



Republic of the Philippines

**Regional Development Council  
Region IV-A (CALABARZON)**

## Regional Development Research Agenda (RDRA) 2018-2022 Implementation

## Monitoring Form

Name of Institution: Southern Luzon State University

Reporting Period: January 2022 to June 2022

RDRA Urgent Priority Research Area	Title of Relevant/Related Research	Status <sup>1</sup>	Brief Description <sup>2</sup>	Author/s <sup>3</sup>	Contact details of Principal Authors (email address and number)
Technological Innovation Research Areas for Agriculture, Hunting, Forestry and Fishing  Research Area: High Value	SLSU Mushroom Hub: Product development and commercialization of mushroom in Quezon Province (*Mushroom Chili Appetizer, *Mazapan Con Mushroom, *Mushroom Oat Cookies)	<b>C</b> 1) Date Completed: January 2016 2) Update/s: <input checked="" type="checkbox"/> Already applied for IPR (Utility Model) and underwent	The study aimed to enhance local capability of farmer beneficiaries in producing mushroom products and low cost. It also sought to develop new mushroom products for commercialization; develop innovative packaging materials for new mushroom products; and, promote low-cost mushroom production and processing technology in Quezon.	<b>Prof. Alma J. Caringal</b> Co-author: Prof. Salvo O. Salvacion	<a href="mailto:acaringal@slsu.edu.ph">acaringal@slsu.edu.ph</a> <u>0915-386-1153</u>

<sup>1</sup> For status of research, please indicate: C – completed, O – ongoing, P – proposed. If completed, please indicate the following: 1) month and year completed; and 2) update/s on research (e.g. adopted by an agency/institution for implementation, published in a Journal)

<sup>2</sup> Include problem statement, main methodology/ies, main findings, and recommendations of the research (limit to 250 words)

<sup>3</sup> Indicate first the full name of the principal author, followed by co-authors/researchers, if any.

Commercial Crops	<p>✓ Formality Examination Currently working on IP valuation</p>	<p>The Shelf-life study for mushroom chili garlic in canola oil and mushroom oatmeal cookies showed that there were no significant changes on appearance, flavor, texture and odor up to the end of storage study except mazapan con mushroom. The high nutritive value of the oyster mushroom made this product recommendable for processing into a high value product. By developing it into new products, the mushroom growers will have increased income because it will be popular to food processors. Also, there will be addition of new nutritious products in the market using oyster mushroom.</p>		
Climate-risk vulnerability assessment and suitability analysis of various crops in San Andres, Quezon	<p><b>C</b> <i>(Previously reported, no further updates)</i></p> <p><b>Date Completed:</b> September 2019</p> <p><b>2) Update/s on Research</b></p>	<p>The study aims to map out a municipality-specific climate-risk vulnerability assessment and suitability analysis of various crops (coconut, corn, banana, &amp; ube) in San Andres, Quezon.</p> <p>With the aid of geographic information system software (ARCGIS/QGIS), the geospatial analysis was utilized in</p>	<p><b>For. Felino J. Gutierrez, Jr.</b></p> <p><b>Co-authors:</b> Ms. Phoebe Ann Hadaza C. Villasanta</p> <p>Ms. Ma. Chariz A. Montero</p>	<p><a href="mailto:felinoqutierrezjr@gmail.com">felinoqutierrezjr@gmail.com</a> 0939-903-3478</p>

		<p>Published in the SIYASIG Research Journal Volume X</p>	<p>identifying community or barangays that will be affected by increased temperature and decreased precipitation during climate change. Among the seven (7) barangays, the study found out that barangay Alibijaban was the most vulnerable. Among the priority agricultural crops of the MAO, it was found out that banana will be affected the most.</p> <p>Research results can be used as input for science-based planning in agricultural communities to sustain food production amidst climate change. Further, it is recommended that the LGU officials through the MAO promote change in crop production to avoid economic loss and greater economic impacts to farmers in the area.</p>		
	<p>Quality assurance of lambanog and nipanog for consumer safety and sustainable industry</p>	<p><b>C</b> <i>(Previously reported, no further updates)</i></p>	<p>The project aims to assist small and medium enterprises (SMEs) in improving the safety and quality of <i>lambanog</i> and <i>nipanog</i> by putting in place good manufacturing practices (GMP) and implementing</p>	<p><b>Dr. Cynthia Grace C. Gregorio (UPD)</b> <b>Co-author:</b> Dr. Violeto Coronacion (SLSU)</p>	<p><a href="mailto:violeto_coronacion@yahoo.com">violeto_coronacion@yahoo.com</a></p>

	<p><b>1) Date Completed:</b> December 2018</p> <p><b>2) Update/s:</b> The result of the study shall be used in updating the existing Philippine National Standard (PNS) 2011 for <i>lambanog</i> and in crafting a new set of standards for <i>nipanog</i>.</p>	<p>HACCP principles in their production.</p> <p>Specifically, it shall identify and quantify the metal, alcohol and volatile compound content, and determine the methanol contamination in <i>lambanog</i> and <i>nipanog</i> that contribute to the overall aroma and flavor of said products. The researchers shall also seek to establish sensory attribute of <i>lambanog</i> and <i>nipanog</i> that contribute to the overall aroma and flavor of said products. They will also conduct training on GMP and HACCP for personnel of target SMEs for product quality improvement and safety, and craft a best practices manual/brochure (in English and Filipino) for production of <i>lambanog</i> and <i>nipanog</i> for distribution to target SMEs.</p>		0999-884-4309
Design and development of automated coconut dehusking machine using Raspberry pi	<p><b>C</b></p> <p><b>1) Date Completed:</b> February 2022</p> <p><b>2) Update/s:</b> For presentation in</p>	<p>This research aimed to design and develop an Automated Coconut Dehusking Machine using Raspberry pi for utilization of coconut farmers, particularly in Quezon Province. The machine can address the problems of manual dehusking</p>	<p><b>Dr. Roland A. Calderon</b></p> <p><b>Co-authors:</b> Prof. Edgardo E. Cedeño Prof. Razel C. Tulod</p>	<a href="mailto:rcalderon@slsu.edu.ph">rcalderon@slsu.edu.ph</a> 0956-289-4640

	SLSU'S Agency In-House Review in August 2022	of coconuts. The Quality Function Deployment (QFD) method was used to develop a machine that suits coconut farmers. The machine uses an electric motor connected to the roller with blades embedded to peel the coconut husk. The evaluation of the machine acceptability reveals that the developed Automated Coconut Dehusking Machine is highly acceptable.		
Development of GSM-controlled bamboo cutter using Arduino	<p><b>C</b></p> <p><b>1) Date Completed:</b> February 2022</p> <p><b>2) Update/s:</b> For presentation in SLSU'S Agency In-House Review in August 2022</p>	<p>This research aimed to design an embedded electronic device utilizing fritzing application and identified requirements to be used by the end-user. Afterwards, it developed GSM-Controlled Bamboo Cutter using Arduino and GSM Module as a tool for controlling the operation of the device. For the evaluation, 10 technical experts were purposively chosen as respondents of the study. They evaluated the technology based on adaptability, cost effectiveness of materials, functionality, and originality. After the gathered data</p>	<p><b>Prof. Celio P. Seco</b></p> <p><b>Co-author:</b> Prof. Edgardo E. Cedeño Prof. Razel C. Tulod</p>	<a href="mailto:secoc93@gmail.com">secoc93@gmail.com</a> 0930-880-1130

			were analyzed and interpreted, it revealed that the developed machine is acceptable.		
Cacao Benchmarking Study and Documentation of Success Stories in Quezon Province	<p><b>C</b></p> <p><b>1) Date Completed:</b> June 2022</p> <p><b>2) Update/s:</b> For presentation in SLSU'S Agency In-House Review in August 2022</p>	The main objective of this research is to identify the factors contributing to the success of cacao growers in Quezon Province. A series of interviews, audio recordings, and photo and video documentation were conducted in coordination with the Local Government Units (LGUs). Successful cacao farmers in the province were identified and featured in the coffee table book and video presentation to encourage more farmers to engage in cacao farming and production. After that, a free training workshop was conducted. The topics shared in this activity focused on: (a) Strengthening the Competitiveness of Cacao Farmers through Capability Enhancement, (b) Challenges and Opportunities in Cacao	<p><b>Prof. Glemechille S. Maestro</b></p> <p><b>Co-authors:</b> Prof. Geri Mae A. Tolentino Mr. Giehway Liwag</p>	<a href="mailto:glemdmaestro@gmail.com">glemdmaestro@gmail.com</a> 0961-183-9358  <a href="mailto:geritolentino.slsu@gmail.co">geritolentino.slsu@gmail.co</a> <span style="color: blue;">m</span> 0927-968-6891	

			<p>Farming, (c) Management of the Common Cacao Pests in Quezon Province, (d) Pruning and Its Contribution to Successful Cacao Farming, and (e) Valuing and Aspiring a Future in Cacao Farming.</p> <p>A cacao production module that includes a topic on values formation, establishment of cacao orchards, cultural practices and management, pest and disease management, post-harvest handling and processing, value-adding activities, and marketing was developed. Other outputs of the project are the conceptualized policy, program, and research recommendations to help the cacao industry in the province and to benefit the cacao farmers.</p>		
Southern Luzon State University (SLSU) Nipa Sugar: Product specification, storage stability and	<input checked="" type="radio"/> <i>(Previously reported, no further updates)</i>	This project will consist of two (2) studies: (1) establishing product specification and storage stability and (2) comparative product quality	<b>Prof. Maria Luisa A. Enal</b> <b>Co-author:</b>	<a href="mailto:marialuisaenal@slsu.edu.ph">marialuisaenal@slsu.edu.ph</a> 0932-479-4344	

	comparative quality against other palm sugars		<p>study. The initial physicochemical and microbial qualities of the nipa sugar will be determined to establish the product specification and changes thereof will be monitored to assess the stability of the product during storage. The project will also involve comparative product quality study to assess conformity of SLSU-Infanta nipa sugar to the existing standards for palm sugar (coco sugar) and proximity with the quality of other palm sugars in the market which can be used as basis for appropriate pricing and market positioning of nipa sugar.</p>	Ms. Darlene Faye B. Cadao	
	IoT Soil Nutrient Detecting Device using Color Sensor and LoRa Technology for rice field	O	<p>The main objective of this study is to design and develop an IoT Soil Nutrient Detecting Device using Color Sensor that will determine the level of nutrients of rice field soil as well as its characteristics and data logging system utilizing LoRa Technology. A web-based system interface shall also be developed wherein all the collected data using the device will be stored and be displayed. The device will also</p>	Dr. Arvin N. Natividad	<a href="mailto:anatividad@slsu.edu.ph">anatividad@slsu.edu.ph</a> 0950-134-4691

			be evaluated based on its level of acceptability in terms of: Efficiency, Functionality, Maintainability, Reliability, and Usability		
	Product Optimization of Nipa Sweeteners Shared Service Facility (SSF) Project in SLSU Infanta Campus	O	<p>The main goal of this study is to optimize the production capacity of the newly established Nipa Sweetener Shared Service Facility SSF in SLSU Infanta campus by establishing a standard production procedures and quality control parameters for Nipa Sweeteners production, and by developing the Standard System Operation Procedure (SSOP) manual for Nipa sweeteners production facility.</p> <p>The study ultimately aims to promote Nipa as an emerging industry which will provide new livelihood opportunity to the farmers and boost local economy of municipalities which has established nipa plantation.</p>	<b>Dr. Violeto N. Coronacion</b> <b>Co-Authors:</b> Dr. Wendy C. Nombrefia Dr. Roldan D. Jallorina Ms. Mira O. Reyes	<a href="mailto:violeto_coronacion@yahoo.com">violeto_coronacion@yahoo.com</a> 0999-884-4309  <a href="mailto:ewidnombrefia@yahoo.com">ewidnombrefia@yahoo.com</a> 0907-990-4348
	iCOCOPro (Integrated Mapping of Coconut ( <i>Cocos nucifera</i> ) through Remote Sensing and Artificial	O	The project aims to create and pilot-test a GIS and AI-based coconut trees and plantation monitoring web	<b>Engr. Luis Joel Palaminao, Jr.</b>	cherm4a@gmail.com

	Intelligence Project in selected municipalities of Quezon, Province)		application for selected municipalities in the Province of Quezon. Specifically, the project intends 1) to assess and validate coconut trees and plantation data of Artificial Intelligence (AI) models' outputs; 2) to produce coconut trees and plantation maps for municipalities of Alabat, Quezon, and Perez (AL-QUE-REZ); and, 3) to develop a web-based application that could display coconut trees particularly Makapuno and dwarf varieties, plantation data and high-resolution maps that would present information such as plantation system or layout, age of each individual trees, plantation density, expected yield (crop forecasting), farm-to-market access roads, and crop suitability for intercropping, and soil type.	<b>Co-authors:</b> For. Richard Valle Mr. Paulo V. Obico Ms. Mariel A. Mila	
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	<p>Standardization and Quality Specifications of Purple Yam (<i>Dioscorea alata</i>) Powder Processing and the Characterization of Purple Yam Powder (Revised title)</p>	<p><b>P</b> <i>(Approved for implementation in 2023)</i></p>	<p>This study aims to establish standard quality specifications for yam powder processing to sustain its production and accessibility to the market, which would contribute to the continuous provision of additional income to AMIA Villages' farmers.</p> <p><b>Locale:</b> Raw materials (San Francisco, Quezon)</p> <p><b>Methodology:</b></p> <ul style="list-style-type: none"> <li>✓ Authentication of Ube</li> <li>✓ Processing of Ube Powder</li> <li>✓ Physicochemical Analysis</li> <li>✓ Microbiological Analysis</li> <li>✓ Sensory Evaluation</li> <li>✓ Nutrient Composition Analysis</li> </ul> <p><b>Expected outputs/impact:</b></p> <ul style="list-style-type: none"> <li>✓ Code of Hygienic Practice for Purple Yam Powder</li> <li>✓ 1 FDA compliant yam powder</li> <li>✓ Locally and internationally marketable purple yam powder produced by the villagers</li> </ul>	<p><b>Dr. Claire Ann M. Yao</b></p> <p><b>Co-Author:</b> Prof. Aurita A. Laguador</p> <p><a href="mailto:cyao@slsu.edu.ph">cyao@slsu.edu.ph</a> 0917-513-3880</p>
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			<ul style="list-style-type: none"> <li>✓ Long-term viability of purple yam powder production in AMIA villages</li> </ul>		
	Interactive Infographic Database of Coconut Farms and Farmers' Profile in Tayabas City, Quezon: Baseline Information for Coconut Replanting Program <i>(Revised Title)</i>	<b>P</b> <i>(Approved for implementation in 2023)</i>	<p>The study aims to provide baseline information for coconut replanting program by collecting pertinent data on the profile of farms and farmers in Tayabas and integrating them in an interactive infographic database.</p> <p><b>Locale:</b> Tayabas</p> <p><b>Participants:</b> Tayabas coconut farmers in 46 barangays</p> <p><b>Data Collection Method:</b> Inception meeting, FGDs, surveys</p> <p><b>Data Analysis:</b> Descriptive statistics</p> <p><b>Expected Output/Impact:</b></p> <ul style="list-style-type: none"> <li>✓ Interactive infographic database with IP application</li> <li>✓ Access to innovative practices in cultivating coconut trees</li> </ul>	<b>Dr. Moses Macalinao</b> <b>Co-Authors:</b> Prof. Irish T. Valdeavilla Prof. Reymar Ortega	<a href="mailto:mmacalinao@slsu.edu.ph">mmacalinao@slsu.edu.ph</a>

			<input checked="" type="checkbox"/> Boost coconut industry in Quezon Province		
	<p>Design and fabrication of machines for mushroom chili garlic sauce production</p> <p><i>Project 1:</i> Design and fabrication of Garlic Peeling Machine</p> <p><i>Project 2:</i> Design and fabrication of Garlic Mincer</p> <p><i>Project 3:</i> Design and fabrication of Mixing Machine</p> <p><i>(Revised Titles)</i></p>	<b>P</b> <i>(Approved for implementation in 2023)</i>	<p>The general objective of this study is to design and fabricate a garlic peeling and mincing machine for the production of mushroom chili garlic sauce.</p> <p><b>Locale:</b> SLSU CIT</p> <p><b>Methods and Materials:</b></p> <ul style="list-style-type: none"> <li>✓ Developmental Method</li> <li>✓ Design of prototypes</li> <li>✓ Fabrication assembly</li> <li>✓ Testing and Evaluation of Prototype</li> <li>✓ Sensory Evaluation</li> </ul> <p><b>Statistical analysis:</b> T-test</p> <p><b>Expected Outputs/Impacts:</b></p> <ul style="list-style-type: none"> <li>✓ 3 Machines with IP applications</li> <li>✓ Increased productivity in SLSU Mushroom Hub</li> <li>✓ Efficient commercialization of SLSU's mushroom chili garlic sauce</li> </ul>	<p><b>Program Leader:</b> Dr. Angelito L. Mangubat</p> <p><b>Project 1:</b> Dr. Jose D. Sanvictores (Leader) Dr. Ricaryl Catherine P. Cruz (Member)</p> <p><b>Project 2:</b> Prof. Aurita A. Laguador (Leader) Engr. Jerwin D. Campita (Member)</p> <p><b>Project 3:</b> Dr. Angelito L. Mangubat (Leader) Dr. Arvin P. Natividad (Member)</p>	<a href="mailto:Angelito_mangubat@yahoo.com">Angelito_mangubat@yahoo.com</a> 0921-805-4932

	Design and Fabrication of Portable Diesel-Powered Coco Peat Harvesting Machine	P <i>(Approved for implementation in 2023)</i>	<p>The project aims to design and fabricate a portable and user-friendly diesel-powered coco peat harvesting machine for farmers in Catanauan, Quezon.</p> <p><b>Locale:</b> Catanauan, Quezon</p> <p><b>Participants:</b> 30 farmers, &amp; 5 Mechanical Experts/ Professionals</p> <p><b>Methods and Materials:</b></p> <ul style="list-style-type: none"> <li>✓ Mixed Method Research</li> <li>✓ Development of Prototype</li> <li>✓ Questionnaire and</li> <li>✓ Interview Guide</li> </ul> <p><b>Expected Output/Impact:</b></p> <ul style="list-style-type: none"> <li>✓ Coco peat harvesting machine</li> <li>✓ Provide possible coconut-product-related Income-Generating project for SLSU Catanauan</li> </ul>	<b>Prof. Cerfred A. Alcantara</b> <b>Co-Authors:</b> Prof. Francis B. Laguardia Dr. Aileen V. Elarco	<a href="mailto:cerfrealcantara@gmail.com">cerfrealcantara@gmail.com</a> 0933-818-7384
	Development of Automated Solar Greenhouse-type Seaweeds Dryer	P <i>(Approved for implementation in 2023)</i>	<p>The project aims to develop and fabricate greenhouse-type solar dryer for seaweed production to be used by the seaweed farmers along the coastal areas of Calauag, Quezon to produce quality dry seaweeds with</p>	<b>Dr. Maria Fara A. Cadeliña</b> <b>Co-Authors:</b> Engr. Generoso Maaño	<a href="mailto:mariafara1030@gmail.com">mariafara1030@gmail.com</a>

			<p>higher carragean content and to lessen their drying time, especially during rainy season.</p> <p><b>Locale:</b> Calauag, Quezon</p> <p><b>Target Beneficiary:</b> Seaweed Farmers</p> <p><b>Methodology:</b></p> <ul style="list-style-type: none"> <li>✓ Capacity-building/ Needs Assessment</li> <li>✓ Design planning and conceptualization</li> <li>✓ Fabrication</li> <li>✓ Evaluation</li> </ul> <p><b>Expected Outcome/Impact:</b></p> <ul style="list-style-type: none"> <li>✓ Greenhouse-type solar dryer with IP application</li> <li>✓ Better alternative drying system for their seaweeds, hence promoting sustainable production of the quality dried seaweeds</li> </ul>	Dr. Frederick T. Villa	
	Standardization of operating procedures for <i>kamias</i> ( <i>Averrhoa bilimbi</i> ) soap production	P <i>(Approved for implementation in 2023)</i>	<p>The study aims to establish operation parameters and develop manual for the <i>kamias</i> soap production in SLSU.</p> <p><b>Locale:</b> SLSU Lucban</p> <p><b>Methods and materials:</b></p>	<b>Dr. Melanie Cadao</b> <b>Co-authors:</b> Ms. Ma. Reina Elpa	<a href="mailto:laniecadao@gmail.com">laniecadao@gmail.com</a>

			<ul style="list-style-type: none"> <li>✓ Experimentation           <ul style="list-style-type: none"> <li>-Formulation of Kamias Soap</li> <li>-Quality tests of the Physicochemical Properties</li> </ul> </li> <li>✓ Total fatty matter</li> <li>✓ Free caustic alkali</li> <li>✓ pH</li> <li>✓ Moisture content</li> </ul> <p><b>Expected output/impact:</b></p> <ul style="list-style-type: none"> <li>✓ Development and acceptability of Operating Procedure Manual</li> <li>✓ Scaled-up production of quality kamias soap as SLSU's IGP</li> </ul>	Mr. Efren Paleracio	
<b>Technological Innovation Research Areas for Social Development</b>  <b>Research Area:</b> Disaster Risk Reduction	Area Specific Action Plan (ASAP) for selected Municipalities of Tayabas area in environmental governance: A basis for intervention program of barangay development plan	O <i>(Previously reported, no further updates)</i>	The study aims to determine the status of implementation of Area Specific Action Plan (ASAP) of Lucena City, Sariaya and Pagbilao, Quezon after their participation in the training on Environmental Governance. Specifically, it sought to identify environmental programs, projects or activities, implemented by the respective community as stated in the Area Specific Action Plan submitted and to determine if those plans were implemented	<b>Engr. Lourdes A. Quevada</b>  <b>Co-author:</b> Prof. Luis Miguel P. Saludez	<a href="mailto:lquevada@slsu.edu.ph">lquevada@slsu.edu.ph</a> 0998-975-5269

			<p>on the target date by the assigned person or offices.</p> <p>The study shall also identify the problems encountered in the conduct of the activity that will serve as bases in the planning of intervention program for the city of Lucena and the municipalities of Pagbilao and Sariaya, Quezon.</p>		
Environmental Literacy: A Way Forward for Climate Change Adaptation	O		<p>The study aims to develop a sustainable extension project for effective environmental literacy for the constituents of LGU Tagkawayan, Quezon. This shall serve as the baseline in giving stakeholders quality learning resources to increase their level of awareness and involvement in environmental activities and to equip them with necessary knowledge and skills to prevent serious and damaging effects of climate change to human lives and properties.</p>	<b>Prof. Cherry C. Favor</b> <b>Co-authors:</b> Dr. Felix B. Lampos, Jr., Dr. Imelda Tangalin, and Dr. Zenaida C. Angeles	<a href="mailto:gingfavor@gmail.com">gingfavor@gmail.com</a> <a href="tel:0916-585-4610">0916-585-4610</a>
Behind the Tattered Fishing Net: A Story of Resilience of Fishing Community	O		<p>The study provides an avenue to prepare the coastal communities adjacent to Ragay Gulf for future unprecedented crises by giving intervention program that</p>	<b>Prof. Jay-Ar C. Recto</b> <b>Co-authors:</b> Prof. Esmeraldo G. Arat	<a href="mailto:jayarrecto@slsu.edu.ph">jayarrecto@slsu.edu.ph</a>

			creates a direct partnership among LGUs, SUCs, and NGOs. Moreover, promoting resiliency in educating the fisherfolk in complex changing circumstances broadens the horizon, resulting in stronger and more resilient fishermen, thereby enhancing socio-economic well-being and self-sufficiency.	Prof. Cherry C. FAVOR Prof. Rebecca D. Jason	
Arduino-Based Recyclable Plastic Bottles and Exchange Coin System with GSM Notification	P  <b>(Approved for implementation in 2023)</b>	The project aims to develop an Arduino-based Recyclable Plastic Bottles and exchange coin system with GSM notification using Fritzing application and C++ programming language to support the function and operation of the device.  <b>Locale:</b> SLSU Lucena  <b>Methods and materials:</b> Design and development of prototype with: ✓ Arduino microcontroller ✓ Photoelectric switch ✓ Infrared Sensor ✓ GizDuino plus Atmega ✓ GSM Sim900 Module	Dr. Roland A. Calderon  <b>Co-Authors:</b> Mr. Jestoni O. Cabañas Mr. Leeroi Christian Q. Rubio	<a href="mailto:rcalderon@slsu.edu.ph">rcalderon@slsu.edu.ph</a> 0956-289-4640	

			<ul style="list-style-type: none"> <li>✓ Servo Motor</li> <li>✓ 2x16 LCD Module</li> </ul> <p><b>Expected Output/Impact:</b></p> <ul style="list-style-type: none"> <li>✓ 1 prototype with IP application</li> <li>✓ Reduction of plastic bottle wastes</li> <li>✓ Cheaper plastic bottle collection and disposal system</li> </ul>		
Disaster preparedness of Southern Luzon State University Faculty and Employees: Basis for Emergency Management Enhancement	P		The study aims to determine the level of disaster preparedness of SLSU Faculty and Employees, specifically on the following hazards: typhoon, earthquake, and fire. It aims to develop an enhanced Disaster Management Plan for the university and increase the capability of SLSU in disaster response.	<b>Prof. Percival Verano</b> <b>Co-Author:</b> Prof. Gerald R. Villasenor	<a href="mailto:pverano@slsu.edu.ph">pverano@slsu.edu.ph</a>
Disaster Response Readiness of Ready Reserve Unit (RRU) in Region IVA CALABARZON	P		The main purpose of the study is to evaluate the response capability of the Ready Reserve Units in Region IVA and identification of the challenges encountered in terms of personnel mobilization, area condition, nature of work assignment, and mobility asset. This shall serve as basis for the	<b>Dr. Nilo H. Dator</b>	<a href="mailto:nilohdator@gmail.com">nilohdator@gmail.com</a>

			development of intervention to address the concerns that will surface from the study.		
<b>Socio-economic and Policy Research Areas for Reducing Vulnerability of Individuals and Families</b>  <b>Research Area:</b> Poverty	Community-Based Enterprise Development in the AMIA Villages in San Francisco, Quezon	<p><b>1) Date Completed:</b> June 2022</p> <p><b>2) Update/s:</b> For presentation in SLSU'S Agency In-House Review in August 2022</p>	<p>The study primarily aims to create a sustainable community-based enterprise for AMIA Villages in San Francisco, Quezon through a multi-approach and interdisciplinary community-based participatory action research approach to ensure that all gaps and needs of the stakeholders will be uncovered to form new intervention strategies that will address the hindering factors for the sustainability of the community-based enterprise.</p> <p>Data revealed that the primary agricultural produce in the locale include banana, coconut, swine, poultry, yam, and rice. Among the crops, yam was the top raw agricultural produce with potential for product development for future entrepreneurial engagements. The respondents also expressed their interest in making products derived from yam (ube), but they need sufficient training, adequate</p>	<b>Dr. Leomar C. Miano</b>  <b>Co-authors:</b> Prof. Gino A. Cabrera Prof. Claire Ann M. Yao Dr. Chona V. Cayabat Prof. Aurita A. Laguador	<a href="mailto:leomar_miano@yahoo.com">leomar_miano@yahoo.com</a>

			machinery/equipment, business capital, and market linkage.		
SULONG QUEZON: Comparative Analysis of 2019 and 2020 Cities and Municipalities Competitiveness of Quezon Province	<p><b>1) Date Completed:</b> 2021</p> <p><b>2) Update/s:</b> Won as 2<sup>nd</sup> Best Presentation in the 3<sup>rd</sup> Cities and Municipalities Competitiveness Index Academic Symposium</p>	<p>In this study, the 2020 Cities and Municipalities Competitiveness Index (CMCI) scores of each LGUs in the province was used to assess its level of competitiveness and analyzed through percentile ranking and Geographic Information System (GIS) mapping. The strengths and weakness of the province, with regards to competitiveness, were investigated to serve as bases to craft efficient policies, projects and strategies for socio-economic advancement and a data-driven governance.</p> <p>Data revealed that the majority of LGUs in Quezon Province placed 50th percentile and above in 2020 competitiveness raking nationwide. Specifically, the province's strength is on resiliency pillar while its performance in economic dynamism, government efficiency and infrastructure need improvement. Based on the GIS mapping, proximity of the LGU from the Lucena,</p>	<p><b>Prof. Jed Frank S. Marqueses</b></p> <p><b>Co-author:</b> Prof. Charly R. Lacorte</p>	<a href="mailto:jmarqueses@slsu.edu.ph">jmarqueses@slsu.edu.ph</a>	

			Tayabas, Laguna and Batangas may contribute to the CMCI ranking; however further studies should be conducted to support this claim.		
Development of sustainable community-based enterprises for selected community in Sampaloc, Quezon <i>(Revised Title)</i>	P <i>(Approved for implementation in 2023)</i>	<p>The study aims to develop a community-based enterprise in Sampaloc, Quezon using the Sustainability Livelihood Analysis in order to establish long-term livelihood and empower the community towards rural growth.</p> <p><b>Locale:</b> Sampaloc, Quezon</p> <p><b>Participants:</b> Selected community members</p> <p><b>Data Collection Method:</b> Modified survey questionnaire and Focus Group Discussion</p> <p><b>Data Analysis:</b> Sustainable livelihood analysis approach</p> <p><b>Expected Output/Impact:</b></p> <ul style="list-style-type: none"> <li>✓ Extension Project</li> <li>✓ Sustainable income for the municipality and its community members</li> </ul>	<b>Prof. Anna Peachy E. Maguyon</b> <b>Co-Authors:</b> Prof. Loretta P. Arroyo Prof. Resty P. Umali	<a href="mailto:amagyun.cabha@gmail.com">amagyun.cabha@gmail.com</a>	

	<p>Women and youth participation in the woodcarving industry of Paete, Laguna <i>(Revised Title)</i></p>	<p><b>P</b> <i>(Approved for implementation in 2023)</i></p>	<p>The study seeks to explore women and youth participation in the woodcarving tradition and industry of Paete, Laguna as basis for policy enhancement or formulation for raising awareness of the socio-cultural value of the woodcarving industry</p> <p><b>Locale:</b> Paete, Laguna</p> <p><b>Participants:</b> Women and youth involved in woodcarving</p> <p><b>Data Collection Method:</b> Participatory Rural Appraisal, Ethnographic Interviews, Focus Group Discussions, Participant Observation, Narrative Inquiry</p> <p><b>Data Analysis:</b> Thematic content and narrative analysis</p> <p><b>Expected Output/Outcome:</b></p> <ul style="list-style-type: none"> <li>- Community Education Program</li> <li>- Research results will serve as significant inputs in the formulation of policies and programs related to the woodcarving industry and tradition in Paete, Laguna</li> </ul>	<p><b>Prof. Gino A. Cabrera</b></p> <p><b>Co-Authors:</b> Prof. Maybriel O. Tobias Prof. Jan Kristian O. Bisagas</p>	<p><a href="mailto:cabrera.gino@yahoo.com">cabrera.gino@yahoo.com</a></p>
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	<p><b>Self-Health Assessment for Pregnant Women Mobile Application</b> <i>(Revised Title)</i></p>	<p><b>P</b> <i>(Approved for implementation in 2023)</i></p>	<p>The project aims to design and develop a mobile application for pregnant or expectant mother that will provide fetal and maternal health assessments employing rule-based algorithm.</p> <p><b>Locale:</b> Gumaca, Quezon</p> <p><b>Target users:</b> Pregnant and expecting mothers, 18 years old and above</p> <p><b>Methodology:</b></p> <ul style="list-style-type: none"> <li>✓ Development of Mobile App with: <ul style="list-style-type: none"> <li>- Estimated date of delivery</li> <li>- Estimated date of confinement</li> <li>- Maternal health self-assessment</li> </ul> </li> <li>✓ Data gathered from respondents will be encoded in the mobile app for analysis</li> </ul> <p><b>Acceptability:</b> Instrument based on Software Product Quality (ISO 25010)</p>	<p><b>Prof. Kirstina N. Manalo</b></p> <p><b>Co-Authors:</b> Dr. Evangeline Mecija Dr. Mirasol Manlapaz Dr. Renato R. Maaliw</p>	<p><a href="mailto:knmanalo@slsu.edu.ph">knmanalo@slsu.edu.ph</a> 0909-524-2275</p>
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