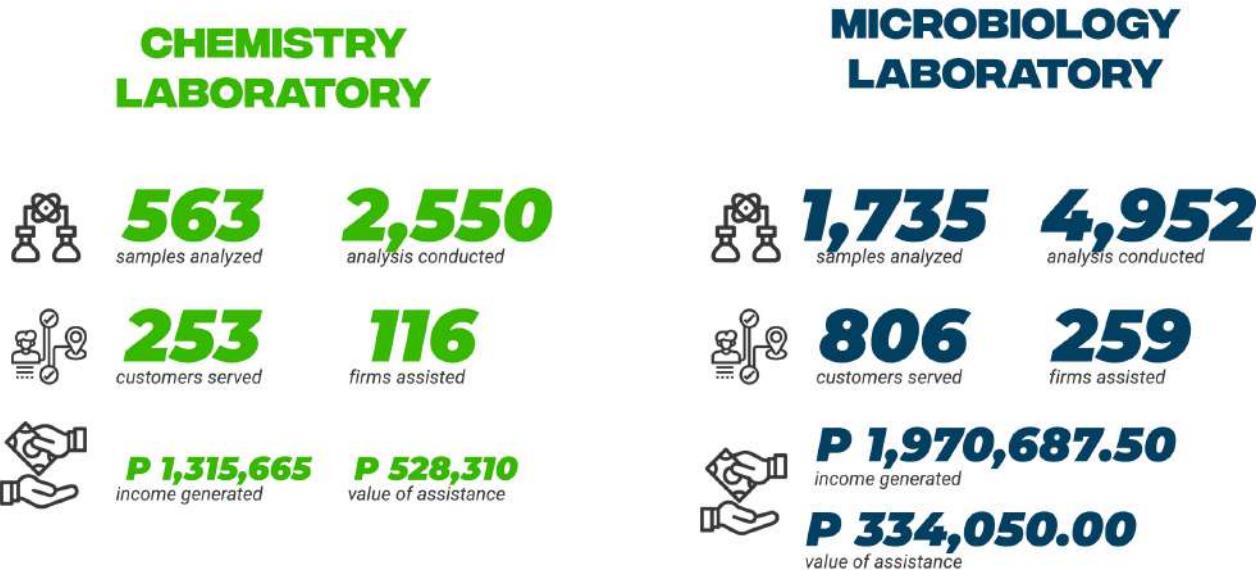


Figure 2: Testing Services Provided, CY 2022

The Chemistry, Microbiology, Shelf-Life Testing and Sensory Evaluation and Regional Metrology laboratories of the Regional Standards and Testing Laboratory (RSTL) have sustained the delivery of testing and calibration services to all stakeholders, State Universities and Colleges (SUCs), Micro Small and Medium Enterprises (MSMEs), private individuals, other government agencies, and several establishments in the region and nearby areas.



Figure 3: Calibration Services Rendered, CY 2022

The Regional Metrology Laboratory of RSTL based at the Provincial Science and Technology Office in La Union, and its satellite calibration laboratories based in Ilocos Norte, Ilocos Sur and Pangasinan have continuously conducted calibration of mass and volume to maintain and assure acceptable instrument accuracy and reliability.

RSTL also collaborated with the Community Empowerment through Science and Technology (CEST) program of DOST-1. Two-hundred four (204) water samples from various sources throughout the identified communities were collected and subjected to microbiological and chemical testing to assess safety for human consumption. Ninety (90) samples of food products processed by the communities were also analyzed for nutritional components and tested for microbial content to check cleanliness and ensure safety. Weighing and measuring instruments, such as weighing scales used in health centers and those used in markets, were calibrated to ensure accuracy and precision of measurements.

## Food Safety Assessment/Trainings

RSTL is a diligent advocate of food safety technical assistance and consultancy services provided to food MSMEs who are interested and committed to improving safety systems. The food safety assessments and trainings were in the areas of food safety assessment involving the deployment of food safety experts to food processors to improve their compliance to the requirements of current Good Manufacturing Practices (cGMP), Standard Sanitation Operations Procedure (SSOP) and other food regulatory standards.

Mr. Hero D. Galamgam, Science Research Specialist 1 of the RSTL, in collaboration with the provincial science and technology offices, assisted and assessed 34 micro, small and medium enterprises (MSMEs) in the food sector. The activity was done to continuously improve production of safe, wholesome, and quality foods for local and international markets and to assess the sanitary conditions and practices established by the food manufacturing firms.

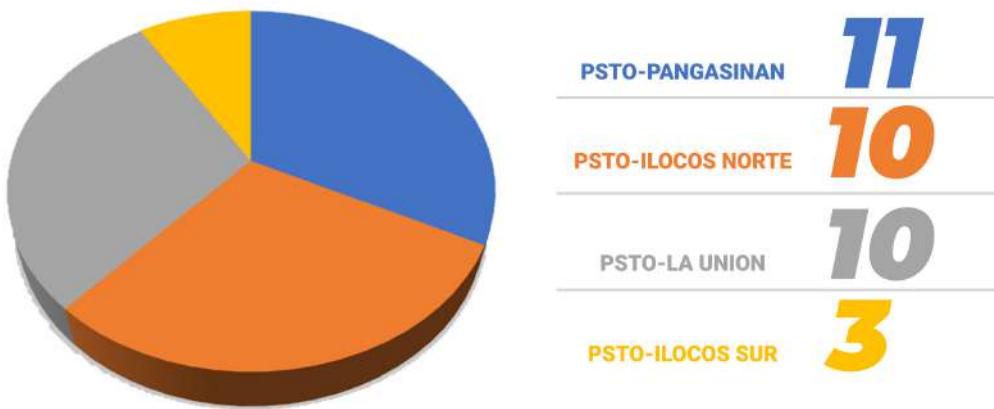


Figure 4: Number of firms assisted

In addition, the RSTL provided the resource speakers in conduct of 18 food safety seminars/training sessions in 2022 which catered to 528 (155 Males, 373 Females) participants in various sectors. Trainings were on basic food hygiene and good manufacturing practices with emphasis on food safety to MSMEs engaged in food processing and a capacity building training for sanitary inspectors to enhance and effectively discharge the role in regulating food processors and establishments in the locality. This activity created a strong partnership with the LGUs (Local Government Units) in promoting food safety through seminars/training on cGMP and Food safety.

## Proficiency Testing

To ensure consistent, reliable, and accurate test results, the RSTL has regularly engaged in Proficiency Testing programs. The Proficiency Testing Schemes participated in by the laboratory analysts of the Chemistry and Microbiology Laboratory were satisfactorily passed, further proving the competency of the laboratory to conduct testing and analyses.

## Enhancing Science Culture

The RSTL also accommodated 8 students (6 Males, 2 Females) from the Philippine Science High School Ilocos Region Campus, 10 students (5 Males, 5 Females) from Saint Louis University, 5 students (3 Males, 2 Females) from Mariano Marcos State University and 1 female student from the University of Santo Tomas. The RSTL provided the students with knowledge, skills, and relevant experiences by exposing them to actual workplace settings and allowing them to experience practical applications of the different scientific theories learned from school.



# TECHNICAL ASSISTANCE AND CONSULTANCY SERVICES (TACS)



The Department of Science and Technology Office Regional Office No. 1 remains committed to delivering technical assistance and consulting services across essential areas, including food safety and security, energy conservation, environmental protection, waste reduction, and productivity improvement. These services are designed to support and address the specific needs of various sectors and industries.

### Food Safety Assessment

Assures the safety and quality of food products, prevents food-borne illnesses, promotes a responsible enterprise image and protects consumers.

**53**  
**SME**

### Energy Audit

Reduces the operating costs of micro, small and medium enterprises (MSMEs) by conserving and using energy more efficiently.

**8**  
**FIRMS**

### Cleaner Production

Cuts the operating expenses of micro, small and medium enterprises (MSMEs) by: reducing wastes; increasing product yields; improving quality; providing safer workplaces; and protecting the environment through cleaner production assessment and intervention.

**9**  
**FIRMS**

### Halal Audit

Evaluate food firms and products deemed as halal to ensure that it fulfills the conditions stated in the halal requirements or guidelines.

**4**  
**SME**

**TARGET: 70**

**ACCOMPLISHMENTS: 73 (104%)**  
total number of TACS engagement

PSTO	ENGAGEMENT	CUSTOMER
<b>Ilocos Norte</b>		
	Saguigui Multi-Purpose Cooperative/ Pagudpud, Ilocos Norte	1
	Vyand Sweets and Party Needs/ San Nicolas, Ilocos Norte	1
	Quiling Norte Peanut Processors Association/ Batac City, Ilocos Norte	1
	Camguidan (SN) MPC/ Batac City, Ilocos Norte	1
	Buanga Agrarian Reform Cooperative/ Pinili, Ilocos Norte	1
	Inuwayan Food Products/ Adams, Ilocos Norte	1
	LGU Dingras/ Dingras, Ilocos Norte	1
	BBSWEET COMPANY, Laoag City	1
	ORGANIKO NGA MANNALON ITI SAN NICOLAS, San Nicolas, Ilocos Norte	1
	TITO BOJO'S FOOD PRODUCTS, Paoay, Ilocos Norte	1
	Local Government of San Nicolas, San Nicolas, Ilocos Norte	1
	<b>SUB-TOTAL</b>	<b>11</b>
<b>Ilocos Sur</b>		
	Arnap Sunrise MPC/ Arnap, Cabugao, Ilocos Sur	1
	Nanang Sion Empanada/ Vigan City, Ilocos Sur	1
	Solid East Agrarian Reform Cooperative/ San Esteban, Ilocos Sur	1
	Apang Food Processor Association, Alimen, Ilocos Sur	1
	Bessang Food Processors Association, Burgos, Ilocos Sur	1
	Camanggaan Livelihood Processors Association, Sta Cruz, Ilocos Sur	1
	Elena's Lumpia Wrapper, Tagudin, Ilocos Sur	1
	Gryko's Food Hub, San Juan, Ilocos Sur	1
	Ikan iti Sulvec Dur-as ti Asosasyon, Sulvec, Narvacan, Ilocos Sur	1
	Kimpatubbog Camote Growers Association, Suyo, Ilocos Sur	1
	Lancuas Veggie Noodles-Chips Processors, Ilocos Sur	1
	Yayies Food Products, Ilocos Sur	1
	<b>SUB-TOTAL</b>	<b>12</b>
<b>La Union</b>		
	Libbo Farmers Association/ Bagulin, La Union	1
	Apo ni Juan Sustainable Livelihood Program Association/ San Juan, La Union	1
	Mama Carmen's Meat Shop and Frozen Foods/ Bangar, La Union	1
	San Fermin Agrarian Reform Beneficiary Multi-Purpose Cooperative/ Caba, La union	1
	IML Miki Processing/ Bangar, La Union	1
	Twotwentytwo Food Products Manufacturing	1
	Sinapangan Sur Farmers Agricultural Multi-Purpose Coopeartive/ Balaoan, La Union	1
	JRQ Meat Products/ Aringay, La Union	1
	Kajonas Food Products/ Acao, Bauang, La Union	1
	Aiza's Poultry Trading/ Naguilian, La Union	1
	GCE Enterprise/ Bangar, La Union	1
	Casilangan Ube Producers Association, Naguilian, La Union	1
	Daramuangan Peanut Producers Association, Naguilian, La Union	1
	POSH Arts and Craft Trading, San Fernando City, La Union	1
	Mama Carmen's Meat Shop, Bangar, La Union	1
	CT Cosmos Bakery and Grocery, San Fernando, La Union	1
	Modulhaus Inc., San Marcos, Agoo, La Union	1
	<b>SUB-TOTAL</b>	<b>17</b>
<b>Pangasinan</b>		
	CALAPUNGAN REFORMED COOPERATIVE/Brgy. Calapungan, Natividad, Pangasinan	1
	MIMI'S CACAO PROCESSING/Brgy. Guesang, Mangaldan, Pangasinan	1
	UPLOKAL KALAMANSI/Brgy. Bari, Mangaldan, Pangasinan	1
	MARESMA WOMENS CREDIT COOP/Brgy. San Andres, Balungao, Pangasinan	1
	GABAY SA BAGONG PAGASA-MANOS CHAPTER, Bayambang, Pangasinan	1
	Palisoc Women's Association, Bautista, Pangasinan	1
	Pinang's Kitchenette, Calasiao, Pangasinan	1

PSTO	ENGAGEMENT	CUSTOMER
<b>Pangasinan</b>		
	Pogo Kalipi Livelihood Association, Pogo, Bautista, Pangasinan	1
	Verde Soy, Cablong, Sta Barbara, Pangasinan	1
	Diaz Farmer's Association, Diaz, Bautista, Pangasinan	1
	Solid Brass Bakeshop, Buenlag, Calasiao, Pangasinan	1
	JNS Aqua Farm, Urbiztundo, Pangasinan	1
	Elisha Bay Dagupan Bangus and Seafoods, Dagupan City, Pangasinan	1
	<b>SUB-TOTAL</b>	<b>13</b>

Table 8: Food Safety Assessment.

DOST 1 performed a Food Safety Assessment on a total of 53 companies, with 11 located in Ilocos Norte, 12 in Ilocos Sur, 17 in La Union, and 13 in Pangasinan.

PSTO	ENGAGEMENT	CUSTOMER
<b>Ilocos Norte</b>	JL Metalcrafts/ Piddig, Ilocos Norte	1
	Pangdan's Body Repair and Painting Shop/ Batac, Ilocos Norte	1
<b>Ilocos Sur</b>	Algel Printing Services/ Poblacion, Sta. Maria, Ilocos Sur	1
	Brenest Furniture Shop/ Balidbid, Salcedo, Ilocos Sur	1
	SBR Electrode Iron Works/ Narvacan, Ilocos Sur	1
	EP Medrano Furniture Shop/ Cabalangan, Bantay, Ilocos Sur	1
	Torres Ricemill/ Bonifacio, Cabugao, Ilocos Sur	1
<b>La Union</b>	Villanueva Furniture Shop, Bacnotan, La Union	1
	<b>TOTAL</b>	<b>8</b>

Table 9: Energy Audit.

DOST 1 conducted a total of eight (8) energy audit to the 8 firms in Ilocos Norte, Ilocos Sur and La Union.

PSTO	ENGAGEMENT	CUSTOMER
<b>Ilocos Norte</b>	JL Metalcrafts/ Piddig, Ilocos Norte	1
	Nina Leather/ Batac City, Ilocos Norte	1
	Local Government of Dingras, Dingras, Ilocos Norte	1
<b>La Union</b>	Gomez Furniture Shop/ Naguilian, La Union	1
	RGF Wood Work/ Brgy. Barrientos, Luna, La Union	1
	Villanueva Furniture Shop/ Agtipal, Bacnotan, La Union	1
<b>Pangasinan</b>	Bandulf Wood Craft Production, San Carlos, Pangasinan	1
	Raffy's Welding Shop, Sta Barbara, Pangasinan	1
	Yamban Enterprises, Urdaneta City, Pangasinan	1
	<b>TOTAL</b>	<b>9</b>

Table 10: Cleaner Production.

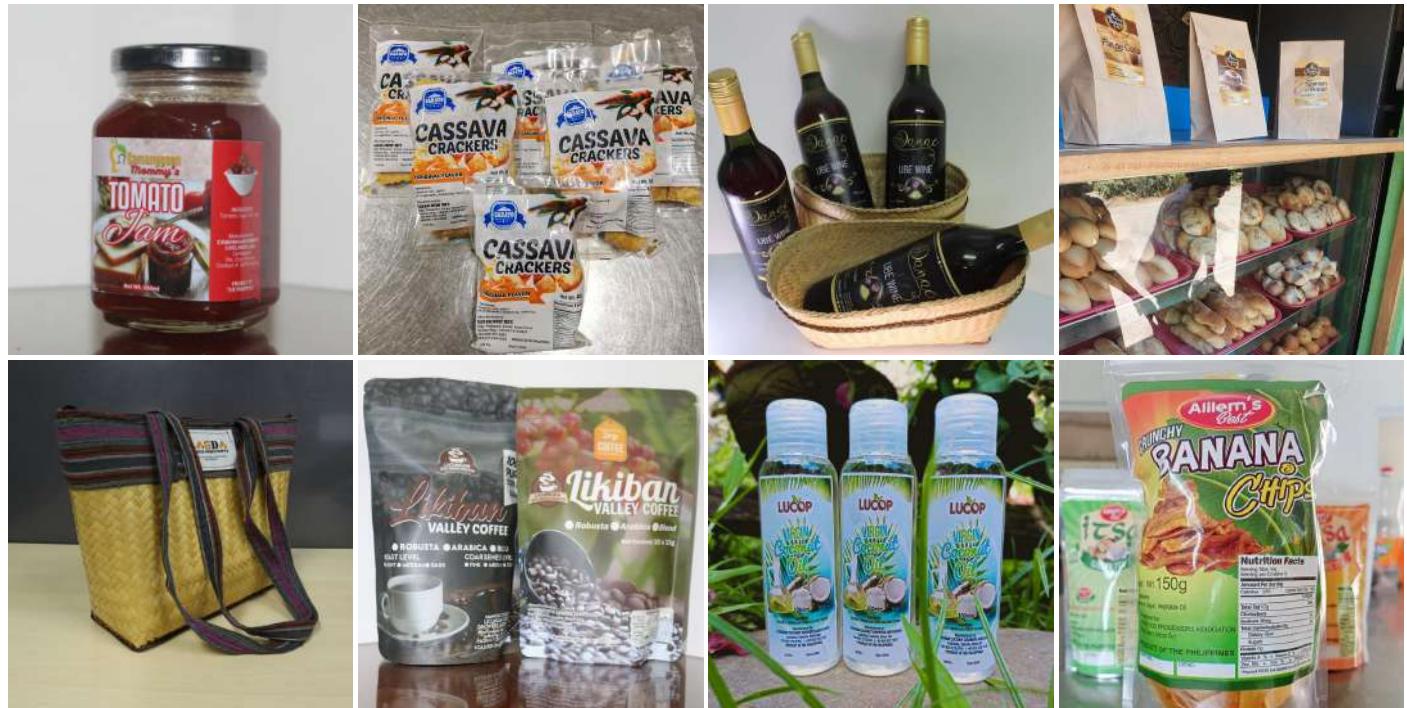
DOST 1 helped the nine (9) firms in Ilocos Norte, La Union and Pangasinan to cut their operational expenses by reducing wastes and increasing the firms' productivity.

PSTO	ENGAGEMENT	CUSTOMER
<b>La Union</b>	Lomboy Farms, Bauang, La Union	1
	Bebangs Binakot and Seafood Grill Restaurant, San Fernando City, La Union	1
	Aiza's Poultry Dressing Plant, Naguilian, La Union	1
	Calica's Fruit Products	1
	<b>TOTAL</b>	<b>4</b>

Table 11: HALAL Audit.

Four (4) food and product firms in La Union were evaluated as halal.

# PACKAGING AND LABELLING SERVICES



The packaging and labeling of a product have a significant impact on its ability to compete in the market. Packaging and labeling are crucial since they are used to identify products in marketing. Additionally, it enhances the product's appearance for marketing purposes. A product's label assists in giving the prospective customer information about the product.

The DOST1's packaging and labeling support assists MSMEs in adhering to the Mandatory Label Information outlined in the DOH-AO FDA's 2014-0030. Other than having improper labelling, several products also had improper packaging, which degrades the quality of the item itself. The common challenges that the Packaging and labeling services of DOST 1 attempt to address include inadequate packaging, short shelf life, lack of product identity, non-compliance with laws, and non-competitive goods. Marketing and product quality are greatly influenced by packaging and labeling.

DOST 1 continued to offer packaging and labeling support to MSMEs in CY 2022 to help them improve their products. The SETUP and GIA project beneficiaries, as well as some MSMEs who requested assistance, mostly in the food processing industry, can develop their label design requirements with the help of the accredited graphic designers for packaging and labeling from the region that the Regional Office maintains. The designs are subsidized by DOST Region 1, while the packaging execution is charged either to the SETUP/GIA project or to the firm itself.

A total of 84 interventions were provided to 25 firms to help them in improving their product. These accomplishments on the interventions provided were 123.94% of the target.

INDICATORS	ANNUAL TARGET	ACCOMPLISHMENT	% ACCOMPLISHMENT
No. of Packaging and Labeling interventions provided	71	84	118.31%
No. of Customers assisted	39	25	64.10%

Table 12. Target vs Accomplishments.

The Packaging and Labeling Assistance of DOST 1 offers interventions that go beyond simply providing package and label designs. These interventions also include packaging materials and assistance with the implementation or printing of generated label and package designs.

UNIT	NO. OF INTERVENTIONS PROVIDED	NO. OF FIRMS ASSISTED
PANGASINAN	5	1
LA UNION	12	2
ILOCOS SUR	1	1
ILOCOS NORTE	3	2
CEST	63	19
<b>TOTAL</b>	<b>84</b>	<b>25</b>

Table 13. Distribution of Accomplishments per unit.

The majority of P&L Assistance's clients were MSMEs that processed food. The label designs created by DOST 1 were guaranteed to comply with the DOH-Mandatory FDA's Label Information for the Philippines. All of the businesses aided in 2022 were food processors located in Region 1. These businesses also benefited from CEST, SETUP, or community-based projects.

The Packaging and Labeling Assistance of DOST 1 also offers packaging materials as one of its interventions. This includes the financial assistance for the purchase of packaging supplies and the printing or implementation of label designs.

UNIT/OFFICE	NO.	NAME OF PRODUCT	TYPE OF INTERVENTION (Label Design/ Packaging Execution/ WPackaging Materials)	NAME OF FIRM/ INSTITUTION/ ADDRESS
PSTO-ILOCOS NORTE	1	Red Rice, Brown and Black Rice	Label Design	Organiko nga Mannalon ti San Nicolas, Ilocos Norte
PSTO-ILOCOS SUR	1	Boneless Bagoong	Label Design	Caoayan Ipon Bagoong Association Inc.
PSTO- PANGASINAN	1	ATCHARA (Pickled Oyster Mushroom)	Label Design	TRIXZ Mushroom Products Trading/ Brgy. San Felipe Central, Binalonan, Pangasinan
	2	CHICHARON (Crispy-Fried Oyster Mushroom	Label Design	TRIXZ Mushroom Products Trading/ Brgy. San Felipe Central, Binalonan, Pangasinan
	3	Gourmet (Oyster Mushroom with Bagoong Alamang)	Label Design	TRIXZ Mushroom Products Trading/ Brgy. San Felipe Central, Binalonan, Pangasinan
	4	SHANGHAI (Oyster Mushroom-Stuffed Spring Roll)	Label Design	TRIXZ Mushroom Products Trading/ Brgy. San Felipe Central, Binalonan, Pangasinan
	5	SISIG (Oyster Mushroom Spicy-Sour Dressing)	Label Design	TRIXZ Mushroom Products Trading/ Brgy. San Felipe Central, Binalonan, Pangasinan
PSTO-LA UNION	1	Turmeric Powder, 750g	Label Design	Gintong Gubat Association sa Santol La Union Inc. (GGASLUI)
	2	Turmeric Powder, 100g	Label Design	Gintong Gubat Association sa Santol La Union Inc. (GGASLUI)
	3	Turmeric Powder, 100g	Label Design Execution-SUP	Gintong Gubat Association sa Santol La Union Inc. (GGASLUI)
	4	Turmeric Powder, 100g	Label Design Execution-SUP	Gintong Gubat Association sa Santol La Union Inc. (GGASLUI)
	5	Turmeric Powder, 750g	Label Design Execution-Sticker	Gintong Gubat Association sa Santol La Union Inc. (GGASLUI)
	6	Turmeric Powder, 100g	Label Design Execution-Sticker	Gintong Gubat Association sa Santol La Union Inc. (GGASLUI)
	7	Malunggay Powder, 1 kg	Label Design Execution	San Jose Caba Multi Purpose Cooperative/ San Jose, Caba, La Union
	8	Cassava Flour, 1kg	Label Design Execution	San Jose Caba Multi Purpose Cooperative/ San Jose, Caba, La Union
	9	Cassava Flour, 1kg	Packaging materials	San Jose Caba Multi Purpose Cooperative/ San Jose, Caba, La Union

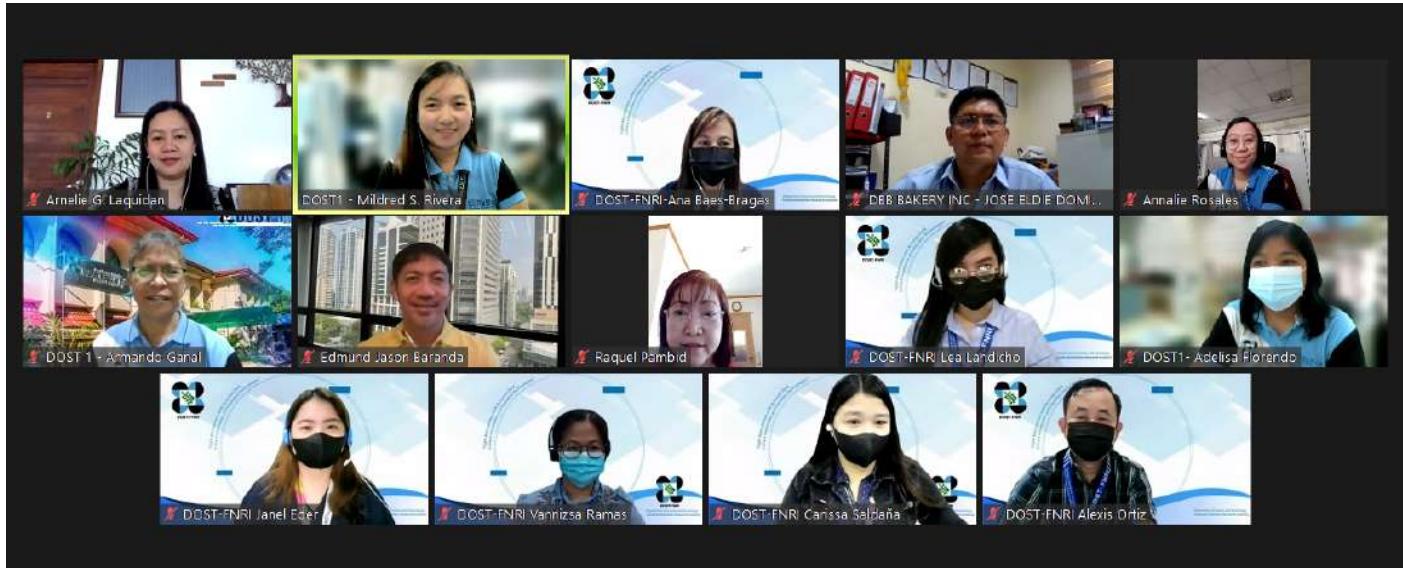
PSTO-LA UNION	10	Malunggay Powder, 1kg	Packaging materials	San Jose Caba Multi Purpose Cooperative/ San Jose, Caba, La Union
	11	Turmeric Powder, 100g	Packaging materials	Gintong Gubat Association sa Santol La Union Inc. (GGASLUI)
	12	Turmeric Powder, 750g	Packaging materials	Gintong Gubat Association sa Santol La Union Inc. (GGASLUI)
CEST				
Ilocos Norte	1	Cassava Crackers - Original Flavor	Packaging Materials	Carasi OTOP MPC / Carasi, Ilocos Norte
	2	Cassava Crackers - Garlic Flavor	Packaging Materials	
	3	Malunggay Powder, 1 kg	Label Design Execution	
	4	Cassava Crackers - Cheese Flavor	Packaging Materials	
	5	Cassava Crackers - Original Flavor	Label Design Execution	
	6	Cassava Crackers - Garlic Flavor	Label Design Execution	
	7	Cassava Crackers - BBQ Flavor	Label Design Execution	
	8	Cassava Crackers - Cheese Flavor	Label Design Execution	
Ilocos Sur	9	Young Pork Tocino	Label Design	Sinabaan Farmers Association / Salcedo, Ilocos Sur
	10	Pork Embutido	Label Design	
	11	Native Skinless Longganisa	Label Design	
	12	Pork Siomai	Label Design	
	13	Drip Coffee	Label Design	Licungan Coffee Growers Association/ Sugpon, Ilocos Sur
	14	Ground Coffee	Label Design	
	15	Cultured Honey	Label Design	Cosocos Honey Hunters Association/ Nagbukel, Ilocos Sur
	16	Wild Honey	Label Design	
	17	Mango Puree	Label Design	Bessang Food Processors Association/ Bessang, Burgos, Ilocos Sur
	18	SWEET POTATO MINDANAO VARIETY (Yellow Fleshed) wine	Label Design	
	19	SWEET POTATO MAGIC VIOLET VARIETY (Purple Fleshed) wine	Label Design	Kimpatubbog Camote Growers Association/ Sitio Kimpatubbog, Suyo, Ilocos Sur
	20	Sweetpotato Flour - Yellow Fleshed Camote	Label Design	
	21	Sweetpotato Flour - Purple Fleshed Camote	Label Design	
	22	Sweetpotato Flour - White Fleshed Camote	Label Design	
	23	Smoked Bangus	Label Design	Ikan ti Sulvec Dur-as iti Asosasyon (ISDALicious)/ Sulvec, Narvacan, Ilocos Sur
	24	Coconut Jam	Label Design Execution	Lucbaban Coconut Processors Association/Salcedo
	25	Tomato Jam	Label Design Execution	Camangaan Mommy's Livelihood Class/ Camangaan, Sta. Cruz, Ilocos Sur
	26	Coconut Flakes	Label Design Execution	Lucbaban Coconut Processors Association/Salcedo
	27	Virgin coconut oil	Label Design Execution	Lucbaban Coconut Processors Association/Salcedo
	28	Mango Jam	Label Design Execution	Taleb Ladies Mango Processors Association/ Taleb, Nagbukel, Ilocos Sur

Ilocos Sur	29	Mango Jam	Label Design Execution	Bessang Food Processors Association/ Besang, Burgos, Ilocos Sur
	30	Virgin coconut oil	Label Design Execution	Lucbuban Coconut Processors Association/Salcedo
	31	Tomato Jam	Label Design Execution	Camanggaan Mommy's Livelihood Class/ Camanggaan, Sta. Cruz, Ilocos Sur
	32	Virgin coconut oil	Label Design Execution	Lucbuban Coconut Processors Association/Salcedo
	33	Coconut Flakes	Label Design Execution	
	34	Tomato Jam	Packaging Materials	Camanggaan Mommy's Livelihood Class/ Camanggaan, Sta. Cruz, Ilocos Sur
	35	Coconut Jam	Packaging Materials	Lucbuban Coconut Processors Association/Salcedo
	36	Virgin Coconut Oil	Packaging Materials	
	37	Mango Wine	Packaging Materials	Taleb Ladies Mango Processors Association/ Taleb, Nagbukel, Ilocos Sur
	38	Mango Jam	Packaging Materials	
	39	Mango Wine	Packaging Materials	
	40	Mango Jam	Packaging Materials	Bessang Food Processors Association/ Besang, Burgos, Ilocos Sur
	41	Mango Wine	Packaging Materials	
	42	Coconut Flakes	Packaging Materials	Lucbuban Coconut Processors Association/Salcedo
	43	Tomato Salsa	Packaging Materials	Camanggaan Mommy's Livelihood Class/ Camanggaan, Sta. Cruz, Ilocos Sur
La Union	44	SWEET POTATO MINDANAO VARIETY (Yellow Fleshed) wine	Packaging Materials	Kimpatubbog Camote Growers Association/ Sitio Kimpatubbog, Suyo, Ilocos Sur
	45	SWEET POTATO MINDANAO VARIETY (Yellow Fleshed) wine	Packaging Materials	
	46	UBE CHIPS	Label Design	Kabulig Farmers' Association/ Lettac Sur, Santol, La Union
Pangasinan	47	UBE HALAYA	Label Design	
	48	UBE WINE	Label Design	
	49	Spanish Bread	Label Design	Diaz Farmers Bakery/ Diaz, Bautista, Pangasinan
	50	Pandesal	Label Design	
	51	Loaf Bread	Label Design	
	52	Hopia	Label Design	
	53	Ensaymada	Label Design	
	54	Donut	Label Design	
	55	Choco Crinkles	Label Design	
	56	Pan de Coco	Label Design	
	57	Brownies	Label Design	
	58	Chicken Longganisa	Label Design	Palisoc Women's Association/ Palisoc, Bautista, Pangasinan
	59	Chicken Tocino	Label Design	
	60	Pork Embutido	Label Design	
	61	Pork Longanisa	Label Design	
	62	Pork Tocino	Label Design	
	63	Siomai	Label Design	

Table 14. List of firms provided with packaging and labelling interventions.

The goal of the Packaging and Labelling assistance is to make it easier for local businesses to improve their label and packaging designs in order to reach a wider audience. Indeed, our MSMEs' strategy to develop a larger market that would increase sales is excellent.

# ISSUANCE OF FAIRNESS OPINION REPORT



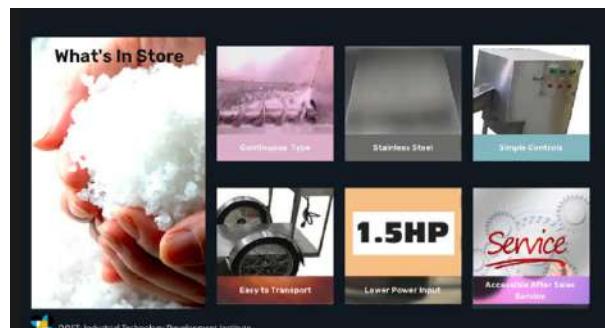
### "Support to the Issuance of Fairness Opinion Report for Technology Transfer Activities of the DOST-Generated Technologies Through the DOST Regional Offices (ROs) as Receiving Offices and FOB Secretariat"

With the project's being extended for one (1) year from October 15, 2021–October 14, 2022, DOST-1 successfully facilitated the issuance of two (2) Fairness Opinion Report (FOR) apart from the issued FOR in the previous years of implementation. Overall, DOST-1 issued a total of five (5) FOR.

A Fairness Opinion Board (FOB) is constituted for every FOR transactions which composed of three (3) members, with at least 1 member coming from the private sector. FOB reviews the fairness of the transaction between the Licensor and the Licensee, most specifically, the financial terms such as licensing or royalty fees, specified in the Technology Licensing Agreement (TLA).

#### A. Completed FOR Transactions

<b>Technology:</b>	Salt Iodization Machine
<b>Licensor:</b>	DOST Industrial Technology Development Institute (ITDI)
<b>Represented by:</b>	Dr. Lorelle Baracol Ms. Mary Grace Bonto
<b>Licensee:</b>	Bestmark Agro Industrial Manufacturing Corporation
<b>Represented by:</b>	Mr. Marcos Aquino
<b>FOB Members:</b>	Atty. Bayani B. Loste Dr. Victorio C. Palabay Prof. Kenneth G. Bayani
<b>Timeline of Transaction:</b>	February – August 2022



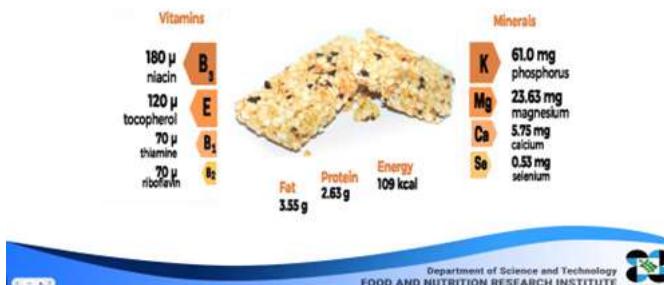
*Screenshot of the technology specifications*



*Photo opportunities with the FOB Members, Licensor and Licensee after the FOB meeting*

<b>Technology:</b>	Brown Rice Nutty Fruity Bar
<b>Licensor:</b>	DOST Food and Nutrition Research Institute (FNRI)
<b>Represented by:</b>	Mr. Alexis Ortiz Ms. Lea Landicho Ms. Ana Baes-Bragas Ms. Janel Eder Ms. Vannizsa Ramas Ms. Carissa Saldana
<b>Licensee:</b>	DBB Bakery
<b>Represented by:</b>	Mr. Daniel Borja Mr. Jose Eldie Domingo
<b>FOB Members:</b>	Atty. Edmund Jason G. Baranda Dr. Arnelie G. Laquidan Dr. Raquel C. Pambid
<b>Timeline of Transaction:</b>	July - October 2022

### Nutrient Content



Screenshot of the technology specifications



Photo opportunities with the FOB Members, Licensor and Licensee after the FOB meeting

## B. Ongoing FOR Transactions

**Technology:** Dual Drum Composter

**Licensor:** DOST Industrial Technology Development Institute (ITDI)

**Licensee:** Bestmark Agro Industrial Manufacturing Corporation

## C. New FOB Experts Engaged

Name	Affiliation/Institution	Sector	Expertise	Office Address
Dr. Dr. Victorio C. Palabay	DMMMSU-MLUC	Public	Machine Fabrication	City of San Fernando, La Union
Prof. Kenneth G. Bayani	DMMMSU-MLUC	Public	Business Administration, Financial Management, Entrepreneurship and Marketing	City of San Fernando, La Union
Dr. Arnelie G. Laquidan	DMMMSU-NLUC	Public	Financial and Agribusiness Management and, Entrepreneurship	Bacnotan, La Union
Dr. Raquel C. Pambid	PSU-Bayambang	Public	Food Technology, Food Processing and Product Development	Bayambang, Pangasinan

Table 15. List of new FOB experts

## SUPPORT SERVICES

# TRANSFORMING R&D OUTPUTS INTO INNOVATIONS THROUGH TECHNOPRENEURSHIP AND CUSTOMER VALIDATION (TRANSDI)

SDG  
Gender Equality (SDG 5)  
Decent work and Economic Growth (SDG 8)

## PDP CHAPTER 8

Expanding Economic Opportunities in Agriculture,  
Forestry, and Fisheries and Ensuring Food Security

## STRATEGIC INITIATIVE #3

Countryside Development



The Department of Science and Technology (DOST) launched the Transforming R&D Outputs into Innovations through Technopreneurship and Customer Validation (TransDI) program with a duration of eight (8) months from September 01, 2021-April 30, 2022 and was extended until December 2022. This project is to fully capacitate the willing and interested 2017 and 2019RICE winners to protect their IP, transfer and commercialize their technologies, link them to potential adoptor-investors, and further engage them in other programs and services of DOST.

### Technopreneurship Training

The technopreneurship training was facilitated by the team of Dr. Luis Sison from the University of the Philippines from January to April 2022. Fourteen (14) RICE winners and Technology Transfer Officer (TTO)/University Intellectual Property Office (UIPO) staff from region 1 were endorsed and among them, ten (10) have completed the training. The successful participants are; (1) Prof. Anabella G. Valdez, (2) Engr. Rubelyn V. Delfin and (3) Prof. Victoria N. Malaya of Don Mariano Marcos Memorial State University (DMMMSU); (4) Mr. Zaldy A. Fernandez, (5) Dr. Dionisio Bucao, (6) Engr. Artbellson B. Mamuri of Mariano Marcos State University (MMSU); (7) Mr. Timothy Joshua Ventayen, (8) Ms. Roseanne Jane C. Agustin, (9) Ms. Meryl A. Bernardino, (10) Dr. Catalina C. Platon of Pangasinan State University (PSU).

The activities and topics discussed were the following:

#### One-day Validation Pitch (January 7&14, 2022)

**Bukayo**  
A three-level Box-Behnken design to optimize the formulation for customer's overall acceptability on the shelf-life and sensory qualities of bukayo.

#### Value Proposition Refinement (January 21 & 28, 2022)

**Psu-Catalina pla...**

**TransDI Mentors Roles**  
Provide inputs on business development, techdev, IP and/or  
Provide industry/partner leads

A representative from the Pangasinan State University presented one of their technologies

One-on-One Consultation with the assigned mentor

## Low-fidelity Minimum Viable Product (February 4, 9, 18, & 23, 2022)

This activity tested whether there is a large enough group of customers that would be willing to buy the participant's product or service if offered to the public. Participants are tasked to validate the customer's needs and demands related to their technologies and presented their output during the Lofi MVP Validation Pitch.

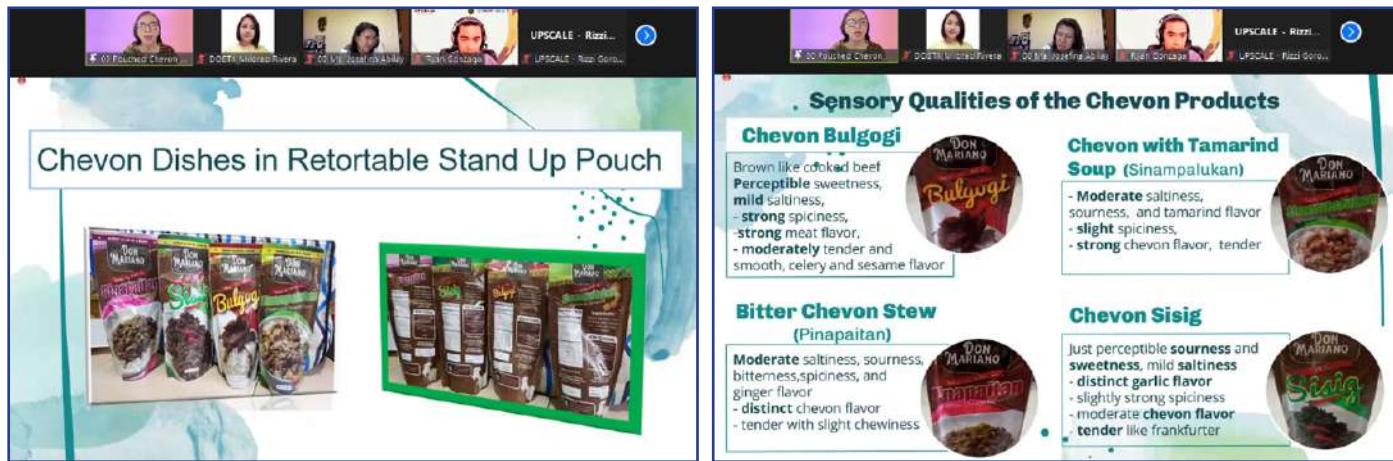
## Capsule Proposal Writing and Review (March 4 & 9, 2022)

### Practice Pitch and Consultation

Before the final presentation, the participants are given a chance to practice their pitch deck and receive feedback from their mentors. This activity was conducted over 5 days from March – April 2022.

### Demo Day

The demo day was conducted in 4 batches on April 1, 6, 20 & 29, 2022. After all the presentations, four (4) participants from region 1 successfully pitched their technology looking for a technology adoptor.



Screenshots of Prof. Valdez from DMMMSU during her technology pitching

### Patent Search and Drafting Workshop

As one of the objectives of the project is the filing of IP applications, the Patent Search and Drafting workshop was conducted last July 25-29, 2022 to help other participants in polishing their draft claims and specifications. Mr. Dindo Dumali from Intellectual Property of the Philippines (IPOPHL) and Dr. Armando Reosura from Carlos Hilado Memorial State University (CHMSU) served as the speaker during the workshop.

At present, DOST 1 has assisted region 1 participants' with their IP application through the SciTech Superhighway Program which fast-tracked IP applications.

The image contains two side-by-side screenshots from a video conference. The left screenshot shows a slide for a "PATENT SEARCH and PATENT DRAFTING Workshop" held from July 25-29, 2022. The right screenshot shows a "PRIOR ART SEARCH REPORT" document and a slide with a technical claim about a cutting machine, including a diagram of the machine and a note about distinguishing features.

# ONESTORE HUB

DOST 1, CITY GOVERNMENT OF SAN FERNANDO LAUNCH  
THE FIRST-EVER ONESTORE HUB IN LA UNION



*Cutting of the ceremonial ribbon led by DOST-PSTO-La Union Provincial Director, Mr. Jonathan M. Viernes, DOST 1 Regional Director, Dr. Armando Q. Ganal, City Mayor, Hon. Hermenegildo "Dong" Gualberto, City Councilor, Hon. Kyle Marie Eufrosito Yabes Nisce and LEBDO Head, Ms. Rizalyn D. Medrano.*

### DOST 1, City Government of San Fernando launch the first-ever oneStore Hub in La Union

The Department of Science and Technology Region 1 (DOST 1) through Provincial Science and Technology Office, La Union, in collaboration with the Local Economic and Business Development Office (LEBDO) of San Fernando City, launched the integration of oneStore Hub and oneStore Vendo in the La Union Trade Center today, December 2, 2022, to further assist the micro, small, and medium enterprises (MSMEs) in marketing their products

The oneStore Hub is a component of oneStore.ph, an e-commerce web application that operates nationwide and caters primarily to Philippine customers. This widens the scope of the target-market of different MSMEs with the help of DOST. Of course, customers will experience the ease of shopping and retailers will have a simple and direct access to one of the largest customer-based platform in the Philippines.

The oneStore Hub shall serve as the city's online platform in helping not only the Income Generating Barangays but as well as the other cottage industries in the City.

Present in the signing of the Memorandum of Agreement (MOA) are City Mayor, Hon. Hermenegildo "Dong" Gualberto, Regional Director of DOST 1, Dr. Armando Q. Ganal, Provincial Director of DOST-PSTO-La Union, Mr. Jonathan M. Viernes, City Administrator, Col. Ramon F. Laudencia, Head of LEBDO, Ms. Rizalyn D. Medrano, and City Councilor, Hon. Kyle Marie Eufrosito Yabes Nisce.





## SIGNING OF THE MEMORANDUM OF AGREEMENT (MOA)

"Kapanapanabik na kabanata ito ng ating pagkakaisa upang maitaguyod ang masaganang San Fernando." Mayor Dong said, during his acceptance speech, to describe the monumental event of the re-establishment of oneStore Hub in the city. "Our MSMEs comprise the backbone of our country's, and our city's economy" Mayor Dong added, giving emphasis on the importance of helping them through government interventions.

"The LEBDO office should also take advantage of the online opportunity iti oneStore tayo." Dr. Armando Q. Ganal said suggesting to maximize the oneStore.ph website to help MSMEs' market and promote their products region-wide. Dr. Renato U. Solidum Jr., DOST-Secretary, Engr. Sancho A. Mabborang, Undersecretary for Regional Operations DOST, and Mr. Christopher P. Musni, oneStore.ph Project Manager and Science Research Specialist II, also gave their messages of congratulatory through video presentation.

After the signing of MOA, the participants of the event went to La Union Trade Center for the ribbon cutting and inauguration of the oneStore Hub led by Ms. Rizalyn D. Medrano.

"Congratulations! Sa wakas narating natin ang launching ng oneStore Hub. Malaking tulong ang pagtayo natin ng oneStore Hub para sa mga micro, small, and medium enterprises ng ating siyudad. Mas maipromote natin ang ating mga local products dahil sa partnership na ito," Hon. Alfredo Pablo R. Ortega said through a video message for the closing remarks.

Indeed, this partnership is only the beginning. More interventions will be made to assist our MSMEs in the region to strengthen the overall economic development of the country.



INSIDE VIEW OF THE ONESTORE IN THE CITY OF SAN FERNANDO, LA UNION



# Kalusugan

## Outcome 4

PRODUCTIVITY AND EFFICIENCY OF  
COMMUNITIES AND THE PRODUCTION  
SECTOR, PARTICULARLY MSMEs IMPROVED

# COMMUNITY EMPOWERMENT THROUGH SCIENCE AND TECHNOLOGY (CEST)

**914**WEIGHING SCALES,  
PLATFORM BALANCES,  
AND HEIGHT BOARDS  
WERE CALIBRATED  
IN REGION 1**599**CUSTOMER  
SERVED**264**WATER SAMPLES  
WERE COLLECTED**34**COMMUNITY HEALTH  
WORKERS CAPACITATED**65**UNDERNOURISHED  
CHILDREN FED

To ensure accurate monitoring of the nutritional status of children and weighing of commercially marketed products and produce, platform balances and weighing scales are calibrated through the conduct of the calibration caravan. A total of seventy-four (74) weighing scales, platform balances, and height boards were calibrated in Ilocos Norte, three hundred fourteen (314) in Ilocos Sur, forty-five (45) in La Union, and four hundred eighty-one (481) in Pangasinan. The caravan benefited five hundred ninety-nine (599) clients from the barangay health centers, private entities, Micro and Medium Small Enterprises (MSMEs), and market public vendors amounting to two hundred fifty-six thousand and two hundred twenty pesos (256,220 PhP) with value of calibration assistance rendered (VAR). Referring to the BSC targets for the year, the CEST program aimed to calibrate eight hundred (800) units and served five hundred (500) customers. Meanwhile, the program was able to record a total of nine hundred seventeen (917) calibrated units and five hundred ninety-nine (599) served customers, having 107.53% and 119.80% accomplishments, respectively.

Adjacent to the calibration caravan, water resource mapping is also one of the identified interventions for the health and nutrition area since it has been observed and established that far-flung communities have a problem on potable drinking water and rely only on spring waters or deep well. To determine the potability of drinking water sources in the community, water samples are collected and analyzed through potability tests: Microbial analysis that determines the amount of Fecal Coliform (FC), Heterotrophic Plate Count (HPC), and Total Coliform (TC) present; and determination of Physiochemical analysis for calcium, chlorides, pH, sulfates, total hardness, and Total Dissolved Solids (TDS). For this year, two hundred sixty-four (264) water samples are collected, and one thousand one hundred eighty (1180) laboratory tests are conducted, rendering a total of five hundred seventy-two thousand and six hundred seventy pesos (572,670.00 PhP) value of analyses . After the identification of undrinkable water sources, water filters are provisioned to the community to provide them access to safe and potable drinking water. Hence, two hundred (200) Sawyer bucket water filters were installed in the Municipality of Carasi, Ilocos Norte, orienting thirty-two (32) beneficiaries (12M, 20F). Two hundred (200) water filters with containers, on the other hand, are provided in Agno, Pangasinan.

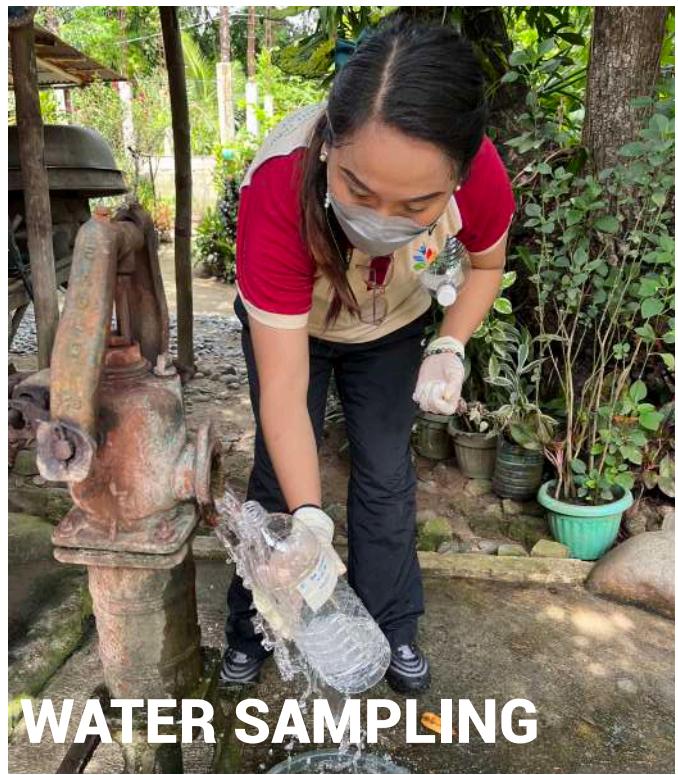
The distribution of Iron-Fortified Rice (IFR) to children aged three (3) to ten (10) years old is conducted to combat the rising incidence of malnutrition in Ilocos Sur. Rice Millers and Traders Association of Cervantes, Ilocos Sur, and Metro Bugnay Multi-Purpose Cooperative of Candon City, Ilocos Sur each received one (1) unit of IFR blending machine, adopting the DOST-FNRI developed technology to address the Iron Deficiency Anemia (IDA) and improve the health

learning ability of the children in their community. Further, twenty-two (22) individuals (13M, 9F) from Metro Bugnay Multi-Purpose Cooperative in Candon City and Cervantes Rice Millers Association in Cervantes were trained in the operation of the IFR blending machine, including maintenance and troubleshooting.

The CEST program provided numerous interventions that addressed the community's concerns regarding health and nutrition. In partnership with the respective LGUs and DOST- Food and Nutrition Research Institute (FNRI), the program capacitated thirty-four (34) community health workers (3M, 31F) from Santo Domingo, Ilocos Sur for the training on the DOST-Package for the Improvement of Nutrition of Young Children (DOST-PINOY) under the Malnutrition Reduction Program. The DOST-PINOY training equipped the participants with knowledge of seven (7) developed modules including meal planning, food safety, and basic nutrition. Additionally, residents from the three (3) CEST-assisted barangays of Bautista, Pangasinan were engaged in a series of healthy nutrition training. Twenty-six (26) individuals (3M, 23F) are trained on basic nutrition, meal planning, and backyard gardening, and twenty-five (25) individuals (1M, 24F) participated in "Promoting Healthy Nutrition in the community" training. The trainings provided the community with education on the preparation of nutritious meals while empowering the community with healthy nutrition.

Moreover , a one hundred twenty-day (120-day) feeding program was conducted in Bautista, Pangasinan benefiting the sixty-five (65) identified undernourished children (32M, 33F) during the 2022 Operation Timbang (OPT). Forty-three (43F) community health workers were capacitated in the program to ration Rice-Mongo (RIMO) instant blends, and RIMO curls every two (2) weeks to the children, and forty-five (45) boxes of ready-to-eat Arrozcaldo. Out of sixty-five (65) children (32M, 33F) from Brgys. Diaz, Palisoc, and Vacante who participated, forty-one (41) or 63% children (19M, 22F) have improved nutritional status from underweight to normal after the program.

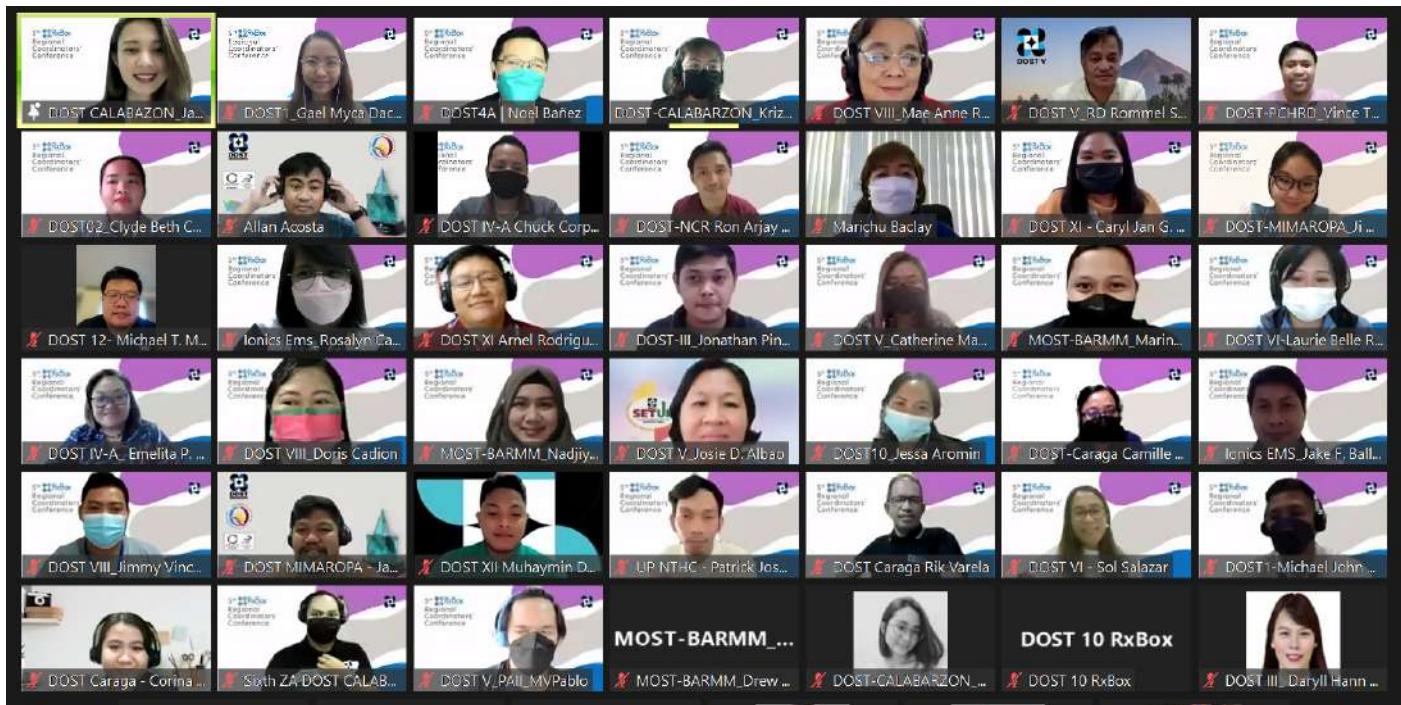
To address the prevalent iodine deficiency, the DOST-CEST program, in partnership with the DOST – Food and Nutrition Research Institute (DOST-FNRI), spearheaded the adaptation of Iodine Rich Drinking Water or TUBIG TALINO in Bautista, Pangasinan. As for the community's counterpart, the officials of Brgy. Vacante initiated the construction of a water refilling station where the TUBIG TALINO intervention be incorporated. The provision of this intervention will not only provide access to safe and potable drinking water but also an additional source of income for the



# RXBOX 1000 PROJECT

**PDP CHAPTER 8**  
Expanding Economic Opportunities in Agriculture, Forestry, and Fisheries and Ensuring Food Security

**STRATEGIC INITIATIVE #3**  
Countryside Development



## 5<sup>TH</sup> RxBox REGIONAL COORDINATORS' CONFERENCE

The RxBox device can limit interaction between patients diagnosed with Covid-19 and healthcare workers as it allows healthcare personnel to monitor multiple patients at once, including vital signs, oxygen saturation, and Electrocardiogram data at the bedside, especially for those with severe or critical illnesses that require constant monitoring.

In 2022, there are 411 RxBox devices deployed in 147 hospitals, 22 Covid-19 quarantine facilities and 242 Rural Health Units (RHUs) nationwide, and 28 of which are deployed in the selected Rural Health Units in Region 1. A total of 1,309 health care workers were trained to utilize the RxBox device and its sensors through blended training modalities.

As part of the project, the Department of Science and Technology Region 1 (DOST 1) RxBox Regional Management Team (RMT) attended the 5th RxBox Regional Coordinator's Virtual Conference, which was held on April 29, 2022, via Zoom platform. The conference provided updates and discussed issues concerning the project implementation and current best practices in the roll-out of the RxBox devices in every region.

In order to capacitate the RxBox users, the RxBox Regional Management Team (RMT) of the Department of Science and Technology Region 1 successfully conducted a Super Users Training (SUT) for Caoayan Rural Health Unit (RHU) Staff on June 30, 2022 via Zoom platform. Caoayan is one of the 47 RxBox beneficiaries in region 1 who received one (1) unit of RxBox device during the first batch of RxBox deployment phase.



The training includes presentation of various testimonial videos of some recipients of the RxBox device where they showcased on how having the device in their community, which is considered a geographically isolated area, has helped the health care providers address the concerns of the patients and pre-recorded lecture videos were also presented containing the brief background of the RxBox, how to utilize the device on a standalone mode, and troubleshooting RxBox issues. Also, an instructional video was presented to demonstrate the participants the proper and step-by-step navigation of the RxBox device. A brief discussion of the RxBox Memorandum of Agreement (MOA) was also presented during the said training. And to assess the participants' ability to utilize the device, they performed a return demonstration, navigating the device and utilizing its sensors and modules.



Following the delivery of the RxBox devices, the RxBox Regional Management Team conducted Clinical Acceptance Test (CAT) on September 27-29, 2022.

Initially, the 14 BP cuff replacement was tested and 13 Passed and 1 Failed due to broken BP tubing. After the testing of the BP cuff replacement, the 15 RxBox devices underwent voltage testing, charging test and sensor test (Vital Signs Module, Electrocardiogram (ECG) Module, Electronic Fetal Monitor (EFM) Module). 13 out of 15 devices



In between activities, the RMT also monitored the utilization of RxBox devices of the following Rural Health Units in Region 1:

PROVINCE	NUMBER OF BENEFICIARIES	CITY/MUNICIPALITY
Ilocos Norte	5	Bangui, Burgos, Laoag City, Batac City and Dingras
Ilocos Sur	8	Caoayan, Alilem, Galimuyod, Naranagan, Santiago, Sta. Lucia, Sugpon and Tagudin
La Union	5	Bacnotan, Balaoan, San Gabriel, Aringay and Caba
Pangasinan	11	Alaminos City, Basista, Mangatarem, Bayambang, Mapandan, San Fabian, San Jacinto, Binalonan, Pozorrubio, San Quintin and Balungao
<b>TOTAL</b>	<b>29</b>	

Table 16. List of monitored RxBox devices of the Rural Health Units (RHUs) in Region 1.



# Kaayusan

## Outcome 5

RESILIENCY TO DISASTER  
RISKS AND CLIMATE  
CHANGE ENSURED

## Outcome 7

EFFECTIVE  
STI GOVERNANCE  
ACHIEVED

# DISASTER RISK REDUCTION AND MANAGEMENT (DRRM)



In Region 1, the DOST 1 carried out a number of Disaster Risk Reduction and Management (DRRM) initiatives through a variety of actions aimed at enhancing capabilities, the deployment of monitoring stations, maintenance of information systems, and the distribution of IEC materials.

The list of achievements for disaster risk reduction and management is provided below:

- a) Intensify provisions of information, products and services for the disaster risk reduction and climate change adaptation and mitigation (DRR-CCAM)

INDICATORS	TARGET	ACCOMPLISHMENTS	% ACCOMPLISHMENTS
No. of measures on disaster risk reduction and mitigation implemented	54	68	125.93%
Activities	18	33	183.33%
IEC materials distributed	36	35	97.22%

Table 17. CY 2022 DRRM Target vs. Accomplishments (No. of measures on disaster risk reduction and mitigation implemented).

- b) Increase collaboration with DRR-CCAM stakeholders

INDICATORS	TARGET	ACCOMPLISHMENTS	% ACCOMPLISHMENTS
No. of DRRM-related collaboration with stakeholders	7	21	300%
Percentage of provinces engaged in DRR and CC Learning and Development	100%	100%	100%
Public Service Continuity Plan implemented/ deployed	YES	YES	YES
Public Service Continuity Plan implemented/ deployed	YES	YES	YES

Table 18. CY 2022 DRRM Target vs. Accomplishments (No. of DRRM-related collaboration with stakeholders).

DOST 1 continued to offer services and engage in pandemic-related activities despite the Covid-19 Pandemic's onslaught, which affected numerous communities, institutions, private, and public sectors.

DOST 1 kept playing a crucial part in the contact tracing operations in the Region. In CY 2022, a number of information systems that were deployed and put into place to aid in combating the pandemic were maintained. In order to improve the management of Covid-19 Cases and Close Contacts, the CovidDETECT (COVID-19 Detection and Reporting of Exposed Individuals Through Efficient Contact Tracing) and FastPass system, which was developed by DOST 1 and implemented in 2020, in collaboration with the DOH-CHD1, was maintained. The Swift, Safe, and Smart Passage System, or S-PaSS, a travel management system created by DOST VI, was also adopted and implemented in Region 1. Both systems contributed to enhanced contact tracing efforts and decreased Covid-19 transmission in the region.

DOST 1 facilitated the distribution of IEC documents and the holding of Webinars to spread information about DRRM.



IEC materials delivered to LGUs and some schools in Region 1

#### Contact Tracing Training -Enhancing COVID19 Contact Tracing Work: Advanced Guide for Local Government and Contact Tracers

DOST 1 act as an information source for the Contact Tracers in Region 1



Universal Structural Health Evaluation and recording System (USHER)



**GeoRiskPH**  
INNOVATIONS FOR RESILIENCE

A webinar on GeoRiskPH was also held to provide awareness on the use of different platforms of GeoRiskPH



GeoAnalyticsPH  
GEORISKPH



GeoMapperPH  
GEORISKPH



HazardHunterPH  
GEORISKPH

Preparedness drills was also conducted to capacitate the DOST 1 staff and its stakeholders. The National Simultaneous Earthquake Drills (NSED) was actively participated by the DOST 1. In addition to the participation to the Duck, Cover and Hold activity, a webinar on Earthquake Preparedness was also conducted by DOST 1 to provide knowledge on preparedness measures before, during and after earthquakes.

Moreover, through the CEST Program, Weather monitoring stations and Radio Telecommunication Systems were installed in various communities to improve their capacity in disaster preparedness and provision of early warnings to their respective constituents.



Webinar on GeoRiskPH

Occupational First Aid and BLS/CPR with AED

<b>Activity</b>	<b>Beneficiaries</b>
Publishing of the DOST 1 DRRM FB Page	General Public
Vote Wisely and Safely: Health Protocol during the 2022 NLE	NGA, Registered Voters
Conduct of Earthquake Drill (participation to the 1st Quarter NSED)	NGA (DOST 1, internal)
Maintenance and administration of the CovidDETECT System	LGUs, NGA (DOH)
Deployment and Installation of Automated Weather Station (AWS) with Training on the Operations of AWS	LGU (MDRRM)
Disaster Prevention and Mitigation Cluster Meeting	NGA (Prevention and Mitigation Cluster Member Agencies)
Conduct of Earthquake Drill (participation to the 2nd Quarter NSED)	NGA (DOST 1, internal)
Quarter 2 NSED Duck-Cover-Hold Photo Contest (Earthquake Drill)	DOST1, General Public
Fostering a Resilient Community: a Webinar on Earthquake and Fire Preparedness	DOST1, General Public
Conduct of Maintenance of Hydromet and Warning Stations	Mangatarem, Pangasinan
Conduct of Earthquake Drill (participation to the 3rd Quarter NSED)	Aguilar, Pangasinan
Courtesy visit of DOST-PHIVOLCS for the handover of the report on the recent July 27, 2022 Earthquake	Bugallon, Pangasinan
Pre-planning Consultative Workshop with interested Private and Public Sectors	NGA (DOST 1, internal)
Conduct of Occupational Basic Life Support Training	DOST1, DOST-PHIVOLCS
Conduct of Site Validation for the Deployment of ARG	Interested Parties, DRRM Offices
Conduct of Occupational Basic Life Support Training	MSMEs and 2 PSTC Ilocos Norte Staff
Conduct of Earthquake Drill (participation to the 4th Quarter NSED)	LGU (MDRRM)
Conduct of DRRM Webinar Series Day 1: "On to Resiliency: Forum on DOST DRRM-Related Technologies"	DOST1-assisted firms in La Union and selected DOST RO and PSTO LU staff
Conduct of DRRM Webinar Series Day 2: "Webinar on GeoRiskPH"	DOST 1 Staff, RSTW 2022 facilitators and participants
4th Quarter CY 2022 RDRRM Full Council Meeting	DOST 1 Staff, Local Government Units of Region 1, other private and public sectors
Capacitating the DOST1 Employees in Disaster Preparedness through Distribution of GO Bags	DOST 1 Staff, Local Government Units of Region 1, other private and public sectors
Deployment and Installation of Automated Weather Station (AWS) with Training on the Operations of AWS in Santol, La Union	DOST 1 and other member agencies
Installation and training on the operation and maintenance of AWS in the municipality Salcedo, Ilocos Sur	DOST 1 Staff
Conduct of Site Inspection at LGU Carasi for the installation of 2-way radio Communication System in Carasi, Ilocos Norte	LGU Santol, La union
Tuning of Antennas, Setting of Assigned Frequency, installation of connectors and terminals	LGU-Salcedo, Ilocos Sur
Installation of Two Way Radio System (Fixed Base Radios and Portable Radios) in 4 different areas.	-LGU (MDRRM) Carasi, Ilocos Norte -Barangay Angset/ Virbira/ Barbaquezo (BDRRM)" -LGU-Carasi, Ilocos Norte -NGA BFP- Bautista, Pangasinan
Installation and training on the operation and maintenance of AWS in the municipality of Cervantes, Ilocos Sur	LGU Baluyot & Bautista, Pangasinan
Rain-Induced Landslide and Slope Disaster Risk Reduction Training in Umingan, Pangasinan	LGU Pogo & Bautista, Pangasinan
Community-Based DRRM and Resiliency Training in Burgos, La Union	LGU Villanueva & Bautista, Pangasinan
Awarding and Installation of Radio Communication System in Agno, Pangasinan	LGU Cervantes, Ilocos Sur

*Table 19: List of DRRM activities carried out in 2022.*

The development and implementation of a support project for the deployment of the RGIN Hub also took place. For the hub's deployment, DOST 1 continued to provide support for the cloud hosting services. The RGIN Hub is an online platform created to facilitate the online dissemination of geographical data to line agencies, LGUs, and other regional development stakeholders. It provides capabilities for a variety of GIS applications helpful for, among other things, development planning, policy formation, project development, monitoring, and assessment. The hub may accommodate several maps, including maps of natural hazards.

Additionally, DOST 1 consistently participates in and supports the initiatives of the DRRM Council of Region 1. Attending RDRRM Council Meetings, Review of Local DRRM Plans, and Evaluation of Gawad Kalasag Entries are only a few of these activities.

**QUALITY MANAGEMENT SYSTEM (QMS)****ISO 9001:2015 and ISO/IEC 17025:2017 certification**

For the year 2022, DOST-1 provides high-quality products and services through the continuous improvement and innovation of its processes by putting its quality management system (QMS) into practice.

Sustaining its ISO 9001:2015 and ISO/IEC 17025:2017 certification and accreditation enables the agency to adopt reforms and innovations that guarantee delivery of products and services in accordance with legal requirements and customer satisfaction.

DOST-1 systematically manages and enhances the quality of its products and services through the implementation and upkeep of its QMS. It improves the agency's performance, generally, reducing errors and backlogs, streamlining operations, and boosting customer happiness with focus on the following areas:

<b>CONSISTENCY</b>	QMS ensures that DOST-1 does things the same way every time, reducing mistakes and variations in quality.
<b>CUSTOMER SATISFACTION</b>	The QMS focuses on exceeding customer expectations, resulting in satisfied, devoted, and happy customers.
<b>COMPLIANCE</b>	QMS aids DOST-1 in adhering to regulations, norms, and laws to prevent fines and legal repercussions.
<b>CONTINUOUS IMPROVEMENT</b>	QMS promotes DOST-1's constant search for methods to improve operations, cut down on waste, and boost productivity.
<b>RISK MANAGEMENT</b>	QMS assists in identifying and addressing risks that may have an impact on DOST-1's reputation or on the quality of its products and services.
<b>EMPLOYEE ENGAGEMENT</b>	QMS incorporates DOST-1 staff in quality improvement, enhancing morale and productivity.

# THE INFORMATION TECHNOLOGY SERVICES MANAGEMENT (ITSM)



## The Information Technology Services Management in CY 2022

The Information Technology Services Management (ITSM) Unit provides ICT services and management information systems to support DOST 1 operations and activities. The Unit manages hardware and software in the areas of 1) development and deployment of information systems; 2) maintenance of IT equipment and network; 3) Website Administration; and 4) Multimedia development.

The ITSM Unit is committed to enhancing the DOST1's work processes by developing information systems and applications. The unit was able to introduce three (3) work process innovations namely: Knowledge Management Information Sharing(KMIS) using Sharepoint, New 2022 RSTW Events Site, and improved Attendance Monitoring System.

### Development and Deployment of Information Systems

As part of its ongoing efforts to improve office efficiency and productivity, the ITSM Unit has developed and implemented two (2) new information systems in 2022. These systems aim to automate and computerize certain office processes, thereby reducing turn-around time and streamlining workflows.

The first system is the 2022 RSTW Events Site, a new portal designed to facilitate registration and attendance for webinars hosted on different platforms. The site also features the DOST1 Virtual Exhibits and provides information about various physical activities that participants can join. This system makes it easier for individuals to participate in events and engage with the organization, while also providing a central hub for event management and coordination.

The second system is the Attendance Monitoring System (AMS), which records employees' daily attendance. The system works by capturing an employee's attendance through scanning a pre-assigned system-generated QR Code, which reduces the contact between employees and the attendance device. Additionally, the system allows immediate supervisors to certify their employees' Daily Time Records (DTRs) online, making it easier to track attendance and monitor employee productivity. By implementing the AMS, the ITSM Unit has streamlined the attendance monitoring process, reducing the administrative burden on both employees and supervisors.

Also, the unit also adopted and implemented one (1) other systems from the DOST Regional Offices namely the iFWD PH Portal. The system aims to provide support opportunities for OFWs and their immediate families to establish technology-based enterprises in the country.

## Ensure continual improvement of work

INDICATOR	CY 2022 Target	Accomplishments	% Annual Accom.
Number of Information Systems	3	3	100%
Developed	2	2	100%
Adopted//Applieds	1	1	100%
Number of Information Systems maintained/upgraded	23	24	104%

Table 20: Summary of accomplishments of the ITSM in 2022.

No.	Name of IT System Maintained	Concerned Management/ Process	Description	Impact	Development (In-house Adopted)
1	DTS (Document Tracking System)	Document Tracking and Retrieval	Used to facilitate the storage and routing of communications and ensuring that these are acted upon. The DTS has been developed as a solution to improve the efficiency of retrieving documents online at any given time. It lessens the routing of printed documents, provides transparency and accountability. The system can trace the movement of documents from origin to destination/s to avoid tendencies employees in losing track and not acted on time a document. Through the Document Tracking System (DTS), documents are easily located. You can check the paper trail and history of the old documents processed.	- 99.79% reduction in cycle time on tracking status of documents routed in the organization  - Ease on retrieving information	In-house
2	TRADE (Tracking, Retrieval and Archiving of Documents for Efficiency)	Document Tracking and Retrieval	Used to digitize, organize and track financial documents and measure processing time at all FAS units. TRADE also generated Receipt of Checks Issued and Summary of Obligated and Disbursed Transactions.	- automated the process of accessing and searching of financial documents.  - Ease on retrieving information and generation of reports.  - Allowed monitoring of efficiency of the users.	Adopted (DOST CALABARZON)
3	IMPRESSION (Information and Management of Projects, Services and S&T Interventions)	Project Monitoring	A harmonized system developed by DOST-4A through DARIUS Project which is a used to collect, store and manage project data, files and records for a more efficient management of SETUP, GIA and Roll-out projects;	- increased accessibility of information on projects implemented in the region.	Adopted (DOST CALABARZON)
4	SETUP Project Refund Monitoring (SPRM)	Project Monitoring	Monitoring of setup projects and ledger based monitoring of setup refund of beneficiaries	- Ease on retrieving information	In-house
5	SMIS (Scholarship Management and Information System)	Scholars Information Management	Contains the basic information of DOST-scholars enrolled in the region and records the financial benefits claimed/received.	- 88.89% reduction in cycle time on monitoring of status of scholars.  - Ease on retrieving information and generation of reports.	Adopted (DOST IX)

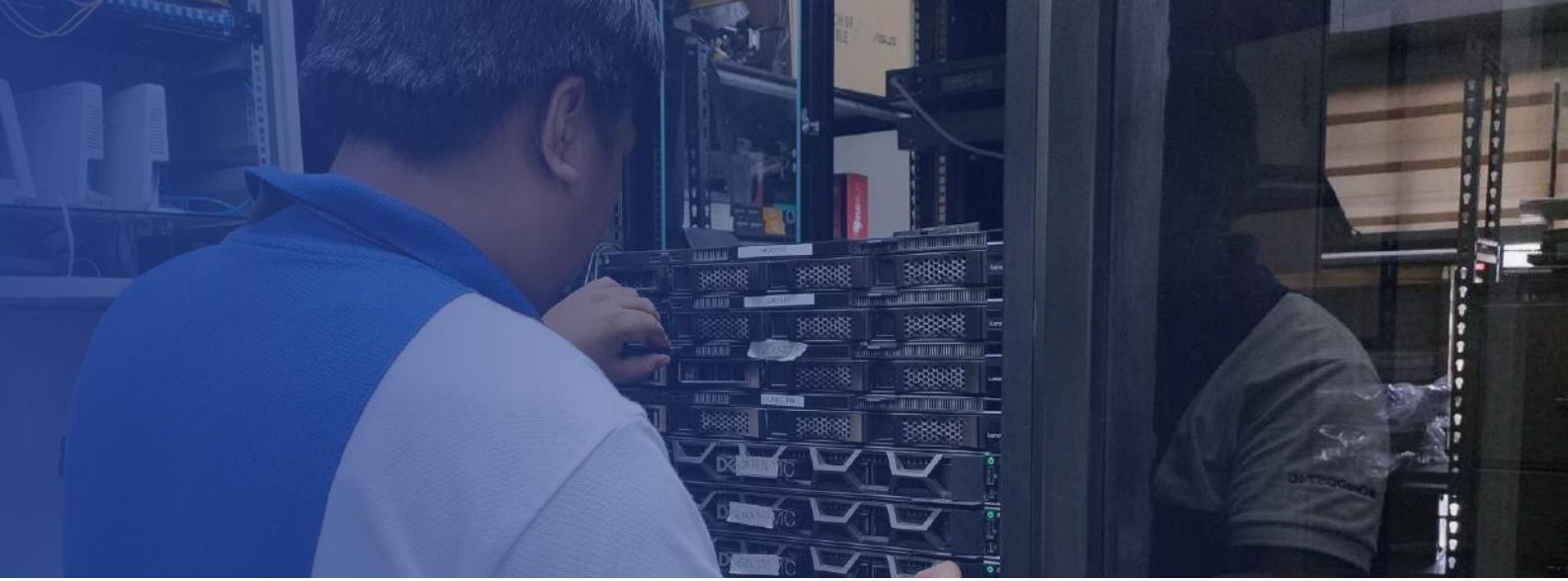
No.	Name of IT System Maintained	Concerned Management/ Process	Description	Impact	Development (In-house Adopted)
7	Laboratory Test Scheduler System	Laboratory Management	A system that is used to record and monitor the test samples received by the RSTL. It serves as a reference of the sample receiving staff in informing the customer on when are the available test schedules and/or when the test results will be available. It helps the laboratory staff track the tests to be done and when is the target release of the results. This is also a good reference when a for accepting bookings/ schedule reservation from customers.	- 50% reduction in cycle time on scheduling samples for testing.  - Ease on retrieving information on available schedules.	In-house
8	eNGAS	Financial Management	Developed by COA used to record the agency's financial transactions. Its feature include accounting journal entry templates, balanced debit and credit for accounting journal, and electronic approval and posting of transactions to General Ledger, among others.	- Ease on retrieving information and generation of reports.	Adopted (DBM-COA)
9	eBUDGET	Financial Management	Developed by COA used for recording Appropriations and Allotments per GAA, Obligational Authority, Special Allotment Release Order (SARO), preparing of Sub-Allotment and approval of Obligation Request and Status (ORS).	- Ease on retrieving information and generation of reports.	Adopted (DBM-COA)
10	Payroll Monitoring and Management System (PMMS)	Financial Management	Automates the processes on Payroll generation, Payslip reporting, and Salary and Deductions monitoring. Employees can now monitor their salaries, incentives and deductions through the system. Likewise, the generation of Payslips can now be done by the staff.	- provided real-time monitoring of salaries and deductions.  - More managed payroll generation.  - Ease of access and retrieval of information.  - generate and print on-demand Payslip.  - view actual deductions on loans/contributions	In-house
11	Collection and Deposits Reporting System (CDR)	Financial Management	Developed primarily to store information on Cash/Check being collected from payments of services. The system helped the Cashier's Office to record the information and process those information to generate the report needed. It is designed to cater the information needed in generating the various reports of the office. The system is online and through this, it can cater inputs from the Provincial S&T Centers of DOST1. The Collection and Deposit Reporting simplifies the process and lessens the time in generating reports.	- 99.93% reduction in cycle time on consolidation of reports.  - Ease on report generation and retrieving information.	In-house
12	HANDA (Hazard Notification, Dissemination and Awareness	DRRM	Fast tracks dissemination of disaster-related bulletins (weather, earthquake, volcano and tsunami) and provides a localized rainfall and stream-level data map from the DOST-ASTI hydromet stations installed in the region.	- automates dissemination of disaster-related information	Adopted (DOST CALABARZON)
13	Human Resource Information Management System	Human Resources information management	A web-based system that provides employees with various employee-related information systems.	- Ease on retrieving information and generation of reports.	Adopted (DOST CO)

No.	Name of IT System Maintained	Concerned Management/ Process	Description	Impact	Development (In-house Adopted)
14	Personnel Management Information System-Attendance Monitoring System (PMIS-Attendance Service)	Human Resources information management	<p>PMIS is the next version of HRIS that aims to centralize and integration sub-modules related to employee records and transactions. Features include the real-time recording of DTR using the Attendance Device, Leaves Credits monitoring, Compensatory Time Off monitoring, and Travel Order Management.</p> <p>Personnel Management System (PMIS) – Attendance Monitoring Module (App and Device) - The Attendance Monitoring is one of the PMIS modules which is comprised of two (2) components: The Attendance application and The Attendance Monitoring Device which are in-house developed. The Attendance system innovated the attendance monitoring by establishing central repository of data. Each staff in PSTCs and RO can now log their attendance using the device and generate report (DTR) through the application which was available online.</p>	<ul style="list-style-type: none"> <li>- Allowed generation and printing on-demand DTR</li> <li>- Provided centralized database of personnel attendance.</li> <li>- provided readily accessible Daily time records for the staff.</li> </ul>	In-house
15	SCIMS (Stock Control and Inventory Management System)	Property and Supplies information management	The primary objective of determining/controlling stock levels within the physical distribution system. Its main function is to balance the availability of office supplies against the need of customers and effectively monitor office expenses. The system records the withdrawal of items made by end-user and receiving transactions from suppliers. The system aids the supply and accounting unit on generating reports as required by COA based on its policy guidelines.	<ul style="list-style-type: none"> <li>- automated the process of management of stocks/ supplies</li> <li>- Ease on retrieving information and generation of reports.</li> </ul>	Adopted (DOST IX)
16	Procurement Monitoring System	Property and Supplies information management	Monitors the status of purchase request. It is primarily used in logging and tracking the procurement from the Approval of the Purchase Request up to the delivery and acceptance of the items. The system provides the supply office an overview on the number of PRs that needs attention. It also stores digitized copies of the procurement documents. Through the system, the office can check if a certain PR is already completed or still on the stage of canvass. The system provided the supply office a more efficient and fast way of monitoring the procurement process.	<ul style="list-style-type: none"> <li>- 99.17% reduction in cycle time on monitoring the status of Purchase Requests.</li> <li>- Ease on retrieving information</li> </ul>	In-house
17	RSTW Events Management	Event Registration and Management	NSTW portal where individuals may register and attend to different webinars hosted through different platforms.	<ul style="list-style-type: none"> <li>- 99.67% reduction in cycle time on the registration of customers for the RSTW Events.</li> <li>- Ease on retrieving information and generation of reports.</li> </ul>	In-house
18	TechSupport Ticketing System	ICT Technical Support	An internal tool used by the ICT Support Team for managing support tickets. This is a system designed to help the ITSM unit in catering and monitoring Technical Assistance Requests received	<ul style="list-style-type: none"> <li>- Ease on tracking open tickets/ issues for corrective maintenance of ICT Equipment and Software and other</li> </ul>	In-house

No.	Name of IT System Maintained	Concerned Management/ Process	Description	Impact	Development (In-house Adopted)
			from internal customers. The ITSM Unit developed the system to serve as a reference on what are the requests that still needs action. It serves a venue for the unit to check some solutions undertaken that also can be applied on new technical assistance requests.	ICT related technical concerns. - Serve as reference for work instructions to resolve for various technical issues and concerns.	
19	DOST-R01 website	S&T Promotions	The official website of DOST-R01 to disseminate S&T information and official reports to the public and other stakeholders;		In-house
20	CovidDETECT (Covid Detection and Reporting of Exposed Individuals Through Efficient Contact Tracing)	Covid19 Case and Contacts Profiling	Aims to address the region's need of technology to battle against the novel coronavirus (Covid19). The CovidDETECT System is a tool used by the Contact Tracing Teams in the conduct of contact tracing in Region 1. It is a system for managing information of COVID-19 Cases and its Close Contacts. It is developed by the ITSM Unit of DOST1 in partnership with the DOH-CHD1 and RTF Region1. The system was created to be a tool for the whole region to hold information of COVID-19 cases and its close contacts with their exposures and symptoms. The system analyzes the data and is presented into its dashboard which can be accessed by the public at <a href="https://coviddetect.dost1.ph">https://coviddetect.dost1.ph</a> .	- Enhanced the profiling of Covid19 Cases' Close Contacts;  - Provided efficient monitoring of the status of cases and its close contacts  - Ease of access and retrieval of information	In-house
21	Knowledge Management and Information Sharing (KMIS)	Knowlegde Management	An information management system designed to collect and share data, information and knowledge among and between staff and units of DOST-1. This systems aims to help maintain and retain organization knowledge.	Data, Information and Knowledge are readily available and accessible to DOST 1 staff. It helps maintain the Organization Knowledge and supports continuity of effective render of services.	In-house
22	STARBOOKS	S&T Information	A Philippine Science Digital Library that contains thousands of digitized science and technology resources in various formats (text and video/audio) placed in specially designed "pods" set in a user-friendly interface.	Provision of S&T Information improved.	Adopted (DOST-STII)
23	Regional Geographic Information Network (RGIN) Hub	GIS Map Collection and Sharing	The RGIN Hub is an internet-based platform designed for on-line information sharing of spatial data to line agencies, LGUs, and other development stakeholders in the region. It offers capabilities for a range of GIS applications useful for development planning, policy formulation, project development, monitoring and evaluation, facilities management, remote sensing, and among other.	- improves collection and sharing of GIS Maps among agencies  - improves accessibility of information	Adopted (NEDA II)

*Table 21: Additional systems that ITSM has maintained.*

Additionally, the unit has maintained 24 systems to ensure their continued effectiveness. Since 2018, the ITSM Unit has developed various in-house information systems and adopted systems from other agencies to improve both internal and external work processes. These information systems have contributed significantly to the organization's efficiency and productivity. These information systems resulted to about 90% total reduction on the processes cycle time.



DOST 1 through the ITSM Unit has maintained CovidDETECT, an information system developed to record and manage data of Covid-19 close contacts. Additionally, the unit has provided ongoing support to DOH-CHD1 in the data entry for Covid-19 cases and close contacts. These efforts are part of DOST 1's broader initiative to combat the Covid-19 pandemic and limit the spread of the virus. Likewise, the ITSM unit together with the DRRM Unit continued their support to the establishment of the Regional Geographic Information Network (RGIN) Geoportal Hub in Region 1. The ITSM Unit's continued commitment to providing technical assistance and maintaining these critical systems has helped to ensure that vital public health data is accurately recorded and effectively utilized.

In addition to its efforts in developing and implementing new information systems, the ITSM Unit has also played a crucial role in maintaining existing systems that are essential to the organization's daily operations. Specifically, the unit has continued to administer the Email Management, Cloud Data Storage, and Video Tele Conferencing systems. These systems have proven to be especially important in the context of the "new normal" brought about by the Covid-19 pandemic, as remote work and collaboration have become increasingly common. The Email Management system enables efficient communication among team members, while the Cloud Data Storage system allows for secure and accessible data storage and sharing. The Video Tele Conferencing system has been particularly vital, facilitating virtual meetings and allowing teams to collaborate effectively in a remote environment. The ITSM Unit's ongoing maintenance and administration of these critical systems has helped to ensure that DOST 1 can continue to operate smoothly and effectively, even in the midst of unprecedented challenges.

### **Equipment and Network Maintenance**

Aside from the Work-Process Innovations through systems developed and maintained, the ITSM unit was able to maintain 100% availability of ICT Equipment and 100% availability of network connections. This is the impact of the scheduled preventive maintenance of the ICT Equipment. Likewise, the unit provides technical assistance and support to the employees. The unit garnered 100% of at least Very Satisfactory Rating from the internal customers (DOST 1 Employees).

### **Web Site Administration and Multimedia Development**

In addition to its work on information systems, the ITSM Unit has also been responsible for ensuring that the DOST 1 website remains up-to-date and informative. In 2022, the unit posted 109 articles and updated 4 web pages to keep visitors informed about the latest news and developments in the organization. The unit also posted 23 job opportunities to attract new talent and uploaded 19 updated contents for the Transparency Seal in the DOST 1 Website, promoting transparency and accountability.

Moreover, the ITSM Unit has continued to deliver multimedia development to support the S&T Promotions Unit's activities. Through the creation of high-quality multimedia content, the ITSM Unit has helped to promote the organization's achievements and activities to a wider audience, raising awareness of the important work being done by DOST 1. By ensuring that the website is regularly updated and providing multimedia support for promotional activities, the ITSM Unit has played a crucial role in enhancing the organization's public image and promoting its mission and values.

The ITSM Unit has been a key driver of innovation and efficiency within DOST 1, developing and implementing a range of information systems and applications to streamline workflows and reduce turn-around time. Through its dedication to technology and innovation, the ITSM Unit has made a valuable contribution to the success of DOST 1, enabling the organization to deliver quality services to its customers and stakeholders.

# GENDER AND DEVELOPMENT (GAD)



Republic Act 9710, or the Magna Carta of Women, defined Gender and Development (GAD) as the "development perspective and process that are participatory and empowering, equitable, sustainable, free from violence, respectful of human rights, supportive of self-determination and actualization of human potentials. It seeks to achieve gender equality as a fundamental value that should be reflected in development choices, with women as active agents of development and not just passive recipients of development assistance. (Chapter II, Section 4h).

Moreover, the Sustainable Development Goal (SDG) No. 5 aims to achieve gender equality and empower all women and girls. As stated in SDG 5, gender bias is not just a human rights issue. By denying women equal rights, we deny half the population a chance to live life at its fullest. Political, economic, and social equality for women will benefit all the world's citizens. This will eradicate prejudice and will work for equal rights and respect for all.

With these guiding principles, the Gender and Development (GAD) program of the Department of Science and Technology Region 1 (DOST-1) through its GAD Focal Point System (GFPS) acknowledges the contribution of both men and women in nation-building and commits to integrate the principles of gender equality, gender equity, gender sensitivity, non-discrimination, and human rights into the provision of central direction, leadership and coordination of scientific and technological efforts and ensure that the results therefrom are geared and utilized in areas of maximum economic and social benefits for the people.

DOST-1 through its GAD Focal Point System (GFPS) led in the mainstreaming of gender perspective in programs, projects, and activities (PPAs) implemented by the various office/units of DOST-1. This ensured that DOST-1 PPAs are gender-responsive to the needs and concerns of its internal and external customers as indicated in the PCW-approved GAD plan and budget of DOST-1 for CY 2022.

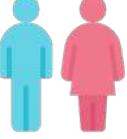
The DOST-1 GFPS is chaired by the Regional Director and composed of representatives from the various offices/units of DOST-1 with 43% male and 57% female. Figure 1 shows the composition of the DOST-1 GFPS for CY 2022.

DOST-1 also participates in regional GAD-related initiatives through representation in the Regional Gender and Development Committee in Region 1 (RGADC 1) of the Regional Development Council 1 (RDC 1) and the Regional Inter-Agency Committee on Anti-Trafficking-Child Pornography- Violence Against Women and their Children (RIACAT). Table 2 summarizes the interagency GAD representation where DOST 1 participated/attended.

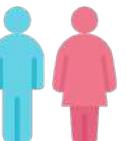
**DOST-1 GAD Focal Points System (GFPS), CY 2022.**

DOST 1 GFPS Members	PROVINCIAL OFFICE
<b>Members:</b>	<b>Members:</b>
<b>Ms. Adelisa C. Florendo</b> OIC, ARD for Field Operations <b>Mr. Zosimo C. Galvez</b> Administrative Officer V (Budget) <b>Ms. Manilyn L. Agra</b> Accountant III <b>Ms. Carla Joyce B. Cajala</b> Administrative Assistant III & S&T Promotions <b>Mr. Decth-1180 P. Libunao</b> CEST Program Coordinator <b>Ms. Adelisa C. Florendo</b> SETUP and Scholarship Program Coordinator <b>Ms. Annalie L. Rosales</b> R&D and International Linkages Program Management Center <b>Mr. Michael John C. Maquiling</b> Information Technology System Management Unit	<b>Engr. Benjamin S. Mercado, Jr.</b> Provincial Director, PSTO Ilocos Norte <b>Engr. Jordan L. Abad</b> Provincial Director, PSTO Ilocos Sur <b>Mr. Jonathan M. Viernes</b> Provincial Director, PSTO La Union <b>Engr. Arnold C. Santos</b> Provincial Director, PSTO Pangasinan
<b>Alternate:</b>	<b>Alternate:</b>
<b>Ms. Eulyne C. Eugenio</b> Science Research Specialist I R&D and International Linkages Program Management Center <b>Mr. Justin N. Madrid</b> Science Research Specialist I, ITSMU <b>Mr. Lemuel G. Castigo</b> Project Assistant I, S&T Promotion	<b>Mr. Gerald Q. Gabriel</b> Science Research Specialist II PSTO Ilocos Norte <b>Ms. Laurine R. Sales</b> Project Assistant II PSTO Ilocos Sur <b>Mr. Bernadine P. Suniega</b> Science Research Specialist II PSTO La Union <b>Ms. Jennifer C. Fernandez</b> Science Research Specialist II PSTO Pangasinan <b>Ms. Dana Bliezelle V. Hernaez</b> Project Assistant III, CEST Program <b>Ms. Katrina F. Ronquillo</b> Project Assistant III, SETUP <b>Ms. Carla Grace R. Pacheco</b> Project Assistant III, Scholarship <b>Ms. Marinique A. Guerrero</b> Science Research Specialist I, RSTL

**DOST 1 GFPS Members**

5       5

**Provincial Office**

6       6

**DOST 1 GFPS conducts its First Quarter Meeting**



Activity	Date	vVenue/Platform
RGADC-1 1st Quarter Meeting	March 1, 2022	Zoom conference
RGADC-1 Special TWG Meeting	March 8, 2022	Zoom conference
RGADC-1 2nd Quarter Meeting	May 27, 2022	Zoom conference
RGADC-1 3rd Quarter Meeting	September 14, 2022	Blended
RGADC-1 4th Quarter Meeting	December 2, 2022	Blended
RIACAT-CP-VAWC 1st Regular Meeting	April 27, 2022	Panlipunan Hall, Department of Social Welfare and Development Field Office 1, City of San Fernando, La Union
RIACAT-CP-VAWC Cluster Meeting – KRA I	May 24, 2022	Yellow Cab, SFCLU
RIACAT-CP-VAWC Cluster Meeting – KRA IV	May 27, 2022	Yellow Cab, SFCLU
RIACAT-CP-VAWC 2nd Regular Meeting	June 17, 2022	Panlipunan Hall, Department of Social Welfare and Development Field Office 1, City of San Fernando, La Union

Table 22: Interagency GAD representation.

Activity	Date	Venue/Platform	No. of Participants		
			Male	Female	Total
<b>DOST 1 GFPS Quarterly Meeting</b> The meeting was conducted to discuss the reconstitution of the DOST 1 GFPS, to present the 2021 GAD Accomplishment Report, and to tackle possible activities in the upcoming 2022 National Women's Month celebration.	February 4, 2022	Virtual via Microsoft Teams	9	10	19
<b>Orientation of DOST-1 Newly Hired Staff on GAD Fundamental Concepts</b> The orientation started by presenting the GAD mandates and legal bases, DOST 1 GAD policies, and the difference of sex; and gender and talked about Sex and Gender Roles, Gender Role Socialization, the Manifestation of Gender Biases, and a short discussion on Sexism.	February 8, 2022	Virtual via Microsoft Teams	12	8	20
<b>Final Preparatory Meeting for the DOST Women's Month Celebration 2022</b> Finalization of activities to be conducted during the Women's Month Celebration	March 2, 2022	Virtual via Microsoft Teams	0	2 (RME, MLP)	2
<b>GAD North Luzon Cluster Meeting</b> The webinar showcased the best practices of the Community Empowerment of Science and Technology (CEST) beneficiaries from DOST NLC composed of Regions I, II, III, and CAR.	March 16, 2022	Virtual via Zoom	0	2 (RME, MLP)	2
<b>GFPS Executive Briefing</b> The activity is intended to increase the knowledge and appreciation of the GFPS members on GAD and served as an orientation to GFPS members' duties and responsibilities in implementing a gender-responsive project, programs and activities (PPAs) in the region.	April 1, 2022	Virtual via Zoom	4	11	15
<b>Attendance to the DOST-wide GAD Focal Point Assembly 2022 with the theme "Functional GFPS: Leading Towards a Gender-Responsive DOST"</b> The objective of the assembly is to build the GAD Focal Point Systems of DOST agencies, including the PSHS Campuses, on their functionality to ensure effective gender mainstreaming in compliance with PCW Memorandum Circular 2022-02 and to enhance the knowledge and skills of the GFPS members on the importance of collecting sex-disaggregated data and establishing the GAD Database.	October 26-28, 2022	Solea Mactan Resort, Cordova, Cebu City	0	2 (RME, RBA)	2
<b>"Gender Sensitivity Training for DOST1 Ongoing Scholars"</b> The activity aimed at raising awareness and understanding among the DOST scholars under RA 7687, MERIT and RA 10612 about GAD concepts and to appreciate women and men's roles and benefits of having a gender sensitive and responsive society.	August 15, 2022	Virtual via Zoom	29	56	85
<b>DOST-1 GFPS Quarterly Meeting</b> Presentation and approval of the following: <ul style="list-style-type: none"><li>• the reconstituted DOST 1 GFPS</li><li>• approved 2023 GAD Plan and Budget which was submitted to DOST GAD Central Office last October 2022.</li></ul> Informed all members about the new and additional activities that should be done next year and discussed the use of the GFPS Functionality Assessment Tool.	December 12, 2022	Hybrid/Face-to-face and Virtual via Microsoft Teams	11	8	19

Table 23. GAD related activities conducted to strengthen capability of DOST-1 GFPS and customers.

## MAINSTREAMING OF GENDER AND DEVELOPMENT (GAD) IN DOST-1 PROGRAMS, PROJECTS AND ACTIVITIES (PPAS)

### Testing and Calibration Services

On the other hand, DOST-1 has provided 14,164 testing and calibration services to 3,748 customers (1,922 male and 1,826 female) through its Regional Standards and Testing Laboratory (RSTL) composed of the following laboratories: Microbiology, Chemistry, Metrology and Shelf-life. The DOST-1 RSTL staff also extended technical assistance to 34 micro, small and medium enterprises (MSMEs) through onsite assessments of their production areas to evaluate compliance to good manufacturing practices (GMP) and ensure production of safe, wholesome, and quality foods distributed in local and global markets.

Moreover, the DOST-1 RSTL provided the resource speakers in the conduct of 18 food safety seminars/training sessions in 2022 which catered to 528 (155 Males, 373 Females) participants in various sectors. Trainings were on basic food hygiene and good manufacturing practices with emphasis on food safety to MSMEs engaged in food processing and a capacity building training for sanitary inspectors to enhance and effectively discharge the role in regulating food processors and establishments in the locality. This activity created a strong partnership with the LGUs (Local Government Units) in promoting food safety through seminars/training on cGMP and Food safety.

The DOST 1 RSTL is headed by Ms. Lena C. Rosario and ably supported by 10 staff composed of 7 male and 3 female.

### Technology Transfer Programs

The DOST 1 Technology Transfer Program are as follows:

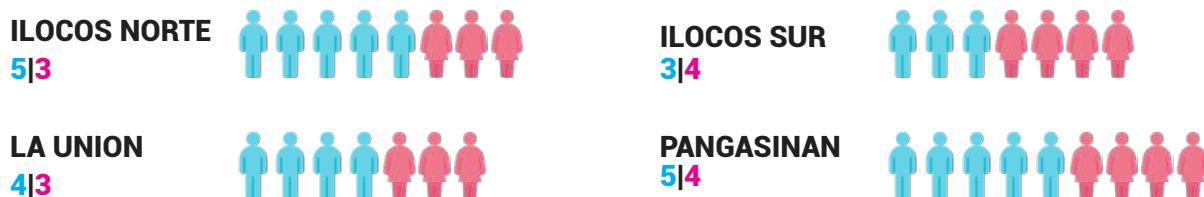
#### A. Small Enterprise Technology Upgrading Program (SETUP)

The Department of Science and Technology's Small Enterprise Technology Upgrading Program (DOST-SETUP) is a nationwide strategy encouraging and assisting micro, small, and medium enterprises (MSMEs) to adopt technological innovations to improve their products, services, operations and increase their productivity and competitiveness.



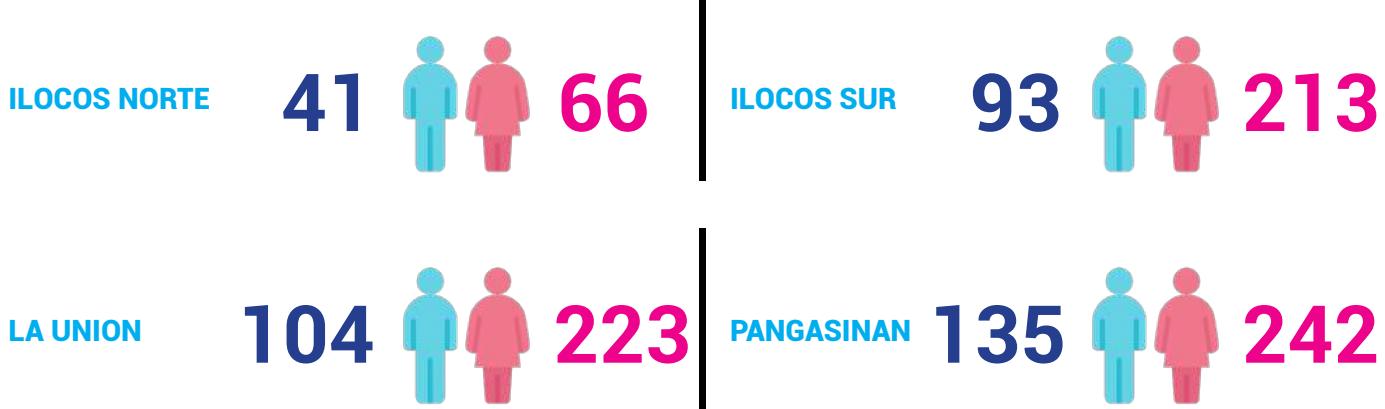
#### B. Community-based Projects (CBP)

Community-based projects are interventions provided to community with abundant commodity that can be developed into high value products. The interventions are provided to community associations, cooperatives and/or organizations recognized by the local government unit (LGU). These projects involve commodity-specific S&T interventions or activities and involve multi-stakeholders participation from project identification, development and implementation. The following is the list of assisted associations/cooperatives under the program:



#### C. Community Empowerment thru Science and Technology (CEST)

CEST is a package of S&T interventions which aims to build progressive, empowered and resilient rural communities. The program is targeting to empower the poorest and most depressed communities in the country, via S&T interventions in health and nutrition, water and sanitation, basic education and literacy, livelihood/economic enterprise development, and disaster risk reduction and climate change adaptation.



#### D. Technology Trainings

For the year, DOST-1 conducted 100 technology trainings benefiting 775 male and 1,411 female with a total of 2,186 participants. These trainings were part of the interventions provided to beneficiaries of the Community Empowerment thru Science and Technology (CEST), Community-based projects (CBP), Small Enterprise Technology Upgrading Program (SETUP) and convergence programs with other stakeholders.



#### PARTICIPATION IN THE ANNUAL WOMEN'S MONTH CELEBRATION

The DOST 1 celebrated the national women's month in March recognizing the women's contributions and commitments to science, technology, and innovation (STI). With the aim of promoting citizen-centric governance, this year's theme, "We Make Change Work for Women: Agenda ng Kababaihan Tungo sa Kaunlaran," educates and involves women as stakeholders in DOST 1 programs, projects and activities (PPAs).

No.	Activity	Date Conducted	Venue/Platform	Summary
1	Kick-off activity for the 2022 National Women's Month Celebration through its Radio Program, Tekno PreSyensa: Syensa ken Teknolohiya para Kadagiti Umili	March 3, 2022	Zoom conference	The highlights of the 2021 National Women's Month celebration were presented and the lineup of activities for this year's celebration was emphasized by the respective Assistant Regional Directors of DOST 1.
2	Orientation seminar on "Men Opposed to Violence Against Women Everywhere" (MOVE) by Mark Castro of DSWD RO1	March 3, 2022	Zoom conference	MOVE is an organization of men who committed themselves to being actively involved in the elimination of violence against women or VAW. It is also a group of caring, pro-active, and principled men who are dedicated to the cause of making the Philippines VAW-free. MOVE members are men from various government private organizations. Mr. Mark C. Castro, of DSWD FO 1, served as the Resource Person. "The key objective of MOVE is to institutionalize and to support the national quest for a VAW-free Philippines.

3	DOST 1's Serbisyo para kay Juana at Juan: FREE Testing and Calibration of Weighing Scales, Calibrating Bucket, Sphygmomanometer, Thermohydrometer and Rule to Micro, Small and Medium Enterprises (MSMEs) by the DOST I Regional Metrology	March 8, 2022	Provincial Science and Technology Center-La Union, Sevilla, City of San Fernando, La Union	The caravan covered the testing and calibration of weighing scales, test weights, calibrating buckets, sphygmomanometers, and thermometers to all women customers and women-managed micro, small and medium enterprises.
4	DOST 1 staff participation in the Kick-off Activity of Region 1 Advocates for Gender Equality (RAGE-1) for the 2022 National Women's Day celebration	March 8, 2022	Zoom conference	<p>Ms. Joy C. Ortega, GAD Advocate, served as the Keynote Speaker during the activity. "In previous years, women were expected to take their rightful roles in their homes, in feeding and caring for their families. Our great grandmothers dreamt of bringing the light to other places. They dreamt of a world where they would be given equal rights and opportunities as their male counterparts – to vote, to access resources, to get an education, to take jobs, and receive fair wages.</p> <p>Today, we enjoy the benefits of what the women who came before us fought for, we dare to take to break the stereotypes of what woman can or can't do," she shared.</p>
5	DOST 1 Got Talent: "Sama-sama sa Saya at Tagumpay ng Kababaihan Tungo sa kaunlaran"	March 15, 2022	Microsoft Teams	<p>The activity which was spearheaded by the DOST 1 GAD Focal Point System (GFPS) with the theme "Sama-sama sa Saya at Tagumpay ng Kababaihan Tungo sa Kaunlaran" aimed to showcase DOST 1 staff talents.</p> <p>DOST 1 Regional Director Armando Q. Ganal said, "One of the best activities we are having annually is the National Women's Month Celebration (NWMC). This is really one of the most awaited celebrations of the year. The most important thing is that we adhere to the essence of the competition that DOST 1 also Got Talents." Nine (9) talented DOST 1 staff shared their talents through playing instruments, singing, speaking poetry, and dancing. The winners won cash prizes and a Certificate of Recognition.</p>
6	Gender Mainstreaming in the Community organized by the GAD Focal Point System (GFPS) of DOST GFPS North Luzon Cluster	March 22, 2022	Zoom platform and Facebook Live	<p>The webinar showcased the best practices of the Community Empowerment of Science and Technology (CEST) beneficiaries from DOST NLC composed of Regions I, II, III, and CAR.</p> <p>Dr. Diana L. Ignacio, DOST Assistant Secretary for Human Resources Management, Management Services, and Special Concerns and the GAD and Regional Support Service said, "Through this forum, we learn more about CEST on how it provides livelihood and alleviate poverty in remote communities."</p> <p>As the highlight of the activity, successful DOST CEST projects of DOST NLC were presented. Among the staged projects was the successful intervention of DOST I in the LGU of Dumalneg, Ilocos Norte. The presentation featured how the DOST I brought science closer to the people with the vision to empower the less-privileged communities amid rapid transformations that affected the capability to sustain development and progress in the municipality.</p>
7	Tekno Presyensya: Syensa ken Teknolohiya para Kadagiti Umili radio program – Culmination Activity of the 2022 National Women's Month Celebration	March 31, 2022	Zoom conference / Facebook Live	Featured the Culminating Activity of the 2022 National Women's Month Celebration.
8	Attendance to the Women-Helping-Women: Innovating Social Enterprises (WHWise) Program Regional Info Session	June 6, 2022	Zoom conference	The WHWise Program assists women entrepreneurs specifically ten (10) women-led entrepreneurs yearly, focusing on social enterprises as its primary target is to help communities through technologies that will provide livelihood opportunities to women.

Table 24 shows the list of activities implemented in celebration of the 2022 National Women's Month.

## SUPPORT TO THE ANNUAL 18-DAY CAMPAIGN TO END VIOLENCE AGAINST WOMEN (VAW)

The 18-day Campaign to End VAW supports the Philippine government's objective of safeguarding the human rights of women and girls by honoring its commitment to combat all kinds of gender-based violence, as stated in 1987 Constitution.

On the first day of the campaign, Regional Director, Dr. Armando Q. Ganal delivered a message and stressed that all of us should end violence against women. DOST 1 employees observed several practices, one of which is wearing orange advocacy shirts on Mondays. The color Orange, a happy and upbeat one, stands for hope and a future devoid of violence against women and girls. The Regional Office and all Provincial Science and Technology Offices (PSTOs) are in full support of the campaign which is evident on the hanging of campaign streamers and displaying roll-up banners in their offices.



The DOST-1 Gender and Development Unit encouraged all DOST-1 Staff to participate in the Photo Contest with the subject "UniTED for a VAW-free Philippines" in support of the 18-day Campaign to End Violence Against Women (VAW)

The GAD Unit also launched a photo contest exclusively for DOST 1 staff. All units, divisions and PSTOs actively participated and gave their best shot to win the contest.

**1<sup>st</sup> PLACE** **PSTO-Pangasinan**

**2<sup>nd</sup> PLACE** **Supply, Watchmen and General Services Group**

**3<sup>rd</sup> PLACE** **Finance and Administrative Services Group**

**PEOPLE'S CHOICE**

**Finance and Administrative Services Group**

Likewise, the photo entry of the ITSMU/RxBox/P&L/DRRM Group bagged the Photography Contest organized by the DOST-CO GAD Unit and won P5,000.00 in cash prize.

The DOST-1 GFPS also organized Orientation Forum on RA 9208 as amended by RA 11862 or the "Expanded Anti-Trafficking in Persons Act", RA 9262 or the "Anti-Violence Against Women and their Children Act" and RA 11313 or the "Safe Spaces Act" in cooperation with the Commission on Human Rights Regional Office 1 (CHR-RO1). These initiatives sought to raise public knowledge of the various types of violence that women, girls and men encounter; to inform them of the laws protecting them; and to strengthen the VAW prevention and response system.



Moreover, a webinar on identifying VAWC and its forms with the topic, "Reverse Not Coerce, A Line Not to Traverse," was also organized by the DOST scholars in Ilocos Norte with the help of the DOST1 GAD unit.

# COMMUNITY EMPOWERMENT THROUGH SCIENCE AND TECHNOLOGY (CEST)



In connection with the provisioned technologies from previous years of the CEST program to its assisted communities, technology training and monitoring were held concurrently to uphold the sustainability of the projects implemented.

The DOST-CEST program, in coordination with the Department of Science and Technology - Industrial Technology Development Institute (DOST-ITDI), conducted the three-day (3-day) training of six (6) Brgy. Barbaquezo officials (4M, 2F) on the operation of dual drum composter to establish the compliant standard composting process and increase organic compost production capability of the community in Carasi, Ilocos Norte. Meanwhile, the DOST-CEST program, together with INCA Philippines, also conducted training on Biogas Digester Chamber safety management and periodic prevention in Dumalneg, Ilocos Norte, equipping fourteen (14) individuals (11M, 3F) with knowledge on technology troubleshooting and procedures to keep a productive and safe operation.

On the other hand, thirty-eight (38) individuals (20M, 18F) from DMMMSU, and residents from Barangays Delles, Linuan, and Lower Tumapoc in Burgos, La Union were trained in various composting methods amongst households, where the importance and benefits of composting to the community and to the environment was emphasized. The training also gave them an introduction to the process of vermicomposting, which is in line with future projects in the area.

Meanwhile, the process of vermicomposting, and the dual drum composter technology has already been introduced in Bautista, Pangasinan. Residents and barangay officials were able to produce one and a half (1 1/2) sacks equivalent to ten (10) kilograms of vermicompost per month and four (4) sacks of organic composts equivalent to twenty-eight (28) kilograms, accordingly. Supplementary training intended to enhance the community's operation of dual drum composter technology and vermicomposting was conducted, where fourteen (14) facility operators and Brgy. Diaz officials (13M, 1F) participated in the capacity-building activity. In addition to this, a total of twenty-five (25) individuals (20M, 5F) were trained in Waste Analysis and Characterization Study (WACS) in Agno, Pangasinan. Participants learned how to develop effective sustainable solid waste management and convert recyclable wastes into income-generating products. With the help of these training, the sustainability of the projects was promoted, as well as it encourages participants to engage with the improvement of the deployed interventions.



# Kinabukasan

## Outcome 1

INNOVATION  
STIMULATED

## Outcome 2

TECHNOLOGY  
PROMOTED AND  
ACCELERATED

## Outcome 3

CRITICAL MASS OF  
GLOBALLY COMPETITIVE  
STI HUMAN RESOURCES  
DEVELOPED

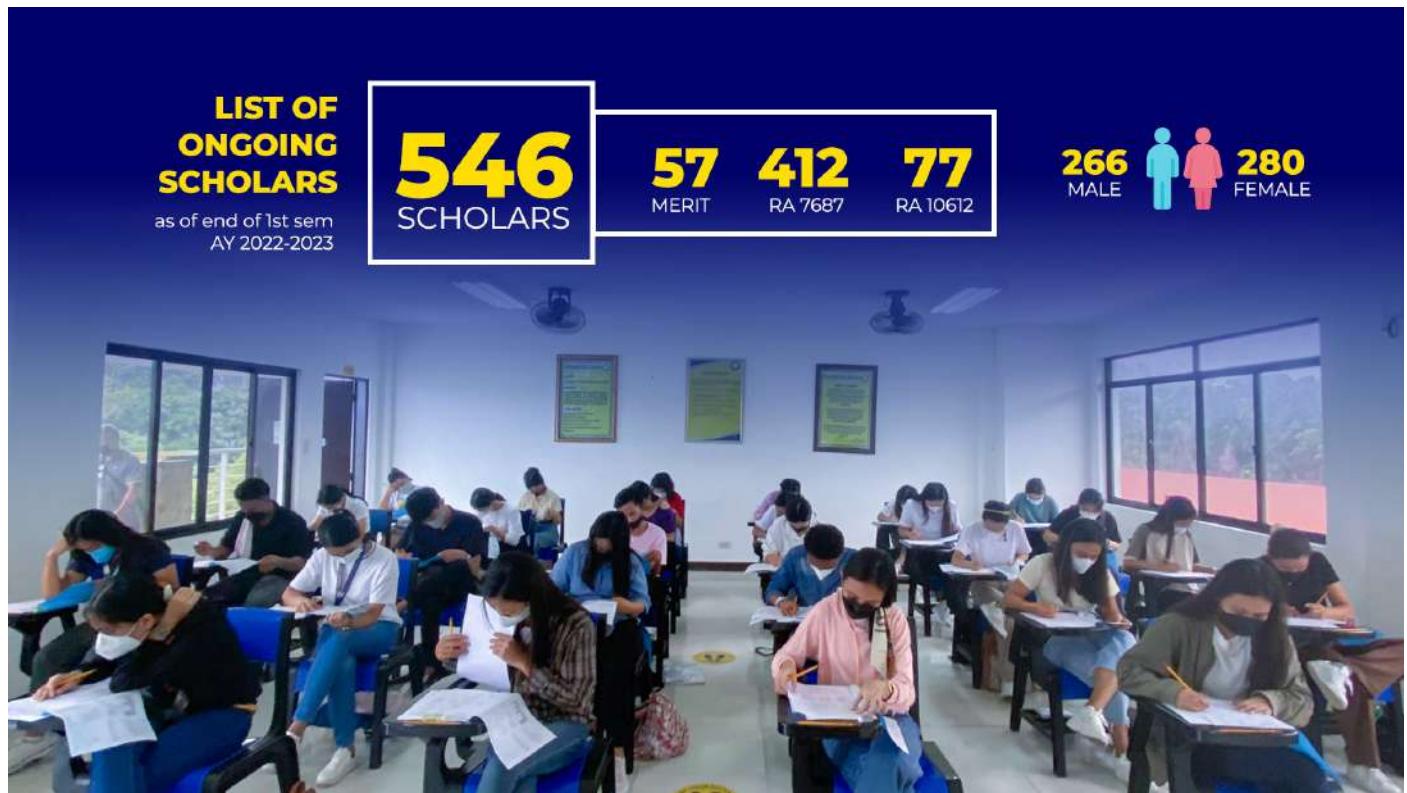
## Outcome 6

PRODUCTIVITY AND  
EFFICIENCY OF COMMUNITIES  
AND THE PRODUCTION SECTOR  
PARTICULARLY MSMEs  
IMPROVED

# S&T SCHOLARSHIPS

PDP CHAPTER 7  
Promoting Philippine Culture  
and Values towards Bayanihan

STRATEGIC INITIATIVE #4  
STI Services



Mandated with a mission to accelerate the development of the country's science and technology human resources, the Science Education Institute (SEI) is one of the S&T Service Institutes of the Department of Science and Technology (DOST). DOST-SEI continually promotes its programs and projects that stimulates the continued development of the country's S & T human resources to support the growth, innovation, as well as their utilization necessary to spur economic development.

DOST Region I, along with other regional offices, serves as the regional arm of DOST-SEI for the planning and implementation of S&T programs and projects in the region. The regional offices provide S&T services to the local populace and coordinate with other government agencies like DepEd, CHED and other learning institutions. These programs and projects aim to produce leaders and decision-makers in various areas of S&T: government, academe, and private industries.

There are three types of S&T scholarships:

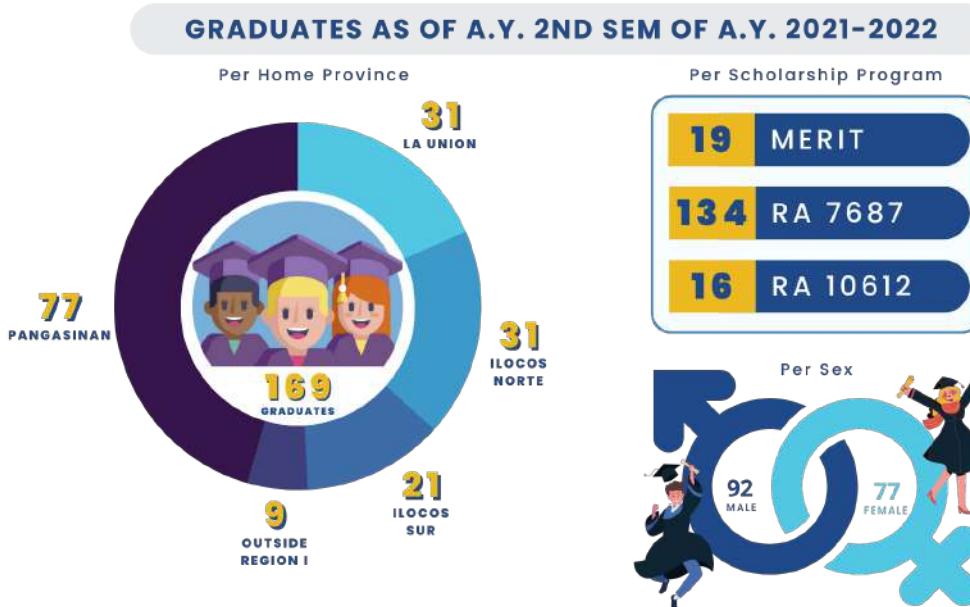
**Republic Act No. 7687** is awarded to talented and deserving students whose families are economically-challenged;

**Republic Act No. 2067 (Merit)** on the other hand, is awarded to students who have high aptitude in science and mathematics and who are willing to pursue careers in the fields of science and technology, and

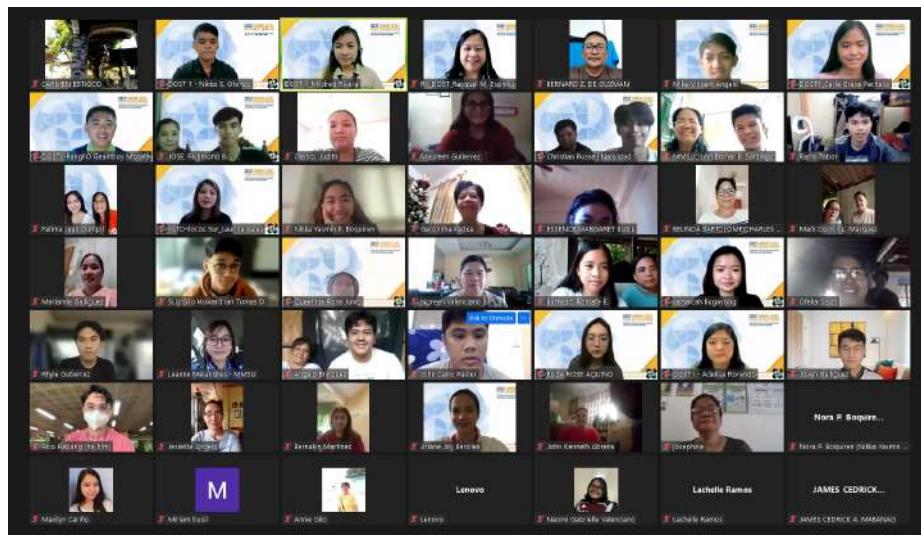
**Republic Act No. 10612** aims to strengthen the country's science and technology education by fast-tracking graduates in the sciences, mathematics and engineering who shall teach science and mathematics in secondary schools throughout the country.

As of end of 1st Semester, AY 2022-2023, DOST 1 assisted a total of 546 scholars.

The figure below summarized the number of scholars who graduated as of 2nd Semester AY 2021-2022 by program, sex, and home origin:



## JUNIOR LEVEL SCIENCE SCHOLARSHIP PROGRAM (JLSS)



The JLSS Program is one of the scholarship programs, which provide scholarships to finance the education of talented and deserving students who are in their third year of college and are pursuing degree programs under the science and technology priority course.

The 2022 JLSS program opened the online scholarship application for incoming third year college students on June 09, 2022. Due to Covid-19 pandemic restrictions DOST-SEI implemented the full online filing of application through the S&T E-Scholarship Application System which can be accessed through [www.science-scholarships.ph](http://www.science-scholarships.ph). DOST-SEI conducted the national qualifying examination on August 27-28, 2022 and the result was released on November 22, 2022. Out of 342 applicants, Fifty-Nine (59) regular third year students from region 1 qualified.

With the purpose to discuss the scholarship agreement, scholarship privileges, and scholarship obligations, the DOST-1 Scholarship Unit conducted a virtual orientation last December 09, 2022 for qualifiers under MERIT and RA 7687 and December 12, 2022 for qualifiers under RA 10612 via Zoom.

The orientation featured discussions on the provisions of the scholarship, their duties and responsibilities, and an open forum to clarify the queries and concerns of the qualifiers.



**59**  
QUALIFIERS

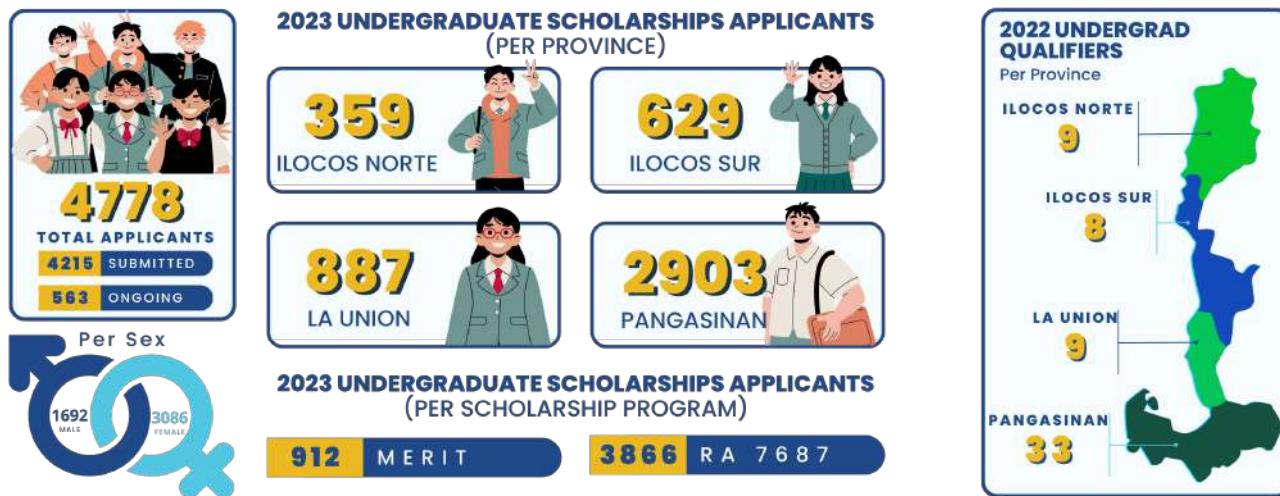
**28 MALE** **31 FEMALE**

## S&T UNDERGRADUATE SCHOLARSHIP PROGRAMS

DOST-SEI has officially released the list of qualifiers of the 2022 S&T Undergraduate Scholarships on June 12, 2022. In Region I, a total of 3550 senior high school students submitted their application online. Out of the total applicants, 251 qualified.

DOST1 conducted face-to-face scholarship orientations by batch from July 1-22, 2022 and a separate virtual orientation was conducted for the approved potential qualifiers. The qualifiers accompanied by their parents were oriented on the S&T Scholarship Policies as well as on the benefits of the scholarship program. Qualifiers who decided to avail the scholarship signed the scholarship agreement with the help of our Provincial S&T Offices.

On the other hand, applications for the 2023 S&T undergraduate scholarships opened last September 19, 2022, applicants were encouraged to file and submit requirements thru the E-scholarship Application System. In Region I, a total of 4,215 senior high school students successfully submitted their application and will take the qualifying examination on March 11-12, 2023.



## S&T LEARNING ASSISTANCE PROGRAM (STLAP)

The wellbeing of the scholars' is important for them to perform effectively, thus several personal and professional development trainings were provided virtually. The Science and Technology Learning Assistance Program (STLAP) is a year-round program designed to help assess and enhance intellectual potentials and psycho-social skills, equip with coping skills needed during college, and inculcate time honored values such as social responsibility, leadership, academic excellence, and personal integrity.

### 2022 Seminar on Job Hunting Strategies & Exit Conference

DOST 1 conducted a seminar on job hunting for graduating scholars last March 12, 2022 to empower them to be employment ready and find alternatives on how to survive and market themselves during the adaptive normal.

The participants underwent a trial job interview and assessment to give them a personal experience of the job application process. Representatives from the Department of Labor and Employment (DOLE Region 1) and DOST I were invited to serve as panelists.

The speakers of the of the seminar were identified based on the needs and current trend. Mr. Jezreel Ian C. Manuel, a faculty member from the University of the Cordilleras, gave a talk on, "Marketing Myself during the Adaptive Normal", orienting the students on the preparation of job application documents such as resumes and curriculum vitae.



Dr. Elizabeth Marfel F. Gagni, a Guidance Counsellor for Graduate School at Mariano Marcos State University focused on topics relevant to graduating college students such as how to maximize the use of job portals, how to nail the virtual interview and how to cope with the adaptive normal. In addition, Ms. Darbie Ann L. Fernandez of DOLE.

Region I gave a discussion on what job seekers need to know before applying for a job that's fit to their preferred working condition, experience, skills, and ambition. Ms. Fernandez also talked about career development, DOLE Employment Programs, and face to face Job Fair Schedules for the month of March to April. Engr. Rovan Alric L. Opinaldo of DOLE Region I on the other hand, gave a presentation about the basic rights of workers.



Mr. Kingston M. Sotelo won the "Best Resume Award" for submitting the most appealing and context ready resume, while Ms. Cathryn S. Frias won the "Best Applicant Award" for excelling in the Panel Interview.

An exit conference was also conducted to remind the soon to be graduate-scholars of their roles and responsibilities in nation-building, to reintegrate the values of the scholars in relation to their commitment with DOST-SEI, and to remind them of their service obligation after graduation. The Department of Education was invited to discuss their role in the implementation of RA 10612 and RA 7687. Also discussed were the different graduate scholarship programs offered by DOST-SEI, which the scholars can apply should they decide to pursue a higher level of study.



## In Touch with Excellence

Every year the DOST-SEI celebrates the excellence of scholars to showcase the truest impact of the government's science and technology scholarship program.

Eighty (82) graduate-scholars were recognized during the "2022 In Touch with Excellence" on December 07, 2022 at Hotel Ariana & Restaurant, Paringao, La Union. Present in the said momentous event were the scholarship coordinators from the nine (9) partner and host institutions, on-going scholars and concerned officials from DOST Region 1. The event reminded all graduate and on-going scholars of their vital role in nation building and that the choices they make have a great impact in the country.



## SCHOLAR-GRADUATES DEPED DEPLOYMENT

Thirty-Seven (37) DOST scholar-graduates were deployed with teaching positions by the Department of Education (DepEd) Region 1 for the school year 2021-2022. Three (3) of them are RA 7687 scholar-graduates deployed in public Junior High Schools with a teaching position of Teacher I, while Thirty-Four (34) RA 10612 scholar-graduates as Special Science Teacher I in public Senior High Schools in the Region.

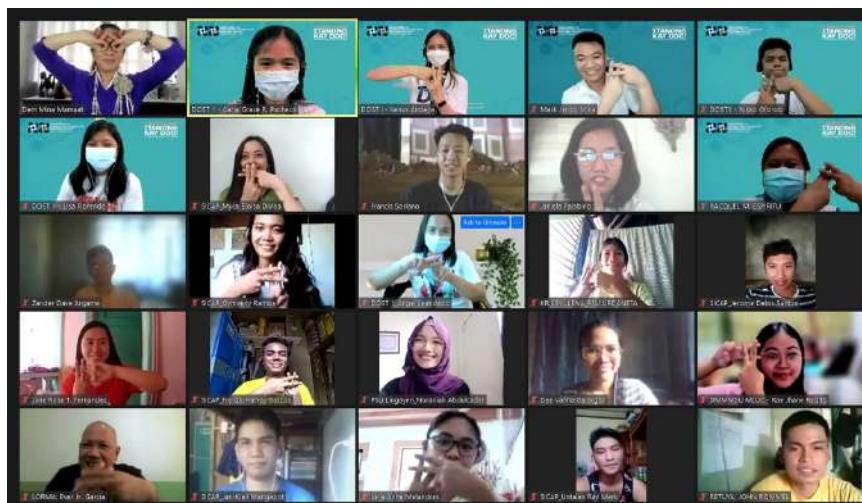


## Itanong kay Doc: Freewheeling Webinar

The virtual activity was conducted on February 14, 2022, via Zoom Meeting platform and broadcasted live at DOST Region I – Scholarship Unit Facebook Page with the goal to raise awareness and break the stigma associated with Mental Health.

The resource speaker, Dr. Dem Mamaat, a licensed psychologist and a professional teacher, gave a quick pep talk on balancing life. Doc Dem emphasized the following important points:

- Establish a work-school-life balance to put things in order by managing to organize things to eradicate chaos. Having a sense of order will help you to perform at your best and will have a better way of coping with your responsibilities.
- Learn to interact with others, be present and mindful, take time to play as "All work and no play makes Jack a dull boy" because you also need a break, learn to say "NO!", and keep expectations in check.
- Don't procrastinate also and do it now. Most importantly, get support, ask for help and this activity will provide professional help and consultations for the concerns of the scholars.
- Lastly, live normally as you can learn to balance all the turns in your life just like a bicycle.



Participants were able to share their concerns and programs that need professional solutions and advice. "We are in a chaotic world nowadays and what we need is to help and give care to each other," DOST Assistant Regional Director for Technical Services Ms. Racquel M. Espiritu remarked towards the end of the webinar, that she is very grateful for the conduct of the activity since it is very timely and helpful to the scholars.

## CAPACITY BUILDING

### Capacitating Scholars with Pedagogical Skills

DOST-SEI in partnership with DOST1, and Mariano Marcos State University (MMSU) conducted a training entitled, "Capacitating Scholar-Graduates with Pedagogical Skills," on August 2-5, 2022, at the Hotel Ariana, Paringao, Bauang, La Union and via Zoom platform.

The training was conducted to capacitate RA 10612 scholars who are non-education majors with innovative teaching strategies and classroom management skills which can be useful when they teach STEM subjects in secondary schools. Professors from MMSU were invited as resource speakers during the training, namely, Dr. Bert A. Gamiao, Dr. Madeline T. Fernando, Prof. Mark Ian C. Tagami, Prof. Christy Ann M. Rahon, Dr. Estrella R. Pacis, Dr. Rosabel L. Acosta, Dr. Gerry Abad, and Dr. Aris Reynold V. Cajigal, Dean of the College of Education.

A total of Forty-two (42) RA 10612 scholars from region 1 actively participated in the training, of which 37 scholars joined face-to-face, and 5 scholars participated online.



### Language Strategies in Teaching Science and Mathematics

A training on Language Strategies in Teaching Science and Mathematics was conducted on April 20-22, 2022 at Hotelinda Suites, Vigan City, Ilocos Sur. The training was made possible by DOST-SEI's Science Teacher Academy for the Regions (STAR) in line with STAR's vision to develop professional learning communities that will sustain teacher capability building in the countryside and uplift the quality of Science, Technology, Engineering, and Mathematics (S TEM) education in the Philippines. The goal of the training is to enhance the learning tools of math and science teachers from DOST 1 Community Empowerment thru Science and Technology (CEST) communities, teachers from ELCAC communities, and teachers from municipalities of Ilocos Sur without DOST scholars.

### THE FILIPINO PATRIOT SCHOLARS PROJECT & ACTIVITIES



In line with its vision to maximize the scholars' potentials for nation-building, the DOST-SEI has initiated the "Filipino Patriot Scholars' Project" to ensure that the country's investments in S&T human resource capacity building will be translated to inclusive national development. The project aims to foster patriotism among DOST-SEI scholars and instill in them the core values of professional excellence, social responsibility and servant leadership.

This project was formed to comply with the provisions of Article 2, Section 17 of the Constitution, which gives priority to education, science and technology, arts, culture, and sports to foster patriotism and nationalism, accelerate social progress, and promote total human liberation and development.

## DOST SEI Leadership Boot Camp North Luzon Cluster

A total of 63 scholars from Regions 1, 2, 3, and CAR 28 Male and 35 Female attended the Scholars Leadership Boot Camp for the North Luzon Cluster on August 31 – September 4, 2022, at Fort Ilocandia Resort Hotel in Laoag City, Ilocos Norte. The boot camp aimed to capacitate scholars with leadership and organizational skills; foster camaraderie and solidarity among science scholars; and formalize the scholars association of North Luzon.

DOST 1 Director Dr. Armando Q. Ganal was present during the opening ceremony where he delivered his welcome remarks, where he welcomed the participants from each region and expressed his support for the goals of the boot camp. Dr. Josette T. Biyo, DOST-SEI Director, inspired the participants via a recorded message saying, "My dear scholars, may these activities speak to your heart. Through this scholarship boot camp, we hope to ignite your drive and spirit of patriotism, volunteerism, and civic leadership to contribute to the betterment of the Philippines."



## OTHER ACTIVITIES



**Agyamanak DOST Diaries**  
- Touching more lives and  
highlighting more volunteerism  
and giving back activities



**CONVERGENCE:**  
First General Assembly of  
Scholar in Region 1



**MINDS' First General Assembly**



**MINDS Launches Project  
EmBrACe**



**SICAP's First General Assembly**  
**SICAP: Project Yacap Phase 2**



**SICAP: "One Graduate, One  
Tree" Project**

# S&T PROMO

**PDP CHAPTER 7**  
Promoting Philippine Culture  
and Values towards Bayanihan

**STRATEGIC INITIATIVE #4**  
STI Services



## PROMOTIONAL ACTIVITIES

The Regional Science and Technology Promotion Program Center (RSTPPC) is tasked with creating and carrying out promotional and informational activities that highlight the role of science, technology, and innovation (STI) in socio-economic development to raise public awareness and appreciation among the various sectors of society. Through the hosting of webinars, forums, and press conferences, the Center promotes appropriate technology developed by DOST and its partner organizations through the many programs, projects, and activities carried out and undertaken with the active participation of all the DOST 1 Provincial S&T Offices and itsUnits. For a wider distribution of the information, press releases, social media cards, and infographics were also published.

For the year, the Center has published and monitored 806 promotional activities which is 520% accomplishment from the year's target. Consequently, these activities have reached 4,120,010 people, received 144,105 engagements, and gained 14,856 new followers across all social media platforms of all DOST-1 Units/Offices.

The Center has also published eight (8) issues of Ilocos S&T Trends, the official newsletter of DOST-1.



**38 EPISODES**

of various topics were discussed with experts from the industry,  
academe and LGUs

## TEKNO PRESYENSYA: SYENSYA KEN TEKNOLOHIYA PARA KADAGITI UMILI

The engagement with broadcast media, recognizing them as a powerful venue in sustaining and improving DOST-1's public relations, notably the people of La Union and the entire Region 1, is of very significant accomplishment given the pandemic's enduring impacts. It has increased wider public participation and cooperation by eliciting collaboration and sharing of critical information, notably on science, technology and innovation programs and how these are being implemented in the provinces. "Tekno PreSyensa: Syensa ken Teknolohiya Para Kadagiti Umili" was aired for the year in collaboration with DZAG Radyo Pilipinas Agoo.

The memorandum of agreement (MOA) signed between DZAG Radyo Pilipinas Agoo, represented by its Station Manager, Dr. Maricel M. Fronda, and DOST 1 Regional Director, Dr. Armando Q. Ganal in CY 2020 was renewed for the year 2022.

The Tekno PreSyensa, the official radio program of DOST-1, broadcast live on radio and through the official Facebook pages of DOST-1 and DZAG Radyo Pilipinas Agoo, has changed from a bi-monthly schedule to a weekly one. The program, which airs every Thursday from 10:00 AM to 11:00 AM, covers the recent activities, and projects that DOST-1 and its partners have undertaken to advance science, technology, and innovation in the region, and/or upcoming initiatives, plans for information of the listeners.

Date of Broadcast	Topic	Resource Person/s
January 13, 2022	DOST 1's CY 2021 Accomplishment Report & iSTART	<b>Dr. Armand Q. Ganal</b> DOST Regional Director  <b>Engr. Arnold C. Santos</b> DOST-PSTC Pangasinan  <b>Michelle Retoria</b> LGU Alcala Municipal Planning Officer II  <b>Marilyn Lilagan</b> LGU Balungao Municipal Agriculturist Officer
January 27, 2022	DOST Certification Program for the 2022 Automated Election System	<b>Atty. Michael Franks Sarmiento</b> COMELEC Election Officer IV  <b>Atty. Elias Omar Sana</b> DICT Officer-in-Charge on the National Computer Emergency Response Team (NCERT)
February 10, 2022	DOST Call for Proposals and Insights from NIC-ERS in Region 1; and the Metals and Engineering Innovation Center	<b>Dr. Armand Q. Ganal</b> DOST Regional Director  <b>Ms. Annalie L. Rosales</b> Head, RDILPMC  <b>Dr. Dioniso S. Bucao</b> Chief of the Garlic and Other Agri-Food Condiments Research and Development Center (COASTER)  <b>Dr. Nathaniel Alibuyog</b> Program Leader of the Coastal Engineering and Management Research and Development Center  <b>Dr. Victor Palabay</b> MEIC Project Head
February 24, 2022	DOST Scholarship Program	<b>Mr. Peter Gerry P. Gavina</b> Chief, S&T Scholarship Division, DOST-SEI  <b>Ms. April Jieren R. Muska</b> DOST Undergraduate Scholar, 4th Year student of MMSU-Batac City, Ilocos Norte
March 3, 2022	Women's Month Celebration	<b>Dr. Armand Q. Ganal</b> DOST Regional Director  <b>Racquel M. Espiritu</b> DOST 1 ARD-TS

Date of Broadcast	Topic	Resource Person/s
March 10, 2022	RSTL Services	<p><b>Lena C. Rosario</b> Laboratory Head and Technical Manager for Chemical Laboratory</p> <p><b>Annalie L. Rosales</b> Technical Managers for Shelf-Life and Sensory Evaluation</p> <p><b>Hero D. Galamgam</b> Technical Manager for Microbiology Laboratory</p> <p><b>Raymond P. Espe</b> Regional Metrology Laboratory technical staff</p>
March 17, 2022	Technology Transfer Program and Support Services	<p><b>Jonathan M. Viernes</b> OIC for Field Operations</p> <p><b>Decth-1180 P. Libunao</b> CEST Project Leader</p> <p><b>Michael John C. Maquiling</b> Science Research Specialist II</p>
March 24, 2022	AMERIAL Project	<p><b>Engr. Franz Joseph D. Libao</b> Senior Science Research Specialist DOST-MIRDC</p> <p><b>Engr. Bernadine P. Suniega</b> Science Research Specialist II</p>
March 31, 2022	Culminating Activity of National Women's Month Celebration	<p><b>Dr. Diana L. Ignacio</b> Assistant Secretary for Human Resource Management, Management Services and Special Concerns and DOST GAD Focal Person</p>
April 7, 2022	DOST-PCAARRD's Agri-Aqua Technology Business Incubator (TBI)	<p><b>Prof. Anabella G. Valdez</b> Project Staff, DOST-PCAARRD-DMMMSU-ATBI</p> <p><b>Abigail Flores Gueco</b> Senior Science Research Specialist Technology Transfer and Promotion Division DOST-PCAARD</p> <p><b>Ms. Ethel Reyna M. Calivoso</b> Project Staff, DOST-PCAARRD-MMSU-ATBI</p>
April 21, 2022	Non-wheat Flour and Sagip Nutri Flour	<p><b>Charles Feb Quilantang Palla</b> Science Research Assistant DOST-ITDI</p> <p><b>Ms. Trinidad II T. Arcangel</b> Supervising Science Research Specialist DOST-FNRI</p>
April 28, 2022	Understanding Nuclear Science, its Importance and Benefits: DOST-PNRI in Focus	<p><b>Ms. Andrea Luz "Oona" Nery</b> Science Research Specialist II DOST-FNRI</p>
May 5, 2022	DOST-ITDI's Slimming Cream and Analgesic Balm	<p><b>Dr. Rosalinda C. Torres</b> Former Chief, Standards and Testing Division DOST-ITDI</p>
May 12, 2022	DOST-FPRDI's Bamboo-based Technologies	<p><b>Engr. Christian Camacho</b> Senior Science Research Specialist DOST-FPRDI</p>

Date of Broadcast	Topic	Resource Person/s
May 19, 2022	R&D Outputs and Technologies on Native Animals (Duck, Chicken and Pig)	<b>Dr. Armand Q. Ganal</b> DOST Regional Director  <b>Racquel M. Espiritu</b> DOST 1 ARD-TS
May 26, 2022	Project SARAI: Providing solutions for a more productive and proactive farming	<b>Marilyn D. Lilagan</b> Municipal Agriculturist LGU Balungao, Pangasinan  <b>Rosemarie Laila D. Arellano</b> Researcher, Project SARAI SESAM, UP Los Baños  <b>Maria Regina V. Regalado</b> Former Research Associate Project SARAI, SESAM, UP Los Baños
June 2, 2022	DOST's STARBOOKS: Digital Library in a Box	<b>Mr. Alan C. Taule</b> Chief, Information Resources and Analysis Division, DOST-STII  <b>Mr. RJ S. Talagsad</b> Teachers Librarian Movers Academy, Inc., Natividad, Pangasinan
June 16, 2022	DOST's oneSTore.PH: Bringing quality products to your doorsteps	<b>Mr. Christopher P. Musni</b> Project Manager, oneSTore.PH Science Research Specialist II, DOST II  <b>Ms. Elma Gabriel</b> SME Head Provincial Government of Ilocos Norte
June 23, 2022	DOST-PCAARRD's Tilapia para sa Pamayanan Project	<b>Dr. Cynthia V. Almazan</b> Senior Science Research Specialist Tilapia ISP Manager IARRD-PCAARRD  <b>Engr. Jordan L. Abad</b> Science Research Specialist II PSTC-Ilocos Sur  <b>Mr. Solomon Regua</b> Project Beneficiary Sta. Catalina, Ilocos Sur
June 30, 2022	DOST's Junior Level Science Scholarship Campaign	<b>Ms. Adelisa C. Florendo</b> Science Research Specialist II Regional Coordinator for Scholarship and SETUP, DOST Region 1
July 7, 2022	National Invention Contest and Exhibits	<b>Ms. Eileen Fernando</b> Supervising Science Research Specialist Technology Information and Promotion Division DOST-TAPI  <b>Prof. Zaldy A. Fernandez</b> Multi-fuel Dryer Innovator Mariano Marcos State University (MMSU)  <b>Ms. Charissa De Vera</b> Faculty Researcher Pangasinan State University (PSU)
July 14, 2022	DOST-FNRI in Focus	<b>Ms. Imelda Angeles-Agdeppa</b> Director, Scientist IV DOST-FNRI  <b>Mr. Racky Doctor</b> President Nutridense Food Manufacturing Corp.

Date of Broadcast	Topic	Resource Person/s
July 21, 2022	DOST DRRM Technologies: DOST PHIVOLCS, ASTI in Focus	<b>Dr. Teresito C. Bacolcol</b> Director III DOST-PHIVOLCS  <b>Engr. Gerwin P. Guba</b> Supervising SRS DOST-ASTI
July 28, 2022	DOST DRRM Technologies in Sugpon, Ilocos Sur	<b>Hon. Daniel Laño Jr.</b> Municipal Mayor Sugpon, Ilocos Sur  <b>Mr. Demy Lubrin</b> LDRRMO Officer I Sugpon, Ilocos Sur
August 4, 2022	DOST 1's Chemistry and Microbiology Laboratories on Testing the Potability of Water	<b>Mr. Hero D. Galamgam</b> Science Research Specialist I DOST I  <b>Engr. Rendel Jay Nisperos</b> Science Research Specialist I DOST I
August 11, 2022	DOST 1's Calibration Services: RML in Focus	<b>Engr. Bernadine P. Suniega</b> Science Research Specialist II DOST I  <b>Engr. Marlon R. Orpilla</b> Project Assistant III PSTC-La Union  <b>Mr. Erwin A. Padua</b> Project Assistant II PSTC-La Union
August 18, 2022	July 2022 Northwestern Luzon Earthquake: Assessment, Impacts and Recommendations	<b>Mr. Jeffrey S. Perez</b> Supervising Science Research Specialist DOST-PHIVOLCS
August 25, 2022	Launching of IPO Help Desk Office in La Union	<b>Engr. Emmanuel M. Mendoza</b> Area Manager, IPOPHL
September 1, 2022	Metals & Engineering Innovation Center in Focus	<b>Dr. Victorio C. Palabay</b> Dean, College of Technology DMMMSU-MLUC  <b>Mr. Ruzzel A. Abuan</b> Project Assistant I PSTC-La Union
September 8, 2022	DOST 1's Chemistry and Microbiology Laboratories on Testing the Potability of Water (REPLAY)	<b>Mr. Hero D. Galamgam</b> Science Research Specialist I DOST I  <b>Engr. Rendel Jay Nisperos</b> Science Research Specialist I DOST I
September 15, 2022	The Success Story of Sossy Bites through DOST 1's SETUP	<b>Mr. &amp; Mrs. Lasquite</b> Owner, Sossy Bites City of San Fernando, La Union
September 22, 2022	Undersecretary Sancho A. Mabborang	<b>Engr. Sancho A. Mabborang</b> Undersecretary for Regional Operations Department of Science & Technology
September 29, 2022	Jobi's Mushroom Products	<b>Ms. Josephine Bilan</b> Owner, Jobi's Mushroom Products Agoo, La Union
October 6, 2022	Success story of Modulhaus Inc.	<b>Mr. Richard Chan</b> Owner, Safetech by Modulhaus Agoo, La Union

Date of Broadcast	Topic	Resource Person/s
October 13, 2022	DOST-SEI Undergraduate Scholarship Campaign	<b>Ms. Adelisa C. Florendo</b> Regional Coordinator for Scholarship DOST 1  <b>Engr. Michael Daniel Ramirez</b> Instructor, College of Engineering DMMMSU-MLUC
October 20, 2022	North Luzon Cluster Forum and Caravan	<b>Ms. Janice W. Cornell</b> Planning Officer III Planning Unit, DOST-TAPI  <b>Ms. Racquel M. Espiritu</b> Assistant Regional Director for Technical Services DOST I
October 27, 2022	Philippine Science High School- Ilocos Region Campus	<b>Dr. Ronnalee N. Ortega</b> Campus Director PSHS-IRS
November 3, 2022	Regional Science and Technology Week 2022	
December 1, 2022	Success story of Costales Rice Mill	<b>Mr. &amp; Mrs. Costales</b> Owner, Costales Ricemill Magsingal, Ilocos Sur

*Table 25. Episodes of various topics discussed in Tekno Presyensya 2022.*

## VIRTUAL PRESSERS

For the year, there were two (2) virtual pressers conducted to advocate information campaign of the following major S&T celebrations:

### Junior Level Science Scholarship Campaign on July 31, 2022

### Regional Science and Technology Week 2022 on November 4, 2022

The virtual press conference was organized by the Philippine Information Agency Region 1 (PIA R1) through their regularly scheduled hour-long live program "Kapihan sa Ilocos" in order to give partner organizations a platform to promote the implementation of various government programs and initiatives.

Produced by Takeone Media Solution, the hour-long Kapihan sa Ilocos is live-streamed on the PIA Region 1 (Philippine Information Agency Region 1, PIA La Union, PIA Pangasinan, PIA Ilocos Sur, and PIA Ilocos Norte) and Northbound Philippines Facebook pages.

It was also aired live simultaneously over eight radio stations and the FB page of DZRD Sonshine Radio Dagupan City; DWIA 99.7 Core FM, Bantay City, Ilocos Sur; DZRL RPN Batac City, Ilocos Norte; Radyo Kaillian, ISPSC – Sta Maria Campus, Ilocos Sur; Radyo Kabinnadang, ISPSC- Cervantes, Ilocos Sur; DWRS, Radyo Pilipinas, Tayug, Pangasinan; and DZMQ - Radio Pilipinas, Dagupan City.

## INVENT SCHOOL PROGRAM

The Invent School Program (ISP) is a trademark program of the DOST Technology Application and Promotion Institute (DOST-TAPI) to serve as a platform to awaken the youth of their true ingenuity by stimulating their interest in creativity and inventiveness.

During the Regional Science and Technology Week 2022, the Invent School Program was conducted and comprised of a workshop that stimulated students' creative thinking skills, and challenged their imagination and ingenuity.

Students in Region 1 actively participated in this webinar-workshop and showcased their skills and capabilities that will help them become successful inventors to power the future and change our tomorrow.

Dr. Armando Q. Ganal, Regional Director of DOST-1 warmly welcomed and greeted the participants through his opening remarks, "As it has always been celebrated yearly, we are here again to the National Science and Technology Week of the Department of Science and Technology with the theme "Agham at Teknolohiya: Kabalikat sa Maunlad at Matataq na Kinabukasan". Today, we are favored to celebrate it in person. For the past years, facing the pandemic is nevertheless a challenging journey for each of us, especially for our students but gratefully we are now slowly overcoming it by the support of scientifically proven studies, paving the way for a more resilient and successful community." As he stated.

Engr. Garcia highlighted her presentations on the objectives of the workshop, to develop creative thinking and inventiveness, to give intellectual property rights and protection, to promote and help establish young inventors' club and associations, and to encourage students to pursue science-related courses leading to becoming inventors, engineers, and scientists in the future.

On the other hand, Ms. Amarillas imparted the steps to build creative thinking skills, "be curious, make connections, challenge yourself and cultivate your ideas" she stated. She facilitated the games for the students, animal hybrids, marshmallow tower and invention show-and-tell.

After the game, "Bibo Kid", "Best group award" and certificates were distributed to the students. Moreover, certificates and token were awarded to the speakers spearheaded by Ms. Lena C. Rosario, Laboratory Head of DOST-1 Regional Standards and Testing Laboratory.

## REGIONAL SCIENCE AND TECHNOLOGY WEEK (RSTW) CELEBRATION

The Department of Science and Technology Region 1 (DOST 1) conducted a blended (physical and virtual) celebration of the 2022 Regional Science and Technology Week (RSTW) last November 9-11, 2022, with post-RSTW activities conducted until November with the theme, "Agham at Teknolohiya: Tugon sa Hamon ng Panahon".

The celebration showcased significant scientific and technological breakthroughs that support inclusive socio-economic growth in the region through conduct of various webinars, livelihood trainings, calibration caravan and virtual exhibits.

EXPECTED OUTPUTS	ACCOMPLISHMENTS
Promote TAPI programs and services	Allotted a part to display the DOST-TAPI programs/services at the DOST-1 physical exhibit area.
Establish a venue (thru the Virtual exhibits) for S&T experts and enthusiasts, researchers/ inventors, investors, and communicators to meet and exchange ideas on the current S&T developments and technological needs of the industry.	Developed a virtual exhibit to showcase DOST-1 and DOST-TAPI programs and services as well as technologies generated by the science communities. Science enthusiasts visited the virtual exhibit.
Reach at least 5,000 viewers and participants and 5,000 engagements to the various trainings, webinars/ techtalks, and educational activities for the week-long celebration.	The 2022 RSTW celebration collectively accommodated 3,462 S&T enthusiasts. The DOST 1 Facebook Page has reached 2,037 people from November 9 to 4, 2022 with 61% female and 39% male audience.
Received a very satisfactory rating from participants of technology trainings, webinars, and techtalks.	The event attained a high customer satisfaction rating of 87% based on the summary of participants/attendees' evaluation.

Table 26. Summary Accomplishments vis-à-vis the 2022 NSTW expected outputs.

No.	Activity Title	Date/Platform
1	2023 Undergrad S&T Campaign	October 24, 2022 Face-to-Face
2	Food Safety R&D	October 24, 2022 Face-to-Face

Table 27. List of Pre-RSTW Activities.



No.	Activity Title	Date/Platform
1	Opening Ceremony (RSTW 2022)	November 9, 2022, 9:00 AM Face-to-face and Facebook Live
2	Press Conference	November 9, 2022, 12:00NN-1PM Face-to-face and Facebook Live
3	Invent School Program for Elementary Students	November 9, 2022, 1:00PM-5:00PM Face-to-face
4	CEST Summit and Awarding of Best CEST Communities	November 10, 2022, 8:00AM-5:00PM Face-to-face and Facebook Live
5	TechTalk	November 10, 2022, 1:00PM-5:00PM Face-to-face
6	STARBOOKS STAKEHOLDERS' Regional Convention	November 10, 2022, 8:00AM-5:00PM Face-to-face and Facebook Live
7	Invent School Program for Elementary Students	November 10, 2022, 1:00PM-5:00PM Face-to-face
8	Project Visits to SETUP/CEST/CBP Beneficiaries in Pangasinan for Media Partners	November 10, 2022, 8:00AM-3:00PM Face-to-face
9	SETUP Summit	November 11, 2022, 8:00AM-12NN Face-to-face and Facebook Live
10	PSHS Regional Sci-Math Battle	November 11, 2022, 8:00AM-12NN Face-to-face
11	Closing Program	November 11, 2022, 1:00PM-5:00PM Face-to-face and Facebook Live
12	Viewing of Technology Exhibits	November 9-11, 2022, 8:00AM-5:00PM Physical and virtual (November 9-28, 2022)
13	Technology Bazaar	November 9-11, 2022, 8:00AM-5:00PM Physical
14	PSHS Mobile Planetarium	November 9-11, 2022, 8:00AM-5:00PM Physical
15	PSHS Interactive Exhibits	November 9-11, 2022, 8:00AM-5:00PM Physical
16	S&T Trivia	November 9-11, 2022, 8:00AM-5:00PM Physical

Table 28. List of RSTW Activities (November 9-11, 2022).

No.	Activity Title	Date/Platform
1	Forum on DOST DRRM-related Technologies	November 15, 2022 Zoom and Facebook Live
2	RSTL Laboratory Works Series	November 14-18, 2022 Facebook Live
3	GeoRisk PH Webinar	November 17, 2022 Zoom and Facebook Live

Table 29. List of Post-RSTW Activities.

No.	Activity Title	Date/Platform
1	NRCP Science Policy Forum through Basic Research Caravan	November 24, 2022 Facebook Live and Zoom

Table 30. List of NSTW Regional Activities.



## NORTH LUZON CLUSTER FORUM AND CARAVAN

The Department of Science and Technology Northern Luzon Cluster (DOST 1, 2,3 and CAR) took part during the opening of DOST Stakeholders' Forum and Caravan held at the Mariano Marcos State University (MMSU) in the City of Batac, Ilocos Norte.

The activity is part of the Technology Application and Promotion Institute's (TAPI) Institutional Support for Technology Exposition's (ISTE) promotional activity.

To show their support during the opening activity dubbed as "DOST Stakeholders' Forum and Caravan: Bringing S&T Closer to the People 'Lakbay Teknolohiya para kay Juan at Juana'", which showcases DOST-generated technologies and products of micro, small, and medium enterprises (MSMEs) beneficiaries of DOST's various programs and services, DOST-TAPI's Director Atty. Marion Ivy D. Dacena, Regional Directors Dr. Nancy A. Bantog (DOST CAR), Dir. Virginia G. Bilgera (DOST 2), MMSU President Dr. Shirley C. Agrupis, Vice Mayor Wendell Chua and Atty. Juan Alfonso Augustus I. Jose of the Provincial Government of Ilocos Norte and other stakeholders are present.

More than 50 DOST-assisted products hailing from Northern Luzon were exhibited during the caravan including the technologies developed and ready for commercialization from DOST-TAPI.

The Opening Program, Press Conference and first part of the Business-to-business meetings were conducted on October 25, 2022, but due to the unexpected earthquake the remaining activities were moved to the celebration of the RSTW 2022 in Lingayen, Pangasinan.

No.	Activity Title	Date/Platform
1	Opening Program	October 25, 2022 Face-to-face and Facebook Live
2	Press Conference	October 25, 2022 Face-to-face and Facebook Live
3	Business-to-business meetings	October 25, 2022 Face-to-face and Zoom  November 10, 2022 Face-to-face and Zoom
4	Forum	November 9, 2022 Face-to-face and Zoom

Table 31. List of NLC Activities.

# S&T LRC/STARBOOKS

PDP CHAPTER 7  
Promoting Philippine Culture  
and Values towards Bayanihan

STRATEGIC INITIATIVE #4  
STI Services



The S&T Learning Resource Center at the regional office, PSTC-Ilocos Norte, PSTC-Ilocos Sur, PSTC-La Union and PSTC-Pangasinan also provided S&T information through the DOST STII-Online Library Literacy Program, Technology Trainings and S&T Academic and Research-Based Openly Operated Kiosk Stations (STARBOOKS) to different institutions.

A total of 1,915 users were served by S&T LRC in 2022, out of which 635 users for STARBOOKS, 908 users for Online Library Literacy, and 253 in Technology Training.

Furthermore, a total of 49 STARBOOKS MOU were signed and notarized in 2022.

The table below summarizes the trainings conducted, MOU signed and number of participants.

No.	STARBOOKS ADOPTOR	Address	Date of Orientation	No. of Participants	Date MOU Signed
1.	Sapdaan Primary School	Santol, La Union	February 4, 2022	11	January 28, 2022
2.	Banbanaba Elementary School				
3.	Sabsaba Elementary School				
4.	Aloleng Elementary School	Agno, Pangasinan	February 7, 2022	22	February 7, 2022
5.	Agno Central School				
6.	Juan Nino Elementary School	Bautista, Pangasinan	February 11, 2022	13	February 11, 2022
7.	Calumbuyan Elementary School				
8.	A. Diaz Sr. ES	San Juan, La Union	March 7, 2022	3	-
9.	Vacante Elementary School				
10.	San Juan National High School	Carasi, Ilocos Norte	March 9, 2022	20	March 9, 2022
11.	Carasi ES, Carasi NHS				
12.	Virbira-Angset ES	San Fernando City, La Union	March 31, 2022	19	March 31, 2020
13.	DMMMSU Campuses (NLUC, SLUC, MLUC and OUS)				
14.	Municipal Library of Asingan	Asingan, Pangasinan	April 8, 2022	8	April 8, 2022

No.	STARBOOKS ADOPTOR	Address	Date of Orientation	No. of Participants	Date MOU Signed
15.	MMSU Batac City, Dingras and Currimao	Batac City, Ilocos Norte	May 13, 2022	22	May 13, 2022
16	Christ the King College-San Fernando City, La Union Inc.	San Fernando City, La Union	June 6, 2022	28	June 6, 2022
17.	Pangasinan Provincial Library	Pangasinan	June 8, 2022	13	-
18.	San Jose Elementary School-Pangasinan	Natividad, Pangasinan	June 10, 2022	8	January 21, 2021
19.	Saint Augustine's School	Tagudin, Ilocos Sur	July 20, 2022	27	July 20, 2022
20.	Saint John Bosco College of Northern Luzon, Inc.	Lingsat, City of San Fernando, La Union	August 4, 2022	26	August 4, 2022
21.	Northern Naguilian National High School	Naguilian, La Union	September 21, 2022	38	September 21, 2022
22.	Balbalayang National High School	San Gabriel, La Union	September 30, 2022	3	September 30, 2022

### ADVOCACY CAMPAIGN

23.	Public schools of Asingan	Asingan, Pangasinan	April 8, 2022	14	-
24.	Mariano Marcos State University	Batac Ilocos Norte	May 16, 2022	22	-
25.	LGUs with Tech4Ed Centers	Pangasinan	June 2, 2022	38	-
26.	Municipal Libraries of Pangasinan	Pangasinan	June 8, 2022	12	-
27.	Saint Augustine's School	Tagudin, Ilocos Sur	June 20, 2022	36	-
28.	Vintar National High School	Vintar, Ilocos Norte	September 5, 2022	18	-
29.	Sarrat National High School	Sarrat, Ilocos Norte	September 8, 2022	50	
30.	Naguilian Senior High School	Naguilian, La Union	September 21, 2022	30	September 21, 2022
31.	Lacong Integrated School	San Gabriel, La Union	September 30, 2022	3	
32.	Lipay Integrated School	San Gabriel, La Union	September 30, 2022	3	
33.	San Gabriel Vocational High School	San Gabriel, La Union	September 30, 2022	3	
34.	Nayba Integrated School	San Gabriel, La Union	September 30, 2022	3	
35.	San Gabriel Senior High School	San Gabriel, La Union	September 30, 2022	3	
36.	Municipality of Candon	Candon City	October 13, 2022	5	
37.	Municipality of Candon	Candon City	October 19, 2022	15	
38.	STARBOOKS STAKEHOLDERS' REGIONAL CONVENTION	Golden Lion Hotel, PSU, Lingayen	November 20, 2022	119	29 MOUs

Table 32. List of STARBOOKS MOU signed.

TOTAL NUMBER OF TRAININGS: 37  
 TOTAL NUMBER OF PARTICIPANTS: 635  
 TOTAL NUMBER OF MOUs: 49



For CY 2022, DOST 1 installed 85 STARBOOKS serving schools, universities, and barangays and the CEST program beneficiaries.

CODE	INSTITUTION NAME	LOCATION	TYPE	ENCODED/INSTALLED
22-87	Aloleng Elementary School	Agno, Pangasinan	Elementary School	2022-01-10
22-88	Calomboyan Elementary School	Agno, Pangasinan	Elementary School	2022-01-10
22-89	Agno Central School	Agno, Pangasinan	Elementary School	2022-01-10
22-90	Juan Nino Elementary School	Agno, Pangasinan	Elementary School	2022-01-10
22-190	San Jose Elementary School - Pangasinan	Natividad, Pangasinan	Elementary School	2022-01-21
22-194	Banbanaba Elementary School	Santol, La Union	Elementary School	2022-01-26
22-195	Sasaba Primary School	Santol, La Union	Elementary School	2022-01-26
22-196	Sapdaan Elementary School	Santol, La Union	Elementary School	2022-01-26
22-225	Don Mariano Marcos Memorial State University - Mid La Union Campus 1	San Fernando City, La Union	College/University	2022-02-07
22-226	Don Mariano Marcos Memorial State University - Mid La Union Campus 2	San Fernando City, La Union	College/University	2022-02-07
22-227	College of Information Technology DMMMSU-MLUC	San Fernando City, La Union	College/University	2022-02-07
22-228	Don Mariano Marcos Memorial State University - Mid La Union Campus 3	San Fernando City, La Union	College/University	2022-02-07
22-229	Don Mariano Marcos Memorial State University - Mid La Union Campus 4	San Fernando City, La Union	College/University	2022-02-07
22-243	DMMMSU-SLUC College of Agriculture	Agoo, La Union	College/University	2022-02-14
22-244	DMMMSU-SLUC College of Fisheries	Agoo, La Union	College/University	2022-02-14
22-245	DMMMSU-SLUC Main Library	Agoo, La Union	College/University	2022-02-14
22-248	Don Mariano Marcos Memorial State University - NLUC	Bacnotan, La Union	College/University	2022-02-18
22-270	Municipality of Asingan, Pangasinan	Asingan, Pangasinan	LGU	2022-03-22
22-272	Mariano Marcos State University (Main Library) 1	Batac City, Ilocos Norte	College/University	2022-03-29
22-273	Mariano Marcos State University (CASAT Library) 1	Currimao, Ilocos Norte	College/University	2022-03-29
22-274	Mariano Marcos State University (CAFSD-Dingras Reading Center)	Dingras, Ilocos Norte	College/University	2022-03-29
22-275	Mariano Marcos State University (Main Library) 2	Batac City, Ilocos Norte	College/University	2022-03-29
22-276	Mariano Marcos State University (Main Library) 3	Batac City, Ilocos Norte	College/University	2022-03-29
22-277	Mariano Marcos State University (Main Library) 4	Batac City, Ilocos Norte	College/University	2022-03-29
22-278	Mariano Marcos State University (CASAT Library) 2	Currimao, Ilocos Norte	College/University	2022-03-29
22-407	Christ The King College - San Fernando City La Union, Inc.		College/University	2022-05-23
22-420	Pangasinan Provincial Library	Lingayen, Pangasinan	LGU	2022-06-08
22-421	Pangasinan Provincial Library - Soriano	Lingayen, Pangasinan	LGU	2022-06-08
22-443	Naguilian Municipality Library	Naguilian, La Union	LGU	2022-06-23
22-461	St. Augustine's School, Tagudin, Ilocos Sur	Tagudin, Ilocos Sur	High School	2022-07-05
22-581	Saint John Bosco College of Northern Luzon, Inc.	San Fernando City, La Union	College/University	2022-08-01
22-670	Naguilian Senior High School	Naguilian, La Union	High School	2022-09-15
22-674	Balbalayang National High School	Agoo, La Union	High School	2022-09-20
22-686	Northern Naguilian National High School-	Naguilian, La Union	High School	2022-09-28
22-687	ADAMS CENTRAL ELEMENTARY SCHOOL	Adams, Ilocos Norte	Elementary School	2022-09-28
22-688	ADAMS NATIONAL HIGH SCHOOL -	Adams, Ilocos Norte	High School	2022-09-28
22-689	BUCAROT PRIMARY SCHOOL	Adams, Ilocos Norte	Elementary School	2022-09-28

CODE	INSTITUTION NAME	LOCATION	TYPE	ENCODED/INSTALLED
22-690	MALAGGAO PRIMARY SCHOOL	Adams, Ilocos Norte	Elementary School	2022-09-28
22-692	Sarrat National High School	Sarrat, Ilocos Norte	High School	2022-09-29
22-693	Sarrat National High School-	Sarrat, Ilocos Norte	High School	2022-09-29
22-729	Umingan National High School	Umingan, Pangasinan	High School	2022-11-08
22-730	Umingan Municipal Library	Umingan, Pangasinan	LGU	2022-11-08
22-731	SAN MIGUEL NHS - NATIVIDAD	Natividad, Pangasinan	High School	2022-11-08
22-732	Villasis I Central School SPED Center	Villasis, Pangasinan	Elementary School	2022-11-08
22-733	Piaz National High School	Villasis, Pangasinan	High School	2022-11-08
22-734	Pozorrubio Central School	Pozorrubio,Pangasin-an	Elementary School	2022-11-08
22-735	Barangay Pantal Reading Center	Dagupan City, Pangasin-an	LGU	2022-11-08
22-735	Barangay Pantal Reading Center	Dagupan City, Pangasin-an	LGU	2022-11-08
22-736	Sta. Barbara Municipal Library	Santa Barbara,Pangasin-an	LGU	2022-11-08
22-737	Saint Anthony Abbot Academy	Villasis, Pangasinan	High School	2022-11-08
22-738	Barangobong National High School	c	High School	2022-11-08
22-740	Bolaoen Elementary School	Sual, Pangasinan	Elementary School	2022-11-08
22-741	Sioasio Elementary School	Sual, Pangasinan	Elementary School	2022-11-08
22-741	Sioasio Elementary School	Sual, Pangasinan	Elementary School	2022-11-08
22-745	Divine World College of Urdaneta, Inc.	Urdaneta City, Pangasin-an	College/University	2022-11-08
22-746	Don Alipio Fernandez Sr. Integrated School	Urdaneta City, Pangasin-an	High School	2022-11-08
22-747	E-Library Dagupan	Dagupan City, Pangasin-an	LGU	2022-11-08
22-748	Labit Elementary School	Villasis, Pangasinan	Elementary School	2022-11-08
22-751	Lepanto Elementary School - Villasis	Villasis, Pangasinan	Elementary School	2022-11-09
22-752	Raymunda Verzosa Elementary School	Sual, Pangasinan	Elementary School	2022-11-09
22-753	Pangascasan Integrated School	Sual, Pangasinan	Elementary School	2022-11-09
22-754	Luna Este Elementary School	Umingan, Pangasinan	Elementary School	2022-11-10
22-755	Luna Weste Elementary School	Umingan, Pangasinan	Elementary School	2022-11-10
22-756	Luyan Elementary School	Mapandan, Pangasin-an	Elementary School	2022-11-10
22-757	San Juan Elementary School - Umingan	Umingan, Pangasinan	Elementary School	2022-11-10
22-758	Sta. Maria Elementary School - Mapandan	Mapandan, Pangasin-an	Elementary School	2022-11-10
22-759	Torres Elementary School - Mapandan	Mapandan, Pangasin-an	Elementary School	2022-11-10
22-760	Torres Elementary School - Mapandan	Mapandan, Pangasin-an	High School	2022-11-10
22-761	Sual National High School - Sual	Sual, Pangasinan	High School	2022-11-10
22-762	Labit Elementary School - Villasis	Villasis, Pangasinan	Elementary School	2022-11-10
22-763	Baybay Elementary School - Sual	Sual, Pangasinan	Elementary School	2022-11-10
22-764	Sto. Domingo Elementary School - Sual	Sual, Pangasinan	Elementary School	2022-11-10
22-765	Seselangen Elementary School - Sual	Sual, Pangasinan	Elementary School	2022-11-10
22-766	Cabalitian Elementary School	Sual, Pangasinan	Elementary School	2022-11-10
22-767	Batidape Community School	Sual, Pangasinan	Elementary School	2022-11-10
22-768	Modesto V. Ferrer Elementary School	Sual, Pangasinan	Elementary School	2022-11-10
22-769	Calumbuyan Elementary School	Sual, Pangasinan	Elementary School	2022-11-10
22-770	Balog Elementary School	Sual, Pangasinan	Elementary School	2022-11-10
22-771	Baquioen Elementary School	Sual, Pangasinan	Elementary School	2022-11-10

CODE	INSTITUTION NAME	LOCATION	TYPE	ENCODED/INSTALLED
22-772	Macaycawayan Elementary School	Sual, Pangasinan	Elementary School	2022-11-10
22-773	Cacao Elementary School	Sual, Pangasinan	Elementary School	2022-11-10
22-774	Paitan Integrated School	Sual, Pangasinan	High School	2022-11-10
22-775	Sual Central School	Sual, Pangasinan	Elementary School	2022-11-10
22-776	Universidad De Dagupan - ISUDD	Dagupan City, Pangasinan	College/University	2022-11-10
22-777	Universidad De Dagupan - Main Campus	Dagupan City, Pangasinan	College/University	2022-11-10
<b>TOTAL NUMBER OF INSTALLED STARBOOKS UNIT</b>				<b>85</b>

Table 33. List of STARBOOKS MOU signed.

STARBOOKS is a stand-alone information source designed to reach those with limited or no access to S&T information resources. It contains hundreds of thousands of digitized science and technology resources in various formats (text and video/audio) placed in specially design "pods" set in a user-friendly interface. It is a complementary source of information for K-12 students and teachers to support learning modalities.

On November 9-10, 2021, DOST Region 1 conducted the first STARBOOKS Stakeholders' Regional Convention through online platform which gathered representatives from school-beneficiaries, partner agencies and local governments to showcase best practices and new innovations in library and education. The event was attended by 1,093 zoom participants and 3,674 Facebook Live viewers which gained 864 engagements.

To continue the gains of last year's convention, DOST-1 is again proposing for the conduct of the STARBOOKS Stakeholders' Regional Convention. It is proposed to be conducted during the Regional Science and Technology Week (RSTW) celebration in Lingayen, Pangasinan on November 10, 2022 in blended modalities.

This activity addresses the **4th goal of the Sustainable Development Goals (SDGs)**, which is to "ensure equitable and quality education and promote lifelong learning opportunities for all".

#### Objectives:

##### General:

To showcase best practices among the beneficiaries and equip them with relevant skills to maximize the use of STARBOOKS, as well as open them to other opportunities.

##### Specifics:

1. To promote the DOST-STARBOOKS as a repository of Science and Technology Information.
2. To showcase best practices and success stories of STARBOOKS beneficiaries.
3. To forge memorandum of understanding and provide STARBOOKS software to new beneficiaries.
4. To provide the stakeholders on new innovations pertaining to library and education.

#### Implementation Plan and Strategies:

The 2022 STARBOOKS Stakeholders' Regional Convention will be conducted during the 2022 Regional Science and Technology Week (RSTW) celebration on November 10, 2022 in Lingayen, Pangasinan.

The event will be a face-to-face session and will be broadcasted via Facebook Live to deliver the program to a wider audience. Below is the tentative program of activities for the one-day event:

Likewise, a spoken poetry contests was conducted to further promote the STARBOOKS technology and gain more adaptors.

STARBOOKS STAKEHOLDERS REGIONAL CONVENTION	
November 10, 2022	No. Of Attendees
<b>AM Session</b>	<b>119</b>
Training: STARBOOKS User's Training and Orientation	
<b>PM Session</b>	<b>119</b>
Transforming our Libraries from Print to Digital: Guide on Starting a Digitization Project for Print Materials	
<b>TOTAL</b>	<b>119</b>

Table 34: List of total of attendees for the 1-day STARBOOKS Stakeholders' Regional Convention.

Part of the convention was the 2022 awarding and closing ceremonies streamed live on Facebook page of DOST-1 where winners for the Spoken Poetry Contest were announced.

The following are the adjudged winners during the convention:

<b>1st PLACE PHP 4,000</b>	Ms. Eloisa N. Pedrosa of DMMMSU South La Union Campus
<b>2nd PLACE PHP 3,000</b>	Mr. Rodel Dizon of Naguilian Senior High School
<b>3rd PLACE PHP 1,000</b>	Ms. Alysa Joy G. Ravelas of Alejandro F. Oligan National High School Mr. Kyzach Figuracion of Arboleda National High School
<b>PEOPLE'S CHOICE AWARD</b>	Ms. Eloisa N. Pedrosa of DMMMSU South La Union Campus

## ONLINE LIBRARY LITERACY PROGRAM

SCHOOL	ADDRESS	# of Session	DATE OF ACTIVITY	Total No. of Participants
La Union National High School	San Fernando City, La Union	6	February 21 & 22, 2022	849
Mariano Marcos State University	Batac City, Ilocos Norte	1	May 16, 2022	32
Santo Tomas National High School	Santo Tomas, La Union	1	October 19, 2022	27
<b>TOTAL NO. OF SESSION</b>		<b>8</b>	<b>TOTAL NO. OF PARTICIPANTS</b>	<b>908</b>

Table 35: List of Online Library Literacy Program.

## VIRTUAL TECHNOLOGICAL TRAININGS

SCHOOL	TITLE OF TRAINING	ADDRESS	DATE OF ACTIVITY	Total No. of Participants
DZAG RADIO PILIPINAS	TRAINING OF LIVE STREAMING WEBINAR	Agoo, La Union	MARCH 30, 2022	80
Solid East Agrarian Reform Cooperative	Current Good Manufacturing Practice	San Esteban, Ilocos Sur	August 4, 2022	32
STARBOOKS Stakeholder's Regional Convention	Transforming Libraries from Print to Digital: Guide on Starting a Digitization Project for Print Materials	Golden Lion Hotel, PSU, Lingayen, Pangasinan	November 10, 2022	119 Face-to-face 22 virtual
<b>TOTAL NO. OF PARTICIPANTS</b>				<b>253</b>

Table 36: List of Virtual Technological Trainings.

## TOTAL PARTICIPANTS S&T LRC USERS SERVED :

ACTIVITY	TOTAL PARTICIPANTS	Total No. Evaluated	Female	Male
STARBOOKS Training	635	441	225	216
Online Library Literacy Program	908	305	184	121
Technology Training	253	171	110	61
STARBOOKS Convention	119	86	51	35
<b>OVERALL TOTAL</b>	<b>1,915</b>	<b>1,003</b>	<b>570</b>	<b>433</b>

Table 37: Total number of participants S&T LRC users served.

## RESEARCH AND DEVELOPMENT AND INTERNATIONAL LINKAGES PROGRAM MANAGEMENT CENTER



The Research & Development and International Linkages Program Management Center (RDILPMC) is a unit of the Department of Science and Technology Region 1 (DOST-1) that focuses on the R&D projects, proposals, and councils' activities and establishes international linkages for projects collaboration. The Center coordinates and monitors the R&D projects, proposals, and councils' activities of the Regional Research, Development, and Innovation Committee (RRDIC), Region 1 Health Research and Development Consortium (R1HRDC), Ilocos Consortium for Industry, Energy and Emerging Technology Research and Development (ICIEERD), Ilocos Agriculture, Aquatic, and Natural Resources Research and Development Consortium (ILAARRDEC), Innovation Centers, and Niche Centers in the Regions for R&D (NICER) Program.

Aligned with the Harmonized National R&D Agenda, these are designed to improve the lives of the communities they serve, maximize technology to preserve culture and tradition, and provide alternatives to rapidly diminishing resources, while bringing in revenue for the local economy and shining light on the Filipino talent and ingenuity on a global landscape.

RDILPMC also monitors the innovation centers of Region 1 including the Food Innovation Centers (FIC) and Metals Engineering and Innovation Center (MEIC). In addition, research papers and food products are being published and patented. The unit also assists in the implementation of all the Research Development and Innovation programs of

For CY 2022, the Research & Development, and International Linkages Program Management Center (RDILPMC) of the Department of Science and Technology Regional Office 1 (DOST 1) conducted webinars to promote Science, Technology and Innovation here in the region. Several training courses were also done to improve the skills of the researchers and technology generators in terms of proposal writing and Intellectual Property Rights Filing.

Since the pandemic, webinars became a major platform for sharing information and S&T advocacies to promote S&T careers and S&T interventions to the public.

## WEBINARS



*Webinar on Research and Development on Food Safety*

*Webinar on Women in Science Leadership*

TITLE	DATE	DESCRIPTION	PARTICIPANTS	
			M	F
Women in Science Leadership	March 31, 2022	In celebration of Women's Month, the activity showcased women as leaders in the field of S&T. The speakers were Dr. Ericka Fille Legara and Dr. Marla Maniquiz-Redillas, both Outstanding Young Scientists.	14	38
R&D Opportunities	June 20, 2022	This activity discussed different opportunities in the field of research and development. Speakers were Dr. Jeffrey Bunquin and Dr. Anna Karen Laserna, from the Filipino Science Hub, a group promoting fun in S&T learning.	61	75
TechTalk Episode 3: Tara Kape	June 27, 2022	Coffee Processing Technologies and Coffee Geographical Origin were featured. The speakers were Dr. Helen Martinez of Philippine Center for Post-Harvest Development and Mechanization and Dr. Emmanuel Garcia of De La Salle University.	31	37
AgosTalk: Brains of R&D Webinar,	August 31, 2022	This event was conducted in celebration of National Heroes Month and showcased RDLeaders in the regions. This session featured RDLeaders across the nation, Dr. Wilma Hurtada, RDLeader of University of Science and Technology of Southern Philippines Claveria, Dr. Ricardo Babaran, RDLeader of Capiz State University and Dr. Laurence Gan Lim, RDLeader of Don Mariano Marcos Memorial State University.	16	29
Research and Development on Food Safety	October 24, 2022	As a preliminary RSTW activity, different R&D initiatives on Food Safety were discussed by Ms. Vannizsa Ramas and Rose Elaine Guilaran, both from the Food and Nutrition Research Institute (FNRI).	90	117
Virtual Speakers Bureau: Investing in S&T Human Capital towards a resilient, inclusive and prosperous region	November 3, 2022	With the goal of regional development through Science and Technology, we invited National Academy of Science and Technology (NAST) Academician William Padolina discussed the importance of S&T Capital, especially in the regions	43	61
S&T Policy Forum in the Creative Arts	November 24, 2022	This event featured the project, MusikaPilipinas: Research and Mapping towards understanding, scoping, and defining the Philippine Music Industry. The Forum was graced by Hon. Christopher V.P. De Venecia, Prof Ma. Alexandra Chua, and Ms. Armie Sabugo as guest and speakers.	15	33

*Table 38: List of webinars conducted by RDILPMC during the year 2022.*

## FACE-TO-FACE TRAININGS AND SEMINARS

Face-to-Face activities were conducted to ensure learning as the sessions require workshop activities. These programs were in collaboration with other units and DOST-attached agencies.

TRAINING ACTIVITY	DATE	PARTNER	PARTICIPANTS	
			M	F
Food Research Development and Design and Vacuum Frying Processing Technique	June 10, 2022	DOST1-PSU Food Innovation Center	7	12
R&D Ideation and S4CP Proposal Writeshop	August 9-10, 2022	Science for Change Program	26	24
Intellectual Property Seminar and Patent Drafting Workshop	September 20-23, 2022	DOST 1 – Fairness Opinion Board Secretariat	10	13
Innovations in the Region	November 9, 2023	RSTW Webinar Committee	33	31
TechTalk featuring ITDI Developed Technologies and DMMMSUs Chevron Products	November 10, 2023	RSTW Webinar Committee	16	35
Training Workshop on Research Upgrading and Performance Evaluation	November 15-18, 2023	National Academy of Science and Technology Ilocos Consortium for Industry, Energy, and Emerging Technologies Research and Development University of Northern Philippines	18	17

Table 39: List of face-to-face activities in collaboration with other units and DOST-attached agencies.



## OTHER SUPPORT ACTIVITIES

- Consultations and initial proposal evaluation were done with researchers prior to submission of their research proposals.
- Assisted the Fairness Opinion Board Secretariat for two (2) tech transfer engagements.
- To fast-track their Intellectual Property Rights Application, five (5) technologies from the Mariano Marcos State University, Don Mariano Marcos Memorial State University, and DOST1 - Pangasinan State University Food Innovation Center, were endorsed to the Science and Technology Superhighway Program.

## OUTCOME 1: INNOVATION STIMULATED

The Center coordinated and monitored the R&D projects, proposals, and councils' activities of the Region 1 Health Research and Development Consortium (R1HRDC), Ilocos Consortium for Industry, Energy and Emerging Technology Research and Development (ICIEERD), and the Ilocos Agriculture, Aquatic, and Natural Resources Research and Development Consortium (ILAARRDEC).

Consortium	R&D proposals endorsed & evaluated	Endorsed R&D proposals Funded
ICIEERD	17	3
ILAARRDEC	4	2
R1HRDC	7	-

These projects are in line with the Harmonized National R&D Agenda, aimed to enhance the quality of life in the communities they serve, use technology to preserve culture and tradition, and provide alternatives to rapidly depleting resources.

RDILPMC funded in-house R&D project namely: Adoption of R&D Information System in Region 1 (Phase 1) which is currently in Phase 2 and is paving the way for the organization of R&D projects generally in the region to be more accessible and significantly simpler to monitor as data is scattered among agencies and institutions.

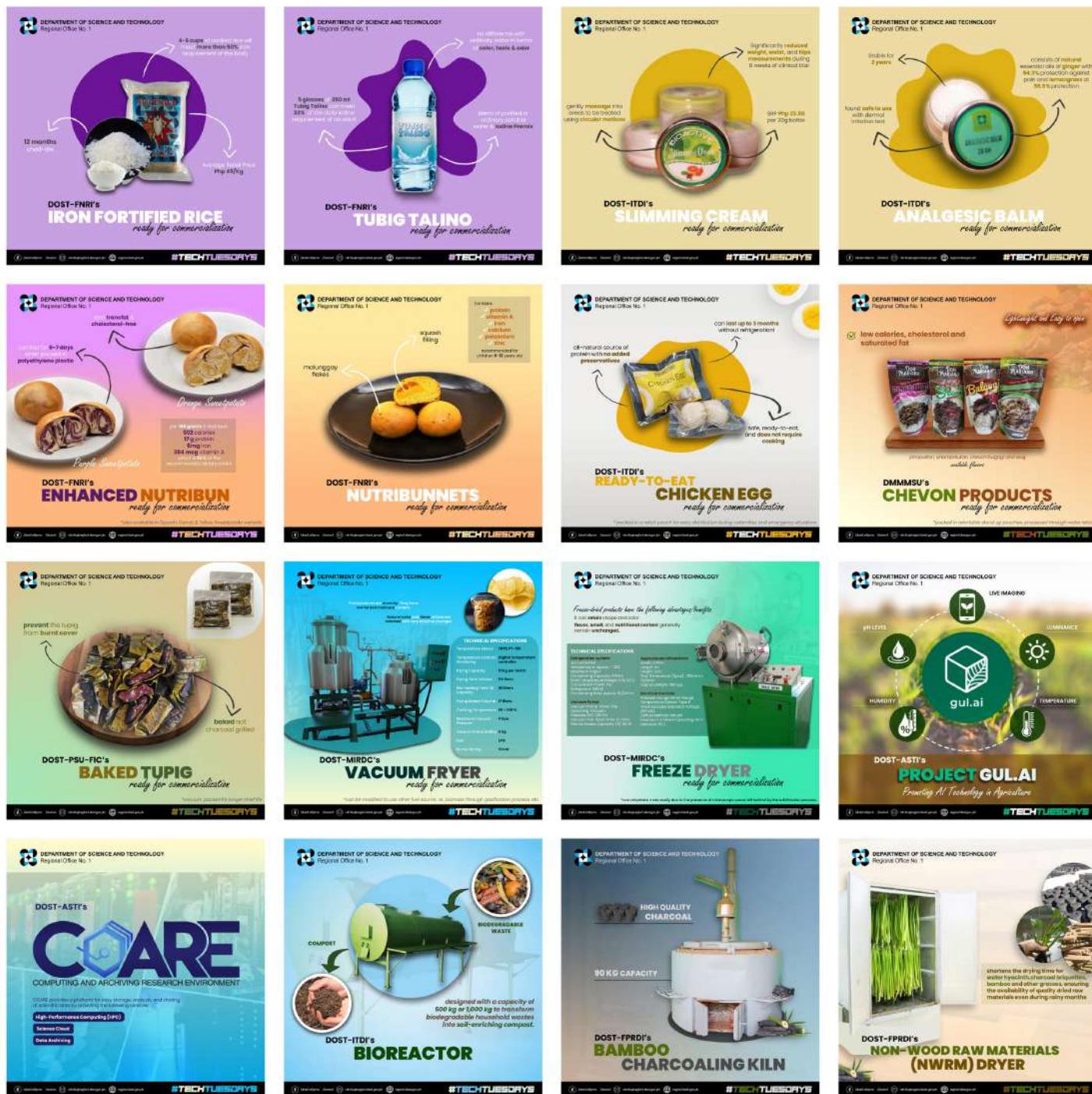
Furthermore, the Center is also at hand on two (2) on-going collaborative R&D projects with the Pangasinan State University – Food Innovation Center (PSU-DOST1 FIC) entitled "Development of Ready-to-Eat Microwavable Bagnet" by Ms. Meryl Bernardino together with Ms. Eulyinne Eugenio and the Mariano Marcos State University on Shelf-life Determination of Black Garlic Sauce, of which the analyses are being done by Engr. Rendel Nisperos, Hero Galamgam, Eulyinne Eugenio and Annalie Rosales.

Another collaboration with DOST Regional Office No.5, Regional Standards and Testing Laboratory was the paper nutritional composition and mineral bioavailability of selected root and tuber crops in the Philippines.



## OUTCOME 2: TECHNOLOGY ADOPTION PROMOTED

With the success of RDILPMC in the creation of the TechTalk webinar series which showcased DOST-generated and funded technologies, the Center continued to promote and accelerate technology adoption for commercialization, extension, and public good. Eleven (11) technology promotion for DOST-developed/funded technologies were done via social media posting. One of which, the enhanced nutribun, gained traction with national media.



## OUTCOME 6: INEQUALITY IN STI CAPACITIES

Innovation Centers	Accomplishment
Pangasinan State University – Department of Science and Technology Region 1 Food Innovation Center	<ul style="list-style-type: none"> <li>-2 completed projects</li> <li>-1 on-going project</li> <li>-14 prototypes developed</li> <li>-3 utility models submitted</li> <li>-31 technical consultations &amp; 123 clients served</li> <li>-15 trainings conducted &amp; 480 clients served</li> <li>-FIC technologies won TOP 10 BEST North Luzon Food Products</li> <li>-PSU bags prime awards in DOST's National Pitch Day</li> <li>-Market Launch: Region 1's FIC technologies, Robinsons Mall, Starmills, San Fernando City, La Union</li> <li>-FIC Technology enters National Invention Contest and Exhibit (NICE) 2022</li> </ul>
Mariano Marcos State University – Food Innovation Center	<ul style="list-style-type: none"> <li>- 4 on-going projects</li> <li>- 2 project proposals submitted</li> <li>- 21 developed products</li> <li>- 4 technical consultations</li> <li>- 4 trainings conducted</li> </ul>
Don Mariano Marcos Memorial State University – Metals and Engineering Innovation Center	<ul style="list-style-type: none"> <li>- 11 trainings attended</li> <li>- 2 fabrications completed</li> <li>- 3 fabrications on-going</li> </ul>



## NICHE CENTERS IN THE REGIONS FOR R&D (NICER) PROGRAM

NICER	Garlic and Other Agri-Food Condiments R&D Center	Coastal Engineering and Management Research and Development Center (COASTER)
Lead	Mariano Marcos State University/ Dr. Dionisio Bucao	Mariano Marcos State University/ Dr. Nathaniel Alibuyog
Partner Institutions	Ilocos Sur Polytechnic State College, DMMMSU, PSU, Department of Agriculture Region 1, Nueva Viscaya State University, Occidental Mindoro State College	University of the Philippines – Marine Science Institute, DMMMSU, Kyoto University, Philippine Institute of Civil Engineers, Department of Public Works and Highways Regional Office 1
Date Approved	July 2020	December 2021
Approved Cost	Php 35,523,230.80	Php 79,925,001



**COASTAL ENGINEERING AND MANAGEMENT RESEARCH AND DEVELOPMENT CENTER (COASTER)**



**GARLIC AND OTHER AGRI-FOOD CONDIMENTS R&D CENTER**



## REGIONAL RESEARCH, DEVELOPMENT AND INNOVATION COMMITTEE (RRDIC)

The Regional Research, Development and Innovation Committee (RRDIC) of the Regional Development Council of Region 1 (RDC) is tasked to, among others, spearhead inter-agency collaboration and partnership on Research and Development and Science and Technology activities and promote the adoption of results of government-funded projects, innovations, and other S&T-based projects.

### I. Updating of the Harmonized Region 1 Research and Development Agenda (HRRDA) 2017-2022

In line with the promotion of the updated HRRDA 2017-2022, the committee presented to the Regional Development Council 1 (RDC 1) an R&D Agenda and research topics on volunteerism during the National Volunteerism R&D Agenda Formulation.

The RRDIC also conducted activities relating to the implementation and monitoring of HRRDA Research-based Policy Recommendations. One panel interview was done, and two research studies were presented to the concerned sectoral committees. A policy recommendation based on the study of Bureau of Fisheries and Aquatic Resources (BFAR) entitled, "National Bangus Fry Sufficiency Program: Should the Philippine Bangus Industry be Dependent on the Imported Bangus Fry" was presented and endorsed by the Economic Development Sectoral Committee through EdSeCom Resolution No. 14, s.2022. Another policy recommendation crafted from the study of Mariano Marcos State University (MMSU) entitled, "Ecosystem Services Value: Towards Sustainable Utilization and Environmental Management in Selected Tourist Areas of Ilocos Norte" was endorsed by the Environment and Natural Resources Sectoral Committee through ENR Secom Resolution No. 9, s.2022.

## **II. Collaboration for R&D and Innovation**

To promote Filipino inventions for regional development, two technologies developed from government-funded research were endorsed to the RDC Full Council. These are "Andali RT-Lamp Test Kit for Porcine Epidemic Diarrhoea (PED)" developed by researchers from Central Luzon State University (CLSU), and "Plastic Densifier" developed by the DOST Industrial Technology Development Institute. The council endorsed these technologies through RDC Resolution No. 9 s. 2022.

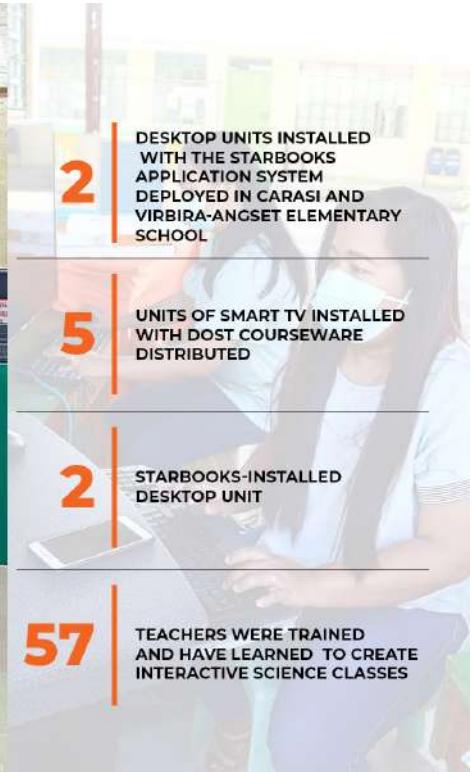
## **III. Crafting of the Regional Development Plan Chapter on Advance Research and Development, Technology and Innovation**

The RRDIC led the crafting of the RDP Chapter 10 for the RDP 2023-2028.

To further support STI in the region, seven (7) resolutions were prepared by the RRDIC.

<b>Number</b>	<b>Resolution Title</b>
RRDIC Resolution No. 1, s. 2022	Requesting The RDC1 to Endorse the Plastic Densifier and The Andali RT-Lamp Test Kit for Porcine Epidemic Diarrhoea (Ped) for Possible Adoption and Consideration by Concerned Stakeholders in Region 1
RRDIC Resolution No. 2, s. 2022	Confirming the Results of the Oral Review of Policy Papers
RRDIC Resolution No. 3, s. 2022	Endorsing to the Regional Development Council 1 the Approval of 2021 Annual Regional Development Report on Science Technology and Innovation
RRDIC Resolution No. 4, s. 2022	Adopting of the Harmonized National R&D Agenda for Consideration in the Formulation of the Harmonized Region 1 Research and Development Agenda
RRDIC Resolution No. 5, s. 2022	Approving and Endorsing to the Regional Development Council 1 the Results of the Reorganization of the Regional Research Development and Innovation Committee 1 (RRDIC1)
RRDIC Resolution No. 6, s. 2022	Endorsing to the RDC 1 the Adoption of the Pagtanaw 2050 for Consideration in the Formulation of Various Strategic and Development Plans in the Region

# COMMUNITY EMPOWERMENT THROUGH SCIENCE AND TECHNOLOGY (CEST)



Due to the geographical disadvantage and limited mobility of far-flung communities, access to network connectivity and up-to-date books and course materials of daycare and elementary schools are challenging. The deployment of easy-access course materials which do not require internet connection such as the Science and Technology Academic and Research-Based Openly Operated Kiosks (STARBOOKS), developed by the Science and Technology Information Institute (DOST-STII), and S&T modules for science and mathematics, were some of the identified interventions to enhance the learning process and improve quality of education.

Two (2) desktop units installed with the STARBOOKS application system were deployed at Carasi Elementary School and Virbira-Angset Elementary School, and one (1) unit of SMART TV containing DOST courseware at Carasi National High School. One (1) STARBOOKS-installed desktop unit, one (1) tablet device, and one (1) unit SMART TV with DOST courseware were distributed each to the Sasaba Elementary School, Sapdaan Elementary School, and Banbanaba Elementary School in Santol, La Union. Moreover, Agno Central School, Aloleng Elementary School, Juan Niño Elementary School, and Calomboyan Elementary School in Agno, Pangasinan, each received STARBOOKS-installed desktop units. Lastly, one (1) STARBOOKS-installed desktop unit was provided to A. Diaz Sr. Elementary School and Vacante Elementary School, and three (3) units of SMART TVs installed with DOST courseware were distributed to the barangay day care centers of Diaz, Palisoc, and Vacante in Bautista, Pangasinan.

During the awarding of the STARBOOKS and DOST courseware to day care centers, elementary schools and national high schools, the conduct of orientation and training on the operation of the interventions was held simultaneously. To sum up, fifty-seven (57) teachers (14M, 43F) were trained from different beneficiary schools and have learned to create interactive science classes using the platforms.

Moreover, to further enhance the computer literacy and educational competencies of faculty members on the use of the provisioned technologies, training on the utilization of MS Office Software, Google Applications, and basic computer maintenance including hardware and software troubleshooting was conducted in Burgos, La Union, which was attended by thirty-eight (38) teaching staff (10M, 28F). Whereas a total of also twenty (20F) faculty members were capacitated with Basic Information and Communication Technology (ICT) Training, which was conducted in Agno, Pangasinan.

# FINANCIAL RESOURCES

For CY 2022, DOST-1 received an allotment from General Appropriations amounting to Php 133,054,668.05 broken into

Particulars	Allotment Received	Percentage
Personal Services (PS)	Php 27,498,000.00	21%
Maintenance & Other Operating Expenses (MOOE)	Php 104,479,518.05	78%
Capital Outlay (CO)	Php 1,077,150.00	1%

With Budget Utilization rate of 91% and Cash Utilization rate of 93.43%, the unobligated allotment was carried over the following year while the unused cash were reverted to Bureau of Treasury.

The allotment received for MOOE from General Appropriations includes the following projects:

PROJECTS	SOURCE	APPROVED BUDGET
Grants In Aid	DOST-GIA	Php 34,697,000.00
SETUP	DOST-GIA	Php 35,570,000.00
Community Empowerment through Science and Technology (CEST) Engaging Local Communities with Science, Technology and Innovation for Development	DOST-GIA	Php 17,290,000.00
Office Productivity and the project on Enhancement of ICT Network Infrastructure of DOST Regional Offices Under 2022 MITHI Program	DOST-GIA	Php 2,001,561.94
SURVEY R&D	DOST-GIA	Php 30,000.00
Transforming R&D Outputs into Innovations through Technopreneurship and Customer Validation (TransDI)	DOST-GIA	Php 87,604.80
DEVELOPMENT AND DEPLOYMENT OF HALAL TOURISM TRAINING MODULE AND HALAL ASSURANCE SYSTEMS (HAS) TO SECURE HALAL COMPLIANCE OF TOURISM ESTABLISHMENTS	DOST-GIA	Php 376,929.00

The agency also received funds from other resources under Trust Accounts:

PROJECTS	SOURCE	APPROVED BUDGET
SCHOLARSHIP	DOST-SEI	Php 59,868,337.62
SUPPORT TO ILOCOS CONSORTIUM FOR INDUSTRY, ENERGY AND EMERGING TECHNOLOGY RESEARCH AND DEVELOPMENT (ICIEERD) R&D PROGRAM	DOST-PCIEERD	Php 1,095,852.62
CELEBRATION OF REGIONAL SCIENCE AND TECHNOLOGY WEEK AND TECHNOLOGY PROMOTIONS IN REGION 1, NORTH LUZON CLUSTER 2022	DOST-TAPI	Php 518,575.00

# DOST 1 HUMAN RESOURCES



The Human Resource Management Unit consists of the following: Atty. Jasmin C. Bañez, Chief Administrative Officer (CAO) and the Human Resource Management Officer Designate (HRMO); Enrique G. Fernandez Jr., Administrative Aide IV- HR Staff, with Ms. Beverlyn B. Cardinez, Clerk II, providing additional HR Support. Mr. Fernandez joined the Creator last June of 2022, and we recognize his contribution to the success of the other HR activities.

As one of the strategic organizational arms of DOST -R01, the HRM Unit helps achieve agency objectives relating to its core values: Innovation, Excellence, Leadership, Integrity, Teamwork, Empowerment.

The HRM Unit believes that the organization's people are the most important assets, thereby remaining true to its commitment to provide professional consultation and support in nurturing a respectful workplace atmosphere that continues to inspire integrity and excellence.

The Unit plays a vital role in maximizing staff performance and productivity, maintaining teamwork in the organization and helping bridge the gap between employee performance and the strategic goals of the organization. HRM unit ensures that the organization is compliant to all regulatory and statutory requirements through policy development, payroll administration, compensation and benefits administration, drug testing, recruitment, workforce planning, learning and development, performance management, and rewards.

The HRM Unit continuously provides support to the DOST- R01 from the hiring process, employment of personnel up to termination of service. In all areas of work, the Unit firmly upholds the DOST 1 Core Values.

## HRMO Functional Objectives

*To ensure 90% of planned training is accomplished within the year and to ensure that qualified personnel are hired or placed based on Civil Service Commission Qualification Standard to perform the required jobs efficiently and effectively.*

## Accomplishment:

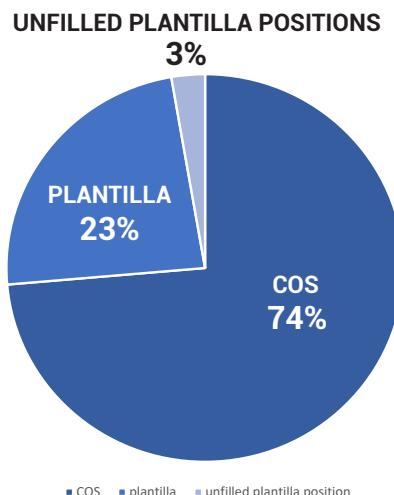
94%

## RECRUITMENT, SELECTION AND PROMOTION

The process of recruitment involves the development of suitable techniques for attracting more candidates to a vacant position. Meanwhile the process of selection involves identifying the most suitable or competent candidate for the vacancy.

Thru the Human Resource Merit Promotion and Selection Board (HRMPSB), steered by the Equal Employment Opportunity Policy (EEOP) and following the internal guidelines on Recruitment, Selection, and Promotion (RSP), job applicants are properly screened and evaluated to ensure that the employees are selected based on merit and fitness. HRMPSB serves as an assistorial body to the Regional Director.

For the year 2022, there were 5 Plantilla positions being filled out broken down as follows: two (2) for Promotion and three (3) for Original Appointments.



### PLANTILLA

11      16

### CONTRACT OF SERVICE

47      34

Total Number of Manpower Complement as of December 31, 2022: 107

## PERSONNEL MOVEMENT:



2 RETIREMENTS



1 DEATH



1 RESIGNATION



2 PROMOTIONS



3 ORIGINAL APPOINTEES

#### PROMOTION:

**Jordan L. Abad**  
Senior Science Research Specialist  
  
**Racquel M. Espiritu**  
Chief Science Research Specialist

#### ORIGINAL APPOINTEES:

**Ginee R. Tacasa**  
Science Research Analyst  
  
**Venus P. Andaya**  
Administrative Officer V  
  
**Carla Joyce B. Cajala**  
Administrative Assistant III

CONTRACT OF SERVICE

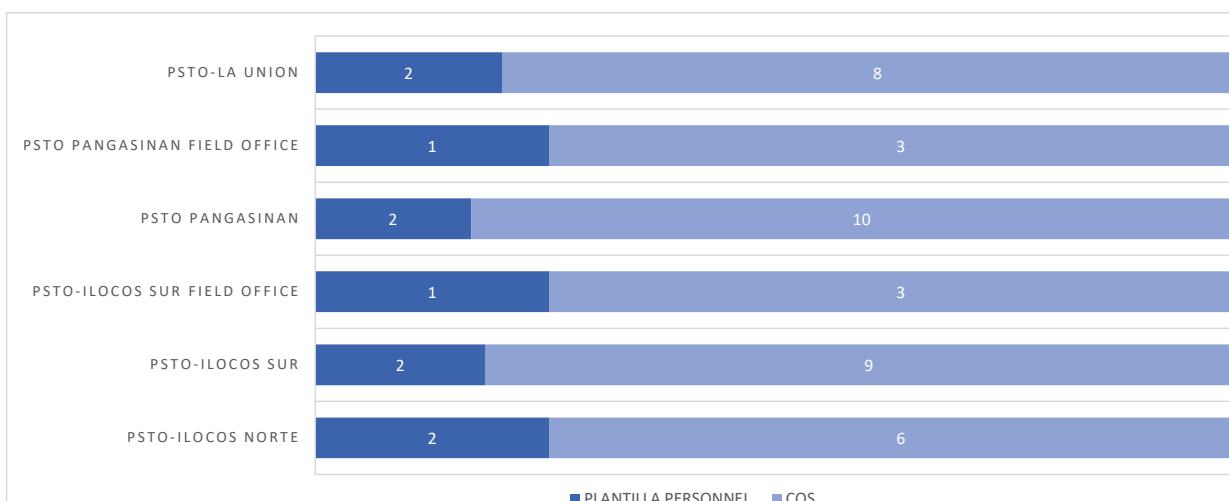
81

RESIGNED/END OF CONTRACT

23

The total workforce complements for 2022 were distributed in the Technical Services Division (TSD) including ONELAB, S&T Programs, RSTL, Micro Laboratory, Chem Laboratory, SML and RML, Field Operations (FO) which include Provincial S&T Offices, RDILMPC, ICIEERD, SETUP, TACS and CEST, Finance and Administrative Services (FAS) Division including General Services and Records Management, and the Office of the Regional Director (ORD) which includes ITSMU, GAD, DRMHS, Special Projects such as RxBox, Halal, Transdi and iStart.

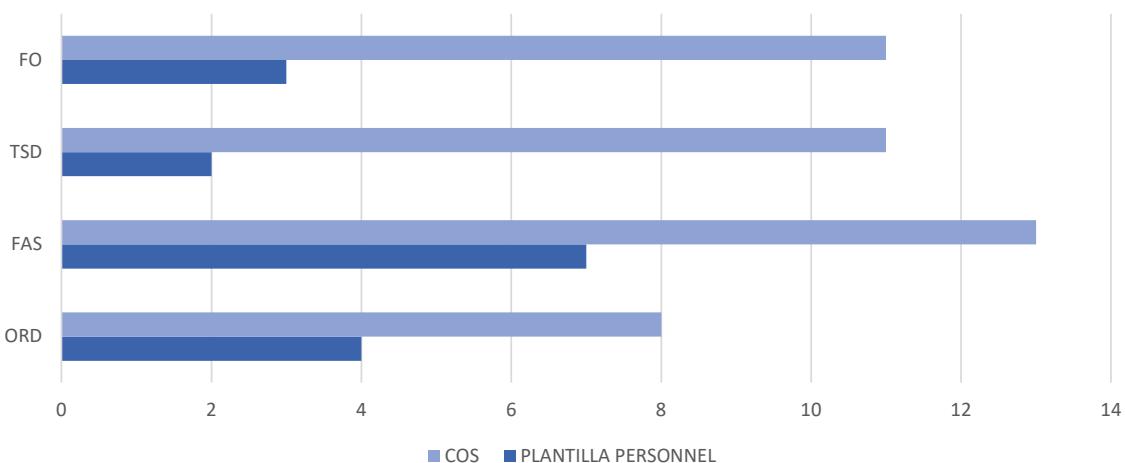
## WORKFORCE PROFILE BY EMPLOYMENT STATUS IN THE PSTOS



### Total Number of workforce in PSTOs

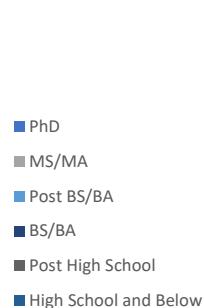
In the chart above, both PSTO-Pangasinan and PSTO-Ilocos Sur, including their field offices, have the most number of permanent employees, with three (3) Plantilla personnel in each province. Meanwhile, PSTO-Pangasinan has the highest number of COS employees, with a total of ten (10) staff.

## WORKFORCE PROFILE BY EMPLOYMENT STATUS IN THE REGIONAL OFFICE

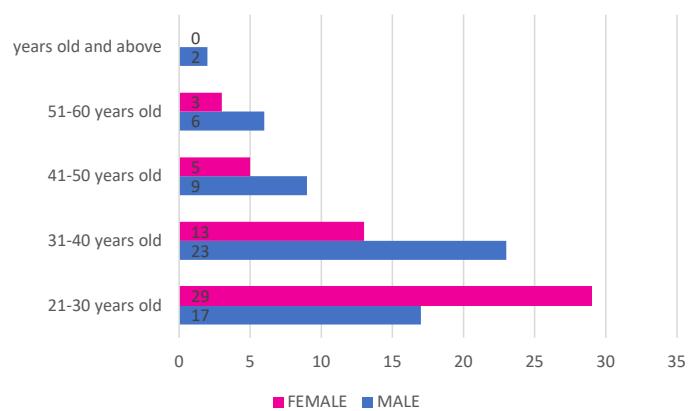


### Total Number of workforce in Regional Office

The Finance and Administrative Services Division has the most number of Plantilla Personnel which has a total of seven employees, and the highest number of COS staff, with 13 in total.



Workforce profile by Educational Attainment



Workforce profile by Age bracket

## LEADERSHIP AND DEVELOPMENT

Leadership and professional growth through Learning and Development are vital key factors to ensure that employees in the government service are equipped with skills and knowledge critical to their duties and responsibilities and to cope with the challenges in today's century.

Effective management of public service requires in-depth and high level of leadership and managerial capabilities which can be acquired and developed through learning and development.

In response to the core values of the organization: Innovation, Excellence, Leadership, Integrity, Teamwork, and Empowerment (I-ELITE), Learning and Development shall address the competency requirement essential to a government employee's responsiveness, accountability, and innovativeness towards public service.

The HRM Unit conducted the following internal trainings:

- 1) 5S in the Workplace for all regular and COS staff with 66 attendees;
- 2.) Everyday Leadership Training for regular staff with 27 attendees.

### 5S IN THE WORKPLACE FOR ALL REGULAR AND COS STAFF WITH 66 ATTENDEES SEPTEMBER 1 & 2, 2022



### EVERYDAY LEADERSHIP TRAINING FOR REGULAR STAFF WITH 29 ATTENDEES DECEMBER 2, 2022



No.	TITLE OF TRAINING	DATE CONDUCTED	MODE	ATTENDEES			
				PERMANENT		COS	
				FEMALE	MALE	FEMALE	MALE
1	1Effective Conflict Resolution and Solving Employee Performances Issues thru Meditation	Sep 27-30, 2022	Virtual Session	JCBañez			
2	Training on Strategic Foresight Using Scenario Planning for the Department of Science and Technology	Jan 19-28, 2022	Virtual Session	RMEspiritu, ACFlorendo			
3	GAD Focal Point System Online Assembly cum GAD Convention of the Regional Gender and Development Committee 1	Mar 24, 2022	Virtual Session	RMEspiritu			
4	Workshop on Women's Entrepreneurship in the Digital Economy	May 11-13, 2022	Virtual Session	RMEspiritu			
5	Bouncing Back from the Challenges of Pandemic and Etiquette Edge: Enhancing Good Personal Values and Development	May 13, 2022	Virtual Session		RCPido		

No.	Title of Training	Date Conducted	Mode	Attendees			
				Permanent		COS	
				Female	Male	Female	Male
6	Women in Science Leadership	March 31, 2022	Virtual Session		RCPido		
7	Disaster Risk Reduction and Management Training for Public Sector	April 11-13, 2022	Virtual Session		RCPido		
8	Effective Business Communication	August 1-4, 2022	Virtual Session	SE Balmadres			
9	Halal Awareness and Certification	June 22, 2022	Virtual Session	SE Balmadres	GQ Gabriel	RF Ronquillo ECEugenio	
10	Training Workshop on Proposal Writing for Collaborative Research and Development to Leverage the Philippine Economy (CRADLE) Funding	June 22, 2022	Virtual Session	LCRosario			
11	Research Project Design and Management Camp	Aug 30 and Sep 3, 2022	Virtual Session	ALRosales			
12	Orientation on Evaluation and Critiquing of Research Proposal	October 12, 2022	Virtual Session	ALRosales			
13	Continuing Learning Activities / Sessions HRMPs (CLASH)		Face to Face	JCBañez		BB Cardinez	
14	Training on Occupational Safety and Health for the assisted MSMEs of DOST PSTC Ilocos Norte	June 16, 2022	Face to Face		GQ Gabriel		
15	Development of Food Innovation Center and Competency in Moving New Products Concept to Market Launch also known as the "FIC Marketing Academy"	February to June, 2022	Virtual Session		GQ Gabriel		
16	Basic Statistics 1: Descriptive Statistics	July 12-14, 2022	Virtual Session	ACFlorendo	GQ Gabriel, BP Suniega		
17	Survey Operations and Questionnaire Design	Aug 16-18, 2022 May 10-12, 2022	Virtual Session	ACFlorendo	GQ Gabriel		
18	Webinar on Gender-Based Violence and Justice System	Mar 9, 2022	Virtual Session		GQ Gabriel		
19	Basic Occupational Safety and Health Training	Aug 8-12, 2022	Virtual Session		BP Suniega		
20	Technical Writing Course on Statistical Reports	June 14-15, 2022	Virtual Session	ACFlorendo			
21	Everyday Leadership Training	Dec 2, 2022	Face to Face	VPAndaya, NPClaveron SEBalmadres JCfernandez JCBanez LCRosario GRTacasa MLAgra ACFlorendo ACRosales CBCajala	RCPido, GQGabriel BSMercado ACSantos ZCGalvez EMAcosta MMAquila JLAbad JMVierenes BPSuniega	BCardinez MDNieva GDacanay	JN Madrid CD Torres HGalangam
22	5S in the Workplace	Sep 1 & 2, 2022	Face to Face	JCBanez MLAgra VPAndaya SEBalmadres CBCajala NPClaveron GTacasa	JMVierenes ZCGalvez BSMercado ASantos BPSuniega GGabriel	JAcoon RAdviento MBelen MCabading Ncaramat BCardinez JCasaclang XLCave GDacanay SEngada EFernandez SGaerlan HGalvez SPGapasin MGuerrero DHernaez	RAbuan JTopinio CTorres EUgale LUlanday JViray JDalao DDelaCruz LCastigo REspe JGatin JGrande JCLopez JNMadrid CMendoza GMorata

No.	Title of Training	Date Conducted	Mode	Attendees			
				Permanent		COS	
				Female	Male	Female	Male
						LLazona CLictao DMorales MNieva EOrpilla MRivera Kronquillo KDavid KEslao JTopinio	RNisperos JNoces RParagas TPatacsil KJRamil JRamos CRepancol DRimando KSiruet JSolee Frimando
23	Orientation Forum on RA 9262, RA9208 and RA 11313	Dec 7, 2022	Face to Face	ALRosales NPClaveron VPAndaya MLAgra LCRosario	ZCGalvez EMAcosta	BCardinez EEgenio SPSAntos XSCave DVerdillo JGaccon GDacanay MDNieva RAdventio DMorales LLazona JCasaclang MAGuerrero	DRimando FRimando KPSiruet RParagas JGNoces HGalangam JADalao RNisperos NMillanes CTorres
24	Men Opposed to Violence Against Women Everywhere (MOVE) and Committee on Decorum and Investigation (CODI)	Dec 12, 2022	Face to Face	JCFernandez NPClaveron MLAgra LCRosario ACRosales VPAndaya JCBañez	MCMaquiling EAcosta DLim ZCGalvez	BCardinez JGacoon DHernaez GDacanay RAdventio MDNieva DMorales MSRivera CPacheo DVerdillo SGapasin MGuerrero EEugenio JCasaclang LLazona SPSantos	JSolee LCAstigo FRimando CRepancol DDelaCruz JDalao NSOfoob JOGatin RParagas FDamilig JGNoces DRimando HGalangam RNisperos RFIora JGamboa
25	Online Forum on Promoting Gender Equality in STEM for Sustainable Development	Feb 11, 2022	Virtual Session			KRonquillo	
26	Science Information Forum on the Collaboration between the DOST Regional Offices and NAST	Mar 14, 2022	Virtual Session			KRonquillo	
27	Seminar Workshop on Scenario Building	April 12, 2022	Virtual Session			KRonquillo	
28	Communities of Practice for Entrepreneurship Program (COPE): Building Online Presence for MSMEs	June 29, 2022	Virtual Session			KRonquillo	
29	ILAARRDEC Webinar Series - Episode 1: Bamboo Production Technology	July 20, 2022	Virtual Session			KRonquillo	
30	Basic Fundamentals of Project Management	July 28, 2022	Virtual Session			KRonquillo	
31	Seminar on Tool-based Approach on Production Forecasting for MSMEs	Aug 12, 2022	Virtual Session			KRonquillo	
32	Youth Explorer for Science (YES) Webinar: A Day for Startups and Technopreneurship	Nov 17, 2022	Virtual Session			KRonquillo	
33	Youth Explorer for Science (YES) Webinar: Science Communication and Social Media	Nov 18, 2022	Virtual Session			KRonquillo	
34	WASS UP, B! Waste-at-Source Segregation (WASS) Project Webinar 5: Laboratory Safety and Hazardous Waste Management	Aug 18, 2022	Virtual Session			EEugenio	RNisperos
35	Training-Workshop on Quality Assurance/Quality Control and Method Verification/Validation	Aug 3-4, 2022	Virtual Session			EEugenio	

No.	Title of Training	Date Conducted	Mode	Attendees			
				Permanent		COS	
				Female	Male	Female	Male
36	Gender Sensitivity and Mental Health Awareness Seminar	Aug 22-24, 2022	Face to Face	JCBañez SBalmadres NPClaveron RMEspiritu JFernandez ACFlorendo ALRosales LCRosario GTacasa VPAndaya CBCajala	JLAbad, EMAcosta, ARAlviar, GQGabriel, ZCGalvez, AQGanal, DPLibunao, DHLim, MC- Maquilin, BSMercado, RCPido, ACSantos, BPSuniega, JMViernes	Rdviento MCaba- ding Ncaramat XCave GDacanay SEngada EFer- nandez SGaerlan HGalvez SGapasin MGuerrero DHernaez LLazona CLictao DMorales MNieva EOrpilla MRivera Kronquillo KDavid KEslao JTopinio	RAbuan EUgale LULanday JViray JDalao DDelaCruz LCastigo REspe JGatin JGrande JC Lopez JNMadrid CMendoza GMorata RNisperos JNoces RParagas TPatascil KJRamil JRamos CRepancol DRimando KSiruet JSolee FRimando
37	Occupational First Aid and BLS/CPR with AED	Oct 11-12, 2022	Face to Face				DRimando JOGatin
38	Regulatory Check: Understanding the DENR EMB Chemical Regulations Webinar	Sep 21, 2022	Virtual Session				RNisperos
39	Overview of ISO/IEC 17025:2017	Jan 26, 2022	Virtual Session			JM Casaclang	HGalamgam
40	Virtual Orientation on Safe Spaces	Sep 19, 2022	Virtual Session			JM Casaclang	HGalamgam
41	Modernized PhilGEPS Online Training for Agencies	Nov 16, 2022	Virtual Session			MDNieva	
42	Procurement Summit	Oct 27-28, 2022	Virtual Session			MDNieva	
43	Orientation on Secretariat Support Services and Records Management	Aug 18, 2022	Face to Face			BCardinez SGapasin, DMorales	DRimando JADalao

Table 40: List of trainings attended by DOST 1 staff.

## REWARDS AND RECOGNITION

The Program on Awards and Incentives for Service Excellence (PRAISE) Committee of DOST-RO1 ensures that there is a system where people are acknowledged and recognized for their performance, superior accomplishments, personal efforts, and other extraordinary services.

The recognition of employees' efforts for the organization has long been a cornerstone of effective management. It also helps employees feel that they are valued and that their efforts are great contributions to the success of the organization.

For CY 2022, the following employees were recognized:

## RETIREMENTS

In 2022, we celebrated the retirement of the two (2) employees to honor and respect their valued years of service to the government particularly to DOST ROI, and community.



## MOST OUTSTANDING EMPLOYEE AWARD

Most Outstanding Employee award is granted to individuals who excelled among peers in a functional group, position, or profession.



### Permanent

#### NIDA P. CLAVERON

Administrative Officer V- Supply,  
Finance and Administrative Services



### Contract of Services

#### HERO D. GALAMGAM

Science Research Specialist I  
Technical Services Division – Micro Laboratory

## INNOVATION AWARD

This award is granted to employee or team whose contributions such as ideas, suggestions, inventions, discoveries or performance of functions results in savings in terms of man- hours and cost or otherwise benefit the agency and government as a whole.

A certificate of recognition and token are also awarded to Mr. Michael John C. Maquiling, Mr. Thom Bernarth Patacsil, Mr. Jordan L. Abad and Mr. Christian Leonell Torres as nominated employees for the Innovation Award.



## CERTIFICATE OF APPRECIATION TO ALL GENERAL SERVICES STAFF (UTILITY, WATCHMEN AND DRIVERS)

The award is granted to all the Utility Workers, Watchmen, and Drivers in appreciation of their performance in their respective work.



Almoite, Severiano Jr. R.  
Ariz, Arnel D.  
Ayon-ayon, Elmer T.  
Mangasep, Kenneth S.  
Damilig, Francis Joe G.

Flora, Roselio G.  
Milanes, Nikky A.  
Noces, Joseph G.  
Paragas, Reynan D.  
Pedong, Randy G.  
Pineda, Marcel F.

Reloza, Antonio L.  
Salazar, Ricky John  
San Agustin, John Red DG  
Lim III, David H.  
Gamboa, Juvenal A.

## CAREER AND SELF DEVELOPMENT AWARD

Award given in recognition of an individual who has satisfactorily completed a course or degree within or outside the country at one's own expense.



**CARLA JOYCE B. CAJALA**  
Administrative Assistant III  
Office of the Regional Director  
**Master in Management Major in Health Administration**



**GAEL MYCA A. DACANAY**  
Science Research Specialist I  
ORD -DRRMHSU  
**Master in Management Major in Health Administration**



**JAYPEE A. SOLEE**  
Project Assistant II  
TSD- CEST unit  
**Master of Science in Chemical Engineering**



**SHEEREN JOY N. ENGADA**  
Project Assistant I  
PSTO- Ilocos Norte  
**Master of Science in Mathematics**



**JASMINE ERICKA M. CASACLANG**  
Science Research Specialist I, TSD- Micro Lab  
**Masters in Public Health**

## **LOYALTY AWARD**

This award is granted to an employee who has served continuously and satisfactorily in DOST-RO1 for at least (10) years. Loyalty award is given to Mr. Jonathan M. Viernes, Provincial Science and Technology Director of PSTO La Union, for his faithful and dedicated service to the public for 10 years.



## **IRON PILLAR AWARD**

The Iron Pillar Award is granted to Contract-of-Service Employees who stayed with DOST-RO1 for at least five years or more. The award is given to the following Contract-of-Service Employees:



### **GENERAL SERVICES**

Almoite, Severiano Jr. R.  
Ariz, Arnel D.  
Ayon-ayon, Elmer T.  
Mangasep, Kenneth S.  
Milanes, Nikky A.  
Noces, Joseph G.  
Paragas, Reynan D.  
Salazar, Ricky John

### **RSTL**

Galamgam, Hero D.  
Gamboa, Juvenal A.  
Orpilla, Marlon R.  
Padua, Erwin A.

### **ICIEERD**

Santos, Sharmaine P.

### **SETUP**

Martinez, Bernalyn  
Ronquillo, Katrina F.  
Sales, Laurine R.  
Ugale, Edward E.

### **CEST**

Grande, Jahmai O.

### **S&T**

Pacheco, Carla Grace

### **FO**

Viray, Julian

### **RECORDS MANAGEMENT**

Dalao, John Louie

## **BEST IN ATTENDANCE**

This award is granted to an employee with complete attendance and never been tardy in reporting to office. Best in Attendance is awarded to Mr. Decth-1180 P Libunao (Permanent) of CEST Unit – Field Operations and Mr. Justin N. Madrid (Contract-of-Service) of ITSM Unit – Technical Services.



## EARLY BIRD

This award is granted to an employee who demonstrated punctuality to DOST-RO1. Early Bird award is given to Mr. Justin N. Madrid of ITSM Unit – Technical Services for demonstrating punctuality to DOST-RO1 from January 2022 up to date of deliberation.



## EMPLOYEE OF THE YEAR (EOY- PER UNIT)

The Employee of the Year (Per Unit) Award is granted to employees who displayed exceptional work performance and impeccable working relationship among his peers within their respective divisions/ units. The awardee is nominated by his/her colleagues within the same unit.

### PERMANENT



**Engr. Arnold C. Santos  
(PSTO-PANGASINAN)**

Best Provincial Science and Technology Director for CY 2022

**Engr. Bernadine P. Suniega  
(PSTO-LA UNION)**

Best PSTO Technical Staff for CY 2022 (Permanent)

**Ms. Adelisa C. Florendo**

Best Employee in the Regional Office for CY 2022 (Permanent)

## CONTRACT-OF-SERVICE - REGIONAL OFFICE



**Gael Myca A. Dacanay  
(RXBOX & DRMHS Unit)**

EOY in the Office of the Regional Director (ORD)

**Lemuel G. Castigo  
(S&T Promotion Unit)**

EOY in the Technical Services Division (TSD)

**Maricar D. Nieva  
(Supply Unit)**

EOY in the Finance and Administrative Services

**Katrina F. Ronquillo  
(SETUP RPMO)**

EOY in the Field Operations Division (FO)

## CONTRACT-OF-SERVICE - Provincial Science and Technology Offices



**Kent Jerico Ramil  
(PSTO Ilocos Norte)**  
EOY of PSTO Ilocos Norte



**Laurine R. Sales  
(PSTO Ilocos Sur)**  
EOY of PSTO Ilocos Sur



**Catherine M. David  
(PSTO La Union)**  
EOY of PSTO La Union



**Bernalyn P. Martinez  
(PSTO Pangasinan)**  
EOY of PSTO Pangasinan

## SPECIAL AWARDS

A certificate of recognition is given to the staff in recognition of their exceptional achievements, contributions, or accomplishments for DOST Regional Office No. 1.



**Ms. Sheriel Mae P. Gapasin  
(Finance and Administrative Services)**

for winning the Regional PSA Quiz Bee Contest.  
She represented the Region 1 for the National PSA Quiz Bee contest



**Mr. Justin N. Madrid  
(ITSM Unit)**

as the Champion during the DOST-wide GAD Photo Contest representing DOST 1

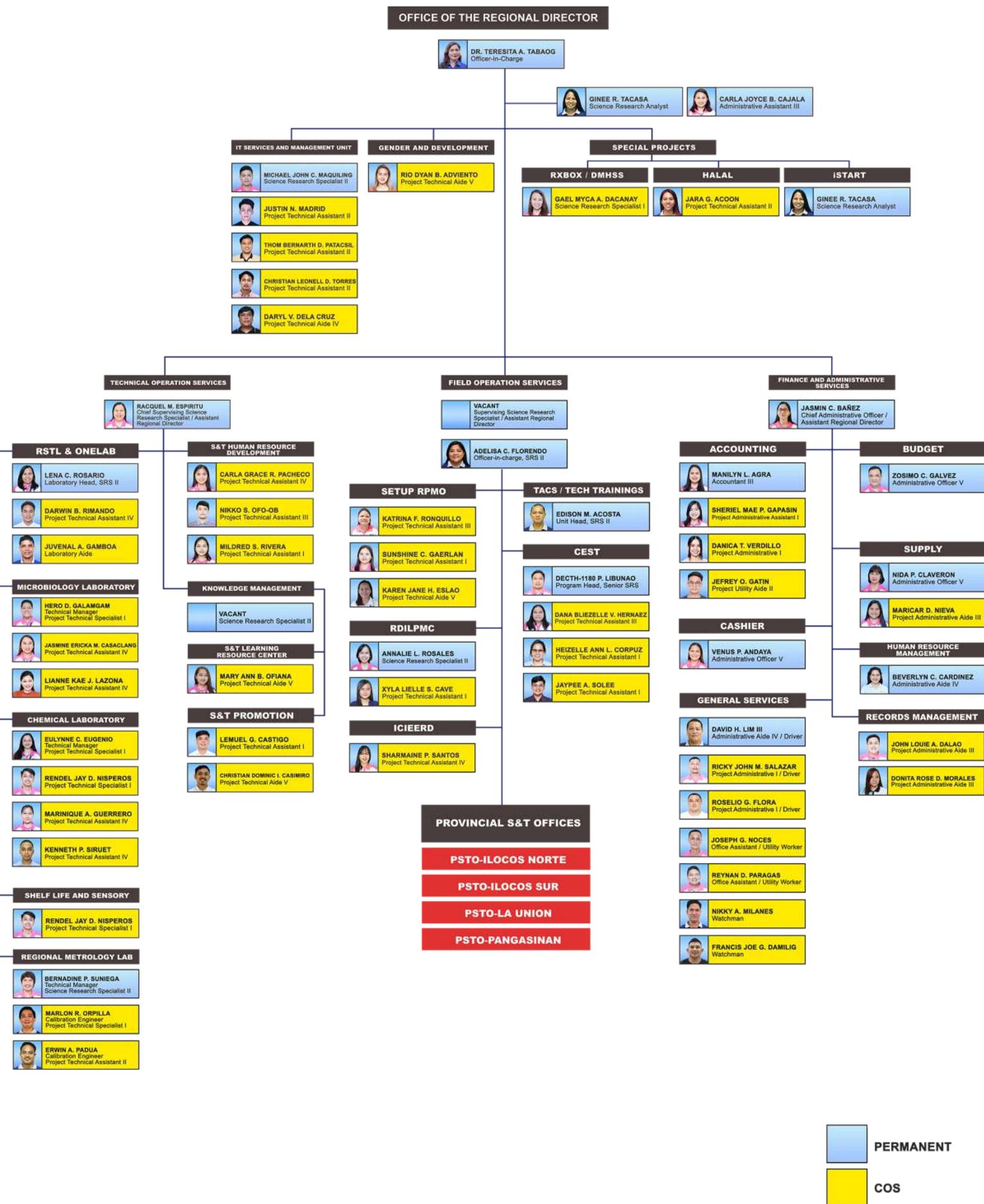
**Mr. Kent Jerico Ramil  
Mr. Roger Pido  
Engr. Bernadine P. Suniega  
Mr. Edward Ugale  
Mr. Geamboy Morata  
Mr. Michael John C. Maquiling**

**Ms. Racquel Espiritu  
Ms. Carla Joyce Cajala  
Mr. Lemuel G. Castigo  
Engr. Jordan L. Abad  
Engr. Edison Acosta**

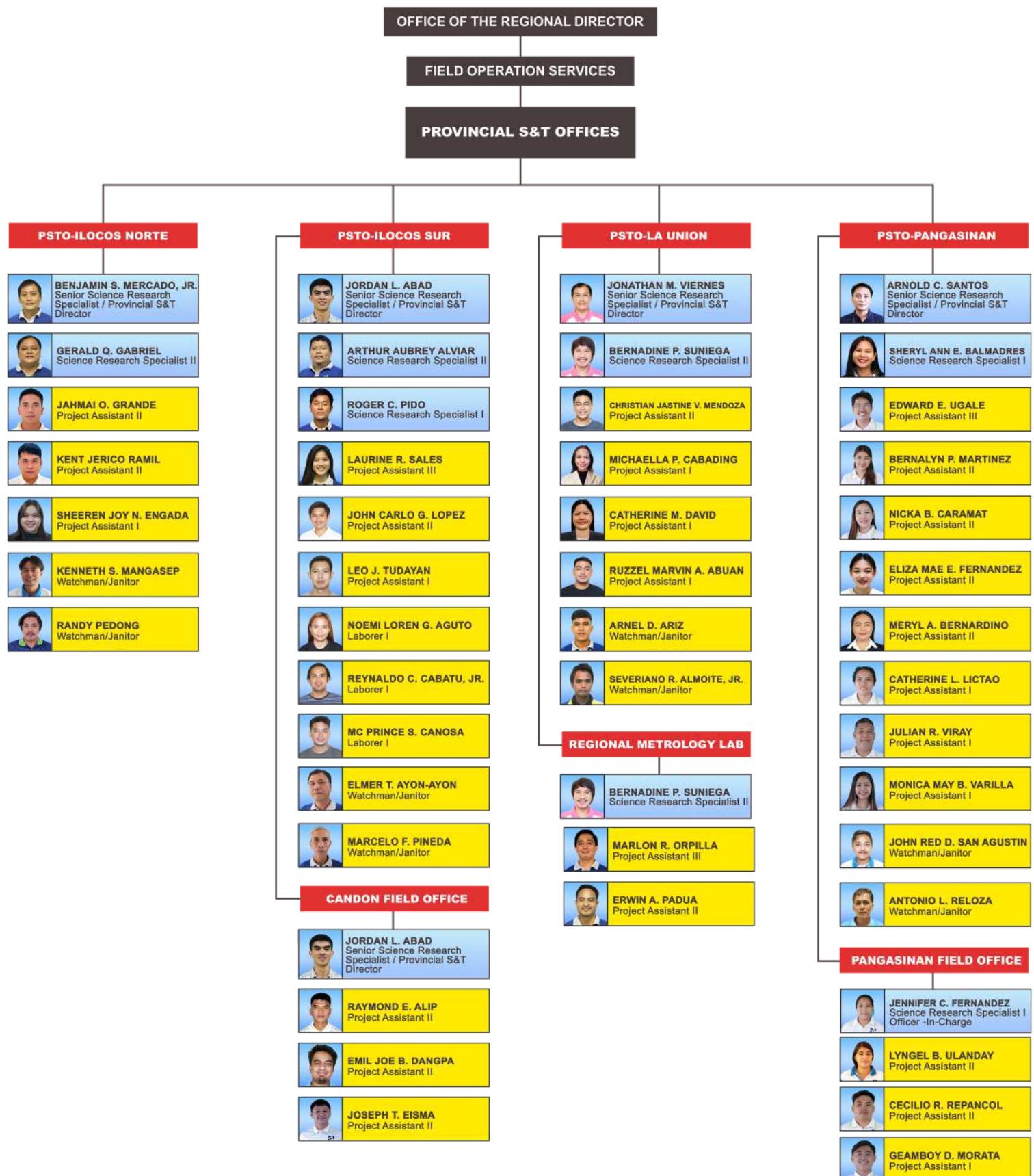
for bagging the First Place Award during the DOST Starbooks Vlog Contest in DOST Starbooks 11th Anniversary Celebration.

   
**Congratulations!**  
DEPARTMENT OF SCIENCE AND TECHNOLOGY  
REGIONAL OFFICE 1 (DOST 1)  
for bagging 1st place in the STARBOOKS Vlog/Documentary Contest for Deployment Officers during its 11th Anniversary Celebration!  
  
"Leading the Way through Science, Technology, and Innovation in Region 1"  
[region1.dost.gov.ph](http://region1.dost.gov.ph) | [mail@region1.dost.gov.ph](mailto:mail@region1.dost.gov.ph) | [/dost1](#) | [@dostregion1](#) | [/DOST 1](#)

# 2022 ORGANIZATIONAL STRUCTURE



# PROVINCIAL SCIENCE AND TECHNOLOGY OFFICE (PSTO) ORGANIZATIONAL STRUCTURE



PERMANENT  
 COS



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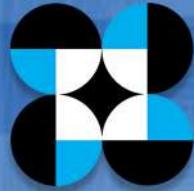
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DEPARTMENT OF SCIENCE AND TECHNOLOGY  
**REGIONAL OFFICE NO. 1**

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City of San Fernando, La Union

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