



BULACAN AGRICULTURAL STATE COLLEGE

Soon to be Bulacan State Agricultural University (RA 11783)



SHAPING MINDS, TRANSFORMING LIVES
BASC 2025 SUSTAINABILITY REPORT

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I. MESSAGE FROM THE PRESIDENT



JAMESON H. TAN CESE (SGD)

SUC PRESIDENT III

As Bulacan Agricultural State College (BASC) charts its historic transition toward becoming a premier state agricultural university, our commitment to our guiding motto, "Shaping Minds, Transforming Lives," has never been more vital. This sustainability report represents far more than an administrative audit; it is a clear reflection of our four institutional core values: Relevance, Integrity, Truth, and Excellence (RITE). From our humble beginnings in 1952 as a community agricultural school with only 100 students, we have grown into a Level III state college serving thousands across Central Luzon. With that growth comes a profound ecological responsibility.

Our current global and national recognitions including our placement in the UI GreenMetrics World University Rankings, our EduRank standing as the 7th top institution in Central Luzon, and our 3-star QS Stars Rating—prove that an agricultural education can be both globally competitive and deeply sustainable. As we look toward expanding our physical and digital infrastructure through initiatives like the "Digital Harvest" hub, we pledge to ensure that every step forward minimizes our ecological footprint. I extend my deepest gratitude to our faculty, non-teaching staff, and our expanding student population. Together, we are building a legacy where academic excellence and environmental stewardship thrive hand in hand.

II. MESSAGE FROM THE VICE PRESIDENTS



DR. RONALD REAGAN T. ALONZO

Vice President, Administration and Finance

A sustainable institution must be built upon financial transparency, operational efficiency, and a resilient infrastructure. Within the Administration and Finance sector, we view green stewardship as an essential component of fiscal accountability. By maintaining rigorous asset management practices through our Supply and Property Management Unit, we ensure that our multi-campus footprint spanning San Ildefonso, Doña Remedios Trinidad (DRT), Balagtas, and Sta. Maria is managed with absolute transparency. This commitment to good governance has earned us top marks and an Unqualified Opinion from the Commission on Audit (COA) for our infrastructural investments.

We are actively investing in the long-term sustainability of our physical campus operations. This includes supporting the transition toward a paperless administration via the "Digital Harvest" initiative, upgrading our student residential facilities to safely accommodate our expanding student body, and ensuring strict campus security and disaster preparedness across all sites. By optimizing our logistical procurement processes and promoting green mobility, we are proving that responsible financial management and environmental preservation are mutually reinforcing goals

II. MESSAGE FROM THE VICE PRESIDENTS



DR. CECILIA S. SANTIAGO

Vice President, Academic Affairs

At BASC, our primary mission is to provide excellent instruction that shapes the future caretakers of our environment and agricultural sectors. With an undergraduate and graduate student population that continues to expand, our academic responsibility is clear: we must weave ecological literacy and climate-smart practices directly into our curriculum. Our ISO 9001:2015 certification reinforces our commitment to quality across all degree programs, from our Level IV re-accredited courses in Agriculture and Agribusiness to our specialized offerings in Agroforestry and Engineering.

We are actively equipping our faculty with advanced training in Sustainable Development and aligning our syllabi with modern CHED and global ecological standards. Through initiatives like "Green Minds, Greener Future," we ensure that even our pre-service teachers graduate with a deep commitment to environmental literacy. By expanding our library resources with global texts on sustainable science and adapting our laboratories to climate uncertainties, we ensure that our students do not just study the environment they learn to protect it.

II. MESSAGE FROM THE VICE PRESIDENTS



DR. HONEYLET J. NICOLAS

Vice President, Research Extension,
Production and Development

The Research, Extension, Production, and Development (REPD) sector serves as BASC's engine for environmental innovation and real-world impact. Guided by the L.I.N.A.N.G BASC RDE Agenda (2025–2030), our Technical Working Group is actively managing dozens of research and extension proposals explicitly dedicated to climate-smart developments, biodiversity, and resource conservation. From solar-powered AI smart irrigation and organic waste upcycling using insect bio-converters, to pioneering biodegradable seedling pots made from agricultural byproducts, our laboratories are directly addressing the challenges of a changing world.

True sustainability, however, cannot remain confined to campus boundaries. Through our robust community extension programs, we are actively transferring these innovations to the public sphere. Whether training urban families in organic gardening, safeguarding regional food supply chains from microplastics, helping local MSMEs secure green patents, or empowering rural women through backyard farming initiatives backed by DOST-PCAARRD, BASC is transforming community lives. We will continue to pioneer agricultural and environmental breakthroughs that ensure a resilient future for Central Luzon.

III. UNIVERSITY PROFILE

BRIEF HISTORY OF BASC

The beginnings of Bulacan Agricultural State College went back to the time when in 1952 the Plaridel Community Agricultural High School with only 100 students was established at Bintog, Plaridel, Bulacan. Soon after, it was renamed Bulacan Provincial Agricultural High School. Due to the nationalization of existing agricultural schools in 1953, under Republic Act 948 it was renamed Bulacan National Agricultural High School (BNAHS). In 1955, Proclamation 163 was issued reserving for the site of the BNAHS around 192.5 hectares of the Buenavista Estate in San Ildefonso, Bulacan. In June 21, 1959, through Republic Act 2416, BNAHS was converted to Bulacan National Agricultural School (BuNAS). Thirty-nine years after, on February 24, 1998, BuNAS was converted as a state college by virtue of Republic Act No. 8548.

Bulacan Agricultural State College remains the first and only state-run higher educational institution of agriculture in Bulacan. For the past 23 years of existence as a state college, it has become an educational anchor for the poor but deserving students in Bulacan and the whole Central Luzon Region. It is one of the 55 out of 106 State Universities and Colleges in the country with Level III status based on CMO No. 09, s. 2019 issued by the Commission on Higher Education.

Three past presidents led the Bulacan Agricultural State College, Dr. Rolando F. Camacho (Dec. 9, 1998- Dec. 8, 2002); Dr. Josie A. Valdez (Dec. 9, 2002-Jan. 31, 2011) and Dr. Gerardo Mendoza (Feb. 1, 2011-Jan. 31, 2019) before Dr. Jameson H. Tan assumed as the 4th BASC President on February 1, 2019.

At present, the College has three campuses, and two extension classes in three of the sixth legislative districts of Bulacan. The Main Campus is located in Brgy. Pinaod, San Ildefonso with the College of Agriculture Campus at Brgy. Poblacion, San Ildefonso while the DRT Campus, established in 2005 is located at Brgy. Sapang Bulak, Doña Remedios Trinidad (3rd District). The offering of extension programs under Memorandum of Agreement are located at BTVC-BNAHS, Brgy. Pulong Bayabas, Balagtas (5th District) and DepEd Bulacan-FFHNAS, Brgy. Guyong, Sta. Maria (6th District).

Through the initiative and leadership of Congresswoman Lorna C. Silverio, House Bill 8111, "An Act converting BASC into Bulacan State Agricultural University" successfully passed at the House of Representatives and has been approved in the First Reading at Senate of the Philippines under Senate Bill 2106.

The Bulacan Agricultural State College has held on tight to its commitment made several years ago. Unprecedented growth in all its programs has been paying off especially in terms of educational benefits to countless students and families in the region. As it undergoes the process of transforming into a state university, BASC remains committed to offer the best that the students could possibly get in a truly accessible, relevant and quality education, hence, the motto: "Shaping Minds, Transforming Lives".

III. UNIVERSITY PROFILE

VISION

A globally engaged higher education institution of agriculture and allied disciplines.

MISSION

Provide excellent instruction, conduct relevant research and foster community engagement that produce highly competent graduates necessary for the development of the country.

CORE VALUES

The four (4) core values institutionalized as a way of the BASC community are:

R - Relevance

I - Integrity

T - Truth

E - Excellence

IV. ABOUT BASC

A. Curricular Program Offering

The Bulacan Agricultural State Colleges offers the following curricular programs

BASC Main Campus – Pinaod

Institute of Arts and Sciences

- Bachelor of Science in Development Communication

Institute of Computer Studies

- Bachelor of Science in Information Technology

College of Engineering and Technology

- Bachelor of Science in Geodetic Engineering
- Bachelor of Science in Agricultural and Biosystems Engineering
- Bachelor of Science in Food Technology

College of Education and Graduate School of Education

- Doctor of Philosophy in Educational Management
- Master of Arts in Education
 - Major: Educational Management, Science
- Bachelor of Secondary Education
 - Major: English, Science
- Bachelor of Elementary Education

College of Management

- Doctor of Philosophy in Business Administration (PUP Consortium)
- Master of Arts in Business Administration (PUP Consortium)
- Bachelor of Science in Business Administration
 - Major: Marketing Management
- Bachelor of Science in Agribusiness
- Bachelor of Science in Hospitality Management
 - Major: Hotel and Restaurant Management

IV. ABOUT BASC

BASC – College of Agriculture Campus – Población

College of Agriculture and Graduate School of Agriculture

- Doctor of Philosophy in Agricultural Sciences
 - Major: Animal Science,
- Master of Science in Agriculture
 - Major: Animal Science, Agricultural Extension, Horticulture
- Bachelor of Science in Agriculture
 - Major: Animal Science, Crop Science, Horticulture, Agricultural Extension, Agricultural Economics

Institute of Veterinary Medicine

- Doctor of Veterinary Medicine

BASC – Institute of Environmental Sciences and Agroforestry - DRT

- Bachelor of Science in Agroforestry
- Bachelor of Elementary Education

IV. ABOUT BASC

B. Accreditations

Level IV Re-accredited

- Bachelor of Science in Agribusiness
- Bachelor of Science in Agriculture

Level III Re-accredited

- Bachelor of Science in Information Technology
- Bachelor of Elementary Education
- Bachelor of Secondary Education
- Master of Arts in Education
- Bachelor of Science in Agricultural and Biosystems Engineering
- Bachelor of Science in Business Administration
- Master of Science in Agriculture

Level II Re-accredited

- Bachelor of Science in Food Technology
- Bachelor of Science in Hospitality Management
- Bachelor of Science in Geodetic Engineering
- Bachelor of Science in Agroforestry

Level I Accredited

- Bachelor of Elementary Education (DRT Campus)

C. ISO

ISO 9001:2015 Certified by Bureau Veritas on the Provision of Tertiary Education and Advanced Education, including Support to Operations (Instruction, Research, Extension, Production and Development) and General Administrative and Finance Services.

IV. ABOUT BASC

D. International Rankings

UI GreenMetrics World University Rankings 2024

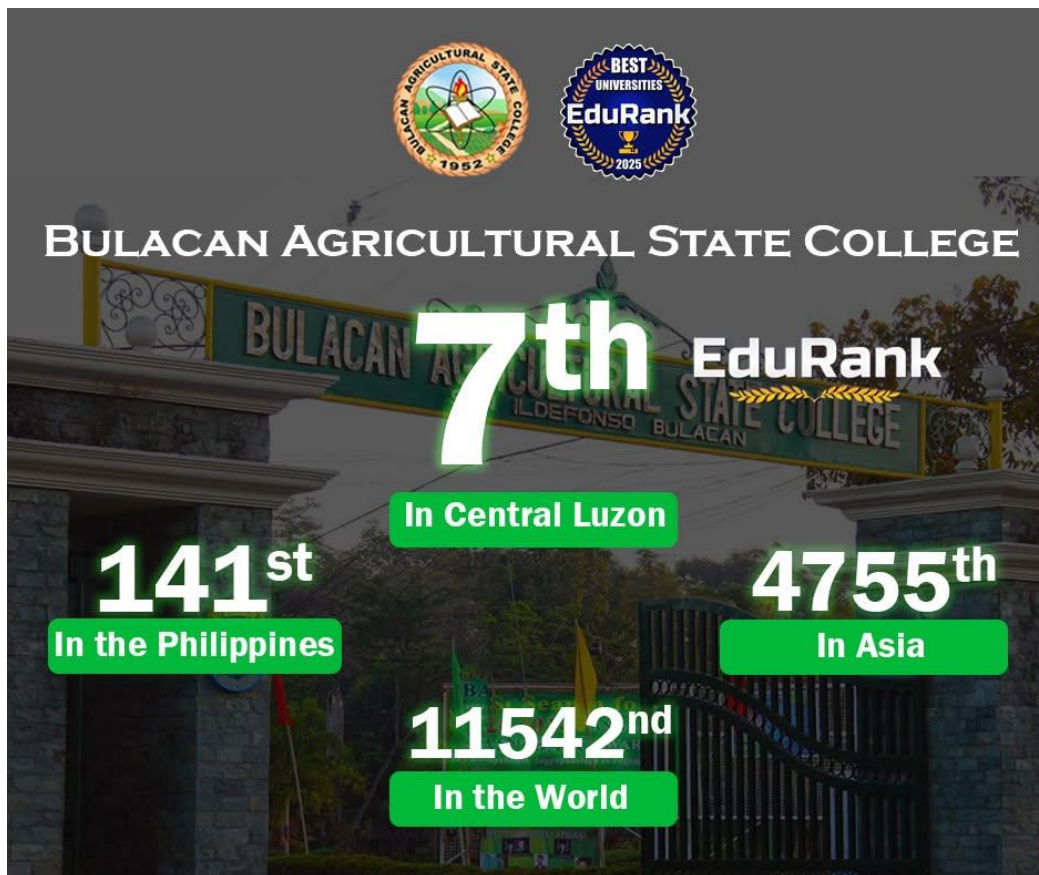
BASC ranked 515th in the world and 17th in the Philippines, placing the College alongside leading universities that champion sustainable practices, environmental stewardship, and green innovation. The College also earned an impressive spot at 506th globally and 13th nationally, demonstrating its steady performance and long-standing dedication to integrating sustainability into academic programs, research, campus operations, and community extension initiatives.



IV. ABOUT BASC

EduRank 2025

Bulacan Agricultural State College (BASC) continues to gain recognition for its commitment to academic excellence, research, and innovation, as it secures the 7th spot among the Higher Education Institutions (HEIs) in Central Luzon, according to the EduRank 2025 results. BASC ranked 141st out of 229 HEIs in the Philippines 4,755th out of 5,830 HEIs in Asia, and 11,542nd globally among 14,131 universities from 183 countries. These rankings demonstrate BASC's expanding presence in the international academic sphere, reinforcing its commitment to global collaboration, innovative research, and sustainable education.



IV. ABOUT BASC

QS Stars

Bulacan Agricultural State College (BASC) earned a 3-star rating from the prestigious QS Stars World University Rankings. This recognition places BASC among globally recognized institutions that have demonstrated strong performance in key areas of higher education.



Rated for Excellence Bulacan Agricultural State College

Through rigorous and independent data collection and analysis of performance metrics as set out in the QS Stars™ methodology Bulacan Agricultural State College has been awarded 3 Stars.



TEACHING



GLOBAL ENGAGEMENT



The QS Stars™ rating system evaluates universities across a wide spectrum of important performance indicators as set against pre-established international standards. By assessing a broader scope of criteria than any world ranking exercise, QS Stars™ illuminates the unique strengths and diversity of the rated institution with both precision and clarity.



FACILITIES



ACADEMIC DEVELOPMENT



EMPLOYABILITY



EDUCATION AND TRAINING



GOOD GOVERNANCE



DIVERSITY, EQUITY & INCLUSION

Leigh Kamolins, Head of Evaluation



SOCIAL IMPACT



IV. ABOUT BASC

World University Rankings for Innovation

Bulacan Agricultural State College proudly celebrates another milestone as it is named among the Top 400 Innovative Universities in the World in the prestigious 2025 World's Universities with Real Impact (WURI) Rankings, landing at an impressive Top 398.

These distinctions reflect BASC's dedication to empowering students through meaningful cross-border and cross-institutional collaborations; strengthening industry partnerships to create practical, community-centered solutions; and advancing a culture of dynamic, visionary leadership.



IV. ABOUT BASC

E. Student Population for 2025 by gender, graduate, undergraduate

BASC Main Campus

Program	2 nd Semester 2024-2025		TOTAL	1 st Semester 2025-2026		TOTAL	TOTAL
	Male	Female		Male	Female		
Graduate Program							
PhD Ed Mgt	45	65	110	38	55	93	203
MAEd Ed Mgt	62	170	232	67	178	245	477
MAEd Science	17	37	54				54
MIT				10	4	14	14
MBA				6	13	19	19
Undergraduate Program							
BEED	33	203	236	42	176	218	454
BSE				136	419	555	555
BSED English	74	247	321				321
BSED Science	35	119	154				154
BSDC	44	159	203	85	215	300	503
BSABEn	108	94	202	99	83	182	384
BSFT	40	66	106	52	72	124	230
BSGE	164	123	287	178	123	301	588
BSIT	566	249	815	716	367	1083	1898
BSAB	246	217	463	357	336	693	1156
BSAM	137	172	309	70	84	154	463
BSBA	351	777	1128	405	824	1229	2357
BSHM	498	768	1266	524	800	1324	2590
TOTAL	2420	3466		2785	3749		
GRAND TOTAL	5886			6534			12420

IV. ABOUT BASC

BASC CA Campus

Program	2 nd Semester 2024-2025		TOTAL	1 st Semester 2025-2026		TOTAL	TOTAL
	Male	Female		Male	Female		
Graduate Program							
PhD An Sci	1	3	4	2	2	4	8
PhD Horti	3	0	3				3
MSA Ag Ext	12	15	27				27
MSA An. Sci.	11	10	21	17	31	48	69
MSA Horticulture	1	8	9				
Undergraduate Program							
BSA An Scie	411	194	605				605
BSA Crop Sci	50	33	83				83
BSA Horticulture	33	28	61				61
BSA Ag. Ext.	14	7	21				21
BSA Crop Sci (Agronomy)	36	25	61				61
BSA Crop Sci. (Horti.)	39	25	64				64
BSA (CAS)	443	278	721	1081	631	1712	2433
DVM	58	156	214	79	197	276	490
TOTAL	1112	782		1179	861		
GRAND TOTAL	1894			2040			3934

BASC DRT Campus

Program	2 nd Semester 2024-2025		TOTAL	1 st Semester 2025-2026		TOTAL	TOTAL
	Male	Female		Male	Female		
BEED	24	91	115	23	99	122	237
BSAF	85	90	175	94	95	189	364
TOTAL	109	181		117	194		
GRAND TOTAL	290			311			601

IV. ABOUT BASC

F. Faculty and Employee Profile for 2025

Teaching

Tenure	2 nd Semester 2024-2025		TOTAL	1 st Semester 2025-2026		TOTAL
	Male	Female		Male	Female	
Permanent/ Plantilla	46	68	114	48	65	113
Temporary	31	19	50	25	21	46
Contract of Service	16	17	33	20	28	48
Total	93	104	197	93	114	207
Grand total	197			207		

Non-Teaching

Tenure	2 nd Semester 2024-2025		TOTAL	1 st Semester 2025-2026		TOTAL
	Male	Female		Male	Female	
Permanent/ Plantilla	33	48	81	35	49	84
Job Order	51	34	85	45	38	83
Total	84	82	166	80	87	167
Grand total	166			167		

V. KEY SUSTAINABILITY EFFORTS

1. Setting and Infrastructure (SI)

Bulacan Agricultural State College systematically manages and expands its institutional footprint across a diverse, multi-campus layout to balance infrastructural modernization with ecological preservation. The college actively oversees specialized instructional, residential, and agricultural venues distributed throughout the San Ildefonso Main Campus, the Doña Remedios Trinidad (DRT) Campus, the CA Campus, the BASC-FFHNAS Campus, and the BASC-BTVC Campus. Because BASC operates as a premier agricultural institution, vast portions of its geography are dedicated to open fields, research plots, seedbeds, and agricultural testing areas. Its unique spatial distribution includes specific green settings like the Mahogany Orchard and immediate proximity to the Angat River-Bustos Dam Forest Reserve, which facilitates active local biodiversity studies and natural carbon sequestration.

To support this physical network, the institution maintains a highly structured facility development process. The Supply and Property Management Unit exercises rigorous asset inventory controls, regularly compiling the Report on the Physical Count of Property, Plant, and Equipment (RPCPPE), the Report on the Physical Count of Inventories (RPCI), and the Report on the Physical Count of Semi-Expendable Equipment (RPCSE) to ensure complete fiscal accountability. These transparent structural frameworks, overseen by the Bids and Awards Committee, contributed to BASC earning top institutional marks in Good Governance and receiving an Unqualified Opinion from the Commission on Audit (COA) for its compliant infrastructure spending.

REPORT ON THE PHYSICAL COUNT OF PROPERTY, PLANT AND EQUIPMENT (RPCPPE)
as of December 31, 2024
Purchases

Account Code	Account Title	Fund			TOTAL
		101	164	161	
1-05-01-020	Investment Property, Buildings			19,460,668.10	19,460,668.10
1-06-01-010	Land				-
1-06-02-990	Land Improvements			484,894.62	484,894.62
1-06-04-010	Buildings				-
1-06-04-020	School Buildings				-
1-06-04-990	Other Structures				-
1-06-03-050	Power Supply System				-
1-06-05-020	Office Equipment	548,530.00	175,820.00		724,350.00
1-06-07-010	Furniture's and Fixtures	580,000.00			580,000.00
1-06-05-030	IT Equipment and Software		445,242.00		445,242.00
1-06-05-010	Machineries			148,960.00	148,960.00
1-06-05-040	Agricultural, Fishery and Forestry Equipment	423,000.00			423,000.00
1-06-05-070	Communication Equipment	550,000.00	52,650.00	164,750.00	767,400.00
1-06-05-110	Medical, Dental and Laboratory Equipment				-
1-06-05-140	Technical and Scientific Equipment	7,610,000.00	92,480.00		7,702,480.00
1-06-05-990	Other Machineries and Equipment	2,004,278.00	4,971,000.00		6,975,278.00
1-06-06-010	Motor Vehicles	1,995,874.00			1,995,874.00
1-08-01-020	Computer Software				-
	TOTAL	13,711,682.00	5,737,192.00	20,259,272.72	39,708,146.72

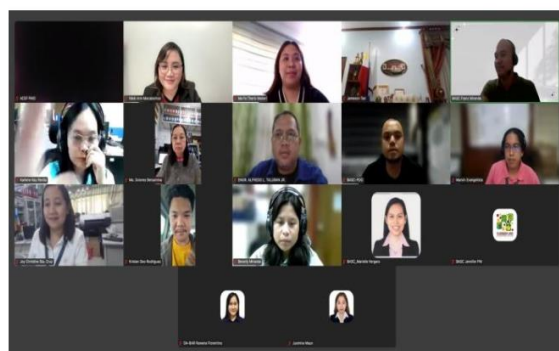
As of December 31, 2024, the Report on the Physical Count of Property, Plant, and Equipment (RPCPPE) shows a total acquisition value of **₱39,708,146.72** across various funds. The largest allocation was for Investment Property, Buildings (**₱19.46M**) under Fund 161. Other significant purchases include Technical and Scientific Equipment (**₱7.7M**), Other Machineries and Equipment (**₱6.98M**), and Motor Vehicles (**₱1.99M**).

V. KEY SUSTAINABILITY EFFORTS

On-campus student living infrastructure is continuously prioritized, with residential dormitory services safely scaling up from housing 45 students to accommodating 69 female occupants for the 2025–2026 academic year. Physical infrastructure upgrades are currently highlighted by the ongoing modernization of the Food Innovation Center, a high-impact development backed by a funding grant from the DA-BAR. Looking toward a lower-impact physical environment, BASC endorsed a monumental milestone proposal titled "Digital Harvest: Transforming Bulacan Agricultural State College into a Digital Innovation Hub", this comprehensive digital transition aims to eliminate paper-heavy administration frameworks by shifting to paperless, cloud-integrated computing operations. Finally, to complement its physical growth, BASC ensures campus safety by running strict infrastructural checks and organizing regular fire safety and earthquake drill facilities across all campus sites to protect its human and physical capital.

5. Inception Meeting of DA_BAR Funded project “Upgrading of the Food Innovation Center at BASC (July 18, 2025)

The project “Upgrading of the Food Innovation Center at Bulacan Agricultural State College,” funded by DA-BAR, was approved for a duration of one year. The proponents of the project are: Marielle G. Vergara, Project Leader; Ma Fe Theriz G. Mallari, Co-Project Leader; Franz Z. Miranda; June Vincent R. Blas; and Joy Christine V. Sta. Cruz.



Excerpt from the President’s Report 4th Qtr. Of 2025

13. DORMITORY

Decision to Close Dormitory for the First Semester

The decision to temporarily disallow students from residing in the dormitory during the first semester was taken to:

- Ensure the safety of students during extensive construction work.
- Allow contractors unrestricted access to complete renovations on time.
- Minimize disruptions to academic activities due to noise and other inconveniences. Alternative housing solutions, including collaboration with nearby residential facilities.

Renovation Timeline

Planning Phase:

Site Inspection: July 15, 2024
Tentative Start Date: August 2024
Tentative Completion Date: September 2024

Execution Phase:

Start Date (Notice to proceed): September 06, 2024
Expected Completion Date: September 27, 2024

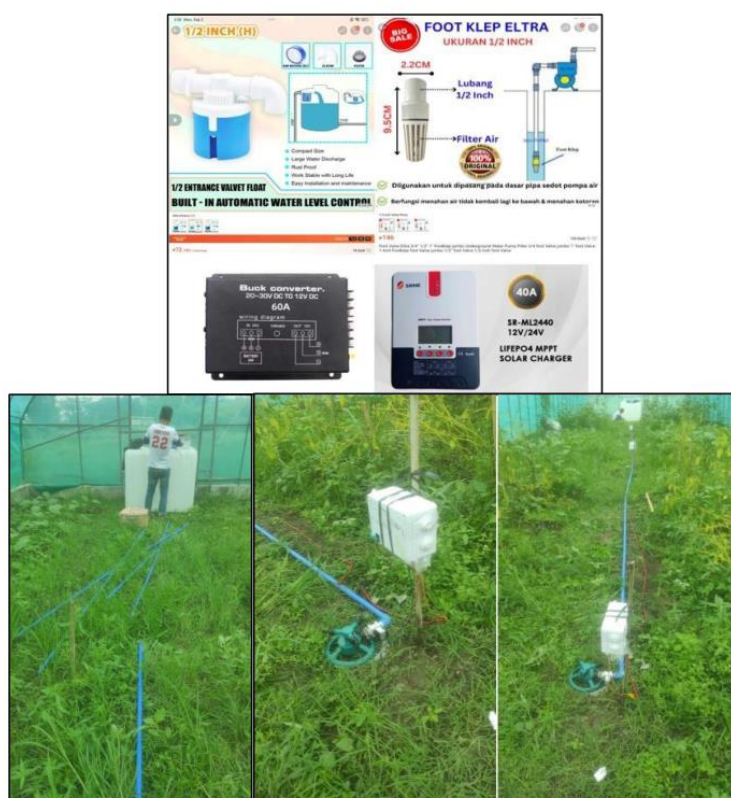
Inspection and Handover: Scheduled Date: October 03, 2024

V. KEY SUSTAINABILITY EFFORTS

2. Energy and Climate Change (EC)

BASC approaches energy management and climate change mitigation by integrating advanced smart automated systems, renewable energy engineering, and proactive ecological research into its core operations. A cornerstone of its renewable energy portfolio is the project "Implementation and Validation of Solar Energy-Based Artificial Intelligence Algorithm for Smart Irrigation System for High-Valued Crops," which explicitly pairs solar energy with Internet of Things (IoT) automation to intelligently manage resources and reduce conventional power grid dependence when cultivating vegetables. To further minimize electricity consumption in soil-less setups, the college completed and deployed the "Smart Lighting Artificial Intelligence Driven Platform for High Valued Crops on Hydroponics System," utilizing smart logic circuits to systematically lower power overhead.

Implementation And Validation of Solar Energy-Based Artificial Intelligence Algorithm for Smart Irrigation System for High-Valued Crops Cherry Tomatoes and Broccoli Using Internet of Things (IoT) (A BASC Automated System for Improved Agricultural Irrigation - Phase 2)



Climate-resilient infrastructure design extends directly into structural configurations built by the college's engineering teams. This includes the creation of an Evaporative Cooling Clay Tank integrated with a Vertical Drip Farming System, which optimizes the local microclimate for onion crops to significantly reduce the energy loads typically required for conventional cooling systems. Similarly, the college deployed energy-conscious Root Zone Cooling Systems within intensified vertical modular hydroponic configurations to sustainably preserve climate-sensitive yields during periods of elevated ambient temperatures. BASC also engages in high-level spatial and macroclimate tracking to mitigate regional disaster risks, executing advanced watershed assessments via the Soil and Water Assessment Tool (SWAT) to map

V. KEY SUSTAINABILITY EFFORTS

out hydrologic yield fluctuations and disaster vulnerabilities driven by erratic climate variability within the Angat Watershed.



BSAf program faculty members participated in the Training-of-trainers on soil and water monitoring & management system and equipment on August 13, 2024 conducted and funded by ASSIST

On the agricultural front, the Research, Extension, Production, and Development (REPD) council actively builds climate resilience by funding multi-location adaptation trials alongside DA-PhilRice for irrigated lowland inbred crops. Faculty researchers are also leveraging Cobalt-60 Gamma Radiation to induce mutations aimed at developing drought-resistant, early-maturing crop variants, while simultaneously testing targeted foliar applications to enhance the drought resilience and yield of rice varieties under varying soil moisture depletion levels. To foster an institution-wide culture of sustainability, faculty members track regional cleantech initiatives through international forums like the Green Transition Investment Program and expand library resources with local policy volumes such as *Stories of Resilience: A Compendium of Local Climate Action in the Philippines*. Additionally, the Institute of Education (IED) evaluated and initiated the project "Green Minds, Greener Future: Promoting Climate Change Literacy Among Pre-Service Science Teachers" to embed environmental preservation values directly into the curriculum. This adaptive mindset is reinforced by institutional assessments that study how weather-related class suspensions impact laboratory setups, allowing BASC to build climate-resilient instructional guidelines for unforeseen disruptions.

16	Green Minds, Greener Future: Promoting Climate Change Literacy Among Pre-Service Science Teachers	Jesus Joshua B. Bleza Amerigo B. Ramos, Jr. Carlo Jaime M. Manguil	IED	₱ 1,560	12 months (Oct. 2024 – Sept. 2025)
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3. Waste (WS)

Waste management at BASC is characterized by a firm transition toward a circular bio-economy model, emphasizing the organic valorization of agricultural byproducts, student-driven recycling initiatives, and collaborative municipal interventions. Rather than treating agricultural outputs as refuse, the college actively applies zero-waste engineering to extract valuable nutrients for crop production, notably through the project "Valorization of Carabao Waste via Electrocoagulation for Nutrient Recovery in Hydroponic Systems". Animal waste

V. KEY SUSTAINABILITY EFFORTS

recycling is further expanded via published faculty research regarding the deployment of "Vermi Compost Production Using Rabbit (*Oryctolagus cuniculus*) Manure," which successfully upcycles organic farm waste into premium fertilizers. Furthermore, BASC utilizes a innovative insect-driven organic recycling mechanism, employing Black Soldier Fly (BSF) larvae and Dubia Roaches fed with diverse substrates to systematically degrade organic institutional matter while converting it into premium biofertilizer (frass tea) and alternative animal feed proteins. The college also uses natural resources for organic waste degradation through its project "Baseline Genetic Studies on the Indigenous Microorganisms (IMOs) in Local Bamboo Areas in San Ildefonso and DRT, Bulacan," aiming to identify potential sources of native compost activators.

Valorization of Carabao Waste Via Electrocoagulation for Nutrient Recovery in Hydroponic Systems



Meeting on Project Activity Planning.

No	Title of Proposal	Proponents	Institute	Proposed Budget	Proposed Duration
1	Baseline Genetic Studies on the Indigenous Microorganisms (IMOs) in Local Bamboo Areas in San Ildefonso and Doña Remedios Trinidad (DRT, Bulacan: A Potential Source of Compost Activator for Agri-waste Conversion	Rodelio T. Alejo, Jr. Evelyn Q. Alera Airon A. Awitan Gerrick I. Cruz	CAVM	₱ 51,790	13 months (Dec. 2024 – Dec. 2025)
32	Sustainable Basil (<i>Ocimum basilicum</i>) Production in Intensified Vertical Modular Hydroponic with Root Zone Cooling	Dr. Meriam F. Sulit	8 months (October 2025 – May 2026)	₱ 5,500.00	-

V. KEY SUSTAINABILITY EFFORTS

Rodelio Alejo Jr. Dr. Honeylet J. Nicolas	Vermi Compost Production Using Rabbit (<i>Oryctolagus cuniculus</i>) Manure	Psychology and Education Journal	2021 Volume 50 No. 1 ISSN 1533 – 6939 doi:https://doi.org/10.17762/page.
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5	Production Performance of Black Soldier Fly Larvae Meal Fed with Different Substrates	Mary Ann L. Gatbonton Zenon Gian F. dela Fuente Aileen G. Pineda Jerald Kim H. Sanguyo Mark Airon A. Awitan	5 months (October 2025 – February 2026)	₱ 21,160.00	-
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In an effort to eliminate plastic footprints in campus plant nurseries, the College of Engineering and Technology (CET) developed organic bio-composites manufactured from spent coffee grounds and ginger pulp. This research successfully manufactures biodegradable, sustainably produced seedling bags and pots to replace traditional single-use plastics. Biomass waste is also managed through carbon sequestration, where local mahogany leaf droppings are transformed into functional biochar soil additives. These biochar matrices are integrated directly into experimental agricultural plots in Maasim, San Ildefonso, improving soil health and decreasing reliance on synthetic chemical fertilizers during regional vegetable production.



The project management team of "Sustainability of Diversified and Integrated Rice-based Farming System in the Rainfed Lowland and Upland Areas of Central Luzon" is conducting a hands-on training session today titled "Empowering Rural Communities: A Training on Ginger Tea, Pickled Bitter Gourd, Sweet Potato, and Banana Chips Production" at Windmill Piggery Farm, Malipampang, San Ildefonso, Bulacan.

The training aims to empower farmers, youth, and rural women to establish income-generating ventures by producing safe and marketable pickled bitter gourd, turmeric tea, and sweet potato and banana chips. Ms. Joy Christine V. Sta. Cruz, faculty member of the Food Technology Department served as the resource speaker. She delivered a lecture on the principles of pickling and sugar preservation. She is also demonstrating the proper methods for selecting, preparing, and processing bitter gourd, ginger, sweet potato, and bananas, along with the correct hygiene practices throughout the production of banana and sweet potato chips and ginger tea.

27.	Bio-composites from Spent Coffee (Coffea sp.) Grounds and Ginger (<i>Zingiber officinale</i>) Pulp for Production of Seedling Bags and Pots	1. Franz Z. Miranda, Project Leader	Procured the materials required for the study.	Supplies procured	On-going
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V. KEY SUSTAINABILITY EFFORTS

BASC ensures that waste management protocols are reinforced by academic tracking and student participation. The institution institutionalized targeted research on "Waste Segregation Practices and Challenges among Students" to address structural policy flaws and optimize the physical distribution of recycling bins across its campuses. Student organizations, such as the Society of Executives and Entrepreneurs (SEE), actively run targeted environmental drives to collect, sort, and process accumulated plastic and glass bottles throughout the campus. Students also conduct field screening programs to monitor microplastics within the biological tracts of animals at local regional public markets, mapping out plastic waste leaks into the local food supply chain. Beyond the campus borders, BASC plays an active role in regional urban cleanliness. Through virtual training workshops under the Project BASC-Assist Partnership Sustainability Project, the college provides modern waste management training to local stakeholders. It also works directly with the San Idefonso Local Government Unit (LGU) on the project "Reducing Solid Waste at San Idefonso Public Market," executing data-driven waste characterization studies to optimize regional refuse reduction.

28	Waste Segregation Practices and Challenges among Students at Bulacan Agricultural State College	Dr. Roselle D. Urbano Herbert M. De Jesus Joselyna G. Quizon Gretchen H. Mendoza	13 months (October 2025 – October 2026)	₱ 2,690.00	-
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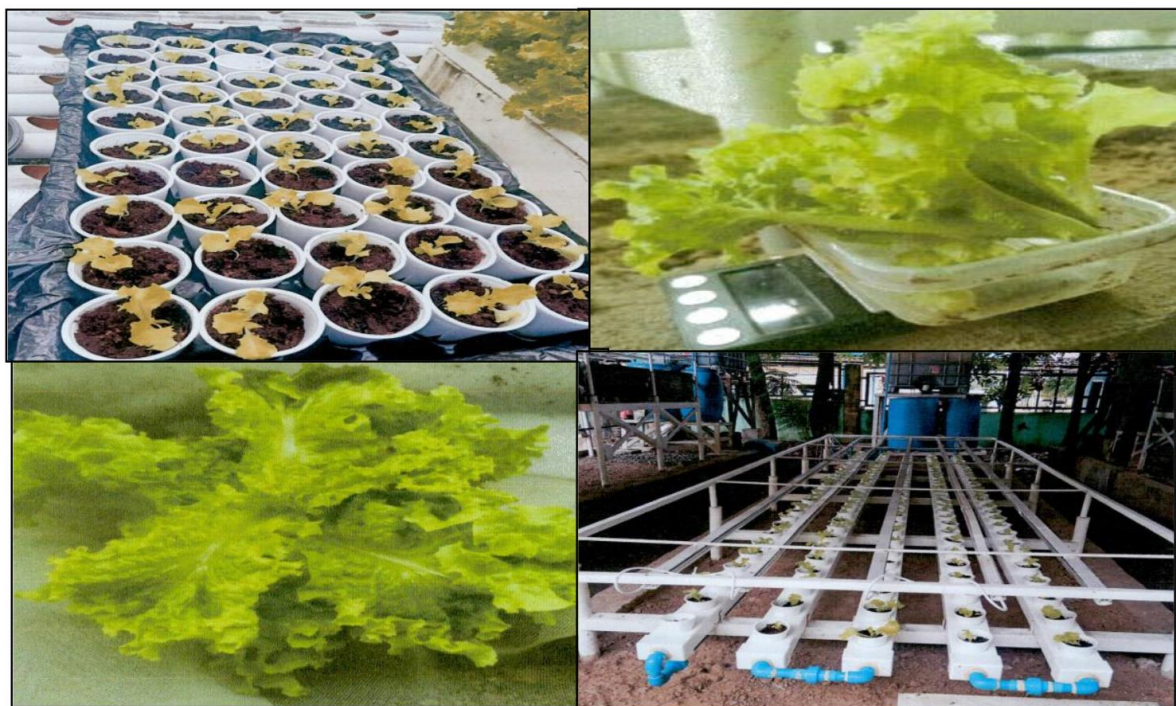
31	Reducing Solid Waste at San Idefonso Public Market: A Waste Characterization Study	1. Marielle G. Vergara, Project Leader 2. Ma Fe Theriz G. Mallari 3. June Vincent R. Blas 4. Michelle M. Cortez 5. Dave F. Macalinao 6. Engr. Joselito D. Tucit 7. Shiela Marie F. Gatchalian 8. Engr. Isabel Samantha C. Belonio 9. Engr. Daniel Alexis H. Belonio 10. Engr. Franz Z. Miranda 11. Jerome P. De Robles	Jul-24	Jun-25 (approved project extension until Dec-26)	33,820.00	Despite multiple meetings and scheduled face-to-face discussions, the project team and the San Idefonso LGU are still in the process of finalizing potential site locations and the estimated budget allocation for LGU support related to the waste characterization study.	On-going
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V. KEY SUSTAINABILITY EFFORTS

4. Water (WR)

Water sustainability at BASC blends advanced automated conservation technologies, closed-loop agricultural engineering, and rigorous environmental health monitoring to optimize resource utilization. To prevent groundwater wasting, the college utilizes integrated IoT frameworks regulation through phase two of its automated irrigation initiatives. This system applies solar-powered artificial intelligence algorithms to deliver exact, data-calculated water requirements to high-value crops, entirely mitigating water runoff. BASC drastically reduces its total agricultural water footprint by steering traditional farming toward soil-less, self-contained water configurations. This is achieved through the "Evaluation of Peri-Urban Floating-Raft Aquaponics Systems," which combines aquaculture and plant cultivation within a unified, water-recirculating cycle, and through intensified vertical modular hydroponics that use specialized root-zone cooling technology to minimize evaporation loss during crop growth cycles.

Evaluation Of Peri-Urban Floating-Raft Aquaponics System



Landscape remediation and watershed protection form another critical pillar of the college's water strategy. The ongoing research project "Biochar-Facilitated Remediation of Soil-Degraded Landscape in Doña Remedios Trinidad" applies organic biochar to enhance moisture-sorption isotherms and improve structural water retention in degraded topsoil, preventing runoff erosion from compromising local water tables. Field research teams also conduct continuous maintenance on primary channels, completing critical irrigation canal repairs at key testing sites during rice crop evaluations to maximize water delivery efficiency.

To prepare for water-scarce periods, the institution conducts targeted research on "Enhancing Drought Resilience and Yield of Rice through Strategic Foliar Additions" under deliberately manipulated soil moisture depletion levels. Campus drinking-water safety is also continuously evaluated. Under the project "Linking Science Education and Community Health," the

V. KEY SUSTAINABILITY EFFORTS

university implements collaborative student-faculty testing schemes that enforce strict biological safety audits, conducting regular bio-screenings across campus water-dispensing infrastructure. Furthermore, BASC partners with agricultural technology companies to explore advanced tools like Flow Cytometers, enabling high-resolution DNA analysis applicable to water breeding systems and aquaculture. This technical focus is sustained long-term by sponsoring institutional scholars tracking advanced fields like Agricultural Engineering, with a specific specialization in Soil and Water, through the DOST ERDT grant.

5. Transportation (TR)

BASC addresses transportation demands and vehicular emissions by enforcing regulatory policies, optimizing its mobile outreach logistics, promoting non-motorized transport, and substituting physical travel with digital infrastructure. This serves as a foundation for formal administrative policies designed to restructure parking zoning, regulate vehicle volume, and incentivize alternative transport options.

Logistical and procurement efficiencies are strictly maintained to ensure optimal fuel performance during research and extension operations. The Bids and Awards Committee (BAC) opened bids for the acquisition of a specialized motor vehicle designated for heavy field use in rural, remote, and complex geographic landscapes like DRT. By deploying this vehicle for long-distance research monitoring, the college minimizes redundant trips and optimizes fuel usage. Similarly, the university manages the transit footprint of its outreach programs by operating the Mobile Entrepreneurs Training School (METS Level UP! V3). This mobile classroom delivers educational resources and training directly to off-campus communities and regional centers, completely removing the need for large groups of participants to commute to the main campus. Additionally, institutional staff undergo advanced training, such as the Online Training Course on Mechanization and Postharvest Technologies, to ensure machinery operates with maximum fuel efficiency.

METS Level UP! Mobile Entrepreneurs Training School V3



The faculty extensionists from the **BASC College of Management, Institute of Arts and Sciences and College of Agriculture**, are conducting a training session on April 4, 2025 at Brgy. Bulusukan, San Ildefonso, Bulacan as part of their ongoing extension projects, **METS Level Up! Mobile Entrepreneurs Training School V3**. The training, titled **Mastering Product Packaging, Branding, and Labeling for Market Success**, aims to equip members of the Rural Improvement Club (RIC) of Brgy. Bulusukan with essential knowledge and skills in designing and implementing effective product packaging, branding, and labeling strategies. By strengthening brand identity, ensuring compliance with regulatory standards, and enhancing market appeal, the training seeks to help participants achieve greater success in their entrepreneurial ventures.

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For short-range commuting around the campus and local barangays, BASC actively promotes eco-friendly, non-motorized transport alternatives. The Gender and Development (GAD) office, alongside various college institutes, organized and participated in the eco-mobility event "Padyak, hindi Tadyak," which successfully championed bicycling as a carbon-free alternative. BASC provides on-campus Dormitory Services, housing dozens of students locally and successfully removing their transit footprints from regional roads. Strategic positioning of parking areas near the gates to minimize vehicle emissions across the college grounds.



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12. Dormitory

Number of occupants

Gender	Number
Female	69
TOTAL	69

6. Education and Research (ED)

Sustainability is a foundational pillar within BASC’s academic, research, and community outreach portfolios, a commitment reflected in its WURI 2025 Global Top 400 Innovative Universities ranking (scoring Top 92 in Industrial Application) and its independent 3-star QS Stars Rating. To streamline all future academic and research outputs toward responsive, climate-smart targets, BASC officially launched the BASC RDE Agenda (2025–2030). The institution maintains rigorous accreditation across its core environmental and agricultural degree programs to meet modern ecological standards, facilitating the continuous re-accreditation of specialized sustainability streams such as the BS in Agro-Forestry (re-accredited through September 2026), BS in Agriculture, BS in Agricultural and Biosystems Engineering, and MS in Agriculture.

10. Institutional Stakeholders’ Meeting for the Refinement of BASC RDE Agenda for 2025-2030 (March 26, 2025)



Key institutional stakeholders convened to review and refine the RDE agenda, ensuring alignment with institutional and community priorities. The updated agenda will guide BASC’s RDE initiatives from 2025-2030, with further input from external stakeholders to enhance collaboration and impact.

To keep pace with modern CHED standards and sustainable agricultural regulations, the College of Agriculture (CA) held syllabus alignment workshops across six major subject areas, while the Institute of Engineering and Applied Technology (IEAT) conducted specialized seminars in Sustainable Development. Faculty development is continuously advanced, with professors pursuing specialized doctoral and master’s degrees focusing on Rural Development, Horticulture, Agrometeorology, Forestry, and Environmental Science. BASC faculty regularly attend advanced workshops like the Agri-Innovation Forum and the 54th PAFTE National and 15th International Convention, which focused explicitly on "Teacher Education for Sustainable Development: Integrating the SDGs for Teacher and Learner Empowerment". Furthermore, the campus library network expanded its collection to 67,950 titles as of April 2025, acquiring critical global digital texts like *Sustainable Plant Nutrition under Contaminated Environments*, *Crop Science*, and comprehensive *Environmental Management System ISO 14001 Handbook* guides.

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Training Workshop for Alignment and Revision of Course Syllabus of 6 Major Subject Areas of Agriculture with CHED Memo No.23 s. 2021 and Professional Regulatory Board of Agriculture Resolution No.04 s. 2024 last January 16-17, 2025 at CA Faculty Room.

Name of Faculty	Title of Seminar/Training /Conference	Venue /Date
Dr. Maria Krisvie Abigale F. Mendoza Dr. Jennifer P. Adriano	54th PAFTE National and 15th International Convention “Teacher Education for Sustainable Development: Integrating the SDGs for Teacher and Learner Empowerment”	Baguio City/ October 9-10, 2025

The college’s research infrastructure exhibits high productivity dedicated to environmental and agricultural innovations, with the Technical Working Group (TWG) evaluating 54 distinct research proposals and 7 extension proposals addressing sustainable development. BASC actively tracks, funds, and publishes research heavily balanced toward biological sustainability and community empowerment, securing major grants from BPSU for "Enhancing Direct Seeding Technology for Rice Production" and from DOST-PCAARRD for a "Sustainable Breeder Quail Production System". Other internally and externally funded projects include "Roots of Sustainability: Bridging Nature and Progress to Empower Communities Through Agroforestry," "Sustainability of Diversified and Integrated Rice-Based Farming System (Palayamanan) in Upland and Rainfed Areas," "Pesticidal Formulation using D-limonene from Calamansi for Ectoparasites in Goats," and local "Metarhizium anisopliae Production and Utilization in Bulacan". Specialized research is also being directed toward alternative feedstocks, such as discovering sustainable, low-impact animal feed replacements using Black Soldier Fly Larvae and Dubia Roaches, alongside biodiversity initiatives like the Participatory Community Development Study led by the DRT campus to improve living conditions for the Dumagat Indigenous Communities. Knowledge sharing is further supported

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by events like the 1st National Conference on Agriculture and Allied Sciences, which fosters hybrid sharing on climate-smart crop sciences.

Enhancing The Direct Seeding Package of Technology for Increased Rice Production in Central Luzon (Collaborative Project With BPSU)



Delivery of Project Materials



Irrigating of Experimental and Techno Demo



Farmer training was conducted at the BASC FTC in San Ildefonso, Bulacan

BASC effectively translates its laboratory insights into the public sphere through robust community extension programs. Through the extension initiative "Greening the Community: Urban Gardening for Sustainable Neighborhoods," BASC extensionists actively train local urban populations in agricultural practices and natural pest control using eco-friendly, organic concoctions to boost local food self-sufficiency. The university also drives the project "Empowering Rural Communities Through Local Product Innovation" in Tarlac to add value to

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sustainable crops grown under the Palayamanan system, reinforcing climate resilience across upland and rainfed regions in Central Luzon. Women-led agricultural leadership is heavily supported by externally funded project ("Expanding Women-Led Integrated Backyard Farming in Bulacan") that actively transfers Science and Technology Community-Based Farm (STCBF) modalities to local female farmers, backed by DOST-PCAARRD. Additionally, the university assists local Micro, Small, and Medium Enterprises (MSMEs) by teaching them how to secure and value green agricultural inventions, and operates the "One Health Program" led by the Institute of Veterinary Medicine to promote sustainable animal health, rabies awareness, and disease surveillance across Bulacan.

Greening the Community: Urban Gardening for Sustainable Neighborhoods



The project team of Greening the Community: Urban Gardening for Sustainable Neighborhoods conducted its first meeting to plan and organize activities for the project. The team also assess the BASC-REPD area that will serve as demonstration site of the urban garden project for the community, aiming to promote sustainability and community engagement in urban gardening initiatives.

Expanding Women-Led Integrated Backyard Farming in Bulacan through the S&T Community- Based Farm (STCBF) Modality



June 4, 2025 – Training on **Vegetable Production and Bio-Organic Concoctions** was successfully conducted in Brgy. Peñabatan, Pulilan, Bulacan, as part of the project titled "**Expanding Women-Led Integrated Backyard Farming in Bulacan through the S&T Community-Based Farm (STCBF) Modality.**" This training aims to empower women through science and technology-based farming practices that support sustainable food production at the community level.

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June 5, 2025 – Training on **Vegetable Production and Bio-Organic Concoctions** was successfully conducted in Brgy. Calantipay, Baliwag City, Bulacan, as part of the project titled "**Expanding Women-Led Integrated Backyard Farming in Bulacan through the S&T Community-Based Farm (STCBF) Modality.**" This training aims to empower women through science and technology-based farming practices that support sustainable food production at the community level.

Promotion of One Health in the Animal Sector of Bulacan



On June 20, 2025, the IVM faculty conducted a Vaccination Drive Against Rabies at Malipampang, San Ildefonso, Bulacan with the help of the Barangay Council of Malipampang and the student organization Venerable Knight Veterinarians and Venerable Lady Veterinarians (VKV-VLV) Fraternity and Sorority. Almost 200 heads of dogs and cats were vaccinated during the event. The research component of the project was also conducted through the survey on pet owners' awareness on rabies and pet welfare.



On July, 2025, the IVM faculty also conducted a Vaccination Drive Against Rabies at Balaong, San Miguel, Bulacan with the help of the Barangay Council of Balaong and the student organization VKV-VLV Fraternity and Sorority. Almost 150 heads of dogs and cats were vaccinated during the event.



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