CAVITE STATE UNIVERSITY

COLLEGE OF AGRICULTURE, FOOD, ENVIRONMENT AND NATURAL RESOURCES

EXTENSION

BACHELOR OF SCIENCE IN AGRICULTURE
LEVEL IV PHASE II CYCLE 2
NOVEMBER 8-10, 2023

MISSION

Cavite State University shall provide excellent, equitable and relevant educational opportunities in the arts, sciences and technology through quality instruction and responsive research and development activities. It shall produce professional, skilled and morally upright individuals for global competitiveness.

VISION

The premier university in historic Cavite globally recognized for excellence in character development, academics, research, innovation and sustainable community engagement.

AREA III
COMMUNITY INVOLVEMENT

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EXECUTIVE SUMMARY

The Extension Agenda of the College of Agriculture, Food, Environment, and Natural Resources (CAFENR) is aligned with the institutional, national and global agenda, particularly on the promotion of animal health and welfare and public health, poverty alleviation, and food security. All extension programs of Cavite State University (CvSU) fall under the umbrella Extension Program called Ugnayan 2.0: An approach to implement the proposed CvSU Poverty Alleviation Program. The CAFENR extension projects are in line with this because it generally aims to improve the lives of Caviteños through providing technical and livelihood training to target communities in the province, provide income generating opportunities, and strengthening academe-industry linkages.

The College Extension Project entitled “SciCAT AVENUES: Access to Value-adding and Engaging iNnovations towards sUstainability of agri-Education and agri-touriSm” is a Department of Science and Technology - Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development (DOST-PCAARRD) funded project in collaboration with Cavite State University, University of the Philippines Institute for Small Scale Industries (UP-ISSI), and Municipality of Indang, Cavite. Its primary goal is to provide more avenues in imparting science-based technologies through farm development and technology application in a sustainable way through the Science for the Convergence of Agriculture and Tourism (SciCAT) site - Silan AgriFarm. Different products, services, and innovations were developed, and partnerships among different organizations were established.

The impact assessment of the SciCAT extension project was conducted to determine whether the SciCAT Project achieved their intended outputs, outcomes, and impacts, and recommend strategies to improve the delivery of services or community involvement of CvSU. The results showed that the SciCAT Project has significantly delivered social, economic, and environmental impacts to its beneficiaries and partners. The Project boosted the technical skills as well as the social skills of its staff, partners, and clients through trainings, meetings, and coordination activities. Partnerships and linkages were formed, beneficiaries were inspired to improve their operations, and some members of the public were encouraged to start their own farms. The Project also supported the local economy by providing jobs to farm workers and construction workers even during the pandemic. Farms were able to continue operating amidst the pandemic through the assistance provided by SciCAT. The municipality also benefited from additional income brought in by visitors and buyers of the farm produce

and processed products. Lastly, the improved operations of the farms also contributed to local food security.

Furthermore, the College has several on-going extension projects namely: Gulayan sa Paaralan (GPP) Project, Increasing availability of swine quality stock through distribution and upgrading of swine multiplier farm in Cavite, and Assessment of the production performance and profitability of raising ItikPinas (IP-Kayumanggi) which correspondingly aim at reducing poverty and attaining food security for the people.

THE CvSU EXTENSION AGENDA

The mandate of Cavite State University does not only revolve around instruction but also includes services through research and extension. In its quest of providing quality education to the students, it also innovates and discovers new knowledge to be able to support the changing times and demands of society. Such knowledge also needs to be enhanced and packaged to be shared with the community and other clientele. These three functions all work together for the improvement of the lives of people as CvSU develops into a more globally competitive institution.

Heading this thrust of the University is the Office of the Vice President for Research and Extension (OVPRE). In 2017, the University Board of Regents approved the proposal entitled “REFORM: The CvSU Research and Extension Framework, Organizational Structure, Road Map and Agenda”. This proposal includes an operational framework and agenda for extension of the University.

A. OVPRE’s Operational Framework

Figure 1 shows the framework that sums up the harmonized operation of OVPRE. The objectives and the procedures essential to the accomplishment of the goals are also in line with the mission and vision of the University in coordination with all the stakeholders.

The primary goal of OVPRE is to conduct relevant research and extension activities, as it strengthens partnership or collaboration/linkages. Innovation and learning also requires financial support, hence, the office also generates resources considering efficient asset utilization and improving obligation rate. In its commitment to innovate processes, systems and mechanisms, it continues to provide relevant opportunities increasing engagement and satisfaction of clients and empowering stakeholders. The impact of all these functions is aimed at improving the quality of lives of all the community members.

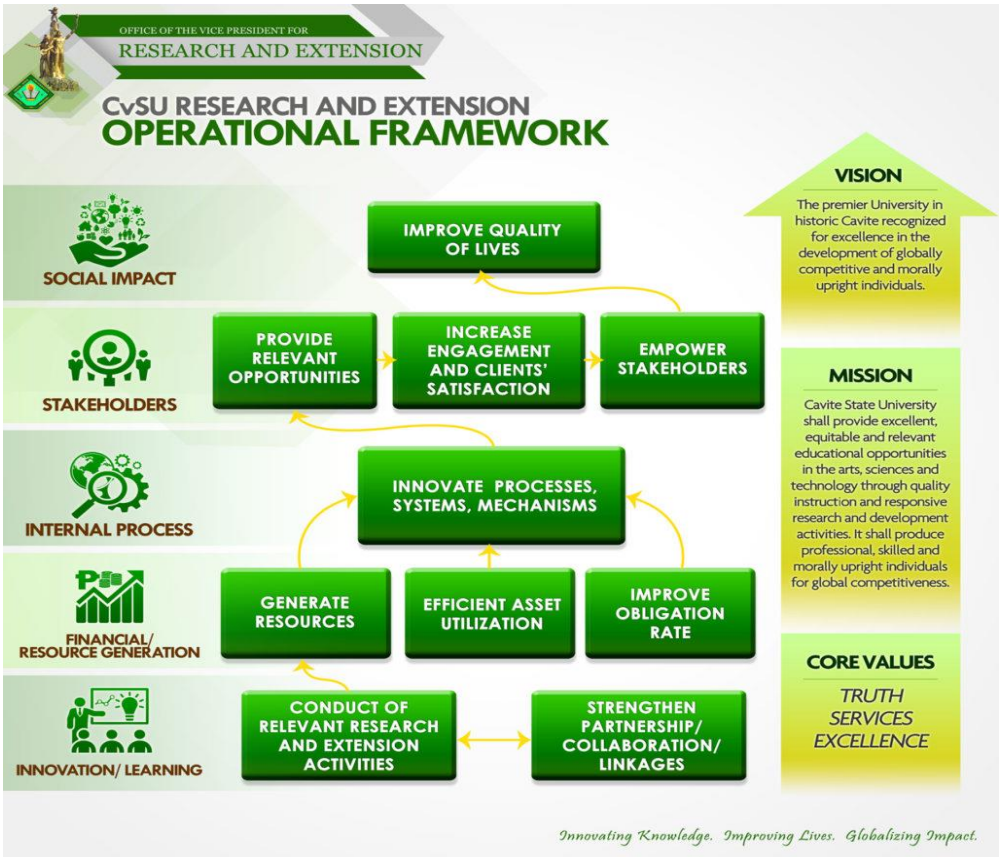


Figure 1. OVPRE's Operational Framework

B. OVPRE's Organizational Structure

Goals are visions. Manpower makes these visions possible. With this in mind, OVPRE created their current organizational structure. This structure is an essential component to achieve the harmonized operation of the office. Such structure should include units/divisions with efficient and no overlapping actions. All of which were envisioned to help improve its services.

Figure 2 shows the existing organizational structure of OVPRE. The office is in direct coordination with STAARRDEC, the University Research and Extension Council and the different centers which include NCRDEC and SPRINT. The Office of the Vice President has support staff that will coordinate the functions of the three units of OVPRE. Its support staff include the Monitoring and Evaluation Focal Point Person, the Management Information Systems Officer, the Communication Specialist, the Administrative Aide and other staff.

On the other hand, OVPRE is divided into three units: Research Center, Extension Services and the Knowledge Management Center. Each of these units have their own support staff.

The Research Center has two major divisions: The Technical Services Division and the Monitoring and Evaluation Division. The Technical Services Division is further divided into Research Lab Unit (Tissue Culture, Molecular Biology, Organic and Natural Products, Biochemistry) and the Special Research Project Unit (Central Experiment Station, Banana and Macapuno Nursery). The Research Center also coordinates with college/campus research coordinators, faculty researchers and the Responsible Conduct of Research Unit (Institutional Animal Care and Use Committee, Institutional Biosafety Committee, Ethics Review Committee and the Chemical Safety Committee).

The Extension Services is divided into four offices which include the Technology Demonstration and Promotion Division, Community Engagement and External Relations Division, Training and Courseware Development Division and Monitoring and Evaluation Division. It also coordinates with the college/campus extension coordinators.

Another unit is the Knowledge Management Center which is divided into two: Publication and Communication Division and the Intellectual Property Management Office. The Publication and Communication Division is divided into the Journal Publication Unit and the Non-Journal Publication Unit. Meanwhile, the Intellectual Property Management Office is divided into the Knowledge and Technology Transfer Office and the Innovations and Technology Support Office. It also coordinates with the college/campus publication units.

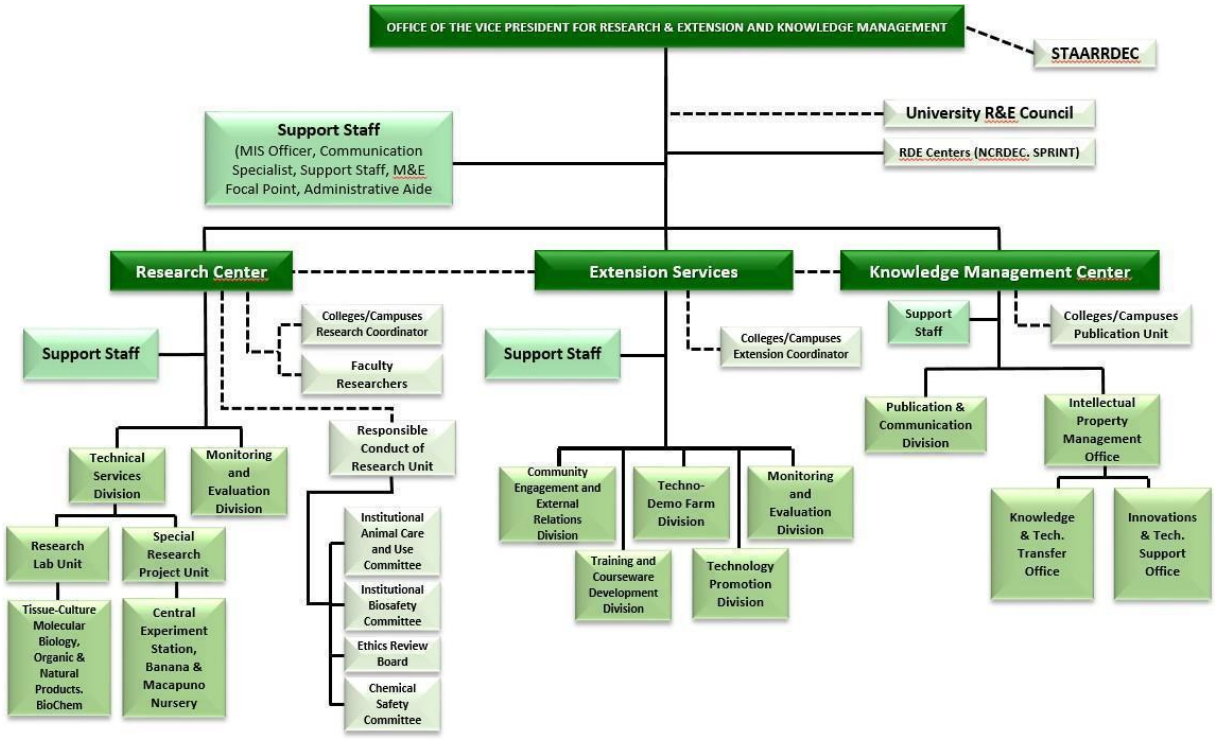


Figure 2. The Organizational Structure of OVPRE

Organizational Structure for the Extension Program

University Level

The Extension Services as shown in Figure 3 shall be directly under the supervision of the Office of the Vice President for Research and Extension (OVPRE). The office has five major divisions: Community Engagement and External Relations Division (CEERD), Technology Promotion 11 Division (TPD), Training and Courseware Development Division (TCDD), Technology Demonstration Farm Division (TDFD), and Monitoring and Evaluation Division (MED). It also oversees all extension concerns of the different colleges, campuses, and other extension implementing units of the University.

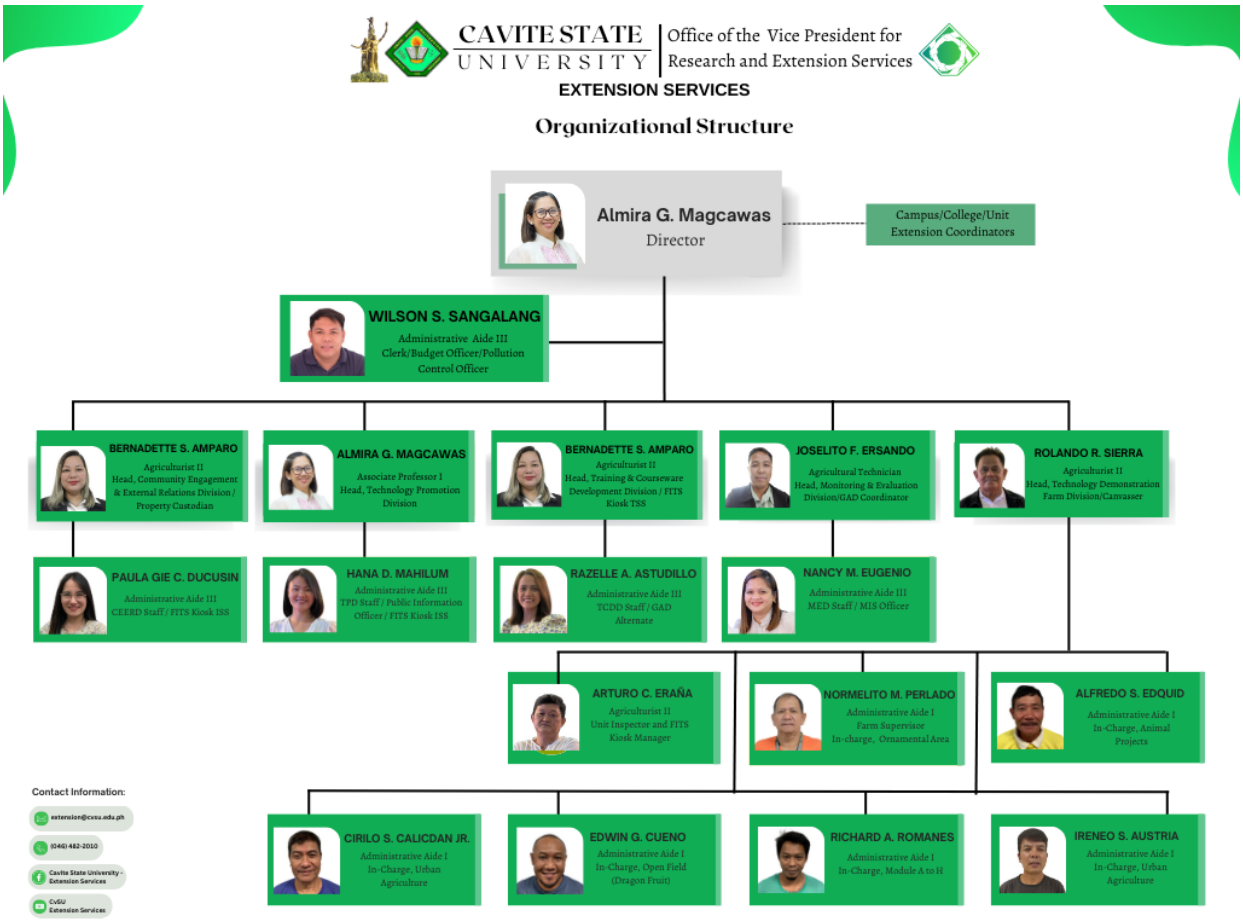


Figure 3. Organizational structure of the extension services (University Level)

College Level (CAFENR)

The College extension unit Is headed by the Dean with the College Extension Coordinator. Each department has a designated extension coordinator (Figure 4).

Figure 4. College Extension Coordinators

A. CvSU's Research and Extension Agenda (Thematic Areas)

Policies are essential to serve as guiding principles of an organization in the fulfillment of its goals. OVPRE, being the University's arm in research and extension, sets the thematic areas or the priority areas on which research and extension will be focused (Figure 5).

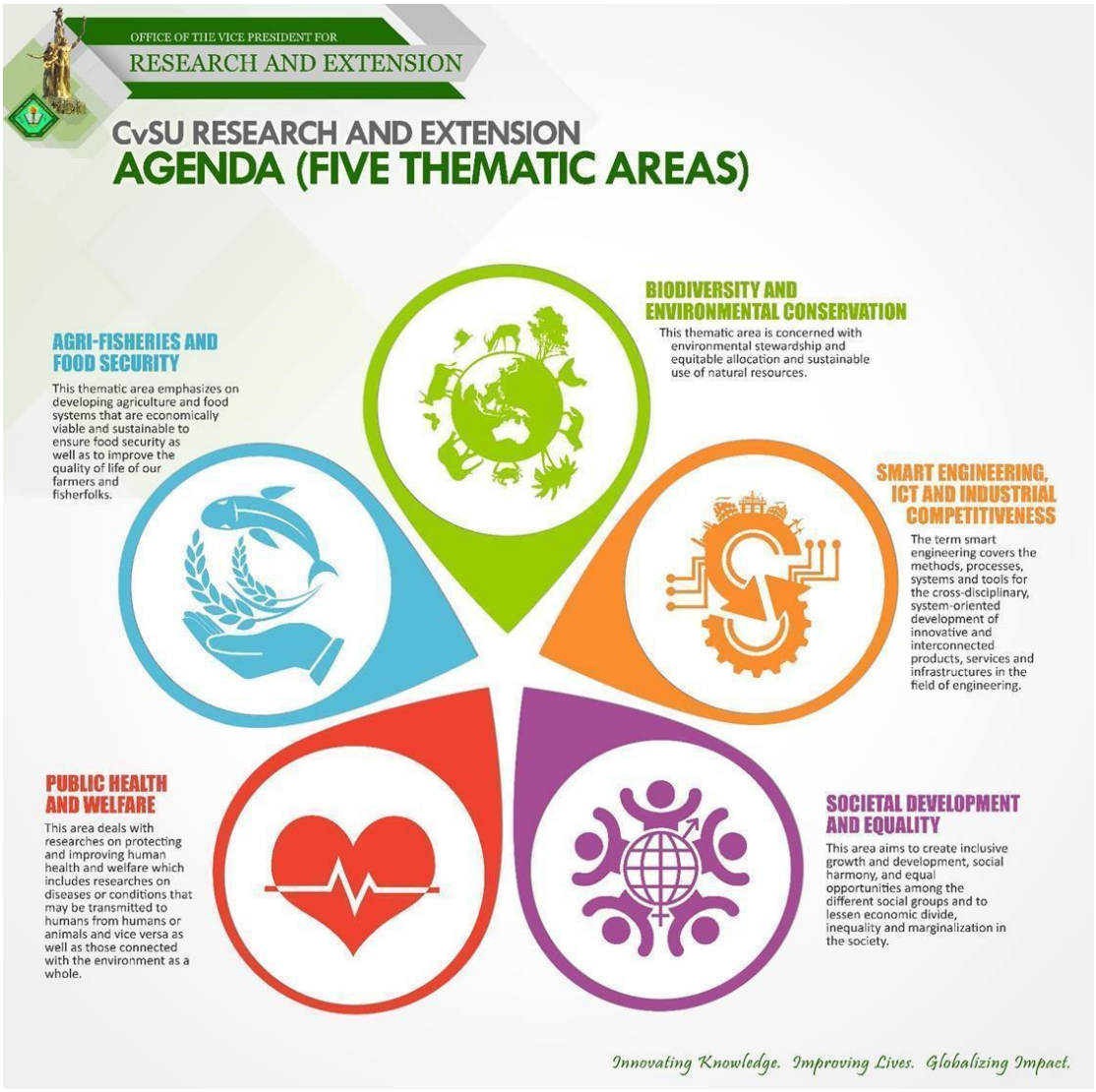


Figure 5. The Five Thematic Areas for Research and Extension Agenda

Table 1 and Figure 5 present the thematic areas and their significant alignment with the United Nations Sustainable Development Goals, Department of Science and Technology Harmonized National R&D Agenda, the Commission on Higher Education National Higher Education Research Agenda and the National Economic Development Authority Development Plan. It also includes the list of the delivering units identified within the University.

Table 1. CvSU Research and Extension Agenda (Thematic Areas)

Agenda	UN Sustainable Devt Goals	DOST Harmonized National R and D Agenda	CHED NHERA	NEDA Regional Development Plan	Delivering Units
Agri- Fisheries and Food Security	✓	✓	✓	✓	NCRDEC,SPRINT, GADRC, CAFENR, Naic, Rosario, CAS, CVMBS, CEIT, CEMDS
Biodiversity and Environmental Conservation	✓	✓	✓	✓	GADRC, CAFENR, CAS, CVMBS, CEIT, CEMDS, CCJ
Smart Engineering and Industrial Competitiveness	✓	✓	✓	✓	GADRC, CAFENR, CAS, CVMBS, CEIT
Social Development and Equality	✓	✓	✓	✓	GADRC, CAFENR, CAS, CEd, CSPEAR, CEIT, CEMDS, CoN, CCJ

Public Health and Welfare	✓	✓	✓	✓	GADRC, CAFENR, CAS, CSPEAR, CVMBS, CoN

1. Agri-Fisheries and Food Security

This thematic area emphasizes on developing agriculture and food systems that are economically viable and sustainable to ensure food security as well as to improve the quality of life of our farmers and fisherfolks. Research and extension activities on the following commodities will be given priority: coffee; kaong; rice; corn; root crops; high value crops (banana, pineapple, mango, cacao and vegetables); poultry and livestock; fisheries and aquaculture; urban agriculture and organic agriculture.

2. Biodiversity and Environmental Conservation

This thematic area is concerned with environmental stewardship and equitable allocation and sustainable use of natural resources. Emphases include: environmental protection; biodiversity assessment and monitoring; cleaner environment; climate change; risk reduction management; renewable energy and green technologies; natural resource management and ecotourism.

3. Smart Engineering and Industrial Competitiveness

The term smart engineering covers the methods, processes, systems and tools for the cross-disciplinary, system-oriented development of innovative and interconnected products, services and infrastructures in the field of engineering. Products and process models shall be developed in which networking encompasses all stages of development, from interdisciplinary design, to production process and piloting, right the way through product usage and disposal. Smart engineering is about the integration of appropriate product planning, development and management to ensure the rapid, market-ready implementation of innovative product and services and industrial competitiveness through the digital development process.

The convergence of the latest computer science and ICT developments in the areas of micro-devices, mobile communication, hardware infrastructures, internet and software technologies, image recognition and processing, parallel computing, complex adaptive systems and bioinformatics shall be given emphasis. Strong focus should also be given to mathematics and statistics applications such as industrial and biological modelling: biomedical, social and theoretical statistics; computational mathematics; discrete pure mathematics and physics/engineering.

4. Social Development and Equality

This thematic are focuses on educational, criminological and social sciences researches and development initiatives with emphasis on sustainable development, economic

development, gender and development, community development, governance, poverty alleviation, social behavior, attitude and norms, capacity building, peace process and conflict resolution, disaster risk management and social transitions, pedagogy, special education, ICT and education among others.

This area aims to create inclusive growth and development, social harmony, and equal opportunities among the different social groups and to lessen economic divide, inequality and marginalization in the society.

5. Public Health and Welfare

This area deals with researchers on protecting and improving human health and welfare which includes research on diseases or conditions that may be transmitted to humans from humans or animals and vice versa as well as those connected with the environment as a whole. Disciplines that are also covered are those dealing with epidemiology, statistics, environment, behavior and sociology, economics, mental health, public policy, public safety, delivery of health services, occupational safety and other related fields.

CvSU Research and Extension Roadmap

The products envisioned by OVPRE to manifest in the next five years is summed up in a roadmap which sets direction of its operation. The purpose of this roadmap is to set the direction of OVPRE as it commits to fulfilling its purpose and its commitment to CvSU and the community as well.

Figure 6. CvSU R&E Roadmap shows the University's R&E direction from 2017 to 2022

D. CvSU Poverty Alleviation Program through UGNAYAN 2.0 Approach

Being in the academe, the University has a mandate to not just provide quality education but also to convert the outputs of research into sustainable extension projects that will help improve the quality of lives of the people in the community. In the Research and Extension Framework, the conduct of relevant extension activities is also essential in strengthening partnership and in providing relevant opportunities to the stakeholders for a stronger social impact. With this in mind the University adopted Ugnayan 2.0.

Ugnayan 2.0 is the updated version of the Ugnayan project which was originally approved by the Board of Regents (BOR No. 55) on December 6, 2001. Ugnayan is a Tagalog word which connotes coordination and cooperation. Originally, its philosophy stated that "it is an approach to rural development where the spirit of coordination among those concerned in the upliftment of a community is given importance. However, the focus of the previous

Ugnayan project was limited in extending agriculture-related technologies to only one barangay or community. The proposed Ugnayan 2.0, on the other hand, will provide matured technologies from different fields of specialization in the University to target barangays or communities in Cavite based on their needs assessment. The difference between the original Ugnayan project and Ugnayan 2.0 program is shown in Table 2. This approach will allow each college, campus and unit of the University to pursue extension projects in beneficiary communities.

Table 2. Comparison between Ugnayan and Ugnayan 2.0

Particulars/Specifications	***Ugnayan***	***Ugnayan* 2.0**
Description	A Unified Extension and Research Program for the Academic Units of Cavite State University	As an approach to implement the proposed CvSU Poverty Alleviation Program
Basis	Problem/Need of the Community	Problem/Need of the Community
Areas of Concern	Agriculture	Multi-disciplinary
Modalities	Coordination among agencies and integration of	Communication, cooperation, coordination, collaboration and convergence between and among the University's Colleges/Campuses/Units and communities, LGUs and other partner agencies.
Particulars/Specifications	***Ugnayan***	***Ugnayan* 2.0**
Coverage	One (1) Barangay	Several barangays or communities
Linkages	Limited	More linkages (more agencies or institutions involved since it is multi-disciplinary
Funding	Limited	More funding opportunities since it is multi-disciplinary

Technologies	Limited	More technologies available from the University and other institutions
Availability of Information	Limited	Accessible and readily available due to advances technologies

The need to address the issue of poverty has been evident in various programs set worldwide. The United Nations, for instance, has set 'No Poverty' as the number one sustainable development goal to which global programs must be aligned. In the Philippines, the call for poverty alleviation is incorporated in the so-called Duterte's 10- Point Socio-Economic Agenda. Moreover, the National Anti-Poverty Commission also mentioned the 10 basic needs of people that when addressed can help solve the problem of poverty in the Philippines. These needs include food, water, shelter, work, healthcare, education, social protection, healthy environment, peace and participation.

In the Philippines, among the nine basic sectors, farmers, fishermen and children belonging to families with income below the poverty level threshold had the highest poverty incidences in 2015 at 34.3%, 34.0% and 31.4%, respectively (PSA, 2017). These sectors were consistently listed as the three sectors with the highest poverty incidence in 2006, 2009 and 2012. As of 2015, Cavite posted a poverty incidence of families at 4.50% (PSA 2015 census). Based on the 2016 Social Welfare and Development Indicator result, there are 907, 40470, and 4446 surviving, subsistence, and self-sufficient families, respectively in Cavite (DSWD, 2017) out of 3,090,691 Caviteňos.

With this, the Extension Services unit of the University created a comprehensive banner extension program entitled "CvSU Poverty Alleviation Program through Ugnayan 2.0 Approach". It was approved by the Board of Regents of the University on June 23, 2018.
This Program aims to establish communication, cooperation, coordination, collaboration and convergence among the University's colleges, campuses, and units; public and private industries and other stakeholders in providing necessary knowledge, technical assistance and opportunities to target communities.

After assessing the list of matured technologies generated from researches, extension projects will then be formulated and delivered towards the development of the province of Cavite. This program supports Ambisyon Natin 2040, a long term vision for the Philippines wherein Filipinos aspire for simple and comfortable life by 2040. (NEDA 2017) Moreover, this program supports the Regional Development Plan 2017-2022 of CALABARZON as it operationalizes President Duterte's Socio-economic Agenda. The Extension Services will coordinate all the Colleges, Campuses and Units' extension activities. It will assist in the conduct, evaluation and monitoring of all the extension activities of the University through its five divisions - Community Engagement and External Relations, Training and Courseware Development, Technology Promotion, Techno-Demo Farm and Monitoring and Evaluation.

1. Objectives of the Program

Generally, the CvSU Poverty Alleviation Program through Ugnayan 2.0 Approach aims to help improve the lives of Caviteños. Specifically, the objectives of the program are the following:

a. to provide technical and livelihood trainings to target communities in Cavite;
b. to establish demonstration areas in target communities;
c. to strengthen academe-industry linkages;
d. to provide income generating opportunities to target communities;
e. to provide entrepreneurial skills in target communities; and
f. to aid productivity through technology transfer and increased number of adopters.

The CVMBS extension program is aligned with the objective of Ugnayan 2.0. In particular, the prevention, control and elimination of rabies contributes to alleviation of poverty because the economic burden of rabies impacts public sector budgets, communities and families. The highest risk of rabies occurs in the poorest regions of the world and these sectors of the population are the ones who are most at risk of exposure and death from rabies. Studies have shown that most people who die from rabies are either poor or are from ethnic minority communities. According to the Global Alliance for Rabies Control, the factors for human deaths from rabies were due to lack of awareness and poor access to treatment and lack of resources.

2. Framework of Ugnayan 2.0

Figure 4 shows the framework which sums up the initiatives to be taken by the University in alleviating poverty in Cavite. Target communities in Cavite will be identified based on their needs in cooperation with their Local Government Units (LGUs) and will be provided with relevant technical or livelihood assistance using the technologies generated by each respective College, Campus or Unit. In cases where the required technologies cannot be catered by the University, linkages with other SUCs, government and private agencies will be established to provide the appropriate service to the target community. In addition, provision of extension services will not be limited to specific communities in Cavite but it can also cater to the needs of other stakeholders. With appropriate communication, strengthened collaborations, honest coordination and cooperation, and strong convergence among the University's Colleges, Campuses, and Units; LGUs; and partner agencies in providing the necessary interventions to the community, the program will be able help in reducing poverty level in Cavite.

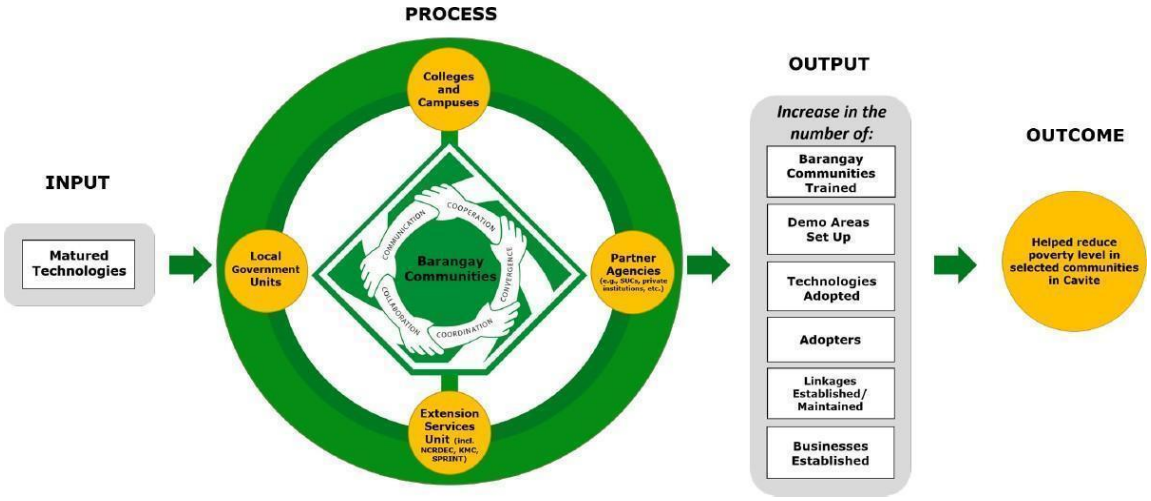


Figure 7. Strategic Framework of CvSU Poverty Alleviation Program through Ugnayan Approach

3. Modalities used by Ugnayan 2.0

The following are the key modalities essential to the operation of the unified extension program:

Communication. A lot of communication processes may arise from the Ugnayan 2.0 approach. The communication between the research and extension unit is essential to be able to transfer technologies that are matured and are ready for adoption of target communities. Also, the extension unit and the community have to communicate to address specific needs and to ensure participation of the community from planning up to impact assessment and sustainable extension activities. Moreover, consistent communication with industries, government organizations and private individuals are significant to achieve the best possible outcomes from the extension activities to be conducted.

Cooperation. Unity and teamwork among extension staff and target beneficiaries are key elements towards the success of any extension endeavor. Moreover, cooperation among experts in a specific discipline will help enhance projects and is significant towards the development of more comprehensive and effective projects all for poverty alleviation.

Coordination. Being in one university, coordination among colleges, campuses and units are also important especially when a need of a community is not an expertise of a specific college, campus or unit. Also, coordination with industry and government partners are encouraged to provide more opportunities for the community members.
Collaboration. Partnerships will strengthen organizational relationships and will increase productivity through sharing of knowledge, technology, skills, resources and other relevant inputs in the conduct of extension activities. Matured technologies responsive to the needs of the communities will be utilized to provide more opportunities.

Convergence. Strong convergence among the diverse stakeholders is encouraged for effective planning, implementation, monitoring, and evaluation of extension activities in the

communities. The concerted efforts of the stakeholders with diverse opinions, ideas, strengths, and interests will contribute significantly to attaining the program goals and objectives.

4. Strategy of Implementation

The flow chart of activities for the implementation of the program is shown in Figure 8. Detailed processes for each strategy are explained below.

a. Profiling and Community Assessment

Identification of target communities for this program will be based on the household data to be obtained from LGUs of each municipality in Cavite. Existing beneficiaries of Colleges, Campuses, and Units' extension services will also be included. The map of some of the target communities for the program is shown in Figure 5. Once the target communities are identified, consultation meetings will be conducted with the barangay officials, representatives from the different sectors, and other stakeholders to orient them with the possible interventions to be provided and to ask permission for the conduct of Community Needs Assessment (CNA) in their area. Extension coordinators of Branch Campuses will conduct the CNA within their respective communities while all the Colleges in the University will conduct CNA in communities within Indang, Mendez, and other municipalities in Cavite not covered by CvSU Campuses. Inputs from the on- going research study of NEDA Regional Office IV-A CALABARZON titled "Root Causes of Poverty of Disadvantaged Areas in CALABARZON" (Banua, 2018) will be relevant as reference in the implementation of the program. Root causes analysis of poverty of target communities will also be considered.

Based on the community needs assessment conducted by the colleges and campuses, livelihood training, skills training, literacy and health and wellness were identified as among the principal needs of the identified communities (CNA of colleges and Campuses). CNA will be conducted before, during and after the project implementation. Moreover, CNA of nearby communities other than the target communities will serve as Control groups.

b. Planning of Extension Projects and Activities

The results of the Community Needs Assessment conducted for the target communities will be consolidated and evaluated. Based on these findings, the Extension Services unit will hold a consultative meeting with the extension coordinators from each College, Branch Campus, and other concerned units in the University to plan the extension projects and activities to be provided to specific communities. Moreover, the meeting will determine which College, Campus or Unit will spearhead the extension projects based on their specialization and resources. Proposals for extension projects will then be presented to the Research and Extension Council for funding and approval.

c. Needs Verification and MOA Signing in the Barangay

The outputs of the Community Needs Assessment will be presented to the barangay officials, representatives from different sectors, and other stakeholders to verify the accuracy of the results. After validating the data, the extension workers of the University will inform them of the planned projects and activities to be provided in their barangays. Once the feedback was solicited from the target communities and they decided to accept such interventions, the signing of Memorandum of Agreement between the barangay and the College/Campus/Unit that will spearhead the project will be done.

d. Extension Project Implementation

Upon the approval of the extension project and signing of the Memorandum of Agreement, the College, Campus or Unit that will spearhead the project implementation will start the technology transfer to their target communities by providing necessary technical assistance, training, and other related activities anchored in reducing their poverty levels.

e. Monitoring and Evaluation of Extension Projects and Activities

Monitoring and evaluation of extension projects and activities will be done by conducting field verification and interviews from representatives of the target communities. Extension workers will also be required to submit updates and status to the Extension Services unit by submitting quarterly reports and presenting to Agency Extension In-house Review. Through quarterly updates and stakeholders' feedback, any problems that will arise will be immediately addressed.

f. Impact Assessment of the Program

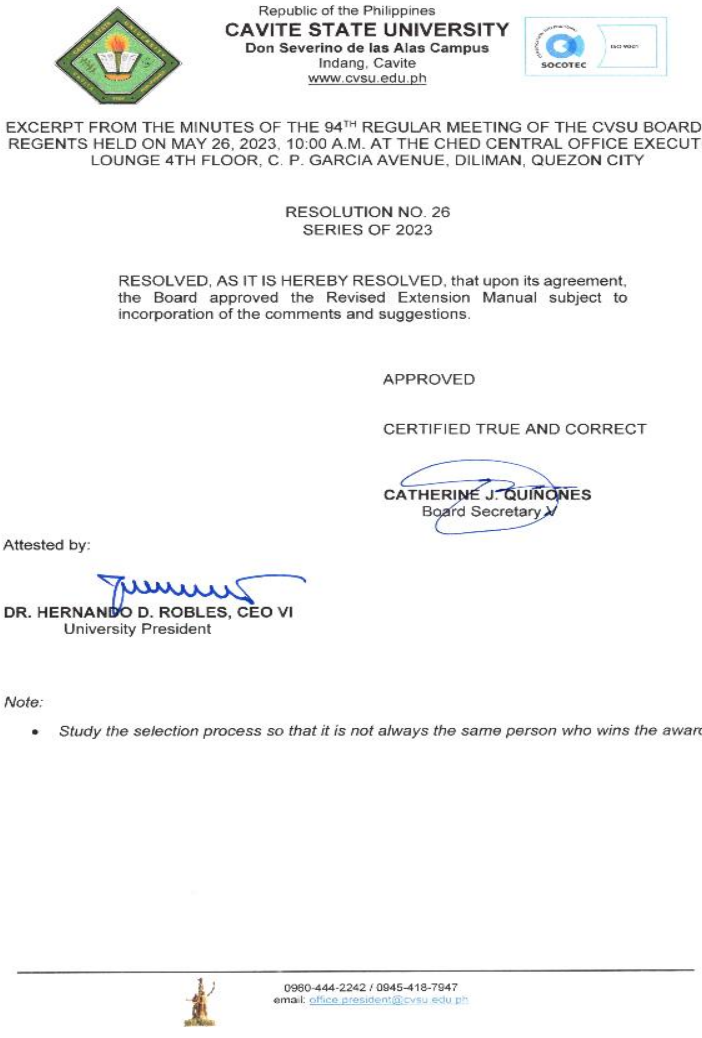
After five years of implementation, the program will be assessed in terms of its economic, social and environmental impact on its target communities. The impact evaluation will be done in two ways: by self-assessment of the implementer and by outsourcing impact evaluators. The conduct of impact assessment will be based on the target indicators set before the implementation of the program.

g. Review and Sustainability Planning

Further interventions will be done to address the result of the impact assessment. If the program did not meet the target impact to its stakeholders, there will be a program review to identify what factors were overlooked during the program implementation. On the other hand, if the program meets its target impact, a plan of activities will be made to sustain the influence of the program on the community.

The CvSU Extension Manual

The CvSU Extension Manual was revised and approved on May 26, 2023 (Figures 9 and 10). The manual was copyrighted on August 31, 2023 (Figure 11). University mandate on extension services corresponds to Republic Act No. 8468, converting the Don Severino Agricultural College into University Status, to be called Cavite State University. Thus, by Republic Act 8435, or the Agriculture and Fisheries Modernization Act of 1997 (AFMA) under Sec. 86 which stated, “It is hereby declared by the policy of the state to promote science and technology, as essential for national development and progress. The State shall give priority to the utilization of results through formal and non-formal education, extension, and training services.



Republic of the Philippines
CAVITE STATE UNIVERSITY
Don Severino de las Alas Campus
Indang, Cavite
www.cvsu.edu.ph

EXCERPT FROM THE MINUTES OF THE 94TH REGULAR MEETING OF THE CVSU BOARD OF REGENTS HELD ON MAY 26, 2023, 10:00 A.M. AT THE CHED CENTRAL OFFICE EXECUTIVE LOUNGE 4TH FLOOR, C. P. GARCIA AVENUE, DILIMAN, QUEZON CITY

RESOLUTION NO. 26
SERIES OF 2023

RESOLVED, AS IT IS HEREBY RESOLVED, that upon its agreement, the Board approved the Revised Extension Manual subject to incorporation of the comments and suggestions.

APPROVED

CERTIFIED TRUE AND CORRECT

CATHERINE J. QUIÑONES
Board Secretary V

Attested by:

DR. HERNANDO D. ROBLES, CEO VI
University President

Note:

- *Study the selection process so that it is not always the same person who wins the award*

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Figure 8. Organizational structure of the extension services (University Level)

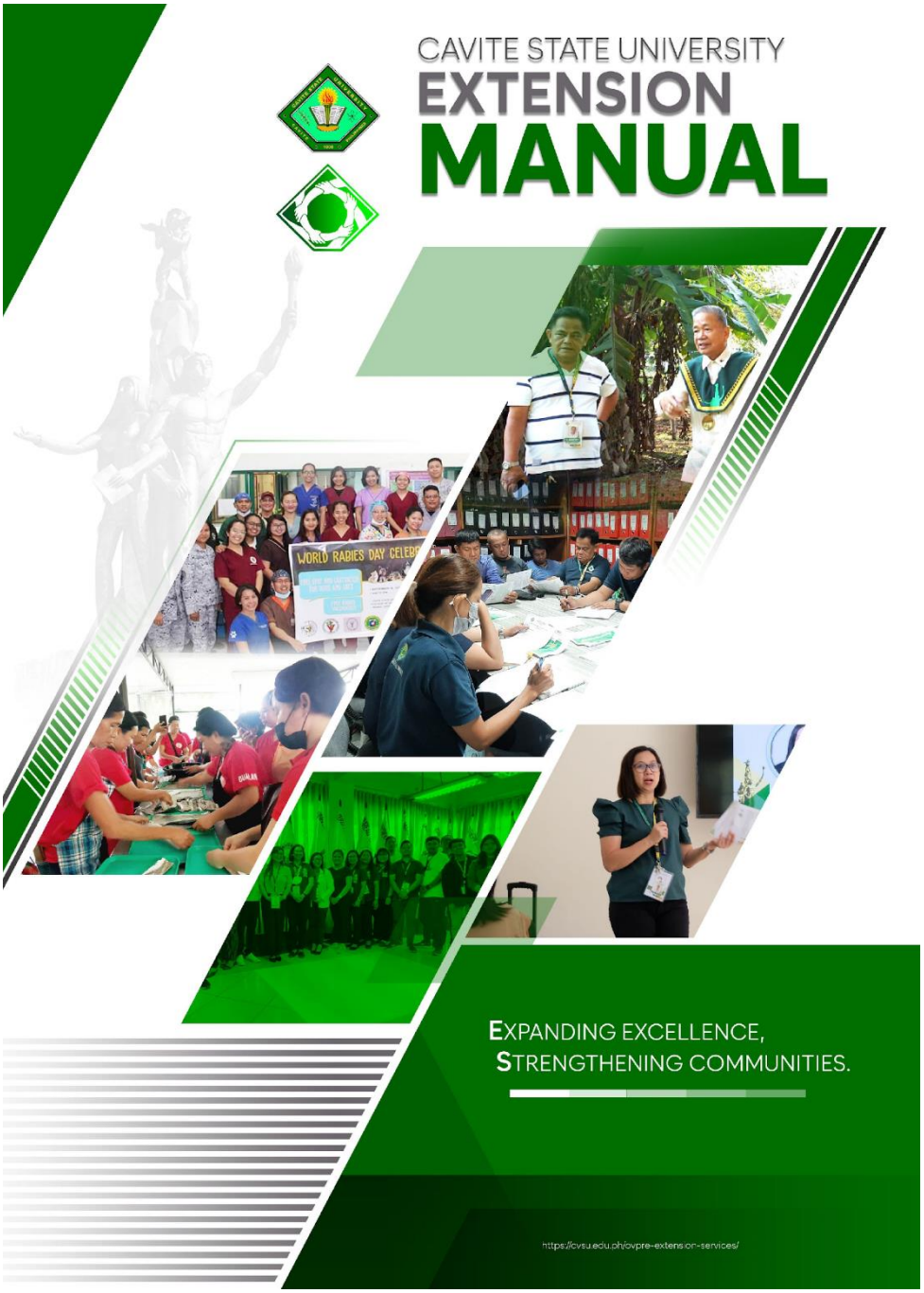
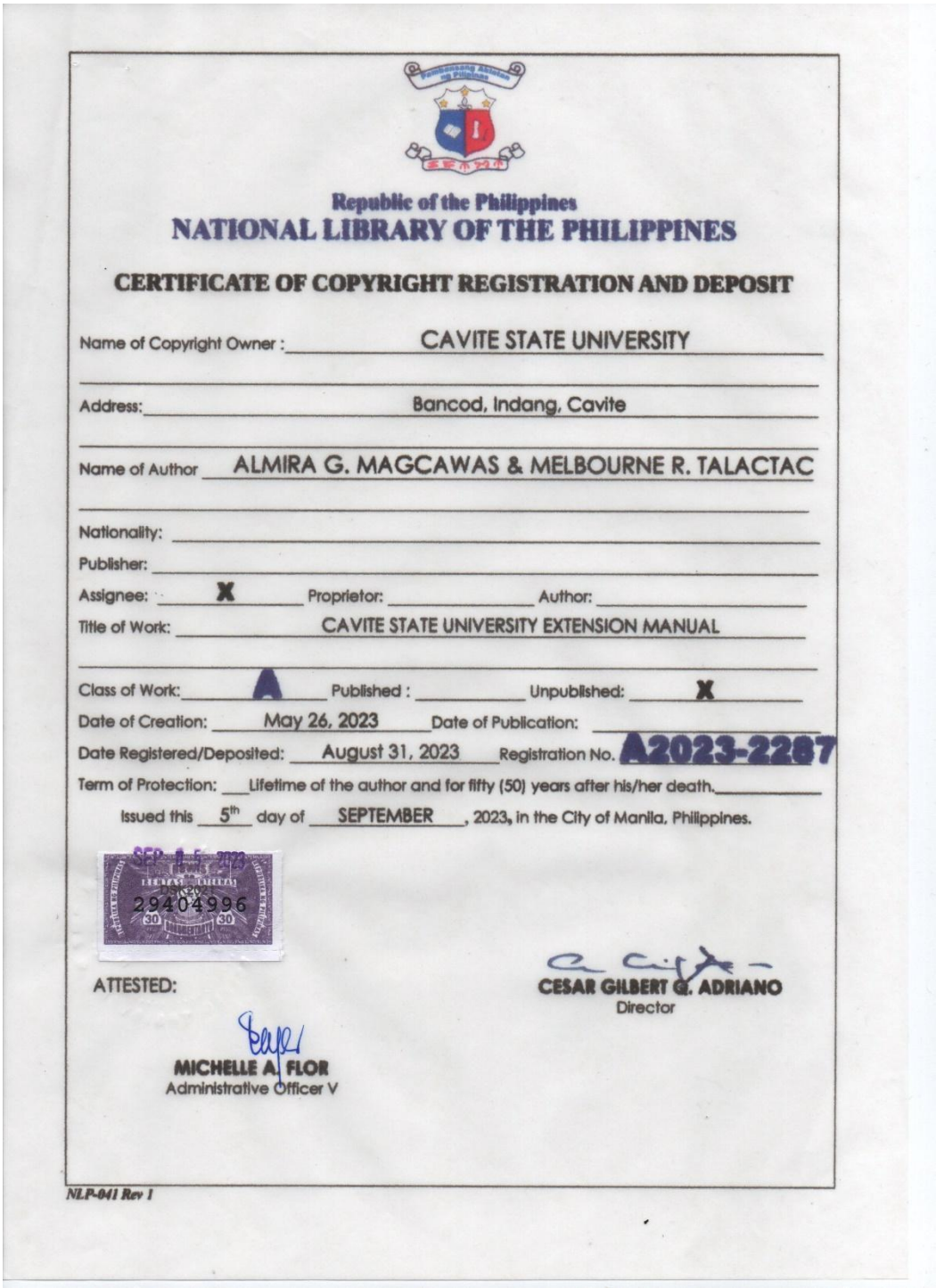


Figure 9. The CvSU Extension Manual



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29404996

ATTESTED:

CESAR GILBERT G. ADRIANO
Director

MICHELLE A. FLOR
Administrative Officer V

NLP-041 Rev 1

Figure 10. Copy of copyright certificate of CvSU Extension Manual

THE COLLEGE BANNER EXTENSION PROJECT

The SciCAT AVENUES: Access to Value-adding and Engaging iNnovations towards sUstainability of agri-Education and agri-touriSm

Implementing Agency/ies: Cavite State University
Cooperating Agency/ies: DOST-PCAARRD, UP-ISSI, Municipality of Indang, Cavite
Approved Budget: Php 3,467,875.87
Project Duration: January 01, 2021 - December 31, 2023

RATIONALE

As a backgrounder, SciCAT Project, in its first two years, has been continuously conducting trainings for technology adoption, showcasing agricultural technologies in Silan AgriFarm as its partner, disseminating information relevant to agricultural products and processes; and facilitating development of the farm as an agri-tourism site. This is in support to Republic Act No. 10816 also known as "Farm Tourism Development Act of 2016" aiming not only to develop farm tourism sites but also to increase interest in agriculture among visitors and other community members. Even amidst the pandemic, the project has been delivering relevant service to the community through the distribution of healthy agricultural products to the frontliners while utilizing digital platforms to promote agri-tourism even on a virtual environment. The second phase, termed as SciCAT AVENUES, is intended to make all the aforementioned activities not only maintained but enhanced through the strengthening of linkages and a wider dissemination of various agricultural technologies through both actual farm tour packages and digital marketing strategies. It also increases potential for a number of intellectual properties that are set to be adopted by a bigger number of trainees while also securing livelihood opportunities not only for the partner farm but also to surrounding communities. It serves to connect involved parties to value-adding mechanisms through more tourism features and agricultural processing technologies accessible to all stakeholders interested which include farm owners, farm workers, business owners, local government entities and the young generation of agriculture and tourism enthusiasts.

With SciCAT AVENUES, collaboration among private and public organizations will produce inclusive and holistic "convergence" of agriculture and tourism that expands its scope to more community members and intensifies its impact to the improvement of lives of people engaged.

OBJECTIVES

Generally, SciCAT AVENUES aimed to provide more avenues in imparting science-based technologies through farm development and technology application in a sustainable way through the Science for the Convergence of Agriculture and Tourism (SciCAT) site - Silan AgriFarm.

Specifically, it aimed:

a. To capacitate Silan AgriFarm and other interested individuals on agri-tourism management with emphasis on S&T-based farm production and operation through skills and capability enhancement training;

b. To transfer package of technologies to Magsasaka Siyentista and workers of Silan AgriFarm and other interested individuals and organizations;
c. To build strong partnerships with public and private sectors for sustainable farm tourism services;
d. To promote digital tourism as a marketing strategy;
e. To develop tour packages that comply with health protocols;
f. To increase generated income from the production of fresh and processed agricultural products;
g. To evaluate clients' feedbacks as a design-support mechanism towards continual improvement; and
h. To secure DOT accreditation of Silan AgriFarm as a farm tourism site.

CONCEPTUAL FRAMEWORK

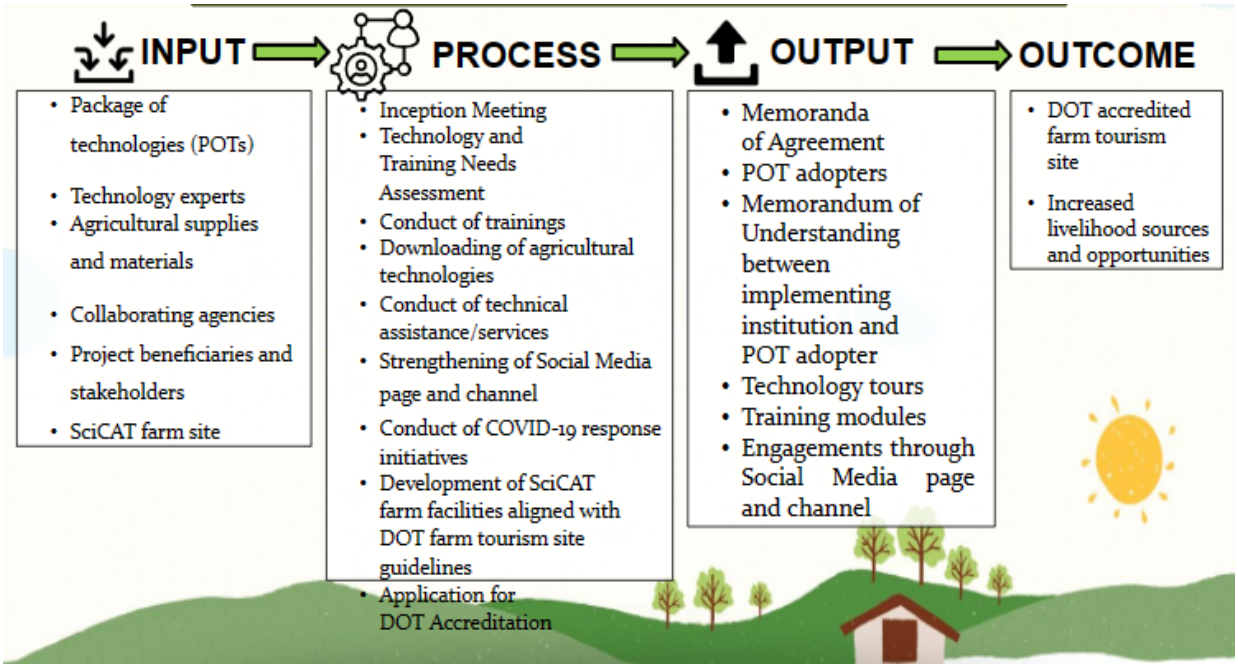


Figure 11. Conceptual Framework of the SciCAT Project

STRATEGIES OF IMPLEMENTATION

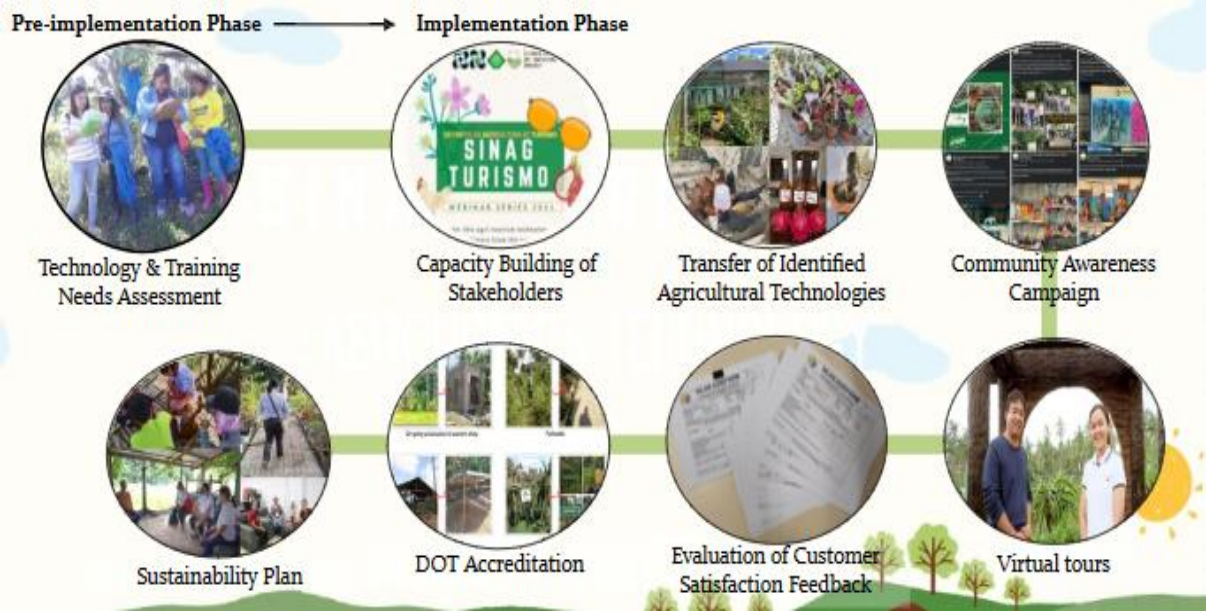


Figure 12. Strategies of implementation of the SciCAT project

EXPECTED OUTPUTS

Table 3. Expected outputs of the SciCAT project

6Ps Metrics	Y1	Y2	TOTAL
People and Services			
Trained farm owners/farming enthusiasts	250	250	500
POT adopters	20	20	40
No. of engagements on social media sites (i.e., likes, shares, comments, inquiries)	50 monthly average At least 5,000 followers		
Jobs generated	5	5	10
Webinars conducted	4	4	8
Products			
New POTs downloaded	5	5	10
Value-adding/processing of existing farm produce	1	1	2
Produced the following fresh farm produce and processed goods: a. 2,800 kg of dragon fruit under drip irrigation system technology b. 1,200 kg of banana c. 200 bottles of pickled papaya d. 200 bottles of pickled bitter gourd	 1,400 600 100 100	 1,400 600 100 100	 2,800 1,200 200 200

e. 200 bottles of pickled eggplant	100	100	200
Publications			
IEC materials (brochures, leaflets or posters & videos for social media)	5	5	10
Training modules prepared	5	5	10
Patents			
Copyrights (from IEC materials)	5	5	10
Places and partnerships			

2Is Metrics	
Y1	**Y2**
Social Impact	
Developed metrics to assess the social impact of the SciCAT project to the farm owners, adopters and surrounding Community	-
-	Assessed the social impact of the SciCAT project to the farm owners, adopters and surrounding community
Transferred technologies utilized by the local community	Transferred technologies utilized by the local community
Technology adopters assessed in terms of engagement in profitable enterprises using the adopted technologies	Technology adopters assessed in terms of engagement in profitable enterprises using the adopted technologies
Forged active linkages/partnerships with other organizations	Forged active linkages/partnerships with other organizations
Innovation ecosystem improved by incorporating agricultural S&T interventions while providing recreational activities for the farm visitors	Innovation ecosystem improved by incorporating agricultural S&T interventions while providing recreational activities for the farm visitors
Contributed to the leveling of the University	Contributed to the leveling of the University
Economic Impact	
Developed metrics to assess the economic impact of the SciCAT project to the farm owners, adopters and surrounding community	-
-	Assessed the economic impact of the SciCAT project to the farm owners, adopters and surrounding community
Volume of production intensified	Volume of production intensified
Determined gross and net income generated by the SciCAT farm	Determined gross and net income generated by the SciCAT farm
Jobs generated by the SciCAT project determined	Jobs generated by the SciCAT project determined
Economic condition of the region improved	Economic condition of the region improved

HIGHLIGHTS OF THE SciCAT AVENUES EXTENSION PROJECT

PRODUCTS / SERVICES / INNOVATIONS DEVELOPED

•Package of Technologies (POTs) downloaded

Package of Technologies (POTs) were downloaded to Silan AgriFarm in order to enhance the value of their agricultural goods, which may lead to an increase in income for the farm owners as well as resellers and food processors.

- **Itik-Pinas Production**

Figure 13. Itik-Pinas ducklings were donated by the Bureau of Animal Industry – National Swine and Poultry Research Development Center (NSPRDC)

- **Native Chicken Production**

Figure 14. Hens and roosters of Paraokan and Banaba crossbreed native chickens

- **Asexual Propagation for Fruit Trees and Ornamentals**

Figure 15. Adenium and Bougainvillea plants were propagated

- **Dragon Fruit Processing**

Figure 16. Dragon fruit vinegar, dragon fruit wine, dragon fruit jam and dragon fruit soap were produced and sold

- **Nursery Management**

Figure 17. Nursery was established for dragon fruit cuttings

- **Vermicomposting Technology**

Figure 18. Vermicomposting Area

- **Native Goat Production**

Figure 19. Native goats are being raised

Table 4. Package of Technology Adopted by the beneficiaries

No.	Name	Address	Number of POTs Adopted	Adopted Technology
1-11	Silan AgriFarm	Tambo Kulit, Indang, Cavite	11*	Papaya Processing, Stingless Beekeeping, Banana Production, Native Goat Production, Drip Irrigation Nursery Management, Asexual Propagation, Native Chicken Production, Dragon Fruit Processing, Vermicomposting *Itik-Pinas* Production
12	Forever Young Moms (Women's Association with 35 members)	Alfonso, Cavite	1*	Papaya Processing

13	Luzviminda G. Rodeo	Tambo Kulit, Indang, Cavite	1	Papaya Processing
14	Joseth Avenido	Guyam Munti, Indang, Cavite	1*	Stingless Beekeeping
15	Marky Profeta	Tanza, Cavite	1	Stingless Beekeeping
16	Mario Profeta	Profeta Integrated Farm	1*	Stingless Beekeeping
17	Jeffrey Mojica	Liliw, Laguna	1	Stingless Beekeeping
18	Lenie Dionisio	Tui, Batangas	1*	Stingless Beekeeping
19	Abner Javier	Purok 6 Brgy. Maymangga, Amadeo, Cavite	1*	Native Goat Production
20	Richard Pinpin	Banaba Cerca, Indang, Cavite	1*	Native Chicken Production
21	Andrea Dimapilis	Bailen, Cavite	1	Nursery Management
22	Ma. Cecilia Gatbonton	Laguna State Polytechnic University	1	Nursery Management

**Actual POT Adopters*

- **Value-adding/processing of existing farm produce, products and souvenir Items**

Figure 20. Soaps, coffee products, and gift products are being sold

- Fresh farm produce and processed goods

Figure 21. Dragon fruits and papaya freshly harvested at the farm

Figure 22. Dragon fruit wine, vinegar and jam, pickled bitter gourd

- Product Development

In response to the project's goal to provide more avenues and value-adding mechanisms, product development is one of the processes that could increase the profits of Silan AgriFarm and other SciCAT adopters.

Figure 23. Baked and confectionery dragon fruit products

- Partnerships established
    - Memorandum of Agreement/Understanding

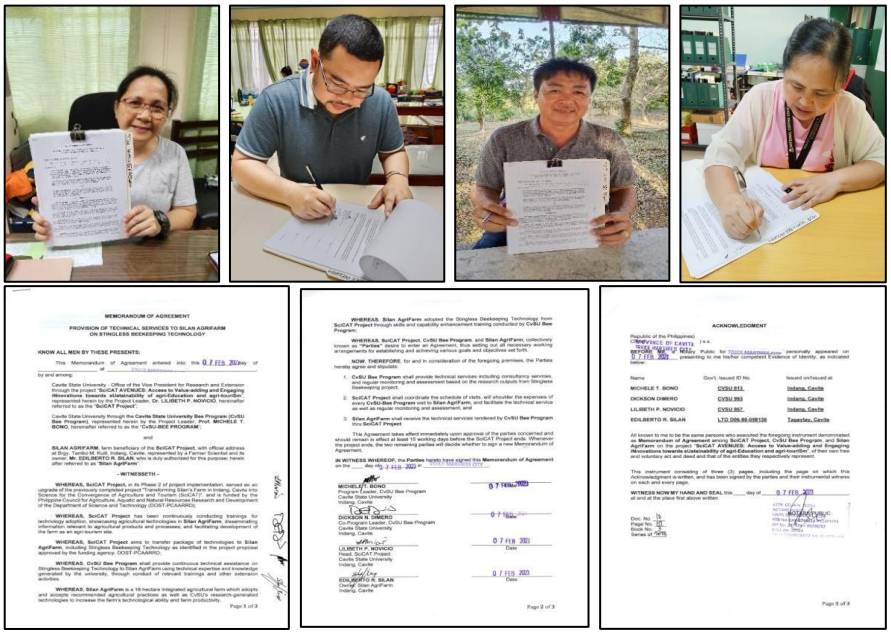


Figure 24. MOU between CvSU Bee Program and SciCAT-Silan AgriFarm

Figure 25. MOU between CEd-HEVTED and SciCAT-Silan AgriFarm

- **Other MOA/MOU drafted**
    - MOA between BAI-NSPRDC and SciCAT-Silan AgriFarm
    - MOU between the departments of College of Agriculture, Food, Environment and Natural Resources (CAFENR) and SciCAT-Silan AgriFarm
    - MOU between the Department of Food and Agricultural Engineering (DAFE) of College of Engineering and Information Technology (Silan AgriFarm) and SciCAT-Silan AgriFarm

- **Seminars and Speaking engagement attended**

Figure 26. DOST and FFTC International Seminar; s. Shiela Elaine D. Silan, farm manager of Silan AgriFarm, served as resource speaker

- **Social Media Engagements**

Figure 27. Social media pages

- **Development of Tour Packages**

Figure 28. A poster for the tour package at Silan AgriFarm

- **Promotional Activities Conducted**

Figure 29. Silan's AgriFarm participated in Cavite State University 117th Founding Anniversary

Figure 30. Silan's AgriFarm participated in International Ecotourism Travel Mart

- **Development of IEC Materials**

Figure 31. IEC materials posted as promotional poster on Facebook page

- **Farm facilities/establishments**

Figure 32. Improvement of some facilities in Silan's AgriFarm

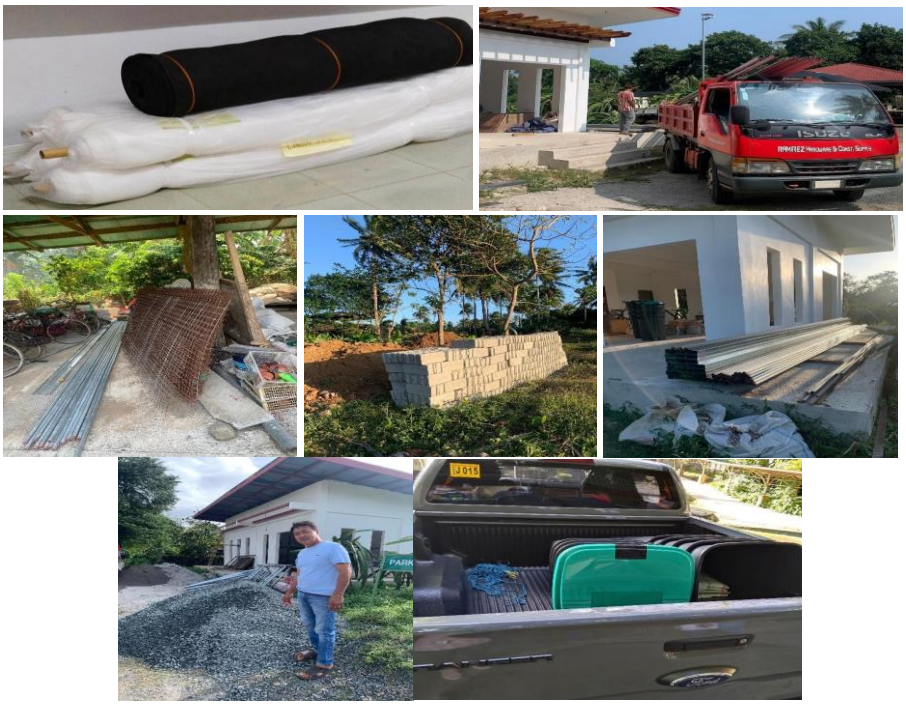


Figure 33. Provision of Agricultural supplies and construction supplies to SciCAT Farm

- **Monitoring and provision of technical services to Package of Technology (POT) Adopters**

Figure 34. Stingless beekeeping technology monitoring and technical assistance

Figure 35. Native goat production monitoring

Figure 36. Farm visit and monitoring at Silan AgriFarm

- **Project Meetings and Consultations**

Figure 37. Project Meetings at Silan AgriFarm and meetings among different Departments of the university

- **Farm Visitors**

Figure 38. Staffs from the Bureau of Animal Industry

Figure 39. Participants from DOST-PCAARRD and FFTC Seminar

Figure 40. American students and professors from Northern Illinois University

Figure 41. Mariano Marcos State University faculty members

- **News Articles**

VOL. 6 No. 1 REconnections • January 2023

Agrikultura at Turismo: Partner sa Pagbabago features *Magsasaka Siyentista Mr. Edilberto Silan*

By Ruby A. Manaig

Mr. Edilberto Silan, a Magsasaka Siyentista and owner of Silan Agrifarm, was interviewed at DOSTv's Agrikultura at Turismo: Partner sa Pagbabago on January 6, 2023. Secretary Ranato Solidum Jr. of the Department of Science and Technology and Onin Mira about Agritourism, hosts of the program, held the said interview.

It was mentioned in the interview that Silan Agrifarm is in itself an agritourism site under the SciCAT project or Science for Convergence of Agriculture and Tourism. The interview also revealed the objectives of the project in transforming the said farm as a DOT-Accredited site that could be a venue for a wider dissemination of various agricultural technologies through both actual farm tour packages and digital marketing strategies. In addition, it also increases the potential number of intellectual properties that are set to be adopted by a bigger number of trainees while also securing livelihood opportunities not only for the farm but also to surrounding communities.

SciCAT also provides inclusive and holistic convergence of agriculture and tourism that expands its scope to more community members and intensifies its impact to the improvement of lives of the people engaged.

Mr. Edilberto Silan during the interview

VOL. 6 No. 4 REconnections • April 2023

SciCAT AVENUES joins first International Ecotourism Travel Mart

By Ruby A. Manaig

From left-right: The exhibitors during the opening day at the International Ecotourism Travel Mart, Ms. Indonesia, Ms. Earth 2022, Ms. Earth Philippines 2022, Dr. Lilibeth Novicio, SciCAT project leader, and Ms. Arnelyn Romilla, project staff.

Science for the Convergence of Agriculture and Tourism (SciCAT) AVENUES, together with Silan Agrifarm, joined ecotourism advocates in the International Ecotourism Travel Mart (IETM) as exhibitors last March 29 to April 2 at the International School of Sustainable Tourism, Silang, Cavite.

During the first green mart and selling fair, Silan Agrifarm's products were displayed by SciCAT AVENUES as part of the Department of Science and Technology booth. Silan Agrifarm, the primary beneficiary of the project, was successful in marketing their products to the global market, including chocolate *tablea*, feminine soaps, whitening soaps, and wine and vinegar made from dragon fruit.

IETM was presented by the Asian Ecotourism Network, a regional initiative of the Global Ecotourism Network based in Costa Rica, in cooperation with the International School of Sustainable Tourism (ISST) as the leading proponent. It was attended by different agencies, namely: the Department of Labor and Employment (DOLE), the Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA), the Global Ecotourism Network, the Department of Trade and Industry (DTI), the Department of Interior and Local Government (DILG), Philippine Airlines, the Department of Tourism, the ASEAN Centre for Biodiversity, and other organizations.

During the opening ceremony last March 29, Dr. Glenn B. Gregorio, director of the Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA), mentioned in his opening address that the IETM event was designed to bring delegates and exhibitors together to showcase the products and services with a strong eco-tourism component, green technology, and sustainable green practices. The five -day event enabled the participants to learn the best practices in ecotourism around the world and network with other participants for collaboration. It was indeed a worthwhile experience.

Figure 42. Silan's AgriFarm featured in the Ugnayan newsletter and Reconnections of Cavite State University

- **Award/s and Recognitions**

Figure 43. Third place on-going extension project and Best extension video during the CvSU research and extension week 2023

Figure 44. Silan's AgriFarm recognized as Cavite State University's stakeholders during the CvSU Foundation Day Celebration

Figure 45. Best Booth - First Place during the CvSU Exhibit and Trade Fair 2023

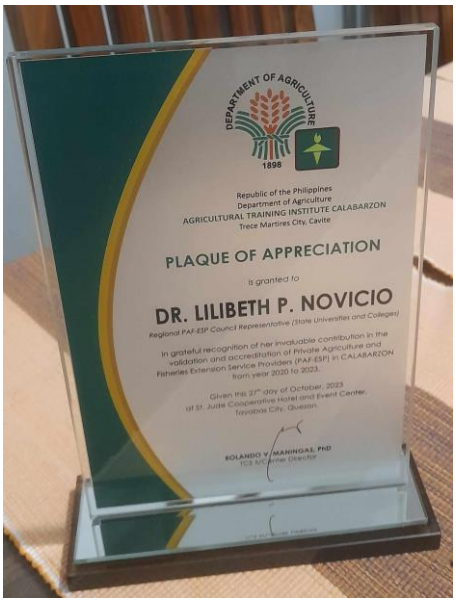


Figure 46. Dr. Lilibeth Novicio, SciCAT's project leader served as member of the Regional PAF-ESP Council

PARTNERSHIPS AND/OR LINKAGES FORMED FOR THE SciCAT PROJECT

Smooth implementation of the SciCAT Project was done due to the concerted efforts of the implementing agency, funding agency, LGU and other government institutions.

A Memorandum of Agreement was forged between DOST - PCAARRD and CvSU, CvSU and Silan Agrifarm to implement the SciCAT Project. On the other hand, a Memorandum of Understanding was forged between Silan Agrifarm and Department of Agricultural and Food Engineering - College of Engineering and Information Technology (DAFE - CEIT); Department of Crop Science (DCS), Department of Animal Science (DAS) and Institute of Food Science and Technology (IFST) of the College of Agriculture, Food, Environment and Natural Resources (CAFENR) and Home Economics and Vocational Technical Education - College of Education (HEVTED - CEd); and University Bee Program now BRITE Center of Cavite State University regarding provision of research-based technologies and technical assistance.

Partnership was also formed with the LGU - Indang as the Sangguniang Bayan passed a Municipal Resolution endorsing Silan Agrifarm as municipal tourist destination. Continued tie-ups with FITS - Centers in the province of Cavite were also maintained as partners in trainings/seminars/webinars and distribution of fresh agricultural products to the different stakeholders including regular coordination with the Provincial Tourism Office for the DOT accreditation, Office of the Provincial Agriculturist for crop production and Office of the Provincial Veterinarian for animal production issues and concerns. Other partner agencies include University of the Philippines - Institute for Small Scale Industries (UP - ISSI) for financial literacy, University of the Philippines Los Banos - Institute of Plant Breeding (UPLB - IPB) for tissue-cultured lakatan, Department of Agriculture - Agricultural Training Institute (DA - ATI) since Silan Agrifarm is a Learning Site in Agriculture.

IMPACT ASSESSMENT OF THE SCICAT EXTENSION PROJECT

The SciCAT Project Team submitted a request for an impact assessment of the SciCAT Project Phase I titled "Transforming Silan's Farm in Indang, Cavite into Science for the Convergence of Agriculture and Tourism" as one of the project deliverables of SciCAT AVENUES. **This was conducted by a third-party company named "Haraya Consulting Co."**

The impact assessment service covered the following activities:

- Collect primary and secondary data;
- Identify and interview the beneficiaries;
- Identify the outputs and outcomes of the project;
- Assess the Social, Economic and Environmental impacts of the project;
- Recommend strategies to the delivery of CvSU's Extension Services; and
- Prepare and submit written reports on the result of impact assessment

Project Background

In support of RA 10816, the Cavite State University-College of Agriculture, Food, Environment and Natural Resources (CvSU-CAFENR) implemented the SciCAT project from 01 August 2018 to 31 December 2020. This was supported by the Department of Science and Technology (DOST) - Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development (PCAARRD); and, the University of the Philippines-Institute for Small Scale Industries (UP- ISSI). The project envisions the transformation of Silan AgriFarm located in Indang, Cavite into a SciCAT site or science and technology-based tourism site for agri-aqua and natural resources through farm development and technology application.

Objectives

The following are the objectives of SciCAT Project Phase 1:

1. Assist in determining the viability of science and technology-based agri-tourism site through conduct of feasibility studies by UP-ISSI;
2. Assist UP-ISSI in creating business plans that will provide opportunities on education, recreation and employment;
3. Capacitate Silan AgriFarm and other interested individuals on agri-tourism management with emphasis on science and technology-based farm production and operation through skills training;
4. Transfer package of technologies to Magsasaka Siyentista and workers of Silan

AgriFarm;

5. Conduct awareness campaign to the community;
6. Evaluate clients' feedbacks as design-support mechanism towards continual improvement;
7. Facilitate initial Department of Tourism (DOT) accreditation of Silan AgriFarm as Farm Tourism Site.

Expected Outputs

This impact assessment looks closely on the goal and objectives of the SciCAT project implemented by the CvSU-CAFENR, and the delivery of CvSU-CAFENR's services translated into outputs and outcomes that have lasting or sustainable impacts.

6Ps Metrics	Outputs
Publications	1 Customer Satisfaction Survey Report 1 Journal Article At least 10 IEC materials 2 Promotional Videos 4 Semi-Annual Reports 2 Annual Progress Reports 1 Terminal Report
Patent/ IP	3 Copyrighted IEC Materials 1 Trademark Filed
Products	At least 2 Packages of Technologies (POTs) downloaded
People and Services	5 Capability and Skills Training for 200 beneficiaries At least 200 Farmers Trained 20 Identified Technology Adopters 4 Actual POT Adopters
Places and Partnerships	1 SciCAT Site At least 1 Memorandum of Agreement (MOA) signed
Policies	1 Municipal Resolution Recognizing the SciCAT Site as Municipal Tourist Destination

Beneficiaries and Partners

The project's main beneficiary is the Silan AgriFarm. Nonetheless, the project also benefitted small farmers within Indang who were capacitated and provided with packages of technologies depending on their needs. The project was implemented with the technical assistance of CvSU's departments including the Bee Research, Innovation, Trade, and Extension (BRITE) Center, Extension Services, and Department of Animal Science, among others.

Implementation Structure

The SciCAT Project Phase 1 was supervised by Dr. Ruel M. Mojica and Dr. Lilibeth P. Novicio. The project team is composed of seven personnel including three project staff, three project support staff, and one finance staff. Currently, the SciCAT Project Phase II is being led by Dr. Lilibeth P. Novicio, Chairperson of the Department of Forestry and Environmental Science.

Significance of the Study

As an integral part of results-based management, the conduct of assessment/evaluation is necessary to determine the progress and performance of projects, programs, or services towards advancing development outcomes. Such exercise generates objective information about the implementation and delivery of services of a certain intervention. It collects evidence that supports strategic planning and informed decision-making.

Assessment/Evaluation gathers information on the merit and quality of programs/projects or services implementation, which help ensure that goals and objectives are aligned with higher-level priorities of any institution. Evaluations may support program improvements, knowledge generation, and accountability. It is in this context that the CvSU-CAFENR commissioned the conduct of impact assessment of the SciCAT Project.

Objectives of the Impact Assessment

The impact assessment intends to determine whether the SciCAT Project was able to achieve their intended outputs, outcomes, and impacts; and recommend strategies to improve the delivery of services or community involvement of CvSU.

Specifically, the exercise aims to:

1. Identify the outputs and outcomes of the SciCAT Project;
2. Analyze the socio-economic and environmental impacts of the project; and
3. Recommend strategies to improve the services offered by the CvSU-CAFENR.

Scope and Limitations of the Study

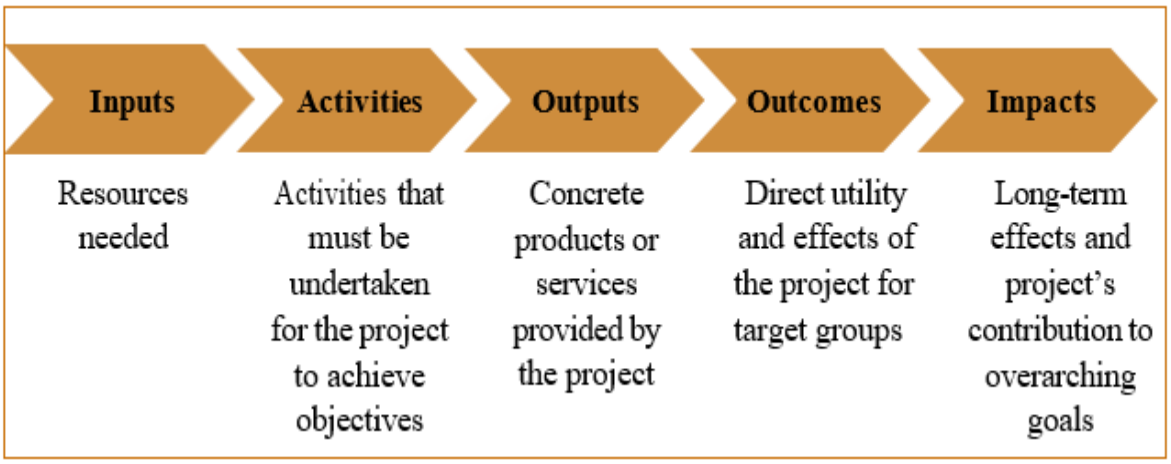
This assessment focused on the implementation and attainment of outputs, outcomes, and impacts of the SciCAT Project Phase 1 implemented from 2018 to 2020. Non-experimental (post-test) design was utilized and supplemented by review of available documents.

The assessment is highly dependent on the availability of data, as well as the availability/ willingness of stakeholders to participate in the study.

Conceptual Framework and Methodology

The assessment followed the logical framework displayed below:

Table 5. Logical Framework of the SciCAT Project



The assessment looks into whether the SciCAT Project Phase 1 has effectively or ineffectively attained its expected deliverables. While outputs can be easily determined, the assessment shall highlight and verify evidence indicating that outcomes were successfully met and have long- term effects for the institution and its beneficiaries and partners.

Methodology

This assessment utilized a non-experimental (post-test) design done after the delivery of SciCAT Project services where there is no control group for the study. The team aimed to perform this using the indicators, means of verification/ methodology, and data sources indicated in the following table:

Table 6. Objective Indicators and Means of Verification

Outputs (6Ps Metric)	Indicator	Means of Verification	Data Sources
1. Publications	No. of publications produced and disseminated	Photos and written documentation, attendance sheets	Publication materials or report
2. Patent/ Intellectual Property	No. of copyrighted materials and trademark filed	Copyrighted materials and trademark	Patent /IP applications filed, Intellectual Property Office of the Philippines database
3. Products	No. of products developed or downloaded	List of products developed or downloaded	CvSU- CAFENR or Silan AgriFarm
4. Peoples and Services	No. of capability and skills training conducted No. of beneficiaries trained No. of technology adopter and POT adopters identified	Photos and written documentation, attendance sheets	CvSU- CAFENR or Silan AgriFarm
5. Places and Partnerships	No. of SciCAT site established No. of partnerships forged	Field visit and partnership/s signed	CvSU- CAFENR or Silan AgriFarm
6. Policies	No. of local government policy/ies adopted	Copy of policy/ies adopted	CvSU- CAFENR or Silan AgriFarm
Outcomes			
1. Level of understanding, awareness and responsiveness of community/ agrifarm beneficiary on issues and concerns increased	Change in understanding, awareness and responsiveness	Understanding, awareness, responsiveness scores before and after the program	CvSU records, Survey/KII/ FGD

Table 6. Objective Indicators and Means of Verification (cont...)

	Indicator	Means of Verification	Data Sources
2. Community/ agrifarm beneficiary capacitated on advantages and/or benefits of science and technology- based convergence of agriculture and tourism	Change in capacity of community/ agrifarm beneficiary	Capacity scores before and after the project	CvSU records, Survey/KII/ FGD
3 Access to and dissemination of knowledge management products and other related resources	No. of knowledge products and resources Availability of sharing platform	KM products, Records, beneficiary statements	KII/ FGD, CvSU reports
4. Networks and linkages with relevant institutions and/or organizations strengthened	No. of institutions and/or organizations partnered with	MOA/ MOU/ Contracts or similar instruments	KII/ FGD, CvSU reports
Impacts			
1. Efficient, effective delivery of CvSU-CAFENR services	No. of services availed by the community/ beneficiary agrifarm	Listing of services availed by the community/ beneficiary agrifarm	Survey/KII/ FGD, reports
2. Sustainable community engagement and development	No. of follow through, handholding and/or knowledge activities conducted	Responsiveness and sustainability scores	Survey/KII/ FGD, reports
3. Sustainable partnership and cooperation among stakeholders	No. of contracts/ agreements signed	Partnership instruments, stakeholder statements	KII/ FGD, documents

The Project is further assessed using the following criteria developed by the Organization for Economic Cooperation and Development (OECD) and adopted by the National Economic and Development Authority (NEDA) for project/services evaluation: Relevance, Coherence, Efficiency, Effectiveness, Impact, and Sustainability.

Table 7. OECD Criteria

Criterion	Questions to be answered	Means of verification
Relevance	*Did the project do the right things?* • Did the objectives and design respond to the beneficiaries, community, and partner/institution's needs, policies and priorities?	• Review of project documents • Interview with CvSU-CAFENR and its stakeholders
Coherence	*How well did the services fit?* • Did the project complement, harmonize, coordinate with other interventions of the institution/community/partners? • Did the project complement, harmonize, coordinate with other interventions of the institution/community/partners?	• Review of project documents • Interview with CvSU-CAFENR and its stakeholders
Effectiveness	*Did the project achieve its objectives?* • Were the objectives achieved and were there unintended outputs, outcomes or impacts? • Did the project reach the intended beneficiaries?	• Review of project documents • Interview with CvSU-CAFENR and its stakeholders
Efficiency	*How were the resources used?* • Was the project systematic, resource-effective and timely in the delivery of outputs? • Could there have been a more efficient way to run the project?	• Review of project documents • Interview with CvSU-CAFENR and its stakeholders
Impact	*Did the intervention make a difference?* • Did the project generate effects on stakeholders? • Were there changes that would not have happened without the project?	• Review of project documents • Interview with CvSU-CAFENR and its stakeholders
Sustainability	*Will the benefits last?* • Will the gains persist despite the end of the project? What are the success factors and failure points for the sustainability of the project?	• Review of project documents • Interview with CvSU-CAFENR and its stakeholders

Data Gathering

Data gathering was conducted from July to August 2023 through the following:

- Secondary Research involving the review of related literature and/or available documents such as accomplishment reports and plans; and,
- Primary Research involves the conduct of in-person key informant interview (KII) with the SciCAT Project implementers and focus group discussion (FGD) with the beneficiaries and partners, and field visit.

Data Analysis

The study is primarily descriptive aimed at describing and summarizing all relevant data and information gathered. It revolves on the participants' perceptions and attitudes towards the delivery of SciCAT Project Phase 1 services.

RESULTS AND DISCUSSION

Respondents' Profile

- The interview with implementers focused on the overview of the SciCAT Project Phase 1, the delivery or implementation of its services and initiatives, and its accomplishments from 2018 to 2020.
- The interview with the partners and beneficiaries, on the otherhand, were intended to validate the discussion with the first interview team; determine whether the SciCAT Project achieved the expected outputs, outcomes, and impacts; identify the impacts of the services and their application at the individual and community levels; and, obtain the participants' perceptions and recommendations on the sustainability of SciCAT Project.

FINDINGS

This section discusses the outputs and resulting outcomes of the CvSU SciCAT Project, and the perceived economic, social, and environmental impacts of the Project based on documents reviewed and interviews conducted.

Table 8. Outputs and resulting outcomes of the CvSU SciCAT Project

1. Publications	• The SciCAT Project produced publications above the target which highlighted the accomplishments of the Project. • These were published in newsletters such as Ugnayan and REconnect, as well as the websites and social media pages of DOST, CvSU, and SciCAT. • These increased the awareness and appreciation of the public of the SciCAT Project, the Silan Farm, agri-tourism, and the technologies promoted by the Project. • The publicity generated inquiries regarding farm tourism and the technologies, and more visitors in the Silan Farm. Only the Customer Satisfaction Survey Report was not delivered. The survey was deferred to the Phase 2 of SciCAT due to the pandemic.

2. Patents/ Intellectual Property	• Eleven IEC materials – were developed and applied for copyright. • POTs implemented at the project site were also applied for copyright. The updated Silan AgriFarm logo was developed and filed for trademark to the Intellectual Property of the Philippines. • The trademark is expected to establish the identity of the Farm including its products and their areas of distribution.
3. Products	• Five POTs were downloaded including papaya processing, stingless beekeeping, banana production, native goat production, and drip irrigation. • The packages were identified with the intended beneficiaries and DOST.
4. People and Services	• A total of 7 training participants adopted the package of technologies offered by SciCAT. • Silan AgriFarm, one of the adopters, adopted all five technologies. • Over 300 individuals participated in various trainings offered by SciCAT, most of which were held in the SciCAT AgriFarm. • The trainings were identified based on a training needs analysis conducted by the Project Team, and were conducted with partners such as the CvSU BRITE Center, CvSU Department of Animal Science, and the UP ISSI. • The CvSU also provided informal consultation sessions with stakeholders. • The Project Team provided technical services to farmers and enthusiasts who needed assistance. • Beyond the Project, trainers from CvSU such as the trainers from the Department of Animal Science are still

	able to use the knowledge and materials developed under SciCAT in providing training to other stakeholders within and outside the region.
5. Places and Partnerships	• Silan AgriFarm was established as the SciCAT site. It was selected and developed by the CvSU together with the DOST and other concerned offices. • Two MOAs were forged – one between CvSU and Silan AgriFarm, and one between the CvSU and LGU Indang – formalizing the partnerships for the establishment of Silan AgriFarm as an agri-tourism site.
6. Policies	• Resolution No. 125, series of 2020 "Recognizing Silan AgriFarm in Barangay Tambo Munti Kulit as one of the Agri-Tourism Sites in Indang, Cavite, Philippines" was approved by the Municipal Government in October 2020.

SUMMARY OF SCICAT PHASE 1 OUTPUTS

Table 9. SciCAT Project objectives and accomplishments

Objective	Accomplishments
1. To assist in determining the viability of science and technology-based agri-tourism site through conduct of feasibility studies by UP ISSI	• Assisted UP ISSI through profiling and mapping of Silan AgriFarm
2. To assist UP ISSI in creating business plans that will provide opportunities on education, recreation and employment	• Facilitated communications between UP ISSI and beneficiaries. Provided the package of technologies to be adopted and developed for the beneficiaries.
3. To capacitate Silan AgriFarm and other interested individuals on agri- tourism management with emphasis on S&T-based farm production and operation through skills training	• Conducted trainings on relevant technologies, and farm and tourism management for 315 farmers, farm enthusiasts, and another clientele
4. To transfer package of technologies (POT) to Magsasaka Siyentista and workers of Silan AgriFarm	• Five (5) POTs were transferred to farmers and civil society organization
5. To conduct awareness campaign to the community	• Established signage in Silan AgriFarm, published articles in newsletters and online platforms of Silan, the school, DOST and DOT, filed 11 IEC materials for copyright and publication, and maintained online presence through Facebook, YouTube, and Instagram.
6. To evaluate clients' feedback as decision-support mechanism towards continual improvement; and	• Started the preparation of survey materials but deferred the conduct of survey to Phase 2 due to the pandemic.

7. To facilitate initial DOT accreditation of Silan AgriFarm as farm tourism site.	• Municipal resolution recognizing the agri-tourism site was issued. DOT accreditation in process.

IMPACTS OF THE SCICAT PROJECT

Table 110 Social, Economic, and Environmental Impacts of the CvSU SciCAT Project

Scope	Identified Impacts
• **Social**	➢ Improved the financial security of beneficiary farms and their workers especially during the pandemic. ➢ Through the application of technologies, farmers gained time for other activities. ➢ Empowered women through the introduction or strengthening of their processing activities. ➢ Strengthened the operations of Forever Young Moms, a women's association in Alfonso, Cavite, and empowered its members through the provision of papaya processing as the primary income source of the organization and a supplementaryincome source of its members. ➢ Encouraged farmers to improve their farms, and inspired others to start their own. ➢ Stimulated the entrepreneurial mindset of stakeholders. ➢ Boosted the confidence of staff, partners, and beneficiaries in dealing with people and in sharing their technical knowledge. ➢ Facilitated partnerships and linkages among organizations and individuals. ➢ Enhanced experience of visitors, interns,

	and researchers with the improved operations and diversified activities of the project site.
➢ **Economic**	➢ Increased yield and sales (by as much as 60% in one beneficiary farm) of fruit bearing trees and vegetables, and healthy livestock. ➢ Improved farm management through trainings. ➢ Contributed to food security. ➢ Provided job opportunities for farm and construction workers. ➢ Sustained the operations of the farms amidst the pandemic. ➢ Augmented income of the municipality from visiting tourists and products sold.
● **Environmental**	➢ Helped restore ecological balance by: ○ supporting the propagation of pollinators by increasing awareness of stakeholders on the significance of pollinators and introducing beekeeping; ○ promoting environmentally sustainable agricultural practices; and ○ increasing awareness and practice of proper solid waste management ➢ Increased environmental responsibility of adopters.

SUMMARY AND RECOMMENDATIONS

- The SciCAT Project Phase 1 facilitated the preparation of Silan AgriFarm as a science and technology-based agri-tourism site, and capacitated several other farms through the package of technologies downloaded. Aside from the technical know hows imparted by the Project, the beneficiaries were also able to gain social and

entrepreneurial skills. Moreover, their resolve to further improve their farms has been ignited.

- While the DOT accreditation is still in process, through the support of CvSU, DOST, the local government, and other partners, sufficient foundation has been established for Silan AgriFarm to become an agri-tourism site. Aside from this, the SciCAT Project was able to generate positive social, economic, and environmental impacts for its stakeholders. However, the full impact of the Project is yet to be seen in the coming years as the Project operated in the pandemic, and promotion of the agri-tourism site will be boosted once the site becomes accredited.

RECOMMENDATIONS

1. Sustain support to Silan AgriFarm and other farm beneficiaries.
2. Ensure commitment and ownership of beneficiaries and/or technology adopters.
3. Expand assistance to smaller farms and other players in the value chain.
4. Implement continuous monitoring of impacts and development/review of risk mitigation measures.
5. Reinforce the Project Team.

SUSTAINABILITY PLAN OF THE SciCAT PROJECT

Rationale

The impact assessment of the SciCAT AVENUES Project to its target beneficiaries in terms of social, economic and environmental scope has attained its expected outcomes which resulted in significant contribution to the community. In alignment with this, a new extension project is proposed entitled “Transforming Magallanes Agri Tourism Hub into a Science and Technology-based Convergence of Agriculture and Tourism (Sci-CAT) Farm”.

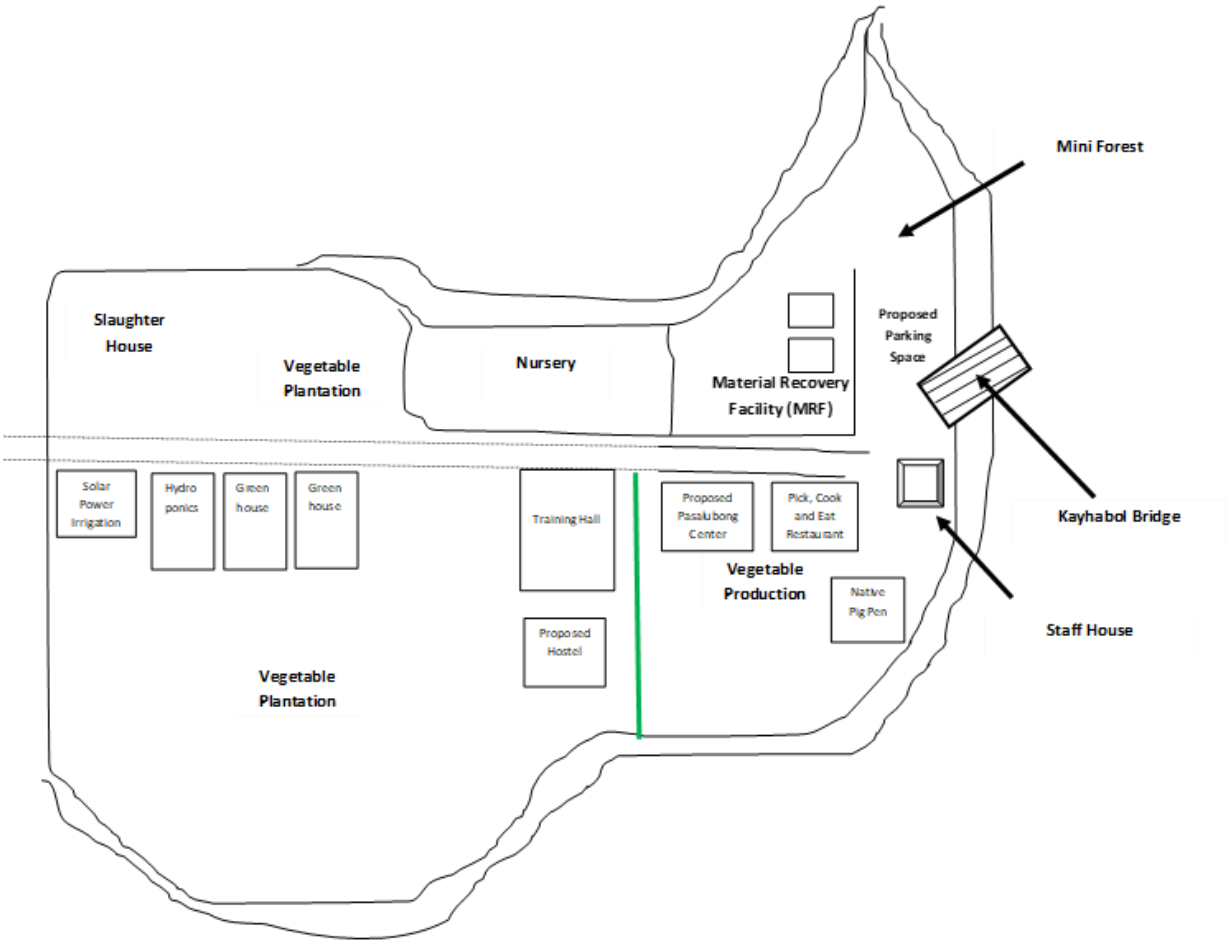
This research project aims to adopt an LGU-based farm site in the province of Cavite, specifically the Magallanes Agri Tourism Hub, to significantly help the society in the innovation and transformation of the farm from a local farming site into an agri-tourism destination that will benefit the industry, academic institutions and community, hence this proposal.

Project Description

The Cavite State University, through the support of PCAARRD, DOST will conceptualize a project on the conversion of Magallanes Agri Tourism Hub in Magallanes Cavite, owned and operated by the LGU, into a Science and Technology-Based tourism site for agriculture, aquaculture and natural resources. The project duration will be from January 2023- December 2024, with the total project cost of Php 11,000,000.00.

The identified LGU farm is in Sitio Kayhabol, Barangay Ramirez, Magallanes, Cavite. It has a total land area of 2.8 hectares. The farm is abundant with vegetable produce such as squash, ladies’ fingers, string beans, bitter gourd, eggplant, lettuce, tomato and bell pepper and some fruit bearing trees such as coconut and banana. The site is also abundant with sugar cane and farm animals such as native pigs and goats. The Magallanes Agri Tourism Hub has an accessible water supply and drainage system and is using Solar Irrigation System.

Proposed Agri-Tourism Site in Magallanes Cavite



Objectives

Generally, the project aims to convert Magallanes Agri Tourism Hub into a science and technology-based tourism site through sustainable farm development and technology application.

Specifically, the project aims to:

1. capacitate the Magallanes Agri Tourism Hub officials and staff in the municipality of Magallanes and other interested individuals on agri-tourism management with emphasis on S&T-based farm production and operation through skills training;
2. transfer package of technologies to Magallanes Agri Tourism Hub workers and farmers of LGU - Magallanes; and
3. determine the number of adopters of technology transferred.

Methodology

1. Profiling, Characterization, and Needs Assessment
2. Data Analysis
3. Conduct of Feasibility Studies
4. Business Planning
5. Plan Implementation
6. Community Awareness Campaign/Promotion
7. Evaluation of Clients' Feedbacks
8. Initial DOT Accreditation
9. Sustainability Plan

Expected Output

Table 11. Expected Outputs of the Proposed Project

6Ps Metrics	Y1	Y2	Total
People and Services			
Train farm owners/ farming enthusiasts	250	250	500
POT Adopters	20	20	40
No. of engagements on social media sites (i.e. likes, shares, comments, inquiries)	50 monthly average		
Generate Jobs	5	5	10
Conduct of webinars	4	4	8
Products			
New POTs downloaded	5	5	10
Processing of existing farm produce	1	1	2

Produce the following fresh farm produce: 1000 kg of eggplant 1000 kg of squash 1000 kg of ladies fingers 1000 kg of string beans 1000 kg of tomatoes 1000 kg of lettuce 500 kg of bell pepper 500 kg of bitter gourd	 500 500 500 500 500 500 250 250	 500 500 500 500 500 500 250 250	 1000 1000 1000 1000 1000 1000 500 500
Publications			
IEC materials (brochures, leaflets or posters & videos for social media)	5	5	10
Training modules	5	5	10
Patents			
Copyrights of IEC materials/ training modules	5	5	10
Places and Partnerships			
Forge Memorandum of Agreements	4	4	8
Partnerships with public and private sectors (DOT and DOST)	2	2	4
Policy			
Ordinances on agritourism uses and activities	1	1	2

2I's Metric	
Y1	**Y2**
Social Impact	
Promote food security in Magallanes and enhance sustainable development for both tourism and agriculture sectors	Communities of Magallanes will have an assured source of food for the family while reaping the benefit of tourism in the area through sustainable development

Locals can engage in profitable enterprises using the adopted technology	Locals will have a profitable business from utilizing the adopted technology shared by CvSU
Project activities will provide opportunities for additional education	Locals will be educated with the latest technology and trends in tourism and agriculture through series of trainings and seminars
ECONOMIC IMPACT	
The Agri-Tourism Farm will provide employment opportunities in rural areas	Communities in Magallanes will have a steady income from being employed in the agri-tourism farm
Increase business opportunity and income for local people	Communities in Magallanes will have a more secure source of income for the family

Other Sustainability Plans

1. Continuous monitoring and evaluation of SciCAT Silan Agrifarm by the University's Extension Services.
2. Provision of needed trainings and technical assistance upon request of Silan Agrifarm based from research-based technologies.
3. Tap Magsasaka Syentista Edilberto Silan, Misses Shirley Silan and Sheila Ellaine, farm owners of Silan Agrifarm and NC II holders as Technical Resource Speakers in trainings, seminars and other related activities.
4. Continuous promotion of Silan Agrifarm as source of quality agricultural products.
5. Recommend interested small scale farms from Cavite to be transformed into SciCAT farms for possible funding and technical support from DOST - PCAARRD, CvSU and UP-ISSI.

OTHER ONGOING EXTENSION PROGRAM/PROJECTS OF THE COLLEGE

Table 12. Summary matrix of other extension projects of CAFENR

NAME OF EXTENSION PROJECT	DURATION OF EXTENSION PROJECT	NO. OF BENEFICIARIES	NO. OF FACULTY MEMBERS AND STUDENTS INVOLVED IN THE EXTENSION PROJECT	IMPACT OF PROJECT ON ECONOMIC, SOCIAL, AND OTHER ASPECTS OF LIFE
Enhancement of the Gulayan sa Paaralan Program (GPP) of Dasmariñas City, Cavite	March 20, 2022 To March 20, 2024	44 Public Primary and secondary schools	15	Economic - Improved farming management through trainings - Contributed to food security Environmental - Promoting environmentally sustainable and holistic agricultural practices; and - Increased awareness and practice of proper solid management
Increasing Availability of Swine Quality Stock through Distribution and Upgrading of Swine Multiplier Farm in Cavite	Nov. 03, 2023 to Nov. 03, 2025	91	15	Economic - Upgraded the capacities and operation of the existing multiplier farms of the university - Increased awareness and proper practice of swine production and management through trainings. - **Ongoing** process on possible beneficiaries - The project is **ongoing** at the reproduction stage of swine stock
Assessment Of the Production Performance and Profitability of Raising ItikPINAS (IP-KAYUMANGGI) At Bureau Of Corrections (Bucor), Muntinlupa City	April 01, 2023 to March 01, 2025	PDL = 100 BuCor = 10 (personnel)	15	Economic - Increased awareness and proper practice in the production and management of ItikPINAS through trainings. - The project is **ongoing** at the reproduction stage of ItikPINAS stock

ENHANCEMENT OF THE GULAYAN SA PAARALAN PROGRAM (GPP) OF DASMARIÑAS CITY, CAVITE

Duration: March 1, 2022 to February 28, 2024 (2 years)
Budget: PhP 82,400 (Department of Education)
PhP 528,000 (Elementary and Secondary Schools in Dasmariñas City)
PhP 30,000 (Cavite State University - Extension Services)
PhP 30,000 (Cavite State University – CAFENR)
Funding Agencies: Cavite State University, Department of Education Dasmariñas City
Collaborating Agencies: Department of Education Dasmariñas City, City Agriculturist Office of Dasmariñas

Rationale

The Gulayan sa Paaralan Program (GPP) was first introduced by the Department of Education (DepEd) to address hunger and malnutrition (DepEd, 2007). The GPP was conceptualized to increase the level of public consciousness on the health and nutritional dimension including the economic benefits of establishing school household community gardens. At the same time, it is intended to establish school gardens which will serve as a food basket or the main source of commodities to sustain supplementary feeding. The program also aimed to intensify production of fruits and vegetables, showcase small-scale food production models in schools, and inculcate among the students the values of good health and nutrition, industry, love of labor, and caring for others.

To date, there are already 44 school gardens that had been set up in 44 public elementary and secondary schools (Appendix A). Many of these school gardens are between 11 to 50 square meters and 101 to 200 square meters in size (Table 1). The largest school garden in the City can be found in Dasmariñas II Central School (925 sqm) while the smallest is located at Sultan Esmael Elementary School (10 sqm). These school gardens are planted with vegetables such as pechay, tomato, eggplant, okra, and others. Harvests were distributed to selected students and their families and used in the school's feeding program.

Objectives

This project aims to enhance the Gulayan sa Paaralan Program (GPP) of Dasmariñas City to increase the productivity of the 44 school gardens.

Specifically, the project intends to:

1. Assess the performance and productivity of the 44 school gardens;
2. Identify the needed improvements of the school gardens and training needs of the program coordinators;
3. Capacitate the 44 program coordinators;
4. Develop and implement action plan for the improvement of the school gardens; and
5. Formulate and implement strategies for the utilization of the produce of the school gardens.

Strategies of Implementation *(* Not yet completed/conducted)*

1. Rapid Assessment
2. Technology Transfer *
3. Capacity Building *
4. Benchmarking *
5. Development and Implementation of Action Plans *
6. Partnership *
7. Promotion *
8. Monitoring and Evaluation *

HIGHLIGHTS OF ACCOMPLISHMENTS

A. Rapid Assessment

The project team employed various data collection methods to assess the performance and productivity of the 44 school gardens. First, the team collected secondary data through the reports and plans of the GPP coordinators. Unfortunately, not all coordinators were able to prepare and submit their reports and plans to DepEd. Only a few of them were able to provide status reports of their school gardens.

B. Needed Improvements of the School Gardens and Training Needs of GPP Coordinators

Based on the data analysis and evaluation of the 44 school gardens, needed improvements and technologies that the coordinators can use for their school gardens were identified. Furthermore, the coordinators' training needs were highlighted. Table 2 presents the assessment results, major challenges, and recommended technologies A.

C. Capacity Building

The team was able to organize a two-day training for the GPP coordinators. It was conducted last October 18-19, 2022. Topics covered include:

- About Gulayan sa Paaralan Program
- Seed Saving Technology
- Nursery Establishment and Management
- Proper Use and Maintenance of Farm Tools and Equipment
- Cultural Management Practices of Vegetable Production

Upcoming Activities

The project team is scheduled to conduct another training for the coordinators this November 2023. Action planning will also be conducted.

Problems Encountered

- Difficulty to schedule training activities
- Designation of new GPP coordinators
- Change of DepEd Focal person for the project
- Limited funds for the training

Action/s to be Taken

- To orient the new focal person
- To discuss and compromise regarding the schedule of trainings and other activities
- To source out funds from other funding agencies

PHOTO DOCUMENTATION

Figure 47. MOA signing between Cavite State University and Department of Education – Dasmarinas City, Cavite

Figure 48. Field activities of the CAFENR faculty members and DepEd teachers and staffs

Figure 49. The whole group at the garden area

CONTINUITY OF THE PROJECT

Training Proposal

A. Basic Information

Title: Urban Agriculture Training and Action Planning for GPP Coordinators of DepEd Dasmarinas

Proponent (s):

a. **Institution:** CvSU Extension Services, CvSU-College of Agriculture, Food, Environment and Natural Resources (CAFENR), DepEd Dasmarinas and ATI-CALABARZON
b. **Main Contact Person:** Dr. Almira G. Magcawas (Project Leader)
Dr. Venus O. Saz (Co-Project Leader)
c. **Address:** Cavite State University, Brgy. Bancod, Indang, Cavite
d. **Telephone No.:** 046 – 482-2010
e. **Email Address:** extension@cvsu.edu.ph

Total Budget:

a. DA-ATICALABARZON: **P96,000**
b. CvSU: **P13,000**
c. DepED: **P7,900**

No. of Participants: 60pax

Date/s: November 15-16, 2023

Venue: Agri ecotourism Park Main Building, CvSU, Indang, Cavite

Course Contents

Pre-test Evaluation (30 mins)

Module 1: Introduction to Urban Agriculture (1 hour)
- Understanding the importance of urban agriculture
- Trends and challenges in urban farming
- Benefits and opportunities of urban agriculture
- Urban agriculture in the context of food security and sustainability

Module 2: Introduction to Hydroponics (1 hour)
- Introduction to hydroponic systems
- Types of hydroponic systems (NFT, DWC, Drip, etc.)
- Hydroponic nutrient solutions and pH management
- Plant selection and cultivation in hydroponics

Module 3: Vermicomposting (1 hour)
- Introduction to vermicomposting and its benefits
- Types of composting worms and their role
- Setting up a vermicomposting bin
- Managing and maintaining the vermicomposting process
- Harvesting and using vermicompost in urban agriculture

Module 4: Preparation of Different Concoctions (1/2 day)
- Organic and natural remedies for plant pests and diseases
- Creating homemade organic pesticides and fertilizers
- Compost tea preparation
- Plant health maintenance through concoctions
- Hands-on preparation of organic concoctions

Module 5: Designing a School Garden (1 hour)
- Planting calendar
- Planning the garden layout
- Zoning and functional areas
- Pathways and accessibility

INCREASING AVAILABILITY OF SWINE QUALITY STOCK THROUGH DISTRIBUTION AND UPGRADING OF SWINE MULTIPLIER FARM IN CAVITE

Implementing Agency: Cavite State University
Project Duration: June 2021- to present
Project Location: Upland Cavite
Project Cost: 5,000,000.00
Collaborating agencies: CvSU-CAFENR-Department of Animal Science, CvSU Extension service units, local government units, DA regional field offices, and DA national livestock program

Rationale

From the period of October 2019 to October 2020, hog population in smallhold farms in Cavite dwindled from 15,157 to 9,466 heads (PSA, 2020). The coronavirus outbreak, the ASF outbreak, and the ever-increasing price of feeds and other inputs severely affected the ability of the smallhold farmers to continue their operations leading to the loss of supply. This, in turn, led to the huge increase in pork prices and cost of piglets, further aggravating the supply problem.

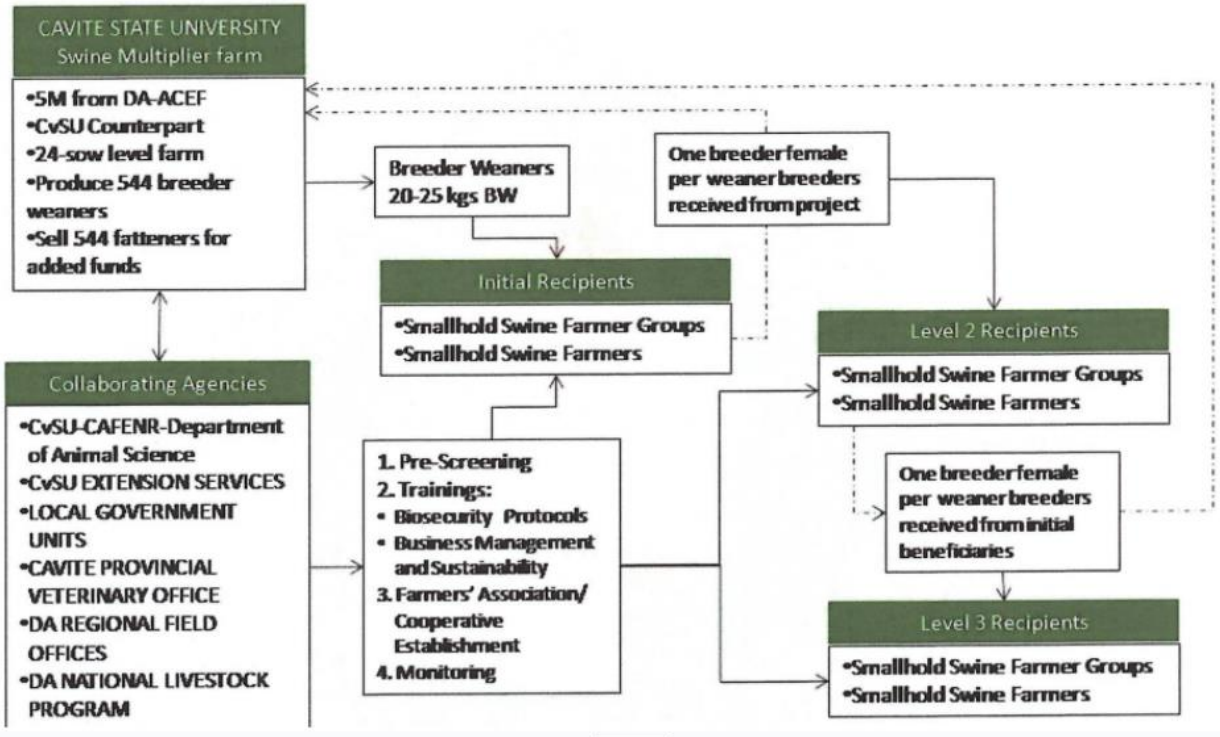
To entice farmers in the province to return to swine raising, several issues must be addressed. The incidence of ASF in some municipalities prevents the farmers from restocking their swine projects. Those smallhold farms outside the infected and buffer zones (BAI, 2021) may restart their swine projects. However, there are very few piglets to be purchased. Some breeder farms in Cavite have stopped selling breeders to smallhold projects to limit the entry to the farm premises. The loss of livelihood because of the covid pandemic for some also meant less budget for buying piglets, feeds and other inputs.

This project proposal aims to answer the majority, if not all, of these issues. First, the fear of infection will be addressed by trainings on biosecurity. A few modifications in operation coupled with minimal investments for disinfectants and sprayers can help prevent ASF infection. Second, the provision of breeder females to smallhold swine farmers would ensure availability of piglets in the near future. Thirdly, organizing smallhold farmers into associations or cooperatives could help ensure higher profits without middlemen, availability of feeds thru consignment deals with feedmills or feed loans thru the cooperative and ease of marketing and transport of products.

Objectives

Objectives	1. To upgrade the capacities and operation of the existing multiplier farms of the university 2. To enhance the capacity of swine raisers/beneficiaries in green pig management technology and farm biosecurity measures 3. To increase the supply of quality stock in Upland Cavite 4. To strengthen linkages and partnerships with government and non-government stakeholders on swine-based livelihood programs
Financial Indicators	Number of breeder weaners produced and dispersed: • 500 breeder weaners for initial beneficiaries • 500 breeder weaners from initial beneficiaries for dispersal for second level beneficiaries Number of castrates raised as fatteners to finance the proceeding cycles • 500 heads

Conceptual Framework of the Swine Multiplier Farm Project



WORKPLAN

Project Title: Increasing Availability of Swine Quality Stock through Distribution and Upgrading of Swine Multiplier Farm in Cavite													**Agency:** CAVITE STATE UNIVERSITY	
Starting Date: (yy-mm-dd) 21-07-01			**Completion Date:** (yy-mm-dd) 23-06-30										**Duration:** (in months) 24 Months	
Project Leader: Mariedel L. Autriz, PhD													**Signature:**	
Objectives	**Activities**	**Expected Results/Outputs**	**Responsible Person(s)**	**Resources Required**	**Schedule of Activities**								**Budget Required**	
					Year 1				**Year 2**					
					Q1	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**		
1. To upgrade the capacities and operation of the existing multiplier farms of the university	Fabrication of farrowing crates for piglet production	Four farrowing crates would have been fabricated	Project Leader and Project Staff	Materials and labor									304,800.00	
	Construction of perimeter fence for biosecurity measures	Perimeter fence would have been constructed	Project Leader and Project Staff	Materials and labor										
2. To enhance the capacity of swine raisers/beneficiaries in green pig management technology and farm biosecurity measures	Pre-Inception Meeting, Inception Meeting and Orientation for potential recipients	Pre-Implementation Meetings and Orientations would have been conducted	Project Leader Project Staff OPA MAOs LGUs	Travel allowance Representation/ Training Allowance									c/o DA-NLP	
3. To increase the supply of quality stock in the[province/s]	Purchase good quality foundation stocks for production of quality breeding stocks for dispersal	24 GP gilts and 2GP boars would have been purchased	Project team	MOOE									1,000,000.00	
	Production and Dispersal of good quality piglets (20 kilograms and up) to farmer beneficiaries	All females passing the physical appraisal for breeders would have been dispersed to beneficiaries	Project Leader Project Staff Farm workers OPA MAOs LGUs	Feeds Supplies Transport vehicle Honorarium Salaries/ wages									3,949,016.80	
4. To strengthen linkages and partnerships with government and non-government stakeholders on swine-based livelihood programs	Creation of a smallhold swine raisers cooperative (municipal or province-wide)	A smallhold swine raisers cooperative would have been created	Project Leader Project Staff OPA MAOs LGUs	Organizers/Resource Persons Training venue Refreshments Certificates									96,000.00	

				Honorari a for RP	
	Monitoring of beneficiari es	All beneficiaries would have been monitored	Project Leader Project Staff OPVet MAOs LGUs	Travel expense s	
					Total Budget 5,000,000.00

Approved by:

WILLIAM D. DAR. Ph.D.
Secretary, DA and ACEF EXECOM

PROJECT SUMMARY

Name of Project: Increasing Availability of Swine Quality Stock through Distribution and Upgrading of Swine Multiplier Farm in Cavite
Institution: Cavite State University
Project Leader: Mariedel L. Autriz, PhD

Objectives	Activities	Outputs	Target Date of Accomplishment	Budget
1. To upgrade the capacities and operation of the existing multiplier farms of the university	Fabrication of additional farrowing crates	Four farrowing crates fabricated	First quarter of the project	304,650.00
	Construction of perimeter fence	Perimeter fence constructed		
2. To enhance the capacity of swine raisers/beneficiaries in green pig management technology and farm biosecurity measures	Training for Production, Biosecurity and Business Management	Trainings conducted	Throughout the project duration	c/o DA-NLP
3. To increase the supply of quality stock in Upland Cavite	Production of Replacement weaners	Produced 500breeder weaners	Two years	4,595,350.00
	Dispersal of breeder weaners to beneficiaries	Dispersed 500 to initial beneficiaries and another 625 for second level beneficiaries	Two years	
4. To strengthen linkages and partnerships with government and non-government stakeholders on swine-based livelihood programs	Establishment of municipal or provincial Farmers' associations or cooperatives	Farmers' Associations	Second year of project	100,000.00

SUSTAINABILITY PLAN

Name of Project: Increasing Availability of Swine Quality Stock through Distribution and Upgrading of Swine Multiplier Farm in Cavite
Institution: Cavite State University
Project Leader: Mariedel L. Autriz, PhD

Targets	2nd year	3rd Year	4th Year
• Production	Additional 250 replacement weaners	Additional 250 replacement weaners	Additional 250 replacement weaners Breeders may be replaced based on income from fattening castrates
• Marketing	Male piglets may be sold as weanlings or fattened to finance the next round of productions	Male piglets may be sold as weanlings or fattened to finance the next round of productions	Male piglets may be sold as weanlings or fattened to finance the next round of productions
• Financial	Sale of males will be used as recirculating funds to finance the project	Sale of males will be used as recirculating funds to finance the project	Sale of males will be used as recirculating funds to finance the project
• Organizational ▪ SUC ▪ RFO ▪ LGU ▪ Beneficiary	• Swine multiplier farm could be institutionalized as an extension project of the SUC. • SUC may also establish an AI station to serve beneficiaries • RFOs and LGUs would be monitoring the status of beneficiaries and farmers' association	• Maintenance of the extension project and AI station • RFOs and LGUs would be monitoring the status of beneficiaries and farmers' association • Third level beneficiaries would return one replacement breeder for every breeder weaners	• Maintenance of the extension project and AI station • RFOs and LGUs would be monitoring the status of beneficiaries and farmers' association • Fourth level beneficiaries would return one replacement breeder for every breeder weaners

PHOTO DOCUMENTATION

Figure 50. Site inspection with the DAS faculty members and staffs from BAI

Figure 51. Orientation and seminar to interested livestock farmers of Indang, Cavite

Figure 52. The weanlings of the swine project

Figure 53. Castration and vaccination of weanlings

ASSESSMENT OF THE PRODUCTION PERFORMANCE AND PROFITABILITY OF RAISING ItikPINAS (IP-KAYUMANGGI) AT BUREAU OF CORRECTIONS (BUCOR), MUNTILUPA CITY

Proponents: Cavite State University, Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development (PCAARRD)
Funding agency: DOST-PCAARRD
Approved Budget: Php 4, 998, 345.30
Duration of the Project: April 1, 2023- March 31, 2025

Rationale

ItikPINAS (IP) is a new breed of Philippine native duck developed in 2017. Two parental lines (IP-Itim and IP-Khaki) and one commercial hybrid line (IPKayumanggi) were developed through years of breeding and selection through research funded by DOST-PCAARRD. This new breed of layer type ducks is genetically superior to the traditional "Pateros" ducks.

From 201 eggs, IP-Kayumanggi now produces 266 eggs per duck per year, 80% of which weigh 65g or more, which is the minimum requirement for balut production. Assessment of the production performance of the ItikPINAS hybrid line will be done in small scale at Minimum Security Compound, BuCor, National Bilibid Prison, Muntinlupa City that will be funded by DOST PCAARRD and implemented and supervised by CvSU.

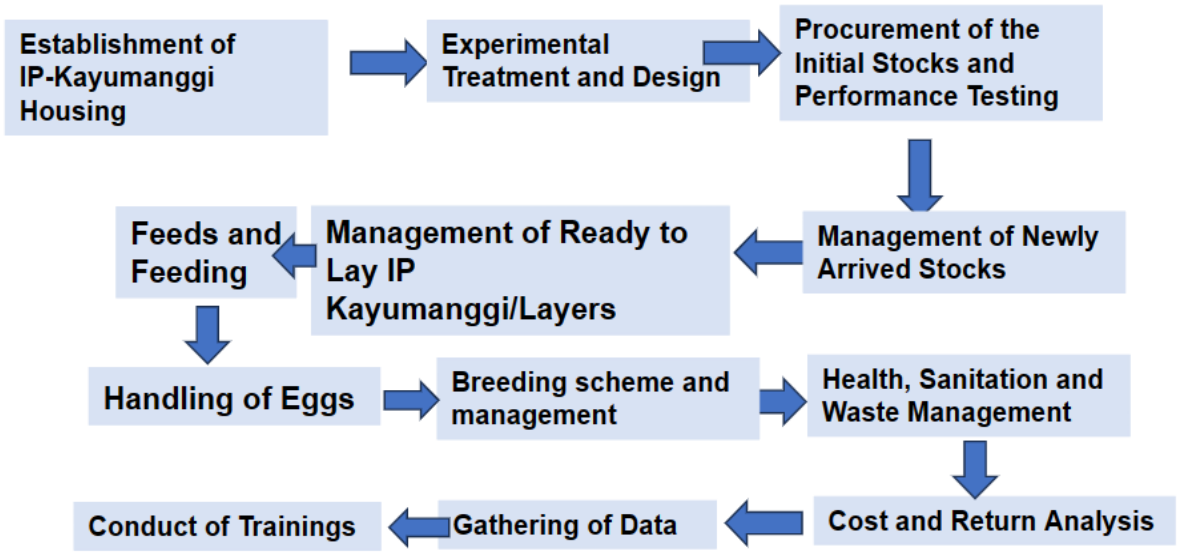
General Objectives:

To capacitate the PDL to engage in a self-sustaining enterprise through raising ItikPINAS (IP-KAYUMANGGI).

Specific objectives:

1. Establish reformation activities and livelihood programs through skills training on raising of ItikPINAS (IP_KAYUMANGGI) for the persons deprived of liberty (PDL);
2. Establish population of IP-KAYUMANGGI at BuCor, Muntilupa City;
3. Monitor and evaluate the production performance of IP-KAYUMANGGI at Bucor, Muntilupa City.
4. Determine the profitability of IP-KAYUMANGGI through selling of primary products like fresh duck eggs or processed duck eggs (balut and salted eggs) in a small-scale production set-up; and
5. Document different management

Strategies of Implementation



Technology Roadmap

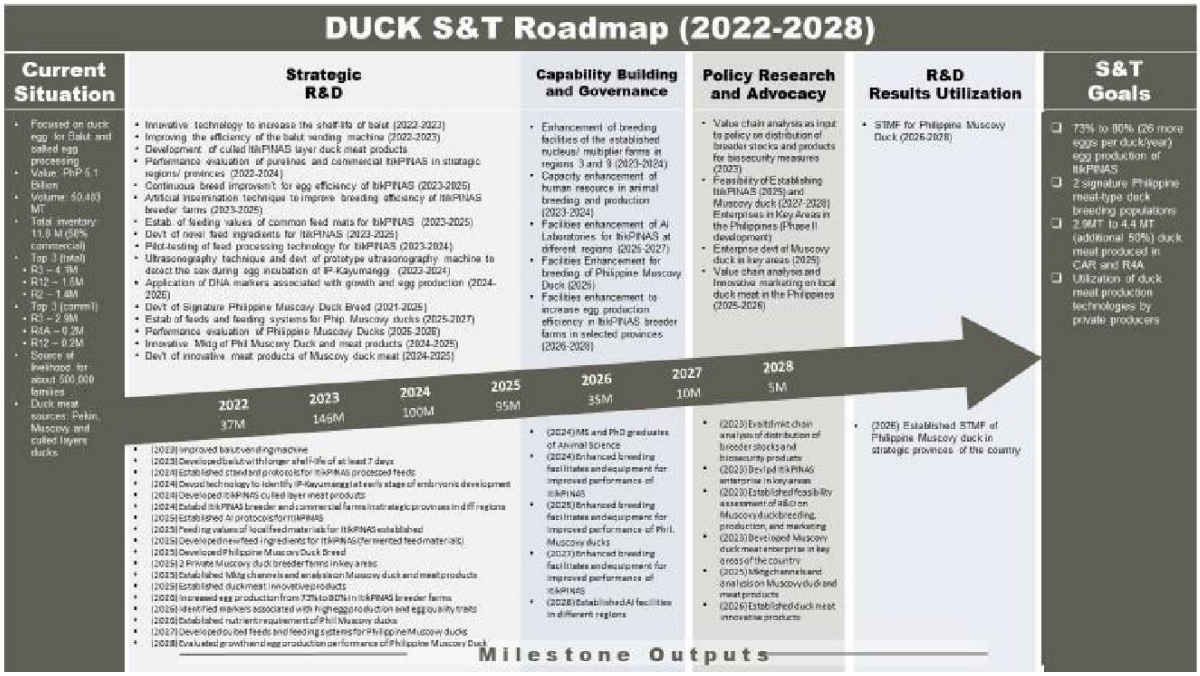


PHOTO DOCUMENTATION

Figure 54. Inception meeting as part of the monitoring of the funding agency, DOST-PCAARRD

Figure 55. Site inspection to assess the suitability of the project sites in Bureau of Corrections, Muntinlupa City

STUDENT INVOLVEMENT IN EXTENSION ACTIVITIES

The Department of Animal Science faculty members together with the BS Agriculture third year students conducted the seminar entitled “Walastik ang Kita sa Itik” on June 22, 2023. This seminar was conducted in relation to their ongoing extension project which aimed to create awareness and share expertise by the invited resource speakers. Mr. Alfred Ryenel M. Parungao of the Livestock Research Division of DOST-PCAARRD served as the resource speaker which discussed his expertise to the students, faculty, farmers, and women's group of Indang, Cavite.

Similarly, the Department of Crop Science along with BS Agriculture crop science students similarly conducted a seminar on mushroom production which was also aimed to introduce volva mushroom as an edible crop and offer potentials as a production crop based on locality. The seminar was attended by farmers, students, local officials of the municipality.

Figure 56. The seminar tarpaulin and Mr. Parungao during his talk

Figure 57. The participants during the seminar; BSA students served as facilitators

Figure 58. Ms. Calibuyo, a DCS faculty member served as speaker on the seminar and participants with the BSA students as facilitators

Figure 59. The participants visited the greenhouse vicinity where the BSA students presented their volva mushroom production area

FUTURE ENDEAVORS OF CAFENR EXTENSION PROGRAMS AND PROJECTS

With the recently crafted CAFENR Research, Development and Extension (RDE) Agenda 2022 - 2028 which focuses on the promotion of sustainable agriculture, food security, and natural resources management and conservation to alleviate poverty, reduce hunger, foster well-being and sustainable life in land and water, and build climate-resilient communities, the whole CAFENR community is determined to move mountains to respond to the changes in the national and regional RDE climate.

The College will continue to implement relevant extension programs and projects to cater to the needs of the target stakeholders. The College is targeting to provide an Artificial Insemination (AI) service to dispersal beneficiaries along with its current extension efforts on swine production and dispersal, *Itik Pinas* and goat production. In order to provide safe and nutritious food for families, *Gulayan sa Paaralan*, *Pagtatanim ng Prutas at Gulay*, Agriculture Innovations Management thru Applied Technologies and Urban Gardening will be continuously implemented. The SciCAT Project will be brought to the Local Government Unit (LGU) for more extensive beneficiaries of its developmental and extension purposes leading to more research - based technology successful adopters and family recipients.

The Department of Crop Science has a recent extension proposal entitled “Kabalikat sa Pagsulong ng Agrikultura sa Pamayanan (K-PAP) in Indang, Cavite”, which aims to continue the HAPAG sa Barangay Project through KPAPS towards sustainable agriculture, thereby increasing farmers’ productivity in the community. This extension project is in collaboration with the Municipal Agriculture Office Indang, Cavite and selected barangays. At the moment, meetings and consultations between MAO and the Department are continuously being conducted.


Figure 60. Courtesy call and meeting with the municipal agriculturist Mr. Erineo Barrot at Indang Municipal Agriculture Office

Other future promising services include establishment of Food Processing Center and application of modern computing tools in entrepreneurial farms and farming households.

Faculty members, staff and students together with the different stakeholders will continue to formulate extension programs and projects based on the needs of the target stakeholders to support AANR development. CAFENR extension implementers will be sent to participate in relevant trainings to enhance their capabilities in formulating and implementing extension efforts.

Research-based technologies from Cavite State University and other State Universities and Colleges (SUCs) and Research and Development Institutions (RDIs) will be continuously disseminated to improve the farming activities and related concerns with the ultimate goal of uplifting the economic situation of the stakeholders.

The College will continue to forge and maintain purposeful institutional/local, regional, national and international linkages/collaborations/partnerships for technical and financial support. Faculty and student exchange collaborations for exposure and learning opportunities maybe seriously considered. Moreover, the College hopes to utilize existing and forthcoming resources effectively and efficiently to maximize the human, financial and physical resources of the university.

As the College continues to implement relevant extension activities along solid and hazardous waste management with the University Pollution Control Office (UPCO), CAFENR expects to operationalize the Water Testing Laboratory soon to cater to the needs of the province in terms of water laboratory analysis and management.

Most of all, CAFENR hopes to make a significant positive impact in the lives of the Filipinos as it continues to perform its roles and responsibilities as advocate of science - and technology - based technologies in promoting productivity, competitiveness and sustainability for social, technological, environmental as well as political resilience and advancement.