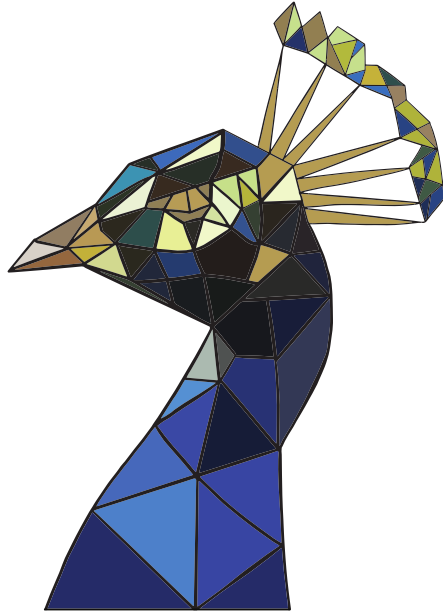




**B**ATANGAS  
**S**TATE  
**U**NIVERSITY

**S**USTAINABILITY  
**R**EPORT  
**2021**

  
Leading Innovations,  
Transforming Lives



**B**ATANGAS **S**USTAINABILITY  
**S**TATE **R**EPORT  
**U**NIVERSITY **2021**



BatStateU

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## Message of the President

**W**ith courage and conviction, Batangas State University takes part in the worldwide effort in creating a sustainable environment for the next generation. By the year 2030, the United Nations aim to achieve these goals. Here at the university, we fully embrace these goals and are taking small steps that will resonate and eventually contribute to the worldwide effort of achieving the goals on the given timeline.

The core mission on sustainability is to achieve excellence in improving the quality of living of the communities that we serve. Through and through, we continue to fulfill our mandate as The National Engineering University and set the bar high for others to emulate. It was not an easy task to bear but with harmonious collaboration among the University and other stakeholders, achieving excellence is not far from reality. Presented in these reports are the combined efforts of the Red Spartan community to make a difference in the world we live in, starting from our immediate community. We continue to put into practice the concepts and take note of the key challenges to be able to create remedies and practical solutions that is ready to be utilized as needed.

It is a privilege to serve the community and the globe through efforts to achieve sustainability. Our university, Batangas State University including all our campuses, partner industries and stakeholders will continuously join hands and minds in order to achieve this worldwide goal and leave a lasting legacy to the generations to come.

**Dr. Tirso Ronquillo**  
BatStateU, University President

# About BatStateU



The Batangas State University (BatStateU) is a Level IV state university in the province of Batangas, Philippines. It was established as a manual training school in 1903, making it the oldest highest education institution in the country's Calabarzon Region. BatStateU has a total of 11 campuses and are strategically situated in cities and municipalities in the Batangas region highlighting what their locality can offer.

The university offers basic education, tertiary, and graduate school programs. With over 110 programs offered, the university is primarily known for its advancements and only state university that received ABET Accreditation in its engineering, information technology, and computer science programs.

# 110 programs offered



# batstateu Sustainability Journey



2021

The BatStateU BOR approved the establishment of the Center for Sustainable Development and the Sustainability Strategic Plan

2020

With the eruption of the Taal Volcano, the Batangueño's resilience was tested that led to the mobilization of the University's ACTION Center that supported displaced families.

2019

The 10 Year Strategic Plan was a laid out with its pillars branded as BASICS - Brand of Excellence, Access, Social Relevance, Inclusive Innovation, Capacity, Sustainability.

2018

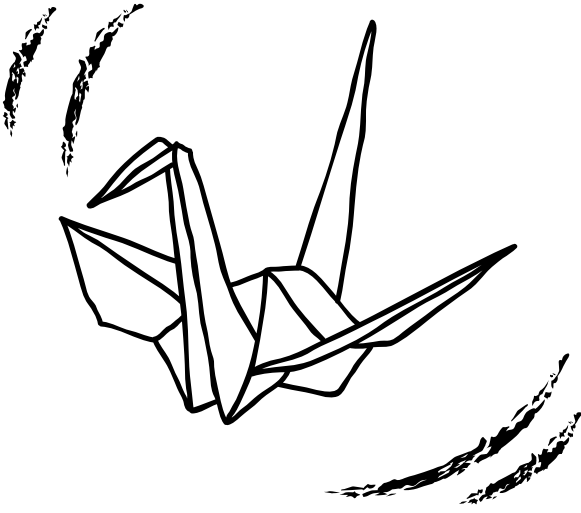
Established the Verde Island Passage Center for Oceanographic Research and Aquatic Life Sciences (VIP Corals) which focuses on proactive research for the center of the center of marine biodiversity



2017

BatStateU established the **Action Center** which is focused on Disaster Risk Reduction and Management



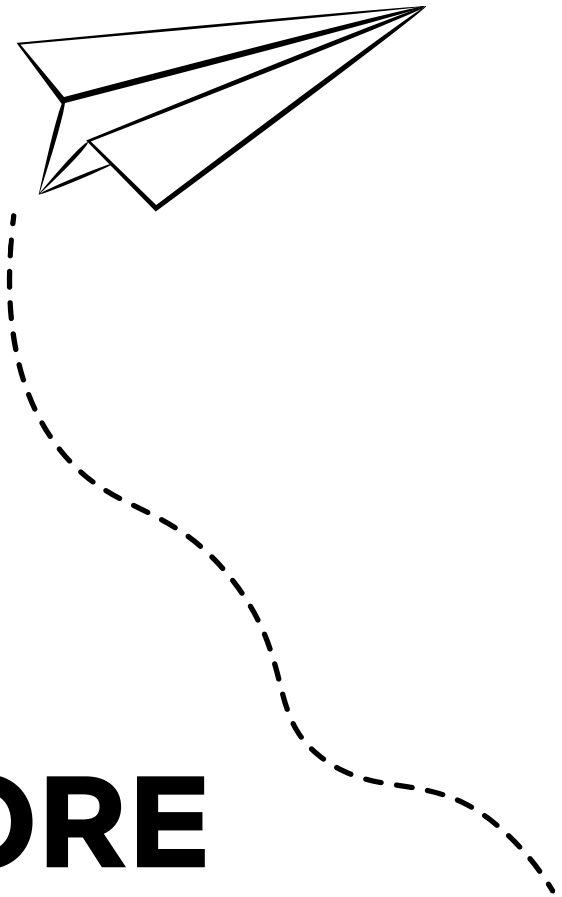


## **OUR VISION**

A Premier national university that develops leaders in the global knowledge economy.

## **MISSION**

A University committed to producing leaders by providing a 21st century learning environment through innovations in education, multidisciplinary research, and community and industry partnerships in order to nurture the spirit of nationhood, propel the national economy, and engage the world for sustainable development.



**P**ATRIOTISM  
**S**ERVICE  
**I**NTEGRITY  
**R**ESILIENCE  
**E**XCELLENCE  
**F**AITH

**C**ORE  
**V**ALUES



# BatStateU Campuses



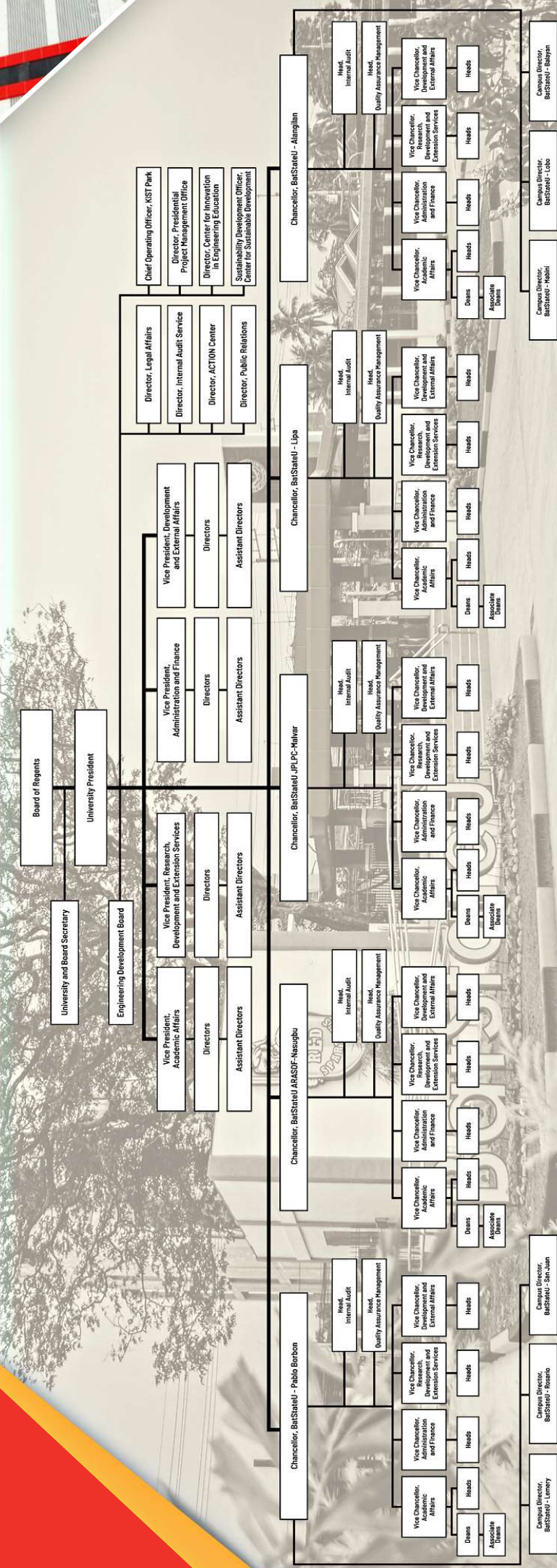
In order to empower and strengthen each constituent campuses, the Batangas State University decentralized its organizational structure in 2020. This gave birth to five constituent campuses (BatStateU-Pablo Borbon, BatStateU-Alangilan, BatStateU-Lipa, BatStateU-Nasugbu, and BatStateU-Malvar) and six extension campuses. The campuses in Lemery, Rosario, and San Juan are extension campuses of BatStateU-Pablo Borbon while Lobo, Balayan and Mabini are extension campuses of BatStateU-Alangilan.





# BATANGAS STATE UNIVERSITY

## ORGANIZATIONAL STRUCTURE



Leading Innovations,  
Transforming Lives

# CERTIFICATIONS



**Rated 4 Stars by the QS STARS Rating System for Excellence in Electronics Engineering**

**CENTER OF EXCELLENCE**

**Electronics Engineer**

**CENTER OF DEVELOPMENT**

**Mechanical Engineering**

**Electrical Engineering**



# CHED HAILS BATSTATEU AS MODEL HEI; BATSTATEU PROGRAMS AS COE/COD

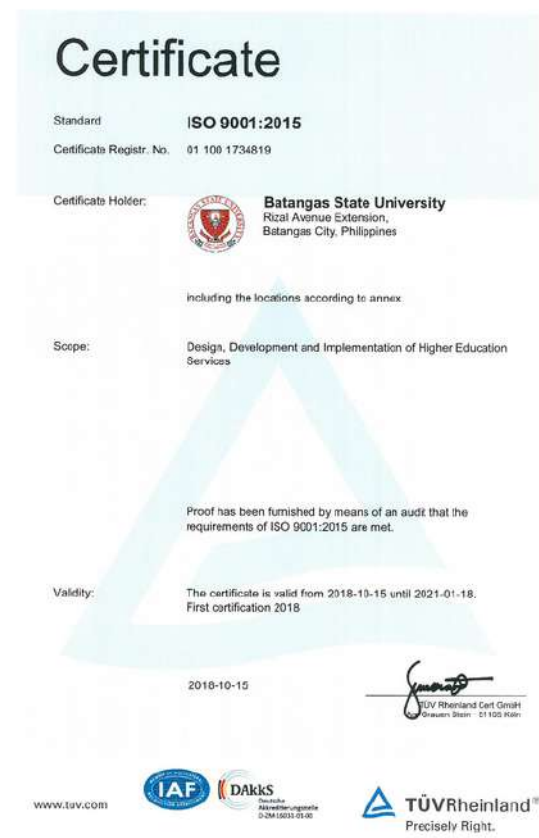


BatStateU was selected as a Model Higher Education Institution by the Commission on Higher Education in 2016. This made BatStateU a host university for the Philippine Higher Education Career System - Executive Development Program or EDP, which is part of the University Dynamics Laboratory of CHED in partnership with the Development Academy of the Philippines. The university hosted ten candidates of the EDP from 26 November to 1 December 2016.

In addition, the university's Teacher Education and Development Communication programs are designated by CHED as national Centers of Development.



## ISO - CERTIFIED INSTITUTION



# COMMITMENT TO CONTINUOUS QUALITY IMPROVEMENT

Quality Assurance (Program accredited by AACUP, PTC accredited program, CODs and COE), ISO



## MARCH 2020

### QS Intelligence Unit Rates BatStateU as a 3-Stars Institution

<b>Teaching</b>	★★★★★
<b>Inclusiveness</b>	★★★★☆
<b>Specialist Criteria: Electronics Engineering</b>	★★★★☆
<b>Employability</b>	★★★☆☆
<b>Facilities</b>	★★★☆☆
<b>Academic Development</b>	★★☆☆☆
<b>Specialist Criteria: Innovation</b>	★★☆☆☆
<b>Internalization</b>	★☆☆☆☆

In March 2020, Quacquarelli Symonds or QS Stars University rating gave Batangas State University a three-star rating. It received five stars for Teaching; four stars for Employability; one star for internationalization; two stars for Academic Development; three stars for Facilities; four stars for Inclusiveness; two stars for Specialist Criteria: Innovation; and four stars for Specialist Criteria: Electronics Engineering.

# AACUP Accreditation

The Accrediting Agency of Chartered Colleges and Universities in the Philippines or AACUP is a non-profit, non-stock organization whose mission is to accredit quality assurance in state higher education institutions and their programs.

## 2019

As of January 27, 2020

UNDERGRADUATE		GRADUATE	
<b>4</b>	Level IV	<b>0</b>	Level IV
<b>12</b>	Level III	<b>2</b>	Level III
<b>38</b>	Level II	<b>7</b>	Level II
<b>35</b>	Level I	<b>11</b>	Level I
<b>1</b>	Candidate	<b>1</b>	Candidate

## TOTAL

**90**  UNDERGRADUATE

**21**  GRADUATE

## 2020

As of March 26, 2021

UNDERGRADUATE		GRADUATE	
<b>4*</b>	Level IV	<b>0</b>	Level IV
<b>12</b>	Level III	<b>2</b>	Level III
<b>53</b>	Level II	<b>9</b>	Level II
<b>21</b>	Level I	<b>8</b>	Level I
<b>1</b>	Candidate	<b>1</b>	Candidate

## TOTAL

**91**  UNDERGRADUATE

**20**  GRADUATE

\*BS Development Communication  
Bachelor of Elementary Education  
Bachelor of Secondary Education (English, Math,  
Biological Science)  
BS Mechanical Engineering

## 2021

As of December 3, 2021

UNDERGRADUATE		GRADUATE	
<b>5**</b>	Level IV	<b>0</b>	Level IV
<b>11</b>	Level III	<b>2</b>	Level III
<b>53</b>	Level II	<b>9</b>	Level II
<b>21</b>	Level I	<b>8</b>	Level I
<b>1</b>	Candidate	<b>1</b>	Candidate

## TOTAL

**91**  UNDERGRADUATE

**20**  GRADUATE

# THE BATSTATEU COMMUNITY

38,626

**STUDENT  
POPULATION**  
AS OF 2021

619

**NON-TEACHING  
STAFF**

1,188

**TEACHING  
EMPLOYEES**

**EMPLOYEE  
ORGANIZATIONS**



Non-academic  
Staff Association



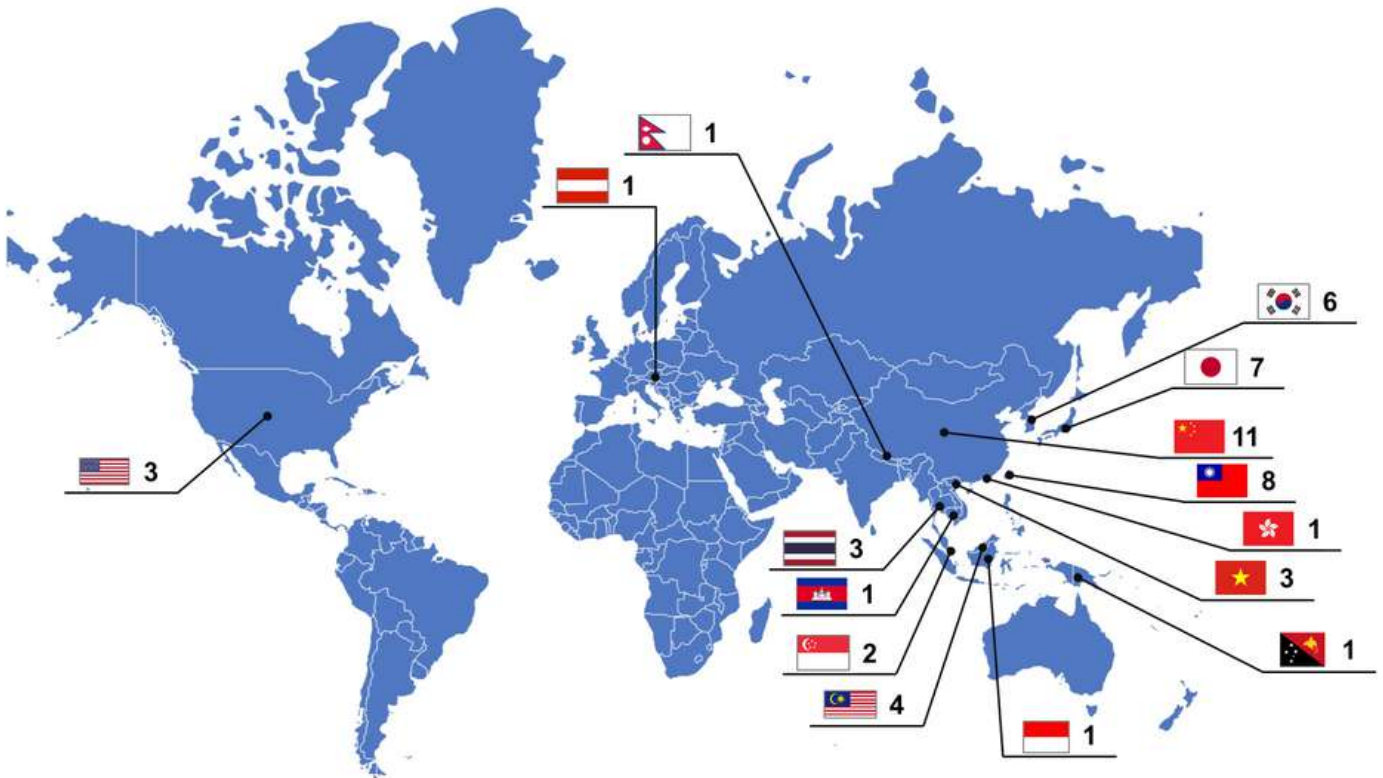
BatStateU Faculty Association  
(FACAS)



BatStateU-Faculty  
Confederation



# Membership in National and International Organizations



Foreign Exchange Students 2021

**39**

Expanding Internationalization Initiatives

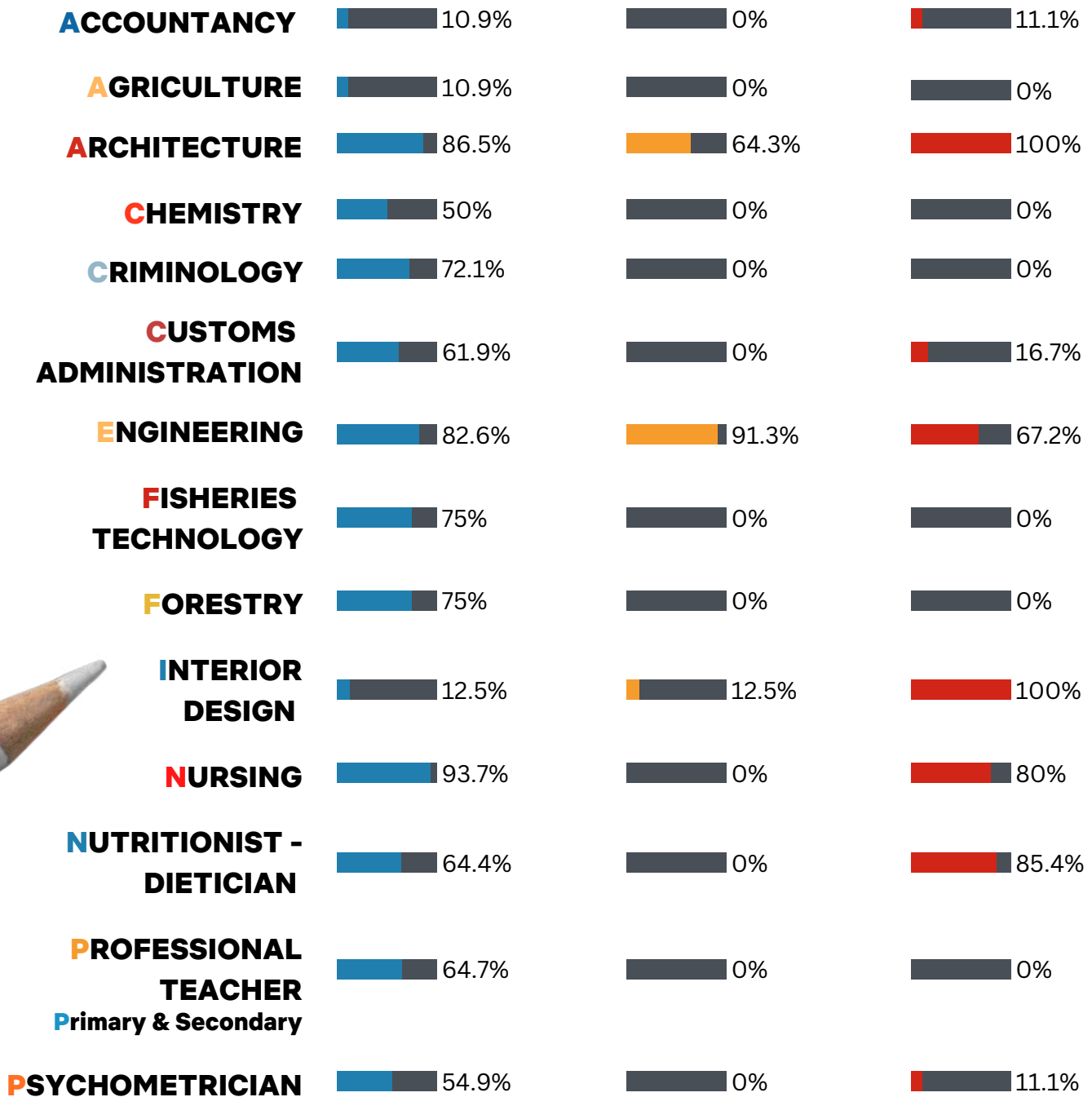


Data from 2014- 2021



# University Passing Rate in the Licensure Examination

## 2019 2020 2021



Note: The 2020 Licensure Examination were limited because of the pandemic



## BRIDGING OPPORTUNITIES TO REDUCE INEQUALITY

**6,380**  
**Low income  
students receiving  
financial aid**

 **16.5%**

**16.5% of the students  
receive financial assistance**

There are a total of 6,380 low income students who received financial aid in the year 2021. This was 16.52% of the total number of students enrolled in AY 2020-2021. These are the students who are recipients of the Tertiary Education Subsidy (TES), Tulong Dunong Grants, and other scholarships.





SCHOLARSHIP  
PROGRAM



STUDENTS



TYPE



CLASSIFICATION



MALE



FEMALE

SCHOLARSHIP PROGRAM	STUDENTS	TYPE	CLASSIFICATION	MALE	FEMALE
TES	Undergraduate Students	Externally Funded	National	701	1223
TES - TDP	Undergraduate Students	Externally Funded	National	1263	2699
DOST RA	Undergraduate Students	Externally Funded	National	303	226
CHED TAP	Undergraduate Students	Externally Funded	National	0	0
CSP - HSSP	Undergraduate Students	Externally Funded	National	8	12
CSP - FSSP	Undergraduate Students	Externally Funded	National	0	7
SRA - SIDA	Undergraduate Students	Externally Funded	National	7	14
DA-ACEF	Undergraduate Students	Externally Funded	National	13	14
*College of Law - Government Employee Scholarship Program	Graduate Students	Internally Funded	Internal	2	1
Batanguenos USA Inc.	Undergraduate Students	Externally Funded	Private Sector	1	3
First Gen Corporation	Undergraduate Students	Externally Funded	Private Sector	0	0
IBIDEN Philippines Inc.	Undergraduate Students	Externally Funded	Private Sector	0	0
Gogkongwei Brothers Foundation Inc.	Undergraduate Students	Externally Funded	Private Sector	7	11
ICTSI Foundation Inc	Undergraduate Students	Externally Funded	Private Sector	1	0
Kepeco Ilijan Corporation	Undergraduate Students	Externally Funded	Private Sector	15	27
Luis Co Chi Kiat Foundation Inc.	Undergraduate Students	Externally Funded	Private Sector	4	14
Modair Manila Co Ltd. Inc.	Undergraduate Students	Externally Funded	Private Sector	2	4
PhilDev Foundation Manila, INC	Undergraduate Students	Externally Funded	Private Sector	6	6
PLDT-Smart Foundation Inc.	Undergraduate Students	Externally Funded	Private Sector	5	13
Sakamoto Yakuhin Cogyo Co. Ltd.	Undergraduate Students	Externally Funded	Private Sector	5	5
San Miguel Foundation	Undergraduate Students	Externally Funded	Private Sector	1	1
Sem-Calaca Power Corporation	Undergraduate Students	Externally Funded	Private Sector	1	7
UAM Philippines Inc.	Undergraduate Students	Externally Funded	Private Sector	2	1
Government Employee & Officials Scholarship	Graduate Students	Internally Funded	Internal	77	268
Alumni Scholarship	Graduate Students	Internally Funded	Internal	32	72
Batangas Provincial Scholarship	Graduates Students	Externally Funded	Provincial	14	28

# SUPPORT TO TEACHING AND NON- TEACHING PERSONNEL

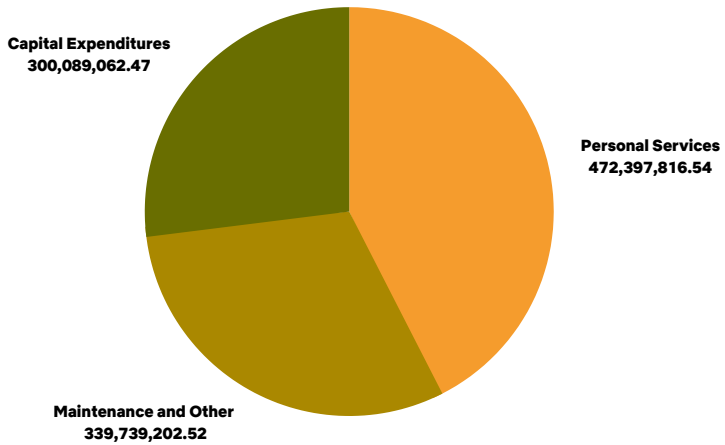
TYPE OF PREVILEGE	PATERNITY	MATERNITY	SOLO PARENT
	5	7	2
TOTAL AMOUNT IN PESO	68,493.50	662,563.18	21,726.75

# TOTAL 752,783.43

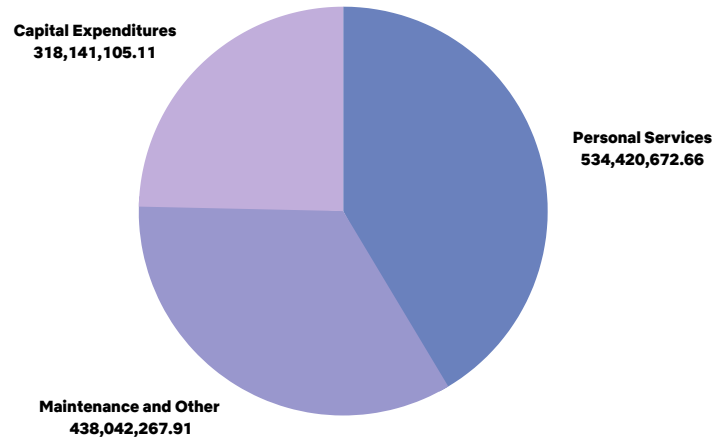


# University Expenditure

## 2020



## 2021



## Sewage Treatment Facility

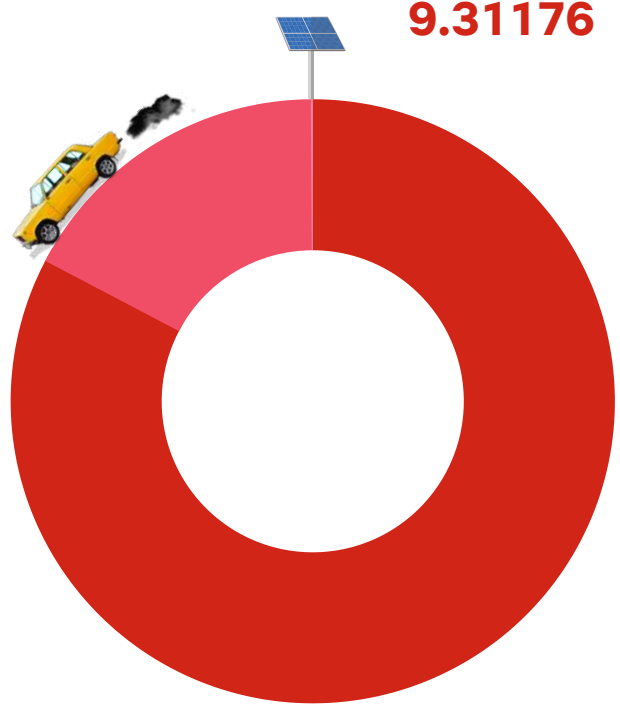
\*Area: 151 m<sup>2</sup>



# Energy Consumption

Solar Power Consumption  
9.31176

Fuel Consumption  
1536.65387



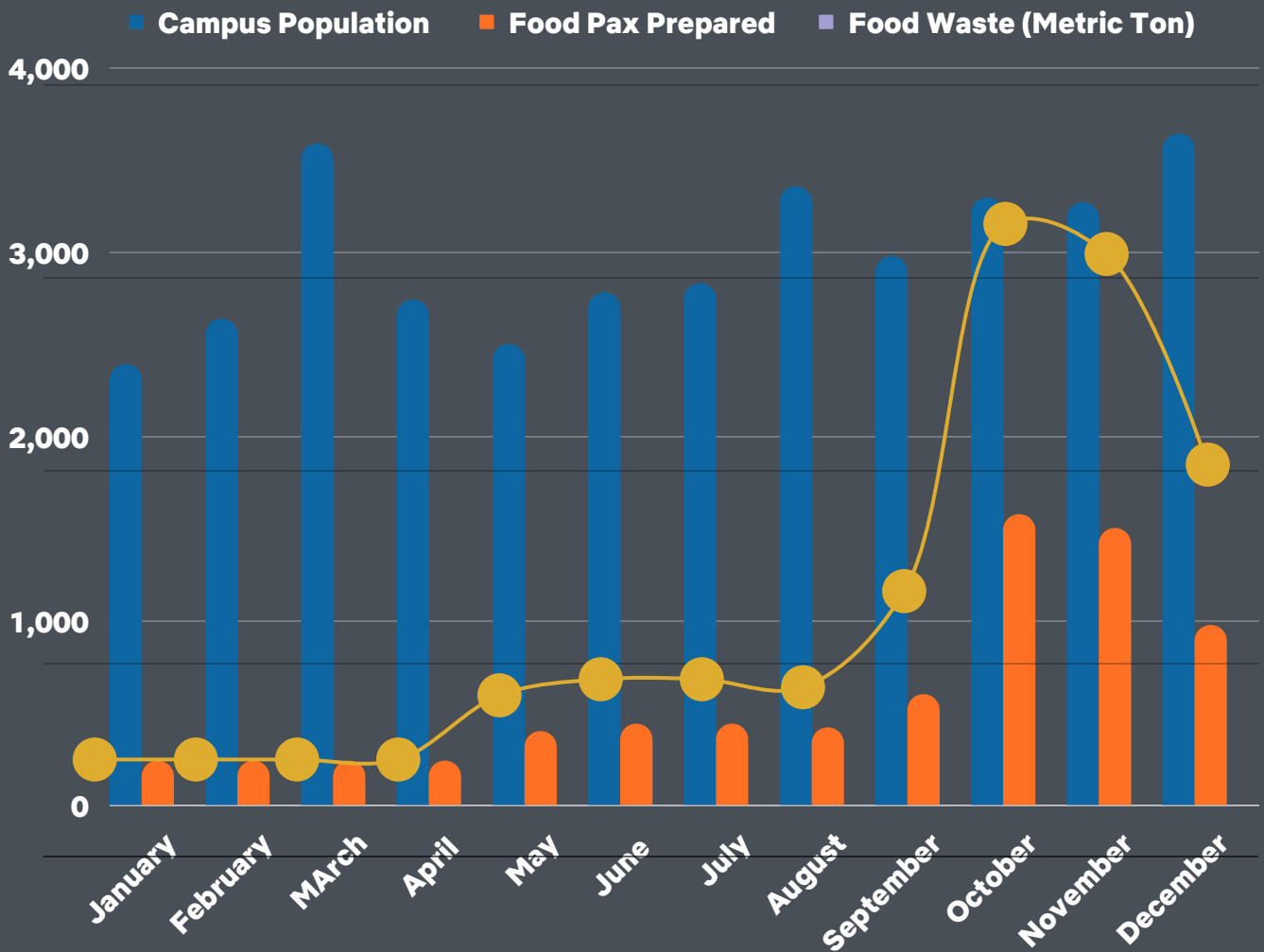
Electric Consumption  
73686.32176

The **BatStateU** Campus consumed an average of **8932.287393 gJ** (5,258,968.72027 kWh) of energy **annually**



*\*Consumption converted to gigajoules*

# University Food Waste



There was a gradual increase in food wastes during May 2021 as the employees returned to onsite work and another spike during October as more students shifted back to on campus classes.



# PWD ACCESS



The Office of Services for Students with Special Needs and Persons with Disabilities (SSSN and PWD) was established to provide programs and activities designed to offer equal opportunities to PWDs, indigenous people, solo parent, etc.

In accordance with CHED Memorandum no. 09, series of 2013 (Enhanced Policies and Guidelines on Student Affairs and Services), Republic Act No. 10754 [An Act Expanding the Benefits and Privileges of Persons With Disability (PWD)] and Batangas State University Norms of Conduct for College Students.



# GENDER MAINSTREAMING AT BATSTATEU



**B**atStateU was selected as a Model Higher Education Institution by the Commission on Higher Education in 2016. This made BatStateU a host university for the Philippine Higher Education Career System - Executive Development Program or EDP, which is part of the University Dynamics Laboratory of CHED in partnership with the Development Academy of the Philippines. The university hosted ten candidates of the EDP from 26 November to 1 December 2016.

## POLICY



In 2021, the University issued new policies which would ensure inclusivity and also reviewed existing policies adhering on its commitment of reducing inequalities. The University Board of Regents approved board resolution on equal employment opportunity and the strengthening and institutionalization of GAD Focal Point System. Aside from this, several University President's memos were issued in compliance of the University to national laws and mandates concerning gender inclusion.

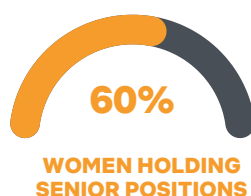
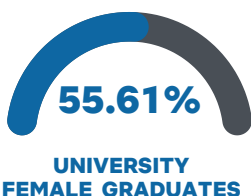
## PEOPLE



The University Gender and Development (GAD) Focal Point System (GFPS) was established in 2014 to ensure that there is a mechanism, which would lead in the gender mainstreaming initiatives. In 2021, the University Board of Regents released a resolution approving the guidelines on the creation, strengthening and institutionalization of the GFPS.

With the new GFPS structure, gender sensitivity training was initiated. The series of training includes basic GAD concept orientation, gender mainstreaming, gender analysis, gender planning and budgeting and the use of different GAD tools in measuring gender responsiveness. In addition, varied capability building activities were conducted for faculty, employees and students to ensure that they will also become sensitive to gender issues and responsive to addressing these issues.

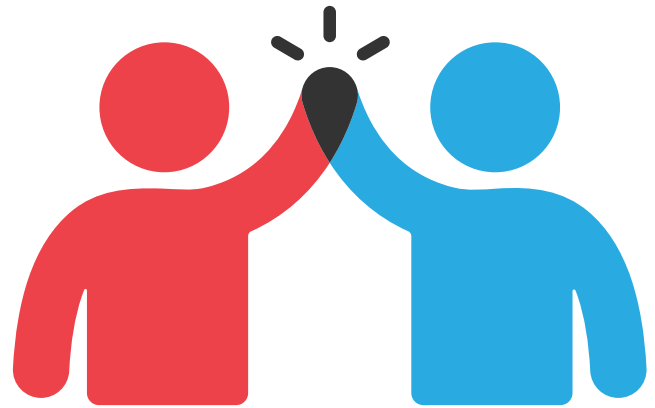
## ENABLING MECHANISM



## LINKAGES/ PARTNERS

Through the years, GAD Office established partnerships and linkages among different organizations to collaborate with gender-responsive projects and programs among its target clientele.

In 2021, BatStateU joins the Atikha Overseas Workers and Communities Initiatives, Inc., Overseas Workers Welfare Administration National Reintegration Center for OFWs (OWWA-NRCCO) 4A and Global Action on Migration and Development in launching the BalikaBayanihan Micro-Business Training Program. The said program helped repatriated OFWs affected by the pandemic in starting and improving their existing and planned businesses.



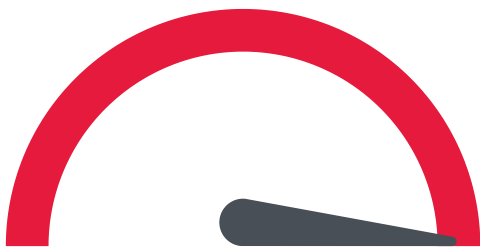
## GENDER FRIENDLY SPACES



Breastfeeding and childcare facilities provides women in the University with gender-friendly spaces catering their gender-specific needs.

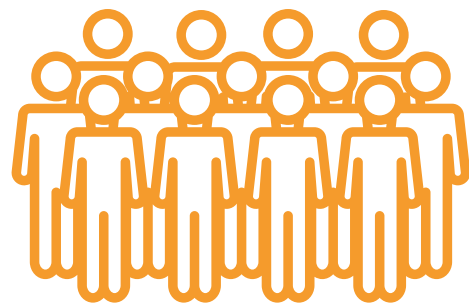
## IEC MATERIALS

## AUDIENCE STATISTICS



**419.2%**

**INCREASE RATE  
ON SOCIAL  
MEDIA  
PRESENCE**



**REACHING**

**64,234  
AUDIENCES**

## PPAs

To ensure the use of gender-neutral terminology in all communication correspondence, faculty and students regularly received webinars on Gender Fair Language. Gender and development books and other resources are also available in the University library.

First year students and newly elected student leaders were also given basic GAD seminars. Aside from this, SOGIE 101 seminar, discussing the concepts of SOGIESC were initiated. A student organization, PAPAGAYO, created in the light of gender equality gave way for the members of the LGBTQIA+ community to broaden their spectrum in terms of opportunities and access to their needs.



## Extension

The University expands its efforts in the community through gender responsive extension services. Several livelihood programs targeting women as beneficiaries helped in empowering them as they mostly stayed in their houses during the pandemic. Maternal and childcare webinar was also introduced to pregnant women and lactating mothers with various added information about healthy eating during the pandemic. To augment the need of the students studying at home and ease the burden of parents, mostly mothers, in teaching their children, the University conducted webinars in guiding the learners in the new normal.



## Students Papagayo Pride Council

**Sogie**   
**100 seminars**

## Research

The conduct of gender sensitive research is highly encouraged among faculty and student researchers. A faculty research study and five student-led studies on gender-related topics were completed in 2021.

# Spotlight on Research

Apart from its quality education, the University's faculty members also delve into various institutional and external research projects.



RESEARCH TITLE	APPROVED BUDGET	DURATION	UTILIZATION		
			BENEFICIARY (PARTNER INDUSTRY/ COMMUNITY)	RESEARCH OUTPUTS/IMPACT	
<b>INTERNALLY FUNDED RESEARCH PROJECTS</b>					
1	Assessment of the Resources and Capabilities of the Local Government Units (LGUs) of Batangas Province in Providing Agriculture and Fisheries Extension Services	1,000,000.00	04/12/2021-12/17/2021	Department of Agriculture	A landscape of the current design and implementation of the agriculture and fisheries extension services in the Province of Batangas.  Determined the current resources and capabilities of the LGU of Batangas for the full implementation of the Province-led Agriculture and Fisheries Extension System (PAFES).
2	Profiling and Needs Assessment of Barangays Tabangao, Ambulong, Libjo, San Isidro and Malitam (TALIM) in Batangas City: An Input to Pilipinas Shell Foundation, Inc., Social Development and Investment Plan	579,400.01	11/03/2020-11/26/2021	Pilipinas Shell Foundation, Inc. (PSFI)	Data of the TALIM communities in terms of physical aspect, infrastructure, patterns of settlement, demographics, leadership, economics, and attitudes.  Identified the concept of development of the TALIM communities: determine the problems, aspirations, needs of TALIM communities, recommend strategies, activities & programs as input to Pilipinas Shell Foundation, Inc. social development program.
3	Community Empowerment thru Science and Technology (CEST) Community Needs Assessment	947,537.00	03/17/2021-11/30/2021	Department of Science and Technology - Region 4A	Assessment on the needs, problems or gaps in the community related to the five entry points of the CEST (Community Empowerment thru Science and Technology - Community Needs Assessment) program
4	TBI 4.0: Technology Business Incubation 4.0 for Region 4A	7,172,129.60	03/01/2020-10/31/2021	Department of Science and Technology - Philippine Council for Industry, Energy and Emerging Technology Research and Development (DOST-PCIEERD)	Execution of three (3) Hult Prize On-campus Program Implementation of 3 start-up pitch competitions, Regional Pitching Competition, SCAN Program & Agri-Boost Camp Entrepreneurship Training for 25 faculty with kadasia & 1,000 faculty went through Entrepreneurship Program Acquire TBI funding support from SEARCA Assist ROBIN to acquire funding from DOST Startup Grant Fund Program Best Incubator Infrastructure Award during DOST-QBO Start-up Incubator Awards Acquired new set of mentors Launching of BatStateU KIST Park and moving to the new CTI office located at STEER Hub SIGAW presented in the ASEA JAIF ABINet Business Matching in Indonesia and was also a finalist of Tech Planter Demo Day
5	SICAT: Support for Innovative and Commercially Viable <u>Agricultural</u> Technology	500,000.00	03/12/2021-09/30/2021	Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA)	Partnerships between two enablers and create collaborative efforts to gather community while creating awareness and promoting innovative agribusiness.
6	Bangon Batangas: S&T-based Assistance to Taal Volcano's Internally Displaced Population	4,000,000.00	08/01/2020-09/30/2021	<ul style="list-style-type: none"> <li>Department of Science and Technology - Philippine Council for Agriculture, Aquatic and Natural Resources Research Division (DOST-PCAARRD)</li> <li>Local Government Units of Agoncillo, Laurel, Balete, San Nicolas, Talisay</li> <li>Displaced population in Ibaan relocation sites</li> </ul>	Assessment report on the damages to agriculture and fishery sector in the five (5) hardest-hit municipalities.  At least 39% (2600) of total families of the total and permanently lockdown areas were assessed and profiled.
7	GIS-Based River Profiling of Saran River, San Juan River and San Cristobal River in the Province of Laguna	600,000.00	02/01/2020-09/30/2021	Department of Environment and Natural Resources (DENR)	GIS-Based River Profile of Saran River, San Juan River, and San Cristobal River in the Province of Laguna



Through the 15 research centers and innovation hubs BatStateU houses, it was able to support and spearhead projects that focus on their niche markets.

8	Development and Installation of Solar-powered Chili dryer	567,000.00	07/01/2020-06/30/2021	Department of Science and Technology (DOST) Region IVA	Developed a solar-powered chili dryer
9	Knowledge Awareness Assessment on Road Safety for Children Program	350,000.00	11/18/2019-06/25/2021	Pilipinas Shell Foundation Inc.	Data on the existing program on Road Safety for Children of Pilipinas Shell Foundation Inc. (PSFI) and Modules on Road Safety for Children
10	GIS-Based Profiling of San Juan River in Sto. Tomas City, Tanauan City, Malvar and Lipa City, Batangas	200,000.00	02/01/2020-05/29/2021	Department of Environment and Natural Resources (DENR)	GIS Based Watershed Profile of San Juan River in Batangas Province
11	Development and Installation of Solar-powered Isotropic Generator of Acoustic Wave (SIGAW) for Quezon Province-Phase 2	930,000.00	10/01/2019-03/01/2021	Department of Science and Technology - Region IVA (DOST-IVA)	Developed and installed units of the Tsunami Early Warning System dubbed as Solar Powered Isotropic Generator of Acoustic Wave (SIGAW) in <u>different</u> municipalities in Quezon Province
<b>INSTITUTIONALLY FUNDED RESEARCH PROJECTS</b>					
12	Development of Bridge Condition Monitoring Tool Using Deep Learning Approach	289,000.00	08/06/2018-12/30/2021		Bridge condition monitoring device using sensors and established a condition rating tool based on collected information of the bridge.
13	Program Title: Research Program to Innovate Social Sciences and Education for the Challenges of Industry 4.0 Project Component C. Bayan Ko, Mahal Ko, Linis Ko: Solid Waste Management Practices by the Residents of <u>Nasugbuenos</u>	21,000.00	08/13/2020-11/31/2021		Identified the level of knowledge, attitude, and practice of waste segregation, recycling and composting among the residents of Nasugbu, Batangas
14	Recycle On-demand BIN (ROBIN)	250,000.00	08/06/2018-10/29/2021		Designed and developed a sustainable reverse vendo bin, SuRe Bin is a reverse vending machine that accepts selected recyclable beverage containers as input and provides e- service as rewards to its users.
15	GIS Mapping of Habitats and Ex-Situ Genetic Conservation of Philippine Hoyas in Batangas Province, Verde Island Passage	39,900.00	06/13/2018-10/29/2021		Data on diversity of Hoyas in Isla Verde to Lobo Batangas landscape.  GIS map indicating the abundance and distribution patterns of Hoya species in forest patches and agricultural landscape.
16	Balayenos Automated Bagoong Machine	171,941.00	11/03/2020 - 08/31/2021		Developed fish grinder and blender machine for small-scale bagoong producers in the province of Batangas.
17	Rhetorical Construct of the Self: Exploration of Writings of Students with Delayed College Enrollment	35,000.00	08/09/2018 - 08/03/2021		Research article on the coping mechanism in responding to challenges of pursuing tertiary education by students with delayed college enrollment.
18	Communicative Competence of Graduates: Input to Designing Language Instructional Portfolio	50,000.00	08/13/2020 - 07/25/2021		Language instructional portfolio which includes a Purposive Communication course syllabus with specifications and Module Outline/Course Outline for higher education curricula based on the <u>assessment</u> communicative skills and competence or deficiency of BSBA AND BSHRM graduates or newly hired working in the workplace as <u>perceived</u> by their employees.
19	Nautical Explorer for Marine Observation 2.0 Component A: Stabilized Control System and Electronic Integration Component B: Chassis and Thrust Propeller Design	191,818.00	08/17/2020 - 07/16/2021		Developed a functional ROV (NEMO) 1. Design of stabilized control system of ROV (NEMO) 2. Developed an embedded system of ROV (NEMO)  Enhanced chassis design of the past ROV model (NEMO) in order to improve its performance underwater and eliminate former problems
20	Design and Development of a Portable Biodiesel Reactor using Aeration-Assisted Alkali-Catalyzed Transesterification of Waste Cooking Oil	345,000.00	01/07/2019 - 05/29/2021		Designed and developed a portable biodiesel reactor capable of converting waste cooking oil to biodiesel through aeration-assisted alkali-catalyzed transesterification.
21	Air Quality Investigative Research (AIR) for Poultry Industry in San Jose, Batangas	294,500.00	09/03/2018 - 05/29/2021		Air quality profile of selected poultry farm in San Jose, Batangas
22	Phytochemical Constituents of Propolis Collected During Dry and Wet Seasons at Selected Areas in Batangas, Philippines and their Antioxidant, Anti-microbial and Anti-inflammatory Activities	220,020.00	08/13/2018 - 03/26/2021		Profile of the chemical constituents and <u>bioactivities</u> of locally produced propolis, <u>specifically</u> their phytochemical constituents, antioxidant, antimicrobial and anti-inflammatory properties.
23	Pagpapaunlad sa Pagtuturo ng Panitikang Gender-Based Salig sa Umiiral na Kurikulum	16,000.00	05/13/2018 - 03/05/2021		Nalaman ang mga konsepto at suliraning nararanasan ng mga guro sa pagpapaunlad ng pagtuturo ng panitikang gender-based salig sa umiiral na kurikulum. Ito ay sa pamamagitan ng task-based na pagsasanay sa tulong ng design- thinking approach.

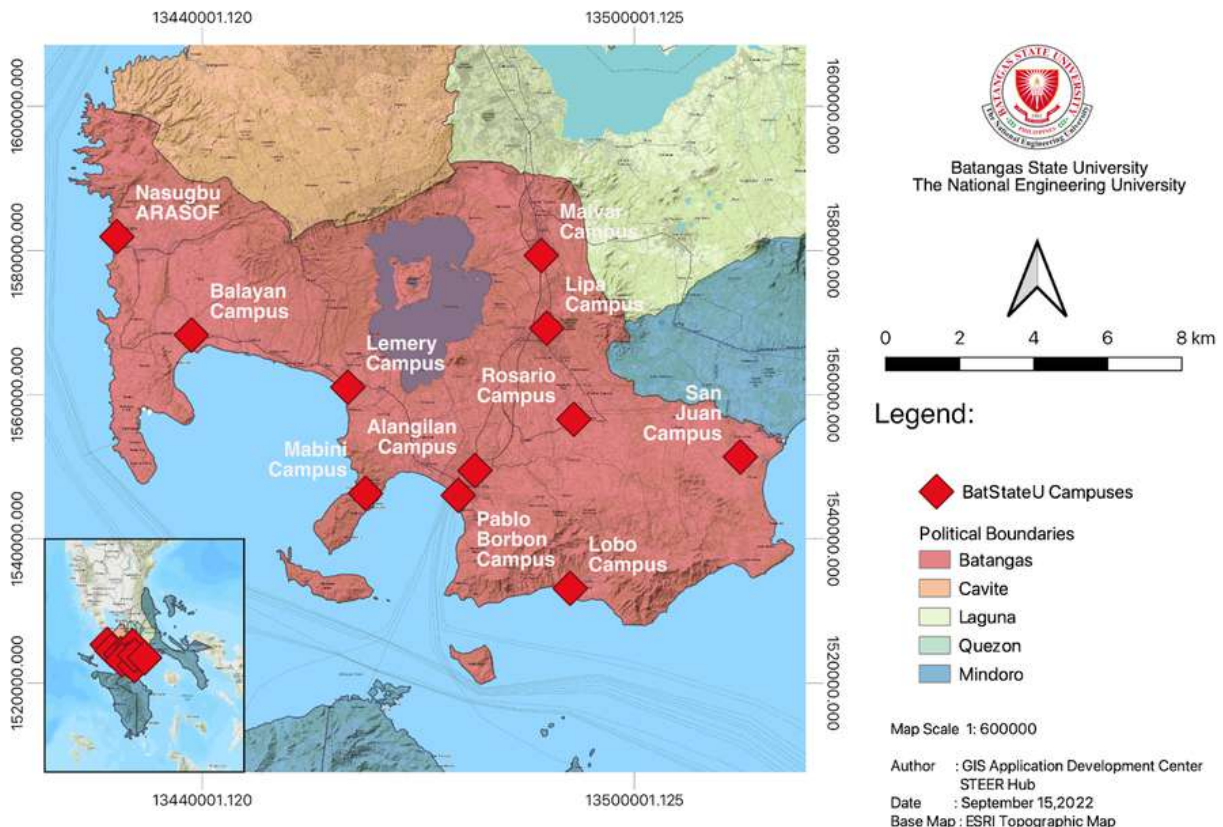
# Support to Housing



LIST OF PROPOSED HOUSING PROJECTS/SITES IDENTIFIED IN LUDIP

	Project Title	Site/Location	Number of Units	Land Area (HA)	Implementing SUC	Status of LUDIP (Approved, Under Review, Formulation/Updating)	Dormitory/Employees' Housing	Budgetary Requirements	Remarks
1	Ten-Storey Dormitory Building	BatStateU - Pablo Borbon	1	5.96	Batangas State University	Under Review	Dormitory	Php 280,000,000	
2	Five-Storey Dormitory Building	BatStateU - Nasugbu	1	5.1755	Batangas State University	Under Review	Dormitory	Php 92,400,000	
3	Ten-Storey Dormitory Building	BatStateU - Malvar	1	3.26	Batangas State University	Under Review	Dormitory	Php 270,000,000	
4	Ten-Storey Dormitory Building	BatStateU - Alangilan	1	5.62	Batangas State University	Under Review	Dormitory	Php 415,000,000	
5	Five-Storey Dormitory Building	BatStateU - Mabini	1	4	Batangas State University	Under Review	Dormitory	Php 82,880,000	
6	Five-Storey Building with Dormi		1	0.95	Batangas State University	Under Review	Dormitory	Php 96,500,000	The dormitory will be built on the 5th flr. of the building

## GIS MAP OF BATSTATEU CAMPUSES



# DISASTER RISK REDUCTION MANAGEMENT



## siGAW

SiGAW or Solar Isotropic Generator of Acoustic Waves is tsunami early warning system developed by BatStateU researchers to signal possible rise in the water level along seashores. As of 2021, there already 17 installed in the Province of Batangas and 6 in the nearby Province of Quezon.



## ACTION CENTER

Batangas State University Adaptive Capacity-building and Technology Innovation for Occupational Hazards and Natural Disasters (BatStateU ACTION) Center is the home for community folks, barangay leaders, local executives, disaster managers, researchers, partner civil society organizations and other stakeholders needing assistance and support to enhance their knowledge and skills on disaster preparedness and response.

BatStateU ACTION Center operates under the Office of the University President in collaboration with partner Local Government Units (LGUs), Regional Line Agencies (RLAs) and private organizations in the local, national and international levels

**Table 1**  
**Inventory of Trees in BatStateU (As a whole)**

No.	Tree Name	Drought Resistant
1	Mahogany	Yes
2	Tropical Almond	Yes
3	Fire	Yes
4	Camansi	Yes
5	Rambutan	Yes
6	Santol	Yes
7	Malunggay	Yes
8	Papaya	Yes
9	Banana	Yes
10	Jackfruit	Yes
11	Mango	Yes
12	Acacia	Yes
13	Burmese Rosewood	Yes
14	Guyabano	Yes
15	Barbados Nut	Yes
16	Calamansi	Yes
17	Copperleafs	Yes
18	Yellow Butterfly Palm	Yes
19	Foxtail Palm	Yes
20	Balete	Yes
21	Langka	Yes
22	Indian Mast	Yes
23	Gmelina	Yes
24	Auricularia	Yes
25	Philippine Teak	Yes
26	Neempree	Yes
27	Talisai Tree	Yes
28	Coconut Tree	Yes
29	Narra	Yes

**Table 2**  
**Inventory of Plants in BatStateU (As a whole)**

No.	Plants	Drought Resistant
1	Brush Cherry	Yes
2	Spider Plant	Yes
3	New Zealand Flax	Yes
4	Canary Island Date Palm	Yes
5	Beach Spider Lily	Yes
6	Stinking Hellebore	Yes
7	Mother of Thousands	Moderate
8	Dwarf Umbrella Tree	Moderate
9	Norfolk Island Pine	Yes
10	Bushy Cherry	Yes
11	Paperflower	Yes
12	Blindness tree plant	Yes
13	Hearto Jesus	Yes
14	Parrot's Beak	Yes
15	Giant Taro	Yes
16	White Garland Lily	Moderate
17	Devil's Backbone	Yes
18	Song of India	Moderate
19	Cape Jasmine	Moderate
20	Ivory Fig	Yes
21	Geranium Aralia	Yes
22	Ti plant	Yes
23	Coral plant	Yes
24	Arrowroot	Yes
25	Fukien Tea Tree	Yes
26	Sulfus Cosmos	Yes
27	Tri Plant	Yes
28	Buddha's Belly Bamboo	Yes
29	Broadleaf Lady Palm	Yes
30	Tasmanian Flax Lily	Yes
31	Common Coleus	Yes
32	Madagascar Almond Tree	Yes
33	Joseph's Coat	Moderate
34	Sulfur Cosmos	Yes

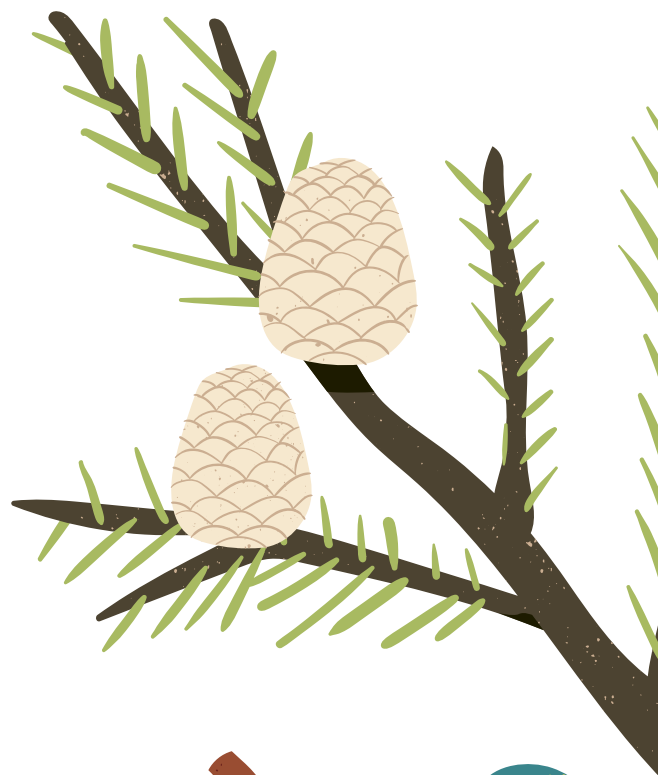


35	Zanzibar Gem	Yes
36	Foxtail Palm	Yes
37	Carruther's Falseface	Yes
38	Miagos bush	Yes
39	Pinwheel Flower	Yes
40	Lemon Grass	Yes
41	Snake Plant	Yes
42	Corn Plant	Yes
43	Wild Cosmos	Yes
44	Common Turmeric	Yes
45	Golden Dewdrops	Yes
46	Dumb Canes	Yes
47	Golden Pothos	Moderate
48	Lucky Bamboo	Moderate
49	Donna Carmen	Yes
50	Gumamela	Yes
51	Peacock Plant	Moderate
52	Kalachuchi	Yes
53	Santan	Yes
54	Dumb Cane	Yes
55	Hottentot Fern	Yes
56	Umbrella Palm	Yes
57	African Milk Tree	Yes
58	Dragon Tree	Yes
59	Philippine Tea Tree	Yes
60	Moneymaker	Yes
61	Extended lobsterclaw	Moderate
62	Boatlily	Yes
63	Climbing Fern	Yes
64	Hazel Sterculia	Moderate
65	Oriental Abrovitae	Yes
66	Pomegranate	Yes
67	Texas Ranger	Yes
68	Lobster Claw	Moderate
69	Boatality	Yes
70	Grewia Microcos	Yes
71	Ivy Gourd	Yes
72	Chinese Violet	Yes
73	Seagrape	Yes
74	Dieffenbachia	Yes
75	Heaven Lotus	Yes
76	Inch Plant	Yes
77	Budhist Pine	Yes
78	Common Lantana	Yes
79	Spineless Yucca	Yes
80	Foxtail Agave	Yes
81	Frog Grass	Yes
82	Bamboo	Yes
83	Eugenia	Yes
84	Philodendron Selloum	Yes
85	Cat Palm	Yes

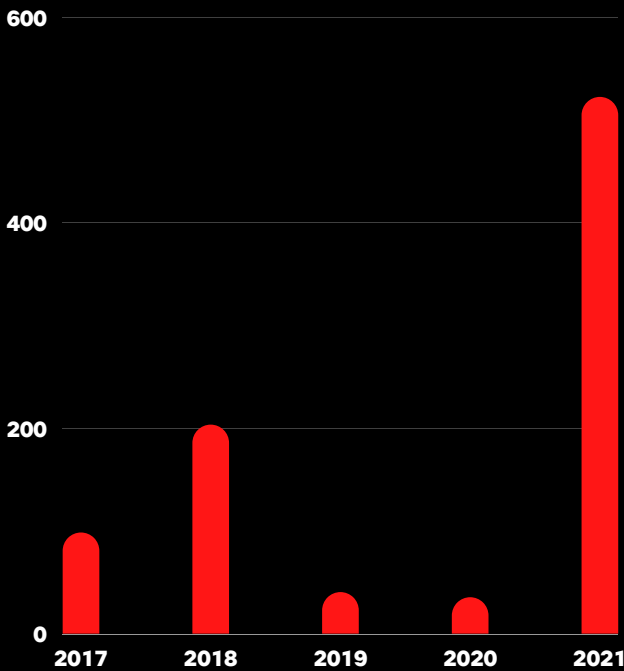
86	Majesty Palm	Yes
87	Yellow Pandan Plant	Yes
88	Round Pukyante	Yes
89	Tiger Plant	Yes
90	Bromeliads	Yes
91	Barrigated Snake Plants	Yes
92	Asparagus Fern (Ornamental)	Yes
93	Snake Plant (Narrow Leaf)	Yes
94	Caladium	Yes
95	Syngonium	Moderate
96	Kalachoe	Yes
97	Agave Angustifolian (Marginata Variety)	Yes
98	Palmera	Yes
99	Diffenbachia	Yes
100	Insulin Plant	Moderate
101	Hybrid Gumamela	Yes
102	Balete Bonsai	Yes
103	Pedilanthus Tithymaloides	Yes
104	Pedilanthus Variegatus	Yes
105	Hoya Milaflua	Moderate
106	Drycharia quercifolia	Yes
107	Orchids	Yes
108	Welcome Plant	Yes
109	Beetlenut Plant	NO
110	Rhapis Excelsa	Yes
111	Manila Palm	Yes
112	Malapapaya	Yes
113	African Bow Hemp	Yes
114	Big Blue Liriope	Yes
115	Fortune Plant	Yes
116	Zebrina Pendula	Yes
117	Red Billbergia	NO
118	Raphiz	Yes
119	Dracaena Marginata	Yes
120	Phyllanthus Myrtifolins	Yes
121	Tsaang Gubat	Yes
122	Caladium (Buddha's Palm)	Yes
123	Oregano	Yes
124	Barrigated Enjoy	Yes
125	Rose	Yes
126	Santa Ana	Yes
127	Chloropythum	Yes

86	Majesty Palm	Yes
87	Yellow Pandan Plant	Yes
88	Round <u>Pukyante</u>	Yes
89	Tiger Plant	Yes
90	Bromeliads	Yes
91	<u>Barrigated Snake Plants</u>	Yes
92	Asparagus Fern (Ornamental)	Yes
93	Snake Plant (Narrow Leaf)	Yes
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95	Syngonium	Moderate
96	<u>Kalachoe</u>	Yes
97	Agave <u>Angustifolium</u> (Marginata Variety)	Yes
98	Palmera	Yes
99	<u>Difenbachia</u>	Yes
100	Insulin Plant	Moderate
101	Hybrid Gumamela	Yes
102	Balete Bonsai	Yes
103	Pedilanthus Tithymaloides	Yes
104	Pedilanthus Variegatus	Yes
105	<u>Hoya Milaffua</u>	Moderate
106	Drycharia quercifolia	Yes
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108	Welcome Plant	Yes
109	<u>Beetlenut Plant</u>	NO
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114	Big Blue Liriope	Yes
115	Fortune Plant	Yes
116	Zebrina Pendula	Yes
117	Red Billbergia	NO
118	Raphis	Yes
119	Dracaena Marginata	Yes
120	Phyllanthus <u>Myrtifolius</u>	Yes
121	Tsaang Gubat	Yes
122	Caladium (Buddha's Palm)	Yes
123	Oregano	Yes

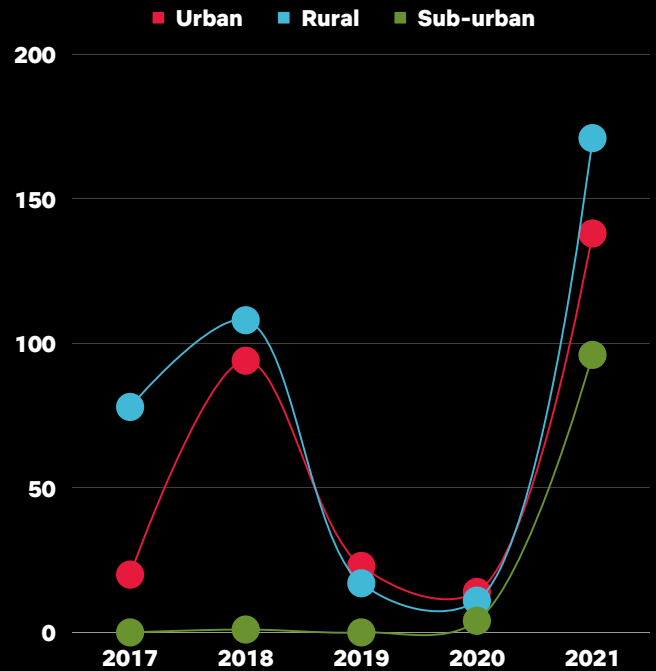
124	Barrigated Enjoy	Yes
125	Rose	Yes
126	Santa Ana	Yes
127	<u>Chloropythum</u>	Yes



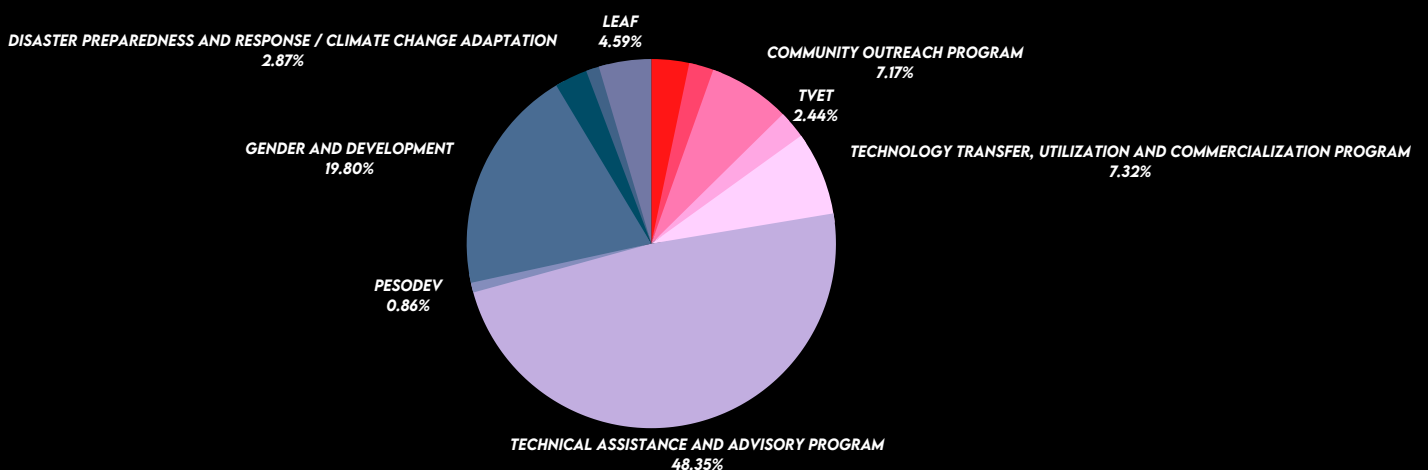
# BATSTATEU AND THE COMMUNITY



**NUMBER OF PROJECTS, PROGRAMS, AND ACTIVITIES PER YEAR**



**TYPE OF LOCATION SERVED**



**EXTENSION AGENDA ADDRESSED 2017-2021**

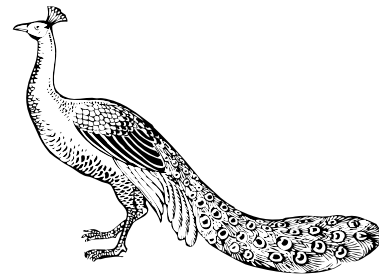
# SMART FARMING

**C**ovid-19 pandemic tremendously affected the lives of the people in the country resulting in an economic crisis, food shortage, unemployment, and shortage of healthcare facilities and systems. To lessen its economic impact, two projects related to smart farming were conducted to an affected barangay in Lobo, Batangas. The first capacitated 20 beneficiaries from the people's organization of Barangay Jaybanga. They were empowered to produce their vegetables through the transfer of the available matured agricultural technologies developed by the cooperating agencies and the Department of Science and Technology.

The second project benefited 20 individuals to utilize and convert crop by-product into organic concoction as fertilizers to their crops. This was able to promote proper waste management via organic fertilizer production and demonstrating the feasibility of growing vegetables with organic fertilizers as the main source of nutrients for plants.



# BATSTATEU CONTINUOUS COMMITMENT TO SUSTAINABILITY



Since 2014, the University has been undertaking some strategic initiatives, programs and projects, which are geared towards institutional sustainability through supporting collaboration, innovation and engagement across the BatStateU community. It considers governance and management, teaching and learning, research, and extension services.

Over the years, there are gains and successes that can be attributed to some of our sustainability practices. Sustainability is one of the six pillars (BASICS) in the BatStateU Strategic Plan 2019-2029 that represents the university goals. As articulated in the strategic plan:

**“The University shall ensure sound resource management in order to effectively and efficiently carry out its mandates and to guarantee continuity of its programs. It shall observe accountability, transparency and efficiency in all its operations. The University shall explore public and private partnerships in its investment initiatives as well as global funding in order to widen streams of resources. It shall consider environmental sustainability in the planning and implementation of its programs, projects and activities.”**

We felt the need, however, to put together a Sustainability Policy that will help the university focus on what we can do to reach the highest possible standards of sustainability on our campuses and in our day-to-day activities related to academics and research, student and staff engagement, operations, and community engagement.

## PURPOSE

The Sustainable Policy reinforces the university’s commitment to sustainability in human, financial, and environmental context. It is intended to guide the BatStateU community, individually and collectively in its daily operations and strategic directions. In particular, this policy will:

- ensure sustainability through an appropriate balance of resources and activity when setting goals and targets, considering its impact on our human, financial, and environmental resources
- foster a culture of sustainability throughout the University and broader community by calling upon all campuses, divisions, and units to participate in a continuous and on-going effort to create a sustainable place to learn, teach, conduct research, and to work and live productively
- ensure that our commitment to sustainability is reflected in our organizational behaviors and policies through the application of effective, long-lasting solutions which integrate the ecological, social and economic facets of sustainability
- continue to find new and innovative ways to demonstrate leadership in research, teaching, learning, operations, partnerships, and community services to advance sustainability.

We felt the need, however, to put together a Sustainability Policy that will help the university focus on what we can do to reach the highest possible standards of sustainability on our campuses and in our day-to-day activities related to academics and research, student and staff engagement, operations, and community engagement.



BATANGAS STATE UNIVERSITY SUSTAINABILITY REPORT 2021